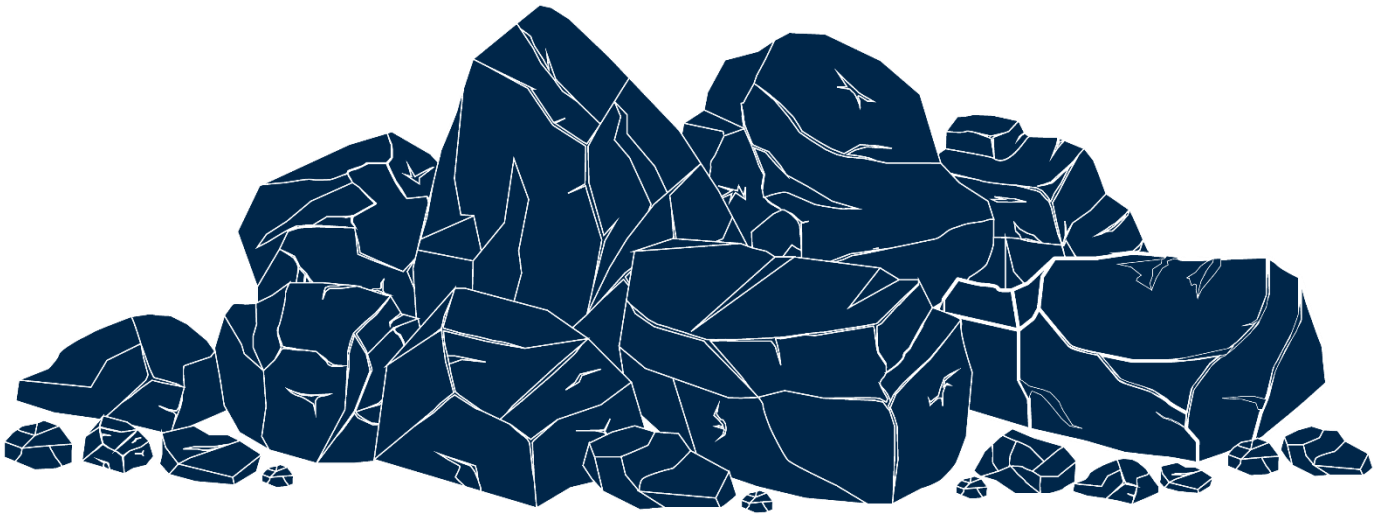
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Karuah Hard Rock Quarry

Environmental Monitoring Report

October 2026



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1.0 Introduction

This report has been completed to meet the requirements of Section 66(6) of the NSW *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 2026 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 $\mu g/m^3$
Particulate Matter < 10 µm (PM10)	Annual	30 $\mu g/m^3$

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 $\mu g/m^3$

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 2026 are summarised by **Table 7**.

Table 7 Deposited dust monitoring results.

Reporting Period	Start Date	End Date	Days	DDG 1 EPL ID 6	DDG 2 EPL ID 7	DDG 3 EPL ID 8	DDG 4 EPL ID 9
Nov-25	31/10/2025	02/12/2025	32	1.0	2.5	2.1	1.1
Dec-25	02/12/2025	02/01/2026	31	1.8	1.6	1.3	1.5
Jan-26	02/01/2026	30/01/2026	28	1.1	1.2	0.9	0.5
Feb-26	30/01/2026	27/02/2026	28	0.8	1.2	1.1	1.4
Mar-26	27/02/2026	31/03/2026	32	1.2	7.7[1]	0.8	4.6[1]
Apr-26	31/03/2026	01/05/2026	31	1.9	9.2[2]	0.8	3.7
May-26	01/05/2026	01/06/2026	31	0.6	0.4	0.3	0.2
Jun-26	01/06/2026	01/07/2026	30	1.1	1.3	0.7	0.6
Jul-26	01/07/2026	31/07/2026	30	0.8	1.2	0.5	1.1
Aug-26	31/07/2026	01/09/2026	32	3.5	1.1	1.0	1.2
Sep-26	01/09/2026	29/09/2026	28	1.5	1.1	1.0	1.0
Oct-26	29/09/2026	29/10/2026	30	1.7	0.9	0.8	0.7
Progressive Annual Average				**1.4**	**2.4**	**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/m^2/month.

Notes:

1. *Recorded exceedances at DDG 2 and DDG 4 in March 2026 which was reported to the NSW Department of Planning, Housing and Infrastructure (NSW Planning) and the NSW EPA in accordance with relevant conditions of the Consent and EPL. The exceedances are considered unlikely to be directly attributable to quarry operations given strong easterly winds during the monitoring period placed DDG 4 upwind of the site, whilst the result at DDG 2 was not repeated at the two neighbouring monitoring locations indicating a localised dust source.*

2. *Recorded exceedances at DDG 2 in April 2026 which was reported to NSW Planning and the NSW EPA in accordance with relevant conditions of the Consent and EPL. The result at DDG 2 was not repeated at the two neighbouring monitoring locations indicating a localised dust source.*

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 during 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)
-	-	-	-	-

Notes: *Nil Trigger events occur when both recorded overpressure is <112 dBL and recorded ground vibration is <0.5 mm/s.

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.

There was no noise monitoring 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
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.

An additional backup rain gauge has been installed at Karuah East Quarry, with data from this gauge included for reference. The Hunter Quarry rain gauge will continue to be used as the primary rainfall data source for calculating rainfall averages and monthly totals.

