



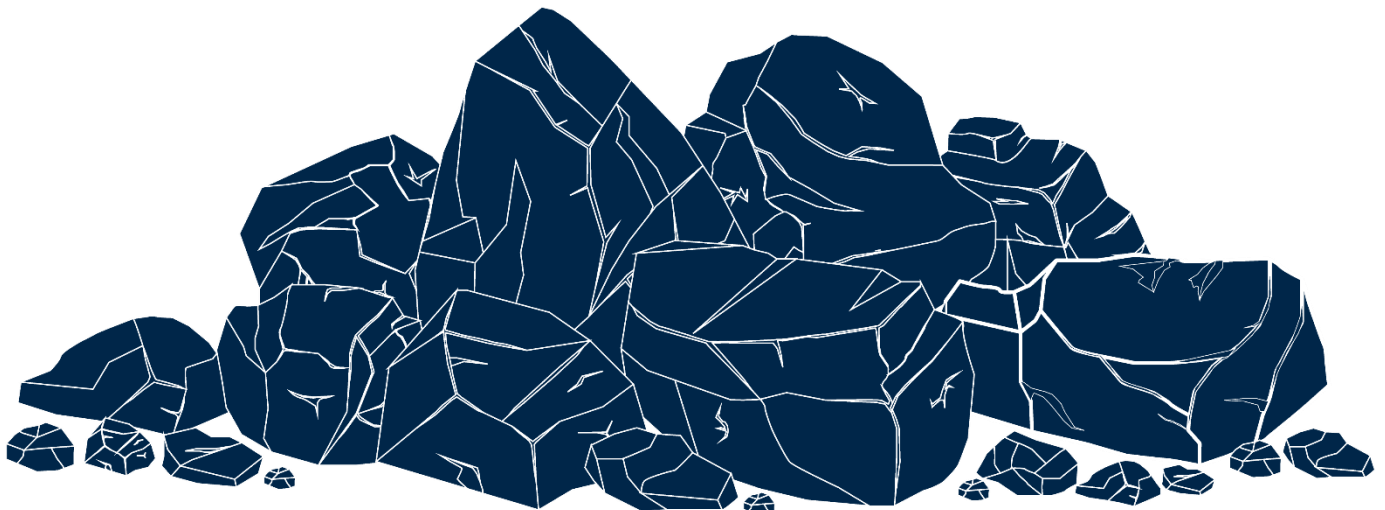
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Karuah Hard Rock Quarry

## Environmental Monitoring Report

February 2025



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## 1.0 Introduction

This report has been completed to meet the requirements of Section 66(6) of the *Protection of the Environment Operations Act 1997* and the NSW Environmental Protection Authority’s (EPA) Requirements for Publishing Pollution Monitoring Data (EPA, 2013). This report summarises the required monitoring data under Environmental Protection Licence 11569 (the EPL) and Development Consent for the Karuah Hard Rock Quarry (the Quarry) as summarised by **Table 1** and **Table 2** respectively.

**Table 1** Summary of Environment Protection Licence, EPL 11569

<b>EPL Number:</b>	EPL 11569
<b>Licensee’s Name:</b>	Hunter Quarries Pty Ltd
<b>Licensee’s Address:</b>	Karuah Hard Rock Quarry PO Box 3284, Thornton NSW 2322 Corner of Andesite Road and The Branch Lane, Karuah NSW 2324.
<b>Link to Full Licence on the EPA website:</b>	<a href="#">EPL 11569</a>

**Table 2** Summary of Project Approval, DA 265-10-2004

<b>Project Approval:</b>	DA 265-10-2004
<b>Applicant:</b>	Hunter Quarries Pty Ltd
<b>Consent Authority:</b>	Minister for Infrastructure, Planning and Natural Resources
<b>Link to Full Project Approval on the NSW Planning website:</b>	<a href="#">Development Consent DA 265-10-2004</a>

A summary of the environmental monitoring data for the February 2025 reporting period (the Reporting Period) is covered in this report. Tables throughout this report provide key monitoring information from the EPL and the Consent, including:

- location of monitoring;
- pollutant;
- unit of measurement; and
- monitoring frequency required.

Monitoring locations are illustrated by the site plan provided by **Appendix 1**.

## 2.0 Air Quality Monitoring

Dust emissions generated by the Quarry operation must not cause additional exceedances of ambient air quality criterion outlined in Schedule 3, Condition 13 of the Consent and summarised by **Table 3**, **Table 4** and **Table 5**.

