



Grounded in Quality

A proud member of the Hunter Construction Group

Karuah East Quarry

Environmental Monitoring Report:

January 2023



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Appendix 1

Monitoring Locations

1 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 20611* (the EPL) (see Table 1) and *Project Approval 09_0175* (the Consent) (see Table 2) for Karuah East Quarry (the Quarry).

Table 1 Environmental Protection Licence 20611 information

Environmental Protection Licence Number	20611
Licensee's Name	Karuah East Quarry Pty Limited
Licensee's Address	Licensee Postal Address: PO Box 3284 Thornton NSW 2322. Premises Address: Karuah East Quarry, Blue Rock Close, Karuah NSW 2324.
Link to Full Licence on the EPA Website	https://apps.epa.nsw.gov.au/prpoeoapp/

Table 2 Project Approval 09_0175 information

Development Application	PA 09_0175
Applicant	Karuah East Quarry Pty Limited
Approval Authority	Minister for Planning
Link to Full Development Approval on Major Projects Planning Portal	https://www.planningportal.nsw.gov.au/major-projects/project/15026

A summary of the environmental monitoring data for January 2023 is covered in this report.

Tables throughout this report provide key monitoring information from the EPL and the Consent, such as:

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

Monitoring locations are identified in Appendix 1.

2 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 (see Table 3, Table 4 and Table 5). Deposited dust and TSP/PM₁₀ monitoring is undertaken at the locations listed in Table 6.

Table 3 PA 09_0175 Long Term Assessment Criteria for Deposited Dust

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

Note 1: Deposited dust is assessed as insoluble solids as defined by AS 3580.10.1-2003.

Table 4 PA 09_0175 Long Term Impact Assessment Criteria for Particulate Matter

Pollutant	Average period	Criterion
Total suspended particulate (TSP) matter	Annual	90 µg/m ³
Particulate matter <10 µm (PM ₁₀)	Annual	30 µg/m ³

Table 5 PA 09_0175 Short Term impact Assessment Criterion for Particulate Matter

Pollutant	Averaging period	Criterion
Particulate matter <10 µm (PM ₁₀)	24 hour	50 µg/m ³

Table 6 Air quality monitoring locations

Site ID	EPL ID	Location	Address	GPS Coordinates
DDG 1	MP 4	South-West of Karuah East Quarry	5760 Pacific Hwy, Karuah NSW 2324	32°38'04"S 151°59'58"E
DDG 2	MP 5	South-West of Karuah East Quarry	5770 Pacific Hwy, Karuah NSW 2324	32°38'02"S 152°00'09"E
DDG 3	MP 6	South-West of Karuah East Quarry	DP 1024341, Karuah	32°37'57"S 151°59'41"E
DDG 4	MP 7	East of Karuah East Quarry	21 Halloran Rd North Arm Cove NSW 2324	32° 37' 30.87"S 152°01'10.18"E
DDG 5	MP 8	South-West of Karuah East Quarry	Lot 21 DP 1024341 Karuah NSW 2324	32° 37' 55.33"S 152°00'2.74"E
HVAS (TSP/PM ₁₀)	MP 9	South-West of Karuah East Quarry	5770 Pacific Hwy, Karuah NSW 2324	32°38'03"S 152°00'09"E

All dust monitoring is undertaken in accordance with the *Approved Methods of Sampling and Analysis of Air Pollutants in NSW* (EPA, 2022).

2.1 DEPOSITED DUST MONITORING

Deposited dust results for the twelve months prior to and including January 2023 are shown in Table 7.

Table 7 Deposited dust monitoring results

Date On	Date Off	DDG 1	DDG 2	DDG 3	DDG 4	DDG 5
3/02/2022	7/02/2022	1.4	0.8	1.2	0.1	0.9
7/03/2022	5/04/2022	0.8	3.6	0.8	0.4	0.9
5/04/2022	5/05/2022	0.1	0.3	0.1	0.2	0.2
5/05/2022	3/06/2022	0.4	0.6	0.4	0.3	0.3
3/06/2022	5/07/2022	0.3	0.2	0.2	0.2	0.3
5/07/2022	3/08/2022	0.3	0.3	0.4	0.7	0.4
3/08/2022	2/09/2022	0.9	0.9	0.6	1.0	0.9
2/09/2022	4/10/2022	0.5	0.2	0.6	0.3	0.8
4/10/2022	3/11/2022	0.2	0.5	0.5	0.3	0.3
3/11/2022	5/12/2022	0.8	0.8	0.7	1.2	2
5/12/2022	5/01/2023	0.7	0.7	0.3	0.6	0.1
5/01/2023	3/02/2023	0.2	0.4	0.8	0.1	0.4
YTD average		0.6	0.8	0.6	0.5	0.6

