



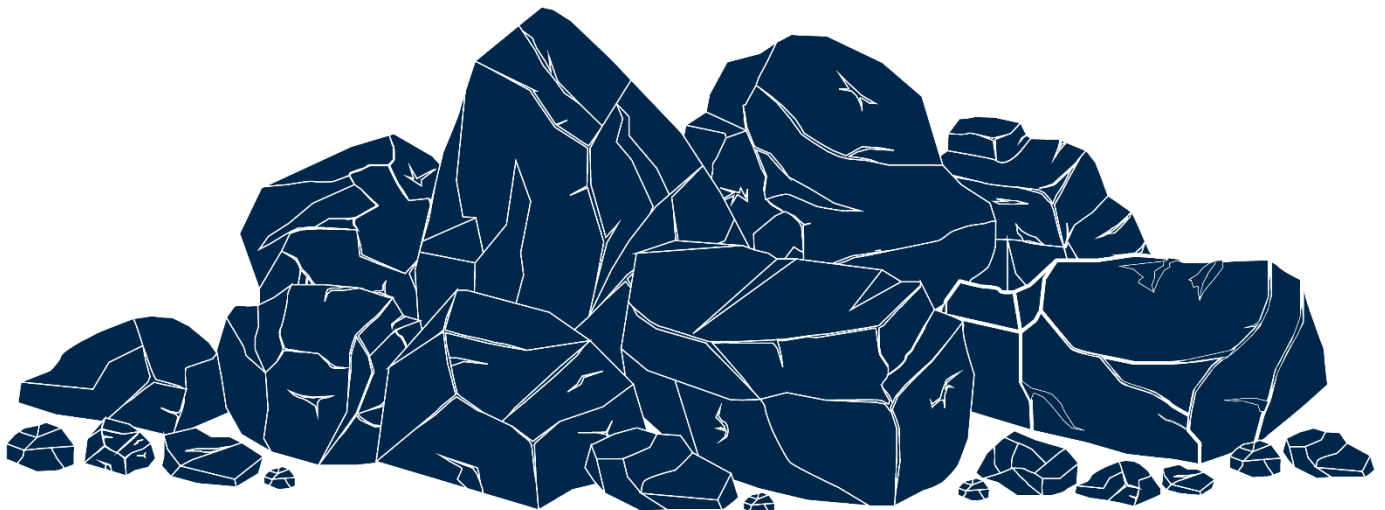
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Karuah East Quarry

Annual Review

1 January to 31 December 2023



Annual Review Title Block

Table 1 Karuah East Quarry Annual Review 2023 Title Block.


Name of Operation:	Karuah East Quarry
Name of Operator:	Karuah East Quarry Pty Limited
Project Approval:	MP09_0175
Name of holder of Project Approval:	Karuah East Quarry Pty Limited
Mining Lease:	N/A
Water Licences:	None
MOP / RMP:	N/A
Annual Review Start Date:	01 January 2023
Annual Review End Date:	31 December 2023

I, **Shane Burton**, certify that this audit report is a true and accurate record of the compliance status of **Karuah East Quarry** for the period **01 January 2023** to **31 December 2023** and that I am authorised to make this statement on behalf of **Karuah East Quarry Pty Limited**.

Note.

- A. *The Annual Review is an 'environmental audit' for the purposes of section 122B(2) of the Environmental Planning and Assessment Act 1979. Section 122E provides that a person must not include false or misleading information (or provide information for inclusion in) an audit report produced to the Minister in connection with an environmental audit if the person knows that the information is false or misleading in a material respect. The maximum penalty is, in the case of a corporation, \$1 million and for an individual, \$250,000.*

- B. *The Crimes Act 1900 contains other offences relating to false and misleading information: section 192G (Intention to defraud by false or misleading statement—maximum penalty 5 years imprisonment); sections 307A, 307B and 307C (False or misleading applications / information / documents — maximum penalty 2 years imprisonment or \$22,000, or both).*

Name of Authorised Reporting Officer:	Shane Burton
Title of Authorised Reporting Officer:	Quarry Manager
Signature of Authorised Reporting Officer:	
Date:	20/03/2024

Contents

Annual Review Title Block	2
Contents	3
List of Tables	5
List of Figures	6
Glossary	7
1.0 Statement of Compliance	8
2.0 Introduction	9
2.1 Quarry Contacts	9
3.0 Approvals	12
3.1 Project Approval (MP09_0175).....	12
3.2 Environment Protection Licence (EPL 20611).....	13
3.3 Commonwealth EPBC Approval (EPBC 2014/7282 & 2022/9164).....	13
3.4 Statutory Requirements of this Annual Review	15
3.5 Summary of Environmental Management Plans	16
4.0 Operations Summary	17
4.1 Quarry Production Summary	17
4.2 Land Preparation.....	17
4.3 Construction Activities	17
4.4 Operating Hours.....	17
4.5 Operating Equipment.....	18
4.6 Transport Rates	18
4.7 Next Reporting Period.....	19
5.0 Actions Required from Previous Annual Reviews	20
6.0 Environmental Performance	22
6.1 Meteorological Monitoring.....	24
6.2 Air Quality	25
6.3 Blasting.....	29
6.4 Noise	31
6.5 Heritage (Aboriginal Cultural Heritage & Historic Heritage).....	33
6.6 Biodiversity.....	34
6.7 Waste Management.....	39
7.0 Water Management	40
7.1 Water Management Overview.....	40
7.2 Surface Water	42

7.3	Groundwater	46
7.4	Other Water Management Matters.....	48
8.0	Rehabilitation	49
9.0	Community	51
9.1	Community Engagement.....	51
9.2	Community Contributions.....	51
9.3	Community Complaints.....	52
10.0	Independent Environment Audit	54
11.0	Incidents & Non-Compliances During the Reporting Period.....	55
12.0	Activities to be Completed in the Next Reporting Period.....	56
Appendix 1 – NSW Planning Correspondence		58
	NSW Planning Response to KEQ Annual Review 2021.....	59
	NSW Planning Response to KEQ Annual Review 2022.....	61
Appendix 2 – Transport Monitoring Reports.....		62
	KEQ Transport Monitoring Report – H1 2023	63
	KEQ Transport Monitoring Report – H2 2023	65
Appendix 3 – Noise Monitoring Reports		67
	Noise Monitoring Report – Q1 2023	68
	Noise Monitoring Report – Q2 2023	101
	Noise Monitoring Report – Q3 2023	134
	Noise Monitoring Report – Q4 2023	168
Appendix 4 – KEQ IEA 2023: Response to Audit Recommendations.....		202
Appendix 5 – Biodiversity Offset Area Monitoring Report		222

List of Tables

Table 1	Karuah East Quarry Annual Review 2023 Title Block.....	2
Table 2	Statement of Compliance.....	8
Table 3	Compliance Status Key (NSW Planning Annual Review Guideline, October 2015).....	8
Table 4	Summary of Non-Compliances.....	8
Table 5	Key Quarry Contacts.....	9
Table 6	Project Approvals associated with the Karuah East Quarry.....	12
Table 7	Modifications to the Project Approval for the Karuah East Quarry.....	12
Table 8	Variations to the Environment Protection Licence for the Karuah East Quarry.....	13
Table 9	Variations to the Commonwealth EPBC Approval for the Karuah East Quarry.....	13
Table 10	Summary of Statutory Requirements of the Annual Review.....	15
Table 11	Summary of Statutory Environmental Management Plans.....	16
Table 12	Monthly Quarry Production Data.....	17
Table 13	Forecast Operations for the Next 2024 Reporting Period.....	19
Table 14	Summary of Previous Actions.....	20
Table 15	Summary of Environmental Performance During the 2023 Reporting Period.....	22
Table 16	Recorded 2023 Meteorological Data.....	24
Table 17	Summary of Depositional Dust Gauge Results During the 2023 Reporting Period.....	26
Table 18	TSP & PM10 High-Volume Air Sampler Results During the 2023 Reporting Period.....	27
Table 19	Blast Monitoring Results for the 2023 Reporting Period.....	30
Table 20	MOD8 EIS Predicted Noise Levels.....	31
Table 21	MOD10 EIS Predicted Noise Levels.....	32
Table 22	Summary of Management Actions from the 2022 BOA Monitoring Report.....	36
Table 23	EPL Discharge Monitoring Criteria for LDP 1, LDP 2, and LDP 3.....	42
Table 24	Discharge Monitoring Results for LDP 1, LDP 2, and LDP 3.....	43
Table 25	Six-Monthly Surface Water Monitoring Results for H1 2023 (03 March 2023).....	44
Table 26	Six-Monthly Surface Water Monitoring Results for H2 2023 (06 October 2023).....	45
Table 27	Groundwater Level since 2017.....	47
Table 28	Average Groundwater Quality Results for Key Parameters.....	48
Table 29	Summary of Rehabilitation Performance During the 2023 Reporting Period.....	49
Table 30	Disturbance and Rehabilitation Status.....	49
Table 31	Actions for the Next 2024 Reporting Period.....	50
Table 32	2023 Community Complaints.....	52
Table 33	Community Complaints 2016-2023.....	53
Table 34	Summary of Proposed Actions in the 2024 Reporting Period.....	56

List of Figures

Figure 1	Regional and Local Context Plan.	10
Figure 2	Locality Plan.	11
Figure 3	Operating Hours as specified in the Project Approval.	18
Figure 4	Product Transport Monitoring Requirements from the Project Approval.	18
Figure 5	Environmental Monitoring Locations.	23
Figure 6	Meteorological Monitoring Requirements from the Project Approval.	24
Figure 7	Air Quality Criteria provided by the Project Approval.	25
Figure 8	Long-term TSP monitoring trends.	28
Figure 9	Long-term PM10 monitoring trends.	28
Figure 10	Blasting Criteria provided by the Project Approval.	30
Figure 11	Noise Criteria provided by the Project Approval.	33
Figure 12	Waste Management Requirements provided by the Project Approval.	39
Figure 12	Current Water Management System.	41
Figure 13	Community Consultative Committee (CCC) requirements from the Project Approval.	51
Figure 14	Independent Environmental Audit (IEA) requirements from the Project Approval.	54

Glossary

Abbreviation / Term	Meaning
AEMR	Annual Environmental Management Report
AQMP	Air Quality Monitoring Program
BCD	Biodiversity Conservation Division of DPE
CCC	Community Consultative Committee
DA	Development Application
DDG	Dust Deposition Gauge
DPE	NSW Department of Planning and Environment
EA	Environmental Assessment
EIS	Environmental Impact Statement
EMP	Environmental Monitoring Program
EMS	Environmental Management Strategy
EPL	NSW Environment Protection Licence
Ha	Hectare
HVAS	High Volume Air Sampler
HQPL	Hunter Quarries Pty Ltd
KEQPL	Karuah East Quarry Pty Limited
Km	Kilometre
L	Litre
LDP	Licensed Discharge Point
MCC	MidCoast Council
NPWS	NSW National Parks and Wildlife Service
POEO Act	<i>Protection of the Environment Operations Act 1997</i>
RAR	Response to Audit Recommendations
RFS	NSW Rural Fire Service
SWMP	Site Water Management Plan
Tpa	tonnes per annum

1.0 Statement of Compliance

The compliance status of the Karuah East Quarry (KEQ) site at the end of the 2023 Annual Review reporting period is summarised by **Table 2**, **Table 3**, and **Table 4** below, in reference to the site's Project Approval and Environment Protection Licence (EPL).

Table 2 *Statement of Compliance.*

Were all conditions of the relevant approval(s) complied with?	
Project Approval (MP09_0175)	No
Environment Protection Licence (EPL 20611)	Yes

Table 3 *Compliance Status Key (NSW Planning Annual Review Guideline, October 2015).*

Risk Level	Colour Code	Description
High	Non-compliant	Non-compliance with potential for significant environmental consequences, regardless of the likelihood of occurrence.
Medium	Non-compliant	Non-compliance with: <ul style="list-style-type: none"> potential for serious environmental consequences, but is unlikely to occur; or potential for moderate environmental consequences, but is likely to occur.
Low	Non-compliant	Non-compliance with: <ul style="list-style-type: none"> potential for moderate environmental consequences, but is unlikely to occur; or potential for low environmental consequences, but is likely to occur.
Administrative	Non-compliant	Only to be applied where the non-compliance does not result in any risk of environmental harm (e.g. submitting a report to government later than required under approval conditions).

Table 4 *Summary of Non-Compliances.*

Relevant Approval	Condition	Condition Aspect	Compliance Status	Description	Section
Project Approval	Schedule 3, Condition 13	Air Quality	Non-compliant	Minor PM10 exceedance of short-term criteria on 16/06/2023.	Section 6.2 and Section 11.0
			Non-compliant	Contamination of two Depositional Dust Gauges with organic material in the June 2023 reporting period.	Section 6.2 and Section 11.0
			Non-compliant	Contamination of one Depositional Dust Gauge with organic material in the November 2023 reporting period.	Section 6.2 and Section 11.0

2.0 Introduction

This Annual Review covers the reporting period from the **1 January 2023** to **31 December 2023** for the Karuah East Quarry site.

Karuah East Quarry is a hard rock quarry which contributes materials to construction industries in the Newcastle, Hunter, Mid-North Coast and Sydney Regions. The site is located approximately 5 km to the north-east of the village of Karuah within the MidCoast Council LGA, and is access via Blue Rock Close and Andersite Road adjacent to the northern Tarean Road interchange with the A1 Pacific Highway. The site is approved (including MOD10) to cover approximately 40 Ha of land within Lot 12 and 13 of DP1024564.

Figure 1 and **Figure 2** illustrate the site within its broader regional context and site layouts respectively.

The approved development includes the following key elements:

- staged extraction of approximately 29 million tonnes of andesite over a 20 year timeframe;
- extraction of up to 1.5 million tonnes of andesite material per year;
- removal and stockpiling of an estimated 380,000 m³ of overburden (approximately 750,000 tonnes) from the quarry extraction area. Removal of overburden is not included in the proposed annual extraction rate of 1.5 million tonnes of andesite;
- haulage of up to 1.5 million tonnes of andesite per year from the site to market by 12 to 38 tonne haul trucks via the A1 Pacific Highway;
- implementation of erosion and sediment, and water management control works to ensure no loss of sediment, minimise dust generation and control discharges from the site to ensure that all discharges are within acceptable volumetric and water quality criteria;
- roadworks to secure access to the site including upgrade and extension of Blue Rock Close, realignment of Andersite Road and The Blue Rock Close intersection, and adjust road markings at The Branch Lane and Andersite Road intersection;
- employment of up to 28 onsite staff;
- construction of a new haul road and access through adjoining Roads and Maritime Services (RMS) land;
- staged clearing;
- drilling and blasting activities;
- loading and hauling of extracted material;
- crushing and screening of extracted material;
- stockpiling of material onsite; and
- location of plant on Lot 13 comprised of office buildings, workshops, parking areas, crushing plant, wash plant, weigh bridge and product storage areas.

2.1 Quarry Contacts

Key personnel who are responsible for environmental management of the operation are provided by **Table 5**.

Table 5 *Key Quarry Contacts.*

Position	Name	Contact	Contact Priority
Environment & Development Manager	Scott Ellerton	0447 044 646	Primary Contact
Quarry Manager	Shane Burton	0490 405 375	Secondary Contact
General Manager	Dylan Nagle	0438 380 701	–



Karuah Quarry

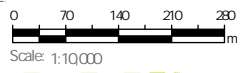
Karuah East Quarry

12
DP1024564

13
DP1024564

LEGEND

- Site Boundary
- Lot Boundary



GDA 1994 MGA Zone 56
8/03/2024

Karuah East Quarry

Annual Review 2023

FIGURE 1 - Regional and Local Context Plan

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406500

407000

407500

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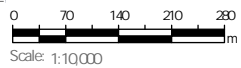
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LEGEND

- ▭ Site Boundary
- ▭ Approved Disturbance Boundary
- ▨ Biodiversity Offset Area
- ▭ Lot Boundary



GDA 1994 MGA Zone 56
8/03/2024

Karuah East Quarry

Annual Review 2023

FIGURE 2 - Locality Plan

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3.0 Approvals

A summary of the approvals benefiting the Karuah East Quarry are provided in **Table 6** with further details of each state and commonwealth approval provided in the subsequent sub-sections.

Table 6 *Project Approvals associated with the Karuah East Quarry.*

Instrument	Grant Date	Expiry Date	Comments
Project Approval (MP09_0175)	17/06/2014	31/12/2034	Primary statutory approval for the site under NSW <i>Environmental Planning and Assessment Act 1979</i> .
Environment Protection Licence (EPL 20611)	26/08/2015	-	Primary statutory licence for the site under NSW <i>Protection of the Environment Operations Act 1997</i> .
Commonwealth Approval (EPBC 2014/7278)	20/03/2015	30/03/2045	Commonwealth statutory approval for the original project under Commonwealth <i>Environmental Protection and Biodiversity Conservation Act 1999</i> .
Commonwealth Approval (EPBC 2022/9164)	Pending Approval		Commonwealth statutory approval for the KEQ MOD10 Project under Commonwealth <i>Environmental Protection and Biodiversity Conservation Act 1999</i> .