Deposited dust monitoring is undertaken at the locations listed in **Table 6**, in accordance with the Approved Methods of Sampling and Analysis of Air Pollutants in NSW (EPA, 2022).

**Table 3 Long-term Assessment Criteria for Deposited Dust (DA 265-10-2004).**

Pollutant	Averaging Period	Maximum Increase in Deposited Dust Level <sup>1</sup>	Maximum Total Deposited Dust Level <sup>1</sup>
Deposited Dust	Annual	2 g/m <sup>2</sup> /month	4 g/m <sup>2</sup> /month

<sup>1</sup> Deposited dust is assessed as insoluble solids as defined by AS 3580.10.1-2003.

**Table 4 Long-term Assessment Criteria for Particulate Matter (DA 265-10-2004).**

Pollutant	Averaging Period	Criterion
Total Suspended Particulates	Annual	90 µg/m <sup>3</sup>
Particulate Matter < 10 µm (PM10)	Annual	30 µg/m <sup>3</sup>

**Table 5 Short-term Assessment Criteria for Particulate Matter (DA 265-10-2004).**

Pollutant	Averaging Period	Criterion
Particulate Matter < 10 µm (PM10)	24-hour	50 µg/m <sup>3</sup>

**Table 6 Air Quality Monitoring Locations (EPL 11569).**

Site Monitoring Point ID	EPL Monitoring Point ID	Location	Address	Coordinates
DDG 1	2	South-West of Karuah Hard Rock Quarry	54 Mill Hill Close, Karuah NSW 2324	32°38'04''S 151°59'58''E
DDG 2	3	South-West of Karuah Hard Rock Quarry	64 Mill Hill Close, Karuah NSW 2324	32°38'02''S 152°00'09''E
DDG 3	4	South-West of Karuah Hard Rock Quarry	Lot 251 DP1092111, Karuah NSW 2324	32°37'57''S 151°59'41''E
DDG 4	5	East of Karuah Hard Rock Quarry	21 Halloran Road, North Arm Cove NSW 2324	32° 37' 30.87"S 152°01'10.18"E

Deposited dust results for the 12-months prior-to and including February 2025 are summarised by **Table 7**.

**Table 7** *Deposited dust monitoring results.*

Reporting Period	Start Date	End Date	Days	DDG 1 EPL ID 2	DDG 2 EPL ID 3	DDG 3 EPL ID 4	DDG 4 EPL ID 5
Mar-24	26/02/2024	28/03/2024	31	0.8	0.9	1.8	0.6
Apr-24	28/03/2024	29/04/2024	32	0.9	0.4	0.5	0.8
May-24	29/04/2024	29/05/2024	30	0.5	0.3	0.2	0.4
Jun-24	29/05/2024	28/06/2024	30	0.7	0.5	0.5	0.7
Jul-24	28/06/2024	30/07/2024	32	1.1	0.8	0.6	0.9
Aug-24	30/07/2024	30/08/2024	31	0.7	0.5	0.7	0.9
Sep-24	30/08/2024	30/09/2024	31	2.2	1.2	1.3	1.2
Oct-24	30/09/2024	31/10/2024	31	1.0	0.7	0.7	5.1*
Nov-24	31/10/2024	29/11/2024	29	1.4	1.1	1.1	1.7
Dec-24	29/11/2024	30/12/2024	29	0.6	1.4	1.3	3.1
Jan-25	30/12/2024	31/01/2025	32	3.8	1.7	1.9	1.3
Feb-25	31/01/2025	03/03/2025	31	1.2	0.9	1.1	1.2
<b>Progressive Annual Average</b>				<b>1.2</b>	<b>0.9</b>	<b>1.0</b>	<b>1.5</b>

Monitoring results for the Reporting Period at the four DDG monitoring sites are within the long-term annual deposited dust limit of 4 g/m<sup>2</sup>/month.

*\*Note: an anomalous exceedance was recorded at DDG4 during the October 2024 Monitoring Period which was subsequently reported to the NSW Department of Planning, Housing & Infrastructure (NSW Planning), the NSW EPA and surrounding landholders in accordance with the relevant conditions of the Consent and EPL.*

### 3.0 Blast Monitoring

Blast monitoring is undertaken for all blasts at the Quarry at the nearest residential location to ensure that air blast overpressure and ground vibration remain within the compliance limits, as summarised by **Table 8**; with the monitoring results summarised by **Table 9**.