Monitoring results indicate that for the period from 5 January 2023 to 3 February 2023 the insoluble solid levels recorded at DDG 1 to DDG 5 monitoring locations were below the project criterion of 4 g/m²/month over an annual averaging period.

2.2 HIGH VOLUME AIR SAMPLING

The TSP and PM10 results for January 2023, and a progressive annual average are shown in Table 8. Figure 1 illustrates the year-to-date results for HVAS monitoring.

Table 8 High Volume Air Sampling (µg/m³) results

Run Date	HVAS TSP (µg/m ³)	HVAS PM ₁₀ (µg/m ³)
5/01/2023	20	11
11/01/2023	13	9
17/01/2023	19	10
23/01/2023	13	9
29/01/2023	16	12
24hr Average Criteria¹	N/A	50
Annual Average Criteria¹	90	30
Progressive Annual Average²	16.2	10.2

Note: ¹ Criteria as specified in PA 09_0175.

² The progressive annual average is from 01/01/2023 to 29/01/2023, this is not a measure of compliance.

All HVAS monitoring results for January 2023 were compliant with the long term and short term impact assessment criteria outlined in *Schedule 3 Condition 13* of the Consent (see Table 3, Table 4 and Table 5).

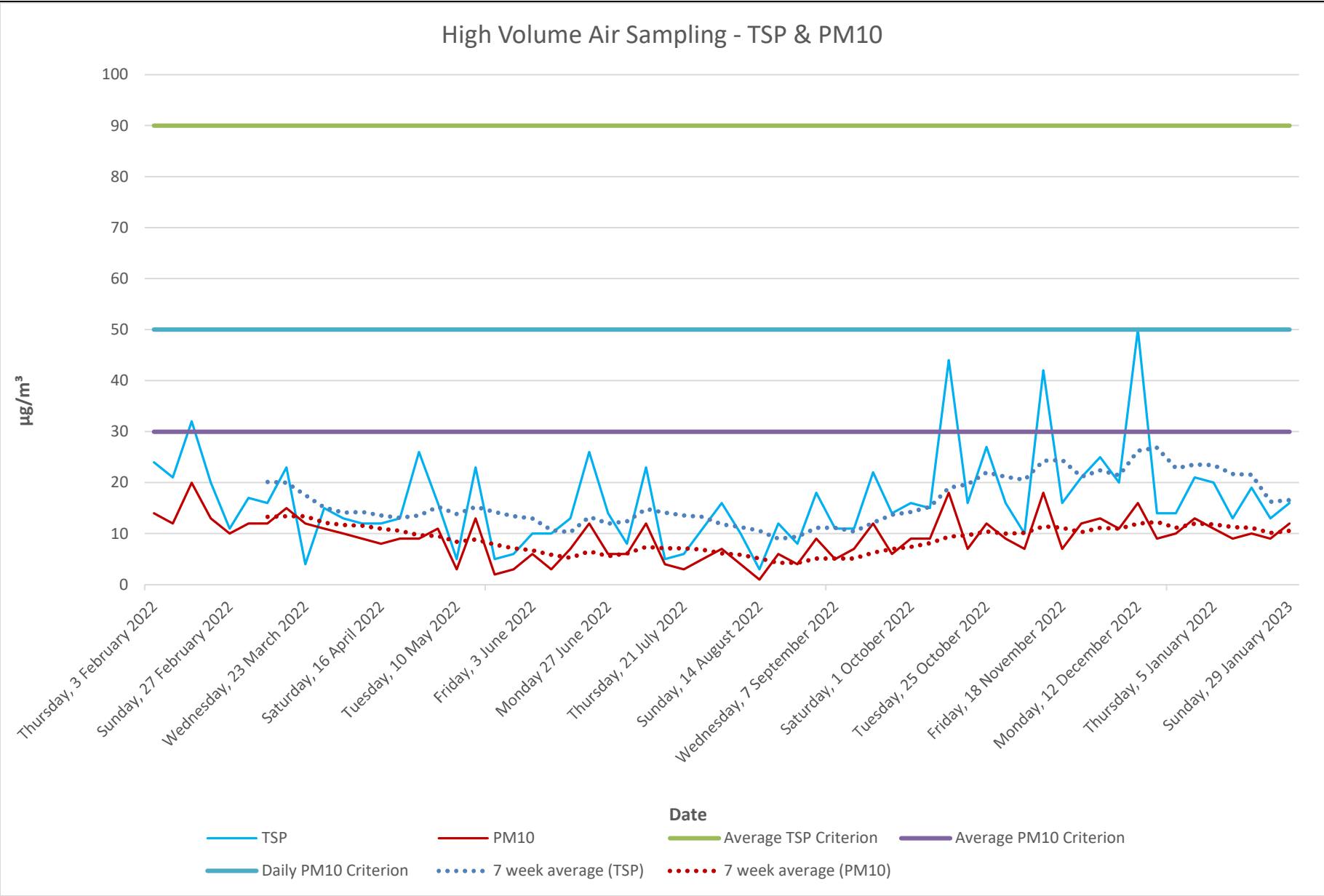


Figure 1 HVAS Sampling Long-term Trends

3 BLAST MONITORING

Blasting must only be carried out between the hours of 9:00 AM and 4:00 PM Monday to Friday. No blasting is permitted on Saturday, Sundays, or Public Holidays. Blasting outside of the hours specified by the EPL/Consent, can only take place with the written approval of relevant regulatory authorities.

KEQ conduct monitoring at the nearest residential location (EPL 20611 EPA identification no. 11) to ensure that airblast overpressure level and ground vibration peak particle velocity do not exceed the EPL and Consent criteria (see Table 9).

Table 9 Blasting criteria

Location	Airblast Overpressure (Decibels (Linear Peak))	Ground Vibration Peak Particle Velocity (Millimetres/second)	Allowable exceedance
Private residence (Location B)	120	10	0%
	115	5	5% of total blasts over 12 months

There was one blast conducted in January 2023, see Table 10 for monitoring results.