Monthly Weather Summary

Site: **Karuah Quarry Complex**
Month: **October 2026**

Date	Day	Temperature @ 2m			Temperature @ 10m			Wind Speed			Solar Radiation		Rain[2]	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]	(KEQ)[3]	(HQ)
		°C	°C	°C	°C	°C	°C	km/h	km/h	deg	W/m²	W/m²	mm	mm
1	Thu	28	10.8	18.3	26.4	12.1	18.5	13.3	3.7	202.6	770	226.1	0	0
2	Fri	30.4	11.5	19.7	28.4	13.1	20.2	19.2	3.2	187	795.8	221.1	0	0
3	Sat	32.1	16.4	22	30	16.6	21.7	15.3	3.5	174	873.2	182.4	0	0
4	Sun	22.7	12.4	18.2	22	13.1	18.4	14.3	3.3	184.1	414.9	75.3	0	0
5	Mon	30.2	16.7	20.4	28	16.5	20	22	6.1	173.4	865	193.4	0.8	0
6	Tue	25.4	14.2	18.5	23.1	14.6	18.1	15.7	3.9	161.2	887.4	160.9	0.8	0.8
7	Wed	27.8	13.9	19.5	25.7	14.2	19.2	25	5.7	133.7	984.9	183	9	6.8
8	Thu	19.5	10	14.7	18.2	10.2	14.6	20.1	6.3	166.5	675.8	97.1	2.2	1.4
9	Fri	20.5	7.8	13.5	18.5	8.4	13.4	16.3	3.6	196.1	1085.8	180.6	0	0.2
10	Sat	25.1	13.9	19.2	22.6	14.8	19	17.9	4.8	153.4	794.2	227.3	0.8	0.4
11	Sun	30.9	14.7	20.7	30.2	16.2	21.2	17.6	2.8	202.5	975	143.9	2.2	2.0
12	Mon	28.7	14.5	21.1	25.7	15.5	20.8	17.9	4.8	150.9	807.4	230.6	0	0.0
13	Tue	36	18.3	26.3	34.8	18.7	26.2	18	4.5	190.6	931.6	203.9	1.2	1.0
14	Wed	26.5	14	17.6	24.4	14	17.5	23.8	5.8	157.2	744.1	70.5	39.2	35.6
15	Thu	17.4	11	14.6	16.6	11.6	14.5	24	5.9	152.9	450.8	87.1	2.4	2.0
16	Fri	20.2	12.5	15.4	18.7	12.6	15.4	18.4	3.9	162.6	1068.3	127.6	0.2	0.0
17	Sat	19.4	11	14.9	17.9	11.4	14.8	23.5	4	169.9	690.8	117.8	2.2	2.2
18	Sun	20.9	9.3	15	19.2	9.6	14.8	24.3	5.3	159.2	1094.1	165	1	0.4
19	Mon	23	10.1	15.9	21.5	10.6	15.8	23.5	3.7	162.1	1151.7	195.4	0.2	0.0
20	Tue	23.9	12.2	17.3	22.5	13	17.4	21.8	4.7	165.4	1050.8	172.2	0.4	0.0
21	Wed	24.7	15.2	19.1	22.9	15.6	18.8	21.4	5.3	126.3	1116.7	213.9	0.2	0.0
22	Thu	25.3	16.4	19.1	23	16.9	18.8	18.5	4.2	153.9	1192.4	136.8	41	36.6
23	Fri	20.1	15.2	17.6	20	15.7	17.6	14	3.7	122.5	604.1	106.5	6.6	5.6
24	Sat	25.2	14.1	19.6	22.9	14.7	19.4	17.9	4.9	185	1131.7	189.1	0.2	0
25	Sun	29.6	17.8	23.1	27.1	18.3	22.7	18.6	4.2	169.7	947.5	250.3	0	0
26	Mon	31.9	17.8	23.6	30.2	18	23.4	16.9	4.1	212.5	1120	200.7	7.8	7
27	Tue	21.6	14.9	17.7	20	15	17.4	20.1	5.1	158.3	1037.4	102.8	0.2	0.2
28	Wed	23.7	14.3	18.4	22	14.5	18.2	15.4	4.6	202.2	1228.2	197.9	0	0
29	Thu	27.8	9	16.5	25.8	10	16.4	26	5.2	203.8	1012.5	251.4	0	0
30	Fri	27	11	17.8	24.4	11.8	17.3	21.8	4.3	156.9	880	273.9	0	0
31	Sat	25.4	14.3	20	23.1	14.9	19.5	21.4	6.4	177.9	940	253.6	0	0
Ave or Total		**25.5**	**13.4**	**18.6**	**23.7**	**13.9**	**18.4**	**19.5**	**4.6**	**170.1**	**913.6**	**175.4**	**118.6**	**102.2**
High		**36.0**	**18.3**	**26.3**	**34.8**	**18.7**	**26.2**	**26.0**	**6.4**		**1228.2**	**273.9**	**41.0**	**36.6**
Low		**17.4**	**7.8**	**13.5**	**16.6**	**8.4**	**13.4**	**13.3**	**2.8**		**414.9**	**70.5**		
												No. rain days >1mm:		**9**

Notes: 1. Values are for the 24 hour period from 9am to 9am next day.
2. Values are for the 24 hours to 9am.
3. Rainfall data obtained from the backup rain gauge located at KEQ.

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-26	489	15,646
Feb-26	863	27,693
Mar-26	661	22,370
Apr-26	980	31,015
May-26	657	22,122
Jun-26	1,162	39,311
Jul-26	750	24,622
Aug-26	823	27,246
Sep-26	542	18,564
Oct-26	422	14,101
Progressive Annual Total	**7,349**	**242,690**

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



Karuah Hard Rock Quarry

Environmental Monitoring Report

APPENDIX 1 - Environmental Monitoring Locations