Boral Peppertree Quarry

Annual Review

January – December 2025

Document Control

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Boral Peppertree Quarry

STATUS	DATE	DISTRIBUTION
Draft	15th January 2026	Andy Coe (Boral Peppertree Quarry Manager) Sharon Makin (Environment Business Partner)
Final	28th March 2026	Andy Coe (Boral Peppertree Quarry Manager) Sharon Makin (Environment Business Partner)

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Boral Peppertree Quarry Annual Review (Jan 2025 – Dec 2025)

Name of operation	Peppertree Quarry
Name of operator	Boral Resources (NSW) Pty Ltd
Development consent / project approval #	06_0074
Name of holder of development consent / project approval	Boral Resources (NSW) Pty Ltd
Mining lease #	Not applicable
Name of holder of mining lease	Not applicable
Water license #	10WA102701,10WA116000 & WAL43829
Name of holder of water license	Boral Resources (NSW) Pty Ltd
MOP/RMP start date	Not applicable
MOP/RMP end date	Not applicable
Annual Review start date	1st January 2025
Annual Review end date	31st December 2025
I, Andy Coe, certify that this audit report is a true and accurate record of the compliance status of Peppertree Quarry for the period of 2025 Calendar Year and that I am authorized to make this statement on behalf of Boral Resources (NSW) Pty Ltd. *Note.* *a) The Annual Review is an 'environmental audit' for the purposes of section 122B (2) of the Environmental Planning and Assessment Act 1979. Section 122E provides that a person must not include false or misleading information (or provide information for inclusion in) an audit report produced to the Minister in connection with an environmental audit if the person knows that the information is false or misleading in a material respect. The maximum penalty is, in the case of a corporation, $1 million and for an individual,* *$250,000.* *b) The Crimes Act 1900 contains other offences relating to false and misleading information: section 192G (Intention to defraud by false or misleading statement—maximum penalty 5 years imprisonment); sections 307A, 307B and 307C (False or misleading applications/information/documents—maximum penalty 2 years imprisonment or $22,000, or both).*	
Name of authorized reporting officer: Andy Coe	
Title of authorized reporting officer: **Quarry Manager Peppertree Quarry**	
 **Signature of authorized reporting officer**	
Date: 30th March 2026	

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Commonly Used Abbreviations and Acronyms

AR	Annual Review
AHMP	Aboriginal Heritage Management Plan
AHMC	Aboriginal Heritage Management Committee
ANZECC	Australian and New Zealand Environment Conservation Council
AQMP	Air Quality Management Plan
AS	Australian Standard
EC	Electrical Conductivity
EIS	Environmental Impact Statement
EPA	Environment Protection Authority
EP&A Act	*Environmental Planning and Assessment Act 1979*
EPBC	Environment Protection and Biodiversity Conservation
EPL	Environment Protection Licence
DO	Dissolved Oxygen
DPE	Department of Planning and Environment
Ha	Hectares
HSE	Health, Safety and Environment
HSEQMS	Health, Safety, Environmental Quality Management System
HVAS	High Volume Air Sampler
kL	Kilolitres
LOR	Limit of Reporting
mbgl	Metres below ground level
NATA	National Association of Testing Authorities
NBMP	Noise and Blast Management Plan
NSW	New South Wales
NTU	Nephelometric Turbidity Units
O&G	Oil & Grease
PIRMP	Pollution Incident Response Management Plan
$PM_{2.5}$	Particulate Matter (2.5 microns in diameter)
PM_{10}	Particulate Matter (10 microns in diameter)
POEO Act	*Protection of the Environment Operations Act 1997*
RL	Reduced Level
TDS	Total Dissolved Solids
TSP	Total Suspended Particulates
TSS	Total Suspended Solids
$\mu g/m^2$	micro grams per square metre
$\mu g/m^3$	micro grams per cubic metre
WMP	Water Management Plan

1 STATEMENT OF COMPLIANCE

The Statement of Compliance for the 2025 Reporting Period is contained in Table 1.

Table 1: Statement of Compliance

Were all conditions of the relevant approval(s) complied with?	
Approval MP 06_0074	No
EPL 13088	Yes
EPBC 2018/8243	Yes

The Non compliances identified during the reporting period are detailed in Table 2. Each non-compliance has been risked ranked as per the DPE Annual Review Guidelines Compliance Status key outlined in Table 3.

Table 2: Non-Compliances

Relevant Approval	Condition #	Condition description	Compliance status	Comment	Where addressed in the Annual review
MP 06_0074	Part B Condition B20	The Applicant must ensure that particulate matter emissions generated by the development do not cause exceedances of the criteria in Table 6 at any residence on privately-owned land, or on more than 25 percent of any privately owned land. (See table 6 of MP 06_0074)	Non-compliant	PM10 and PM2.5 samples taken on the 3rd February 2025, 10th April 2025 and the 18th December 2025 (PM2.5) resulted in exceedances of the daily criteria. PM10 concentrations of 59.9 and 52.33 against a criterion of 50ug/m3 were measured while PM2.5 levels of 30, 38.07 and 31.9 were recorded against a criterion of 25ug/m3. The other 59 samples taken over the year, for both PM2.5 and PM10 were below the criteria. When interpolated to the boundary, the results were within the criteria. For all exceedances, an investigation is	Section 6.3

Relevant Approval	Condition #	Condition description	Compliance status	Comment	Where addressed in the Annual review
				undertaken by an independent air quality consultant. The findings determined the results to be erroneous and upwind of quarry operations.	
MP 06_0074	Part B Condition B20	The Applicant must ensure that particulate matter emissions generated by the development do not cause exceedances of the criteria in Table 6 at any residence on privately-owned land, or on more than 25 percent of any privately owned land. (See table 6 of MP 06_0074)	Non-compliant	PM2.5 rolling annual average was above criteria for a number of samples in 2025. When interpolated to the Boral owned boundary as per the Air Quality Management plan, results remained below the annual average criteria of 8 ug/m^3	Section 6.3

Table 3: Compliance Status Key

Risk Level	Colour Code	Description
High	non - compliant	Non-compliance with potential for significant environmental consequences, regardless of the likelihood of occurrence
Medium	non - compliant	Non-compliance with: • potential for serious environmental consequences, but is unlikely to occur; or • potential for moderate environmental consequences, but is likely to occur
Low	non - compliant	Non-compliance with: • potential for moderate environmental consequences, but is unlikely to occur; or • potential for low environmental consequences, but is likely to occur
Administrative non-compliance	non - compliant	Only to be applied where the non-compliance does not result in any risk of environmental harm (e.g. submitting a report to government later than required under approval conditions)

2 INTRODUCTION

Peppertree Quarry (the Quarry) is owned and operated by Boral Resources Pty Ltd (Boral). The hard rock quarry is located south-east of Marulan in the NSW Southern Tablelands, approximately 175 km south-west of Sydney (refer to Figure 1).

The Quarry was first granted planning approval in February 2007 under Part 3A of the *Environmental Planning and Assessment Act 1979* following the preparation and display of an Environmental Impact Assessment. The project has since been the subject of seven separate modification applications which were approved in March 2009, November 2011, October 2012, August 2016, October 2019, April 2020 and most recently in September 2021.

The Quarry has an identified resource area of approximately 250 million tonnes, which dependent upon extraction rates, would allow quarrying for 70 years or more over an area of approximately 104 hectares (ha), within a 650-ha parcel of land.

All quarry products and materials (granodiorite aggregate products and manufactured sand) are transported by rail to and a capped quantity of trucks to a number of Boral rail terminals for distribution by trucks into the Sydney metropolitan area.

This Annual Environmental Management Report (AR) provides a summary of the Quarry's activities, environmental performance, statutory compliance, and community relationships between the periods of 1st January 2025 to 31st December 2025 (the reporting period).

The AR has been prepared in accordance with the requirements of the Project Approval 06_0074 Modification 7 (Condition D11- PART D), which requires:

D11. By the end of March in each year after the commencement of development, or other timeframe agreed by the Planning Secretary, a report must be submitted to the Department reviewing the environmental performance of the development, to the satisfaction of the Planning Secretary. This review must:

(a) describe the development (including any rehabilitation) that was carried out in the previous calendar year, and the development that is proposed to be carried out over the current calendar year;

(b) include a comprehensive review of the monitoring results and complaints records of the development over the previous calendar year, including a comparison of these results against the:

(i) relevant statutory requirements, limits or performance measures/criteria;

(ii) requirements of any plan or program required under this consent;

(iii) monitoring results of previous years; and

(iv) relevant predictions in the documents listed condition A2(c).

(c) identify any non-compliance or incident which occurred in the previous calendar year, and describe what actions were (or are being) taken to rectify the non-compliance and avoid reoccurrence;

(d) evaluate and report on:

(i) the effectiveness of the noise and air quality management systems; and

(ii) compliance with the performance measures, criteria and operating conditions in this consent;

(e) identify any trends in the monitoring data over the life of the development;

(f) identify any discrepancies between the predicted and actual impacts of the development, and analyse the potential cause of any significant discrepancies; and

(g) describe what measures will be implemented over the next calendar year to improve the environmental performance of the development.

Table 4: Condition D11 – specific location of addressed

CoC	Condition of Project Approval	Addressed in Section
D11	By the end of March in each year after the commencement of development, or other timeframe agreed by the Planning Secretary, a report must be submitted to the Department reviewing the environmental performance of the development, to the satisfaction of the Planning Secretary. This review must:	Noted
	(a) describe the development (including any rehabilitation) that was carried out in the previous calendar year, and the development that is proposed to be carried out over the current calendar year;	Sections 2, 4, 5, 6, 8, 12
	(b) include a comprehensive review of the monitoring results and complaints records of the development over the previous calendar year, including a comparison of these results against the: (i) relevant statutory requirements, limits or performance measures/criteria; (ii) requirements of any plan or program required under this consent; (iii) monitoring results of previous years; and (iv) relevant predictions in the documents listed condition A2(c).	Sections 6, 9 Appendices 2, 3, 4, 5
	(c) identify any non-compliance or incident which occurred in the previous calendar year, and describe what actions were (or are being) taken to rectify the non-compliance and avoid reoccurrence;	Section 1
	(d) evaluate and report on: (i) the effectiveness of the noise and air quality management systems; and (ii) compliance with the performance measures, criteria and operating conditions in this consent;	Section 6 Appendices 2, 3
	(e) identify any trends in the monitoring data over the life of the development;	Section 6 Appendices 2, 3
	(f) identify any discrepancies between the predicted and actual impacts of the development, and analyse the potential cause of any significant discrepancies; and	Section 6

CoC	Condition of Project Approval	Addressed in Section
	(g) describe what measures will be implemented over the next calendar year to improve the environmental performance of the development.	Sections 8, 12

The AR has also been prepared in line with the DPE Annual Review Guideline October 2015.

Copies of the AR will be submitted to:

- NSW Department of Planning, Housing and Infrastructure.
- NSW Environment Protection Authority.
- Goulburn Mulwaree Shire Council.
- Water NSW;
- DPE Water;
- Biodiversity Conservation Division
- The Peppertree Quarry Community Consultative Committee; and
- Aboriginal Heritage Management Committee.

The report will also be available at the Boral website:

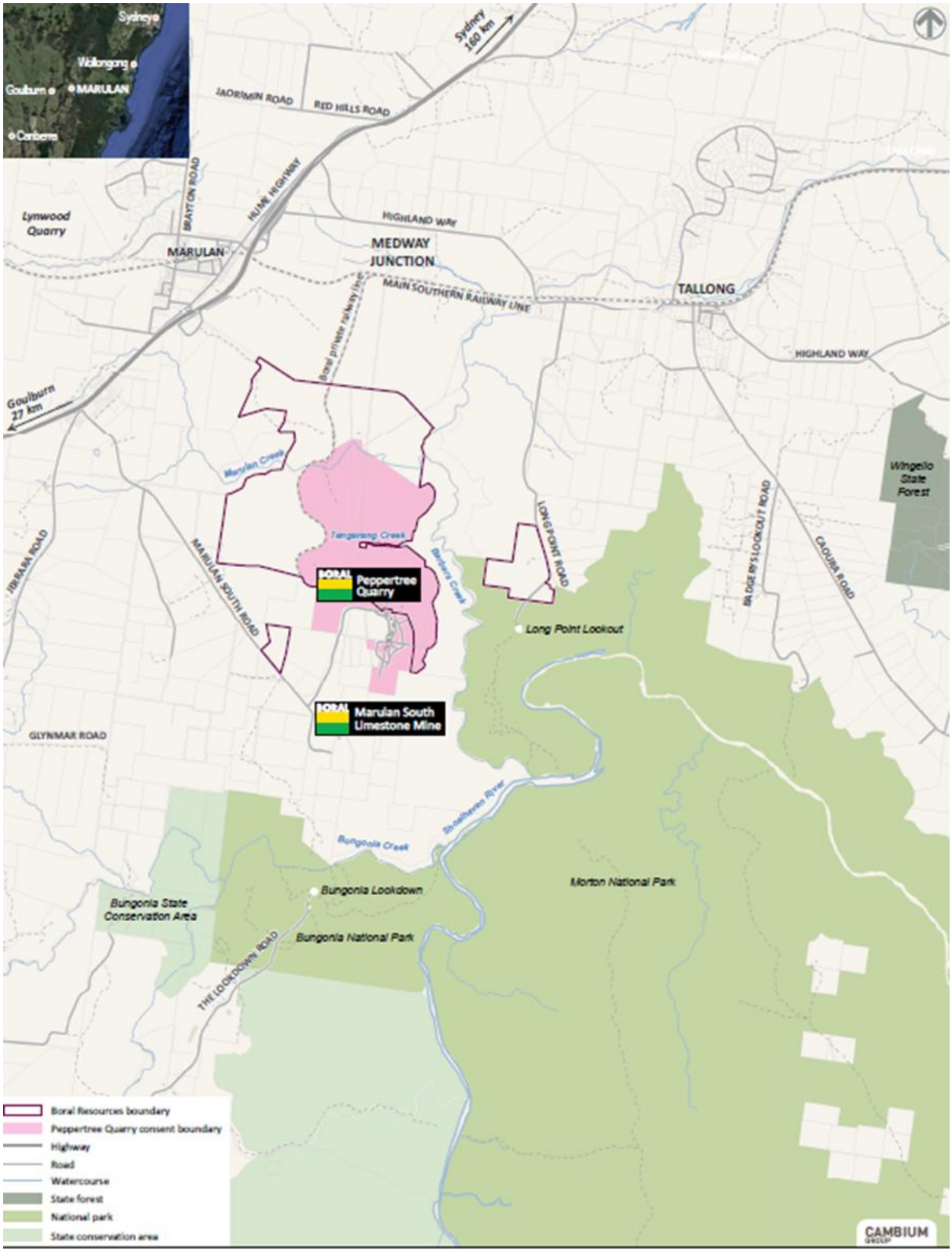
https://www.boral.com.au/locations/peppertree-quarry

Key contacts associated with the management of the Quarry operations, environment, safety, and stakeholder relationships are provided in Table 5.

Table 5: Key Contact Details – Peppertree Quarry

Contact Person	Position Title	Contact Details
Andy Coe	Quarry Manager	Tel: (02) 4841 1701 Email: andy.coe@boral.com.au
Reshma Benny	Stakeholder and Environment Advisor	Mob: +61 458 962 667 Email: reshma.benny@boral.com.au

Figure 1: Peppertree Quarry Location



3 APPROVALS

The Quarry operates under several regulatory approvals and licences which are summarized in Table 6 below.

Table 6: Approvals

Approval	Detail	Regulatory Authority
Project Approval 06_0074 Modification 7 (2021)	Quarry operating conditions updated for approval to extend the WOE footprint to relocate a sediment basin P2 and removal of one tree.	NSW Department of Planning and Environment
EPL No. 13088	The EPL is issued for the scheduled activity of: Crushing, Grinding, Separation and Extractive activities for tonnages greater than 2 million tonnes per annum. The EPL was varied in 2025 with a Pollution Reduction Program to investigate and propose a program for the implementation of real time air quality monitoring.	NSW Environment Protection Authority
EPBC 2018/8243	The EPBC approval was issued for the removal of Box Gum Grassy Woodland as part of the Mod 5 (SWOE) works. An annual report is prepared and made available on the website.	Department of Climate Change, Energy, the Environment and Water
WAL25291 nominating 10WA102701	Extraction of 145 ML of surface water from Barbers Creek Water source via a 125mm centrifugal pump and overshot dam	Water NSW
WAL24717 nominating 10WA116000	Extraction of 15ML of groundwater from the Lachlan Fold Belt Greater Metropolitan Groundwater Source via a 165mm bore (This Licence is currently inactive)	Water NSW
WAL43829 nominating 10MW119333	Extraction of 300ML of groundwater from the Lachlan Fold Belt Greater Metropolitan Groundwater Source via an excavation (pit sump)	Water NSW

A copy of the Project Approval is available on request or can be accessed under the "statutory approvals- peppertree quarry" tab through the following Boral website:

https://www.boral.com.au/peppertree

A copy of the EPL is available on request or can be accessed through the following EPA website:

https://www.epa.nsw.gov.au/Licensing-and-Regulation/Public-registers

Approval was granted of Modification 7 in September 2021 to modify Peppertree Quarry's operation extending the footprint of the WOE to allow the relocation of a proposed sediment basin P2 and the removal of one tree.

This Annual Return reflects compliance of the operation to the Modification 7 Condition of Consent.

4 QUARRY OPERATIONS

4.1 OPERATIONS LAST 12 MONTHS

Over the last 12 months, the pit has remained in its current footprint of 58.3 ha with a focus on quarrying rock to depth.

The mobile crusher remained on the RL525 level and stays semi fixed for another estimated 2 – 5 years. This was associated with the use of a tip bin (constructed in 2024) to make loading of the crusher more efficient.

In pit load and haul operations continue where raw blasted rock is carted to the in-pit crusher for processing.

The Southwestern overburden emplacement (Modification 5) activities continued but at a significant reduced capacity with full operations deferred, expected to resume July 2026.

Operations occurred within the prescribed hours of operation.

No exploration activities were undertaken.

4.2 OPERATIONS NEXT 12 MONTHS

Over the next 12 months, the pit will continue to move in a south easterly direction as a new stripping campaign commences. This will remove and relocate approximately 800,000 m3 of overburden.

The mobile crusher will remain on the RL525 level and stay semi fixed for an estimated 2 – 5 years, with Load and haul operations continuing to feed raw blasted rock to the crusher.

The Southwestern overburden emplacement (Modification 5) activities will continue with a stripping campaign expected to resume July 2026.

4.3 PRODUCTION, SALES AND TRANSPORT LAST 12 MONTHS

During the reporting period, the Quarry produced 2,795,505 tonnes of aggregate, slightly below the forecasted 2,850,000 tonnes for the 2025 period. (Refer to Figure 2).

The DRE Production results Form for the Financial Year ending 2025 is contained in Appendix 1.

Project Approval Condition A9 (Part A) requires a capped tonnage of 3.5 million tonnes of quarry products may be transported from the site per annum. During the 2025 calendar year 2,975,327 tonnes of product transported by road and rail to Boral terminals at Maldon, Enfield, and St Peters. This volume included both Peppertree product, as well as Limestone sand.

Road transportation is allowed as per Condition A10, (Part A) – *The Proponent may Dispatch up to two laden trucks containing quarry products per calendar day. Any additional truck Dispatches of quarry products will require the written approval of the Secretary.*

Peppertree Quarry has an authorisation system in place, to manage the requirement for only 2 loads per day to be dispatched. However, the Boral Marulan South Limestone (SSD 7009), Conditions of Consent, Condition A10 of this consent allows “

A10. A maximum of 150,000 tonnes of quarry products may be transported from Peppertree Quarry to the shared road

sales stockpiling area in any financial year.

Peppertree transported 61,553 Tonnes to the shared road sales stockpiling area.

The use of the Apex weighbridge system keeps track of the Peppertree truck movements to avoid exceedance of the truck movement under the Limestone SSD condition.

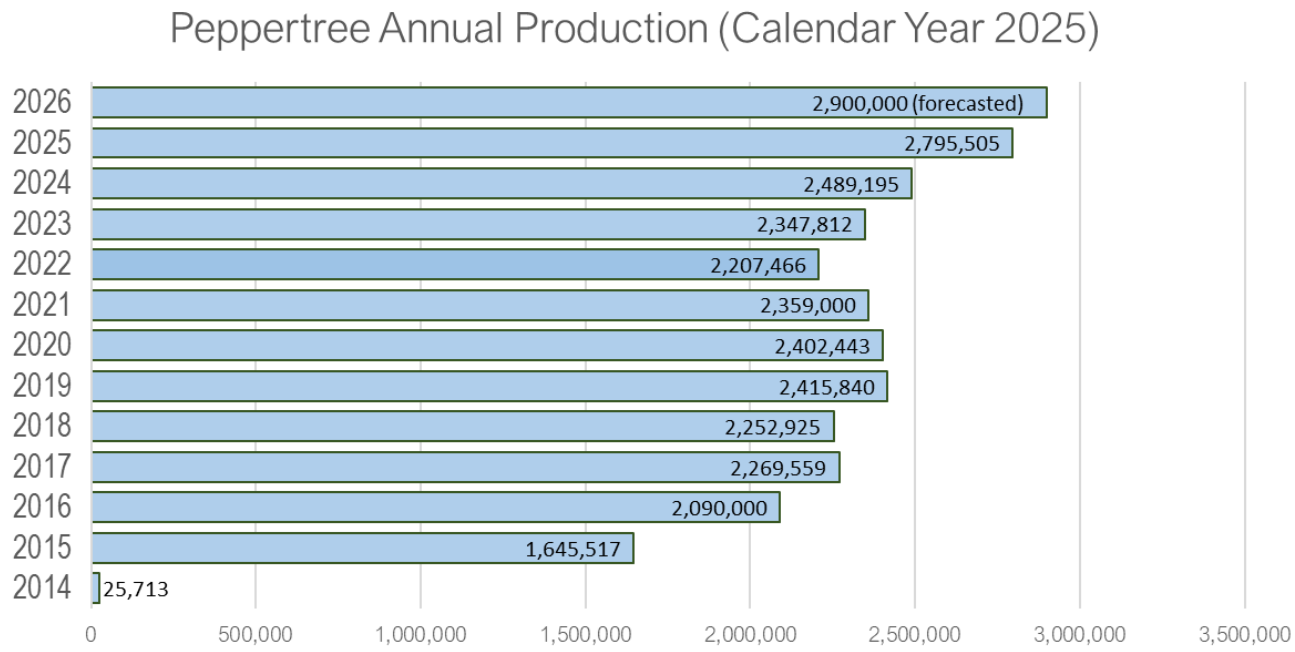
4.4 PRODUCTION, SALES AND TRANSPORT NEXT 12 MONTHS

The anticipated production for 2026, from Peppertree Quarry is 2,900,000 tonnes. However, actual realised tonnage will be dependent on market demand and the production levels at other Boral hard rock quarries.

During the 2026 reporting period product dispatch will continue to be mainly via rail.

It is estimated that Peppertree will dispatch via rail and road, approximately 3,050,000 tonnes, which will also include Limestone sand.

Figure 2: Quarry Production Trends



5 ACTIONS REQUIRED FROM PREVIOUS ANNUAL REVIEW

Table 7 lists specific actions from the 2024 AR that were required to have been undertaken during the 2025 reporting period.

Table 7: Actions Required from 2024 AR

Proposed Activities for 2025	Requested by	Status	Where discussed
Undertake progressive Overburden stabilization and rehabilitation and implement recommendations of the	Operator	Consultant's report prepared outlining the required scope of works for rehabilitation and erosion and sediment	Section 8

Proposed Activities for 2025	Requested by	Status	Where discussed
2024 Rapid Visual Assessment and Ecological assessment		control. Works being progressively undertaken.	
Review and/or prepare management plans - NBMP, AQMP, BRMP, WMP, EMS, BFMP as per modification 7 approval requirements following approval of AEMR	Operator	Management plans in place and approved. Aboriginal Heritage Management plan pending approval. Plans were reviewed following the submission of the AEMR and Independent audit in 2025. 4 plans required review by DPHI – Air Quality, Biodiversity, Aboriginal Heritage and Noise and Blast. The remaining plans required only administrative changes and as per Condition D6 did not require DPHI review at this time.	Section 6.1
Undertake annual Rehabilitation Rapid Visual Assessment (November 2025)	Operator	Complete. Undertaken by Cambium Group.	Section 8
Undertake audit of the surface water management system at the Southern Overburden emplacement once system is installed	Operator	Southern Overburden yet to be completed. Audit to be completed once emplacement completed.	Section 8
Implement Stakeholder Engagement plan for 2025	Operator	Complete	Section 9
Pit expansion to the East and commence south-western overburden as per Modification 5	Operator	Ongoing	Section 4
Investigate relocation of air monitoring sampling locations to boundary locations	Operator	EPA approved the relocation of the air monitoring points based on a report prepared by Todoroski Air Sciences. The AQMP was updated to include the new monitoring locations and issued to DPHI. The revised AQMP is pending approval.	Section 6.3
Undertake review of frequency of noise monitoring.	Operator	Not actioned. Currently still monitoring as per management plan requirements.	Section 6.4
Implement recommendations of the Audit	Operator	Refer details in Section 10. All recommendations implemented	Section 10
Undertake and develop future display of the scar trees	Operator	Concept developed approved by AMC. Costings have been obtained with proposed construction in 2026 / 2027.	Section 6.9
Return Aboriginal Artefacts to country (not required for education purposes) as determined by the AHMC.	Operator	Selection of artefacts to be retained undertaken in 2025 over a number of days. Final review of artefacts with an archaeologist to be undertaken in early 2026 with Return to Country of final artefacts to occur.	Section 6.9

6 ENVIRONMENTAL PERFORMANCE

The Quarry has a comprehensive management and monitoring program that collects information and data for the assessment of environmental impacts, regulatory compliance, and performance against continual improvement objectives. Management and Monitoring is undertaken in accordance with the respective activity specific Management Plans, which define the framework for measuring environmental performance and compliance with statutory requirements.

Table 8 provides an overall summary of the environmental performance of the quarry across a number of parameters, with further details provided in the following sections.

Table 8: Summary of Environmental Performance

Aspect	performance during the reporting period	Trend / Key management implications	Implemented / proposed management actions
Deposition gauges	Quarry contribution complies with criteria at the neighbouring residence	Data collected over time is consistent with the EIS predictions, Modification modelling and previous AR reporting	Continue to monitor and assess performance. Investigate Real Time Air Quality monitoring network.
PM10 HVAS	Quarry Contribution complies with criteria at the neighbouring residence	Data collected over time is consistent with the EIS predictions, Modification modelling and previous AR reporting	Continue to monitor and assess performance. Investigate Real Time Air Quality monitoring network.
PM 2.5 HVAS	Quarry Contribution complies with criteria at the neighbouring residence	Data collected over time is consistent with the EIS predictions, Modification modelling and previous AR reporting at the boundary	Investigate and move the air quality monitoring points to the Boral owned boundary. Investigate Real Time Air Quality monitoring network.
TSP HVAS	Quarry Contribution complies with criteria at the neighbouring residence	Data collected over time is consistent with the EIS predictions, Modification modelling and previous AR reporting	Continue to monitor and assess performance. Investigate Real Time Air Quality monitoring network.
Noise	Quarry Contribution complies with criteria at the sensitive receivers	Data collected over time is consistent with the EIS predictions, Modification modelling and previous AR reporting	Real time noise monitoring implemented to allow for management of potential noise impacts
Blast - vibration	Complies with criteria at the nominated receivers	Data collected over time is consistent with the EIS predictions, Modification modelling and previous AR reporting	Continue to operate as per NBMP and Blast Management procedures
Blast – over pressure	Complies with criteria at the nominated receivers	Data collected over time is consistent with the EIS predictions, Modification modelling and previous AR reporting	Continue to operate as per NBMP and Blast Management procedures
Waste	Waste management segregation system installed.	Waste minimization, recycling and tracking in Place	Continue to Implement waste management plan including review of recycling options and reduction at Waste to Landfill
Dangerous goods & Hazardous materials	Complies with relevant requirements with systems in place	Database in place	Continue to maintain systems
Bush fire management	Complies with relevant requirements with systems in place	Bush Fire management Plan in place and reviewed by the RFS	Continue to maintain systems and review bush fire management plan as required.
Heritage conservation	Complies with AHMP requirements with unidentified finds and the completion of salvage works	Continue to work with AHMC representatives. Bi-monthly meeting established to ensure all actions are identified and communicated.	Complete collation of the artefacts and plan final “return to Country” activity

Aspect	performance during the reporting period	Trend / Key management implications	Implemented / proposed management actions
Biodiversity and rehabilitation	Complies with BRMP	Rehabilitation continues to do well. Some erosion control needed at identified locations.	Implement recommendations of the Rapid Visual Assessment and Ecological review

6.1 BORAL INTEGRATED MANAGEMENT SYSTEM

Peppertree Quarry operates in accordance with the Boral integrated Health Safety, Environment and Quality Management System (HSEQ MS) which establishes a strategic platform for Regulatory compliance and continual improvement in environmental management. This system is documented in the Peppertree Quarry Environmental Management System that was updated and approved in July 2024.

Management plans required by modified approvals are reviewed and / or prepared in line with conditions of consent as well as aligned with the Boral HSEQ requirements.

6.2 METEOROLOGICAL MONITORING

In accordance with Project Approval Condition B26 (Part B), the Quarry continues to utilize the onsite weather station established upon the commencement of the quarry development.

Information from the weather station is supplied in real time graphical form to the Quarry along with a monthly data report.

A monthly review of the Weather station data is undertaken by a consultant to confirm that the station and the data are within operational compliance limits.

In addition, a forecasting system via Weatherzone is in place to provide alerts to relevant site personnel on predicted significant weather events such as high winds and extreme rainfall events, so that appropriate actions and controls can be proactively implemented.

6.3 AIR QUALITY

The Quarry operates an air quality monitoring system in accordance with the Air Quality Management Plan (AQMP) that was approved in June 2024. Management actions have been accordingly developed and are outlined in the AQMP.

A revised plan addressing the relocation of air monitoring equipment was prepared and issued to the DPHI in 2025 and is pending approval.

6.3.1 Deposition Dust Monitoring

There are three dust deposition gauges used for monitoring of larger dust particles (typically >50µm) that settle out from the air and are referred to as depositional dust. All gauges are located on Boral owned land (refer Appendix 2).

The dust deposition gauges were sampled monthly (+/- 2 days) during the reporting period with the corresponding results from the gauges comprising insoluble matter and ash residue (mineralogical).

Condition B20 (Part B) of the Project Approval requires that long term deposited dust emissions do not exceed an annual average criterion of 4 g/m^2/month at any neighbouring residence or privately owned land.

The criterion allows for consideration of extraordinary events such as fire incidents and dust storms, which may cause exceedances beyond the actual dust contribution of activities associated with the Quarry. To account for such events, the ash content of the monthly deposition gauge samples is also analysed to identify organic matter, which would not be typically representative of the Quarry activities.

As all deposition gauges are located on Boral owned land, a review of the monitoring data and gauge locations was conducted by Todoroski Air Sciences during the reporting period. The monitoring data collected was interpolated to the neighbouring residences (in line with Condition B20 Part B) with no exceedances recorded to occur above the criteria (Refer to Appendix 2 for results). It has been previously recommended that at least 2 of the gauges be relocated. The potential relocation of the deposition gauges was reviewed in the 2025 reporting period, using existing data to analyse concentration changes with a broader dataset. The proposed new locations were discussed and approved by the EPA. These locations were updated in the AQMP. The revised plan was issued to DPHI and is pending approval.

The monthly results and annual averages recorded during the reporting period from the three dust deposition gauges (D1, D2 and D3) are detailed in Appendix 2.

6.3.1.1 Deposited Dust – Performance Review (2025)

For much of the 2025 reporting period, Sites D1, D2 and Site D3, were below the criteria of 4g/m^2/month, with the exception of 4 occurrences. For the 4 samples above 4 g/m^2/month at site D3, the analysis shows the insoluble solids content, made up an average of 65% of the total sample concentration. This is an indication that the samples are likely to have had some level of organic matter, which is not generally representative of mineralogical based quarry dust.

All sites were below the criteria of 4g/m^2/month when the recorded data was interpolated to the nearest boundary.

6.3.1.2 Long Term Trend Analysis and assessment (2014 – 2025)

Dust Deposition modelling for the EA (2006) was based upon conservative assumptions and indicated that the annual average dust concentrations and deposition levels would be below relevant air quality criteria at the nearest residential properties.

Modification 6 (April 2020) also modelled that the dust concentrations would remain below the relevant air quality criteria.

The dust deposition results, when assessed at the boundary of the operations, have consistently been below the criteria, since operations commenced in 2014 and therefore are in line with the predictions of the EA and the latest Modification.

6.3.1.3 Deposited Dust Summary and opportunities for improvements

As the dust gauges are situated on Boral owned land and not at the Boundary, monthly interpolation of the data will continue to assess compliance.

Pending approval of the AQMP incorporating new dust monitoring locations, dust gauges will be relocated to the boundary with results better reflecting operational impacts at neighbouring sensitive receivers.

A real time air quality monitoring network has also been proposed in response to an agreed PRP with the EPA. On approval from the EPA, the network this will be installed and commissioned over the next 12 to 18 months.

6.3.2 PM2.5, PM10 and TSP High Volume Samplers (HVAS)

The three HVASs are on Boral owned land, situated together (refer to appendix 2) for the measurement of particulate matter less than 2.5 microns in diameter ($PM_{2.5}$), less than 10 microns in diameter (PM_{10}) and Total Suspended Particulates (TSP.) They are programmed to operate on a continuous 24-hour period, on six in seven-day cycle. The HVAS sampler flows are subject to bi-monthly calibration and other parameters are calibrated on an annual basis.

