



Karuah Hard Rock Quarry
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Karuah Hard Rock Quarry

Environmental Monitoring Report

July 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**

EPL Number:	EPL 11569
Licensee's Name:	Hunter Quarries Pty Ltd
Licensee's Address:	Karuah Hard Rock Quarry PO Box 3284, Thornton NSW 2322 Corner of Andesite Road and The Branch Lane, Karuah NSW 2324.
Link to Full Licence on the EPA website:	EPL 11569

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

Project Approval:	DA 265-10-2004
Applicant:	Hunter Quarries Pty Ltd
Consent Authority:	Minister for Infrastructure, Planning and Natural Resources
Link to Full Project Approval on the NSW Planning website:	Development Consent DA 265-10-2004

A summary of the environmental monitoring data for the July 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 ¹	Maximum Total Deposited Dust Level ¹
Deposited Dust	Annual	2 g/m ² /month	4 g/m ² /month

¹ 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 ³
Particulate Matter < 10 µm (PM10)	Annual	30 µg/m ³

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 ³

Table 6 Air Quality Monitoring Locations (EPL 11569).

Site Monitoring Point ID	EPL Monitoring Point ID	Location	Address
DDG 1	6	South-West of Karuah Hard Rock Quarry	54 Mill Hill Close, Karuah NSW 2324
DDG 2	7	South-West of Karuah Hard Rock Quarry	64 Mill Hill Close, Karuah NSW 2324
DDG 3	8	South-West of Karuah Hard Rock Quarry	Lot 251 DP1092111, Karuah NSW 2324
DDG 4	9	East of Karuah Hard Rock Quarry	21 Halloran Road, North Arm Cove NSW 2324

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

Table 7 *Deposited dust monitoring results.*

Reporting Period	Start Date	End Date	Days	DDG 1 (EPL ID 2) EPL ID 6	DDG 2 (EPL ID 3) EPL ID 7	DDG 3 (EPL ID 4) EPL ID 8	DDG 4 (EPL ID 5) EPL ID 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)
Mar-25	03/03/2025	03/04/2025	31	(0.7)	(1.0)	(1.4)	
	04/03/2025	03/04/2025	30				(1.1)
Apr-25	03/04/2025	05/05/2025	32	1.2	3.2	0.4	(1.0)
May-25	05/05/2025	03/06/2025	29	2.0	3.9	0.2	(0.3)
Jun-25	03/06/2025	01/07/2025	28	2.9	1.0	0.6	0.4
Jul-25	01/07/2025	01/08/2025	31	10.1*	0.5	0.4	0.2
Progressive Annual Average				2.3	1.4	0.9	1.5

Monitoring results for the Reporting Period at the four DDG monitoring sites are within the long-term annual deposited dust limit of 4 g/m²/month.

**Note: Recorded anomalous exceedances which were 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)
17/07/2025	13:30	South Highwall & Pit-Sump	114.1	2.18

*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 was one discharge event over eight days during the Reporting Period, as summarised by **Table 10**. The discharge event was compliant with the limits provided by the Consent and EPL, including Total Suspended Solids (TSS) below 50mg/L and pH within the range of 6.5 to 8.5.

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
LDP1 – Sediment Dam 2						
02/07/2025	Not Visible	7.9	40	0.4	<0.05	Controlled
03/07/2025	Not Visible	7.5	32	0.3	<0.05	Controlled
04/07/2025	Not Visible	7.4	24	0.4	<0.05	Controlled
05/07/2025	Not Visible	7.4	28	0.3	<0.05	Controlled
06/07/2025	Not Visible	7.5	26	0.4	<0.05	Controlled
07/07/2025	Not Visible	7.1	30	0.4	<0.05	Controlled
08/07/2025	Not Visible	7.2	29	0.3	<0.05	Controlled
09/07/2025	Not Visible	7.2	49	0.3	<0.05	Controlled
Sediment Basin 4						
-	-	-	-	-	-	-