Table 10 Blast monitoring results

Date	Time	Location	Overpressure (dB(L))	Vibration (mm/s)
Wednesday, 18 January 2023	12:01 PM	RL 120	Nil Trigger	Nil Trigger

The monitoring results demonstrate compliance with blasting criteria of the Consent and the EPL.

4 NOISE MONITORING

Noise monitoring is undertaken in accordance with the approved *Noise Management Plan* (April, 2022).

As the Quarry is operational with no construction activities being completed, construction noise is not being considered. Table 11 summarises the operational noise criteria.

Noise generated by the Quarry operation must not exceed the criteria specified in *Schedule 3, Condition 3* of the Consent at each location outlined in Table 11.

Table 11 Operational Noise Criteria (dB(A) $L_{Aeq(15min)}/L_{A(max)}$)

Monitoring Location ID	Description	Easting (MGA)	Northing (MGA)	Applicable noise limit, dB		
				Morning Shoulder $L_{Aeq(15\text{ minute})}/L_{Amax}$	Day $L_{Aeq(15\text{ minute})}$	Evening $L_{Aeq(15\text{ minute})}$
A	Mill Hill Close West	406623	6388704	35/52	42	40
B	Mill Hill Close West	406405	6388859	35/52	40	40
F	The Branch Lane West	405639	6389782	35/52	40	35
G	Halloran Road South	408154	6389523	35/52	43	39
H	Halloran Road West	407795	6389868	35/52	44	46

In accordance with the Consent, a noise monitoring program has been implemented. A summary of this monitoring program is outlined in Table 12.

Table 12 Noise monitoring locations

Monitoring Method	Location	Frequency	Criteria
Attended noise monitoring	A, B, F, G, H	Quarterly	Refer to Table 11

4.1 ATTENDED MONITORING

The most recent results for attended monitoring, undertaken 23 November 2022 and 1 December 2022 (see Table 13), show ambient noise levels include noise sources such as traffic from the nearby Pacific Highway and wildlife such as insects and birds. The Quarry operations were audible at location G and H during day and evening period. Monitoring for all locations across all periods was compliant with the criteria.