A PM2.5 HVAS, which measures particulate matter less than 2.5 microns in diameter was brought online in March 2021. This monitor is in the same location of the existing PM10 and TSP HVASs.

Condition B20 (Part B) of the Project Approval requires that the operation of the Quarry must meet the $PM_{2.5}$, PM_{10} and TSP criteria presented in Table 9 at any neighbouring residence or privately owned land.

Table 9: TSP, PM10 and PM2.5 Criteria

Pollutant	Averaging period	Criteria
TSP	Annual average	90 µg/m^3
PM_{10}	Annual average	30 µg/m^3 Changed to 25 µg/m in July 2020
	24-hour average (short term impact)	50 µg/m^3
$PM_{2.5}$	Annual average	8 µg/m^3
	24-hour average (short term impact)	25 µg/m^3

It has been identified that the HVAS are not located at the boundary of the Peppertree Quarry and therefore data obtained from these samplers needs to be interpolated to determine compliance at the nearest receiver.

Regular reports are prepared by Todoroski Air Sciences with a review of the results that are then interpolated to the receivers. Details of the interpolated data are included in Appendix 2.

The potential relocation of the HVASs to the boundary was reviewed in the 2025 reporting period, using existing data to analyse concentration changes with a broader dataset. The proposed new locations were discussed and approved by the EPA. These locations were updated in the AQMP. The revised plan was issued to DPHI and is pending approval.

6.3.2.1 PM2.5, TSP and PM10 – Performance Review (2025)

Graphical results for the annual average of TSP, PM10 and PM2.5 for the 2025 reporting period are contained in Appendix 2.

Results for TSP annual average were within the Project Approval criteria of 90 µg/m^3.

Results for PM10 24-hour average (short term impact) remained below the Project Approval criteria of 50 µg/m^3 for the majority of the reporting period with the exception of two occasions.

PM10 samples taken on the 3rd of February and the 10th of April were 59.9 and 52.53 respectively. When interpolated to the Boundary, these results were 27.9 and 2.6, below the required criteria.

As of July 2020, the PM10 Annual average criteria was reduced to 25 µg/m^3, as per Modification 6. The annual average criteria was within the Project Approval criteria of 25 µg/m^3.

Results for PM2.5 24-hour average (short term impact) remained below the Project Approval criteria of 25 µg/m^3 for the majority of the reporting period with the exception of three occasions. PM2.5 samples taken on the 3rd of February and 10th of April were 30 and 38.07 respectively. Samples on the 18th of December 2025 resulted in a PM2.5 concentration of 30 ug/m^3.

An investigation was commenced by an air quality consultant, taking into account weather conditions and quarry operations at the time. Findings of the investigation determined the result to be erroneous. Wind directions on the day indicated the HVAS were not downwind of the quarry operations. This investigation was provided to DPHI and the EPA.

Recorded results for PM2.5 remained on or above the annual average goal of 8 µg/m^3 for majority of the reporting period. When interpolated to the boundary the annual average remained consistently below the 8 µg/m^3 criteria.

6.3.2.2 Long Term Trend Analysis and assessment – PM2.5, TSP and PM10

The TSP monitoring results have all been below the average annual criteria of 90 µg/m^3. These results indicate that TSP dust levels are well below the long-term impact assessment criteria, which has been consistent over the years, and consistent with the EA and Modification 6 predicted annual averages.
The PM10 monitoring results have all been below the average annual criteria of 30 µg/m^3, until January 2020, where the impact of bushfire smoke was seen on the PM10 levels measured. In July 2020, the criteria was reduced to 25 µg/m^3 and levels had remained above this annual average criterion until December 2020. The long-term result has consistently been below the criteria since December 2020 and throughout the 2025 reporting period.

The PM_{10} results have all been under the 24-hour average criteria (50 µg/m^3) with the exception of a number of specific events in 2015, early in 2016, 2017, 2018, 2019, 2020, one occasion during 2021 and two in 2025. However, when interpolated to the boundary, all results were determined to be below the relevant criteria in Table 9.

These results indicate that PM10 dust levels are generally below the long-term impact assessment criteria, which has been consistent over the years, and consistent with the EA and Modification 6 predicted annual averages, taking into account the impact of smoke from bushfires.

Problems have been experienced with the consistent operation of the PM10 sampler at the end of 2020 and beginning of 2021. Similarly, problems were experienced with the consistent operation of the TSP sampler in late 2021 and early 2022, with some improvement observed following maintenance and repair of the machine. A backup High Volume Air sampler was used to ensure consistent sampling during periods of equipment failure.

The measured PM2.5 results remained under the 24-hour average criteria (8 µg/m3) between May 2022 until January 2024. Results have continued to be above the 24-hour average criteria since that time. When interpolated to the boundary, results remained below the criteria. Independent Consultant assessments are undertaken for results above the criteria to understand the cause of the increased levels, which are usually found not to be due to quarry operations.

6.3.2.3 PM2.5, PM10, TSP Summary and opportunities for improvements

As the HVAS are situated on Boral owned land and not at the Boundary, monthly interpolation of the data will continue to assess compliance with the relevant criteria shown in Table 9.

Pending approval of the AQMP incorporating new dust monitoring locations, HVASs will be relocated to the boundary with results better reflecting operational impacts at neighbouring sensitive receivers.

A real time air quality monitoring network has also been proposed in response to an agreed PRP with the EPA. On approval from the EPA, the network this will be installed and commissioned over the next 12 to 18 months.

6.4 NOISE

The Noise and Blast Management Plan July 2024 (NBMP) provide the framework and guidance for the Quarry activities to be conducted in a manner such that appropriate control measures are implemented to minimise the potential for adverse impacts on the amenity, property and safety of quarry neighbours and to ensure compliance with the Project Approval CoA requirements. A number of management actions have been put in place to assist in meeting these objectives with guidance on performance occurring through the implementation of a quarterly noise monitoring program. This plan was reviewed, updated and approved by DPHI in 2024.

The results and a general review of the quarterly noise monitoring program conducted during the reporting period are presented in Appendix 3.

In accordance with NBMP, operational noise assessments are conducted on a quarterly basis. During the reporting period noise assessments were conducted in March / April, July, September / October and December.

Attended monitoring is conducted during both day and nighttime periods to enable measurement of operational noise from quarry activities conducted during the Project Approval permissible hours of operation. Unattended monitoring is generally continuous between the device deployment and collection, measuring noise levels for all assessment periods.

Operator attended noise measurements are conducted at or near the locations specified in Table 2 of Project Approval Condition B3 Part B. Appendix 3 shows the receiver locations required to be monitored.

Table 10 presents the criteria for receiver locations required to be assessed in accordance with Condition B3 (Part B) of the Project Approval and EPL Condition L2.

Table 10: Operational Noise Assessment Criteria

Residential Receiver Locations	Noise Assessment Criteria			
	Day (7am to 7pm)	Evening (7pm to 10pm)	Night (10pm to 7am)	
	LAeq (15 min)	LAeq (15 min)	LAeq (15 min)	LA1 (1Min)
R3	40	35	35	52
R2	40	35	35	52
R8	40	35	35	52
Any other noise sensitive residential receiver location (R4 & R17)	40	35	35	52

A real time noise monitor has been installed and is in operation at the Residential Receiver R3. However, during 2025 this property changed ownership. A review as to the further use of the Real Time Noise monitor at this location is to be conducted.

6.4.1 Noise Management Performance Review

A summary of the maximum day and nighttime noise assessment measurements against the respective Project Approval compliance criteria for LAeq (15 minutes) noise levels (Condition 3B – Part B) is provided in Appendix 3.

A summary of the maximum nighttime noise assessment measurements against the respective Project Approval compliance criteria for measured LA1 (1 minute) noise levels at all receiver locations is also provided in Appendix 3. The assessment results found that the LA1 (1 minute) noise levels were in compliance at all receiver locations, with the averaged levels being considerably lower than the respective prescribed limits under the Project Approval.

Furthermore, Low Frequency Noise was assessed as per the requirements of the Consent. Assessment of Low frequency noise was undertaken every quarter as part of the regular monitoring conducted at all receivers.

Tonal, low frequency, impulsive and intermittent noise characteristics were not found to present in the quarry noise emission results.

6.4.2 Long Term Trend Analysis and Assessment

Long term trend analysis has been undertaken on monitoring data for residential receivers R2, R5, R6 and R16 as monitoring commenced prior to operations in 2014. Analysis on residential receivers R4 and R17 has been undertaken since October 2016.

Extended hours of operation for in pit activities commenced in August 2016, however no noticeable variation has been identified in the noise monitoring.

Graphical representations of the noise monitoring results (estimated Quarry LAeq [15 minute and 1 min] contribution sourced from the quarterly monitoring reports) are contained in Appendix 3. The monitoring results have generally remained consistently below criteria since the commencement of operations at all locations.

Noise modelling for both the 2007 EA and Modification 6 indicated that all receiver locations will experience noise levels below the criteria. Sleep disturbance and cumulative noise impact due to the operations are not considered likely.

The quarterly noise monitoring data has found that the quarry achieved compliance with the approved operating noise criteria at all locations for the majority of the time and therefore is in line with the predicted models.

6.4.3 Noise summary and opportunities for improvement.

A review of the noise monitoring frequency will be undertaken during 2025. Quarterly noise monitoring has been undertaken for 12 years since the commencement of the operation of the quarry. An assessment will be made and discussions held with the EPA and DPE as to a change in frequency if it is warranted.

A review of the real time noise monitor and possible relocation is to be undertaken.

6.5 BLASTING

All blasts are conducted in accordance with the Noise and Blast Management Plan May 2024.

Monitoring of overpressure and ground vibrations at four nominated sensitive receptors is conducted during every blast (refer to Appendix 4 for locations).

A Formal proposal was made to the EPA regarding the relocation of the blast monitors due to future operations, with the aim to move the monitors closest to the boundary and the identified sensitive receivers. Discussions are continuing to clarify the intent and the best locations. Once approved by the EPA, the NBMP will be revised and issued to DPHI for approval prior to relocating the monitors.

As part of every blast air, overpressure and ground vibration is monitored for compliance with the relevant assessment criteria in the Project Approval.

Conditions B12 and B13 (Part B) of the Project Approval requires that air-blast overpressure and ground vibration should not exceed the criteria in presented Tables 11 and 12, respectively, at any residence on privately-owned land.

Table 11: Air-blast Overpressure Impact Criteria

Air-blast overpressure (dB Lin peak)	Allowable Exceedance
115	5% of the total number of blasts over a period of 12 months
120	0%

Table 12: Ground Vibration Criteria

Peak Particle Velocity (mm/s)	Allowable Exceedance
5	5% of the total number of blasts over a period of 12 months
10	0%

6.5.1 Blast Management Performance Review

Blast monitoring results for over pressure and ground vibration collected during the reporting period are presented in Appendix 4. The maximum measurements for over pressure and ground vibration were 116.90 (15/09/2025– B5) and 3.5mm/sec (22/09/2025 – B2)

The Quarry conducted 35 blasts during the reporting period, all of which complied with Project Approval criteria.

All blasts were performed in accordance with the following Environmental Performance Conditions under Part B of the Project Approval:

- Monitored for overpressure and ground vibration levels (Conditions B12 and B13 respectively);
- Best practice considerations associated with safety and minimisation of fumes and dust (Condition B16); and
- Notifications to neighbours and public information (Condition B16).

6.5.2 Long Term Trend Analysis and Assessment

Graphical representations of the blast monitoring results since the commencement of operations are presented in Appendix 4.

For both parameters, the results for this reporting period are consistent with previous years. Additionally, trend analysis depicts that throughout the operational period, airblast overpressure and ground vibration has remained consistent.

Since the first AR reporting period in 2014, the Quarry has conducted 547. All blasts were found to be compliant with Airblast Overpressure and Ground Vibration blasting criteria as predicted in the EA.

6.5.3 Blast summary and opportunities for improvement.

Pending approval of the proposed relocation of the blast monitors by the EPA, the NBMP will be revised and issued to DPHI for their approval of the relocation. Once all approvals are in place the monitors will be relocated.

6.6 WASTE MANAGEMENT

Boral is committed to continuing the minimisation of waste from its operations, in accordance with the waste hierarchy and minimizing the amount of waste sent to landfill. All liquid and solid wastes are classified and sorted so they can be appropriately reused and recycled.

Waste generated by the quarry operations is collected and segregated to allow the proper storage and end use of the waste material to be managed.

Waste is classified in accordance with the NSW EPA Waste Classification Guidelines thereby advising on the appropriate management and / or disposal.

The tonnage of waste collected for the 2025 year for landfill and reuse is as follows:

Material	**Tonnes**
General waste	70
Cardboard	0.57
Mixed recyclables	5.60
Rubber (conveyor)	18.521
Timber	13.58
Steel	134
Waste oil	8.5
Used oil filters	1.44

A Waste Management Plan is in place, which outlines the management methods in place for each waste, with contracts in place with licensed contractors where appropriate, refer Table 13.

Table 13: Waste Management Methods for Peppertree Quarry

Waste	Waste Classification	Management Method	Contractor
Oil absorbent pads	Solid general waste	Once used, bagged and placed in bin for landfill providing no liquid oil present.	Cleanaway – local Council landfill
Food scraps	Solid general waste	Bagged and placed in bin for landfill	Cleanaway – local Council landfill
Disposable Coffee Cups	Solid general waste	Coffee cups are made of compostable materials rather than polystyrene. Currently cups are bagged and placed in the bin for landfill.	Cleanaway – local Council landfill
Screen mats	Solid general waste	Placed in nominated bin for recycling	Cleanaway
Oil filters	Solid general waste once oil has been drained	Drained of oil, placed in bin for recycling	Cleanaway
Oily rags / waste	Solid general waste	Oily rags are bagged and placed in bin for landfill	Cleanaway – local Council landfill
Plastic / Glass bottles / Aluminium cans	Solid general waste	Separated in the crib room and offices for recycling.	Endeavour Industries
Office Paper and Cardboard	Solid General waste	Separated in the crib room and offices for recycling	Endeavour Industries
Cardboard	Solid general waste	Separated at the workshop and warehouse and placed in specific cardboard bins	Cleanaway – recycling
Conveyor belt	Solid general waste	Complete belts are collected and stockpiled for reuse. Contract is in place with companies who repair the belts to remove the damaged belts. Scrap belting is placed in a designated bin for recycling.	Fenner Dunlop or Spice Tech with belt on sold for mainly agricultural uses. Scrap conveyor belt is recycled by Cleanaway
Oil drums	Solid general waste	Drained on site, stockpiled in designated area, and crushed for recycling	Fast Skips
Empty IBC Containers	Solid general waste	Stockpiled in designated area and returned to supplier	Polo Citrus
Steel	Solid general waste	Offcuts and parts are placed in designated steel skip bins for recycling	Fast Skips
Waste oil	liquid waste	Collected and stored onsite in purpose designed oil tank adjacent to the workshop. This tank is emptied on a regular basis with the oil taken for recycling by a licensed regulated waste transporter	Clean away

Waste	Waste Classification	Management Method	Contractor
Tyres	solid general waste	There is very little storage of tyres on site. Tyres are replaced by designated contractors who take the damaged tyre for recycling or disposal.	Bridgestone, Premier Tyres, Bingo
Timber pallets	Solid general waste	Pallets and timber waste are placed in designated timber skip bins for recycling. Pallets in good condition will be returned to the supplier where possible	Clean away
Photocopy toners	Solid general waste	Bagged and posted for recycling	Onsite management
Sewage Effluent	liquid waste	Above ground absorption trench on site.	Onsite management
Batteries	Solid general waste	Collected and recycled through regional facilities	Onsite management
Manganese Crusher liners	Solid General waste	Placed in designated skip bin and recycled	Fast Skips
Tungsten tips	Solid General waste	Placed in designated skip bin and recycled	Fast Skips
E Waste	General solid waste	Collected and recycled through regional facilities	Onsite management
General rubbish	General	General solid waste	General rubbish
Overburden	Virgin excavated natural material (VENM)	Emplaced within approved designated emplacements on site	Onsite management
Granodiorite Fines	Virgin excavated natural material (VENM)	Emplaced within approved designated emplacements on site	Onsite management
Scalps	Virgin excavated natural material (VENM)	Stockpiled on site prior to sale	Onsite management
Asbestos waste	Asbestos waste	Waste was removed by experts prior to the demolition of old farmhouse	GBAR
Demolition waste	Solid General Waste	Stockpiled on site prior to removal	Bingo
Paint Waste	Liquid waste	Stockpiled on a pallet prior to removal	Cleanaway

6.7 DANGEROUS GOODS AND HAZARDOUS MATERIALS MANAGEMENT

The Quarry has a Safety Data System (SDS) in place utilising the ChemAlert Program. A Hazardous and Dangerous Goods Register is in place, which identifies each chemical stored onsite. The register is electronically filed with a physical copy kept within the Site Office.

In accordance with Project Approval Condition B74 (Part B), all dangerous goods and chemicals are handled and transported in accordance with AS1940 and AS1596 and the Dangerous Goods Code.

The only Dangerous Goods Licence pertaining to the Quarry is for two aboveground double skinned bunded diesel tanks, one being 100 kl that is used for refuelling locomotives, the other being 60 kl used to refuel contractors' heavy machinery. The WorkCover Notification (NDG200221) was issued on behalf of an on-site contractor who operates and maintains the

100kl refuelling facility. The Contractor's operation and management of the facility is audited on a regular basis for compliance.

6.8 BUSH FIRE MANAGEMENT

Part B, condition B76 requires the quarry to:

(a) Prepare a Fire management plan in consultation with NSW RFS Southern Tablelands District office, within six months of approval of Modification 5;
(b) Ensure the project:
    (i) Provides for asset protection in accordance with the relevant requirements in the *Planning for Bushfire Protection* (RFS, 2006) guideline 5;
    (ii) Ensure that there is suitable equipment to respond to any fires on site; and
(c) Assist the RFS and emergency services to the extent practicable if there is a fire in the vicinity of the site.

Peppertree quarry has in place an extensive fire management system, which is audited by independent experts on a quarterly basis.

Emergency response plans contain details for bush fire management and response.

As per Part B Condition B76 a Bush Fire Management plan was prepared and reviewed by NSW RFS Southern Tableland District Office, before being approved in May 2020. This plan was reviewed in 2024 however only administrative changes were required. No substantive changes were made to the content.

For the 2025 reporting period, there was no requirement to use the Bushfire emergency response plans.

6.9 HERITAGE CONSERVATION

The Aboriginal Heritage Management Plan (AHMP) was updated in 2024 to reflect management associated with the current quarry activities. DPHI issued a RFI requesting additional details within the plan. A revised plan, addressing the RFI was issued in late 2025 to the DPHI for approval This updated plan is awaiting approval.

The AHMP continues to provide the framework for the identification, protection, conservation and presentation of Aboriginal cultural values at the Quarry with the primary objectives of the AHMP to identify, protect, conserve, present and transmit the Aboriginal heritage values associated with the land, on which the Quarry activities are conducted.

No Aboriginal artefacts were salvaged during the reporting period.

Five scarred trees were relocated from the South-East of the quarry pit due to the expansion of the pit footprint to a temporary storage area South-West of the quarry pit following the involvement and advice of the Peppertree Quarry Aboriginal Heritage Management committee (AHMC). Confirmation of the design and future display of the scar trees within the Peppertree Quarry site was made with the AHMC during the 2025 reporting period. Costings have been undertaken with construction proposed for 2026 / 2027.

Termite management was installed at the scar trees in March 2024. 12 bait stations 2m apart have been placed around the perimeter of the trees. These are monitored every 2 / 3 month and refilled as necessary.

The analysis of approximately 25 931 Aboriginal artefacts was completed in the 2024 reporting period, with the report detailing findings of the analysis completed in early 2025. This report was prepared by a qualified archaeologist and reviewed by the AHMC, prior to submission to DPHI and Heritage NSW.

The report identified

“the Peppertree Quarry assemblage provides evidence of extensive and dense prehistoric occupation, characterized by numerous activity loci of varying intensities. These loci range from isolated finds and low-density scatters—likely representing brief, short-term occupations—to high-density loci containing up to 43,500 artefacts, indicative of intensive, extended, or repeated occupation.

In summary, Peppertree Quarry reflects a complex interplay of high mobility, opportunistic resource exploitation, and strategic reduction practices. High-quality materials like silcrete and chert were extensively worked to maximize utility, while quartz and quartzite were reduced less intensively due to their limitations. Exotic materials were conserved for use in mobile contexts, showcasing a nuanced and efficient resource management system that balanced onsite tool production with transport and conservation strategies.”

The final Return to Country was delayed in the 2025 reporting period while the AHMC reviewed and selected artefacts representative of the site and to be retained for display and educational purposes. The Final Return to Country will occur in 2026.

Regular meetings have continued to be held with the Aboriginal Heritage Management Committee and within the reporting period two meetings were held with the Committee in April and September. The agenda covers future quarry operations, possible community projects and the implementation of the Boral Reconciliation Action Plan.

7 WATER MANAGEMENT

Surface and groundwater is managed in accordance with a Water Management Plan (WMP), which was reviewed and approved by DPHI in 2024.

Table 14 provides an overall summary of the environmental performance of the quarry in regard to water management, with further details provided in the following sections.

Table 14: Summary of Environmental Performance – Water Management

Aspect	performance during the reporting period	Trend / Key management implications	Implemented / proposed management actions
Surface water quality	No results were over the trigger levels for 3 consecutive samples requiring detailed investigation	Data collected over time is consistent with the EIS predictions, Modification modelling and previous AR reporting	Continue management and monitoring
Environmental flow	Complies with criteria	Data collected over time is consistent with the EIS predictions, Modification modelling and previous AR reporting	Continue management and monitoring
Groundwater standing level	Complies with criteria	Data over time is consistent with the EIS predictions, Modification modelling and previous AR reporting	Continue management and monitoring
Groundwater quality	Results are consistent with trends and show no marked variations in water quality nor any impacts associated from quarry operations	Data collected over time has been consistent within each groundwater well.	Review trigger levels and review and update monitoring well mapping including the WMP in line with consults report.

7.1 SURFACE WATER

Surface water management at the Quarry is conducted in accordance with a Water Management Plan (WMP) 2024.

In accordance with Condition B33 (Part B) of the Project Approval, the WMP includes a surface water quality program that involves quarterly sampling from the Tangarang Creek, Dam 1, the upstream culvert, Marulan South Creek and overflow from any sediment ponds during extreme storm events. (Refer to Appendix 5 for sampling locations).

This condition also details that the Surface Water monitoring program includes…

"(a) detailed baseline data on surface water flows and quality in Tangarang Creek and Barbers Creek"

Tangarang Creek is sampled on a quarterly basis, with Barbers Creek sampled twice a year. Sampling is conducted either by Peppertree or Marulan South operations. Flow is measured in Tangarang creek as part of the Environmental flow requirements for Peppertree Quarry.

No surface water flow data is obtained from Barbers Creek. This area is difficult to access, and the use of solar powered flow monitoring equipment has been investigated and found not to be suitable. Flow data is available further downstream in the Shoalhaven River at a Water NSW monitoring site (Fossickers Flat). Data associated with this site is contained at Appendix 5.

The quarry has a practice to ensure sediment ponds associated with overburden emplacements are emptied within 5 days of a rain event, by pumping the water to the main pit, so there is sufficient capacity in the dams for the next rain event. During the reporting period, Peppertree Quarry experienced a significant rain event in July 2025, receiving 73 mm of rainfall over a three-day period. Water samples were collected upstream and downstream on July 3, 2025, however due to the management of the sediment ponds, no overflows were noted.

The Quarry's main Dam provides environmental flows into the ephemeral Tangarang Creek and as such the downstream water quality is largely representative of the discharges, with some minor natural variations from the wider catchment influences.

The suite of parameters analysed for each water quality sample collected is listed in Table 15.

Table 15: Summary of Creek Water Quality Parameters

Laboratory Analysis of analytes		
Total Dissolved Solids (mg/L)	Potassium (K+)	Bicarbonate (HCO_{3}-)
Total Suspended Solids (mg/L)	Magnesium (Mg2+)	Nitrate (NO_{3}-)
Turbidity – Laboratory (NTU)	Sodium (Na+)	Nitrite (NO_{2}-)
TPH C10-C36	Ammonia (NH4+)	Total Nitrogen
Benzo[a]pyrene	Chloride (Cl-)	Total Phosphorous
Naphthalene	Sulphate (SO42-)	Faecal coliforms (cfu/100mL)
Calcium (Ca2+)	pH	

The Water Management Plan outlines trigger levels for the suite of analytes in line with ANZECC guideline recommendations.

Table 16 summarises the trigger values used to assess any potential impacts on the water quality in creeks in the vicinity of the Quarry. However, it should be noted that observations to date indicate that while the water quality in the Shoalhaven River mostly meets the ANZECC ecosystem protection levels, the upstream contributing creeks do not.

Therefore, the trigger values shown in Table 15 are adopted as benchmark goals, rather than performance or compliance criteria.

Table 16: Water Quality Trigger Values

Indicator	ANZECC Default Trigger for Ecosystem Protection[1]	Water NSW Benchmarks for Catchment Streams	Proposed 'Triggers'
pH	6.5 – 7.5	6.5 – 8.0	6.5 – 8.5
EC (µS/cm)	30 – 350		400-1,500
Total nitrogen (mg/L)	0.25	<0.25	1.1
Total phosphorus (mg/L)	0.02	<0.02	0.09
Turbidity (NTU)	2 - 25	0 - 25	

[1] Default trigger values for physical and chemical stressors for South-east Australia for slightly disturbed ecosystems (upland river)

The trigger values are applied as follows for ongoing monitoring in Tangarang Creek (both upstream and downstream of any influence from the Quarry):

- If the upper bound for pH, EC, total suspended solids or turbidity is exceeded for a period of three consecutive months downstream of the quarry but is not exceeded upstream of the quarry, this would be the trigger to undertake further assessment of potential sources within the Quarry.
- If the additional assessment finds that the change in water quality may be affected by quarry operations, then further investigation would be required to identify the source of the water quality impact, and review and revise practices to minimise the impact.

This further assessment would include investigation of the potential pathways for water quality impacts within the Quarry area in order to identify whether the change in water quality is attributable to quarry activities, and the nature of activity that has caused the change.

7.1.1 Surface Water Monitoring Results

The quarterly surface water quality monitoring data is presented in Appendix 5. Due to the ephemeral nature of Tangarang Creek, the upstream monitoring point (U1) had zero flow for 2 of the 4 of the monitoring events during the reporting period.

7.1.2 Surface Water Management Performance Review

The Quarry surface water quality trends are generally consistent over the 2025 reporting period with historic trends (refer to Appendix 5).

The results for pH were in the range of the trigger levels (i.e. pH 6.5 to 8.5).

Fluctuations in Total Dissolved Solids (TDS) during the reporting period were mostly above the ADWG guideline value of 500 mg/L (ANZECC (2000)) for all sites, upstream and down and are representative of the area.

Turbidity levels were generally consistent over the 4 sampling periods in 2025 and in most cases were below the ANZECC guideline for every sampling location, with an exception on 12/09/2025, where all sampling locations observed higher values for turbidity.

Total Nitrogen levels recorded for the Dam, and Marulan Soth Creek reflected rain events and fluctuated over the reporting period. Samples collected from the T1 location remained below the Trigger criteria.

Total Phosphorus levels remained low and below trigger levels for most of the samples, with the exception of one sample from Marulan South Creek on 9th Jan'26.

All results for hydrocarbon and Polycyclic Aromatic Hydrocarbons (PAHs) were at concentrations below the Laboratory levels of reporting (LORs).

No results in the T1 Creek Samples for any of the above parameters were found to exceed the trigger levels for 3 consecutive samples, which were attributable to quarry operations and would require a detailed investigation.

7.1.3 Long Term Trend Analysis and Assessment

Long term trend analysis has been undertaken on pH, TDS, Turbidity, total Phosphorus and total Nitrogen with the results presented in Appendix 5.

pH is consistently between the range of 6.5 to 8.5, with some higher than usual levels occurring in the Dam in rain or low flow events. Levels at T1 downstream have consistently remained within the trigger levels. Barber Creek samples are also consistently below the trigger levels.

Long term TDS levels recorded at the Dam, T1 and U1 sites have remained below the ADWG guidelines, for the majority of the time since rain events in 2013. Barbers Creek levels have fluctuated over time and will be influenced by other factors rather than the quarry.

For the majority of time, Turbidity in both the Dam and for the T1 samples have been below the ANZECC criteria. Turbidity has been over the criteria at both sites in times of large rain events, when water from the catchment above enters the dam and downstream creek.

Total Phosphorus levels fluctuate over time at all sampling sites. For most of the time, levels were below the trigger criteria for all sites. Levels increased in the Dam and at Marulan south creek at the end of 2018, which may be attributed to outside activities associated with local farming practices. Levels were higher than usual in 2020, 2021 and 2022 in relation to significant rain events, before decreasing to mainly below the trigger level criteria.

Total Nitrogen levels have fluctuated over time. Samples collected from the T1 location have continued to be below trigger levels since 2014, with the exception of storm related events. This was evident throughout the 2023 reporting period with two monitoring points Dam and Marulan South Creek seeing elevated nitrogen levels in the December quarter, potentially attributed to increased rainfall and inflow from the catchment above the quarry. No major increases have occurred in 2024 and 2025.

The initial EA and management plan predicted compliance with the appropriate ANZECC and ADWG criteria based on limited background sampling. With the exception of periods of storm events, the results obtained from surface water analysis has been predominantly in line with the EA predictions and the criteria.

Overall, there would appear to be no impact to T1 and Barbers Creek from quarry operations.

7.1.4 Environmental Flows

Under Project Approval Condition B31 (Part B), the supply of 10% of daily inflows into the Quarry main dam must be provided as environmental flows to Tangarang Creek. The monthly averages of inflow and outflow volumes in comparison with the required 10% of environmental flow requirement are presented in Table 17. The environmental flows were above the 10% requirement each month despite the drier and hotter weather condition throughout the reporting period.

Overall, for 2025 the quarry complied with the 10% environmental flow requirement.

No surface water flow data is collected from Barbers Creek. This area is difficult to access, and the use of solar powered flow monitoring equipment has been investigated and found not to be suitable. Flow data is available further

downstream in the Shoalhaven River at a NSW Water monitoring site (Fossickers Flat). This site has been in operation since July 1977. Data associated with this site is contained in appendix 5.

Fossickers Flat data shows a consistent water level in the river with increases in water level and flow associated with rainfall events.

Table 17: Environmental Flow Data (2025)

Month (2025)	Inflow (Megalitres)	Outflow Requirement (10%)	Outflow (Megalitres)	Compliance
January	24	2.4	24.68	Yes
February	18.2	1.82	121.44	Yes
March	6.9	0.69	7.44	Yes
April	10	1	5.81	Yes
May	35.9	3.59	237.18	Yes
June	3.2	0.32	19.28	Yes
July	45.8	4.58	648.01	Yes
August	82.5	8.25	939.49	Yes
September	40.1	4.01	615.92	Yes
October	1.4	0.14	5.8	Yes
November	2.8	0.28	4.21	Yes
December	0.3	0.03	3.4	Yes
Total	271.1	21.11	2632.66	Yes

7.1.5 Surface water summary and opportunities for improvement

Results over the operation of the Quarry show little detrimental impact on the downstream environment in Tangarang creek and Barbers Creek.

Water management strategies need to remain in place with ongoing quarterly monitoring at nominated sites. Flow monitoring data will continue to be reviewed from Fossickers Flat.

7.2 GROUNDWATER

The Quarry WMP includes a groundwater monitoring program aimed to be conducted quarterly of five shallow and seven deep piezometers ranging from between 15 m to 100 m in depth (refer to Appendix 5). The groundwater monitoring is undertaken in general accordance with AS 5667.11 – 1998 Water Quality Sampling – Guidance on Sampling of Groundwaters.

The groundwater monitoring program has been undertaken for 10 years since commencing in October 2015 and continued through 2025.

The installation of additional wells as per a previous report has been re-assessed, determining the failed bores at Peppertree Quarry no longer need to be replaced because the existing monitoring network has already confirmed the key findings of the original Environmental Assessment. The remaining bores provide sufficient data to verify that the quarry continues to have minimal impact on local and regional groundwater resources. Additionally, most of the failed bores were twin locations, meaning their loss has not significantly reduced the overall dataset. Instead of replacing the

failed bores, the report recommends monitoring a nearby private production bore to further validate the assumption that the quarry is not affecting external groundwater users.

Assessment of groundwater results is undertaken following each monitoring round with any analytes above trigger levels being noted. In instances where trigger levels are exceeded in two consecutive rounds of monitoring, further assessment is undertaken to determine whether the potential anomaly is the result of quarrying activities or due to natural variability.

Ground water flow was mapped and showed a pattern of very slow recharge due to the nature of the granodiorite and with a direction of flow towards the pit. RPS, groundwater consultants who undertook the monitoring (until mid-2022) and assessment have advised.

"Groundwater at the site appears to flow in the direction towards the pit, which is acting locally as a sink. Considering the low hydraulic conductivity of the aquifer, risks to the receiving environment from any contamination that may be present in groundwater are likely to be low. "

The groundwater field sampling measurements, standing water levels, and the Laboratory analytical results from the quarterly groundwater sampling completed during the reporting period are presented in Appendix 5.

7.2.1 Groundwater Management Performance Review

Groundwater monitoring first commenced in October 2015. Groundwater results and trends presented in Appendix 5 are discussed below continue to be part of the long-term monitoring program which will generate a greater data set from which more detailed and accurate interpretation of any potential or actual impacts on groundwater may be occurring through quarry activities.

The pH levels varied considerably between the respective piezometers with a range of 6.46 to 8.83 throughout the reporting period.