There was one blast undertaken within the Reporting Period, which was observed to be within compliance limits.

**Table 8** *Blasting Airblast Overpressure and Ground Vibration Criteria (DA 265-10-2004 & EPL 11569).*

Location	Airblast Overpressure (dB(L))	Ground Vibration (mm/s)	Allowable Exceedance
Private Residence B	120	10	0%
	115	5	5% over 12-month reporting period.

**Table 9** *Blasting Monitoring Results.*

Date	Time	Location	Airblast Overpressure (dB(L))	Ground Vibration (mm/s)
07/02/2025	11:34	RL105	111.4	1.10

\*Not triggered = n/t  
 Ground Vibration < 0.5 mm/s  
 Overpressure < 108 dB(L)

### 4.0 Noise Monitoring

Noise monitoring is undertaken in accordance with the EPL and NSW Planning approved Environmental Management Strategy & Monitoring Program (EMS&MP), which requires attended and unattended noise monitoring to be conducted on a 6-monthly basis.

No noise monitoring was undertaken during the Reporting Period.

## 5.0 Surface Water Monitoring

Water monitoring is undertaken in accordance with the EPL and NSW Planning approved Site Water Management Plan, with daily monitoring of surface water being discharged from the Quarry via the licenced discharge point in accordance with Condition L2 and M2 of the EPL.

There were no discharge events during the Reporting Period, as summarised by **Table 10**.

**Table 10** *Discharge Water Monitoring Results.*

Date	Oil and Grease	pH	Total Suspended Solids, TSS (mg/L)	Nitrogen (total) (mg/L)	Phosphorus (total) (mg/L)	Discharge Type
<b>LDP 1 – Sediment Dam 2</b>						
–	–	–	–	–	–	–

## 6.0 Weather Station Monitoring

The Quarry operates and maintains a permanent meteorological monitoring station to record weather parameters including temperature, wind speed and direction, solar radiation and rainfall. **Figure 1** below outlines the weather records for the Reporting Period.