4.2 UNATTENDED NOISE MONITORING

A review of the historical unattended noise monitoring data by expert noise consultants (EMM) found no evident trends associated with Karuah East Quarry operations. As a result of this review, Karuah East Quarry has decided to cease the unattended noise monitoring component of the quarterly compliance noise monitoring program.

Table 13 Attended Noise Monitoring (EMM, November 2022)

Location	Date	Start time (period)	Total levels, dB						Site levels, dB			EPL/PA Limits, dB		Meteorological conditions ² EPL limits apply (Y/N)	Exceedance, dB	Comments
			L _{Amin}	L _{A90}	L _{Aeq}	L _{A10}	L _{A1}	L _{Amax}	Mod. Factor ¹	L _{Aeq}	L _{Amax}	L _{Aeq}	L _{Amax}			
A	23/11	05:03 MS	51	56	66	70	75	78	N/A	IA	IA	35	52	Calm F stability class Y	N/A	Karuah East Quarry inaudible. Insects, birds and traffic on the Pacific Highway consistently audible.
B	23/11	05:19 MS	51	56	66	70	75	80	N/A	IA	IA	35	52	Calm F stability class Y	N/A	Karuah East Quarry inaudible. Insects, birds and traffic on the Pacific Highway consistently audible.
F	23/11	05:38 MS	47	51	56	58	62	75	N/A	IA	IA	35	52	Calm F stability class Y	N/A	Karuah East Quarry inaudible. Insects, frogs, birds and traffic on the Pacific Highway consistently audible. A traffic passby briefly audible.
G	23/11	06:03 MS	35	39	41	43	46	51	N/A	IA	IA	35	52	Calm F stability class Y	N/A	Karuah East Quarry inaudible. Insects, birds and traffic on the Pacific Highway consistently audible.
H	23/11	06:19 MS	37	40	45	45	54	70	N/A	IA	IA	35	52	0.6 m/s @ 351° F stability class Y	N/A	Karuah East Quarry inaudible. Insects, birds and traffic on the Pacific Highway consistently audible. Aircraft and resident noise occasionally audible.

Location	Date	Start time (Period)	Total levels, dB						Site levels, dB			EPL/PA Limits, dB		Meteorological conditions ² EPL limits apply (Y/N)	Exceedance, dB	Comments
			L _{Amin}	L _{A90}	L _{Aeq}	L _{A10}	L _{A1}	L _{Amax}	Mod. Factor ¹	L _{Aeq}	L _{Amax}	L _{Aeq}	L _{Amax}			
A	23/11	07:07 Day	43	50	54	57	59	62	N/A	IA	N/A	42	N/A	0.9 m/s @ 301° A stability class Y	N/A	Karuah East Quarry inaudible. Insects, birds and traffic on the Pacific Highway consistently audible. Dogs barking occasionally audible.
B	23/11	07:50 Day	50	57	64	67	72	78	N/A	IA	N/A	40	N/A	1.9 m/s @ 284° A stability class Y	N/A	Karuah East Quarry inaudible. Insects, birds and traffic on the Pacific Highway consistently audible.
F	23/11	08:25 Day	47	50	57	55	64	83	N/A	IA	N/A	40	N/A	2.7 m/s @ 283° A stability class Y	N/A	Karuah East Quarry inaudible. Traffic on the Pacific Highway consistently audible. Wind in foliage frequently audible. Birds and traffic passbys occasionally audible.
G	23/11	08:49 Day	40	43	46	48	51	64	2 dB	43 (41+2)	N/A	43	N/A	2.2 m/s @ 282° B stability class Y	Nil	Karuah East Quarry processing plant consistently audible. Insects and traffic on the Pacific Highway consistently audible. Wind in foliage frequently audible. Aircraft and resident noise occasionally audible.
H	23/11	09:06 Day	40	43	46	47	51	62	2 dB	43 (41+2)	N/A	44	N/A	2.5 m/s @ 279° A stability class Y	Nil	Karuah East Quarry processing plant consistently audible. Insects, birds, wind in foliage and traffic on the Pacific Highway consistently audible. Aircraft and resident noise occasionally audible.