Field measured Electrical Conductivity (EC) during the reporting period ranged from 439 to 4010 uS/cm, indicative of fresh to brackish water quality. EC trends are relatively stable and consistent between each of the piezometers.

Dissolved oxygen (DO) trends showed a high degree of variability in individual and between respective piezometers throughout the reporting period but did not indicate any degradation in water quality.

Standing water levels remained relatively stable in each of the piezometers. PQ5 is identified as the sentinel water bore and over the last 12 months has remained steady over the 4 monitoring periods.

Key findings from the analytical results were:

- Concentrations of nutrients (total nitrogen and total phosphorous) are above the trigger values in most of the piezometers throughout the reporting period, and as such it is believed that these levels are representative of background levels. In field filtering, has identified that the nitrogen is accounted for by total Kjeldahl nitrogen (sum of ammonia and organic nitrogen) and supports that the nitrogen is more likely to represent an agricultural influence than quarry operations.
- Organic analyses (oil & grease, polycyclic aromatic hydrocarbons, volatile and semi-volatile total recoverable hydrocarbons and benzene, toluene, ethyl benzene, xylenes and naphthalene) were not detected at the the piezometers.

For all the other analytes, all piezometers across the site showed levels in line with the historic trends and below the trigger values.

7.2.2 Long term trend and assessment

pH trends have remained relatively stable in each piezometer since the commencement of the monitoring program in 2015. The pH levels have varied considerably between the respective piezometers with a range of neutral to alkaline. These levels occur in both in pit groundwater bores as well as those outside of any influence from quarry activities.

The early EC trends are relatively stable and consistent between each of the piezometers. Variations appear to occur consistently across most of the bores and are most likely in response to recharge rain events.

A rapid decrease in Dissolved Oxygen (DO) trends occurred from the development of the piezometers in 2015 through to 2016. Spikes in DO have occurred in several of the piezometers during 2017 and 2018 and are likely to have been influenced by recharge rain events. For 2019, a change was made in the measurement of the DO to better identify any issues within the groundwater. There has been no indication of water quality degradation through the variable DO results.

Standing water levels remained stable in each of the piezometers, with some fluctuation due to rainfall events. PQ5 is identified as the sentinel water bore and shows some reaction to rainfall events since 2015. The standing Water level has fallen less than 2metres since monitoring commenced, and therefore has not triggered any need for investigation, required if the level falls 5m or more.

Key findings from the analytical results were:

- Concentrations of nutrients (total nitrogen and total phosphorous) were above the trigger values in most of the piezometers, and as such it is believed that these levels are representative of background levels. In field filtering of samples was undertaken in 2020 and showed total Kjeldahl nitrogen (sum of ammonia and organic nitrogen), accounts for the Total Nitrogen and supports that the nitrogen is more likely to represent an agricultural influence than quarry operations. A technical review of the nutrients undertaken in 2021 showed levels were not associated with quarry operations. No changes have been noted up to and including 2025.

- Organic analyses (oil & grease, polycyclic aromatic hydrocarbons, volatile and semi-volatile total recoverable hydrocarbons and benzene, toluene, ethyl benzene, xylenes and naphthalene) have been detected at times in some of the piezometers. These have been one off occurrences and on investigation have not been associated with quarry operations. It is more likely to be associated with development of the piezometers or laboratory level of detections.

For all the other analytes, all piezometers across the site showed levels above the trigger values at times.

A review of these occurrences show that the results are consistent with previous trends and do not indicate marked variations or impacts in water quality.

7.2.3 Ground water summary and opportunities for improvement

A review of the data over the sampling rounds, since 2015 has shown results above trigger values.

A review of these results show that they are consistent with previous trends and do not indicate marked variations in water quality nor any impacts associated from the quarry operations.

RPS, groundwater consultants who undertook the monitoring (until mid 2022) and assessment have advised….

“Groundwater at the site appears to flow in the direction towards the pit, which is acting locally as a sink. Considering the low hydraulic conductivity of the aquifer, risks to the receiving environment from any contamination that may be present in groundwater are likely to be low. “

The December 2025 Groundwater Monitoring report prepared by International Environmental Consultants Pty ltd noted

" the most recent water monitoring round indicated that field parameters remained generally consistent with historical ranges suggesting stable groundwater conditions across the monitoring network."

8 REHABILITATION

During the 2025 AR period, a total of 129.08 ha of Quarry land remained disturbed. All works have continued within the existing disturbed footprint. Rehabilitation works in 2025 have focussed on maintenance, infill planting and repairs on existing areas.

Table 18 presents the total estimated areas of disturbance and rehabilitation.

Table 18: Areas of Disturbance and rehabilitation

Area Reference	Total Disturbed Area (ha)	Total rehabilitated Area (ha)	Disturbed Area remaining during 2025 (ha)	Rehabilitated Areas undertaken during 2025 (ha)
1: Infrastructure area – (Primary, STQ and TLO)	28.06	0 (Not applicable till end of life)	28.06	0
2: Quarry extraction area	58.3	0 (Not applicable till end of life)	58.3	0
3: Eastern overburden emplacement	22.86	16.18	4.96	0
4: west pad	0	0	0	Now included in SWOE disturbance
5: Overburden emplacement / Noise bund	12	12.1	0	No further rehabilitation work required. Now in maintenance
6: Dam and creek rehabilitation area	10	10.3	0	No further rehabilitation work required. Now in maintenance
7. Western overburden emplacement	5.54	0	5.54	0.7
8. Southern overburden emplacement	11.52	8.3	3.22	0
9. South Western Overburden Emplacement (SWOE)	27.68	0	27.68	0
Total area Disturbed / Rehabilitated as of the end of 2025	175.96	46.88	129.08	0

A Biodiversity and Rehabilitation management plan was prepared and discussed with the Biodiversity Conservation Department in 2021 in accordance with Development Consent Condition B60 (Part B). The finalised plan was issued to DPE being approved in 2022. This plan has been reviewed, updated and approved by DPHI in 2024.

A new Three-year Rehabilitation plan (2026 to 2029) was developed in 2025 as part of the review of the BRMP. A revised BRMP was issued to DPHI and is pending approval.

Condition B66 of the Consent requires

"The Conservation and Rehabilitation Bond must be reviewed and if required, an updated bond must be lodged with the Department within 3 months following:

(a) any update or revision to the Biodiversity and Rehabilitation Management Plan;

(b) the completion of an Independent Environmental Audit in which recommendations relating to the implementation of the SWOE BOS or rehabilitation have been made; or

(c) in response to a request by the Planning Secretary."

As the BRMP was updated, as per B66 (a) the Conversation and Rehabilitation Bond has been reviewed. The report and the calculations were prepared by the Cambium Group. The revised bond Calculation report has been issued to DPHI for consideration. Once approved, a revised Conservation and rehabilitation Bond will be arranged.

As Part of the Quarry's rehabilitation monitoring program, the annual Rapid Visual assessment was undertaken in November 2025. This assessment was conducted by independent consultant Mark Nolan and Emilie Mascarenhas of Cambium Group.

The assessment recommended that the Quarry continue with the following over the next 12 months of rehabilitation maintenance planning:

- Serrated Tussock: Immediate spraying before seed set, followed by monitoring and removal of new growth.
- Blackberry: Increase spraying efforts as per the Weed Management Plan.
- Erosion on reshaped areas: Use light earthworks, hydro mulch, or reseeding to stabilize affected areas.
- Erosion on access road: Assess road necessity; consider decommissioning and revegetation.
- Dam access: Inspect site and reinstate access for maintenance and monitoring.
- Tree guards: Replace, secure, and straighten damaged guards; replant trees as needed.
- Vegetation establishment: Implement RIP, hydro mulch, and supplement plantings for canopy and understory development.
- Slope regeneration: Continue monitoring natural regeneration to support ecological connectivity.
- Canopy supplementation: Plant additional eucalypts every 20m to strengthen vegetation cover.
- Wombat burrows: Monitor burrows as they currently pose minimal risk to slope stability.
- Head gully erosion: Consider lining with geotextile and rock to support dam decommissioning.
- Gully erosion: Acacia growth stabilizing the area; further direct erosion control is difficult but remains a closure risk.
- Large erosion gullies: Gullies remain but are stabilizing with Acacia growth; no further erosion control recommended.
- Drop-down structures: Currently stable but require engineered redesign for long-term decommissioning.
- Sediment trap maintenance: Regular desilting now incorporated into routine operations.
- Slope stability: Hydro mulching recommended for vegetative cover and stability.
- Sediment control: Reshape landform to direct water flow to the designated sediment dam.
- Tree guards maintenance: Replace damaged guards, assess tree survivorship, and replant as needed.

The last detailed Ecological Assessment was undertaken in November 2024. This Assessment is undertaken every 2 years to determine the status of the rehabilitation areas against the closure completion criteria and to provide advice for improvements and will be conducted again in 2026.

Peppertree Quarry has in place a three-year rehabilitation plan to guide the rehabilitation across the site. Table 19 shows the three-year plan status in 2025. An update to the 3-year rehabilitation implementation plan, was undertaken in 2025 as previously discussed. The weed management plan was updated in 2025 to align with the rapid visual assessment and target any new areas of weed infestation.

Table 19: Biodiversity Rehabilitation Management Plan- three-year plan status

Unit	Area	Activity	Due date	Status
1	**Habitat Management area**	Maintenance- Weed and pest management	Quarterly 2025	Completed, heavy focus on serrated tussock and blackberry
		Ecological Assessment	2025 (every 2 years)	Not required for 2025. Next assessment is November 2026
		Rapid visual Assessment	2025	Completed
2	**Peppers Woodlands (proposed biobank site)** This area is no longer a biobank site but now the benchmark for the rehabilitation works at Peppertree	Ecological Assessment	2025(every 2 years)	Not required for 2025. Next assessment is November 2026
		Rapid visual Assessment	2025	Completed
3	**Pit void**	Landform establishment of batters	2025	Ongoing as batters become available
		Land preparation and revegetation	2025	Not applicable till end of life of pit
		Maintenance of rehabilitated areas	2025	N/A no rehabilitated areas within the pit void, ongoing as they become available
		Ecological Assessment	2025(every 2 years)	Not required for 2025. Next assessment is November 2026
		Rapid visual Assessment	2025	Completed
4	**Southern overburden emplacement**	Land preparation	2025	Ongoing.
		Revegetation	2025	Area audited for overplanting
		Maintenance of rehabilitated areas	2025	Completed, heavy focus on serrated tussock and blackberry and goat removal
		Ecological Assessment	2025(every 2 years)	Not required for 2025. Next assessment is November 2026
		Rapid visual Assessment	2025	Completed
5	**Western Overburden emplacement**	Landform establishment	2025	Completed. Assessment as to suitable planting material undertaken in 2025
		Land preparation	2025	Complete
		Revegetation	2025	No planting undertaken while substrate material is assessed

Unit	Area	Activity	Due date	Status
		Maintenance of rehabilitated areas	2025	Completed, heavy focus on serrated tussock and blackberry
		Ecological Assessment	2025(every 2 years)	Not required for 2025. Next assessment is November 2026
		Rapid visual Assessment	2025	Completed
6	**Eastern Overburden Emplacement**	Land preparation	2025	Completed in 2024. No further work required
		Revegetation	2025	Area grassed, spot sprayed and overplanted Ongoing. Area assessed for supplementary planting
		Maintenance of rehabilitated areas	2025	Completed, heavy focus on serrated tussock and blackberry and goat removal Ongoing
		Ecological Assessment	2025(every 2 years)	Not required for 2025. Next assessment is November 2026
		Rapid visual Assessment	2025	Completed
7	**Infrastructure footprint**	Maintenance of rehabilitated areas	2025	Completed, heavy focus on serrated tussock and blackberry
8	**Southern Western Overburden Emplacement**	Revegetation	2025	Not yet completed, construction of the overburden continuing
		Maintenance of rehabilitated areas	2025	Completed, heavy focus on serrated tussock and blackberry
		Ecological Assessment	2025(every 2 years)	Not required for 2025. Next assessment is November 2026
		Rapid visual Assessment	2025	Completed

9 COMMUNITY

9.1 ENVIRONMENTAL COMPLAINTS MANAGEMENT

The Quarry maintains an environmental complaint register that identifies actions required to resolve issues and concerns raised by the community. A 24-hour telephone complaints line is in place and advertised through the regular community newsletter and on the website. A list of the nature of any complaints is published to the Boral website on a regular basis.

The Quarry received 1 complaint, during the current reporting period. This complaint was investigated, and all appropriate actions taken at the time, with details shown in Table 20.

As part of an ongoing noise assessment program that was managed during the reporting period, text notifications have also been received from two residents regarding noise. A real time noise monitor is now in place at one residence. Information received from the residence is correlated with the real time noise measurements, Quarry operations

occurring at the time, and the weather conditions, to allow the quarry to establish an operating procedure around the management of the noise. Additional noise monitoring is undertaken at the second residence as deemed necessary.

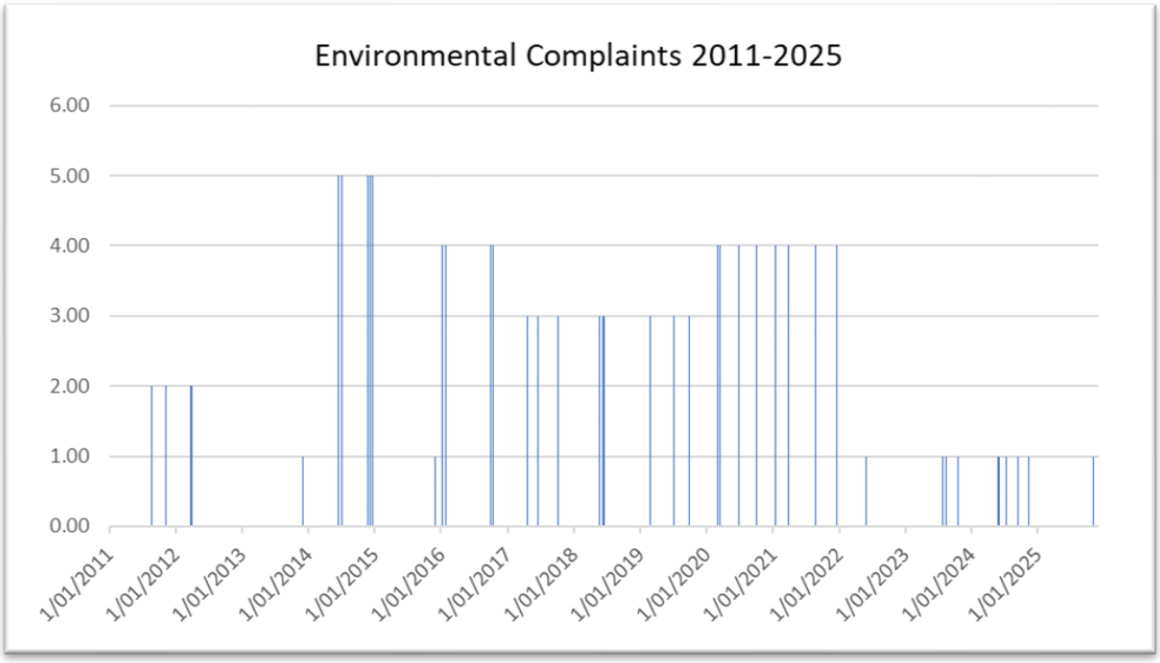
Boral will continue to develop and maintain relationships with the community and ensure their concerns are addressed to an acceptable outcome, wherever possible.

Complaints received since the Quarry commenced production are presented in Figure 3 (2011- 2024).

Table 20: Complaints

Date - 2025	Nature of Concern	Outcome of investigation
11th November 2025	A call was received at 10.40pm to the PTQ control room making a complaint of noisy operations. There was no unusual noise just that the operations sounded exceptionally loud and was making sleep impossible.	PTQ operations were reviewed with no abnormal operations occurring. STQ, TLO and Primary were all running. An email was sent to PTQ quarry manager and environment business partners with the details of the call. MSL operations were also reviewed with no abnormal operations occurring. It is believed that weather conditions attributed to the noise. Weather forecasting in place with the sites to manage potential noise impacts to neighbours.

Figure 3: Long term trend Complaints (2011 – 2025)



9.2 COMMUNITY CONSULTATION

The Quarry has actively engaged with the local community since the commencement of the 2006 Environmental Assessment for the project. The program has included:

- The establishment of a Community Consultation Committee;
- Regular community newsletters;

- Active participation in local events;
- Arranging site inspections and one on one consultation;
- Active engagement with key government and non-government organisations; and
- Maintenance of an environmental and community complaints register and actively managing and resolving community issues as they arise.

9.3 COMMUNITY CONSULTATIVE COMMITTEE

A Community Consultative Committee (CCC) has been established since 2011 in accordance with Condition A16 of Part A of the Project Approval. In 2021 DPE approved the joint CCC for the Marulan South operations, including both Marulan South Limestone and Peppertree Quarry, with the first meeting held in June 2022.

The CCC is comprised of:

- Two representatives from Peppertree Quarry including the Environment and Community Advisor;
- Two representatives from Marulan South Limestone Mine including the Environment and Community Advisor;
- One representative from Goulburn Mulwaree Council (Councillor); and
- Three Local Community Representatives

Independently chaired, the role of the CCC is to offer the Boral operations, input from the community perspective on matters of environmental performance and stakeholder relations. Meetings include the review of environmental data and any feedback provided to the site from local community members. Issues of concern can be raised with the site by the CCC representatives.

The timing of the meetings is determined by the CCC and generally undertaken at least 6 monthly. The CCC met three times during the 2025 calendar year – February, June, and November .

An Annual CCC report for 2025 has been prepared by the Chair (as per the Community Consultative Guidelines) and issued to the DPHI.

9.4 COMMUNITY NEWSLETTERS

Community Newsletters are produced on a regular basis in order to inform local residents of the Quarry operations and activities as well as detailing Boral's involvement in local community events. These are distributed via the Marulan Messenger" newsletter issued to the local community. These can be found under the communications tab at:

https://www.boral.com.au/locations/peppertree-quarry

The first newsletter was circulated in 2011 and continued to be frequently issued during the reporting period.

9.5 COMMUNITY EVENTS

The Quarry staff are actively engaged with community events in the Marulan and Goulburn area.
Community and stakeholder activities that occurred during the reporting period included:

- Tallong Apple Festival – Financial sponsorship and stall holder;
- Goulburn Mulwaree Council Community Bike ride
- Support for the printing of the Marulan Messenger local newsletter
- Printing of the Tallong newsletter

- Marulan Discretionary fund – Meeting and program support;
- Tallong Public School – Presentation Day and financial support in form of book voucher.
- Support of the Local Rural Fire Service
- 2025 Open Day

9.6 BLAST LIAISON

In accordance with the Development Consent, Condition B16 (Part B), landowners and occupiers of residences within 2 kilometres of the Quarry pit are encouraged to register interest in order to be advised of any future blasts at the pit. Two parties are advised by email with one notified by phone.

9.7 ACCESS TO INFORMATION

Boral has a number of websites for each corporate division. Peppertree Quarry has its own site at:

https://www.boral.com.au/locations/peppertree-quarry

The site contains all public information in relation to Statutory approvals and development activities.

10 INDEPENDENT AUDIT

In accordance with Project Approval Condition D13 Part D (Schedule 2) an Independent Audit was conducted in December 2024.

A copy of the final audit report and a response to the recommendations was provided to the Department of Planning, Housing and Infrastructure in April 2025.

The audit identified 6 non compliances and 17 Opportunities for Improvements.

These along with Boral's responses and status of the actions are contained in Tables 21 and 22, below.

Table 21: Audit Recommendations - non compliances

No.	Condition #	Improvement Opportunity / Noncompliance	Response	Due Date and Status
PQ NC 1	B20 The Applicant must ensure that particulate matter emissions generated by the development do not cause exceedances of the criteria in Table 6 at any residence on privately-owned	Failure to monitor due to faulty or broken equipment Refer improvement opportunity PQ2/24	Boral self-reported failure of monitoring equipment. We continue to have external consultants undertake regular maintenance on the equipment. Changes will be incorporated into the POEO as per Improvement Opportunity PQ2/24	30 May 2025. The format of the POEO reports were updated and online by the 30th May 2025

No.	Condition #	Improvement Opportunity / Noncompliance	Response	Due Date and Status
	land, or on more than 25 percent of any privately owned land.			
PQ NC 2	B47 If any previously unknown Aboriginal object is discovered on the site: (a) all work in the immediate vicinity of the object or place must cease immediately; . (b) a 10 metre buffer area around the object or place must be cordoned off; and (c) BCS must be contacted immediately	Section 6.1 of the AHMP does not state that Biodiversity, Conservation & Science Directorate within the Department (BSC) (now Heritage NSW) must be informed. Consultation with the AMC is instead used. BCS was not contacted immediately. Refer Improvement Opportunity PQ 3/24	No previously unknown Aboriginal object was identified onsite over the audit period; that was not part of any pre-arranged salvage determined as part of a modification. The AHMP will be amended to include the need to advise BCS as to the discovery of any previously unknown Aboriginal Object. It has been the established practice over the operating life of Peppertree Quarry to advise the Aboriginal Heritage Management Committee who include the traditional landowners and Land Council representatives. This will continue as per agreements with these representatives with BCS now included.	30th July 2025 The AHMP was reviewed and issued to DPHI for approval by the 30th July 2025
PQ NC 3	B48 Work in the immediate	The AHMP has an internal procedure using consultation with the AMC to determine if a find is an Aboriginal object and the significance of the find.	No previously unknown Aboriginal object was identified onsite over the audit	30th July 2025 The AHMP was reviewed and issued to

No.	Condition #	Improvement Opportunity / Noncompliance	Response	Due Date and Status
	vicinity may only recommence if: (a) the potential Aboriginal object is confirmed by BCS upon consultation with the Registered Aboriginal Parties not to be an Aboriginal object; or (b) the Aboriginal Cultural Heritage Management Plan is revised to include the Aboriginal object and appropriate measures in respect of it, to the satisfaction of the Planning Secretary; or (c) the Planning Secretary is satisfied as to the measures to be implemented in respect of the Aboriginal object and makes a written direction in that regard.	Section 9.3.2 of the AHMP does not have the discovery of a new site being a trigger for a review of the AHMP. Section 9.3.2 of the AHMP states that any review must be to the satisfaction of the Planning Secretary, but this is not linked to new discoveries. Refer Improvement Opportunity PQ 4/24	period, that was no part of any pre-arranged salvage determined as part of a modification. The AHMP will be amended to include the need to have BCS included in the assessment of an Aboriginal object in consultation with the Peppertree Quarry AHC. The plan will also be amended to include the discovery of a new site as a trigger for the review of the AHMP.	DPHI for approval by the 30th July 2025
PQ NC 4	B63 Within six months of the approval of the Biodiversity and Rehabilitation Management Plan, the Applicant must lodge a	Bond not paid within six months	This is noted. The Bond is in place and current. A system is in place to ensure the Bond is reviewed as per the Condition of consent requirements. A review will be undertaken as to	30th July 2025 The Rehabilitation management plan was reviewed and issued to DPHI for approval by the 30th July 2025.

No.	Condition #	Improvement Opportunity / Noncompliance	Response	Due Date and Status
	Conservation and Rehabilitation Bond with the Department to ensure that the SWOE BOS and rehabilitation of the site are implemented in accordance with the performance and completion criteria set out in the plan and the relevant conditions of this consent		the need for a Bond assessment following the audit.	It was determined that a bond review was required as per Condition 66. An independent review of the Bond Calculation has been undertaken and issued to DPHI for review.
PQ NC 5	B77 The Applicant must consult with DPIE – Crown Lands prior to undertaking any development on Crown land or Crown roads.	Works being carried out on Crown lands without authority.	Crown Lands have provided a map of aeras of identified Crown Lands within the Peppertree Quarry footprint. This map will be provided to Boral's Property group for assessment and discussion with Crown Lands. A plan of action if required will be developed.	30 Sept 2025 The map and areas identified by Crown Lands was issued to the Boral Property team for review. Discussions are underway with Crown Land and Council.
PQ NC 6	D16 Before the commencement of construction until the completion of all rehabilitation required under this consent, the Applicant must: (a) make the following information and	The following information is not on the website: (i) Document/s listed in condition A2(c); (ii) Missing statutory approvals for the development i.e. water licence and associated work authorities and current EPL; (v) Regular reporting on the environmental performance required under various plans e.g. (a) BMP required assessments e.g. annual rapid visual assessment	An update of the website will be undertaken with the identified documents to be added.	30 May 2025 A review and update of the website was undertaken by the 30th May 2025 with required additional information or links made available.

No.	Condition #	Improvement Opportunity / Noncompliance	Response	Due Date and Status
	documents (as they are obtained, approved or as otherwise stipulated within the conditions of this consent) publicly available on its website:	(2020, 2022, 2023) biennial ecological monitoring reports (2019 & 2021), 5 yearly vegetation connectivity assessment baseline image April 2018. (b)AHMP required reporting e.g. interim reporting on outcomes of management measures, interim reports detailing the findings of salvage, conservation and preservation report for the scarred trees, AHMC meeting minutes. (viii) a summary of the current stage and progress of the development.		

Table 22: Audit Recommendations – Opportunities for Improvement

No.	Condition #	Improvement Opportunity / Noncompliance	Response	Due Date
PQ 1/24	B20 - air quality at boundary of land	Additional information to be added to the POEO report to clarify reporting compliance at the boundary against a rolling annual average & include incremental impact in Boral's monthly data reviews for deposited dust and PM2.5	Noted. POEO reporting format will be updated	30 May 2025
PQ 2/24	B47 - heritage	AHMP Section 6.1 amended to state BCS must be contacted immediately	Change to AHMP to be made as review of Management plans following the audit	30th June 2025 The AHMP was reviewed and issued to DPHI for approval by the 30th July 2025
PQ3/24	B48 -heritage	AHMP Section 9.3.2 amended to include discovery of a new site being a trigger for a review of the AHMP.	Change to AHMP to be made as review of Management plans following the audit	30th June 2025 The AHMP was reviewed and issued to DPHI for approval by

				the 30th July 2025
PQ4/24	B52 – implementation of Aboriginal Cultural Heritage Management Plan	In addition to hard copy maps create digital mapping for Aboriginal site locations, including data on site type, site extent, and site status	Digital mapping is available for the salvaged and identified Aboriginal sites. This mapping will be made available as required	August 2025 A review of the accessibility of the digital data was undertaken with access being made available on the Propellor platform used for planning
PQ 5/24	B60 / B62 - implementation of Biodiversity and Rehabilitation Management Plan	See 5 dot points under the heading Recommendations in the Biodiversity/Ecology expert report attached as Appendix 6. • The implementation of recommendations made within the 2023 Ecological Monitoring Report as well as the 2024 Rapid Visual Assessment report need to be implemented as a priority and will need to be the focus of management during the next reporting period. ▪ To ensure compliance with the *Biosecurity Act 2016* and the Goulburn Mulwaree Council Local Weed Management Plan control of priority weeds needs to be undertaken as soon as possible. ▪ Remediation of erosion consistent with the 2024 Rapid Visual Assessment needs to be undertaken to ensure that it does not compromise the existing vegetation or landform and prevent completion criteria from being satisfied. ▪ The coordinates and figures need to be updated in the BRMP where appropriate to reflect where the ecological monitoring points occur on the Site. Where star pickets are	The three year rehabilitation plan is being revised for the next three years and will include the implementation of the recommendations where they have not already been progressed Management of Priority weeds is being addressed. Management of Serrate tussock and Blackberry was undertaken in December, January and February. Weed management plan will be reviewed to ensure Priority weeds are targeted at the appropriate time. To be completed as part of the works to be defined within the next 3 year rehabilitation plan.	Revised Rehabilitation plan – 30th July 2025 The BRMP was reviewed and issued to DPHI for approval by the 30th July 2025 Revised weed management plan 30th July 2025 The weed management plan was reviewed as part of the BRMP and issued to DPHI for approval by

		missing, they need to be replaced and to assist with relocating them they need to be made more visible through the application of high visibility paint. ▪ Due to the existing relative stability of rehabilitated RMUs, ongoing revegetation should avoid large scale soil disturbance. Instead, the focus should be on low frequency high intensity planting using a greater diversity of species and growth forms than currently occurs to ensure the target vegetation community Box-Gum Woodland is established. By placing more effort into a lower number of individuals will ensure rehabilitation is cost effective and increases survival of individuals that can then provide a natural seed source to assist with natural revegetation.	To be undertaken as part of the BRMP review following the audit. Onsite locations to be revised. The three-year rehabilitation plan is being revised for the next three years and will include rehabilitation based on these recommendations	the 30th July 2025 Revised Rehabilitation plan – 30th July 2025 The BRMP was reviewed and issued to DPHI for approval by the 30th July 2025 30th Sept 2025 Locations were reviewed and more prominent markers installed. Digital mapping was made available on propeller. 30th July 2025 Three year rehabilitation plan updated and included within the BRMP.
PQ 6/24	D11 – Annual Review information -	Administrative amendments for next AR based on AR 23 document:	Noted. These changes will be made in the 2024 AEMR.	30th March 2025

	administrative amendments	Contents page – several table references do not align to table numbering in AR. Table 5 – Corresponding water licence number i.e. WAL to be inserted against applicable work authorisation number i.e. 10WA number. P9 bottom page after "…condition D11-PART D which requires" replace dot point summary of condition with a copy/paste of the conditions from the latest consent. Insert after the condition a table similar to the tables in the EMPs identifying the consent condition and corresponding section in the AR addressing the condition. See table 2.1 in the Construction Traffic Management Plan as an example. Section 6,9 – third paragraph – "measurement measure" or should this be "management measures" Section 7.1 – WMP 2017 – replace 2017 with 2022. Section 10 – replace "Condition 5 (schedule 5) with Condition D13 Part D (schedule 2) and on P41 change Condition D6, Part C to Condition D6, Part D.		Changes were included in the 2024 AEMR available on the website.
PQ 7/24	D1 – Environmental Management Strategy – Administrative amendments	Check currency of the text: e.g. Update wording in EMS to align with latest condition of consent wording e.g. replace "project" with "development" replace "Secretary" with "Planning Secretary" etc. Update versions of EMPs in section 4.5.1 e.g. current Water Management Plan is March 2022. Section 5.2.2 – external audits – next schedule audit is 2024. Insert glossary of acronyms. Insert table listing D1 conditions and section in EMS addressing the condition.	Noted. Amendments will be made in line with the management plan review following the Independent Audit	30th July 2025 The EMS was reviewed and updated as required by the 30th July 2025. As these were not substantial changes, changing the intent of the EMS, DPHI were

		Update relevant legislation in Section 3.2. e.g. the new *Biodiversity Conservation Act 2016.* The Act supersedes the following: Threatened Species Conservation Act 1995 Native Vegetation Act 2003 Nature Conservation Trust Act 2001 Parts of the National Parks and Wildlife Act 1974 • Amend references to clearing of native vegetation under the NV Act Section 3.2.3 – include Mod 7 details.		advised in writing of the review.
PQ8/24	D12 – Annual Review	Ensure a copy of the Annual Review is submitted directly to Council	Noted. A copy of the Annual Review will be submitted to Council as well as the CCC.	Copies of the AEMR were issued directly to the Council
PQ 9/24	B9 - Noise and Blast Management Plan – administrative amendments	Update wording in plan to align with latest condition of consent wording e.g. replace "project" with "development" replace "Secretary" with "Planning Secretary" etc. Section 2.1 – include Mod 7 details	Noted. Amendments will be made in line with the management plan review following the Independent Audit	30th July 2025 An extension for the review of The NBMP was requested due to the need to relocate one of the blast monitors. A review of the NBMP was finalized after receiving EPA approval and issue to DPHI.
PQ10/24	B33 – Water Management	Update wording in plan to align with latest condition of consent wording e.g. replace "project" with	Noted. Amendments will be made in line with the management plan review	30th July 2025

	Plan – administrative amendments	"development" replace "Secretary" with "Planning Secretary" etc	following the Independent Audit	The WMP was reviewed and updated as required by the 30th July 2025. As these were not substantial changes, changing the intent of the WMP, DPHI were advised in writing of the review
PQ11/24	B60 – Biodiversity and Rehabilitation Plan – administrative amendments	Update wording in plan to align with latest condition of consent wording e.g. replace "project" with "development" replace "Secretary" with "Planning Secretary" etc. Update Table 4 with Conditions B53A & B53B the address in plan and insert section were referenced in column headed "Referenced in BRMP"	Noted. Amendments will be made in line with the management plan review following the Independent Audit	30th July 2025 The BRMP was reviewed and issued to the DPHI for approval by the 30th July 2025
PQ12/24	B42 – Construction Traffic Management Plan - administrative amendments	Update wording in plan to align with latest condition of consent wording e.g. replace "project" with "development" replace "Secretary" with "Planning Secretary" etc. Correct "Error" notation above Table 1.1.	Noted. Amendments will be made in line with the management plan review following the Independent Audit	30th July 2025 The CTMP was reviewed and updated as required by the 30th July 2025. As these were not substantial changes, changing the intent of the CTMP, DPHI were advised in writing of the review

PQ13/24	B76 – Bushfire Management - administrative amendments	Update wording in plan to align with latest condition of consent wording e.g. replace "project" with "development" replace "Secretary" with "Planning Secretary" etc. Section 2.1 – include Mod 7 details	Noted. Amendments will be made in line with the management plan review following the Independent Audit	30th July 2025 The BMP was reviewed and updated as required by the 30th July 2025. As these were not substantial changes, changing the intent of the BMP, DPHI were advised in writing of the review
PQ14/24	B23 – Air Quality Management Plan - administrative amendments	Update wording in plan to align with latest condition of consent wording e.g. replace "project" with "development" replace "Secretary" with "Planning Secretary" etc. Section 2.1 – include Mod 7 details	Noted. Amendments will be made in line with the management plan review following the Independent Audit	30th July 2025 The AQMP was reviewed and issued to the DPHI for approval as required by the 30th July 2025
PQ15/24	B50 – Aboriginal Cultural Heritage Management Plan - administrative amendments	Update wording in plan to align with latest condition of consent wording e.g. replace "project" with "development" replace "Secretary" with "Planning Secretary" etc. B50 (b) requires consultation with BCS formerly BCD – consultation took place with Heritage NSW not BCD. Amend condition to reflect consultation with Heritage NSW. BCS seems incorrect organisation for consultation on this plan. Check Table 3 referencing of conditions to sections is correct e.g. B46 is referenced to Section 5.2 which should be 6.2. B47 is referenced to Section 5.1 which should be 6.1.	Noted. Amendments will be made in line with the management plan review following the Independent Audit. A review of BCS consultation will be undertaken with DPHI for clarification	30th July 2025 The AHMP was reviewed and issued to the DPHI for approval by the 30th July 2025 as required

PQ16/24	B2 – Construction Noise Management Plan – administrative amendments	Update wording in plan to align with latest condition of consent wording e.g. replace "project" with "development" replace "Secretary" with "Planning Secretary" etc.	Noted. Amendments will be made in line with the management plan review following the Independent Audit	30th July 2025 The CNMP was reviewed and updated as required by the 30th July 2025. As these were not substantial changes, changing the intent of the CNMP, DPHI were advised in writing of the review
PQ17/24	**Waste Management Plan**	Update wording in plan to align with latest condition of consent wording e.g. replace "project" with "development" replace "Secretary" with "Planning Secretary" etc. Section 2.1 – include Mod 7 details.	Noted. Amendments will be made in line with the management plan review following the Independent Audit	30th July 2025 The Waste MP was reviewed and updated as required by the 30th July 2025. As these were not substantial changes, changing the intent of the CNMP, DPHI were advised in writing of the review

All site management plans were reviewed in line with Condition D6, Part D as a result of the audit.