### Monthly Weather Summary

Site: **Karuah Quarry Complex**Month: **February 2025**

Date	Day	Temperature @ 2m			Temperature @ 10m			Winds			Solar Radiation		Rain <sup>2</sup> mm
		Max <sup>1</sup> °C	Min <sup>2</sup> °C	Ave <sup>1</sup> °C	Max <sup>1</sup> °C	Min <sup>2</sup> °C	Ave <sup>1</sup> °C	Max Gust <sup>1</sup> km/h	Ave Speed <sup>1</sup> km/h	Dir Ave <sup>1</sup> deg	Max <sup>1</sup> W/m <sup>2</sup>	Ave <sup>1</sup> W/m <sup>2</sup>	
1	Sat	28.5	19.6	23.2	26.5	20.0	23.0	26.0	4.0	149	1190.7	165.6	1.0
2	Sun	28.3	16.9	21.9	26.0	17.4	21.6	31.9	5.1	158	1113.2	219.1	0.0
3	Mon	29.2	18.6	23.2	26.7	19.0	22.7	31.9	5.3	129	1085.8	267.4	0.0
4	Tue	30.5	20.2	24.4	28.1	20.6	23.9	28.4	5.3	137	1294.2	209.7	0.0
5	Wed	32.5	19.7	25.4	30.6	20.4	25.1	24.9	3.7	209	1220.7	203.9	0.0
6	Thu	35.7	21.3	26.1	33.2	21.5	25.5	37.9	5.1	167	958.3	212.9	0.2
7	Fri	30.2	18.2	23.6	27.9	18.9	23.5	26.0	4.5	153	1119.2	199.5	0.2
8	Sat	32.4	17.6	25.0	30.0	18.1	24.5	27.2	5.3	187	1006.6	278.8	0.0
9	Sun	33.1	19.7	25.4	30.4	19.9	24.8	24.9	4.3	180	1109.2	262.5	0.4
10	Mon	31.1	19.6	25.0	28.2	20.0	24.3	23.7	4.5	153	1128.3	219.1	0.0
11	Tue	27.1	16.5	20.2	25.3	16.7	20.0	28.4	2.8	210	582.4	93.5	11.0
12	Wed	25.3	16.6	20.0	24.4	16.7	19.8	17.8	2.6	209	1015.8	118.3	1.4
13	Thu	29.5	19.7	23.4	27.1	19.9	23.0	21.3	3.9	143	1089.2	171.5	0.0
14	Fri	29.7	20.0	24.9	28.0	20.9	24.6	40.2	7.0	219	1077.5	244.1	0.0
15	Sat	33.6	21.0	25.8	31.1	20.8	25.2	22.5	4.5	182	878.2	186.0	4.2
16	Sun	27.2	16.8	21.8	24.9	17.1	21.3	26.0	5.0	160	1085.0	191.5	0.0
17	Mon	23.6	10.8	16.8	21.3	11.1	16.5	47.3	6.1	168	1134.1	237.1	0.0
18	Tue	25.6	11.1	17.8	22.4	11.9	17.3	30.8	4.8	190	1047.5	262.3	0.0
19	Wed	30.0	14.6	20.8	26.8	15.2	20.4	26.0	4.2	155	924.2	273.3	0.0
20	Thu	28.1	17.0	22.6	25.7	17.7	22.2	33.1	6.3	100	1048.3	249.0	0.0
21	Fri	26.9	18.1	20.6	24.1	18.1	20.3	39.0	7.6	124	907.4	103.7	27.6
22	Sat	25.3	18.3	20.7	23.7	19.0	20.6	16.6	3.2	129	942.5	80.9	0.6
23	Sun	28.4	15.6	21.1	26.5	16.9	21.3	22.5	3.9	181	1167.5	186.0	0.0
24	Mon	32.0	17.3	23.8	30.4	18.2	23.5	23.7	4.5	191	863.2	263.0	0.0
25	Tue	35.8	22.6	26.7	33.2	22.4	25.9	26.0	5.6	157	827.4	234.5	0.0
26	Wed	28.7	20.4	22.8	26.3	20.1	22.2	24.9	4.0	212	981.6	98.1	0.0
27	Thu	30.1	18.3	23.4	27.7	18.7	22.9	26.0	4.5	147	1085.0	200.8	0.0
28	Fri	33.6	18.5	25.1	30.8	19.5	24.7	23.7	4.7	170	909.2	241.3	0.0
<b>Ave or Total</b>		<b>29.7</b>	<b>18.0</b>	<b>22.9</b>	<b>27.4</b>	<b>18.5</b>	<b>22.5</b>	<b>27.8</b>	<b>4.7</b>	<b>166.7</b>	<b>1028.3</b>	<b>202.6</b>	<b>46.6</b>
<b>High</b>		<b>35.8</b>	<b>22.6</b>	<b>26.7</b>	<b>33.2</b>	<b>22.4</b>	<b>25.9</b>	<b>47.3</b>	<b>7.6</b>		<b>1294.2</b>	<b>278.8</b>	<b>27.6</b>
<b>Low</b>		<b>23.6</b>	<b>10.8</b>	<b>16.8</b>	<b>21.3</b>	<b>11.1</b>	<b>16.5</b>	<b>16.6</b>	<b>2.6</b>		<b>582.4</b>	<b>80.9</b>	

Notes: 1. Values are for the 24 hour period from 9am to 9am next day.

2. Values are for the 24 hours to 9am.

No. rain days >1mm: **4**

**Figure 1** Weather Records Summary.



## 7.0 Production Data

Monthly monitoring of sales and truck movements are summarised by **Table 11**.

**Table 11** *Quarry Production Data.*

Month	Truck Movements	Quarry Product Sales (t)
Jan-25	352	12,215
Feb-25	794	26,011

## 8.0 Reporting

### 8.1 Reportable Environmental Incidents

During the Reporting Period, no reportable environmental incidents occurred at the Quarry.

### 8.2 Reportable Non-Compliances

During the Reporting Period, no reportable non-compliances were identified at the Quarry.

### 8.3 Community Complaints

During the Reporting Period, no community complaints were reported to the Quarry.

## Appendix 1 – EPL 11569 Monitoring Locations





405000 405500 406000 406500 407000 407500 408000

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6389500  
6389000

**LEGEND**

- ▭ Site Boundary
- Lot Boundary
- Dams
- Environmental Monitoring Locations**
- ▲ Depositional Dust Gauge (DDG)
- ⊙ Air Blast Monitor
- Noise Monitoring Locations
- ⊕ Licensed Discharge Point
- ⊠ Meteorological Station



GDA2020 MGA Zone 56  
8/03/2024

**Karuah Hard Rock Quarry**

**Environmental Monitoring Report**

**APPENDIX 1 - Environmental Monitoring Locations**