Location	Date	Start time (Period)	Total levels, dB						Site levels, dB			EPL/PA Limits, dB		Meteorological conditions ² EPL limits apply (Y/N)	Exceedance, dB	Comments
			L _{Amin}	L _{A90}	L _{Aeq}	L _{A10}	L _{A1}	L _{Amax}	Mod. Factor ¹	L _{Aeq}	L _{Amax}	L _{Aeq}	L _{Amax}			
A	1/12	18:00 Eve.	41	46	50	52	54	60	N/A	IA	N/A	40	N/A	3.3 m/s @ 150° D stability class N	N/A	Karuah East Quarry inaudible. Distant traffic on the Pacific Highway, insects and frogs consistently audible. Birds frequently audible. Dogs barking and wind in foliage occasionally audible.
B	1/12	18:16 Eve.	46	56	65	68	74	76	N/A	IA	N/A	40	N/A	2.9 m/s @ 152° E stability class Y	N/A	Karuah East Quarry inaudible. Distant traffic on the Pacific Highway, insects and frogs consistently audible. Birds frequently audible. Wind in foliage occasionally audible.
F	1/12	18:34 Eve.	41	45	60	53	74	85	N/A	IA	N/A	35	N/A	2.9 m/s @ 147° E stability class Y	N/A	Karuah East Quarry inaudible. Distant traffic on the Pacific Highway, insects and frogs consistently audible. Birds, aircraft, wind in foliage and traffic passbys occasionally audible.
G	1/12	18:57 Eve.	36	39	43	45	50	63	N/A	IA	N/A	39	N/A	3.1 m/s @ 152° D stability class N	N/A	Karuah East Quarry inaudible. Distant traffic on the Pacific Highway, insects and frogs consistently audible. Bird noise frequently audible. Dogs barking, aircraft noise and wind in foliage occasionally audible.
H	1/12	19:13 Eve.	36	40	45	47	51	62	N/A	IA	N/A	46	N/A	2.6 m/s @ 154° F stability class N	N/A	Karuah East Quarry inaudible. Distant traffic on the Pacific Highway, insects and frogs consistently audible. Birds frequently audible. Dogs barking, aircraft and wind in foliage occasionally audible.

Notes: 1. Modifying factor correction for LFN in accordance with Fact sheet C of the NPfI.
2. Meteorological data were taken as an average over 15 minutes from the Karuah East Quarry on-site weather station (Refer to Section 5.1).
3. IA = inaudible.
4. N/A = not applicable.
5. NS = not specified.

5 SURFACE WATER MONITORING

5.1 MONTHLY SURFACE WATER MONITORING PROGRAM

Monthly water monitoring was undertaken on 18 January 2023 in accordance with the *Surface Water Monitoring Program* outlined in the *KEQ Water Management Plan (2015)*. Results are displayed in Table 14 along with the EPL discharge criterion and ANZECC (2000) Guidelines. These results do not determine compliance, they are used to analyse trends and assist with water management.

Table 14 Water monitoring results

Parameter	Units of measure	EPL 20611 concentration limit during discharge	Dam 1	Dam 2	Dam 3	SW 2	SW 3
Oil and grease	Milligrams per litre	5 and/or non-visible	<5	<5	<5	<5	<5
pH	pH	6.5 – 8.5	7.99	7.19	9.69	7.61	7.3
Total suspended solids	Milligrams per litre	40	37	9	6	306	41
		ANZECC Guidelines¹					
Conductivity	µS/cm	125 – 2200	600	759	760	438	484
Total dissolved solids	mg/L	--	384	489	473	808	271
Total phosphorus	mg/L	0.025	0.08	0.04	0.04	0.47	0.06
Ammonia	mg/L	0.2	0.03	<0.01	<0.01	0.02	0.02
Nitrogen (Nitrate)	mg/L	0.350	8.72	<0.01	<0.01	1.83	<0.01
Total hardness (as CaCO ₃)	mg/L	--	64	243	206	37	86
Arsenic	mg/L	0.024	<0.001	<0.001	<0.001	0.001	0.003
Cadmium	mg/L	0.0002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Calcium	mg/L	--	11	81	71	5	18
Chromium	mg/L	0.001	<0.001	<0.001	<0.001	0.013	0.002
Copper	mg/L	0.0014	0.001	<0.001	<0.001	0.013	0.004
Lead	mg/L	0.0034	<0.001	<0.001	<0.001	0.008	0.001
Magnesium	mg/L	--	9	10	7	6	10
Manganese	mg/L	1.9	0.257	0.152	0.012	0.338	0.243
Nickel	mg/L	0.011	<0.001	<0.001	<0.001	0.004	0.002