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: July 2025

Date	Day	Temperature @ 2m			Temperature @ 10m			Winds			Solar Radiation		Rain ²
		Max ¹	Min ²	Ave ¹	Max ¹	Min ²	Ave ¹	Max Gust ¹	Ave Speed ¹	Dir Ave ¹	Max ¹	Ave ¹	
		°C	°C	°C	°C	°C	°C	km/h	km/h	deg	W/m ²	W/m ²	mm
1	Tue	13.2	8.7	11.9	13.2	8.5	11.9	33.1	18.8	203	175.8	29.2	71.6
2	Wed	12.4	9.3	10.5	12.8	9.4	10.6	61.5	32.4	240	111.7	10.7	34.0
3	Thu	15.9	11.3	13.4	16.3	11.8	13.8	54.4	27.2	256	303.3	25.5	14.8
4	Fri	17.1	6.3	11.4	16.8	8.3	12.3	35.5	17.6	254	430.0	63.0	0.0
5	Sat	18.4	5.0	9.8	17.0	5.7	10.2	26.0	19.5	231	402.5	93.9	0.0
6	Sun	19.3	8.1	13.1	18.5	8.2	13.8	16.6	9.9	172	402.4	77.4	0.0
7	Mon	22.4	6.1	13.2	21.4	7.2	14.3	39.0	20.1	223	466.6	84.4	0.4
8	Tue	18.3	5.1	11.6	17.3	6.4	12.6	35.5	19.1	245	481.7	96.0	0.0
9	Wed	15.7	3.4	8.5	15.2	4.2	9.1	20.1	12.3	218	349.9	54.3	0.0
10	Thu	21.0	5.0	11.7	19.9	6.4	12.8	27.2	14.7	220	421.7	100.0	0.2
11	Fri	17.6	9.1	12.7	16.6	9.8	12.8	59.2	36.9	235	463.3	100.7	0.0
12	Sat	17.8	6.1	12.4	17.2	8.9	13.3	34.3	24.0	246	413.3	99.6	0.0
13	Sun	19.2	3.8	9.9	18.2	4.8	10.6	27.2	21.5	241	419.9	98.9	0.0
14	Mon	19.4	7.6	12.3	18.6	8.3	13.5	30.8	18.2	237	517.5	99.9	0.0
15	Tue	19.9	3.2	9.7	18.7	4.3	10.3	34.3	20.9	225	434.2	101.9	0.0
16	Wed	14.8	3.4	9.7	14.0	4.8	10.5	28.4	15.6	245	354.0	58.7	0.2
17	Thu	16.8	1.8	7.6	15.9	2.8	8.3	16.6	11.6	255	438.3	106.5	0.0
18	Fri	16.9	6.2	10.1	16.4	7.2	10.7	11.8	8.5	227	493.3	95.4	0.0
19	Sat	17.1	8.2	11.0	15.5	9.2	11.2	24.9	14.5	223	618.3	43.7	36.2
20	Sun	14.7	2.8	8.7	14.7	3.5	9.3	17.8	11.8	254	552.4	60.3	0.4
21	Mon	17.1	5.3	9.8	15.9	6.7	10.0	16.6	10.5	218	440.0	103.9	2.2
22	Tue	19.6	7.5	11.9	18.5	8.3	12.5	16.6	11.6	197	498.3	98.1	0.2
23	Wed	20.3	11.8	15.0	19.0	12.1	15.3	23.7	16.3	234	520.8	78.4	1.8
24	Thu	19.8	2.9	10.9	19.0	4.1	12.0	20.1	11.7	249	566.7	57.6	2.0
25	Fri	16.0	1.5	7.2	15.1	2.6	7.8	30.8	22.8	251	458.3	112.7	0.0
26	Sat	18.1	5.7	13.2	17.1	6.9	13.5	30.8	16.3	206	455.8	100.8	4.4
27	Sun	16.4	4.7	9.6	15.5	5.7	10.4	40.2	26.0	210	495.8	43.1	1.6
28	Mon	17.6	10.1	13.2	16.8	10.9	13.5	54.4	24.1	239	651.7	86.3	0.2
29	Tue	16.5	10.9	13.3	15.6	11.6	13.4	50.9	30.6	238	608.3	107.2	0.0
30	Wed	17.0	8.1	11.2	15.9	8.7	11.5	39.0	21.1	222	618.3	82.1	0.0
31	Thu	11.9	9.5	10.6	11.6	9.6	10.6	22.5	12.5	226	170.8	27.5	34.4
Ave or Total		17.4	6.4	11.1	16.6	7.3	11.7	31.6	18.7	230.3	443.1	77.3	204.6
High		22.4	11.8	15.0	21.4	12.1	15.3	61.5	36.9		651.7	112.7	71.6
Low		11.9	1.5	7.2	11.6	2.6	7.8	11.8	8.5		111.7	10.7	
No. rain days >1mm:												10	

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

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
Mar-25	745	23,981
Apr-25	329	10,524
May-25	576	20,295
Jun-25	1,126	39,666
Jul-25	569	19,637
Progressive Annual Total	4,491	152,329

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, the Quarry had one reportable non-compliance in relation to air quality:

- Anomalous exceedance of performance criteria at one Depositional Dust Gauge.

8.3 Community Complaints

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

Appendix 1 – EPL 11569 Monitoring Locations



Karuah Hard Rock Quarry

Environmental Monitoring Report

APPENDIX 1 - Environmental Monitoring Locations