3.1 Project Approval (MP09_0175)

The Project Approval has been subject to five Modifications as summarised by **Table 7**.

Table 7 *Modifications to the Project Approval for the Karuah East Quarry.*

MOD	Approval Date	Description
MOD1	27/04/2018	Modification 1 (MOD1) was approved on 27 April 2018 under the provisions of section 75W of the EP&A Act. The modification approved a nominal expansion to the approved area of disturbance by 2,500 m ² to allow for improved vehicle manoeuvring in proximity of the crushing plant and processing area.
MOD2	19/12/2018	Modification 2 (MOD2) was approved on 19 December 2018 under the provisions of section 75W of the EP&A Act. The modification approved a 1.133 Ha increase to the site disturbance area to allow for improved environmental management and improved operational safety (for quarry vehicles).
MOD3 to MOD7		Withdrawn
MOD8	22/12/2020	Modification 8 (MOD8) was approved on 22 December 2020 under the provisions of section 4.55(1A) of the EP&A Act. The modification approved revised operational acoustic criteria in line with the NSW Noise Policy for Industry 2017; and formalised a number of industry best practice acoustic mitigation measures that have been installed at the quarry.
MOD9	02/12/2021	Modification 9 (MOD9) was approved 02 December 2021 under the provisions of section 4.55(1A) of the EP&A Act. The modification approved extended operating hours of the KEQ site.
MOD10	18/05/2023	Modification 10 (MOD10) was approved on 18 May 2023 under the provisions of section 4.55(2) of the EP&A Act. The modification approved a 7.17 Ha increase in the disturbance area to a total of 40.18 Ha to allow for additional product stockpiling areas, facilitate improved surface water management, construct a new administration building and expand vehicle manoeuvring and parking at site.

3.2 Environment Protection Licence (EPL 20611)

The Environment Protection Licence (EPL) was originally granted on 26 August 2015 and has been subject to seven licence variations as summarised by **Table 8**.

No variations occurred in the 2023 reporting period. In 2024, KEQPL will apply to vary the licence for the MOD10 project and the proposed changes to the DDG locations.

Table 8 Variations to the Environment Protection Licence for the Karuah East Quarry.

No.	Approval Date	Description
–	26/08/2015	Original EPL granted for the site under NSW Protection of the Environment Operations Act 1997.
1	21/09/2015	Relocation of the blast monitoring location (EPL Monitoring Point 11).
2	06/12/2016	Relocation of Deposited Dust Gauge 5 (EPL Monitoring Point 8) and the High-Volume Air Sampler (EPL Monitoring Point 9).
3	16/01/2019	Inclusion of a Pollution Reduction Study following noise-related non-compliances.
4	25/06/2019	Amended noise monitoring frequency from annual to quarterly monitoring.
5	18/07/2019	Revised Scheduled Activity in accordance with the EPA's updated definitions.
6	02/09/2022	Update for MOD9 extended operating hours and correction of administrative items.
7	07/11/2022	Removal of noise monitoring at Location I.

3.3 Commonwealth EPBC Approval (EPBC 2014/7282 & 2022/9164)

EPBC 2014/7282

KEQPL received EPBC approval (2014/7282) on 20 March 2015.

EPBC 2014/7282 has been subject to one variation to date, which was granted on 4 October 2018. This variation was required as a result of MOD1 to the NSW Project Approval.

At the time of reporting, EPBC 2014/7282 is subject to a second variation application which is currently being processed by the Commonwealth Department of Climate Change, Energy, the Environment and Water (DCCEEW). The variation application was lodged on 19 December 2023 as a result of MOD10 to the NSW Project Approval.

No other modification approvals to the NSW Project Approval (i.e. MOD2, MOD8 or MOD9) have necessitated an amendment to EPBC 2014/7282. A summary of these matters is provided by **Table 9**.

Table 9 Variations to the Commonwealth EPBC Approval for the Karuah East Quarry.

No.	Approval Date	Description
–	20/03/2015	Original approval granted for the site under Commonwealth <i>Environment Protection and Biodiversity Conservation Act 1999</i> .
1	04/10/2018	Variation 1 was required as a result of MOD1 to the NSW Project Approval which impacted upon 0.25 Ha of native vegetation.
NOTE: MOD2, MOD8 and MOD9 to the NSW Project Approval did not necessitate a variation due to:		
<ul style="list-style-type: none"> ■ MOD2 did not disturb any Matters of National Environmental Significance (MNES); ■ MOD8 and MOD9 did not change the KEQ disturbance footprint. 		
2	Pending Approval	Variation 2 was lodged on 19 December 2023 for the KEQ MOD10 Project for impacts to 7.17 Ha of native vegetation.

EPBC 2022/9164

MOD10 to the NSW Project Approval is being progressed under the Bilateral Assessment process between the NSW Planning and the Commonwealth DCCEEW following confirmation that the project was a Controlled Action on 13 May 2022.

As noted above, MOD10 includes an expansion to the KEQ disturbance footprint of 7.17 Ha which also extends into part of the approved biodiversity offset area on Lot 13 DP1024564.

MOD10 was approved by NSW Planning on 18 May 2023. Following State approval, the matter was referred to the Commonwealth DCCEEW to process the approval for EPBC 2022/9164. Prior to issuing approval for EPBC 2022/9164, Federal DCCEEW staff have advised that variation to EPBC 2014/7282 is needed in the first instance. As noted above, the variation application was lodged on 19 December 2023 and this matter is being progressed.

3.4 Statutory Requirements of this Annual Review

Requirements of the Annual Review are summarised in **Table 10**.

Table 10 Summary of Statutory Requirements of the Annual Review.

No.	Requirement	Section
Schedule 2 – Administrative Conditions		
Condition 14	<p><u>Production Data</u> <i>The Applicant must:</i></p> <p>a) <i>provide annual quarry production data to MEG using the standard form for that purpose; and</i></p> <p>b) <i>report this data in the Annual Review (see condition 4 of Schedule 5).</i></p>	Section 4.1
Schedule 3 – Environmental Performance Conditions		
Condition 23	<p><u>Monitoring of Product Transport</u> <i>The Applicant must keep accurate records of all laden truck movements to and from the site (including arrival and dispatch) and publish a summary of records on its website every 6 months and in the Annual Review.</i></p>	Section 4.6 and Appendix 2
Schedule 5 – Environmental Management, Reporting and Auditing		
Condition 4	<p><u>Annual Review</u> <i>By the end of March each year, the Applicant must review the environmental performance of the development to the satisfaction of the Planning Secretary. This review must:</i></p> <p>a) <i>describe the development (including rehabilitation) that was carried out in the previous calendar year, and the development that is proposed to be carried out over the current calendar year;</i></p>	Section 4.0 and Section 8.0
	<p>b) <i>include a comprehensive review of the monitoring results and complaints records of the development over the previous calendar year, which includes a comparison of these results against:</i></p> <ul style="list-style-type: none"> • <i>the relevant statutory requirements, limits or performance measures/criteria;</i> • <i>the monitoring results of previous years; and</i> • <i>the relevant predictions in the documents referred to in condition 2(d) of Schedule 2 of this consent;</i> 	Section 6.0 and Section 7.0
	<p>c) <i>identify any non-compliance over the last year, and describe what actions were (or are being) taken to ensure compliance;</i></p>	Section 6.2 and Section 11.0
	<p>d) <i>identify any trends in the monitoring data over the life of the development;</i></p>	Section 6.0 and Section 7.0
	<p>e) <i>identify any discrepancies between the predicted and actual impacts of the development, and analyse the potential cause of any significant discrepancies; and</i></p>	Section 6.0 and Section 7.0
	<p>f) <i>describe the measures that would be implemented over the current calendar year to improve the environmental performance of the development.</i></p>	Section 12.0

3.5 Summary of Environmental Management Plans

A summary of the site’s Environmental Management Plans is provided in **Table 11**.

Table 11 *Summary of Statutory Environmental Management Plans.*

Environmental Management Plan	Status	2024 Action
Environmental Management Strategy	Originally approved in 2015.	Submission of comprehensive review due 28 May 2024.
	Updated in 2019 for MOD1 and MOD2.	
	Updated in 2020 for MOD8.	
	Updated in 2021 for MOD9.	
Air Quality Management Plan	Originally approved in 2015.	Submission of comprehensive review due 28 May 2024.
	Updated in 2019 for MOD1 and MOD2.	
Biodiversity Offset Area Management Plan	Originally approved in March 2016.	Update pending Commonwealth Approval for MOD10.
	Updated in April 2021.	
Biodiversity Offset Strategy		Update pending Commonwealth Approval for MOD10.
Blast Management Plan	Originally approved in 2015.	Submission of comprehensive review due 28 May 2024.
	Updated in 2019 for MOD1 and MOD2.	
Heritage Management Plan	Originally approved in 2015.	–
	Updated in January 2024 for MOD10.	
Landscape and Rehabilitation Management Plan	Originally approved in 2015.	Update pending Commonwealth Approval for MOD10.
	Updated in 2020 for MOD1 and MOD2.	
Noise Management Plan	Originally approved in 2015.	Submission of comprehensive review due 28 May 2024.
	Updated in 2019 for MOD1 and MOD2.	
	Updated for MOD8 and MOD9.	
Transport Management Plan	Originally approved in 2015.	Submission of comprehensive review due 28 May 2024.
Tetratheca juncea Translocation Plan	Originally approved in 2015.	–
	Updated in 2019 for MOD1 and MOD2.	
	Program ceased in 2020.	
Water Management Plan	Originally approved in 2015.	Submission of comprehensive review due 28 May 2024.
	Updated in 2019 for MOD1 and MOD2.	
Waste Management Plan	Original dated 2017.	–
	Updated in 2019 for MOD1 and MOD2.	
	Updated in 2023 for MOD8, MOD9 and MOD10.	

4.0 Operations Summary

The KEQ site operated during the 2023 Annual Review reporting period as outlined below.

4.1 Quarry Production Summary

The monthly production summary during the reporting period is included in **Table 12**.

Table 12 *Monthly Quarry Production Data.*

Month	Production (t)	Truck Loads (#)
Jan-23	78,075	2,090
Feb-23	63,813	3,702
Mar-23	55,950	3,392
Apr-23	61,862	1,942
May-23	95,428	2,867
Jun-23	87,714	2,752
Jul-23	56,165	2,534
Aug-23	97,787	2,677
Sep-23	84,877	2,928
Oct-23	116,043	3,741
Nov-23	123,790	4,026
Dec-23	77,851	2,607
2023 TOTAL:	999,355	35,258
2024 FORECAST:	1,200,000	40,000

4.2 Land Preparation

No land clearing was completed during the 2023 reporting period.

4.3 Construction Activities

No construction activities were completed during the 2023 reporting period.

4.4 Operating Hours

For the 2023 reporting period the KEQ site was operated within the operating hours provided by Schedule 2, Condition 7 of the Project Approval as outlined by **Figure 3**.

No temporary extensions to operating hours were sought from the Planning Secretary and no directions from statutory authorities were received during the 2023 reporting period.

Hours of Operation

7. The Applicant must comply with the operating hours in Table 1.

Table 1: Operating hours

Activity	Operating Hours
Quarrying Operations	7:00 am to 9:00 pm, Monday to Friday 7:00 am to 10:00 pm Monday to Friday on 50 calendar days per year; and 7:00 am to 6:00 pm, Saturday. No drilling 6:00 pm to 10:00 pm Monday to Friday or 1:00 pm to 6:00 pm Saturday No quarrying operations on Sundays or Public Holidays.
Product loading and dispatch	5:00 am to 9:00 pm Monday to Friday 5:00 am to 10:00 pm Monday to Friday on 50 calendar days per year 6:00 am to 6:00 pm Saturday No product loading and dispatch on Sundays or Public Holidays
Construction activities	7.00 am to 6.00 pm, Monday to Friday; and 8.00 am to 1.00 pm, Saturdays, unless noise from these activities does not exceed 40 dB(A) $L_{Aeq(15 min)}$ at any privately-owned residence.
Maintenance activities	24 hours a day, 7 days per week, providing maintenance activities are inaudible at any privately-owned residence

Note: This condition does not apply in the event of a direction from police or other relevant authority for safety or emergency reasons regarding works which may need to be undertaken to avoid loss of life, property loss and/or to prevent environmental harm.

Figure 3 Operating Hours as specified in the Project Approval.

4.5 Operating Equipment

During the 2023 reporting period the following equipment was available for use during operational periods:

- 3x Excavators;
- 1x Bulldozer;
- 1x Mobile crusher (screening and crushing equipment);
- 1x Pugmill (cementious blender);
- 2x Trommels;
- 8x Front end loaders;
- 1x 25,000 L water tankers; and
- 8x Onsite haul trucks.

4.6 Transport Rates

Transport rate monitoring is conducted in accordance with Schedule 3, Condition 23 of the Project Approval, outlined by **Figure 4**. Monthly truck movements are summarised by **Table 12** with detailed reports provided by **Appendix 2** and published on the Hunter Quarries website.

Monitoring of Product Transport

23. The Applicant must keep accurate records of all laden truck movements to and from the site (including time of arrival and dispatch) and publish a summary of records on its website every 6 months and in the Annual Review.

Figure 4 Product Transport Monitoring Requirements from the Project Approval.

4.7 Next Reporting Period

Forecast operations for the next 2024 reporting period are summarised by **Table 13**.

Table 13 *Forecast Operations for the Next 2024 Reporting Period.*

Aspect	Forecast Operations for the Next 2024 Reporting Period
Quarrying Operations	Continuation of quarrying activities within the approved extraction pit.
Infrastructure Upgrades	<p>Expanded operational and ancillary infrastructure in accordance with the KEQ MOD10 Project, including increased stockpile areas, additional administration buildings and upgraded sedimentation dams.</p> <p>Routine maintenance to structural assets will continue to be completed subject to economic business cases and in accordance with operational requirements and the expected life of fixed plant.</p>
Equipment Upgrades	No major equipment upgrades are planned; however, routine replacement of equipment will continue to be completed subject to economic business cases and in accordance with operational requirements and the expected life of plant and equipment.

5.0 Actions Required from Previous Annual Reviews

KEQPL received correspondence from NSW Planning on 30 March 2023 regarding the 2021 Annual Review and found it to generally satisfy the reporting requirements of the Project Approval and the October 2015 Annual Review Guideline (the Guideline). However, it was requested that future Annual Reviews included:

- A summary of all laden truck movements to and from the site; and
- A summary of surface water monitoring and analysis.

Additionally, it was requested that following documents be made publicly available on KEQ’s website:

- 2020 and 2021 Annual Reviews; and
- Minutes of the Community Consultative Committee since March 2022.

KEQPL received further correspondence from NSW Planning on 29 November 2023 regarding the 2022 Annual Review and similarly found it to generally satisfy the reporting requirements of the Project Approval and the Guideline. However, it was noted that an administrative error had omitted the 2022 Ecological Monitoring Report from Appendix 5 of the 2022 Annual Review. It was therefore requested:

- The 2022 Annual Review be updated and republished, inclusive of the omitted report; and
- The 2023 Annual Review include a status update to the recommendations made in the report.

These actions requested by NSW Planning and the actions required as an outcome of the previous 2022 Annual Review are summarised in **Table 14**.

Table 14 Summary of Previous Actions.