Potassium	mg/L	--	2	2	1	2	2
Sodium	mg/L	--	95	46	71	73	63
Vanadium	mg/L	--	<0.01	<0.01	<0.01	0.02	<0.01
Zinc	mg/L	0.0312	<0.005	<0.005	<0.005	0.039	0.015

Note 1 – 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).

5.2 DISCHARGE MONITORING

Condition L2 of the EPL outlines the requirement to monitor water discharges from the Quarry via the licensed discharge points (LDP1, LDP2 and LDP3), see Table 15.

Table 15 EPL20611 - Pollutant concentration limits

Pollutant	Units of Measure	Concentration Limit
Oil and Grease	Visible	5 &/or none visible
pH	pH units	6.5 – 8.5
Total suspended solids	Milligrams per litre	40

5.2.1 Dam 1 (LDP1)

Dam 1 had zero days of discharge during the month of January (see Table 16).

Table 16 Discharge monitoring – LDP1

Date	pH	Total suspended solids	Oil and grease	Controlled
-	-	-	-	-

5.2.2 Dam 2 (LDP2)

Dam 2 had one day of controlled discharge during the month of January (see Table 17).

Table 17 Discharge monitoring – LDP2

Date	pH	Total suspended solids	Oil and grease	Controlled
Monday 30 January 2023	7.1	15	None visible	Yes

5.2.3 Dam 3 (LDP3)

Dam 3 had two days of controlled discharge during the month of January (see Table 18).

Table 18 Discharge monitoring – LDP3

Date	pH	Total suspended solids	Oil and grease	Controlled
Monday 30 January 2023	7.6	<5	None visible	Yes
Tuesday 31 January 2023	7.4	10	None visible	Yes

6 WEATHER MONITORING

Karuah East Quarry has a permanent meteorological station to monitor various weather parameters including temperature, wind speed/direction, solar radiation, and rainfall. Figure 2 shows the recorded results for the local weather during January 2023.

A wind rose is a graphic tool used to depict the average direction and speed of the wind over a recorded period. Figure 3 shows the wind rose generated from data gathered during January 2023.