The Next independent audit, as per Condition D13, is planned for mid-2027.

11 INCIDENTS & NON-COMPLIANCES DURING THE REPORTING PERIOD

11.1 INCIDENT MANAGEMENT AND RESPONSE

In accordance with NSW EPA requirements, a Pollution Incident Response Management Plan (PIRMP) has been developed and implemented which details the:

- Risks and hazards associated with quarry operations, equipment and materials;
- Controls in place to reduce the risk in the occurrence of potential incidents;
- Inventory of pollutants and respective volumes stored on-site;
- Safety and incident response equipment;
- Communication strategy for the immediate notification of an incident to relevant government agencies and neighbours;
- Actions to be taken during or immediately after an incident; and
- Training and responsibilities of response staff.

The PIRMP was last reviewed and revised V16 in November 2025 and a copy can be accessed on the Boral website at:

https://www.boral.com.au/what-we-do/environmental-reporting

11.2 SUMMARY OF REGULATORY NOTIFICATIONS

One notification was provided to the EPA during the reporting period in regard to Peppertree Quarry operations. This notification related to the sediment dam discharge during prolonged heavy rainfall as discussed in section 7.1No Regulatory notifications have been received from either the EPA or DPHI.

12 ACTIVITIES TO BE COMPLETED IN THE NEXT REPORTING PERIOD

The activities proposed to be undertaken during the 2026 AR reporting period are presented in Table 22. The activities have been selected and prioritized based on:

- Internal and Independent Audit findings and recommendations;
- Operational requirements; and
- Continual improvement objectives in accordance with Boral's Environmental Policy and integrated HSEQ management System.

Table 22: Proposed Activities in 2026 AR Period

Proposed Activities in 2025	Objectives
Undertake progressive Overburden stabilization and rehabilitation in line with the 3-year plan and implement recommendations of the 2025 Rapid Visual Assessment and Ecological assessment	• Minimise erosion and sediment runoff • Move towards achieving biodiversity management plan goals of establishing vegetation corridors
Review and/or prepare management plans - NBMP, AQMP, BRMP, WMP, EMS, BFMP as per modification 7 approval requirements following approval of AEMR and independent audit recommendations	• Document management protocols for quarry operations
Undertake annual Rehabilitation Rapid Visual Assessment (November 2026)	• Move towards achieving biodiversity management plan goals of establishing vegetation corridors
Undertake 2 yearly Ecological assessment (November 2026)	• Move towards achieving biodiversity management plan goals of establishing vegetation corridors
Undertake audit of the surface water management system at the Southern Overburden emplacement once system is installed	• Surface water management
Implement Stakeholder Engagement plan for 2026	• Ongoing community engagement
Pit expansion to the East and commence south-western overburden as per Modification 5	• Ongoing operations
Relocate air monitoring sampling locations to boundary locations	• Air quality management
Relocate Blast monitoring locations to Boundary locations	• Blast Monitoring management
Implementation of real time Air Quality monitoring system in line with EPA's approval	• Air Quality Management
Review future use of the real Time noise monitor at its current location	• Noise management
Undertake review of frequency of noise monitoring.	• Noise management
Undertake and develop future display of the scar trees	• Preservation of Aboriginal Cultural Heritage
Return Aboriginal Artefacts to country not required for education purposes as determined by the AHMC.	• Preservation of Aboriginal Cultural Heritage

APPENDIX 1: ANNUAL RETURN FOR EXTRACTIVE MATERIALS – FINANCIAL YEAR 2025

Extractive Materials Return 2024-25

Form S1 – 1 July 2024 to 30 June 2025

NSW GOVERNMENT | Regional NSW

Please complete the following information to assist in identifying the location of the Quarry

Quarry ID	
RIMS ID	400960
Operator Name	BORAL RESOURCES (NSW) PTY LTD
Operator Address	PO BOX 6041 NORTH RYDE NSW 2113
Operator Email	jon-paul.amodio@boral.com.au
Operator Phone Number	
Quarry Name	PEPPERTREE QUARRY
Quarry Address	MARULAN SOUTH RD, MARULAN NSW 2579
Mining Lease(s) – if any	
Leaseholder(s) Name	
Leaseholder Email	
Leaseholder Phone Number	
Licence or Lease Number – if any (from Crown Lands or other Government Department)	
Licensee Name	Boral Resources (NSW) Pty Ltd
Licensee Email	
Licensee Phone Number	
Deposited Plan and Lot Number of Quarry	
Land Owner	
Nearest Town to Quarry	Marulan
Local Council Name	Goulburn Mulwaree Council
Typical Geology	

For inquiries or to submit completed or nil returns please email: mineral.royalty@regional.nsw.gov.au

If no work was done during the year, a **NIL** return must be provided.

If completion of the return is unavoidably delayed, an application for extension of time should be requested **before** the due date.

Employment

Include PERSONS in and around the mining establishment (pit or quarry) on quarrying operations, in TRANSPORT, in ADMINISTRATION and PRODUCER-CONSUMERS'S employees, who are engaged in manufacturing (eg of bricks). Head office staff should be excluded (estimate if necessary). Employees on long term service leave or otherwise temporarily absent should be included, but persons on permanent compensation should be omitted.

EMPLOYMENT during the LAST PAY PERIOD of JUNE 2025 All personnel employed at this site including working managers, partner's managers, and contractors.	Employed at site:

The return should relate to the **above quarrying establishment** and should cover the operations of quarrying and treatment (such as crushing, screening, washing etc.) carried out at or near the quarry. A return is required even if the operations are solely of a developmental nature and whether the area being worked is held under a mining title or otherwise.

Submission of this form by email constitutes a declaration by the Leaseholder (if any) Licensee (if any) or Operator that the information contained in this return is correct, to the best of their knowledge, and that there are no blank spaces left where figures should have been inserted.

Regional NSW | 1

Extractive Materials Return 2024-25

Form S1 – 1 July 2024 to 30 June 2025

NSW GOVERNMENT | Regional NSW

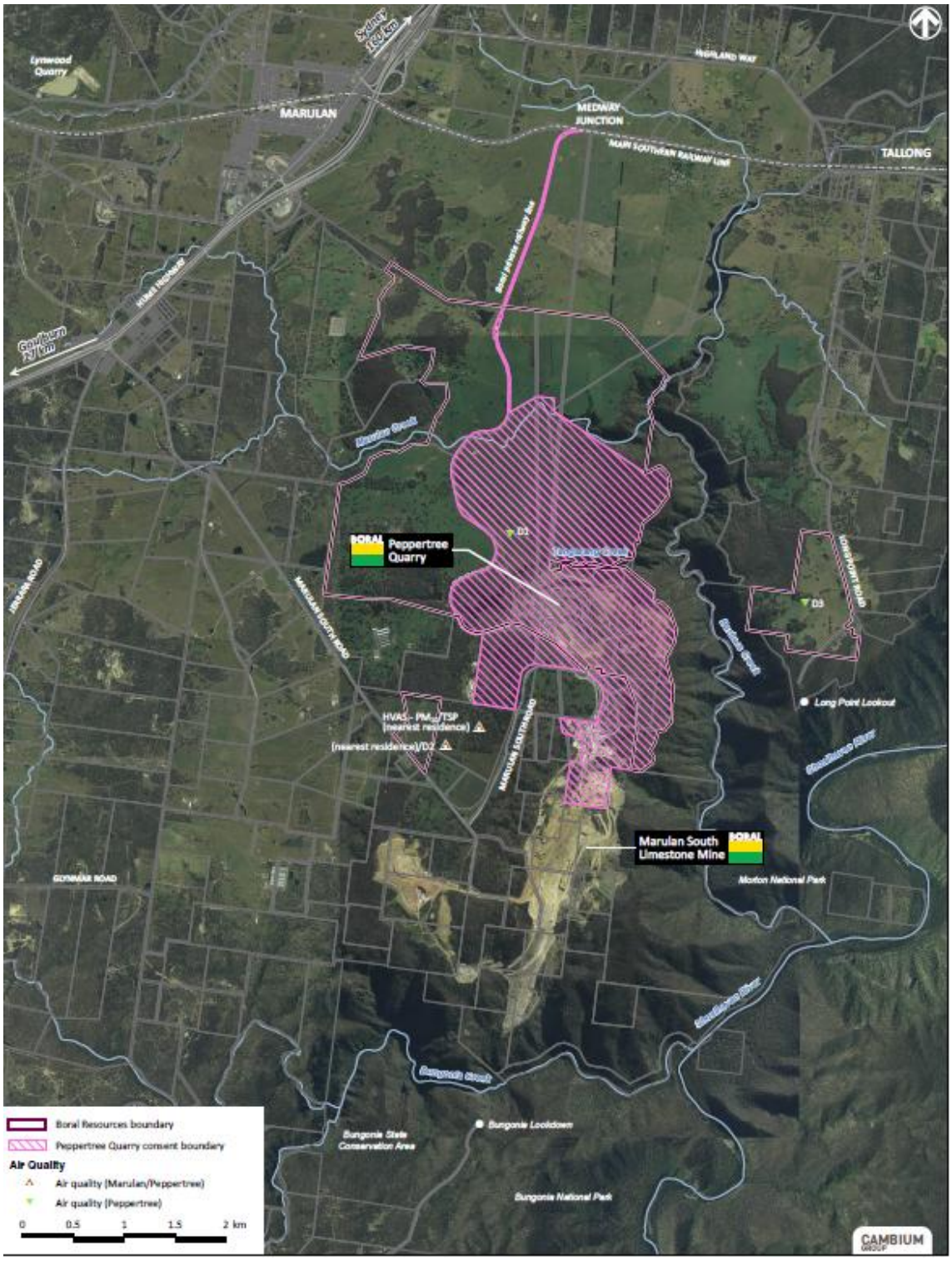
Sales During 2024-2025

Production information may be published in aggregated form for statistical reporting. However, production data for individual operations is kept strictly confidential.

Product	Description	Quantity Tonnes
Virgin Materials		
Crushed Coarse Aggregates		
Over 75mm		
Over 30mm to 75mm		
5mm to 30mm		1,663,632
Under 5mm		
Natural Sand		
Manufactured Sand		1,094,501
Prepared Road Base & Sub Base		76,337
Other Unprocessed Materials		
Recycled Materials		
Crushed Coarse Aggregates		
Over 75mm		
Over 30mm to 75mm		
5mm to 30mm		
Under 5mm		
Natural Sand		
Manufactured Sand		
Prepared Road Base & Sub Base		
Other Unprocessed Materials		
River Gravel		
Over 30mm		
5mm to 30mm		
Under 5mm		
Construction Sand	Excluding Industrial	
Industrial Sand		
Foundry, Moulding		
Glass		
Other (Specify)		
Dimension Stone	Building, Ornamental, Monumental	
Quarried in Blocks		
Quarried in Slabs		
Decorative Aggregate	Including Terrazzo	
Loam	Soil for Topdressing, Garden soil, Horticultural purposes)	
TOTAL SITE PRODUCTION		2,834,470
Gross Value ($) of all Sales		$113,719,108
Type of Material		
Number of Full-Time Equivalent (FTE) Employees	**Employees = 45**	**Contractors**

APPENDIX 2 AIR QUALITY MONITORING INFORMATION

Air monitoring locations



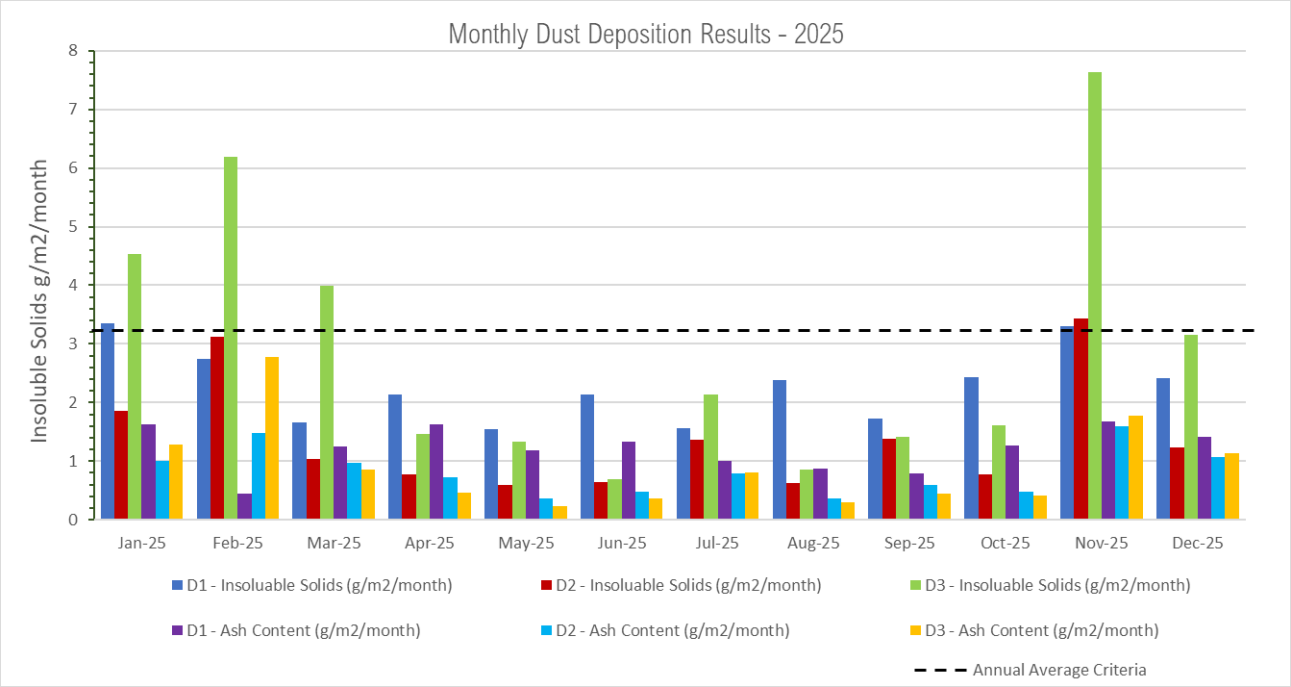
Dust Deposition Results

Sample Identification		Monthly Dust Deposition (Insoluble Solids g/m2/month)												Annual Average Criteria: (4 g/m²/m)
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
D1	Insoluble Solids	3.35	2.74	1.66	2.13	1.54	2.13	1.56	2.39	1.73	2.44	3.3	2.42	**2.28**
	Ash Content	1.63	0.45	1.25	1.63	1.18	1.33	1	0.88	0.79	1.26	1.68	1.41	**1.21**
D2	Insoluble Solids	1.85	3.12	1.04	0.78	0.59	0.65	1.37	0.62	1.38	0.77	3.43	1.23	**1.4**
	Ash Content	1	1.48	0.97	0.73	0.36	0.48	0.79	0.37	0.59	0.48	1.6	1.07	**0.83**
D3	Insoluble Solids	4.54	6.19	3.99	1.46	1.33	0.7	2.14	0.86	1.42	1.61	7.63	3.15	**2.92**
	Ash Content	1.29	2.78	0.85	0.46	0.24	0.37	0.8	0.3	0.45	0.42	1.77	1.13	**0.93**

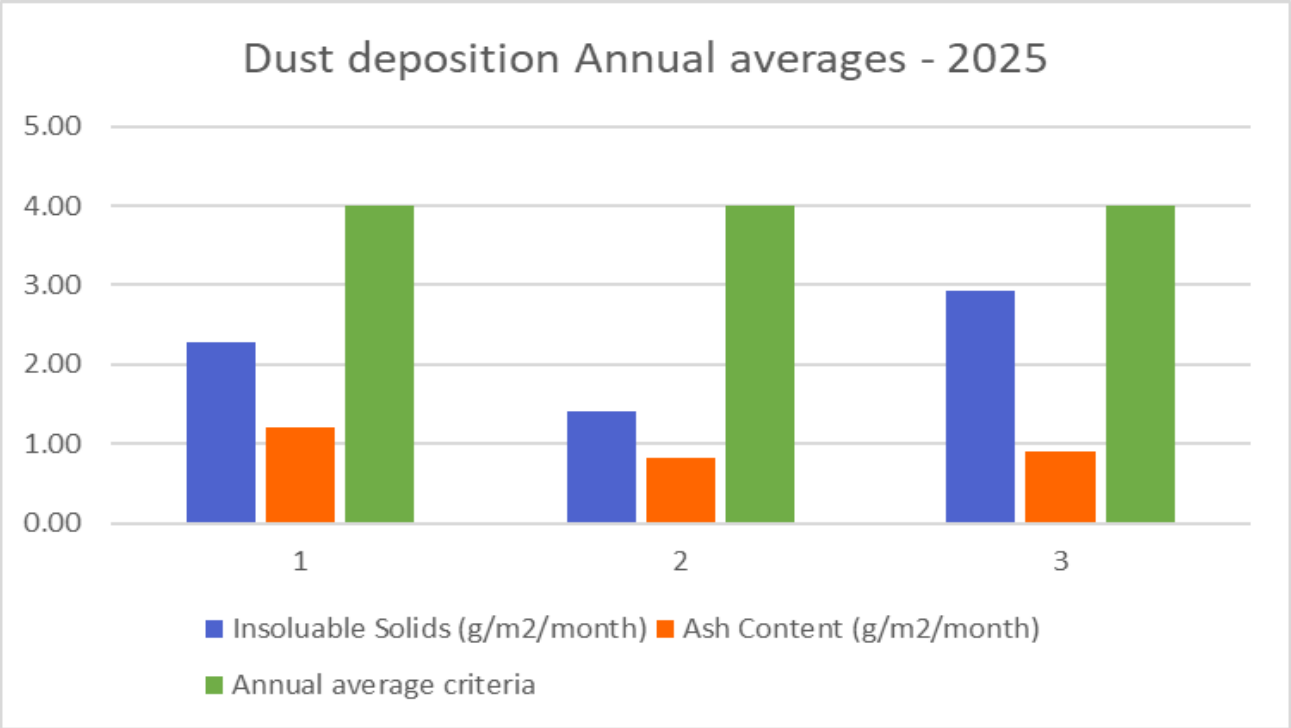
Interpolated deposited dust levels - Todoroski Air Sciences

Sample Identification		Monthly Dust Deposition (Insoluble Solids g/m2/month)											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
D1	Insoluble Solids annual average (at the gauge)	4.20	4.29	4.32	4.33	2.86	2.55	2.16	2.23	2.18	2.17	2.25	2.28
	Insoluble Solids annual average (at the boundary)	1.0	1.0	1.0	1.0	0.7	0.6	0.5	0.5	0.5	0.5	0.5	0.5
D2	Insoluble Solids annual average (at the gauge)	1.55	1.53	1.45	1.47	1.45	1.47	1.49	1.44	1.32	1.34	1.48	1.40
	Insoluble Solids annual average (at the boundary)	1.0	1.0	0.9	0.9	0.9	0.9	0.9	0.9	0.8	0.8	0.9	0.9
D3	Insoluble Solids annual average (at the gauge)	3.06	3.19	3.12	3.07	3.02	3.04	3.03	3.04	3.06	3.10	3.52	2.92
	Insoluble Solids annual average (at the boundary)	2.0	2.1	2.0	2.0	1.9	2.0	1.9	2.0	2.0	2.0	2.3	1.9

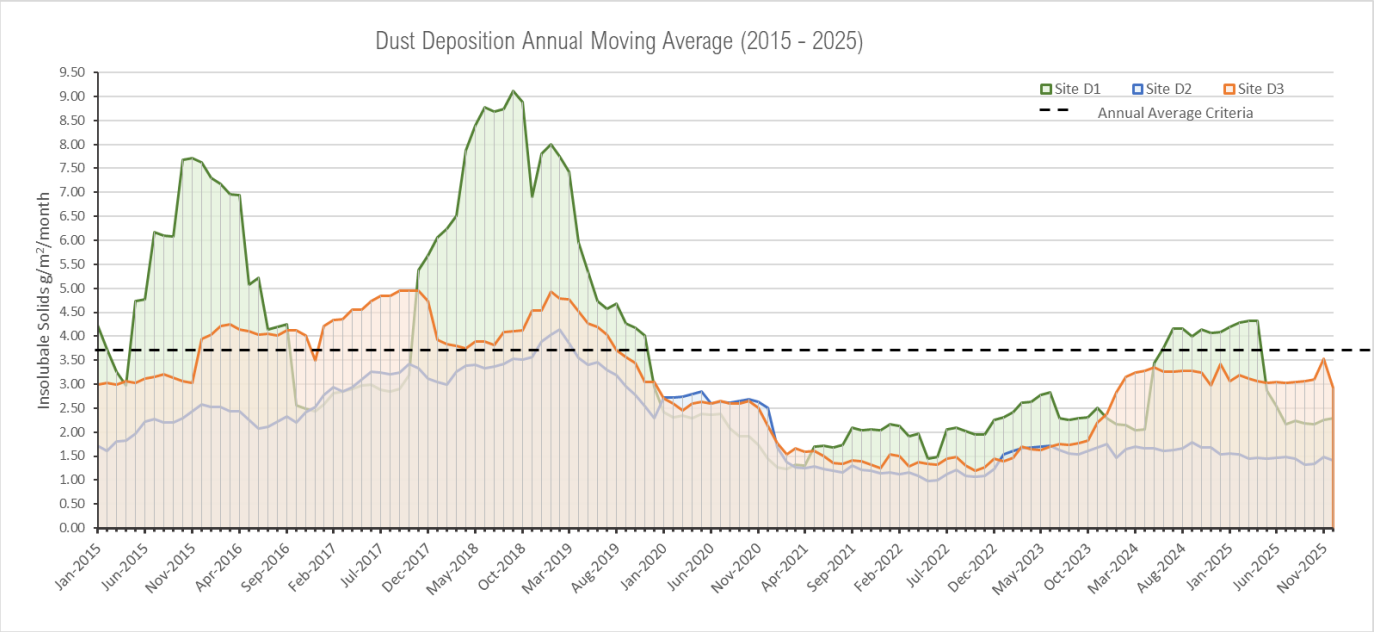
Dust Deposition Results – Monthly Dust Deposition 2025



Dust Deposition Results – Annual Averages – Total 2025



Dust Deposition Results – Annual Averages trend 2015 to 2025



TSP Results

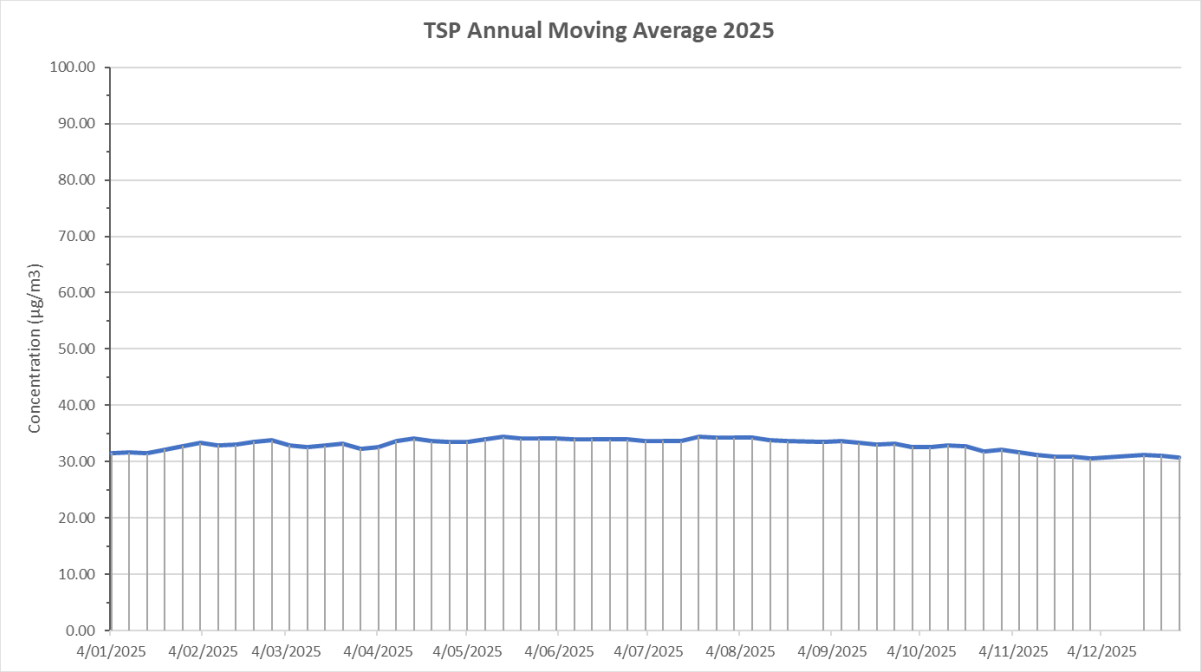
Dates	TSP (µg/m3)
4/01/2025	33.07
10/01/2025	22.1
16/01/2025	22.26
22/01/2025	49.48
28/01/2025	45.43
3/02/2025	101.19
9/02/2025	25.64
15/02/2025	26.71
21/02/2025	49.15
27/02/2025	64.3
5/03/2025	32.73
11/03/2025	26.5
17/03/2025	57
23/03/2025	71
29/03/2025	9.43
4/04/2025	59.05
10/04/2025	83.02
16/04/2025	58.69

Dates	TSP (µg/m3)
4/05/2025	26.79
10/05/2025	35.46
16/05/2025	26.96
22/05/2025	5.93
28/05/2025	14.77
3/06/2025	24.44
9/06/2025	2.15
15/06/2025	2.48
21/06/2025	12.54
27/06/2025	12.48
3/07/2025	0.72
9/07/2025	2.44
15/07/2025	18.73
21/07/2025	58.84
27/07/2025	9.04
2/08/2025	3.84
8/08/2025	26.58
14/08/2025	7.51

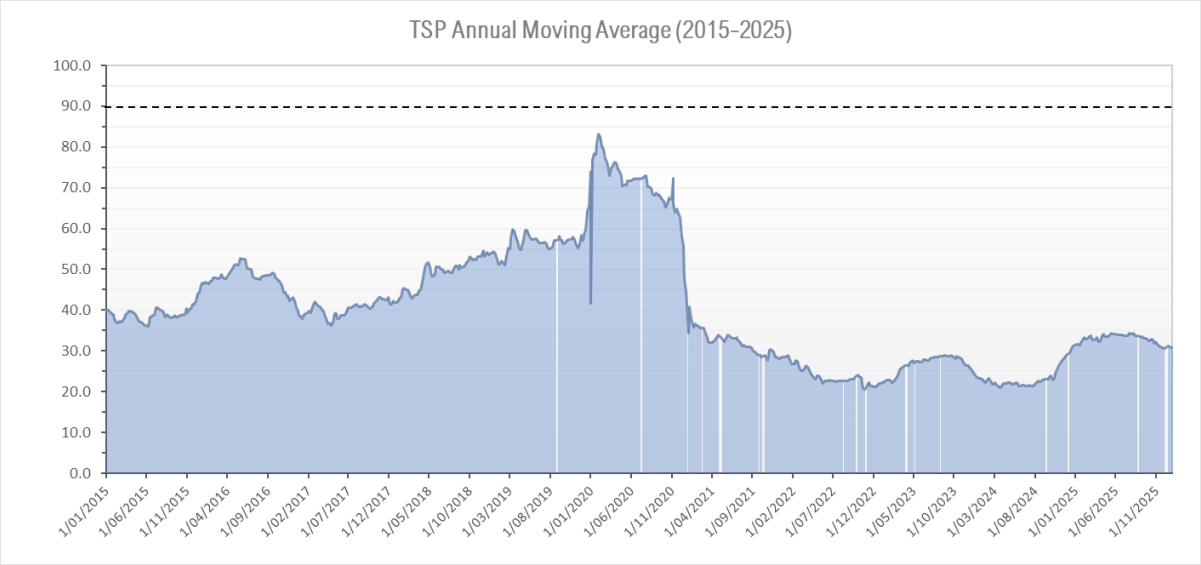
Dates	TSP (µg/m3)
7/09/2025	20.56
13/09/2025	15.75
19/09/2025	11.06
25/09/2025	18.9
1/10/2025	19.1
7/10/2025	24.54
13/10/2025	43.32
19/10/2025	35.58
25/10/2025	19.4
31/10/2025	86.01
6/11/2025	31.77
12/11/2025	17.64
18/11/2025	27.02
24/11/2025	29.6
30/11/2025	34.41
18/12/2025	53.45
24/12/2025	30.16
30/12/2025	50.2

22/04/2025	27.48	20/08/2025	9.96
28/04/2025	31.08	1/09/2025	11.41

TSP - Annual Average results – 2025



Long Term TSP Trend – 2015 to 2025

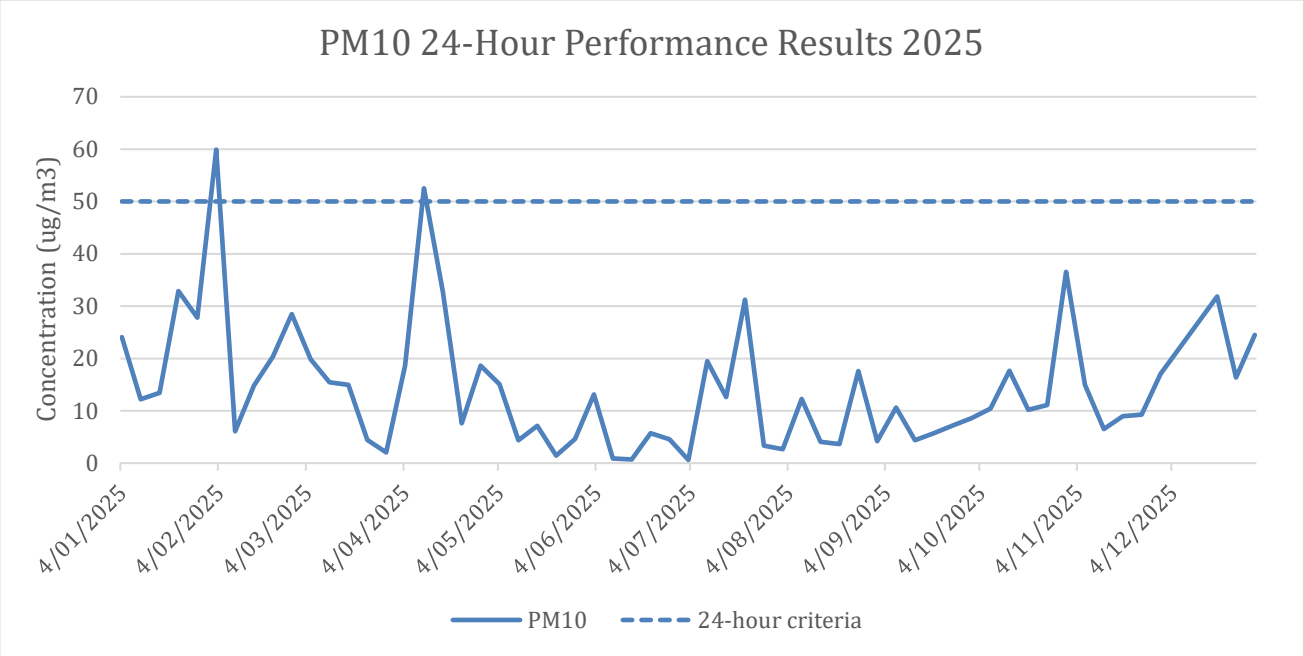


Interpolated PM_{10} dust levels - Todoroski Air Sciences

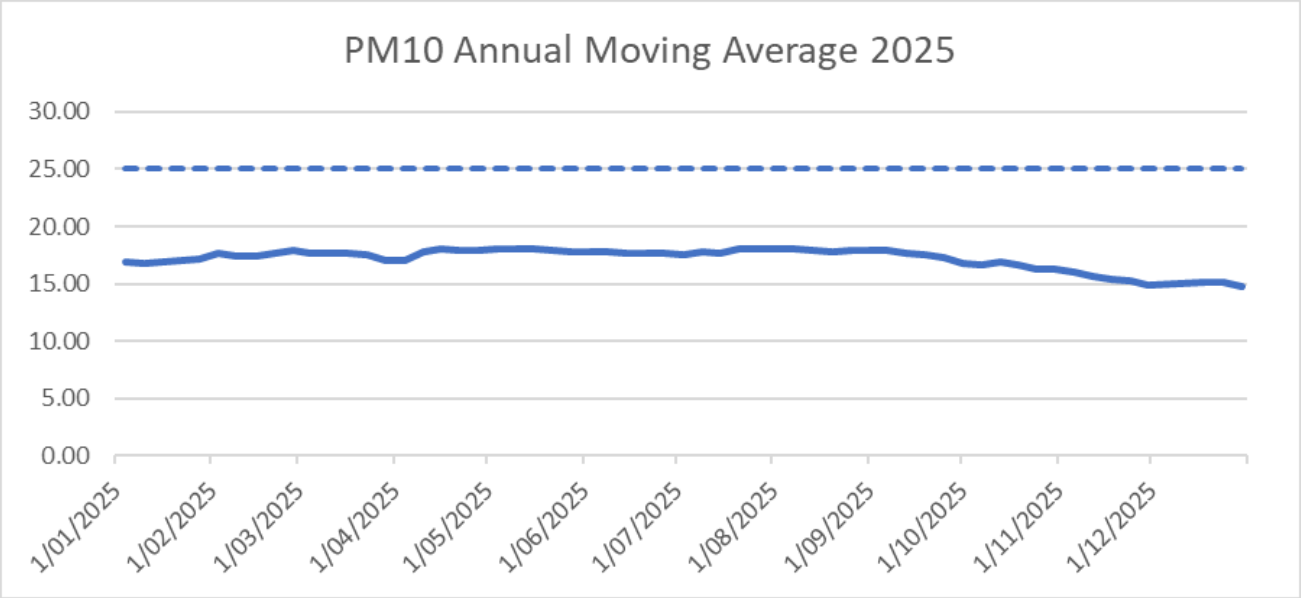
Dates	PM10 (Measured)	PM10 (Estimated contribution to boundary)
4/01/2025	24.08	16.9
10/01/2025	12.18	16.8
16/01/2025	13.4	16.9
22/01/2025	32.88	17.1
28/01/2025	27.77	17.2
3/02/2025	59.9	27.9
9/02/2025	6.07	3.2
15/02/2025	14.85	0
21/02/2025	20.34	9.6
27/02/2025	28.46	12.6
5/03/2025	19.87	10.4
11/03/2025	15.45	8
17/03/2025	14.93	6.1
23/03/2025	4.41	2.3
29/03/2025	2.04	1.1
4/04/2025	18.6	4.8
10/04/2025	52.53	2.6
16/04/2025	32.75	15.4
22/04/2025	7.6	3.3
28/04/2025	18.65	7.3
4/05/2025	15.08	3.4
10/05/2025	4.37	2.1
16/05/2025	7.14	-
22/05/2025	1.45	-
28/05/2025	4.61	0
3/06/2025	13.1	3.6
9/06/2025	0.89	0
15/06/2025	0.68	0
21/06/2025	5.69	0
27/06/2025	4.53	2