Action ID	Action Required	Status	Section
NSW Planning Directions – 2021 Annual Review			
2022-1	<p><i>For future Annual Reviews, under the provisions of Schedule 2, Condition 3 of the approval, please include the following information –</i></p> <ul style="list-style-type: none"> • <i>A summary of all laden truck movements to and from the site.</i> 	<p>Complete KEQPL has updated the annual review document template to include laden truck movement details and the required six-monthly reports.</p>	Section 4.6 and Appendix 2
2022-2	<p><i>For future Annual Reviews, under the provisions of Schedule 2, Condition 3 of the approval, please include the following information –</i></p> <ul style="list-style-type: none"> • <i>A summary of surface water monitoring conducted at locations SW1, SW2, SW3 and SW4 in accordance with the approved Water Management Plan, a comparison of monitoring results to predictions made in the EIS, an assessment against water quality performance criteria, the identification of any trends and management implications.</i> 	<p>Complete KEQPL has updated the annual review document template to include the required surface water review.</p>	Section 7.0
2022-3	<p><i>As required by Schedule 5, Condition 11 of the approval, please make publicly available on the company website the following information –</i></p> <ul style="list-style-type: none"> • <i>a copy of the Annual Review for the 2020 and 2021 reporting periods; and</i> • <i>minutes of the Community Consultative Committee meetings held since March 2022.</i> 	<p>Complete KEQPL has uploaded to these documents to the restructured Hunter Quarries website.</p>	–

Action ID	Action Required	Status	Section
NSW Planning Directions – 2022 Annual Review			
2022-4	<i>I note that the Ecological Monitoring Report prepared by Wedgetail Project Consulting for the biodiversity offset area and the development site was not included in Appendix 5 of the 2022 Annual Review. Please make this report publicly available on Hunter Quarries website by updating and re-publishing the Annual Review on the company website.</i>	Complete KEQPL has updated and uploaded the amended AR to the restructured Hunter Quarries website.	–
2022-5	<i>Under the provisions of Schedule 2 Condition 3 of the approval, please include in the 2023 Annual Review information that describes the response from Karuah East Quarry to the recommendations made in the Ecological Monitoring Report for the biodiversity offset area.</i>	Complete KEQPL has updated the annual review document template to include a status update of recommendations from the annual ecological monitoring program.	Section 6.6 and Section 12.0
KEQ Findings – 2022 Annual Review			
2022-6	Update of multiple Management Plans to incorporate MOD 9 and MOD 10.	Continuing KEQ commenced updates of multiple management plans and final submission and approval is expected to be completed in 2024.	Section 3.5
2022-7	Continue environmental monitoring in accordance with management plans and approval requirements.	Complete KEQ continued to conduct environmental monitoring during 2023.	Section 1.0 Section 3.5 Section 6.0
2022-8	Continue CCC and community support	Complete KEQ continued to facilitate CCC meetings in 2023.	Section 9.0
2022-9	Continue to update the website with monitoring data and key environment and community information.	Complete Monthly monitoring data uploaded to the restructured Hunter Quarries website during 2023.	–
2022-10	Continue to undertake pest and weed management as required.	Complete Pest and weed monitoring and management continued during 2023.	Section 6.6

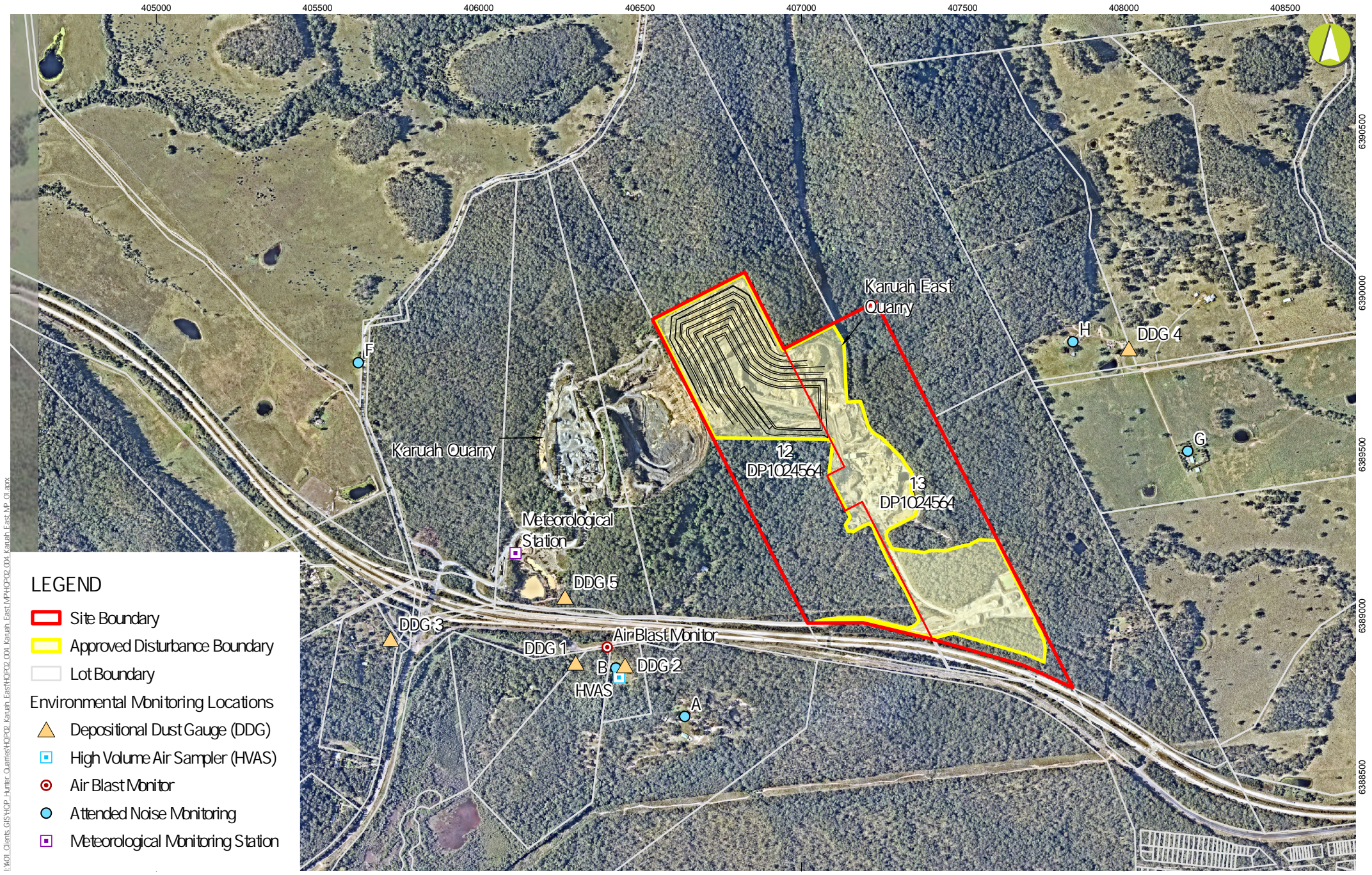
6.0 Environmental Performance

KEQPL undertakes environmental monitoring in accordance with the Project Approval and Environment Protection Licence. Key monitoring locations are illustrated by **Figure 5**.

Table 15 provides a summary of the environmental performance at the site for the 2023 reporting period.

Table 15 Summary of Environmental Performance During the 2023 Reporting Period.

Aspect	Approval Criteria OR EIS Prediction	Performance During the Operating Period	Trend OR Key Management Implications	Implemented OR Proposed Management Actions
Air Quality	Project Approval – Schedule 3, Condition 13	1x PM10 exceedance	Exceedance for short term criteria considered to be an anomalous result.	Continued monitoring
		2x Depositional Dust exceedances	Exceedances due to contamination of DDG's with organic (not quarry-related) material.	Minor relocation of 3x DDG's to minimise contamination risk as far as reasonably practicable.
Blasting	Project Approval – Schedule 3, Condition 8	Compliant	Within criteria	Improved administrative measures to better manage community complaints were implemented in 2023.
Noise	Project Approval – Schedule 3, Condition 3	Compliant	Within criteria	Continued monitoring
Heritage	Project Approval – Schedule 3, Condition 36	Compliant	No specific criteria	Implementation of revised Heritage Management Plan for the KEQ MOD10 Project once commonwealth approval is achieved in 2024.
Biodiversity	Project Approval – Schedule 3, Condition 33	Compliant	Within criteria for BOAMP	Implement actions from Biodiversity Offset Area Monitoring Report.
Waste	Project Approval – Schedule 3, Condition 42	Compliant	Increased waste associated within improved housekeeping processes.	Continued monitoring
Water	Project Approval – Schedule 3, Condition 19	Compliant	Within discharge criteria	Continued monitoring



LEGEND

- ▭ Site Boundary
- ▭ Approved Disturbance Boundary
- ▭ Lot Boundary
- Environmental Monitoring Locations**
- ▲ Depositional Dust Gauge (DDG)
- ▣ High Volume Air Sampler (HVAS)
- Air Blast Monitor
- Attended Noise Monitoring
- ▣ Meteorological Monitoring Station



GDA 1994 MGA Zone 56
8/03/2024

Karuah East Quarry

Annual Review 2023

FIGURE 5 - Environmental Monitoring Locations

6.1 Meteorological Monitoring

For the 2023 reporting period the KEQ site operated a meteorological monitoring station in accordance with Schedule 3, Condition 17 of the Project Approval as illustrated by **Figure 6**.

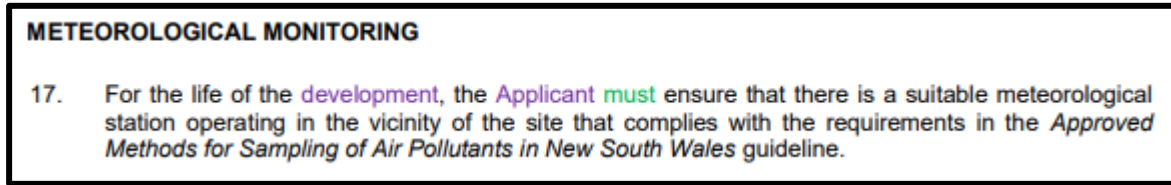


Figure 6 Meteorological Monitoring Requirements from the Project Approval.

The meteorological monitoring station was installed in August 2016 adjacent to the weighbridge of the Karuah Hard Rock Quarry (DA 265-10-2004) as illustrated by **Figure 5** and currently services both quarries at the Karuah Quarry Complex. On 08 March 2023 the station was serviced and subject to the required annual field calibration.

Table 16 presents a summary of the meteorological data collected by the meteorological station during the 2023 reporting period.

Table 16 Recorded 2023 Meteorological Data.

Month	Temperature (°C)			Rainfall (mm)		Wet Days (No. >1 mm.)	Wind [Max Gust] (km/h)
	Min	Ave	Max	Total	Max Daily		
Jan-23	12.3	22.3	36.2	174.8	41.0	11	40.2
Feb-23	11.2	23.1	37.2	38.8	25.0	6	45.0
Mar-23	1.9	22.3	40.3	92.6	22.2	9	48.0
Apr-23	6.3	16.9	27.4	153.4	40.0	13	59.2
May-23	1.7	12.5	24.8	100.4	36.8	5	27.6
Jun-23	0.1	11.5	23.1	4.2	2.4	2	28.8
Jul-23	1.8	11.7	25.1	58.2	27.8	6	29.6
Aug-23	3.6	12.8	27.3	58.4	24.8	8	31.1
Sep-23	2.7	15.7	34.3	13.0	4.6	3	28.6
Oct-23	5.5	18.7	36.6	81.4	46.4	5	33.4
Nov-23	10.9	20.3	33.7	99.2	45.0	7	50.9
Dec-23	13.1	23.9	42.6	56.80	22.4	6	45.0

Average monthly temperatures during the reporting period ranged from 11.5 to 23.9 °C, with a maximum temperature 42.6 °C recorded in December 2023. Total monthly rainfall ranged from 4.2 mm (June) to 174.8 mm (Jan), with the maximum daily rainfall recorded at 46.4 mm on 27 October 2023. The maximum wind gust was recorded in April 2023 with a result of 59.2 km/h.

The total rainfall for 2023 was 931.2 mm which can be compared to 1,666.8 mm in 2022.

6.2 Air Quality

EIS Predictions

The revised Air Quality Impact Assessment (AQIA) (updated for the Preferred Project Report) indicates that Karuah East Quarry may operate without significant impact on the surrounding environment. In particular, the updated AQIA has confirmed that potential cumulative impacts of Karuah East Quarry and existing Karuah Hard Rock Quarry are well below acceptable criteria levels and will not impose adverse impacts. Overall, it has been demonstrated that the AQIA for Karuah East Quarry is acceptable in terms of air quality considerations for both the construction and operational phases.

Approval Criteria

Air quality criteria is provided in Schedule 3, Condition 13 of the Project Approval as outlined by **Figure 7**. All reasonable and feasible avoidance and mitigation measures are to be employed so that particulate matter emissions generated do not exceed the criteria at any residence on privately owned land.

No specific limits are specified for air quality emissions by the EPL, however, the EPA does mandate the use of Approved Methods as outlined by their guidance document – *Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales* (EPA, 2022).

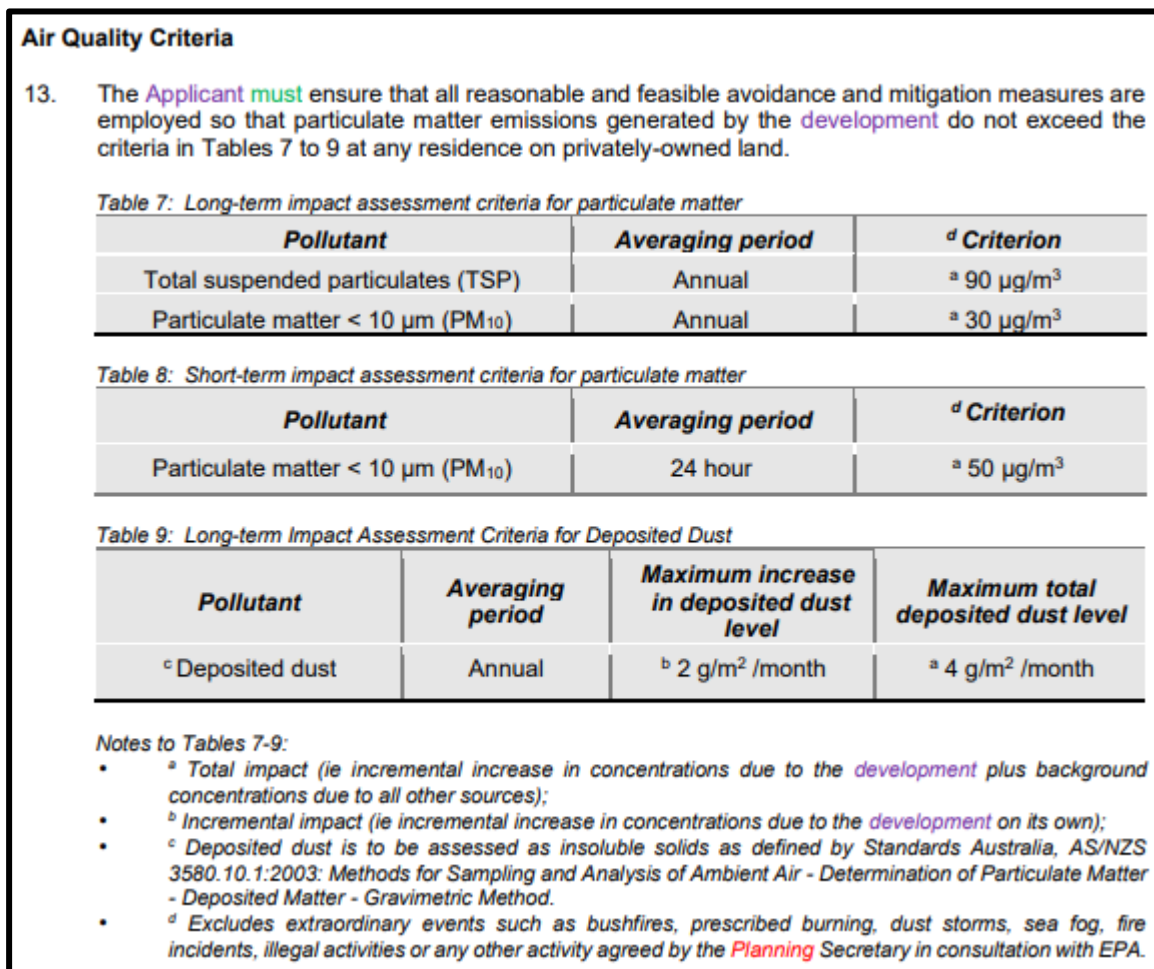


Figure 7 Air Quality Criteria Provided by the Project Approval.

The main source of air pollution at the quarry is in the form of airborne dust, which arises from activities such as construction, quarrying, vehicle movements and crushing. Air quality monitoring has been performed to meet the EPA’s Approved Methods (EPA, 2022) using five (5x) Depositional Dust Gauges and one (1x) High-Volume Air Sampler. The location of these monitoring locations are illustrated by **Figure 5**.

Environmental Performance Results (Deposited Dust)

Depositional dust results are outlined within **Table 17**. The 2023 monitoring results indicated that the maximum deposited dust levels measured at DDG 1 to DDG 5 were generally all less than the long-term impact assessment criteria for depositional dust (maximum deposited dust level of 4 g/m²/month) over the reporting period.

Table 17 Summary of Depositional Dust Gauge Results During the 2023 Reporting Period.

