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Karuah Hard Rock Quarry

Environmental Monitoring Report

October 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 October 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 October 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
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
Aug-25	01/08/2025	01/09/2025	31	0.9	2.3	0.5	0.8
Sep-25	01/09/2025	01/10/2025	30	1.7	1.3	1.0	0.7
Oct-25	1/10/2025	31/10/2025	30	1.1	1.7	1.7	1.2
Progressive Annual Average				2.3	1.7	1.0	1.1

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 exceedance 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 were no blasts undertaken within the Reporting Period.

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)
-	-	-	-	-

*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.

No discharge events occurred 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
LDP1 – Sediment Dam 2						
-	-	-	-	-	-	-
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: October 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	Wed	29.2	14.1	20.5	27.6	16.2	21.2	22.5	14.9	169	780.8	200.0	0.0
2	Thu	26.8	7.5	16.9	26.6	8.9	17.1	34.3	20.8	170	769.2	214.8	0.0
3	Fri	27.0	8.8	18.1	25.7	10.9	18.3	49.7	25.9	243	809.2	232.7	0.2
4	Sat	25.5	8.0	15.8	24.5	8.7	15.8	30.8	17.7	204	804.9	228.5	0.0
5	Sun	23.3	9.4	15.1	20.8	9.9	14.7	23.7	17.3	172	959.9	191.5	0.0
6	Mon	30.8	11.3	19.5	29.2	13.3	20.1	23.7	15.9	202	831.7	237.2	0.0
7	Tue	34.1	16.3	22.1	33.4	16.3	21.9	35.5	21.8	169	984.1	126.4	0.8
8	Wed	23.9	14.9	18.9	22.6	16.0	19.0	17.8	11.8	185	807.4	102.9	0.2
9	Thu	35.5	15.8	23.7	33.8	17.4	24.3	56.8	35.0	206	847.4	210.6	1.2
10	Fri	30.1	13.7	21.5	29.2	14.7	21.8	45.0	29.3	217	908.3	104.4	0.0
11	Sat	31.0	14.5	21.8	29.4	15.7	21.8	26.0	16.5	218	1003.3	220.5	0.0
12	Sun	32.3	10.6	20.3	31.0	12.2	21.1	37.9	26.3	232	838.2	248.8	0.0
13	Mon	32.3	12.8	22.9	31.1	13.8	22.8	34.3	24.6	231	958.2	189.9	0.0
14	Tue	26.8	11.0	18.2	24.0	11.6	17.5	35.5	24.8	155	851.7	254.0	0.0
15	Wed	27.8	9.9	18.4	26.8	11.2	18.5	24.9	17.6	221	849.1	258.4	0.0
16	Thu	29.7	14.4	21.4	27.2	15.1	20.9	27.2	20.2	127	856.6	257.8	0.0
17	Fri	33.2	15.7	23.2	30.4	16.3	22.9	24.9	14.9	192	839.2	245.8	0.0
18	Sat	34.0	17.6	23.4	32.0	17.6	23.1	42.6	26.4	189	1052.4	170.8	12.8
19	Sun	23.8	11.2	16.6	21.2	11.6	16.2	24.9	17.2	177	1020.7	187.8	0.0
20	Mon	28.2	14.5	20.2	26.2	15.5	20.0	26.0	18.1	206	880.8	249.4	0.0
21	Tue	36.1	18.9	25.2	34.4	19.0	25.2	30.8	16.0	164	841.7	236.3	0.0
22	Wed	25.9	17.7	21.2	23.8	18.1	20.4	27.2	16.0	128	806.7	245.2	0.0
23	Thu	40.1	17.9	28.7	39.2	19.3	28.8	50.9	29.2	225	894.2	206.1	0.0
24	Fri	24.4	13.4	18.8	21.9	13.9	18.3	33.1	21.4	136	1115.0	183.1	0.0
25	Sat	29.0	11.5	18.7	25.8	12.0	18.0	39.0	21.9	175	1010.7	235.8	0.0
26	Sun	24.1	11.2	16.9	22.2	12.1	17.0	14.2	9.2	224	727.4	123.8	0.0
27	Mon	29.8	13.5	21.1	28.2	14.1	21.4	24.9	16.3	208	1024.2	165.2	0.0
28	Tue	30.2	12.3	18.5	27.9	12.7	17.9	48.5	28.4	112	1060.7	167.2	1.0
29	Wed	17.8	12.0	13.4	16.5	11.9	13.1	23.7	17.7	157	450.0	50.3	27.8
30	Thu	20.1	11.6	15.6	18.8	11.8	15.5	17.8	12.2	169	590.8	108.9	0.2
31	Fri	24.9	11.9	17.2	22.1	12.4	16.8	21.3	15.9	166	1144.9	182.4	0.0
Ave or Total		28.6	13.0	19.8	26.9	13.9	19.7	31.5	20.0	185.4	881.3	194.7	44.2
High		40.1	18.9	28.7	39.2	19.3	28.8	56.8	35.0		1144.9	258.4	27.8
Low		17.8	7.5	13.4	16.5	8.7	13.1	14.2	9.2		450.0	50.3	
No. rain days >1mm:												3	

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
Aug-25	316	11,005
Sep-25	843	27,642
Oct-25	808	26,552
Progressive Annual Total	6,458	217,528

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 occurred 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



Karuah Hard Rock Quarry

Environmental Monitoring Report

APPENDIX 1 - Environmental Monitoring Locations