Dates	PM10 (Measured)	PM10 (Estimated contribution to boundary)
3/07/2025	0.62	0.2
9/07/2025	19.47	0
15/07/2025	12.62	0
21/07/2025	31.22	13.8
27/07/2025	3.34	0
2/08/2025	2.66	1.4
8/08/2025	12.29	6
14/08/2025	4.08	2
20/08/2025	3.66	1.9
26/08/2025	17.56	0
1/09/2025	4.16	0.7
7/09/2025	10.6	0.6
13/09/2025	4.36	1.1
19/09/2025	5.69	0
25/09/2025	7.16	0
1/10/2025	8.58	0
7/10/2025	10.42	0.5
13/10/2025	17.64	9.2
19/10/2025	10.19	0.7
25/10/2025	11.1	0
31/10/2025	36.52	14.8
6/11/2025	14.96	1.1
12/11/2025	6.54	0.3
18/11/2025	8.98	0
24/11/2025	9.27	4.8
30/11/2025	17.04	1.5
18/12/2025	31.85	2.8
24/12/2025	16.37	1.8
30/12/2025	24.5	10.4

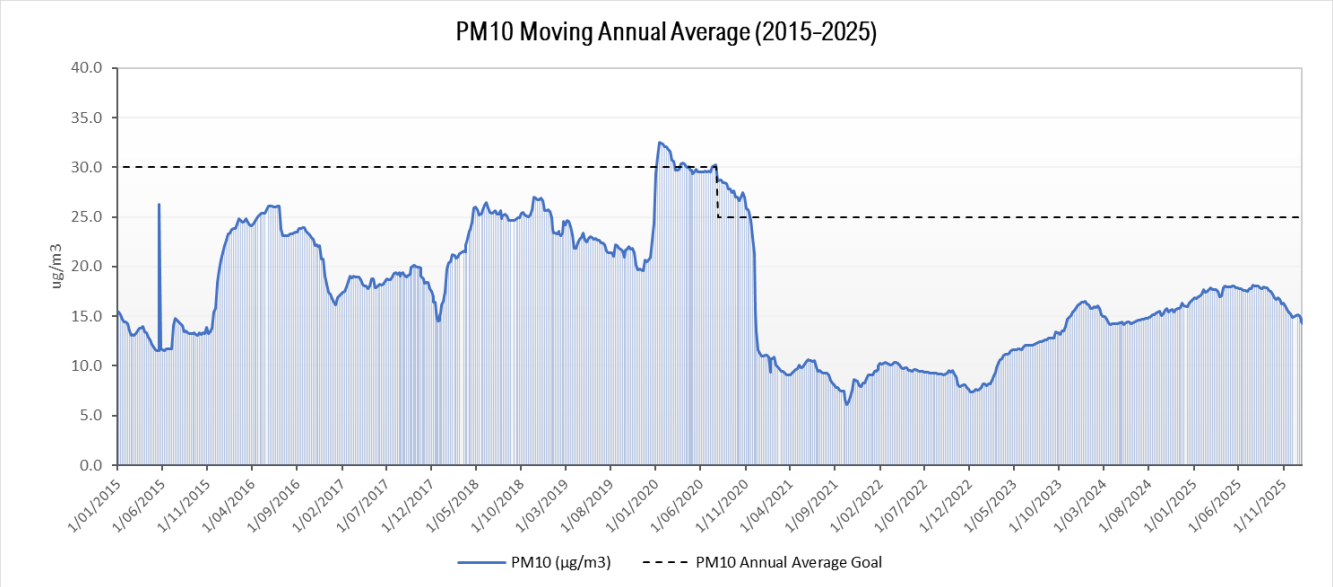
PM10 24 Hour performance results 2025



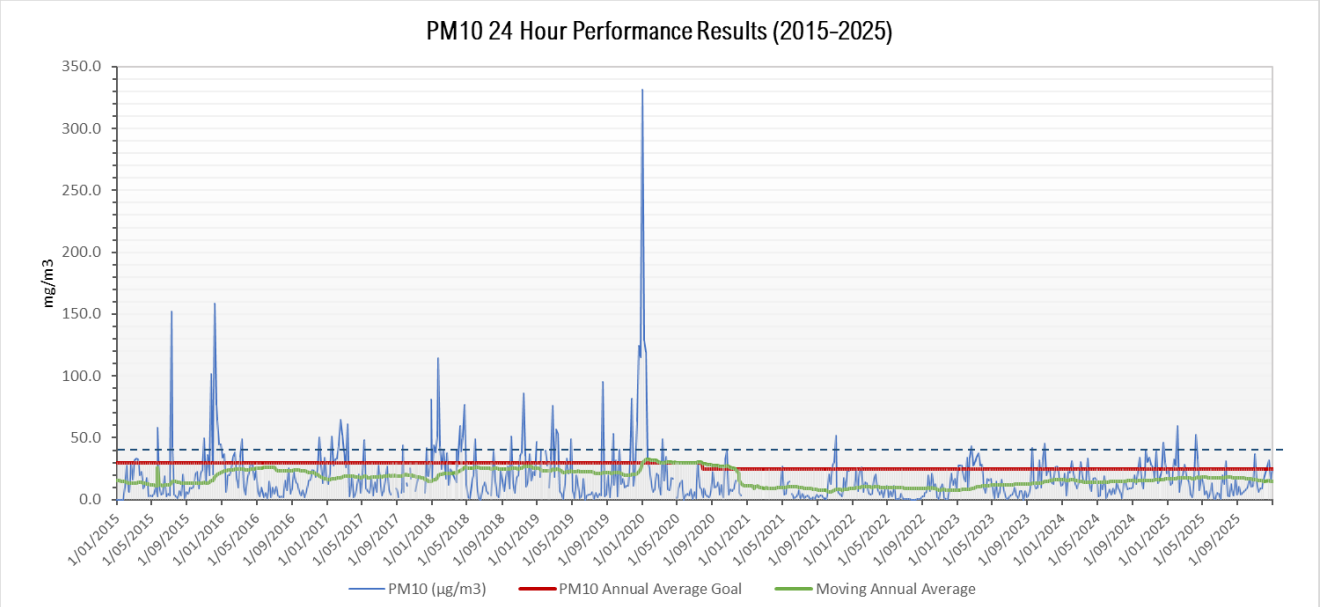
PM10 Annual average results 2025



Long Term PM_{10} Trend – 2015 to 2025



PM_{10} 24-hour performance results - 2015 to 2025



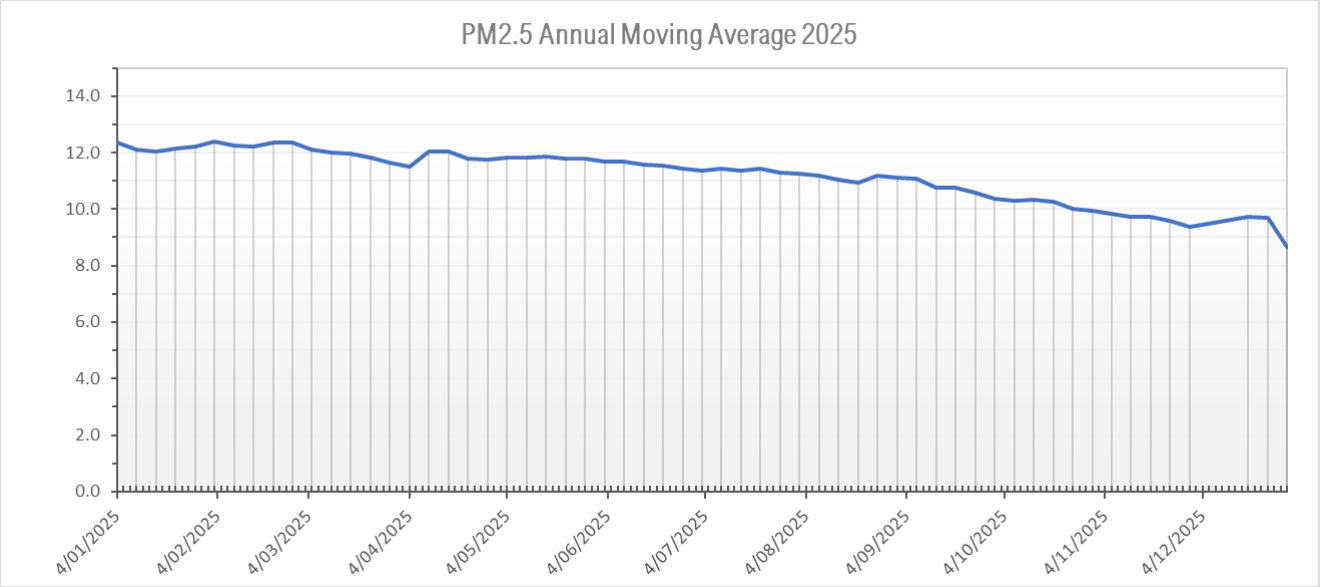
Interpolated $PM_{2.5}$ dust levels - Todoroski Air Sciences

Dates	PM2.5 (Measured)	PM2.5 (Estimated contribution to boundary)
4/01/2025	18.26	11.2
10/01/2025	7.51	10.9
16/01/2025	5.54	10.8
22/01/2025	23.81	10.9
28/01/2025	19.99	11
3/02/2025	30.21	14.1
9/02/2025	3.22	1.7
15/02/2025	4.48	0
21/02/2025	12.03	5.7
27/02/2025	6.99	3.1
5/03/2025	2.73	1.4
11/03/2025	3.21	1.7
17/03/2025	7.51	3.1
23/03/2025	3.85	2
29/03/2025	2.04	1.1
4/04/2025	4.77	1.2
10/04/2025	38.07	1.9
16/04/2025	14.18	6.7
22/04/2025	5.37	2.3
28/04/2025	9.23	3.6
4/05/2025	9.71	2.2
10/05/2025	0.68	0.3
16/05/2025	3.26	-
22/05/2025	0.28	-
28/05/2025	2.63	0
3/06/2025	9.12	2.5
9/06/2025	1.17	0
15/06/2025	0.27	0
21/06/2025	2.68	0
27/06/2025	1.67	0.7

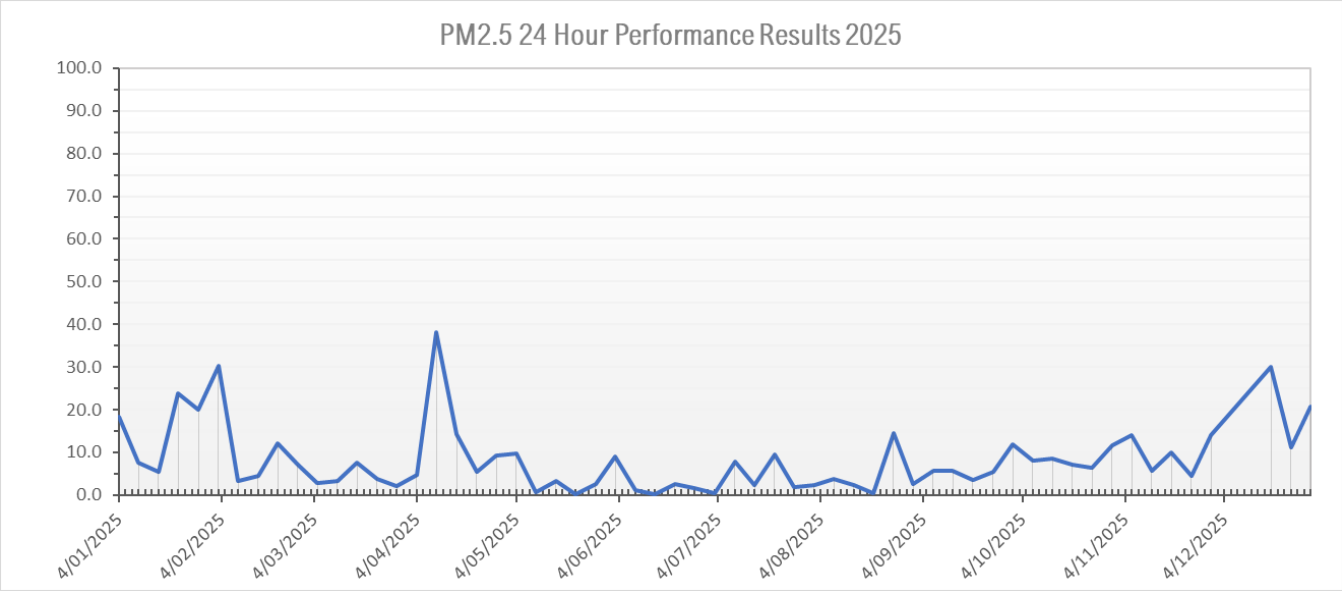
Dates	PM2.5 (Measured)	PM2.5 (Estimated contribution to boundary)
3/07/2025	0.35	0.1
9/07/2025	7.84	0
15/07/2025	2.39	0
21/07/2025	9.54	4.2
27/07/2025	1.74	0
2/08/2025	2.32	1.2
8/08/2025	3.85	1.9
14/08/2025	2.25	1.1
20/08/2025	0.34	0.2
26/08/2025	14.56	0
1/09/2025	2.53	0.4
7/09/2025	5.71	0.3
13/09/2025	5.66	1.4
19/09/2025	3.41	0
25/09/2025	5.51	0
1/10/2025	11.82	0
7/10/2025	8.14	0.4
13/10/2025	8.49	4.4
19/10/2025	7.08	0.5
25/10/2025	6.27	0
31/10/2025	11.69	4.7
6/11/2025	13.98	1
12/11/2025	5.56	0.2
18/11/2025	10.03	0
24/11/2025	4.42	2.3
30/11/2025	14	1.3
18/12/2025	30 [a]	2.6 [a]
24/12/2025	11.18	1.2
30/12/2025	20.8	8.8

[a] Discussed in section 6.3.2.1

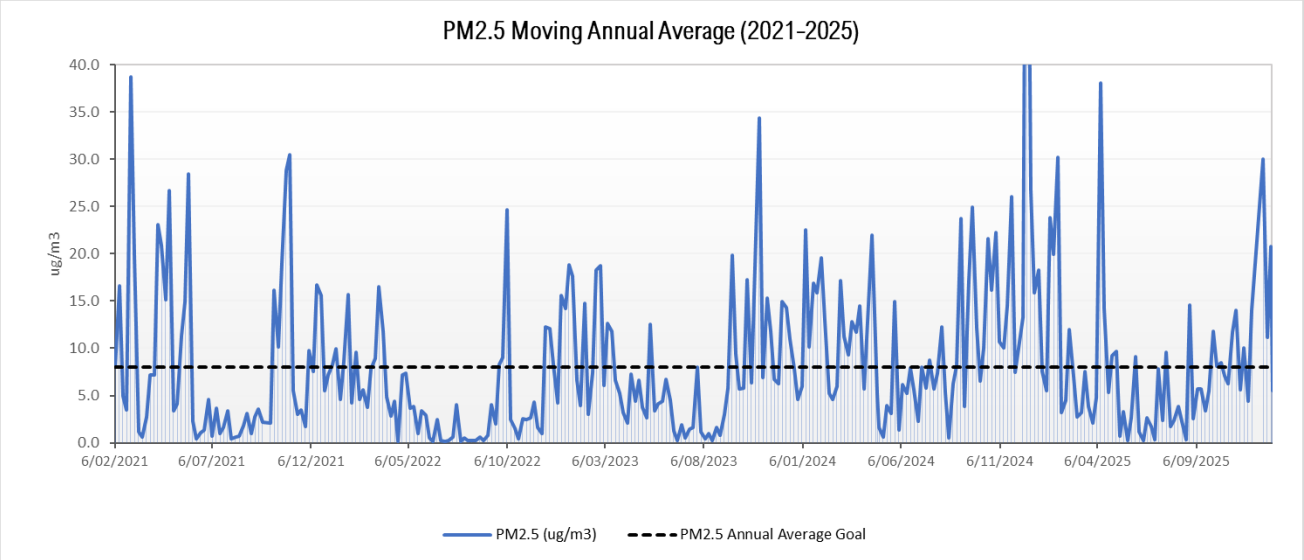
$PM_{2.5}$ annual average results 2025



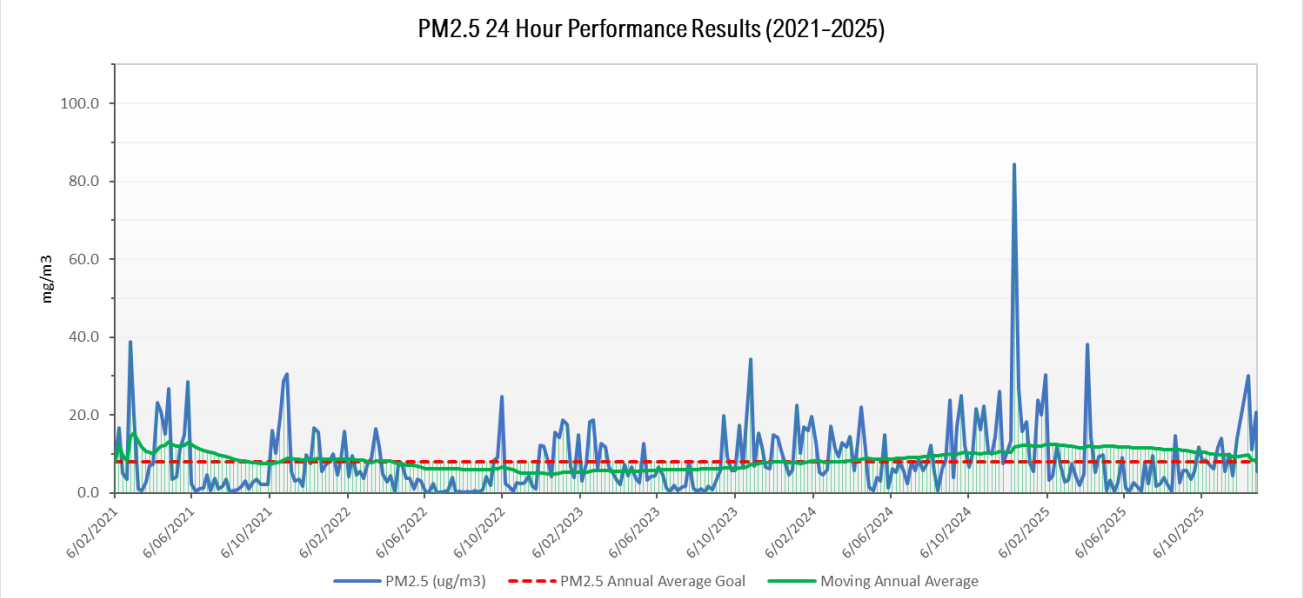
$PM_{2.5}$ 24-hour performance results – 2025



Long Term PM2.5 Trend – 2021 to 2025

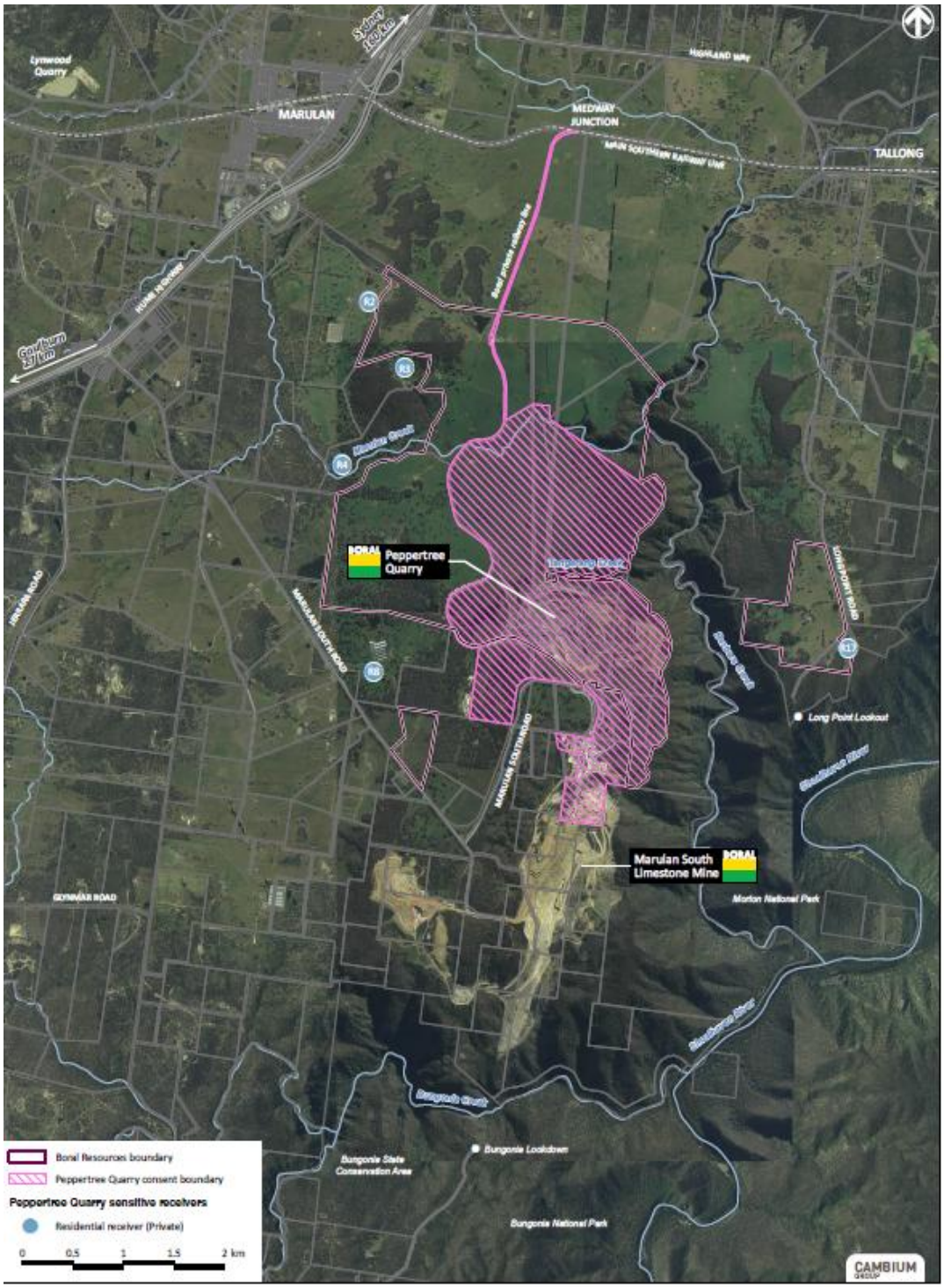


$PM_{2.5}$ 24-hour performance results - 2021 to 2025



APPENDIX 3 NOISE MONITORING

Residential receiver locations

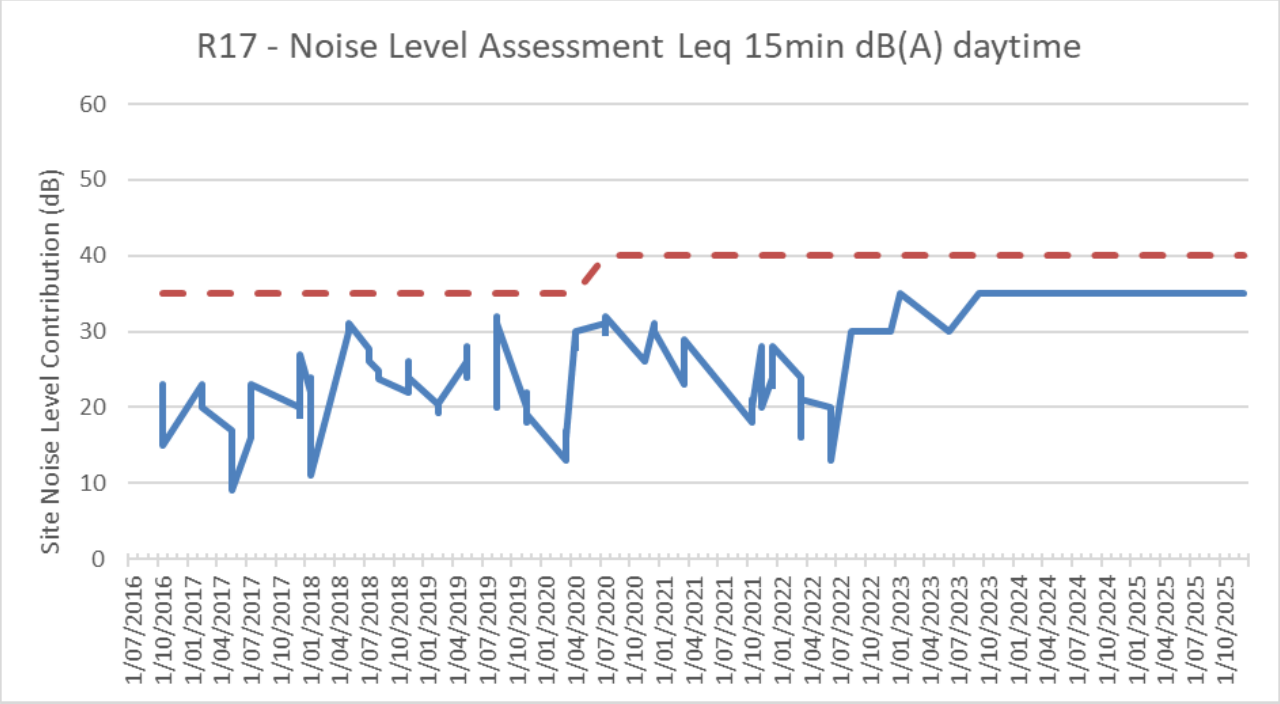


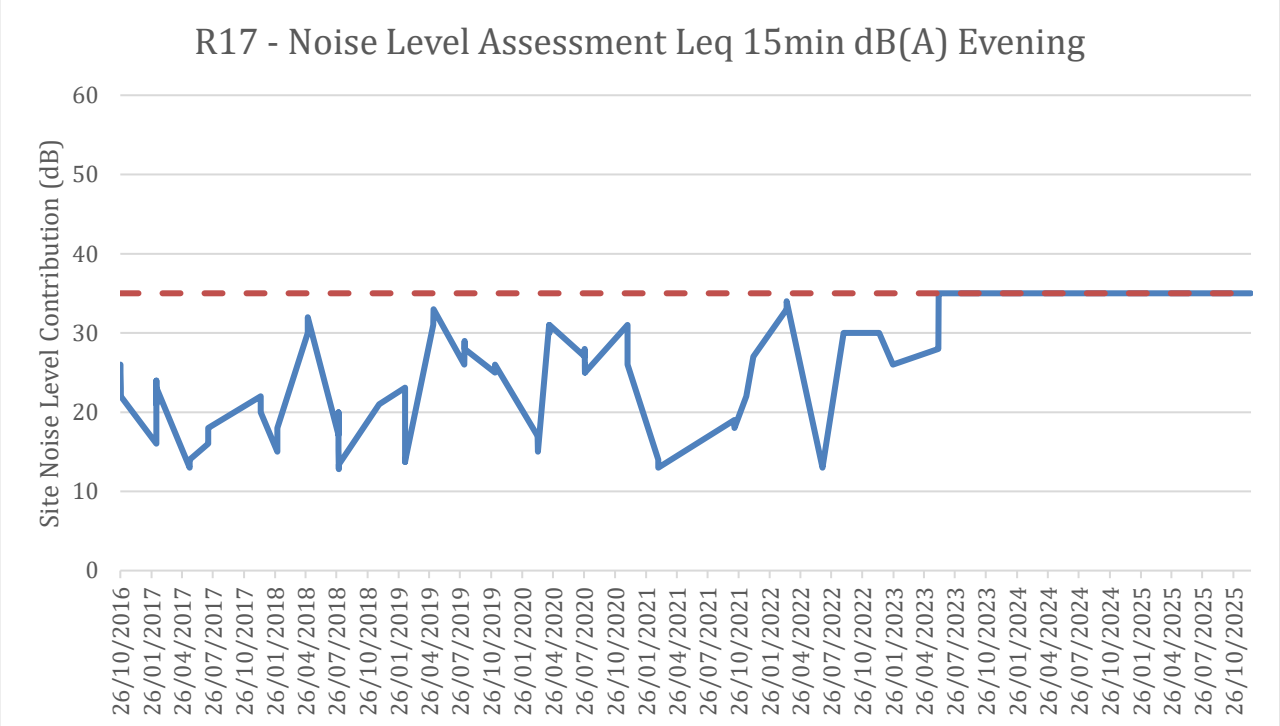
Noise Assessment Results (LAeq (15min))

Residential Receiver	Assessment Dates (2025)	Noise Level Assessment (LAeq (15min))		
		Compliance Criteria	Measured Noise Levels dB(A)	Compliance with Criteria
Receiver R3	April	Day: 40 Evening/Night: 35	<35/<35 <35	Yes Yes
	July	Day: 40 Evening/Night: 35	<35 <35/<35	Yes Yes
	September	Day: 40 Evening/Night: 35	<35 <35/<35	Yes Yes
	December	Day: 40 Evening/Night: 35	<35/<35 <35	Yes Yes
Receiver R2	April	Day: 40 Evening/Night: 35	<35/<35 <35	Yes Yes
	July	Day: 40 Evening/Night: 35	<35 <35/<35	Yes Yes
	September	Day: 40 Evening/Night: 35	<35 <35/<35	Yes Yes
	December	Day: 40 Evening/Night: 35	<35/<35 <35	Yes Yes
Receiver R8	April	Day: 40 Evening/Night: 35	<35/<35 <35	Yes Yes
	July	Day: 40 Evening/Night: 35	<35/<35 <35	Yes Yes
	September	Day: 40 Evening/Night: 35	<40 <35/<35	Yes Yes
	December	Day: 40 Evening/Night: 35	<35/<35 <35	Yes Yes
Receiver R4	April	Day: 40 Evening/Night: 35	<35/<35 <35	Yes Yes
	July	Day: 40 Evening/Night: 35	<35/<35 <35	Yes Yes
	September	Day: 40 Evening/Night: 35	<35 <35/<35	Yes Yes
	December	Day: 40 Evening/Night: 35	<35/<35 <35	Yes Yes
Receiver R17	April	Day: 40 Evening/Night: 35	<35/<35 <35	Yes Yes
	July	Day: 40 Evening/Night: 35	<35/<35 <35	Yes Yes
	September	Day: 40 Evening/Night: 35	<35 <35/<35	Yes Yes
	December	Day: 40 Evening/Night: 35	<35/<35 <35	Yes Yes

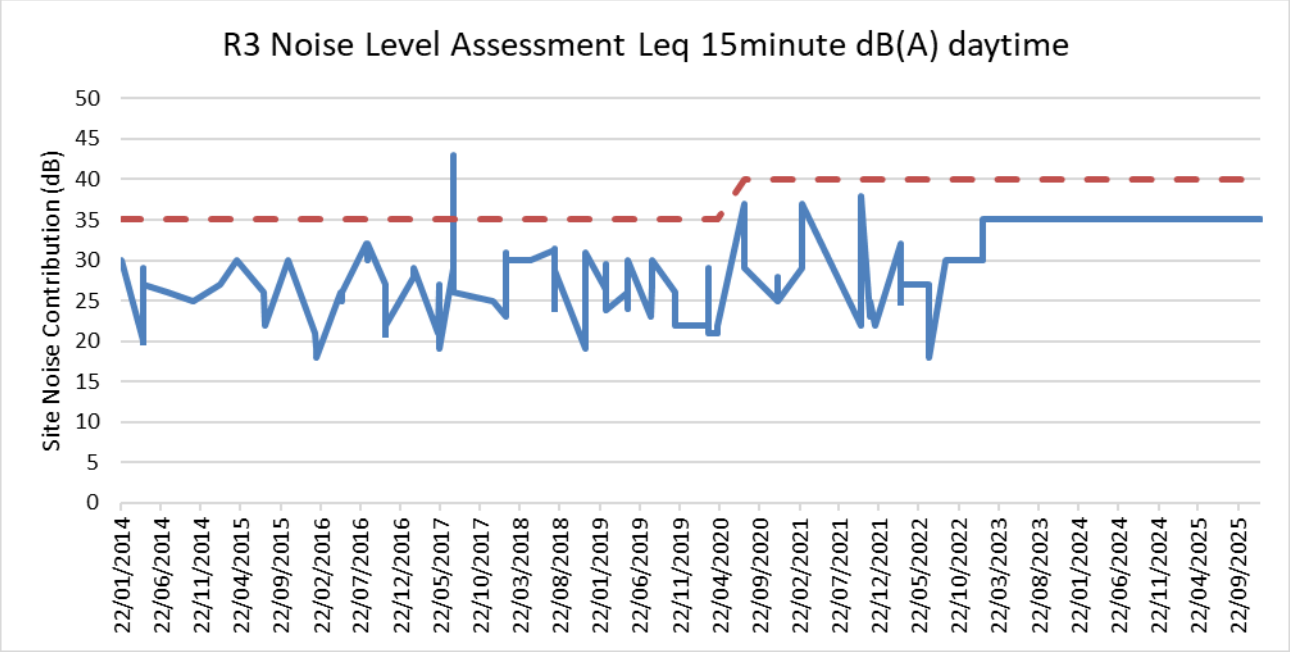
Note: some results in the below graphs may appear on the criteria limit. Noise results are now given as a less than number (e.g. <35) rather than an exact noise level.