Monitoring Details				Deposited Dust (g/m ² /month)				
Reporting Period	Start Date	End Date	Days	DDG 1 EPL ID 4	DDG 2 EPL ID 5	DDG 3 EPL ID 6	DDG 4 EPL ID 7	DDG 5 EPL ID 8
Jan-23	5/01/2023	3/02/2023	29	0.2	0.4	0.8	0.1	0.4
Feb-23	3/02/2023	6/03/2023	31	0.9	0.7	0.2	0.3	0.8
Mar-23	6/03/2023	5/04/2023	30	1.1	1.5	1.1	1.1	1.1
Apr-23	5/04/2023	4/05/2023	29	0.3	0.5	0.3	0.2	1.2
May-23	4/05/2023	5/06/2023	32	0.2	0.3	0.3	0.4	0.4
Jun-23	5/06/2023	4/07/2023	28	0.6	2.5	1.8	—*	—*
Jul-23	4/07/2023	3/08/2023	30	0.4	0.9	1.2	1.1	0.3
Aug-23	3/08/2023	4/09/2023	32	0.7	0.3	0.5	0.5	0.2
Sep-23	4/09/2023	4/10/2023	29	1.5	2.6	1.4	1.4	2.0
Oct-23	4/10/2023	2/11/2023	28	1.4	2.4	2.2	1.6	2.5
Nov-23	2/11/2023	30/11/2023	28	1.6	—*	1.4	1.0	2.0
Dec-23	30/11/2023	28/12/2023	28	1.1	1.0	1.3	1.3	1.7
2023 Annual Average:				0.8	1.2	1.0	0.8	1.1
2023 Minimum:				0.2	0.3	0.2	0.1	0.2
2023 Maximum:				1.6	2.5	2.2	1.6	2.5

*Contaminated samples discounted from reporting data set.

However, it should be noted that DDG 4 and DDG 5 samples in the June 2023 reporting period, and DDG 2 sample in the November 2023 reporting period become contaminated with organic vegetation matter and are therefore discounted from averaging. These ‘failure to monitor’ events were reported to NSW Planning, the NSW EPA and surrounding landholders in accordance with the relevant conditions of the Project Approval and EPL. Both agencies subsequently acknowledged the events and have confirmed no regulatory action will be taken.

Environmental Performance Results (Particulate Matter)

Total Suspended Particulates (TSP) and Particulate Matter < 10 µm (PM10) results for the 2023 reporting period are summarised by **Table 18** and illustrated by **Figure 8** and **9** respectively. The results were compliant with the long-term criteria (TSP and PM10) and generally compliant with the short-term criteria for PM10, as outlined below:

- The annual average for TSP was 25 µg/m³, which is below the long-term criteria of 90 µg/m³; and
- The annual average for PM10 was 14 µg/m³, which is below the long-term criteria of 30 µg/m³.

Table 18 TSP & PM10 High-Volume Air Sampler Results During the 2023 Reporting Period.

HVAS Run Date	TSP (µg/m ³)	PM10 (µg/m ³)	Status	HVAS Run Date	TSP (µg/m ³)	PM10 (µg/m ³)	Status
5/01/2023	20	11	Compliant	4/07/2023	5	2	Compliant
11/01/2023	13	9	Compliant	10/07/2023	10	6	Compliant
17/01/2023	19	10	Compliant	16/07/2023	13	8	Compliant
23/01/2023	13	9	Compliant	22/07/2023	12	6	Compliant
29/01/2023	16	12	Compliant	28/07/2023	20	13	Compliant
4/02/2023	25	14	Compliant	3/08/2023	21	10	Compliant
10/02/2023	20	12	Compliant	9/08/2023	13	8	Compliant
16/02/2023	18	10	Compliant	15/08/2023	7	4	Compliant
22/02/2023	17	8	Compliant	21/08/2023	30	17	Compliant
28/02/2023	20	11	Compliant	27/08/2023	9	7	Compliant
6/03/2023	40	23	Compliant	2/09/2023	13	8	Compliant
12/03/2023	22	14	Compliant	8/09/2023	17	9	Compliant
18/03/2023	32	22	Compliant	14/09/2023	21	14	Compliant
24/03/2023	16	11	Compliant	20/09/2023	52	34	Compliant
30/03/2023	16	11	Compliant	26/09/2023	28	22	Compliant
5/04/2023	14	11	Compliant	2/10/2023	63	35	Compliant
11/04/2023	16	9	Compliant	8/10/2023	7	3	Compliant
17/04/2023	14	8	Compliant	14/10/2023	21	11	Compliant
23/04/2023	11	6	Compliant	20/10/2023	26	12	Compliant
29/04/2023	21	10	Compliant	26/10/2023	21	8	Compliant
5/05/2023	53	28	Compliant	1/11/2023	36	18	Compliant
11/05/2023	72	41	Compliant	7/11/2023	12	6	Compliant
17/05/2023	11	6	Compliant	3/11/2023	37	20	Compliant
23/05/2023	82	49	Compliant	19/11/2023	12	7	Compliant
29/05/2023	11	4	Compliant	25/11/2023	10	4	Compliant
4/06/2023	25	15	Compliant	1/12/2023	24	12	Compliant
10/06/2023	13	10	Compliant	7/12/2023	38	20	Compliant
16/06/2023	81	51*	Exceedance*	13/12/2023	36	18	Compliant
22/06/2023	57	26	Compliant	19/12/2023	58	27	Compliant
28/06/2023	12	6	Compliant	25/12/2023	17	11	Compliant
				31/12/2023	19	11	Compliant
2023 Annual Average:					25	14	Compliant
2023 Minimum:					5	2	
2023 Maximum:					82	51	

*Exceedance of short-term PM10 criteria.

However, it should be noted that on 16/06/2023, one minor exceedance of PM10 was recorded at 51 µg/m³ compared to the short-term criteria of 50 µg/m³. This anomalous result was reported to NSW Planning, the NSW EPA and surrounding landholders in accordance with the relevant conditions of the Project Approval and EPL. NSW Planning reviewed the notification and determined to record a breach under the NSW EP&A Act 1979 on 01 February 2024. However, no response from the EPA was received.

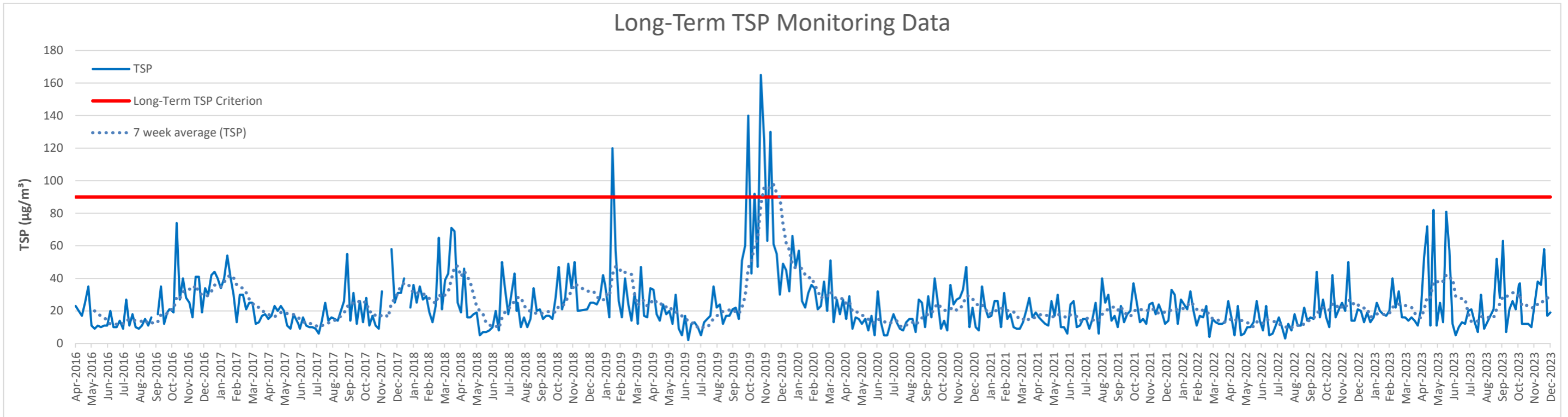


Figure 8 Long-term TSP monitoring trends.

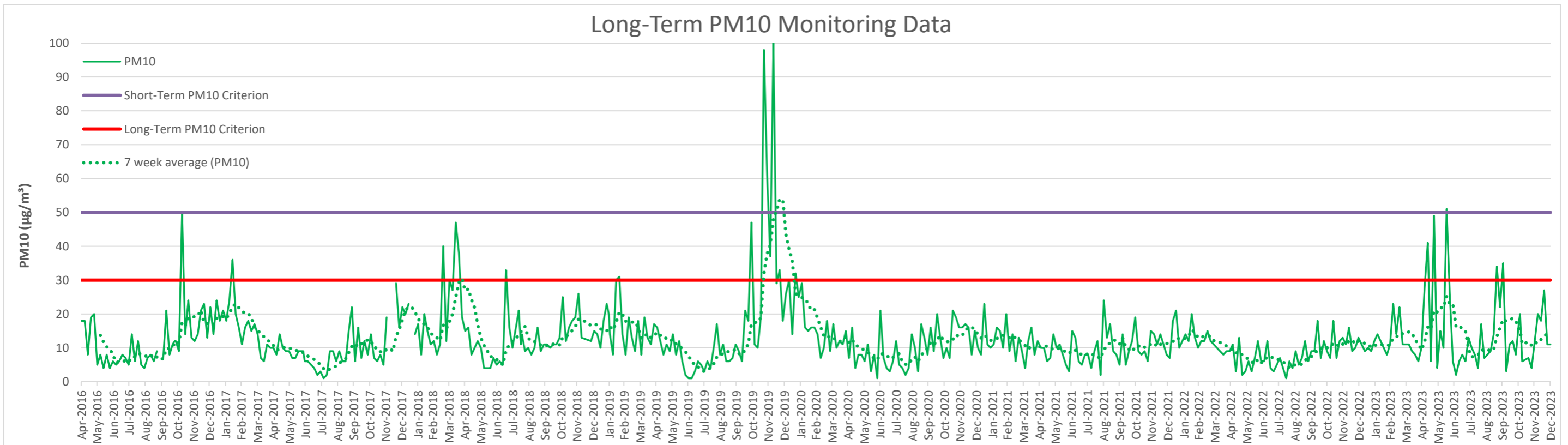


Figure 9 Long-term PM10 monitoring trends.

Management Measures

The following best practice air quality control measures continued to be implemented in 2023:

- Disturb only the minimum area necessary for onsite activities.
- Perform regular inspections of weather conditions to identify conditions which would be unfavourable in terms of dust levels at nearest sensitive locations blowing in the direction of sensitive receptors and implement remedial measures where required.
- All trafficable areas and vehicle manoeuvring areas in or on the premises will be maintained in a condition that will minimise the emission of dust to the air, or emission from the premises of wind-blown or traffic generated dust.
- Trucks entering and leaving the premises that are carrying loads of dust generating materials will have their loads covered at all times, except during loading and unloading.
- All plant and equipment to be installed at the site to be maintained and operated in a proper and efficient condition, in accordance with manufacturer's instructions and POEO Act and Regulation.

Improvements

KEQPL will continue to monitor air quality in accordance with the conditions of the Project Approval and EPL and will review operational practices if particulate matter exceedances continue.

In response to the DDG contamination events, KEQPL proposes to undertake a minor relocation of three station to minimise the risk as far as reasonably practicable, subject to approval by NSW Planning and the EPA.

6.3 Blasting

EIS Predictions

The Noise Impact Assessment (NIA) (SLR, 2012) prepared as part of the EIS, developed blasting site laws for Karuah East Quarry based on blast monitoring results from the existing Karuah Quarry. The site laws were utilised to determine limiting factors to blast design for the site in order to achieve the criteria described in **Section 6.3.2**. Based on the predicted blast results the blast emission criteria are predicted to be met without imposing any significant constraints on blast design throughout the life of the quarry. Subsequent modifications have not resulted to changes in blasting practices.

Approval Criteria

Blasting criteria for the site are provided in Schedule 3, Condition 8 of the Project Approval as outlined by **Figure 10**. Additionally, Conditions L5.1 to 5.7 of the EPL 20611 detail consistent blast limits for the project.

Blasting Criteria

8. The Applicant must ensure that blasting on the site does not cause exceedances of the criteria in Table 5.

Table 4: Blasting criteria

Location	Airblast overpressure (dB(Lin Peak))	Ground vibration (mm/s)	Allowable exceedance
Residence on privately-owned land	120	10	0%
	115	5	5% of the total number of blasts over a period of 12 months

However, the blasting criteria in Table 5 do not apply if the Applicant has a written agreement with the relevant landowner or infrastructure provider/owner, and the Applicant has advised the Department in writing of the terms of this agreement.

Figure 10 Blasting Criteria provided by the Project Approval.

Environmental Performance Results

In 2023, eighteen (18x) blast events were completed at the site as summarised by **Table 19**. All blasts were within the limits provided by the Project Approval and EPL.

Table 19 Blast Monitoring Results for the 2023 Reporting Period.

Date	Time	Location	Airblast Overpressure* (dB [Lin Peak])	Ground Vibration* PPV (mm/s)
18/01/2023	12:01	RL 120	n/t	n/t
06/02/2023	14:28	RL 120	110.5	1.05
14/02/2023	12:28	RL 120	n/t	n/t
14/03/2023	14:09	RL 120 + 105	108.8	1.01
19/04/2023	12:33	RL 128	n/t	n/t
12/05/2023	14:33	RL 105	112	0.92
22/05/2023	12:30	RL 128	n/t	n/t
29/05/2023	12:33	RL 135	n/t	n/t
09/06/2023	12:46	RL 120 + 128	112.4	0.85
23/06/2023	12:19	RL 120 + 135	n/t	n/t
04/07/2023	14:13	RL 135	n/t	n/t
31/07/2023	14:59	RL 128 + 120	n/t	n/t
14/08/2023	15:36	RL 135 + 105	113.2	2.08
12/09/2023	13:38	RL 128 + 135	n/t	n/t
28/09/2023	13:02	RL 128 + 135	n/t	n/t
17/10/2023	13.03	RL 120	n/t	n/t
17/11/2023	12:17	RL 120	n/t	n/t
08/12/2023	13:37	RL 120	n/t	n/t

*n/t = Not triggered

Ground Vibration < 0.5 mm/s

Overpressure < 108 dB(L)

Management Measures

Section 6 of the approved *Blast Management Plan* outlines the blasting controls that are implemented at the site. No exceedances were identified and therefore no further controls are considered necessary.

Improvements

However, as discussed by **Section 9.3**, in response to three (3x) blast-related community complaints, a minor administrative improvement has been implemented to assist with greater management of blast-related impacts, by updating our Blast Notification Messaging System to provide text message notifications from a single mobile phone number (**0439 580 440**) to allow residents to maintain a single point of contact, allowing greater ability to remain up to date with planned blasting activities.

6.4 Noise

EIS Predictions

The Noise and Blasting Impact Assessment (SLR, 2012) was developed for the initial project approval. Predicted noise levels were below the project specific noise criteria. For MOD8, a Noise Impact Assessment was undertaken by Thearle Acoustics (Thearle, 2019) in accordance with the NSW Noise Policy for industry (2017). This report found operational noise levels of the Karuah East Quarry were predicted to meet project specific noise target at all nearest, non-project related residential locations surrounding the site except for Lot 10 DP 1032636. These predicted noise levels are summarised by **Table 20**.

Table 20 MOD8 EIS Predicted Noise Levels.

Location	Period	Project Specific Noise Criteria (LAeq,15min)	
		Predicted Noise Impact	Predicted Intrusiveness Criteria
A	Day	42	49
B	Day	36	49
C	Day	37	49
D	Day	34	49
E	Day	39	49
F	Day	26	40
G	Day	43	44
H	Day	45	43
I	Day	40	40
J	Day	< 35	40

For MOD10, a Noise Impact Assessment was conducted by EMM (EMM, 2022) in accordance with the methodology outlined in the NPfI for existing sites and the NSW Noise Policy for industry (2017). Quarry noise emissions are predicted to be below (i.e. comply with) the relevant PNTL during all periods of operations at most assessment locations. The one exception is Location H during the day and evening period, although it is noted however that operational noise emissions are predicted to be below the current consented daytime and evening noise limits at this location (44 dB and 46 dB respectively) and MOD10 did not propose to change these limits. These predicted noise levels are summarised by **Table 21**.

Table 21 MOD10 EIS Predicted Noise Levels.

Location	Period	Predicted Noise Level MOD 10 operations (LAeq,15min) (dB)	PNTL (LAeq,15min) (dB)	Existing Noise Limit (LAeq,15min) (dB)
A	Morning shoulder	<35	38	35
	Day	40	51	42
	Evening	40	43	40
B	Morning shoulder	<35	38	35
	Day	40	51	40
	Evening	40	43	40
C	Morning shoulder	<35	38	35
	Day	35	51	40
	Evening	35	43	35
D	Morning shoulder	<35	38	35
	Day	<35	51	40
	Evening	<35	43	35
E	Morning shoulder	<35	38	35
	Day	<35	51	40
	Evening	<35	43	35
F	Morning shoulder	<35	38	35
	Day	<35	48	40
	Evening	<35	43	35
G	Morning shoulder	<35	38	35
	Day	39	46	43
	Evening	39	43	39
H	Morning shoulder	<35	38	35
	Day	44	40	44
	Evening	46	43	46
I	Morning shoulder	<35	38	35
	Day	37	40	40
	Evening	37	40	37
J	Morning shoulder	<35	35	35
	Day	<35	40	40
	Evening	<35	35	35

Note: This predicted noise level included a moderation factor of +2 dB to account for the low frequency noise from the processing plant

Approval Criteria

Noise criteria for the site are provided in Schedule 3, Condition 3 of the Project Approval as outlined by **Figure 11**. Additionally, Conditions L4.1 to 4.5 of the EPL 20611 detail similar noise criteria.