Monthly Weather Summary



Site: **Karuah Quarry**
Month: **January 2023**

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	Sun	29.3	18.0	22.0	26.5	18.2	21.4	35.5	5.3	147	1403.3	263.0	
2	Mon	30.3	14.9	23.5	26.8	15.6	22.7	37.9	6.9	137	1240.0	307.9	0.2
3	Tue	33.0	17.0	24.6	29.2	17.4	23.7	31.9	6.5	143	986.6	302.0	
4	Wed	32.3	18.3	22.5	28.6	18.6	21.9	40.2	9.1	154	1111.8	230.5	
5	Thu	23.6	18.3	17.8	21.3	18.5	17.7	39.0	7.9	200	1143.2	108.5	22.6
6	Fri	27.0	14.2	20.6	23.9	14.2	20.1	39.0	8.3	176	1231.7	191.3	13.0
7	Sat	21.4	16.2	18.0	21.5	16.5	18.0	37.9	5.7	162	1224.9	98.8	25.8
8	Sun	27.0	16.6	19.1	23.6	16.5	18.3	34.3	4.6	204	1157.5	314.2	41.0
9	Mon	30.5	12.7	20.9	26.4	13.3	20.0	23.7	4.4	192	1029.2	330.8	0.2
10	Tue	28.8	14.4	23.2	25.1	14.9	22.0	27.2	5.9	173	1081.6	306.1	
11	Wed	28.3	19.2	21.2	24.2	19.2	20.7	23.7	5.1	154	1441.0	238.8	
12	Thu	28.8	15.2	22.6	25.4	16.2	21.9	29.6	6.1	139	1189.2	299.9	
13	Fri	30.2	17.1	23.3	27.5	17.6	22.6	37.9	5.9	145	1238.3	289.5	
14	Sat	27.2	17.6	22.2	25.4	18.4	21.8	30.8	5.8	130	1248.2	214.8	
15	Sun	33.3	16.8	24.6	29.5	17.7	23.9	30.8	5.2	142	1100.7	320.2	0.2
16	Mon	30.4	17.8	23.2	27.0	18.1	22.4	31.9	6.1	169	1127.5	298.1	
17	Tue	29.8	17.3	23.5	26.3	17.6	22.9	34.3	6.8	132	1333.2	274.1	
18	Wed	34.7	17.4	26.3	31.4	18.2	25.4	28.4	5.8	156	1041.7	308.2	
19	Thu	21.6	21.0	18.4	21.3	20.9	18.3	37.9	5.7	186	620.8	55.8	0.2
20	Fri	23.7	16.6	17.9	21.7	16.5	17.8	29.6	4.2	178	834.9	148.7	28.6
21	Sat	28.5	12.3	21.0	24.4	13.4	20.1	29.6	4.6	164	1225.0	286.4	5.8
22	Sun	20.9	16.1	18.1	20.5	16.6	18.0	20.1	1.8	195	553.3	76.2	2.6
23	Mon	25.9	15.6	19.8	23.5	16.1	19.5	17.8	2.8	185	1088.3	139.1	12.8
24	Tue	31.1	15.6	23.8	27.3	16.0	23.0	26.0	4.4	162	1261.5	240.4	0.2
25	Wed	33.0	19.2	23.8	28.6	19.0	23.0	26.0	4.6	159	1120.7	287.1	
26	Thu	35.1	17.5	26.7	31.9	17.7	26.0	34.3	5.6	147	971.7	299.4	
27	Fri	30.4	20.9	25.4	27.5	21.2	24.7	27.2	5.2	156	1204.9	267.2	6.0
28	Sat	34.0	20.8	27.2	30.9	20.9	26.5	34.3	6.2	127	1094.1	298.4	0.2
29	Sun	36.2	21.7	25.5	33.6	22.2	24.8	30.8	3.8	172	1113.3	202.5	
30	Mon	23.4	21.0	22.0	23.7	21.0	22.1	15.4	3.1	187	380.8	45.6	3.6
31	Tue	27.2	19.9	23.1	25.0	20.5	22.5	27.2	5.9	215	1201.5	165.3	11.8
Ave or Total		28.9	17.3	22.3	26.1	17.7	21.7	30.7	5.5	164.1	1096.8	232.5	174.8
High		36.2	21.7	27.2	33.6	22.2	26.5	40.2	9.1		1441.0	330.8	41.0
Low		20.9	12.3	17.8	20.5	13.3	17.7	15.4	1.8		380.8	45.6	