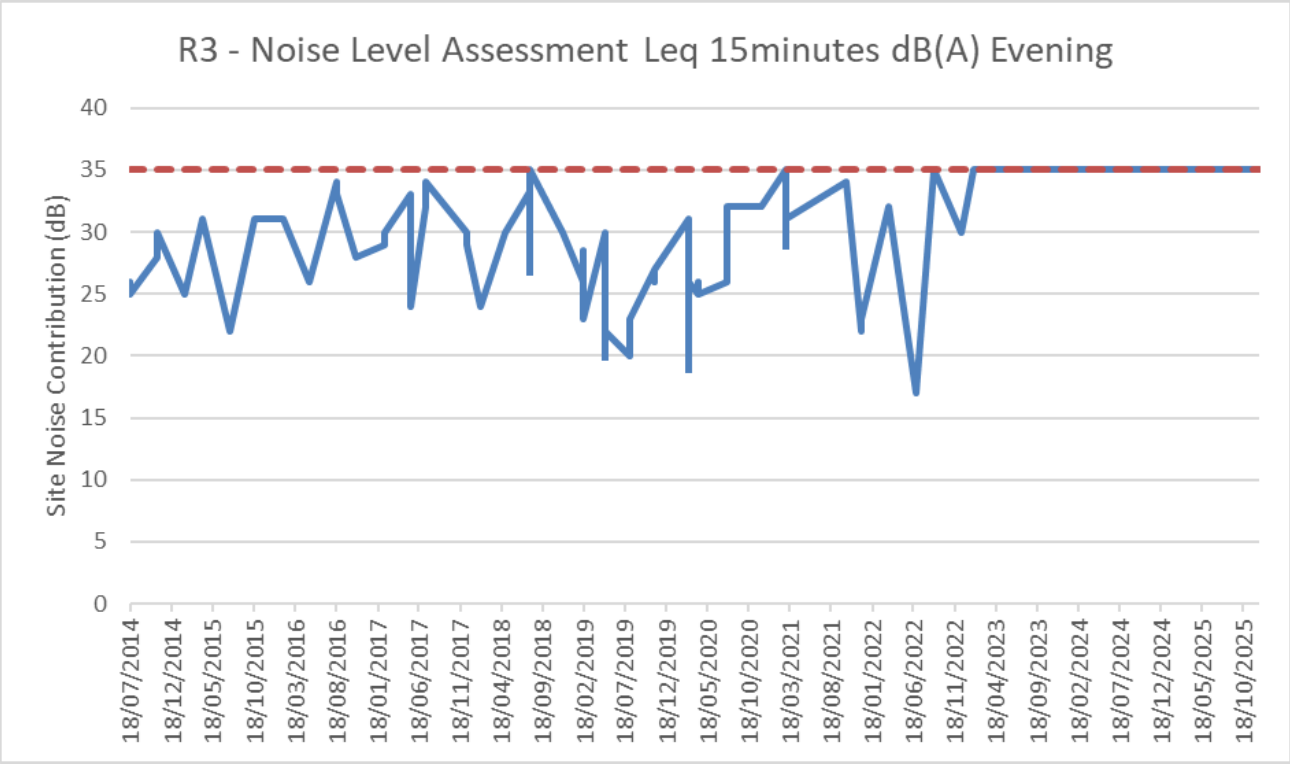
R 17 Off-Site Noise Level Trends (LAeq 15) 2016 – 2025



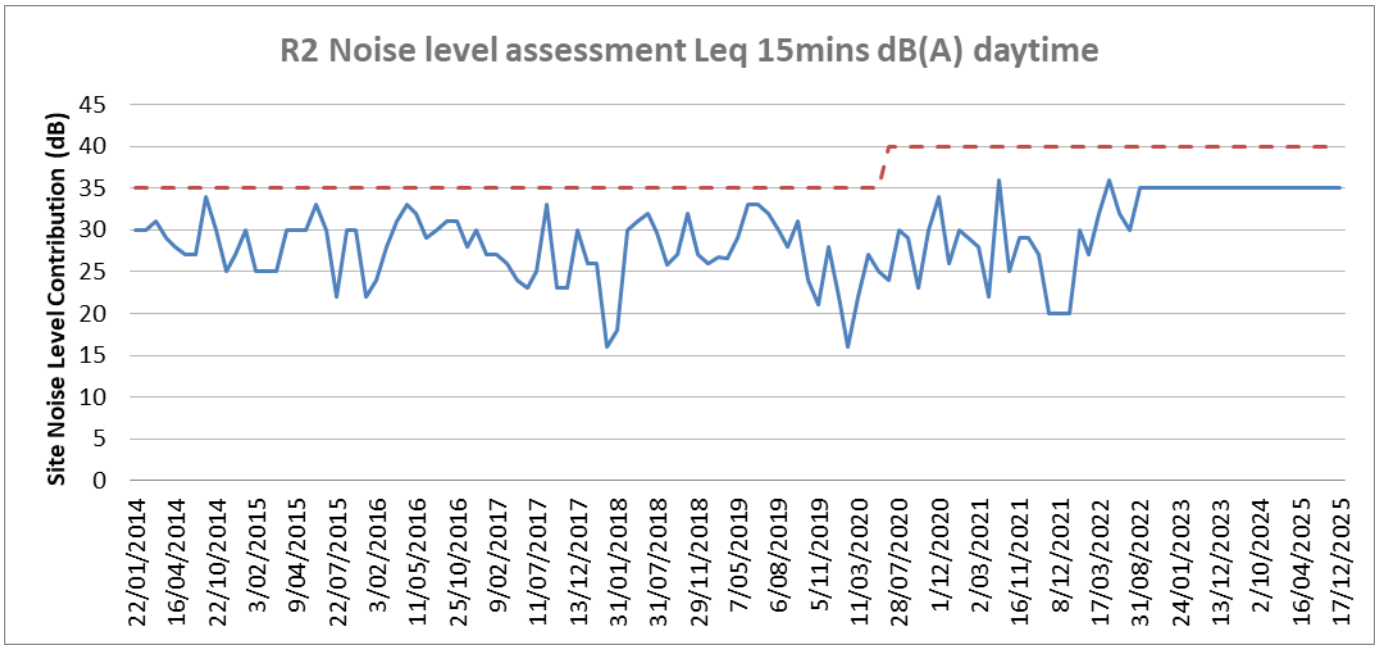


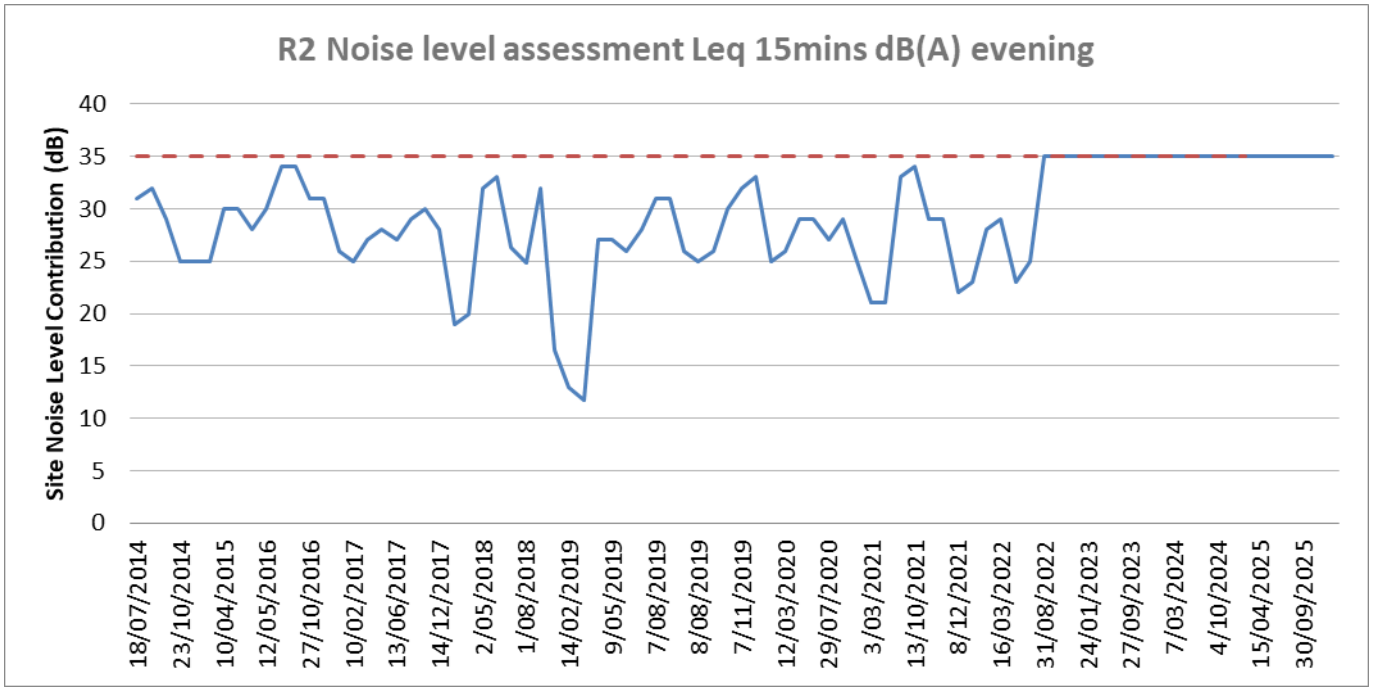
R 3 Off-Site Noise Level Trends (LAeq 15) 2014 – 2025



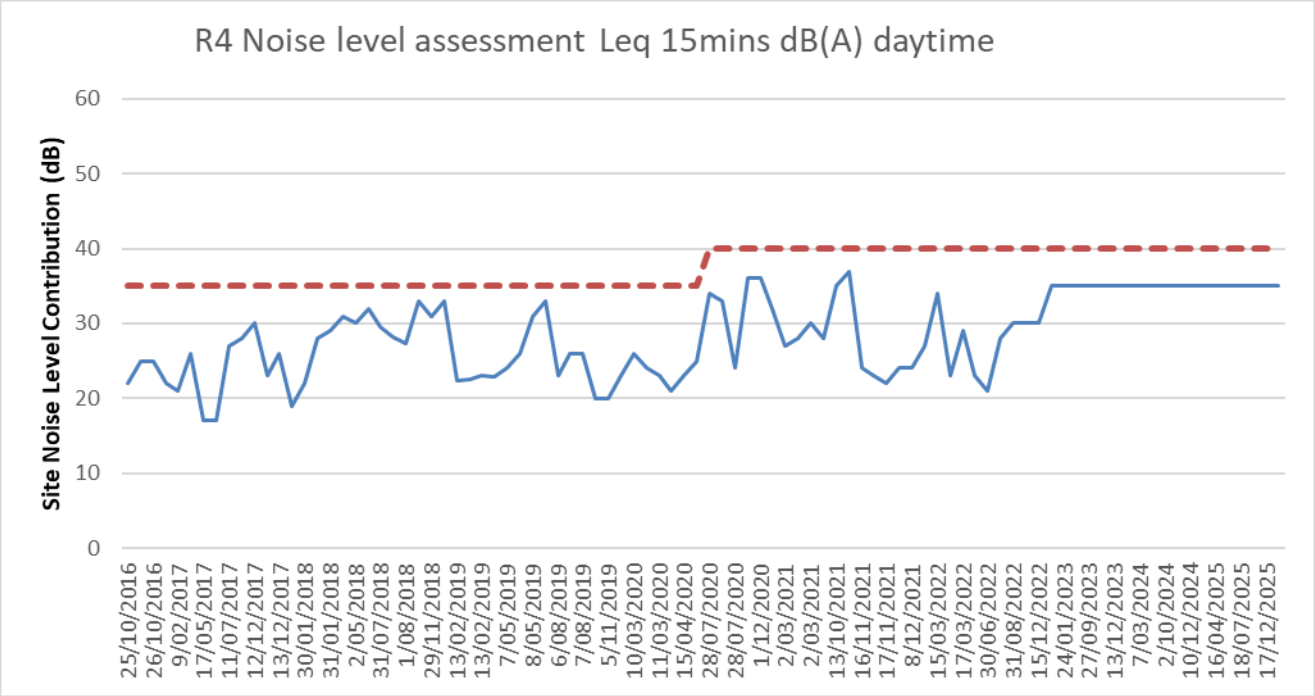


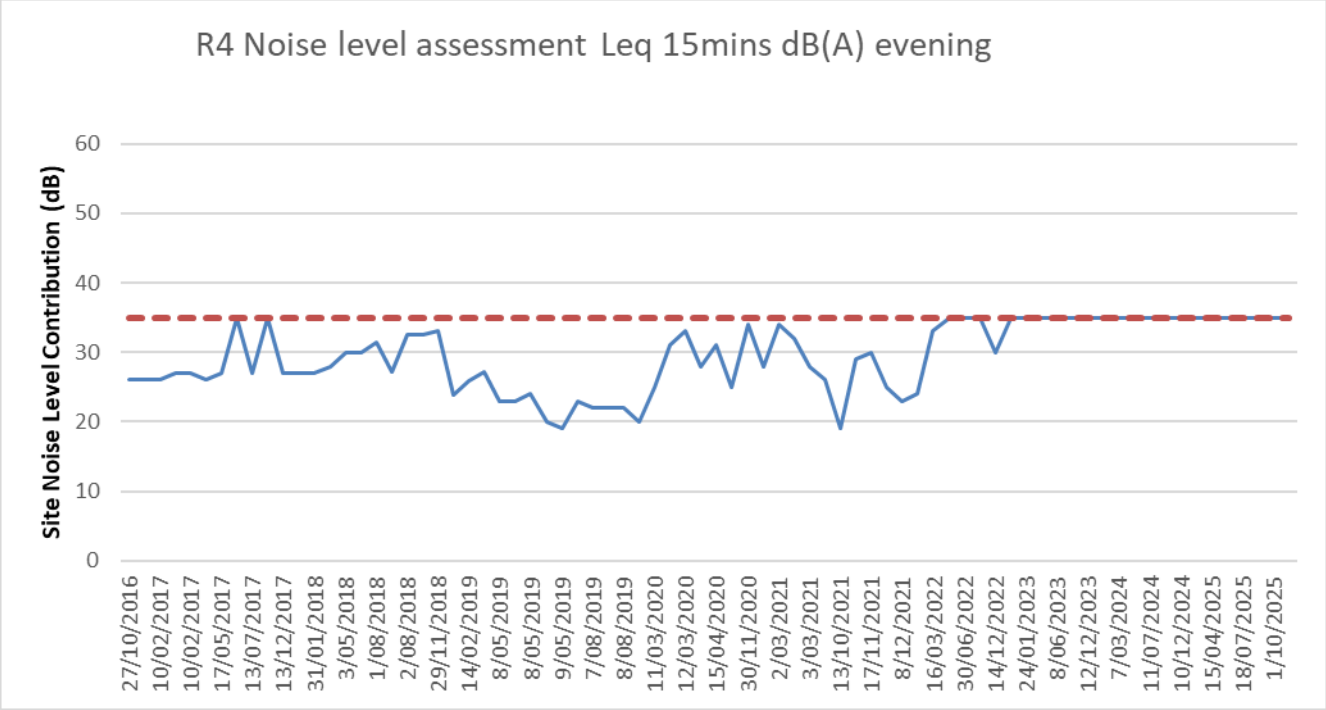
R2 Off-Site Noise Level Trends (LAeq 15) 2014 – 2025



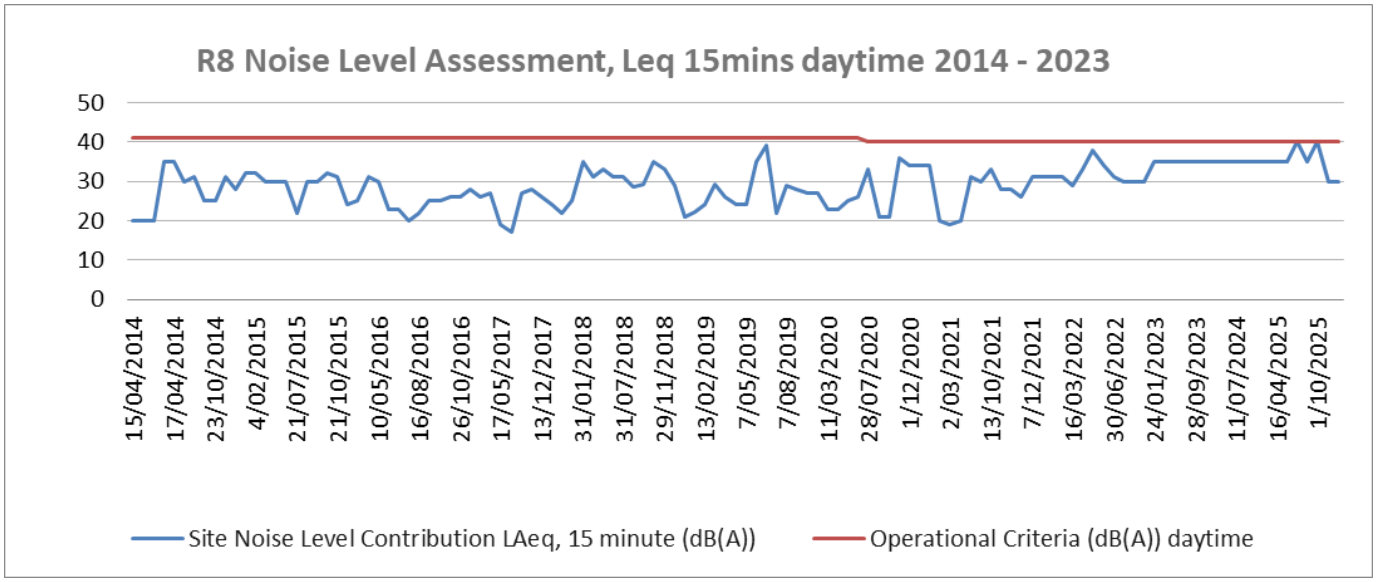


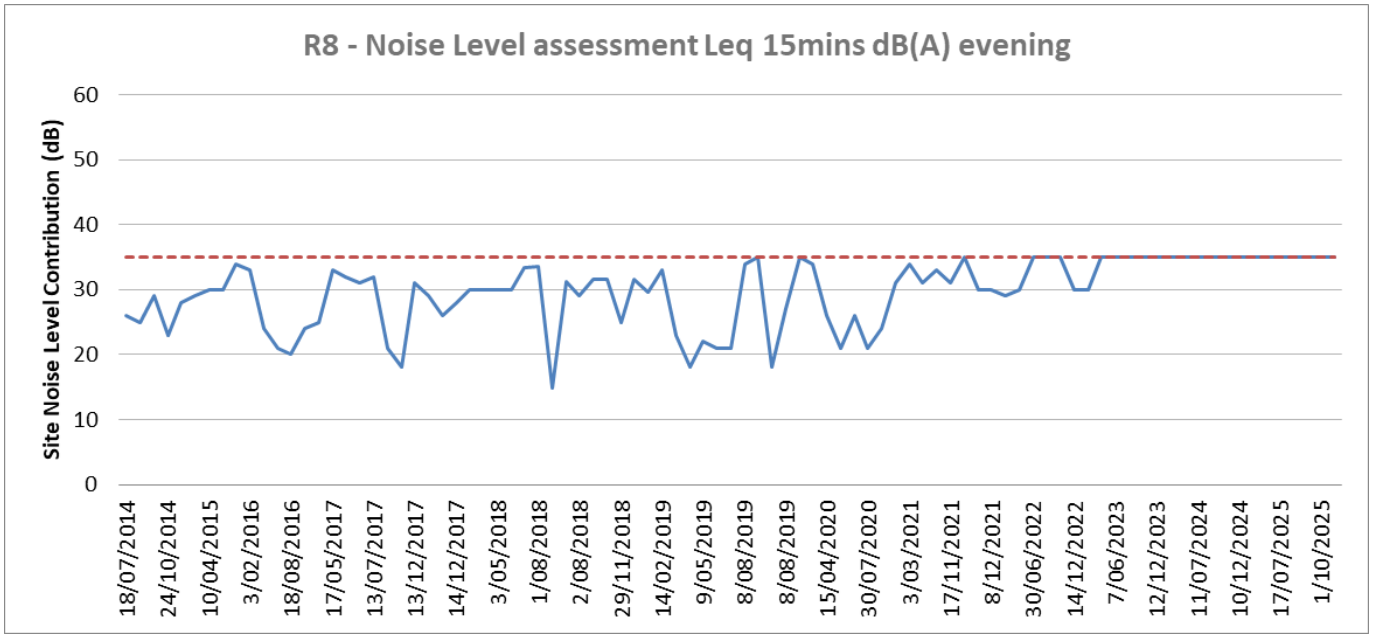
R 4 Off-Site Noise Level Trends (LAeq 15) 2016 – 2025





R8 Off-Site Noise Level Trends (LAeq 15) 2014 – 2025

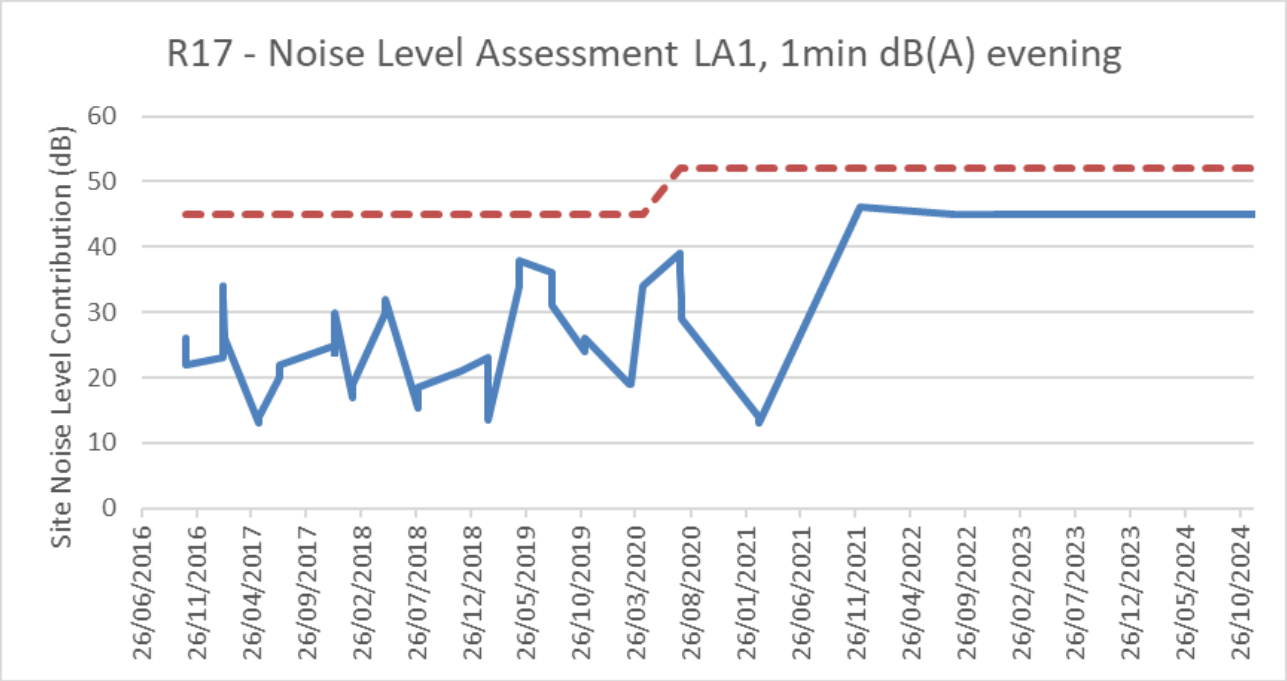




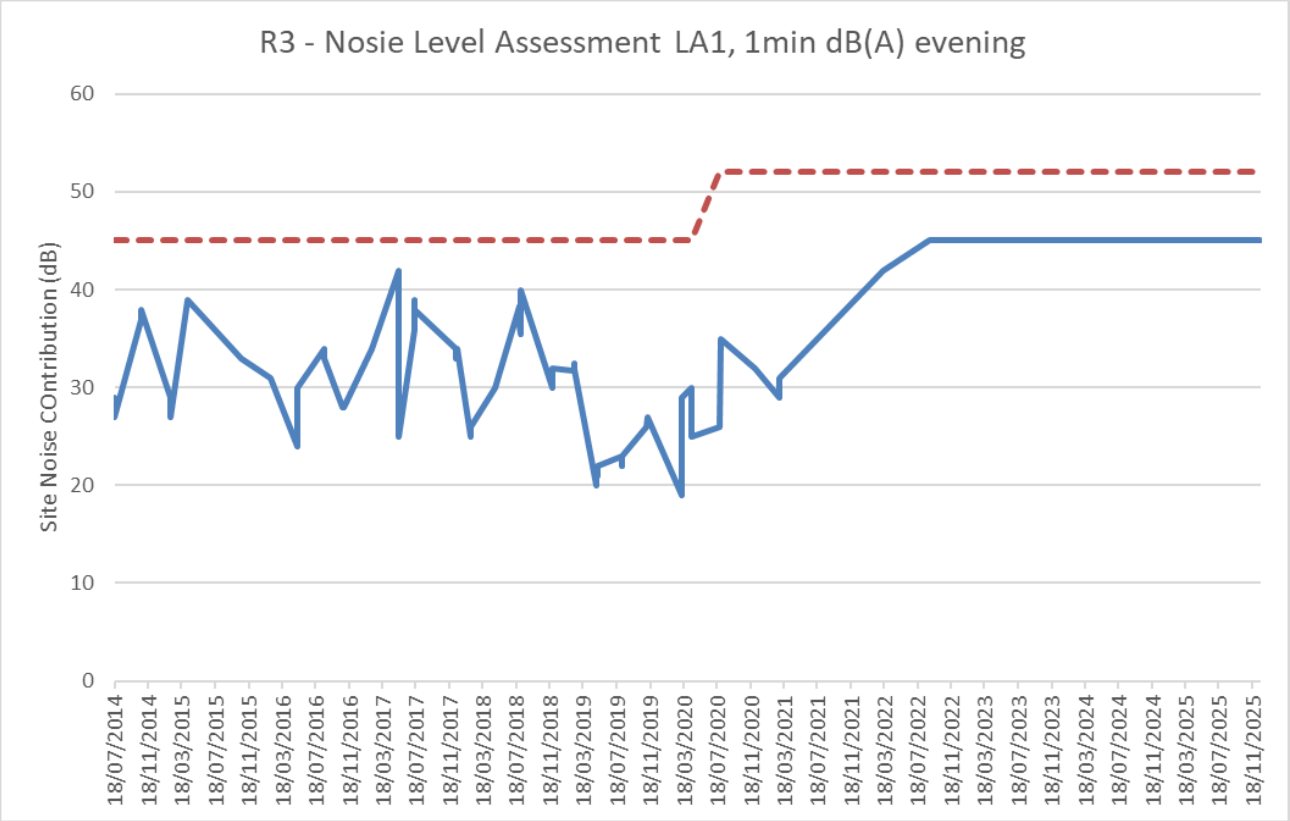
Noise Assessment Results (LA1 (1min))

Residential Receiver	Assessment Dates (2025)	Noise Level Assessment (LA1 (1min))		
		Compliance Criteria	Measured Noise Levels dB(A)	Compliance with Criteria
Receiver R3	April	52	<45	Yes
	July	52	<45/<45	Yes
	September	52	<45/<45	Yes
	December	52	<45	Yes
Receiver R2	April	52	<45	Yes
	July	52	<45/<45	Yes
	September	52	<45/<45	Yes
	December	52	<45	Yes
Receiver R8	April	52	<45	Yes
	July	52	<52/<52	Yes
	September	52	<52/<52	Yes
	December	52	<45	Yes
Receiver R4	April	52	<45	Yes
	July	52	<45/<45	Yes
	September	52	<45/<45	Yes
	December	52	<45	Yes
Receiver R17	April	52	<45	Yes
	July	52	<45/<45	Yes
	September	52	<45/<45	Yes
	December	52	<45	Yes

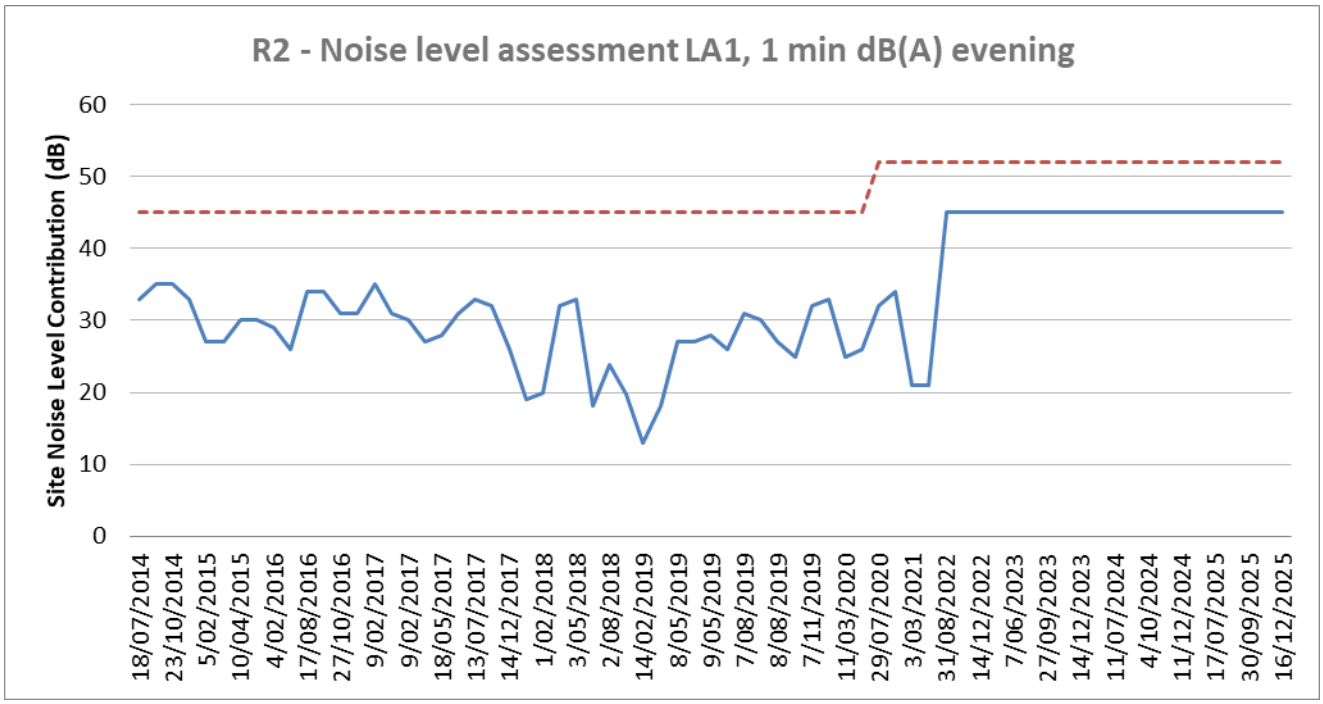
R17 Noise Level Trends (LA1, 1minute) 2016 – 2025