NOTE – a variation application will be submitted to vary the sites EPL in accordance with MOD10 in 2024.

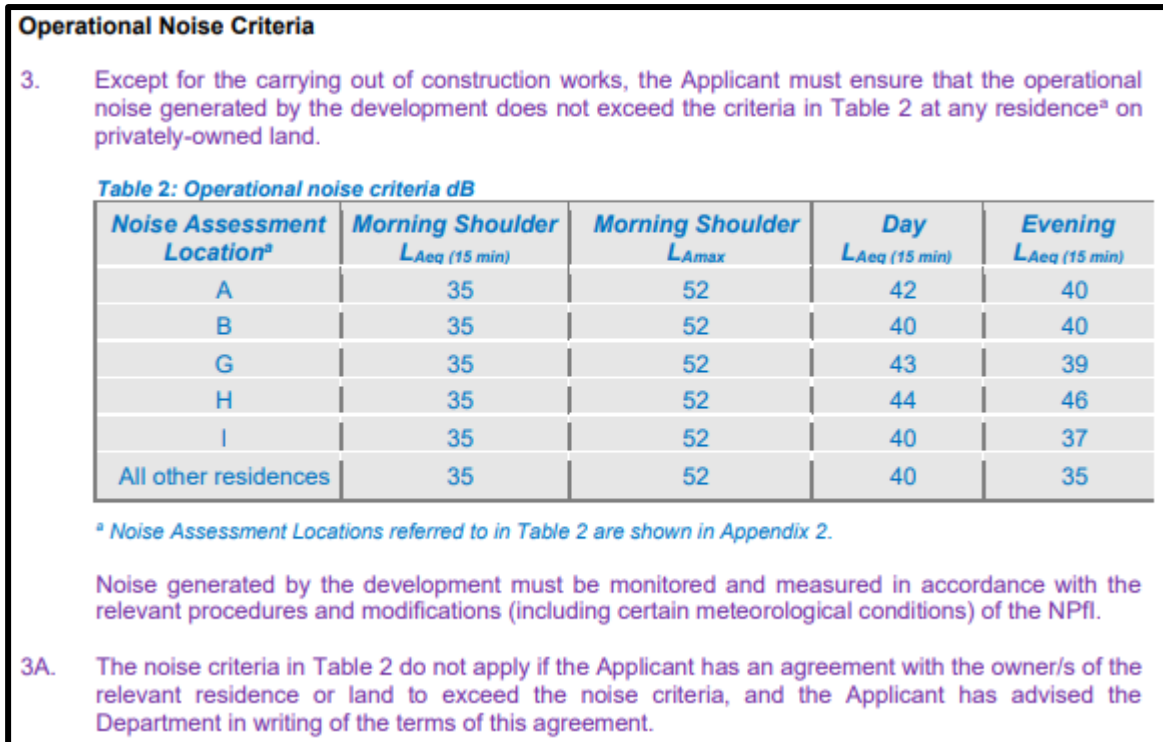


Figure 11 Noise Criteria provided by the Project Approval.

Environmental Performance Results

Attended noise monitoring was conducted at the nearest residential receivers surrounding the site on a quarterly basis by EMM Consulting in accordance with the Project Approval and EPL. The four monitoring reports for the 2023 reporting period are provided by **Appendix 3**.

Noise results for all residential receptors were within compliance limits for all morning shoulder, day and evening monitoring time periods across all four quarterly monitoring rounds.

Management Measures and Improvements

Section 6 of the approved *Noise Management Plan* outlines the noise mitigation and management controls that are implemented at the site. No exceedances were identified and therefore no further controls are considered necessary.

In 2024, noise monitoring results will be further analysed as the MOD10 project commences.

6.5 Heritage (Aboriginal Cultural Heritage & Historic Heritage)

EIS Predictions

An Aboriginal Heritage Impact Assessment was completed as part of the EIS specialist report prepared by RPS (2012). A search of the Aboriginal Heritage Information Management System (AHIMS) database revealed no listed sites inside the project area and the pedestrian survey revealed no Aboriginal cultural heritage items. No evidence of Aboriginal cultural heritage was found during the survey and no impacts were predicted.

A Due Diligence Report was completed by RPS on 17 August 2018 as part of the KEQ MOD2 Project; and by Heritage Now on 18 October 2021 as part of the KEQ MOD10 Project. These assessments confirmed that the site contains low archaeological sensitivity; with the subsequent management recommendations being outlined in Heritage Management Plan.

Approval Criteria

There are no specific performance criteria provided by the Project Approval associated with Aboriginal Cultural Heritage or Historic Heritage.

Environmental Performance Results

No additional disturbance was undertaken within the 2023 reporting period and therefore no heritage impacts occurred, or management issues were identified.

Management Measures and Improvements

A comprehensive review of the *Heritage Management Plan* for the MOD10 project was undertaken during the 2023 reporting period, which included consultation with Registered Aboriginal Parties, the Karuah LALC and Heritage NSW (Aboriginal Cultural Heritage and Historical Archaeology divisions) to ensure management measures are consistent with contemporary legislation and industry best practices.

This revised Heritage Management Plan was approved by NSW Planning on 12 January 2024 and will be implemented during the 2024 reporting period for the MOD10 project once approval is achieved.

6.6 Biodiversity

EIS Predictions

The Preferred Project Report (RPS, 2013) ecology assessment for the NSW Project Approval identified impacts to the following non-threatened vegetation communities:

- 20.38 Ha of *Spotted Gum-Grey Gum-Grey Ironbark White Mahogany Moist Sclerophyll Forest*;
- 7.31 Ha of *Smooth barked Apple-Red Bloodwood-Stringybark Dry Sclerophyll Forest*; and
- 0.4 Ha of *Grey Myrtle Dry Rainforest*.

RPS concluded that no fauna species would be materially impacted; however, one threatened flora species would be directly impacted by the removal of 243 individual clumps of *Tetratheca juncea* (Black-eyed Susan). Based on this impact (and possible indirect impacts to *Grevillea parviflora ssp. parviflora* [Small-flower Grevillea]), an EPBC Referral was conducted to the Commonwealth DCCEEW (formerly Department of Sustainability, Environment, Water, Population and Communities – SEWPAC).

The EPBC Assessment Report (ELA, 2014) considered the impact of the Preferred Project to the Matters of National Environmental Significance (MNES) and identified additional direct impacts to Commonwealth Listed threatened species, including:

- 60 individuals of *Asperula asthenes* (Trailing Woodruff); and
- 24.04 Ha of *Phascolarctos cinereus* (Koala) habitat.

The KEQ MOD2 Project impacted a further 0.25 Ha of the smooth-barked apple vegetation community and 13 individual clumps of *Tetratheca juncea*. The minor nature of this footprint extension was managed by altering existing offset arrangements as outlined in **Section 3.1** and **Section 3.3**.

The KEQ MOD10 Project impacted a further 7.17 Ha of native vegetation as assessed under the Bilateral Assessment process between the NSW Planning and the Commonwealth DCCEEW and utilised the NSW Biodiversity Assessment Methodology (BAM) 2020.

The assessment concluded additional impacts to the following biodiversity values which will be offset under the NSW Biodiversity Offsets Scheme (BOS):

- 6.68 Ha of PCT 1619 - *Smooth-barked Apple - Red Bloodwood - Brown Stringybark - Hairpin Banksia heathy open forest of coastal lowlands*;
- 0.30 Ha of PCT 695 - *Blackbutt - Turpentine - Tallowwood shrubby open forest of the coastal foothills of the central NSW North Coast Bioregion*;
- 6.98 Ha of *Tetratheca juncea* habitat;
- 6.68 Ha of *Grevillea parviflora* spp. *parviflora* habitat;
- 6.98 Ha of Squirrel Glider habitat; and
- 2.90 Ha of Southern Myotis habitat.

Approved Criteria

There are no specific criteria associated with biodiversity management for the site; however, quarry activities are completed in accordance with the NSW Project Approval, Commonwealth EPBC Approval, and the site's Environment Management Plans, including the Biodiversity Offset Area Management Plan (BOAMP) and Landscape and Rehabilitation Management Plan (LRMP).

Environmental Performance Results

The Biodiversity Offset Area (BOA) for the site is a 138.22 Ha parcel of land parcel comprised of three lots:

- Lot 13 DP 1024564 (part);
- Lot 14 DP 1024564; and
- Lot 5 DP 838128.

Ecological monitoring was completed by Wedgetail Project Consulting in September and October 2023, with the Biodiversity Offset Area Monitoring Report attached in **Appendix 5**. Key findings from the 2023 monitoring programme include:

- *Asperula asthenes*, *Tetratheca juncea* and *Grevillea parviflora* subsp. *parviflora* populations remains consistent with the 2022 monitoring, except for *Asperula asthenes*. The decrease in abundances for this species continues a pattern of fluctuation abundances since 2015. There is no discernible pattern to suggest impacts from quarry operations are related to these fluctuations.
- No areas of major active erosion were identified within the BOA. Minor sedimentation due to overtopping of a small number of sediment fences was observed.
- Weed coverage across the KEQ BOA and Lot 12 has increased – management is required to reduce Lantana cover, especially within the northern portion of the site, adjacent to the powerline easement.

- No feral pigs, or evidence thereof, were observed during the 2023 monitoring event, however this species was identified near the powerline easement in 2020. Despite not having been identified, it is likely this species persists within the BOA and therefore continued control programmes be carried out; and
- A total of 377 nest boxes have been installed to date across the KEQ BOA. Monitoring of nest boxes have been carried out in 2018, 2020 and 2022. No further nest boxes need to be installed until further clearing of hollow bearing trees occurs.

Management Measures

The 2022 Biodiversity Offset Area Monitoring Report (**Appendix 5** of the **2022 Annual Review**) identified a number of actions as summarised by **Table 22**.

Action Identification Numbers have been provided following on from the summary of other 2022 Annual Review actions provided by **Table 14** in **Section 5.0**. Any outstanding actions have been carried over to actions for the 2024 reporting period as provided by **Table 34** in **Section 12.0**.

Table 22 Summary of Management Actions from the 2022 BOA Monitoring Report.

Action ID	Action Required	KEQPL Response	Status
<i>Fencing and Access Tracks</i>			
2022-11	Install fencing around the Lot 14 dwelling.	<p>Complete KEQPL can confirm that the APZ surrounding the Lot 14 dwelling is delineated with appropriate internal fencing.</p> <p>Fencing of the driveway access track was reviewed and determined to be not economically feasible; and will therefore be managed in a consistent manner to other access tracks throughout the BOA.</p>	Closed
2022-12	Install fencing around the Lot 5 dwelling.	<p>Underway KEQPL commenced tendering of the internal fencing works around the APZ of the Lot 5 dwelling. This is currently anticipated to be completed in the 2024 reporting period.</p> <p>Fencing of the driveway access track was reviewed and determined to be not economically feasible; and will therefore be managed in a consistent manner to other access tracks throughout the BOA.</p>	Action 2023-6A
2022-13	Repair the fencing along with the northern boundary with the Branch Lane with Lot 5.	<p>Underway KEQPL commenced tendering of the fencing repairs. This is currently anticipated to be completed in the 2024 reporting period.</p>	Action 2023-6B
2022-14	Install fencing along the eastern boundary of Lot 5 with Lot 2 DP1178728.	<p>Reviewed KEQPL reviewed the feasibility of installing fencing along this unfenced section; however, due to the terrain with gradients of up to 48% and the density of woodland forest which would require significant clearing to gain safe access, it was determined that it was not reasonably practicable to complete this work.</p>	Closed
			Page
			36 of 399

Action ID	Action Required	KEQPL Response	Status
		It should be noted that the sections of the boundary that adjoins areas of the neighbouring property that contain livestock are appropriately fenced. No evidence of livestock intrusion was identified during the reporting period.	
2022-15	Install fencing along the western boundary of Lot 5 with Lot 4 DP838128.	<p>Reviewed KEQPL reviewed the feasibility of installing fencing along this unfenced section; however, due to the terrain with gradients of up to 45% and the density of woodland forest which would require significant clearing to gain safe unaccess, it was determined that it was not reasonably practicable to complete this work.</p> <p>It should be noted that during the reporting period, KEQPL acquired Lot 4 and can confirm that fencing along northern boundary with The Branch Lane is in an appropriate condition which effectively supersedes the functionality of the proposed works. Similarly, no evidence of livestock intrusion was identified during the reporting period.</p>	Closed
2022-16	Re-install fauna fencing surrounding Dam 1 following dam reconstruction works.	<p>Completed KEQPL completed tendering of the fauna fence replacement works during the reporting period; however, works were delayed due to on-going labour shortages with appropriate fencing supply contactors. Site works were completed on 30 and 31 January 2024.</p>	Closed
2022-17	Install fauna fencing along the western boundary of Lot 13 adjoining the KEQ site.	<p>Underway KEQPL has completed survey set-out of the proposed fence location along the approved disturbance boundary. A tendering process will commence in the 2024 reporting period. Sites of surface erosion will also be addressed.</p>	Action 2023-6C
2022-18	Undertake fence maintenance activities along the eastern boundary of Lot 5 with Lot 10 DP1032636.	<p>Reviewed KEQPL reviewed the condition of the fence, however, could not find any defects requiring repairs. Similarly, no evidence of livestock intrusion was identified during the reporting period.</p>	Closed
2022-19	Undertake fence maintenance activities along the southern boundary of Lot 14 & 13 with the Pacific Highway.	<p>Reviewed KEQPL reviewed the condition of the fence, however, could not find any defects requiring repairs. Similarly, no evidence of livestock intrusion was identified during the reporting period.</p>	Closed
Erosion and Sediment Control			
2022-20	Undertake track repairs in Lot 5 to the northern secondary trail.	<p>Reviewed KEQPL reviewed the action and concluded no works were required as the track is redundant and currently under natural regeneration. The erosional has since been colonised by native grasses.</p>	Closed

Action ID	Action Required	KEQPL Response	Status
2022-21	Undertake track repairs in Lot 13 to the southern trail to the Pacific Highway.	Completed KEQPL completed repair works in the 2023 reporting period.	Closed
2022-22	Install silt fencing at Dam 3.	Reviewed KEQPL reviewed the action and concluded no works were required as no exposed dirty water catchment drains into the BOA as the downstream embankment face is well covered by native vegetation and the upstream face drains directly into Dam 3.	Closed
2022-23	Repair silt fencing along the western interface of the approved KEQ disturbance boundary in Lot 12.	Completed KEQPL has since reinstalled this with works completed by 12 March 2024.	Closed
2022-24	Repair sites of surface erosion along the eastern interface of the approved KEQ disturbance boundary in Lot 13.	Underway Refer to Action 2022-17 for further details.	Action 2023-6C and 2023-7
Weed & Pest Control			
2022-25	Undertake lantana control activities.	Action KEQPL to determine an appropriate lantana control programme for the BOA.	Action 2023-8
2022-26	Undertake biennial vertebrate pest monitoring.	Action KEQPL to undertake biennial vertebrate pest monitoring.	Action 2023-9
Fire Management			
2022-27	Prepare a Fire Management Strategy for the BOA.	Action KEQPL to develop and implement a Fire Management Strategy for the BOA.	Action 2023-10

Improvements

The Biodiversity Offset Area Management Plan (BOAMP) and Landscape and Rehabilitation Management Plan (LRMP) are both currently under review, following the state approval of the KEQ MOD10 Project and the 2023 KEQ Independent Environmental Audit. These revised documents will be resubmitted to NSW Planning for approval following receipt of Commonwealth EPBC Approval for the KEQ MOD10 Project.

Actions from the 2023 Biodiversity Offset Area Monitoring Report are provided by **Table 34** in **Section 12.0**.

6.7 Waste Management

Approval Criteria

Waste management requirements for the site are provided in Schedule 3, Condition 42 of the Project Approval as outlined by **Figure 12**.

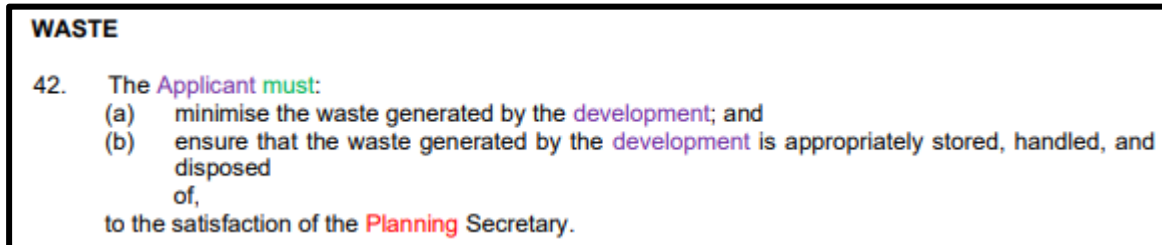


Figure 12 Waste Management Requirements provided by the Project Approval.