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: **11**

Figure 2 Weather Summary - January 2023

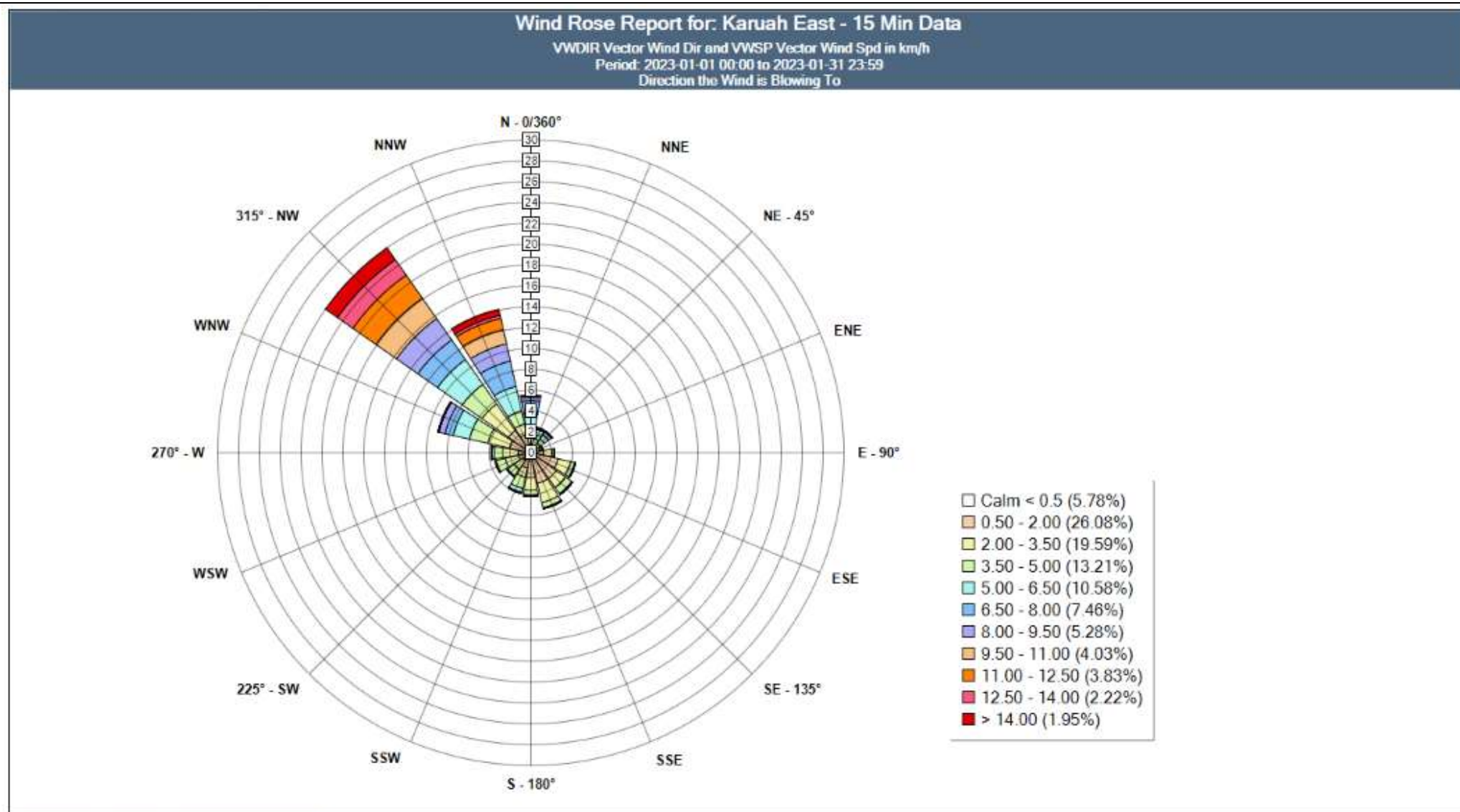


Figure 3 Wind Rose - January 2023

7 REPORTING

7.1 COMMUNITY CONSULTATIVE COMMITTEE

The purpose of a Community Consultative Committee (CCC) is to provide a forum for discussion between a proponent (KEQPL) and representatives of the community, stakeholder groups and the local council on issues directly relating to a specific State Significant Project (KEQ).

The KEQ CCC generally meets biannually (twice a year). Meeting minutes can be found at Hunter Quarries website <<https://hunterquarries.com.au/>>.

On 19 September, the second KEQ CCC meeting for 2022 was held, below are the key details:

- A site inspection was undertaken with three KEQPL representatives and two community representative.
- The meeting was facilitated at the Karuah RSL with one chairperson, five community representatives and three KEQPL representatives.
- The next CCC meeting is scheduled for March 2023.

7.2 PRODUCTION

For the month of January, 78'075 tonnes of various quarry products were produced.

7.3 NON-COMPLIANCE

There were nil non-compliance event during January 2023 to report (see Table 19).

Table 19 Non-compliance Register

Date	Nature of Incident	Action
January 2023	Nil complaints received	Nil action required

7.4 COMPLAINTS

There were nil complaints received during January 2023 (see Table 20).

Table 20 Complaints Register

Date	Nature of Complaint	Action
January 2023	Nil complaints received	Nil action required

Appendix 1 – Monitoring Locations

Karuah East Quarry

Monitoring Locations

Legend

- Attended Noise
- Dust Deposition
- Groundwater
- High Volume Air Samplers
- Surface Water
- Unattended Noise



Google Earth

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900 m