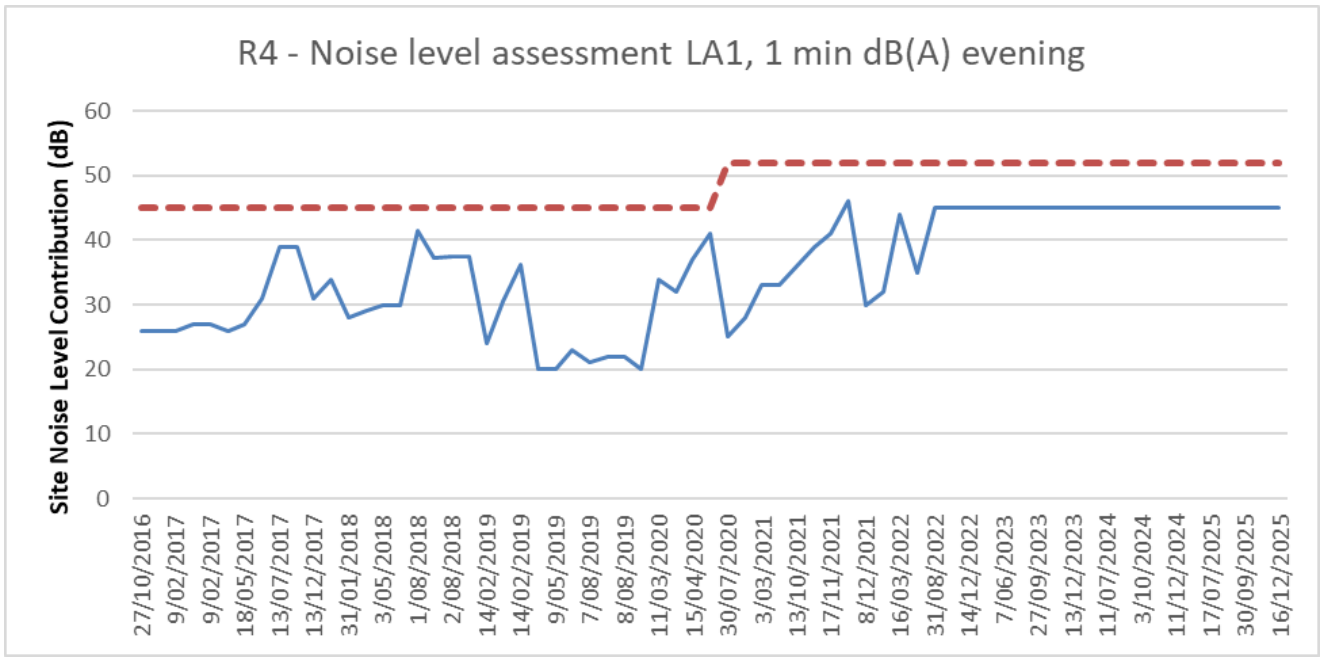
R3 Noise Level Trends (LA1, 1minute) 2014 – 2025



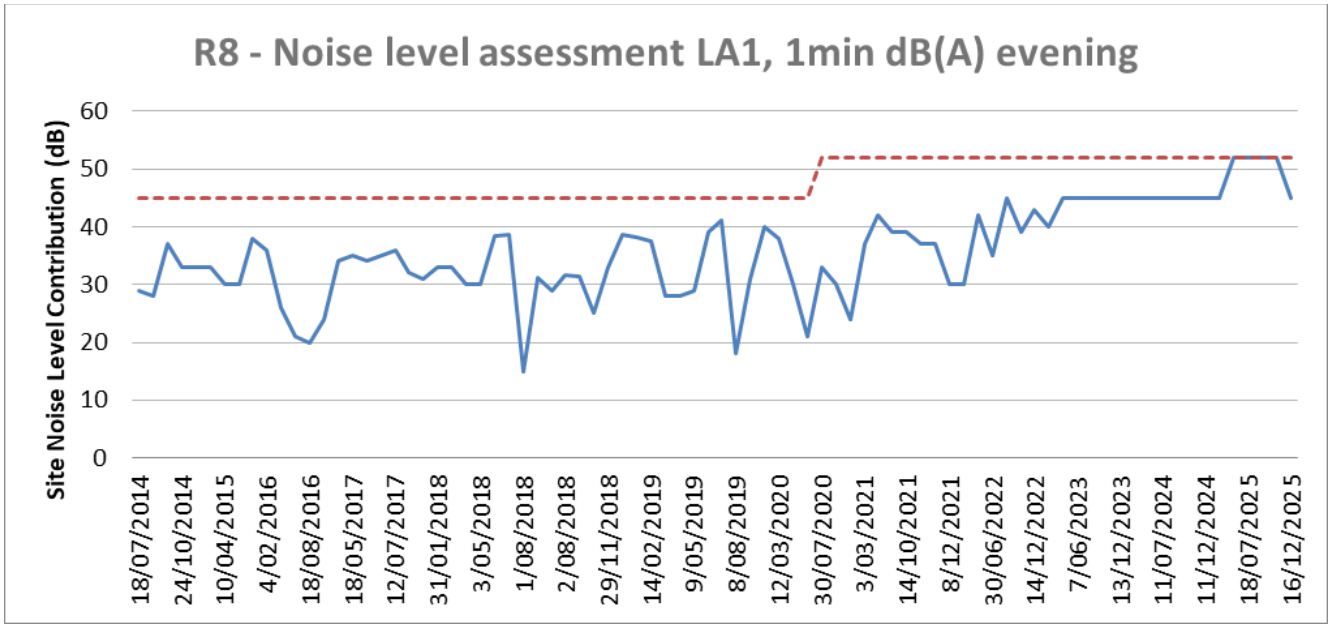
R2 Noise Level Trends (LA1, 1minute) 2014 – 2025



R4 Noise Level Trends (LA1, 1minute) – 2016 - 2025

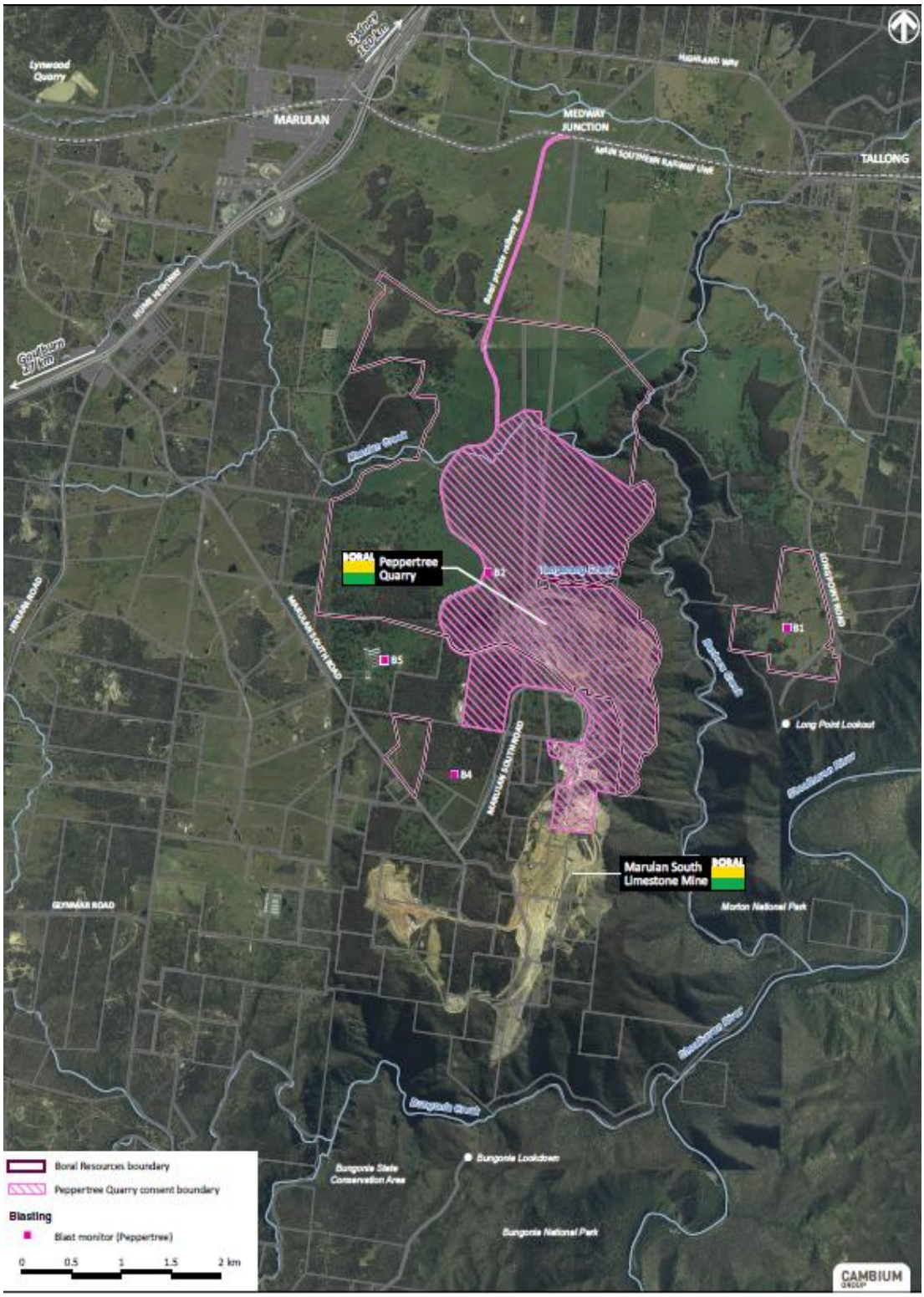


R8 Noise Level Trends (LA1, 1minute) – 2014 - 2025



APPENDIX 4 BLAST MONITORING INFORMATION

Blast monitoring locations

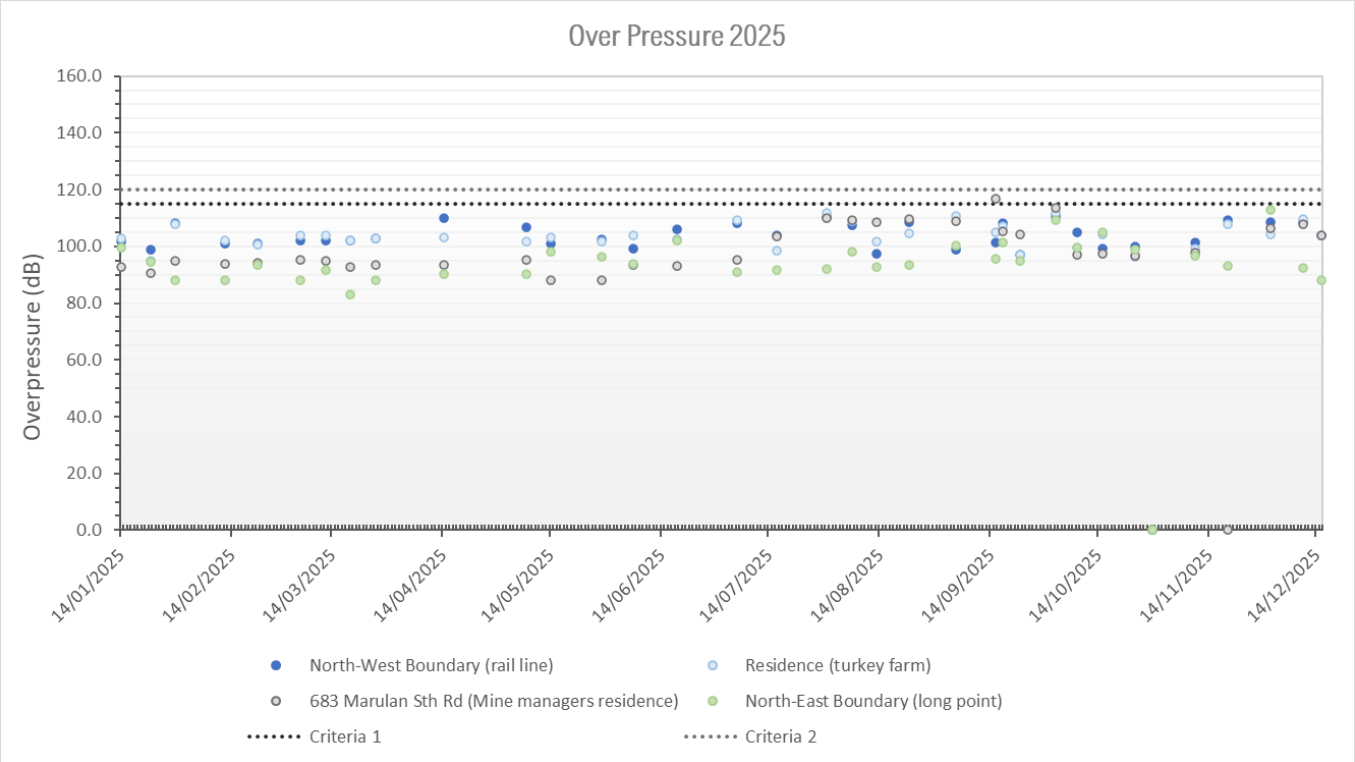


Blast Monitoring Results

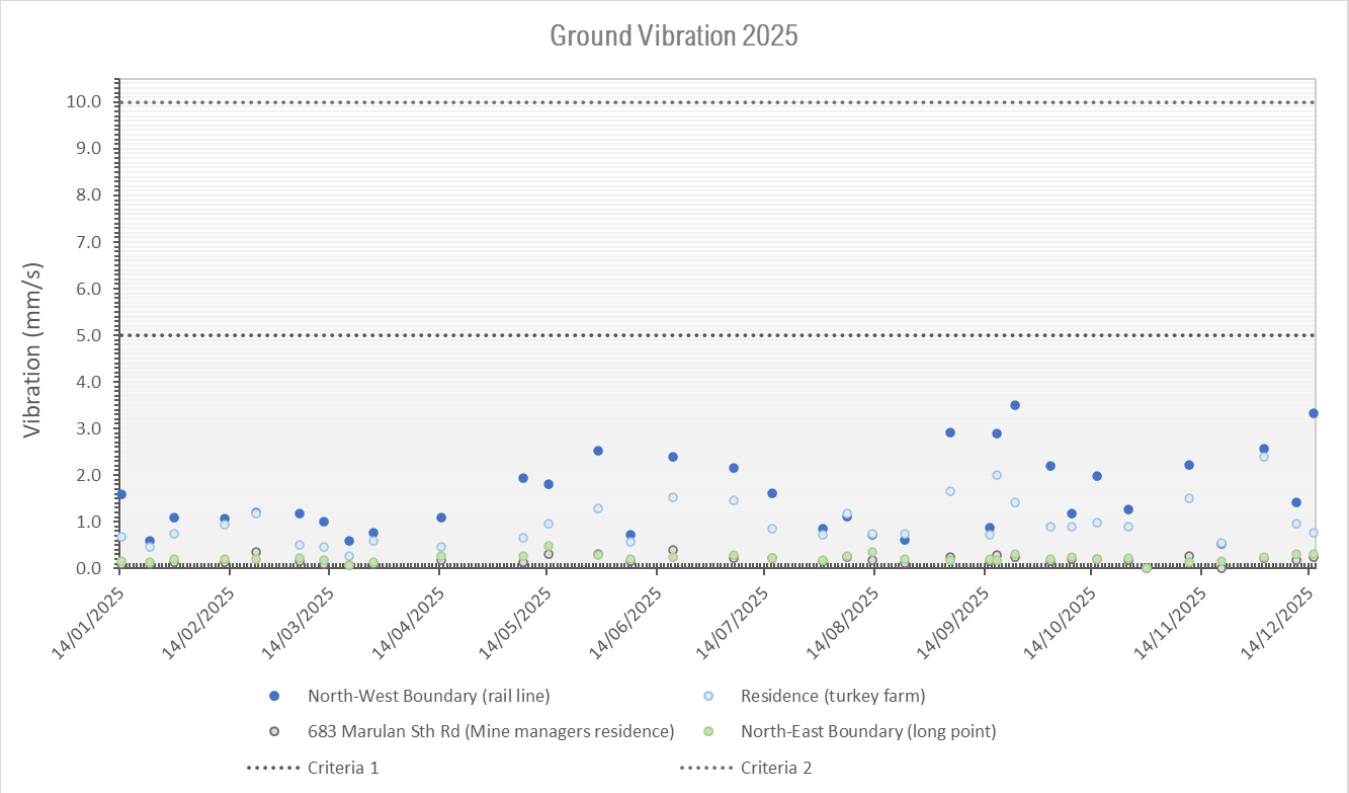
Blast Date	Over Pressure (db – Linear) Max Criteria: 120 5% Exceedance: 115				Ground Vibration (mm/sec) Max Criteria: 10 5% Exceedance: 5				Compliance
	Monitoring Locations				Monitoring Locations				
	B2 (northwest)	B1 (northeast)	B4 (Marulan sth rd)	B5 (Residence)	B2 (northwest)	B1 (northeast)	B4 (Marulan sth rd)	B5 (Residence)	
14/01/2025	101.90	99.5	92.80	102.8	1.58	0.2	0.09	0.7	YES
22/01/2025	98.80	94.5	90.60	94.9	0.58	0.1	0.09	0.5	YES
29/01/2025	108.20	88.0	95.00	108.0	1.09	0.2	0.13	0.8	YES
12/02/2025	100.90	88.0	93.80	102.2	1.06	0.2	0.14	0.9	YES
21/02/2025	101.10	93.4	94.20	100.8	1.20	0.2	0.36	1.2	YES
5/03/2025	102.20	88.0	95.10	103.7	1.18	0.2	0.15	0.5	YES
12/03/2025	102.00	91.8	95.00	103.8	1.00	0.2	0.09	0.5	YES
19/03/2025	102.10	83.2	92.90	102.1	0.60	0.1	0.06	0.3	YES
26/03/2025	102.80	88.0	93.30	102.7	0.76	0.1	0.09	0.6	YES
14/04/2025	109.80	90.3	93.50	103.0	1.08	0.3	0.18	0.5	YES
7/05/2025	106.90	90.3	95.40	101.8	1.94	0.3	0.13	0.7	YES
14/05/2025	101.10	98.1	88.00	103.0	1.81	0.5	0.30	1.0	YES
28/05/2025	102.60	96.4	88.00	101.9	2.52	0.3	0.31	1.3	YES
6/06/2025	99.20	93.9	93.60	103.7	0.72	0.2	0.15	0.6	YES
18/06/2025	105.90	102.0	93.20	102.4	2.39	0.3	0.40	1.5	YES
5/07/2025	108.20	90.9	95.40	109.3	2.16	0.3	0.23	1.5	YES
16/07/2025	103.70	91.8	103.60	98.6	1.62	0.2	0.23	0.9	YES
30/07/2025	110.20	92.1	109.90	111.7	0.85	0.2	0.15	0.7	YES
6/08/2025	107.60	98.0	109.30	108.8	1.12	0.3	0.24	1.2	YES
13/08/2025	97.30	92.6	108.50	101.9	0.72	0.4	0.17	0.8	YES
22/08/2025	108.50	93.6	109.50	104.6	0.62	0.2	0.11	0.7	YES
4/09/2025	98.90	100.4	109.00	110.8	2.92	0.2	0.25	1.7	YES
15/09/2025	101.20	95.6	116.90	104.8	0.87	0.2	0.15	0.7	YES
17/09/2025	108.20	101.3	105.30	107.0	2.89	0.2	0.29	2.0	YES
22/09/2025	96.90	94.8	104.30	97.0	3.50	0.3	0.25	1.4	YES
2/10/2025	110.60	109.2	113.70	111.8	2.19	0.2	0.15	0.9	YES
8/10/2025	105.00	99.5	97.10	99.6	1.18	0.2	0.19	0.9	YES
15/10/2025	99.10	104.8	97.40	104.4	1.98	0.2	0.20	1.0	YES
24/10/2025	100.10	99.0	96.70	96.2	1.26	0.2	0.18	0.9	YES
29/10/2025	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	YES
10/11/2025	101.50	96.7	97.80	99.2	2.23	0.1	0.27	1.5	YES

Blast Date	Over Pressure (db – Linear) Max Criteria: 120 5% Exceedance: 115				Ground Vibration (mm/sec) Max Criteria: 10 5% Exceedance: 5				Compliance
	Monitoring Locations				Monitoring Locations				
	B2 (northwest)	B1 (northeast)	B4 (Marulan sth rd)	B5 (Residence)	B2 (northwest)	B1 (northeast)	B4 (Marulan sth rd)	B5 (Residence)	
19/11/2025	109.30	93.1	0.00	107.7	0.52	0.2	0.00	0.6	YES
1/12/2025	108.40	112.7	106.50	104.3	2.57	0.2	0.22	2.4	YES
10/12/2025	108.40	92.4	108.00	109.5	1.42	0.3	0.17	1.0	YES
15/12/2025	104.00	88.0	103.90	103.8	3.33	0.3	0.24	0.8	YES

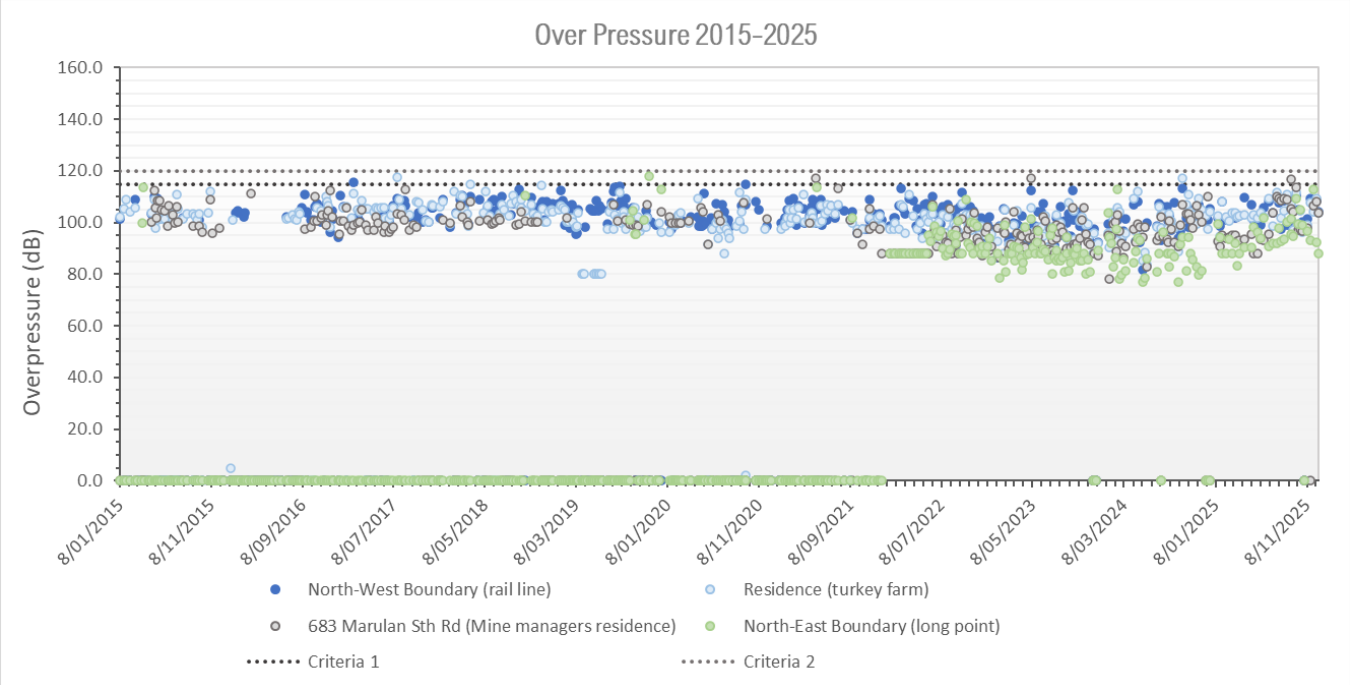
Blasting Overpressure Performance for 2025



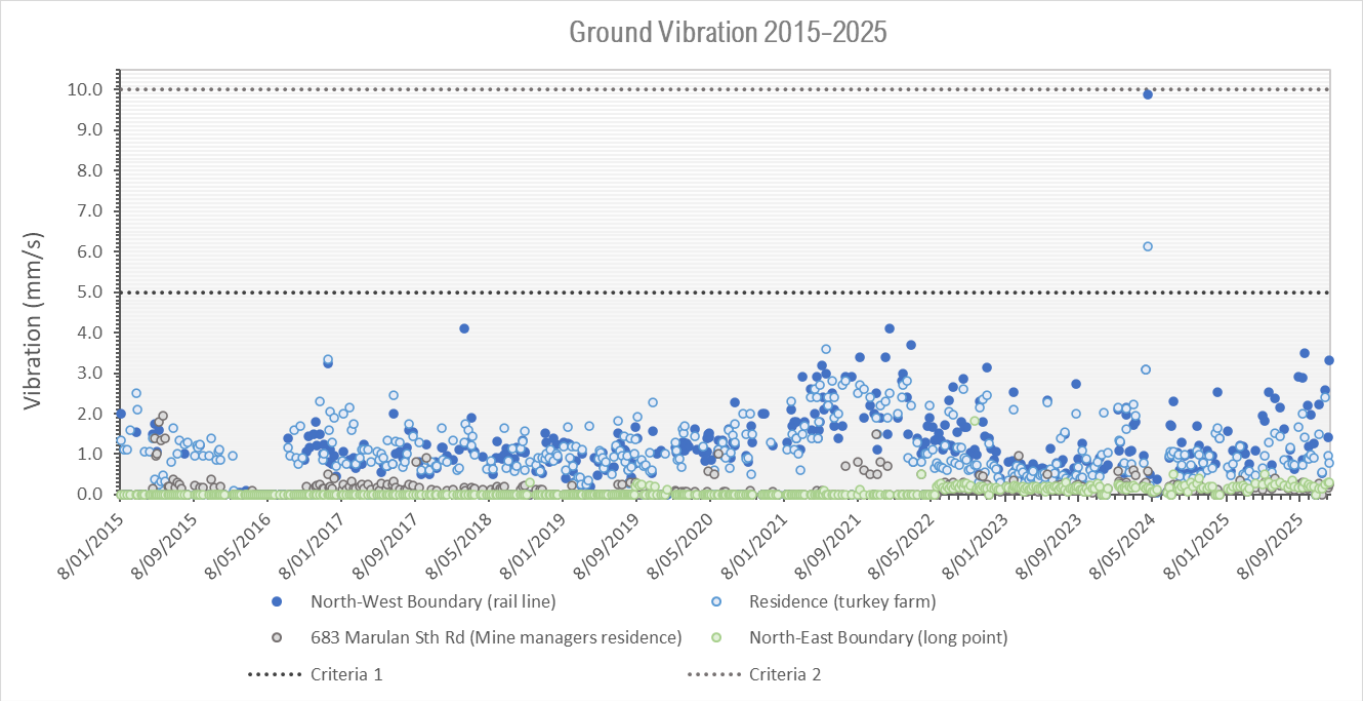
Blasting Ground Vibration Performance for 2025



Long Term Blast Trends – Overpressure

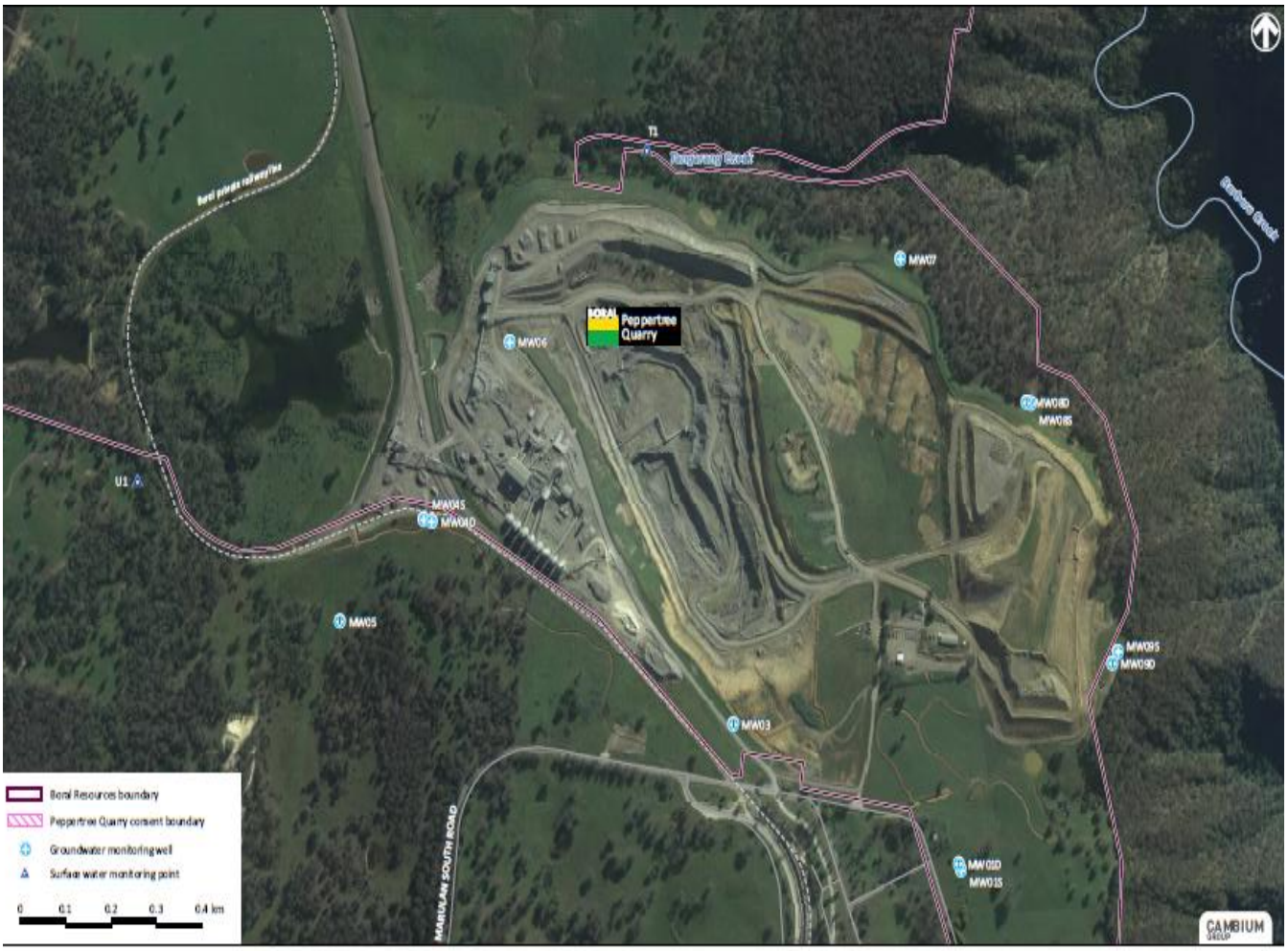


Long Term Blast Trends – Vibration



APPENDIX 5 SURFACE AND GROUNDWATER MONITORING INFORMATION

Surface and groundwater monitoring locations



Surface Water Monitoring Results (2025)

Parameter	Dam				Marulan South Creek				Tangarang Creek - Downstream				Tangarang Creek - Upstream				Barbers Creek - Upstream				Barbers Creek - Downstream			
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th
Ph	7.79	8	7.45	8.75	7.83	7.76	6.77	7.6	8.31	8.04	6.89	8.1	NF	7.76	6.77	NF	8.04	7.39	7.54	7.48	8.18	7.59	8.02	7.59
Total Suspended solids (mg/l)	<5	<5	22	59	16	<5	20	24	<5	<5	19	<5	NF	<5	22	NF	<5	<5	<5	<5	<5	<5	<5	<5
Total Dissolved solids (mg/l)	567	587	113	510	570	455	137	1300	525	506	71	508	NF	870	70	NF	531	362	190	466	546	376	200	480
Ammonia -N (mg/l)	0.28	0.29	0.06	0.03	0.09	0.07	0.13	0.02	0.06	0.1	0.04	0.02	NF	0.06	0.01	NF	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate-N (mg/l)	0.52	1.49	0.09	0.06	<0.01	<0.01	0.1	<0.01	0.2	0.79	0.14	0.09	NF	0.02	0.03	NF	NA	NA	NA	NA	NA	NA	NA	NA

Parameter	Dam				Marulan South Creek				Tangarang Creek - Downstream				Tangarang Creek - Upstream				Barbers Creek - Upstream				Barbers Creek - Downstream			
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th
Nitrite-N (mg/l)	0.02	0.03	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	NF	<0.01	<0.01	NF	NA	NA	NA	NA	NA	NA	NA	NA
Sulphate (mg/l)	90	90	22	42	<1	16	20	178	27	34	19	14	NF	10	22	NF	30	15	8	22	37	18	11	26
Chloride (mg/l)	191	180	12	145	182	167	22	414	138	134	14	135	NF	358	10	NF	163	120	40	123	160	118	41	121
Turbidity (NTU)	2	1.6	32.7	20.6	16.9	2.9	47.4	14.5	2	3.3	30.5	0.6	NF	9.1	28.3	NF	0.4	0.4	4.5	0.3	0.4	0.8	3.8	0.4
Calcium (mg/l)	60	60	9	41	54	38	9	102	58	60	10	55	NF	65	7	NF	57	38	20	55	60	42	22	62
Potassium (mg/l)	5	6	4	5	4	10	4	13	2	2	4	2	NF	4	4	NF	3	2	3	4	4	2	3	4
Magnesium (mg/l)	29	29	3	21	32	25	4	60	31	34	4	33	NF	54	2	NF	33	21	10	32	33	22	11	33
Sodium (mg/l)	79	79	9	59	76	74	15	152	70	71	11	70	NF	100	8	NF	62	46	24	52	63	47	25	51
Total phosphorus (mg/l)	0.08	<0.01	0.12	0.08	0.06	<0.01	0.14	0.28	0.05	<0.01	0.08	0.02	NF	<0.01	0.07	NF	0.01	0.02	0.06	<0.01	<0.01	0.03	0.02	<0.01
Total Nitrogen (mg/l)	1.3	3.2	0.6	1	0.6	0.8	1.6	2.6	0.5	1.5	1.3	0.4	NF	0.7	0.7	NF	0.3	1.7	1.1	0.4	0.5	5	1.4	0.4
Hardness (CaCo3) (mg/l)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NF	NA	NA	NF	278	181	91	269	286	195	100	291
TKN (mg/l)	0.8	1.7	0.5	0.9	0.6	0.8	1.5	2.6	0.3	0.7	1.2	0.4	NF	0.7	0.7	NF	0.3	0.6	0.9	0.4	0.4	0.4	1.2	0.4
Fecal Coliform (cfu/100ml)	17	~1	4500	42	190	~8	7800	2500	16	~5	6900	30	NF	~6	4700	NF	NA	NA	NA	NA	NA	NA	NA	NA
TPH C10-C14 (µg/l)	<50	<50	<50	<100	<50	<50	<50	<100	<50	<50	<50	<100	NF	<50	<50	NF	NA	NA	NA	NA	NA	NA	NA	NA
TPH C15-C28 (µg/l)	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	NF	<100	<100	NF	NA	NA	NA	NA	NA	NA	NA	NA
TPH C29-C36 (µg/l)	<50	<50	<50	<100	<50	<50	<50	<100	<50	<50	<50	<100	NF	<50	<50	NF	NA	NA	NA	NA	NA	NA	NA	NA
sum TPH C10-C36 (µg/l)	<50	<50	<50	<100	<50	<50	<50	<100	<50	<50	<50	<100	NF	<50	<50	NF	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NF	<1.0	<1.0	NF	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NF	<1.0	<1.0	NF	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NF	<1.0	<1.0	NF	NA	NA	NA	NA	NA	NA	NA	NA