Environmental Performance Results

A licenced waste contractor removes waste from a 3 m³ waste bin at the site. There were 46 collections during the reporting period, with capacity of the bin ranging from 20% to 100%, or a total of approximately 106 m³ of waste being removed from site. This represents an increase compared to 57 m³ in 2022 which can be attributed to greater housekeeping processes being implemented in the reporting period.

Improvements

KEQPL completed a comprehensive review of the site's Waste Management Plan during the reporting period.

7.0 Water Management

7.1 Water Management Overview

Surface water at Karuah East Quarry is managed in accordance with the Water Management Plan (WMP). The primary objective of water management is to remain compliant with the Project Approval and EPL; and ensure there is no uncontrolled discharge of water from the site. The goal for any water that leaves the site from a controlled or uncontrolled discharge is that this water meets the required EPL criteria. This objective is intrinsic to erosion and sedimentation designs and controls for the quarry.

As such, the following specific objectives of this WMP have been established as part of the construction and operational phases:

- Conducting best practice land clearing procedures for all proposed disturbance areas;
- Implementation of erosion and sediment controls during construction and operation as per the Blue Book and WMP;
- Separating undisturbed runoff from disturbed runoff where possible to minimise and isolate the amount of disturbed or dirty water runoff;
- Directing sediment-laden runoff into designated sediment control dams;
- Diverting clean runoff from areas upstream of the operation into natural depressions and creeks;
- Allowing sediments to settle in sediment control dams so that the water can be re-used for onsite dust suppression, thereby maintaining dam capacities for subsequent rainfall events;
- Maintaining sediment control structures to ensure that the designed capacities are maintained for optimum settling of sediments; and
- Implementing an effective revegetation and maintenance program for the site.

The Karuah East Quarry has three sediment dams, including:

- Dam 1 - Catchment (crushing plant and product stockpiles);
- Dam 2 - Catchment (product stockpiles and office infrastructure area); and
- Dam 3 - Catchment (product stockpiles area).

The current water management system and location of dams are shown in **Figure 13**.



LEGEND

- ▭ Site Boundary
- ▭ Approved Disturbance Boundary
- ▭ Lot Boundary
- ▭ Dams
- Surface Water Monitoring Points
- ⊕ Licensed Discharge Points
- Groundwater Monitoring Bores



GDA2020 MGA Zone 56
8/03/2024

Karuah East Quarry

Annual Review 2023

FIGURE 13 - Water Monitoring Location

7.2 Surface Water

EIS Predictions

Surface water was assessed EIS and then updated for the Preferred Project Report (2013).

The only direct disturbance to occur to the local drainage system will be in the upper reaches of the northern most drainage line in Lot 12. The length of the channel which will be disturbed as a result of excavation in the upper reaches of the catchment with no clearly defined bed or banks. Therefore, the impact on the wider catchment as a result of disturbance to the upper reaches of this drainage line is not anticipated to be significant.

With regards to offsite discharges, a water balance model has been developed to predict the frequency and volume of discharges from the project. The water balance predicts that uncontrolled discharges will be minimal, averaging only one discharge day per year in Stage 2 (which represents approximately half of the total disturbance area) and two days in Stage 5 (at full disturbance).

Approval Criteria

Discharge criteria is provided in Condition L2.4 of the EPL and summarised in **Table 23**. These pollutants will be tested during discharge events from LDP 1, LDP 2 and LDP 3.

Table 23 EPL Discharge Monitoring Criteria for LDP 1, LDP 2, and LDP 3.

Parameter	Units of Measure	EPL Discharge Limits (100 Percentile Concentration Limit)
Oil and Grease	mg/L	5 and/or non-visible
pH	pH	6.5 – 8.5
Total Suspended Solids	mg/L	40
Turbidity	NTU	–

As detailed in Section 8.1.3 of the WMP, surface water monitoring is undertaken at the following locations:

- Dam 1 (LDP 1), Dam 2 (LDP 2), and Dam 3 (LDP 3);
- SW 1 – Existing first order drainage line upstream of the site;
- SW 2 – Existing second order drainage line downstream of the site;
- SW 3 – Existing first order drainage line downstream of Dam 2; and
- SW 4 – Existing first drainage line downstream of the quarry extraction area.

As per Section 8.1.3 of the WMP, SW 1 to 4 will be tested on a six-monthly basis (when flowing) during operations to determine ongoing compliance with the water quality performance criteria. SW2 and SW3 will be tested within 24 hours any discharge.

Environmental Performance Results (Discharge)

Discharge monitoring results for offsite water releases through the sites licenced discharge points are summarised by **Table 24**. In summary:

- No offsite discharges from Dam 1;
- 11 days of compliant and controlled discharge from Dam 2; and
- 22 days of compliant and controlled discharges from Dam 3.

Table 24 Discharge Monitoring Results for LDP 1, LDP 2, and LDP 3.

Date	pH	Total Suspended Solids, TSS (mg/L)	Turbidity (NTU)	Oil and Grease	Discharge Type	Status
Dam 1 – LDP 1						
No discharges during the reporting period						
Dam 2 – LDP 2						
30/01/2023	7.1	15	21	NV	Controlled	Compliant
20/04/2023	7.0	9	35	NV	Controlled	Compliant
26/06/2023	7.0	29	70	NV	Controlled	Compliant
22/08/2023	7.3	< 5	4.1	NV	Controlled	Compliant
07/11/2023	7.1	5	6.6	NV	Controlled	Compliant
08/11/2023	7.1	7	6.3	NV	Controlled	Compliant
09/11/2023	7.2	5	5.5	NV	Controlled	Compliant
15/11/2023	7.1	11	30	NV	Controlled	Compliant
16/11/2023	7.0	15	6.1	NV	Controlled	Compliant
17/11/2023	7.2	24	39	NV	Controlled	Compliant
21/11/2023	7.6	35	29	NV	Controlled	Compliant
Dam 3 – LDP 3						
30/01/2023	7.6	5	4.1	NV	Controlled	Compliant
31/01/2023	7.4	10	12	NV	Controlled	Compliant
20/04/2023	8.0	20	34	NV	Controlled	Compliant
08/06/2023	7.3	28	50	NV	Controlled	Compliant
09/06/2023	7.4	22	45	NV	Controlled	Compliant
10/06/2023	7.3	31	60	NV	Controlled	Compliant
11/06/2023	7.4	28	45	NV	Controlled	Compliant
08/08/2023	7.9	32	55	NV	Controlled	Compliant
09/08/2023	7.7	35	60	NV	Controlled	Compliant
22/08/2023	7.4	28	45	NV	Controlled	Compliant
23/08/2023	7.6	27	40	NV	Controlled	Compliant
24/08/2023	7.8	17	35	NV	Controlled	Compliant
02/11/2023	8.4	11	8.4	NV	Controlled	Compliant
06/11/2023	7.5	22	28	NV	Controlled	Compliant
07/11/2023	7.4	12	16	NV	Controlled	Compliant
08/11/2023	8.1	7	7.2	NV	Controlled	Compliant
10/11/2023	7.5	33	45	NV	Controlled	Compliant
11/11/2023	8.0	< 5	1.9	NV	Controlled	Compliant
12/11/2023	7.5	24	29	NV	Controlled	Compliant
13/11/2023	7.6	26	29	NV	Controlled	Compliant
14/11/2023	7.6	28	30	NV	Controlled	Compliant
17/11/2023	8.4	< 5	2.5	NV	Controlled	Compliant

Environmental Performance Results (Monitoring)

Surface water monitoring results for the site are provided by **Table 25** for the first half of 2023 and **Table 26** for the second half of 2023. The results the downstream monitoring sites are generally compliant with the ANZECC Guidelines.

Table 25 Six-Monthly Surface Water Monitoring Results for H1 2023 (03 March 2023).

Parameter	Units	EPL Discharge Limits	Dam 1	Dam 2	Dam 3	SW1	SW2	SW3	SW4
Oil and Grease	mg/L	5 and/or non-visible	<5	<5	<5	Not flowing – unable to obtain sample.	<5	<5	Not flowing – unable to obtain sample.
pH	pH	6.5 – 8.5	8.9	8.0	8.2		7.4	7.2	
Total Suspended Solids	mg/L	40	5	<5	<5		<5	26	
Parameter	Units	ANZECC Guidelines*	Dam 1	Dam 2	Dam 3		SW2	SW3	
Conductivity	µS/cm	125 – 2200	876	747	880		560	257	
Total Dissolved Solids	mg/L	--	535	555	610		367	162	
Total Phosphorus	mg/L	0.025	<0.01	<0.01	<0.01		0.05	0.02	
Ammonia	mg/L	0.2	<0.01	<0.01	<0.01		<0.01	<0.01	
Nitrogen (Nitrate)	mg/L	0.350	5.47	<0.01	<0.01		<0.01	<0.01	
Total Hardness (as CaCO ₃)	mg/L	--	113	193	226		62	48	
Arsenic	mg/L	0.024	<0.001	<0.001	<0.001		<0.001	<0.001	
Cadmium	mg/L	0.0002	<0.0001	<0.0001	<0.0001		<0.0001	<0.0001	
Calcium	mg/L	--	24	59	74		10	11	
Chromium	mg/L	0.001	<0.001	<0.001	<0.001		<0.001	<0.001	
Copper	mg/L	0.0014	<0.001	<0.001	<0.001		<0.001	<0.001	
Lead	mg/L	0.0034	<0.001	<0.001	<0.001		<0.001	<0.001	
Magnesium	mg/L	--	13	11	10		9	5	
Manganese	mg/L	1.9	0.015	0.023	0.019		0.661	0.13	
Nickel	mg/L	0.011	<0.001	<0.001	<0.001		<0.001	<0.001	
Potassium	mg/L	--	2	2	1		2	1	
Sodium	mg/L	--	111	61	82	71	26		
Vanadium	mg/L	--	<0.01	<0.01	<0.01	<0.01	<0.01		
Zinc	mg/L	0.0312	<0.005	<0.005	<0.005	<0.005	<0.005		

*Key default trigger values presented in ANZECC 2000 for slightly disturbed upland rivers in NSW. Heavy metals based on hard water (120-179 mg CaCO₃/L).

Table 26 Six-Monthly Surface Water Monitoring Results for H2 2023 (06 October 2023).

Parameter	Units	EPL Discharge Limits	Dam 1	Dam 2	Dam 3	SW1	SW2	SW3	SW4
Oil and Grease	mg/L	5 and/or non-visible	<5	<5	<5	Not flowing – unable to obtain sample.	<5	<5	Not flowing – unable to obtain sample.
pH	pH	6.5 – 8.5	8.8	7.2	9.6		6.8	7.2	
Total Suspended Solids	mg/L	40	59	6	<5		50	22	
Parameter	Units	ANZECC Guidelines*	Dam 1	Dam 2	Dam 3		SW2	SW3	
Conductivity	µS/cm	125 – 2200	874	959	637		358	567	
Total Dissolved Solids	mg/L	--	500	650	390		400	330	
Total Phosphorus	mg/L	0.025	<0.05	<0.005	<0.05		0.1	<0.05	
Ammonia	mg/L	0.2	<0.02	<0.02	<0.02		<0.02	<0.02	
Nitrogen (Nitrate)	mg/L	0.350	0.5	0.009	<0.005		<0.005	<0.005	
Total Hardness (as CaCO ₃)	mg/L	--	100	200	91		30	79	
Arsenic	mg/L	0.024	0.002	<0.001	<0.001		0.002	<0.001	
Cadmium	mg/L	0.0002	<0.0001	<0.0001	<0.0001		<0.0001	<0.0001	
Calcium	mg/L	--	20	52	27		4	15	
Chromium	mg/L	0.001	0.001	<0.001	<0.001		0.005	<0.001	
Copper	mg/L	0.0014	0.002	<0.001	<0.001		0.006	<0.001	
Lead	mg/L	0.0034	<0.001	<0.001	<0.001		0.003	<0.001	
Magnesium	mg/L	--	13	18	5.8		5.2	10	
Manganese	mg/L	1.9	0.074	0.12	0.006		0.41	0.18	
Nickel	mg/L	0.011	<0.001	<0.001	<0.001		<0.001	<0.001	
Potassium	mg/L	--	2	1	<0.5		2	2	
Sodium	mg/L	--	130	78	71	49	69		
Vanadium	mg/L	--	0.008	0.001	<0.001	0.019	0.002		
Zinc	mg/L	0.0312	0.006	<0.001	<0.001	0.03	0.002		

*Key default trigger values presented in ANZECC 2000 for slightly disturbed upland rivers in NSW. Heavy metals based on hard water (120-179 mg CaCO₃/L).

Management Measures and Improvements

KEQPL implements management measures as outlined by the approved WMP; and aims to implement continual improvement processes. As such, in 2023 KEQPL engaged VGT to complete a review of the site surface water management system to reduce the potential for non-compliant off-site discharges.

In 2024, KEQPL will continue to progress detailed design work in accordance with the identified improvement opportunities; and upon completion will review the appropriate approval pathways.

7.3 Groundwater

EIS Predictions and Approval Criteria

The EIS assessment indicated that the extraction area did not intercept any groundwater aquifers and therefore any impacts to groundwater were considered unlikely. As such, there are not approval criteria provided by the Project Approval or EPL.

However, to confirm this and identify any long-term groundwater level and quality trends, the WMP provides quarterly groundwater level and 6-monthly quality monitoring.

Groundwater is monitored at the existing groundwater monitoring bores at BH205, BH207, BH208, and BH303, as locationally illustrated in **Figure 13**. BH207 was relocated in September 2016 and BH205 was relocated on 11 March 2017. Both of these piezometers were relocated within 30m to their original locations to allow construction to progress.

Environmental Performance Results

Table 27 shows a comparison of groundwater levels since 2017. All groundwater locations were monitored four times during 2023 with a requirement for quarterly monitoring of groundwater levels as per the WMP.

As evident, water levels have remained relatively consistent at BH208 and BH303 since monitoring commenced; however, BH205 and BH207 showing a consistent decrease and stabilization in water level in recent years.

Table 28 shows a comparison of groundwater quality since 2017. Sampling of groundwater monitoring locations occurred on 19 April 2023 and 08 December 2023 in accordance with the six-monthly requirement to monitor groundwater quality data as per the WMP.

2023 results are comparable to results from previous years. TDS levels continued to be highly variable across the years. Average EC across the four monitoring locations was comparable to the 2022 average EC levels. KEQPL will continue to monitor groundwater quality during 2024.

Management Measures and Improvements

Groundwater monitoring results are generally consistent with previous years and therefore no management measures have been implement and no improvements are considered to be necessary.

However, as part of the MOD10 project, BH207 will be grouted ahead of construction and replaced in a new location, subject to approval by NSW Planning.

Table 27 **Groundwater Level since 2017**

Month	Groundwater level (metres below ground level)			
	BH205	BH207	BH208	BH303
Apr-2017	25.3	9.4	20.0	30.7
Oct-2017	22.9	8.9	19.9	30.6
Jan-2018	21.9	9.1	20.3	30.7
Apr-2018	21.7	9.2	20.5	30.8
Jul-2018	20.5	8.9	20.5	30.9
Oct-2018	20.4	9.3	19.9	30.8
Jan-2019	20.1	9.2	20.4	21.0
Apr-2019	20.3	9.2	20.5	30.6
Jul-2019	19.7	9.1	20.6	31.1
Oct-2019	18.6	8.2	20.6	30.7
Jan-2020	20.0	9.3	20.7	31.2
Apr-2020	18.4	8.3	20.6	30.4
Jul-2020	18.2	8.3	20.8	31.2
Oct-2020	16.7	7.7	20.7	30.8
Jan-2021	18.1	8.5	20.8	31.4
Apr-2021	17.5	7.4	20.7	30.9
Jun-2021	18.2	8.3	20.7	31.2
Oct-2021	16.7	7.4	20.5	30.7
Jan-2022	17.4	7.9	20.7	31.0
Apr-2022	17.2	7.7	*	31.0
Jul-2022	16.8	7.4	*	30.7
Oct-2022	15.8	6.9	*	30.2
Jan-2023	16.6	7.4	*	30.0
Apr-2023	15.7	7.1	20.2	30.1
Jul-2023	16.9	7.1	20.2	30.2
Dec-2023	16.4	7.6	20.5	30.5

*No data recorded due to insufficient water levels.

Table 28 Average Groundwater Quality Results for Key Parameters

Year	Monitoring Location	pH	TDS (mg/L)	EC (µS/cm)	Number of Samples
2017	BH 205	8.7	1200	2300	2
	BH 207	7.2	1800	3600	2
	BH 208	6.6	1900	3500	2
	BH 303	6.9	1175	2350	2
2018	BH 205	8.8	1150	2500	2
	BH 207	7.2	1020	1940	2
	BH 208	7.1	3000	3000	1
	BH 303	7.5	1250	2550	2
2019	BH 205	8.3	1734	2432	2
	BH 207	6.9	1579	2527	2
	BH 208	6.9	*	2505	1
	BH 303	6.2	1557	2404	2
2020	BH 205	7.1	1460	2735	2
	BH 207	7.0	1548	2865	2
	BH 208	*	*	*	0
	BH 303	5.9	1625	2985	2
2021	BH 205	6.8	1869	3350	2
	BH 207	6.5	1663	3070	2
	BH 208	*	*	*	0
	BH 303	5.8	1674	2910	2
2022	BH 205	6.3	2740	5020	2
	BH 207	6.6	1889	3465	2
	BH 208	*	*	*	0
	BH 303	6.0	1518	2745	2
2023	BH 205	6.2	2796	4845	2
	BH 207	6.4	2164	3430	2
	BH 208	6.5	2191	3745	2
	BH 303	5.7	1843	3010	2

*No data recorded due to insufficient water levels.

7.4 Other Water Management Matters

Water Licencing

KEQPL's surface water system has been designed to remain within Harvestable Rights provisions and therefore no surface water licences are required. Similarly, KEQPL holds no groundwater extraction licences.

Salinity Trading

KEQPL does not participate in any salinity trading schemes.

Compensatory Water Supply

KEQPL has not impacted any neighbouring landholders' water supply schemes requiring the provision of compensatory water supply.

8.0 Rehabilitation

In 2023, there have been no opportunities to establish rehabilitation at the quarry site in its current form as main extraction area is yet to reach terminal bench widths and extraction depth is yet to sufficiently progress to enable additional access roadways to be created to facilitate the rehabilitation of surplus roadways. A summary of rehabilitation details is provided by **Table 29** and **Table 30** below.

Future rehabilitation activities will be undertaken in due course once available, as outlined by the approved Landscape and Rehabilitation Management Plan (LRMP), with planned activities for the 2024 reporting period summarised by **Table 31**.

Table 29 Summary of Rehabilitation Performance During the 2023 Reporting Period.

Rehabilitation Performance Details	KEQ Site Comments
Extent of the operations and rehabilitation at completion of the reporting period.	No rehabilitation completed.
Agreed post-rehabilitation land-use.	Final land-use is outlined within the LRMP. The vegetation at closure will be native woodland consistent with the surrounding bushland.
Key rehabilitation performance indicators.	No rehabilitation completed.
Renovation or removal of buildings.	No rehabilitation completed.
Any other Rehabilitation undertaken including: <ul style="list-style-type: none"> ■ Exploration activities; ■ Infrastructure; ■ Dams; and ■ The installation or maintenance of fences, bunds and any other works. 	No rehabilitation completed.
Rehabilitation sign-off status of completed areas against the land-use objectives and completion criteria.	No rehabilitation completed.
Variations to activities undertaken to those proposed (including why there were variations and whether the Resources Regulator was notified)	No rehabilitation completed.
Outcomes of trials, research projects and other initiatives.	No rehabilitation completed.
Key issues that may affect successful rehabilitation.	No rehabilitation completed.

Table 30 Disturbance and Rehabilitation Status.

Item	Quarry Area Type	Previous 2022 Reporting Period [actual] (Ha)	Current 2023 Reporting Period [actual] (Ha)	Next 2024 Reporting Period [forecast] (Ha)
A	Total Quarry Footprint	29.35	29.35	40.18*
B	Total Active Disturbance	29.35	29.35	40.18*
C	Land Being Prepared for Rehabilitation	0	0	0
D	Land Under Active Rehabilitation	0	0	0
E	Completed Rehabilitation	0	0	0

* Increased disturbance area associated with the expected commencement of the MOD10 project.

Table 31 **Actions for the Next 2024 Reporting Period.**

Action	KEQ Site Comment
Describe the steps to be undertaken to progress agreement during next reporting period, where final rehabilitation outcomes have not yet been agreed between stakeholders.	There is no planned additional rehabilitation at the site in the next Annual Review period.
Outline proposed rehabilitation trials, research projects and other initiatives to be undertaken during next reporting period.	There are no additional rehabilitation trials during the next Annual Review period.
Summary of rehabilitation activities proposed for next report period.	There is no planned additional rehabilitation at the site in the next Annual Review period. Karuah East Quarry continues to assess opportunities for progressive rehabilitation throughout quarry planning.

9.0 Community

9.1 Community Engagement

A Community Consultative Committee (CCC) was formed for the Karuah East Quarry to undertake community engagement activities in accordance with Schedule 5, Condition 6 of the Project Approval as summarised by **Figure 14**.

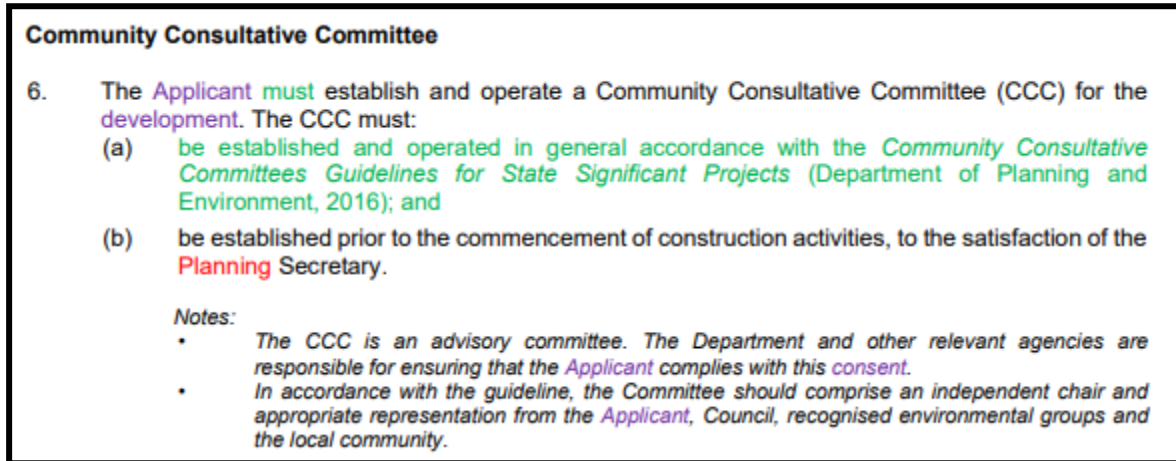


Figure 14 Community Consultative Committee (CCC) requirements from the Project Approval.

In 2023, the CCC was called to meet twice on **13 March 2023** and **18 September 2023**; and consisted of the following members:

- 1x independent chair (Michael Ulph, GHD Technical Director – Communications and Stakeholder Engagement)
- 6x local community members (with an additional 2x guest community members);
- 3x stakeholder groups representatives from the North Arm Cove Residents Association, Port Stephens Shellfish Program and the Karuah LALC;
- 1x council representative from MidCoast Council; and
- 3x company representatives from KEQPL.

Key items discussed during the CCC meetings include project approvals and current operations, environmental management performance, community complaints and associated responses.

9.2 Community Contributions

The Karuah East Quarry contributes to supporting the local economy through parent company, Hunter Quarries Pty Ltd (HQPL). In 2023 HQPL supported the following organisations:

- Karuah Pearls Netball Club;
- Karuah Public School P&C;
- Karuah Roos Rugby League Football Club;
- Karuah & District Tennis Club;
- North Arm Cove Community Association;
- Bulahdelah Golf Club;
- Glen William Public School;
- Victoria Hotel Hinton;
- Bulahdelah Men’s Shed;
- Rotary Clubs of Maitland;
- Wildlife in Need of Care;
- Karuah Oyster & Timber Festival;
- Karuah Golf Club; and
- Karuah RSL.

9.3 Community Complaints

Members of the community are encouraged to report any issues that are identified associated with our operations via the dedicated **Community Call Line** on **1800 329 161**. The Environment & Development Manager reviews, investigates, and reports all complaints received in accordance with the Project Approval, EPL, and the site's Environmental Management Strategy.

In 2023, five complaints were received as summarised by **Table 32**.

Table 32 2023 Community Complaints.

No.	Date & Time Received	Complaint Category	Nature of Complaint	Outcome of Complaint
1	07/02/2023 4:25pm	Blasting	A complaint was received regarding blasting activities on the 06 February 2023 from DPE on behalf of a resident located at Limeburners Creek.	Karuah East Quarry assisted DPE with their investigation of the complaint as required. DPE confirmed on 01 May 2023 that no further action is required for this matter.
2	04/05/2023	Transport	A complaint was received regarding a traffic incident at a roundabout on Glenwood Drive, Thornton.	All Karuah East Quarry truck drivers were subject to toolbox talks regarding safe, professional and courteous driving expectations.
3	09/06/2023 12.51pm	Blasting	A complaint was received regarding blasting activities on 09 June 2023 from a resident on Halloran Road.	Karuah East Quarry confirmed a blast event had occurred at the time of the complaint and the photographs provided were of the dust plume (i.e. not operational dust).
4	14/08/2023 3.36 pm	Blasting	A complaint was received regarding blasting activities on 14 August 2023 from a resident on Halloran Road.	Karuah East Quarry confirmed by letter on 23 August 2023 that the resultant air blast overpressure & and ground vibration were within development consent compliance limits.
5	10/11/2023 1:59 pm	Transport	A complaint was received regarding a traffic incident northbound on the Pacific Highway between Tarean Road, Karuah and Myall Way, Tea Gardens; resulting in stonechip damages to the complainant's paintwork and windscreen.	Karuah East Quarry reimbursed the complainant repair costs; and all Karuah East Quarry truck drivers were subject to toolbox talks to ensure body tarps are appropriately cleaned and secured and caution is used when driving over rough surfaces.

This represents a significant increase in complaints being received by KEQPL in 2023 compared to previous years with an annual average of 2.1 complaints per year as outlined by **Table 33**.

However, this can be attributed to implementation of a formalised, dedicated and trackable Community Call Line for community members to directly lodge any complaints or concerns and its associated advertisement within the community including:

- Updated signage at the entrance to the quarry premises;
- Inclusion of the Community Call Line in prominent locations on the Hunter Quarries website;
- Inclusion of the Community Call Line in communications with the CCC; and
- Letter drop to nearby residents of the Karuah Quarry Complex.

Table 33 Community Complaints 2016-2023.

Year	Total Received	Complaint Category						Comments
		Air Quality	Blasting	Noise	Transport	Water	Other	
2016	1				1			-
2017	3	1*		2*		1		*Combined noise and air quality (dust) complaint.
2018	2		1	1				-
2019	2		1				1^	^property access
2020	1		1					-
2021	1			1				-
2022	2	1				1		-
2023	5		3		2			-

In response to the three blasting complaints the a minor administrative improvement was undertaken to the blast management system, by updating our Blast Notification Messaging System to provide text message notifications from a single textable mobile phone number (**0439 580 440**) to allow residents to maintain a single point of contact with greater ability to remain up to date with planned blasting activities.

In response to the two transport complaints the following improvements are currently being implemented to our transport management system, including:

- Comprehensive review of daily driver pre-trip declaration forms (underway).
- Comprehensive review of Roads or Other Vehicle Operating Areas (ROVOA) PHMP (completed).
- Inclusion of dashcams for all Hunter Quarries operated heavy vehicles (underway).

10.0 Independent Environment Audit

In accordance with Schedule 5, Condition 9 of the Project Approval, KEQPL has commissioned an Independent Environment Audit (IEA) every three years as summarised by **Figure 15**.

INDEPENDENT ENVIRONMENTAL AUDIT

9. Within 12 months of the commencement of development on the site, and every 3 years thereafter, unless the **Planning** Secretary directs otherwise, the **Applicant** must commission and pay the full cost of an Independent Environmental Audit of the **development**. This audit must:

- (a) be conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the **Planning** Secretary;
- (b) include consultation with the relevant agencies;
- (c) assess the environmental performance of the **development** and whether it is complying with the relevant requirements in this **consent** and any relevant EPL and/or Water Licence (including any assessment, plan or program required under these approvals);
- (d) review the adequacy of any approved strategy, plan or program required under these approvals; and
- (e) recommend measures or actions to improve the environmental performance of the **development**, and/or any assessment, plan or program required under these approvals.

*Note: This audit team must be led by a suitably qualified auditor and include experts in any fields specified by the **Planning** Secretary.*

10. Within three months of commencing an Independent Environmental Audit, or within another timeframe agreed by the **Planning** Secretary, the **Applicant** must submit a copy of the audit report to the **Planning** Secretary, and any other NSW agency that requests it, together with its response to any recommendations contained in the audit report, and a timetable for the implementation of the recommendations. The recommendations must be implemented to the satisfaction of the **Planning** Secretary.

Figure 15 Independent Environmental Audit (IEA) requirements from the Project Approval.

The first Independent Environmental Audit was completed in July 2017 by EMM Consulting. In October 2020, Hansen Bailey completed the second Independent Environmental Audit.

In October 2023, Environmental Resources management (ERM) conducted the third Independent Environmental Audit of the Karuah East Quarry; which included the following key documents:

- Project Approval, MP09_0175 (as modified);
- Environment Protection Licence, EPL 20611; and
- Karuah East Quarry’s Environmental Management Plans.

The non-compliances identified in the 2023 Independent Environmental Audit were generally minor in nature and focused on the regular revision of Environmental Management Plans, non-compliant water discharges and various other administrative matters.

KEQPL’s response and action plan is provided by **Appendix 4**.

11.0 Incidents & Non-Compliances During the Reporting Period

During the 2023 reporting period, three exceedances of performance criteria occurred, all of which related to air quality.

- **16/06/2023 – PM10 Exceedance of Short-term criteria;**

Minor exceedance of PM10 was recorded at 51 µg/m³ compared to the short-term criteria of 50 µg/m³ on 16 June 2023 at the HVAS unit. This anomalous result was reported to NSW Planning, the NSW EPA and surrounding landholders in accordance with the relevant conditions of the Project Approval and EPL.

NSW Planning reviewed the notification and determined to record a breach under the NSW EP&A Act 1979 on 01 February 2024. However, no response from the EPA was received.

In response to this short-term PM10 exceedance, KEQPL proposes to implement a TARP for dust management on site, subject to approval by NSW Planning.

- **June 2023 – Contamination of DDG 4 and DDG 5 with organic material; and**
- **November 2023 – Contamination of DDG 2 with organic material.**

During these reporting periods, dust gauges become contaminated with organic vegetation matter and are therefore discounted from averaging. Ash content of the samples, which quarry-related dust may contribute, remained well within compliance limits.

These ‘failure to monitor’ events were reported to NSW Planning, the EPA and surrounding landholders in accordance with the relevant conditions of the Project Approval and EPL. Both agencies subsequently acknowledged the events and have confirmed no regulatory action will be taken.

In response to the DDG contamination events, KEQPL proposes to undertake a minor relocation of three station to minimise the risk as far as reasonably practicable, subject to approval by NSW Planning and the EPA.

12.0 Activities to be Completed in the Next Reporting Period

A consolidated summary of proposed actions to be completed during the 2024 reporting period is provided by **Table 34**.

Table 34 Summary of Proposed Actions in the Next 2024 Reporting Period.

Action ID	Action	Timeline
Approvals		
2023-1	Submit EPL Variation for updated activities for the KEQ MOD10 Project.	Approval of EPL variation to be completed prior to the commencement of construction.
2023-2	Undertake comprehensive review and update of the following Management Plans for the KEQ MOD10 Project and 2023 KEQ IEA.	Approval Management Plan updates for the KEQ MOD10 Project prior to the commencement of construction.
	A. Environmental Management Strategy.	Submission of comprehensive review due 28 May 2024.
	B. Air Quality Management Plan	Submission of comprehensive review due 28 May 2024.
	C. Biodiversity Offset Area Management Plan.	Update pending Commonwealth Approval for MOD10.
	D. Biodiversity Offset Strategy.	Update pending Commonwealth Approval for MOD10.
	E. Blast Management Plan.	Submission of comprehensive review due 28 May 2024.
	F. Landscape & Rehabilitation Management Plan.	Update pending Commonwealth Approval for MOD10.
	G. Noise Management Plan.	Submission of comprehensive review due 28 May 2024.
	H. Transport Management Plan.	Submission of comprehensive review due 28 May 2024.
	I. Water Management Plan (including effectiveness of WMP and TARP for surface water management to minimise exceedances of discharge limits).	Submission of comprehensive review due 28 May 2024.
Environmental Management Improvements		
2023-3	<u>Air Quality:</u> Submit EPL Variation (in conjunction with HQPL) to undertake minor relocation of three depositional dust gauges to minimise risk of contamination with organic as far as reasonably practicable.	Complete relocation by 31 December 2024.
2023-4	<u>Surface Water Management:</u> Progress with detailed design of surface water improvement opportunities identified by VGT (2023); and review appropriate approval pathways.	Complete feasibility review of detailed design by 31 December 2024.
2023-5	<u>Groundwater Management:</u> Install replacement piezometer and rehabilitate existing piezometer, BH207.	Complete prior to the commencement of construction of the KEQ MOD10 Project.

Action ID	Action	Timeline
<i>Biodiversity Management Actions</i>		
2023-6	<u>Fencing:</u> A. Install fencing around Lot 5 dwelling APZ. B. Restricting fencing along northern boundary of Lot 5. C. Install fauna fencing along the western boundary of Lot 13 adjoining the KEQ site.	Actions to be progressed during the 2024 reporting period.
2023-7	<u>Erosion and Sediment Control:</u> Repair sites of surface erosion along the eastern interface of the approved KEQ disturbance boundary and Lot 13.	Action to be completed in conjunction with fauna fencing installation (Action #2023-6C).
2023-8	<u>Weed Control:</u> Determine appropriate lantana control programme.	Actions to be progressed during the 2024 reporting period.
2023-9	<u>Pest Control:</u> Undertake 2-yearly vertebrate post monitoring.	
2023-10	<u>Fire Management:</u> Develop and implement a Fire Management Strategy for the BOA.	
<i>Independent Environmental Audit Actions</i>		
Refer to Action #2023-2 for Strategy and Management Plan reviews and updates.		
2023-11	Include laden truck movement data in the Annual Review for all future submissions.	Completed.
2023-12	Review repair options to the hazardous materials storage container.	As soon as practicable.
2023-13	Update Hazardous Substances Register to include diesel ASTs.	Completed.
2023-14	Implement document management system to ensure the review, revision and re-approval of statutory management plans are completed.	Completed.

Appendix 1 – NSW Planning Correspondence

NSW Planning Response to KEQ Annual Review 2021

NSW Planning Response to KEQ Annual Review 2022

Department of Planning and Environment

Joel Fleming
Environment and Development Manager
Karuah East Quarry Pty Ltd
Worimi Country
PO Box 23
KARUAH NSW 2324

Sent via the Major Projects website

30/03/2023

Karuah East Quarry Project (MP09_0175) – 2021 Annual Review

Dear Mr Fleming

I refer to the Annual Review for the period 1 January 2021 – 31 December 2021 required by Schedule 5 Condition 4 of Project Approval 09_0175 as modified (the approval), submitted to the Department of Planning and Environment (the department) on 31 October 2022.

The department has reviewed the 2021 Annual Review and considers it to generally satisfy the reporting requirements of the approval/consent and the department's *Annual Review Guideline* (October 2015). For future Annual Reviews, under the provisions of Schedule 2 condition 3 of the approval, please include the following information –

- A summary of all laden truck movements to and from the site.
- A summary of surface water monitoring conducted at locations SW1, SW2, SW3 and SW4 in accordance with the approved Water Management Plan, a comparison of monitoring results to predictions made in the EIS, an assessment against water quality performance criteria, the identification of any trends and management implications.

Please note that the department's acceptance of this Annual Review is not an endorsement of the compliance status of the project. I note that the Section 10.2 of the Annual Review has identified the failure to sample deposited dust monthly and total suspended particulates (TSP) every 6 days as being non-compliant with the monitoring requirements of environment Protection Licence 20611. The department also considers this to be a failure to implement the approved Air Quality Management Plan required by Schedule 3 Condition 16 of the approval. At the time it was reported, the department assessed this non-compliance in accordance with the *Compliance Policy* (2020) and determined to not take formal enforcement action and, as such, has recorded this failure as a breach.

Further, the department notes that Karuah East Quarry Pty Ltd failed to submit the Annual Review by 30 April 2022 as directed by the Secretary. The department will send further correspondence in relation to this non-compliance.

As required by Schedule 5 condition 11 of the approval, please make publicly available on the company website the following information –

- a copy of the Annual Review for the 2020 and 2021 reporting periods



Department of Planning and Environment

- minutes of the Community Consultative Committee meetings held since March 2022.

Similarly, as required by Schedule 3 Condition 23, please publish on the company website a summary of laden truck movements from the site.

Should you wish to discuss these matters, please contact Jennifer Sage, Senior Compliance Officer on 0400 245 170 or compliance@planning.nsw.gov.au.

Yours sincerely

A handwritten signature in black ink that reads "H Watters".

Heidi Watters
Team Leader Northern
Compliance

As nominee of the Planning Secretary

Department of Planning and Environment

Shane Burton
Quarry Manager
Karuah East Quarry
Worimi Country
PO Box 23
KARUAH NSW 2324

29/11/2023

Karuah East Quarry Project (MP09_0175) - 2022 Annual Review

Dear Mr Burton

I refer to the Annual Review for the period 1 January 2022 to 31 December 2022, submitted to the Department of Planning and Environment (NSW Planning) on 31 March 2023 as required under Schedule 5 Condition 4 of Project Approval 09_0175 as modified (the approval).

The department has reviewed the 2022 Annual Review and considers it to generally satisfy the reporting requirements of the approval and the department's *Annual Review Guideline* (October 2015).

I note that the Ecological Monitoring Report prepared by Wedgetail Project Consulting for the biodiversity offset area and the development site was not included in Appendix 5 of the 2022 Annual Review. Please make this report publicly available on Hunter Quarries website by updating and re-publishing the Annual Review on the company website.

Under the provisions of Schedule 2 Condition 3 of the approval, please include in the 2023 Annual Review information that describes the response from Karuah East Quarry to the recommendations made in the Ecological Monitoring Report for the biodiversity offset area.

Please note that the department's acceptance of this Annual Review is not an endorsement of the compliance status of the project. The following potential non-compliances identified in the 2022 Annual Review will be assessed in accordance with the department's Compliance Policy -

- Schedule 5 Condition 5 - Revision of Strategies, Plans and Programs following submission of the 2022 Annual Review and modification 10 of the project approval.

Further correspondence may be sent in relation to non-compliances.

Should you wish to discuss the matter, please contact Jennifer Sage, Senior Compliance Officer on 0400 245 170 or compliance@planning.nsw.gov.au

Yours sincerely



Heidi Watters
Team Leader Northern
Compliance

As nominee of the Planning Secretary

Appendix 2 – Transport Monitoring Reports

KEQ Transport Monitoring Report – H1 2023

KEQ Transport Monitoring Report – H2 2023

3/04/2023	40		11	1	6	3	4	6	3	3	3
4/04/2023	32		6	6	3	3	2	4	3	3	2
5/04/2023	25		3		2	4	4	6	3	2	1
6/04/2023	31		11	1	5	7	1	3	3		
7/04/2023	-										
8/04/2023	-										
9/04/2023	-										
10/04/2023	-										
11/04/2023	24		5	1	1	5	1	1	4	5	1
12/04/2023	54		3	8	6	6	7	7	7	9	1
13/04/2023	47		9	6	5	7	2	5	4	5	4
14/04/2023	31		10	5	3	3	2	4	1	3	
15/04/2023	6									6	
16/04/2023	-										
17/04/2023	37		10	2	6	4	3	4	4	3	1
18/04/2023	46		16	2	3	8	3	6	4	4	
19/04/2023	45		9	4	5	8	4	2	8	1	4
20/04/2023	41		8	3	5	6	7	3	6	2	1
21/04/2023	27		6	1	2	4	3	1	6	4	
22/04/2023	25		1	6	6	5	4	3			
23/04/2023	-										
24/04/2023	1							1			
25/04/2023	-										
26/04/2023	17		5	1	1	4		3	2	1	
27/04/2023	33		3	5	5	4	4	2	2	5	2
28/04/2023	26			7	5	1	3	4		5	1
29/04/2023	-										
30/04/2023	-										
1/05/2023	41		7	3	3	6	4	4	5	7	2
2/05/2023	33		7	1	6	2	6	3	4	3	1
3/05/2023	35		8	4	3	5	4	2	8	1	
4/05/2023	30		3	5	3	3	5	1	2	5	3
5/05/2023	27		8	1	3	5	3	1	6		
6/05/2023	-										
7/05/2023	-										
8/05/2023	28		8	2	4	4	2	2	4	2	
9/05/2023	39		2	6	3	5	2	6	6	6	3
10/05/2023	34		2	6	4	4	4	3	5	5	1
11/05/2023	27		1	5	3	1	5	3	2	4	1
12/05/2023	39			11	3	3	5	6	3	7	1
13/05/2023	14		1	6		6	1				
14/05/2023	-										
15/05/2023	40		10	3	2	10	1	3	10	1	
16/05/2023	32		1	8	1	3	6	3	1	7	2
17/05/2023	32		1	9	2		9	2		9	
18/05/2023	33			7		5	6	2	4	4	4
19/05/2023	29			9	3	4	5	3		5	
20/05/2023	-										
21/05/2023	-										
22/05/2023	20			4	1	1	5		3	3	3
23/05/2023	23			7	2		5	2	1	4	2
24/05/2023	23			7	2	1	4	2	1	3	3
25/05/2023	20		1	3	1		4	2	2	3	2
26/05/2023	34			8	3	2	6	1	10	3	1
27/05/2023	10			4	1	4		1			
28/05/2023	-										
29/05/2023	34			11	3	3	4	3	4	4	2
30/05/2023	44		2	9	4	6	4	3	8	3	4
31/05/2023	55		1	12	3	5	10	2	6	10	2
1/06/2023	77		3	16	5	8	10	8	6	10	6
2/06/2023	70			19	4	10	10	12	3	10	2
3/06/2023	6		1	2	3						
4/06/2023	-										
5/06/2023	63		1	11	9	1	11	9	5	8	8
6/06/2023	72			14	8	4	13	7	6	11	4
7/06/2023	50		3	8	6	6	5	6	5	5	1
8/06/2023	38			10	4	1	8	2	2	6	3
9/06/2023	38		2	6	5	5	3	8	3	3	3
10/06/2023	-										
11/06/2023	-										
12/06/2023	-										
13/06/2023	32			9	1	2	4	7	1	4	4
14/06/2023	34		2	7	4	6	4	4	1	5	1
15/06/2023	42		1	10	3	3	9	5	1	8	2
16/06/2023	36		1	9	3	5	7	2	4	3	2
17/06/2023	-										
18/06/2023	-										
19/06/2023	30		1	5	2	5	2	3	5	3	2
20/06/2023	30			8	1	4	5	1	7	2	2
21/06/2023	42		1	8	2	7	4	4	5	6	5
22/06/2023	42		2	7	3	7	2	5	6	3	5
23/06/2023	34		1	6	2	8	3	5	3	2	3
24/06/2023	-										
25/06/2023	-										
26/06/2023	58			12	3	9	7	7	5	7	6
27/06/2023	44		4	3	6	4	3	7	4	4	7
28/06/2023	49			11	5	3	8	5	6	6	3
29/06/2023	5			3		2					
30/06/2023	11			2	2		1	1	2	3	



Monitoring of Product Transport

The Proponent must keep accurate records of all laden truck movements to and from the site (including time of arrival and dispatch) and publish a summary of records on its website every 6 months and in the Annual Review.

Calendar Date	DAILY TOTAL	Hourly Truck Movements																
		5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	10 to 11	11 to 12	12 to 13	13 to 14	14 to 15	15 to 16	16 to 17	17 to 18	18 to 19	19 to 20	20 to 21	21 to 22
1/07/2023	32		7	4	9	4	8											
2/07/2023	-																	
3/07/2023	107		17	11	8	11	13	8	16	6	12	5						
4/07/2023	103		12	18	13	13	9	14	7	11	2	2	2					
5/07/2023	92		8	10	12	9	10	9	7	9	9	8	1					
6/07/2023	99		13	10	9	11	9	9	15	9	10	4						
7/07/2023	84		11	11	8	12	7	9	10	9	4	3						
8/07/2023	33		3	7	6	7	6	4										
9/07/2023	-																	
10/07/2023	118		13	10	7	19	11	12	15	9	16	6						
11/07/2023	96		11	12	7	16	8	14	11	6	5	6						
12/07/2023	114		10	15	14	15	12	12	14	9	9	4						
13/07/2023	107		14	10	13	10	11	12	10	10	11	6						
14/07/2023	128		16	12	23	10	18	15	10	13	7	2	2					
15/07/2023	18		2	3	5	5	2	1										
16/07/2023	-																	
17/07/2023	134		17	9	19	11	17	11	17	15	11	5	2					
18/07/2023	128		14	12	12	9	13	16	16	9	19	8						
19/07/2023	151		13	14	15	15	19	14	16	16	17	12						
20/07/2023	132		14	12	11	21	11	13	15	10	16	9						
21/07/2023	114		13	13	13	11	19	12	13	14	6							
22/07/2023	18		3	2	2	5	5	1										
23/07/2023	-																	
24/07/2023	134		14	16	16	18	16	16	13	12	5	7	1					
25/07/2023	96		8	12	11	7	10	12	8	13	12	3						
26/07/2023	121		14	10	10	16	9	15	8	20	9	10						
27/07/2023	122		12	17	7	13	16	10	15	12	12	8						
28/07/2023	114		12	15	8	18	10	14	14	13	6	4						
29/07/2023	14		4	3	2	3	1	1										
30/07/2023	-																	
31/07/2023	125		17	17	8	13	19	13	11	13	10	4						
1/08/2023	114		13	14	8	19	8	12	14	11	12	3						
2/08/2023	140		16	13	10	13	14	16	17	14	21	6						
3/08/2023	129		13	13	10	11	19	12	20	10	12	9						
4/08/2023	106		10	11	7	14	11	15	12	14	6	6						
5/08/2023	18		2	5	1	6	1	3										
6/08/2023	-																	
7/08/2023	82		9	7	10	6	11	6	11	7	9	5	1					
8/08/2023	116	1	13	14	12	14	11	12	12	15	7	5						
9/08/2023	90	1	8	10	11	10	12	5	12	7	10	3	1					
10/08/2023	107		12	13	12	13	10	12	10	13	7	5						
11/08/2023	95		10	8	11	11	11	8	10	9	12	5						
12/08/2023	13		2	3	2	2		4										
13/08/2023	-																	
14/08/2023	79		7	9	11	12	6	11	8	6	7	2						
15/08/2023	75		11	8	8	12	6	7	6	7	6	4						
16/08/2023	109		10	13	12	18	12	12	9	9	11	3						
17/08/2023	148		8	20	13	16	22	15	15	12	17	9	1					
18/08/2023	106		11	16	18	14	18	5	10	5	6	3						
19/08/2023	9		2	1	3		2	1										
20/08/2023	-																	
21/08/2023	110		12	15	10	15	12	12	12	12	5	5						
22/08/2023	113		11	13	7	11	14	15	13	12	9	7	1					
23/08/2023	146		17	14	19	13	18	10	13	16	15	10	1					
24/08/2023	152		16	15	13	21	11	20	14	14	16	9	3					
25/08/2023	119		13	15	13	13	14	11	11	12	14	3						
26/08/2023	18		3	3	6	1	3	2										
27/08/2023	-																	
28/08/2023	108		13	14	12	14	12	16	7	11	7	2						
29/08/2023	122	1	8	14	21	12	13	13	11	15	7	6	1					
30/08/2023	135		14	17	22	13	16	13	8	17	9	6						
31/08/2023	119		9	17	19	13	11	21	6	12	8	3						
1/09/2023	81		12	15	9	8	10	7	9	6	3	2						
2/09/2023	10		2	3	1	1	2	1										
3/09/2023	-																	
4/09/2023	148		20	6	23	13	18	18	14	15	13	6	2					
5/09/2023	146		14	18	11	19	15	15	17	16	13	8						
6/09/2023	168		20	13	23	18	16	17	19	18	20	4						
7/09/2023	94		10	11	13	8	9	12	11	8	6	6						
8/09/2023	70		9	13	7	5	9	5	11	5	4	2						
9/09/2023	4		2		2													
10/09/2023	-																	
11/09/2023	137		16	16	14	13	19	12	18	13	13	2	1					
12/09/2023	110		13	11	10	16	9	13	12	9	7	10						
13/09/2023	83		10	9	6	10	5	10	9	1	15	8						
14/09/2023	187		18	22	21	21	20	21	18	18	19	9						
15/09/2023	135		19	9	14	17	20	14	12	12	13	5						
16/09/2023	32		3	7	8	6	8											
17/09/2023	-																	
18/09/2023	204		17	24	30			9	51	34	30	7	2					
19/09/2023	225		20	27	21	24	29	23	23	22	21	15						
20/09/2023	166		21	23	19	23	12	25	15	11	12	4	1					
21/09/2023	124		10	19	11	14	14	11	14	14	16	1						
22/09/2023	117	1	14	31	12	10	1	13	11	8	12	4						
23/09/2023	11		1	2	5	2	1											
24/09/2023	-																	
25/09/2023	135		9	10	17	9	13	17	13	15	20	11	1					
26/09/2023	135		14	16	9	18	16	16	9	18	16	3						
27/09/2023	148		13	17	6	18	8	22	17	15	20	10	2					
28/09/2023	153		14	20	6	17	17	18	15	16	19	11						