Parameter	Dam				Marulan South Creek				Tangarang Creek - Downstream				Tangarang Creek - Upstream				Barbers Creek - Upstream				Barbers Creek - Downstream			
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th
Fluorene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NF	<1.0	<1.0	NF	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NF	<1.0	<1.0	NF	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NF	<1.0	<1.0	NF	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NF	<1.0	<1.0	NF	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NF	<1.0	<1.0	NF	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NF	<1.0	<1.0	NF	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NF	<1.0	<1.0	NF	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b+k)fluoranthene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NF	<1.0	<1.0	NF	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NF	<0.5	<0.5	NF	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NF	<1.0	<1.0	NF	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzo(a,h)anthracene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NF	<1.0	<1.0	NF	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	<1.0	<1.0	<1.0	<0.5	<1.0	<1.0	<1.0	<0.5	<1.0	<1.0	<1.0	<0.5	NF	<1.0	<1.0	NF	NA	NA	NA	NA	NA	NA	NA	NA

note NF – No flow NA – not analysed

Quarters

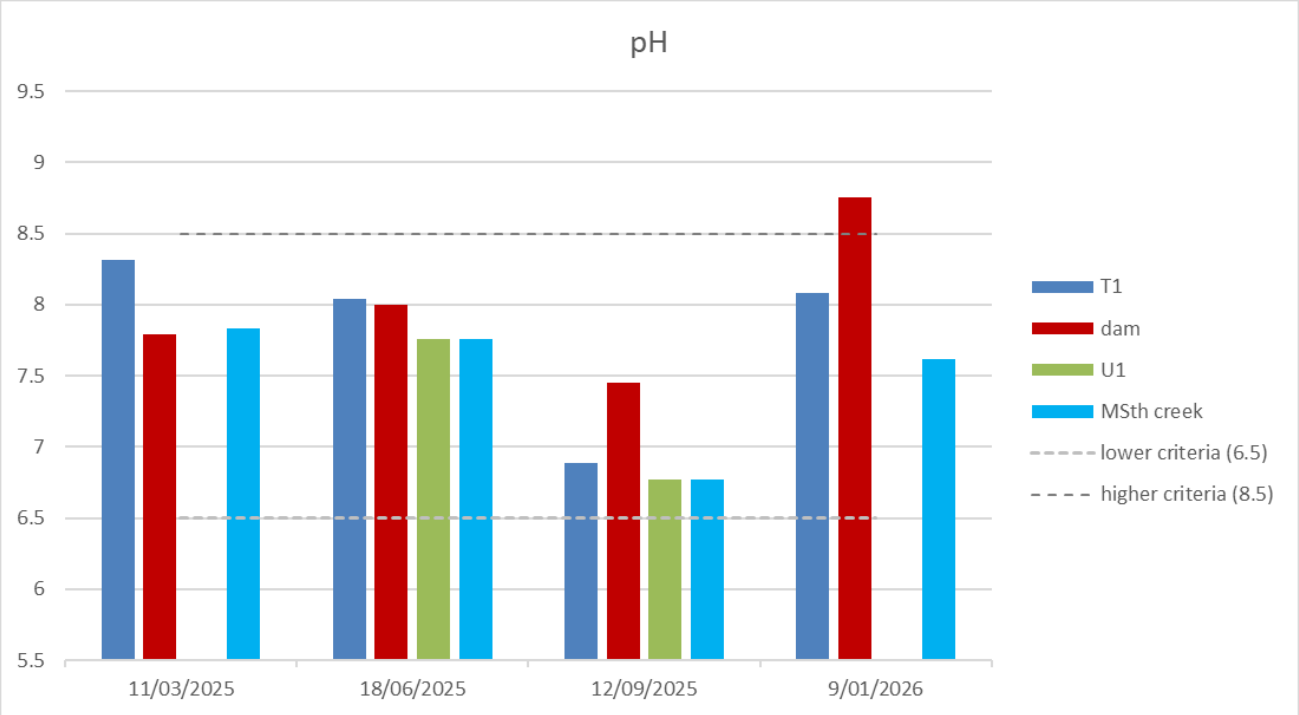
January to March 2025

April to June 2025

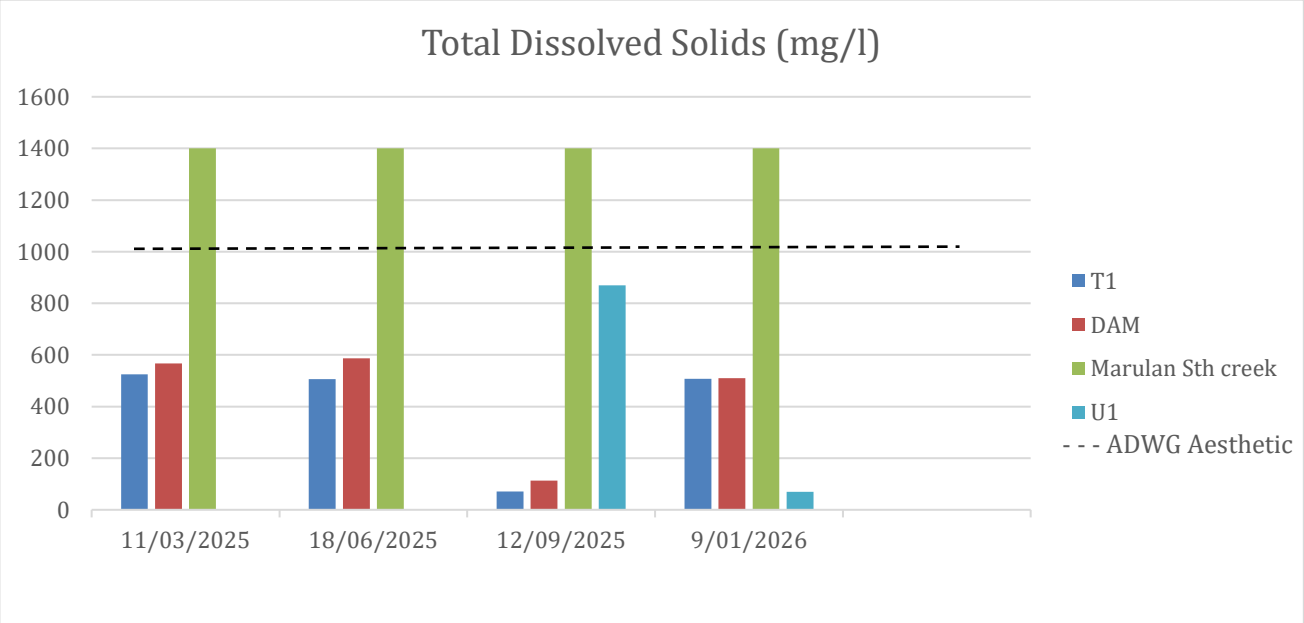
July to September 2025

October to December 2025

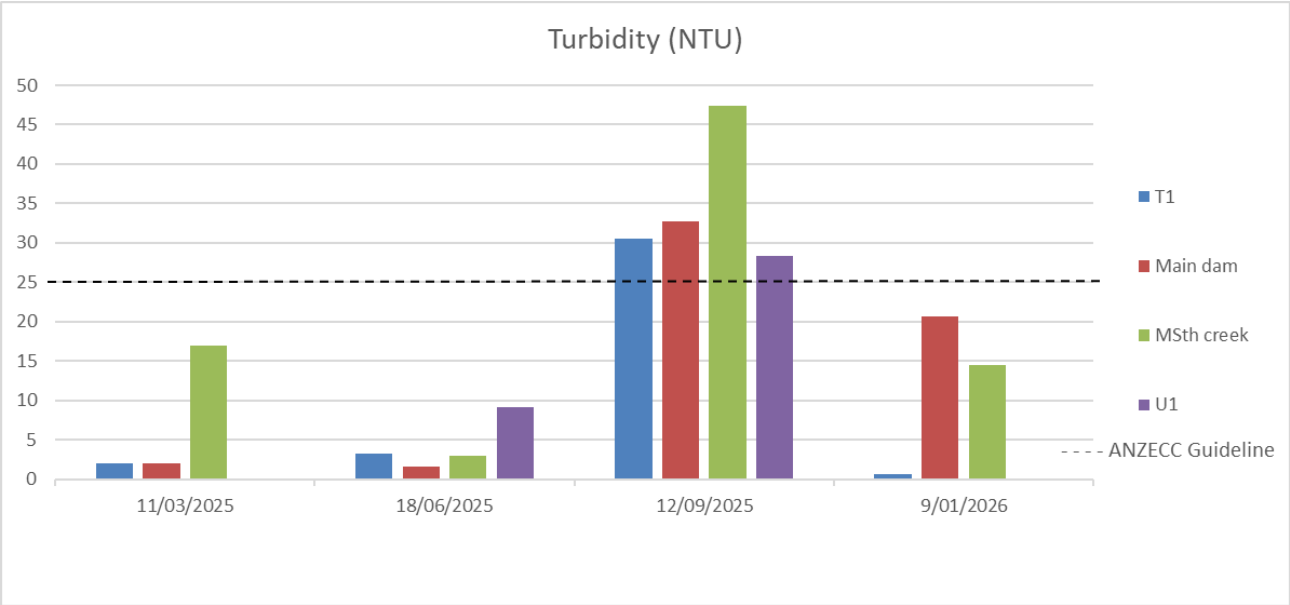
pH Surface Waters Trends 2025



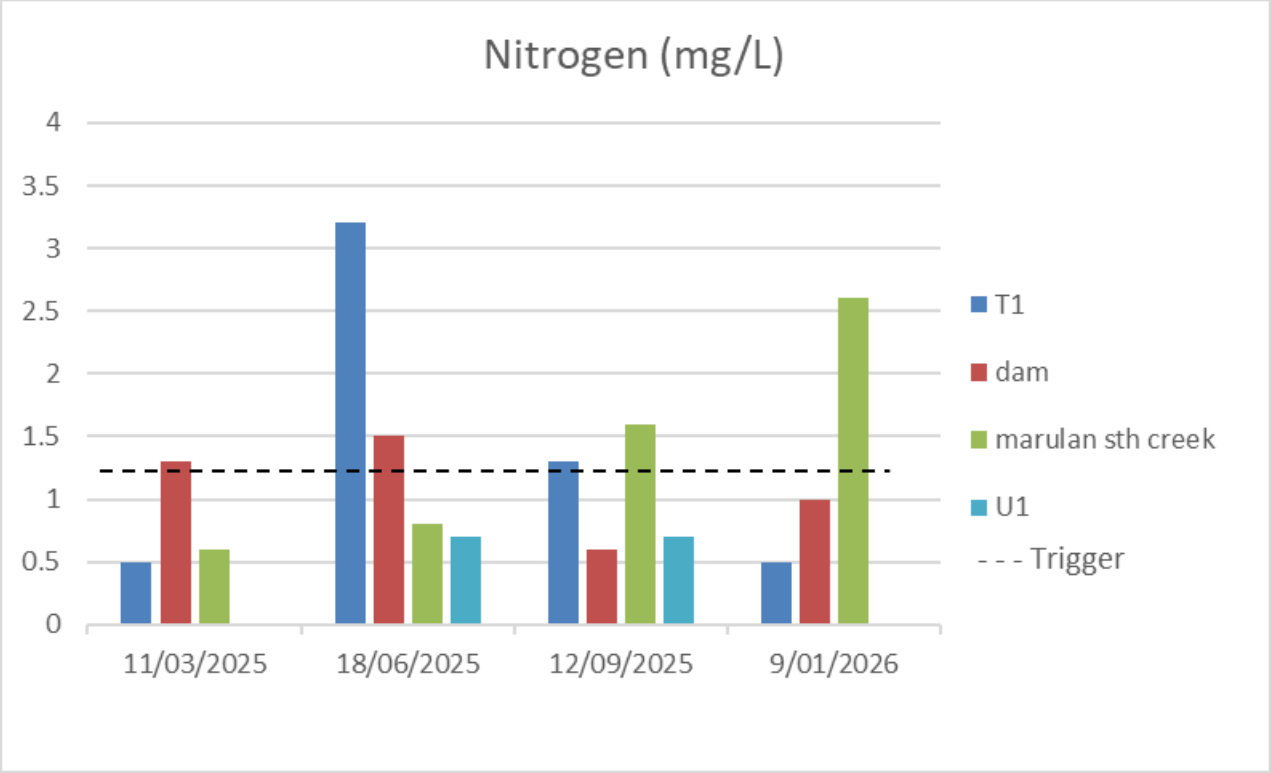
TDS surface water trends 2025



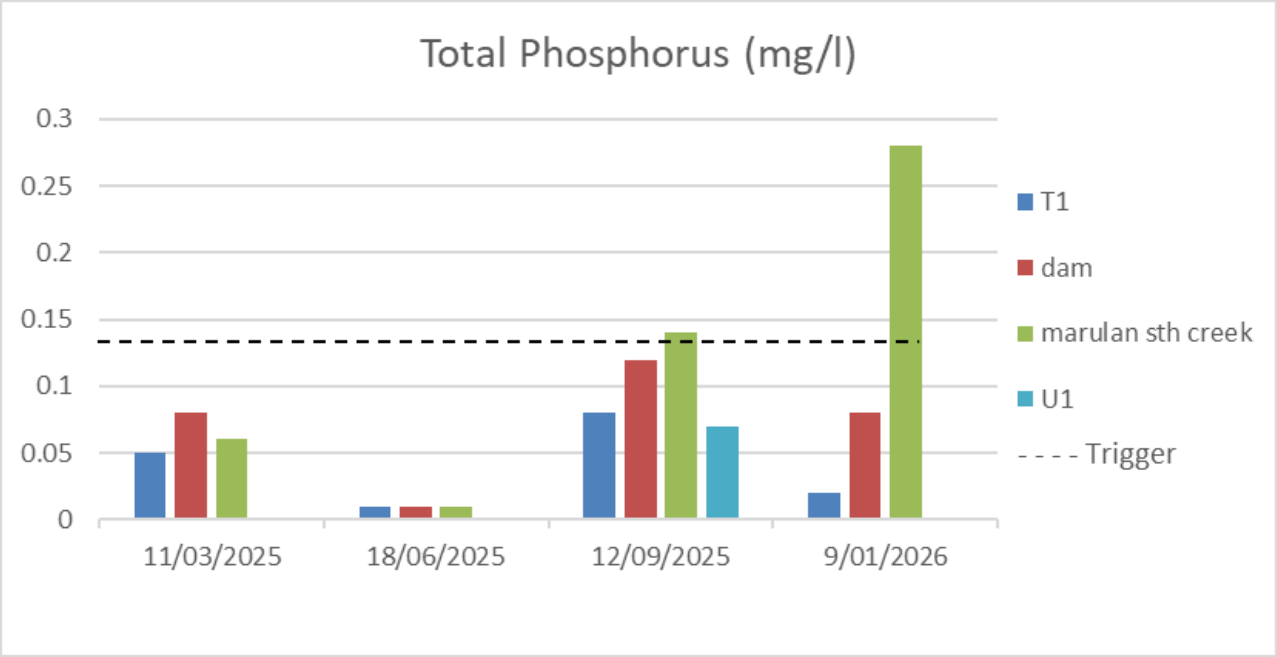
Turbidity surface water trends 2025



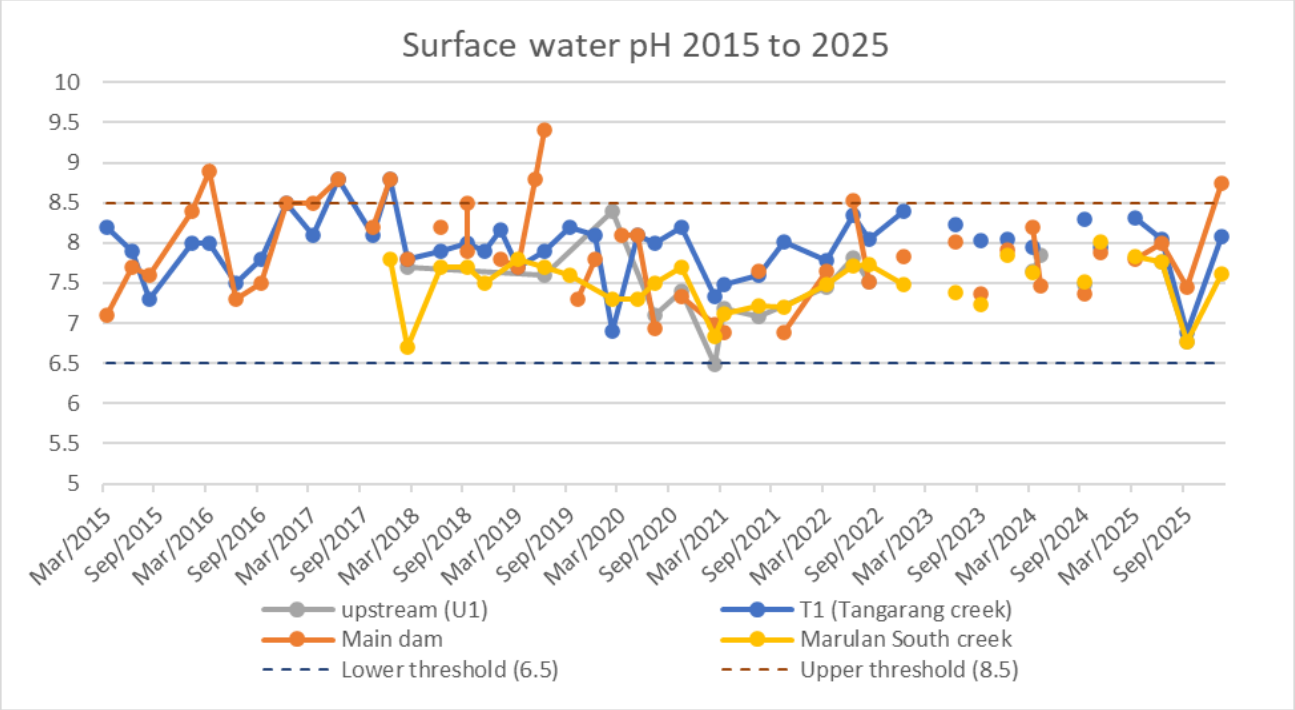
Nitrogen surface water trends 2025



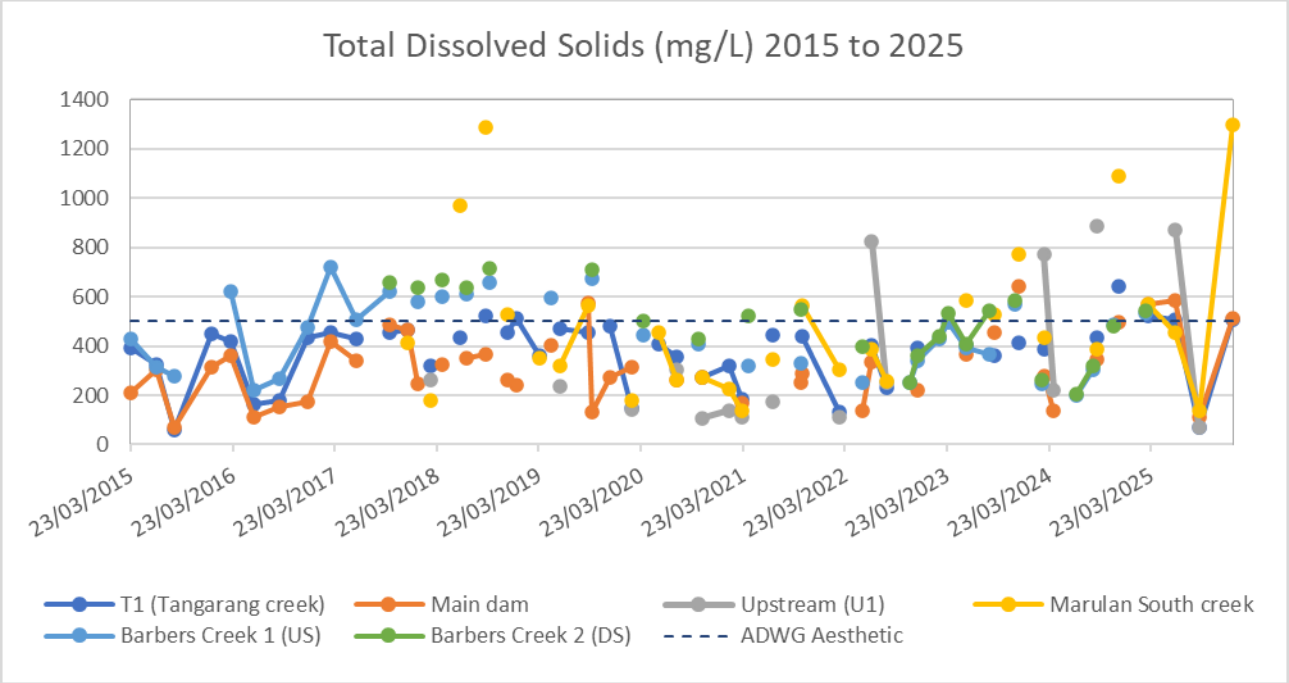
Total phosphorus surface water trends 2025



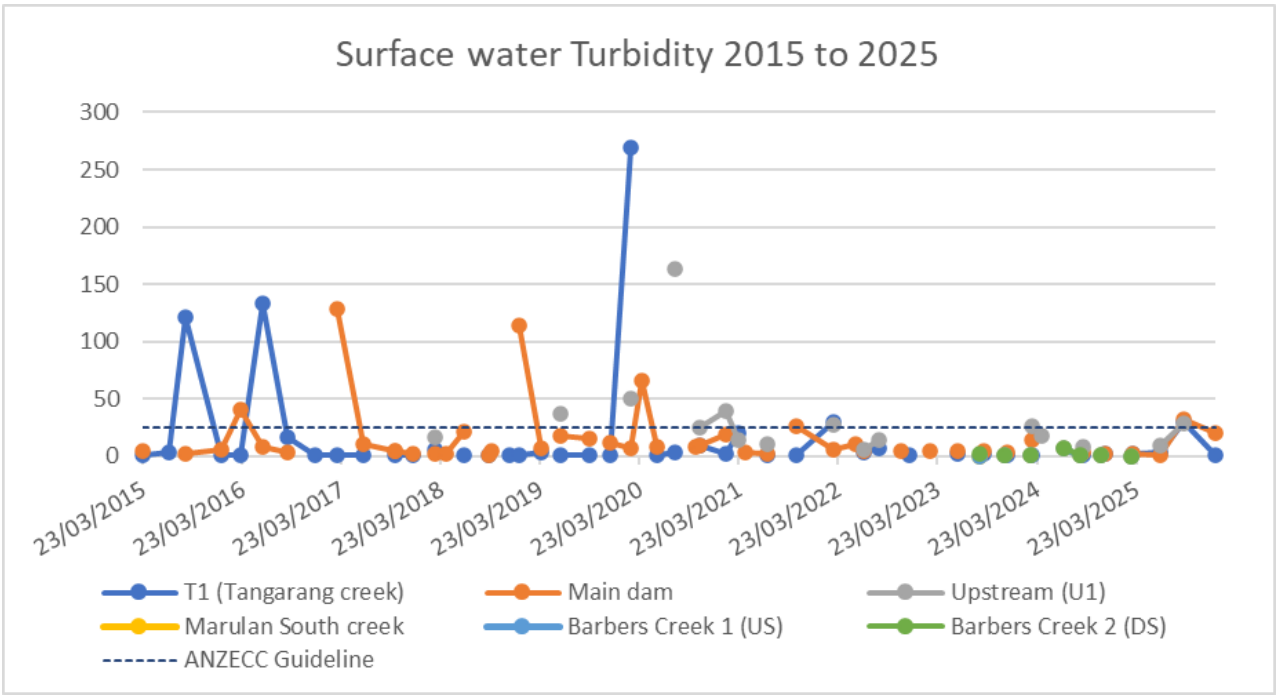
Long Term Water Quality - pH



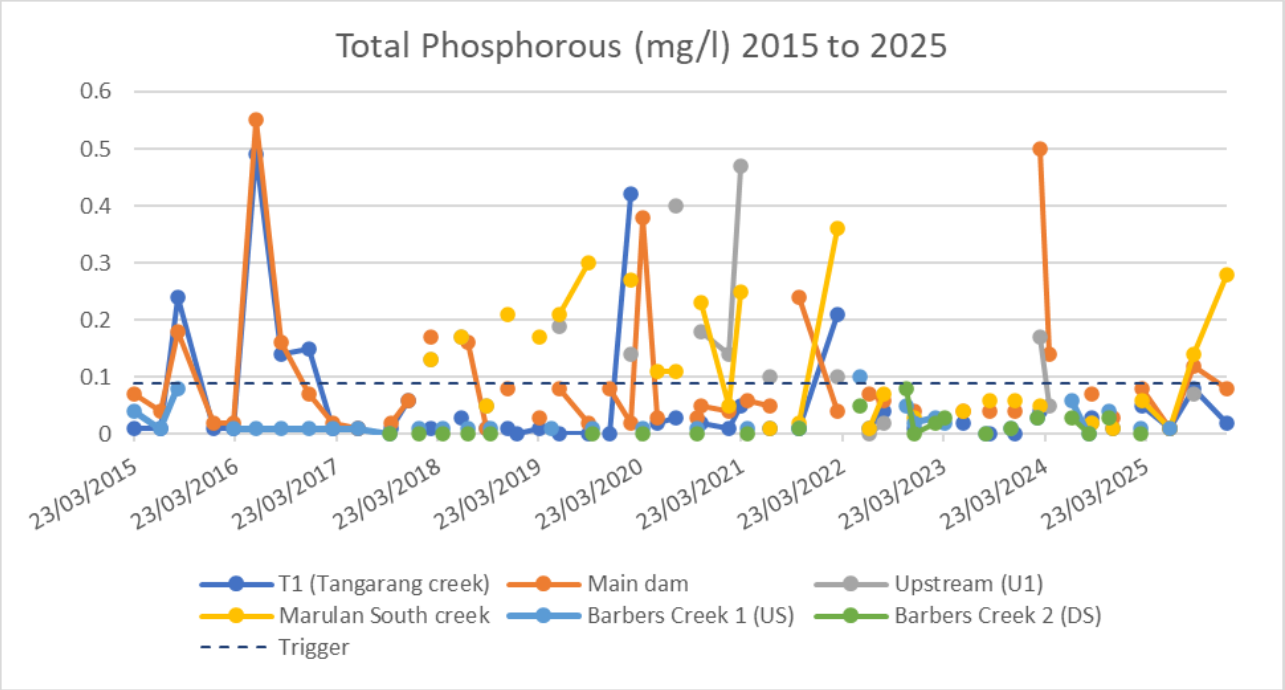
Long Term Water Quality – TDS



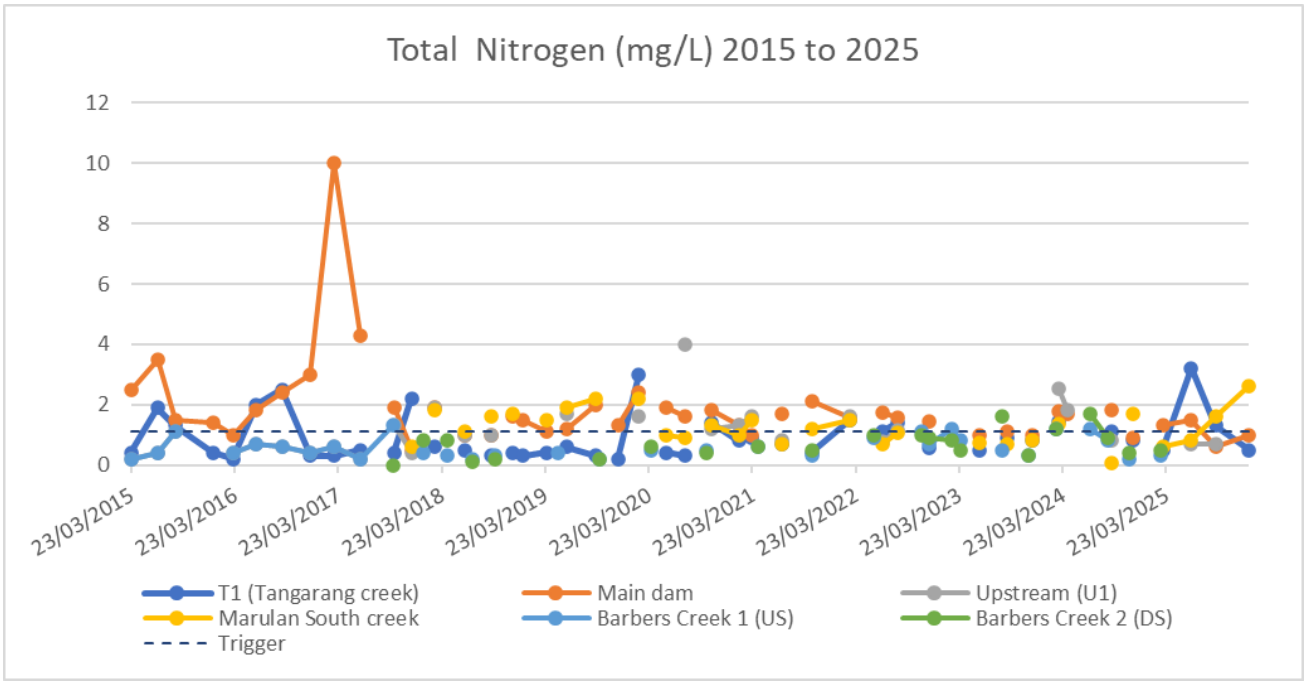
Long Term Water Quality – Turbidity



Long Term Water Quality – Total Phosphorus



Long Term Water Quality – total Nitrogen

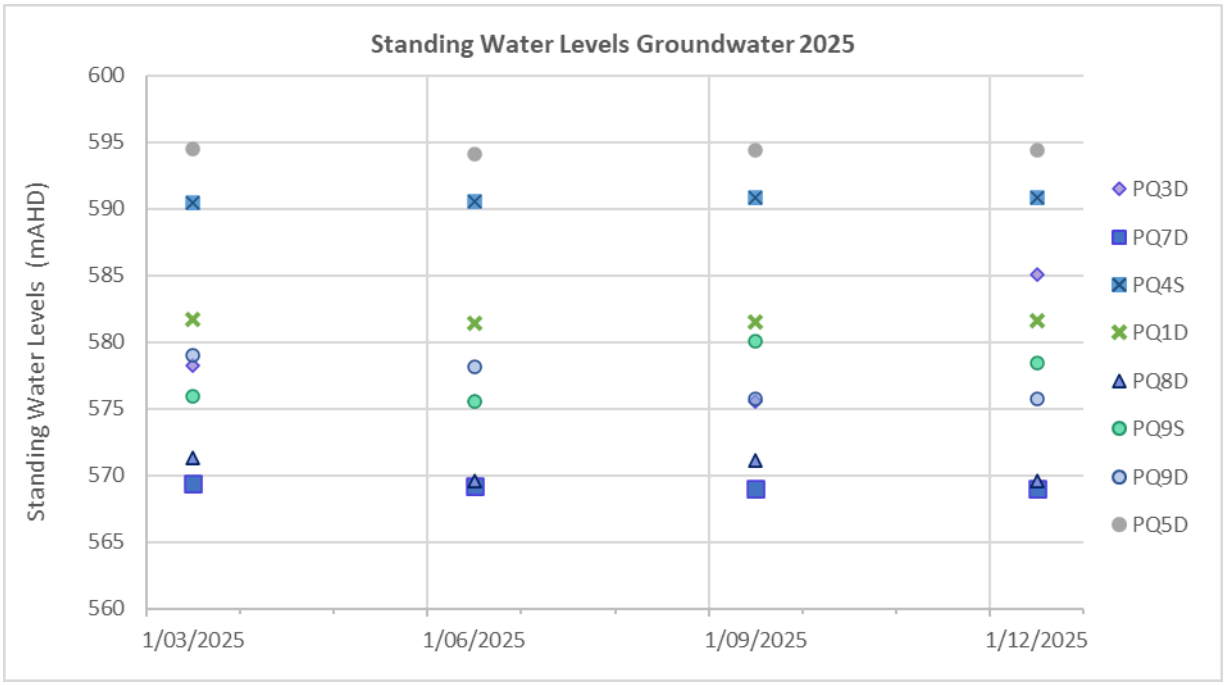


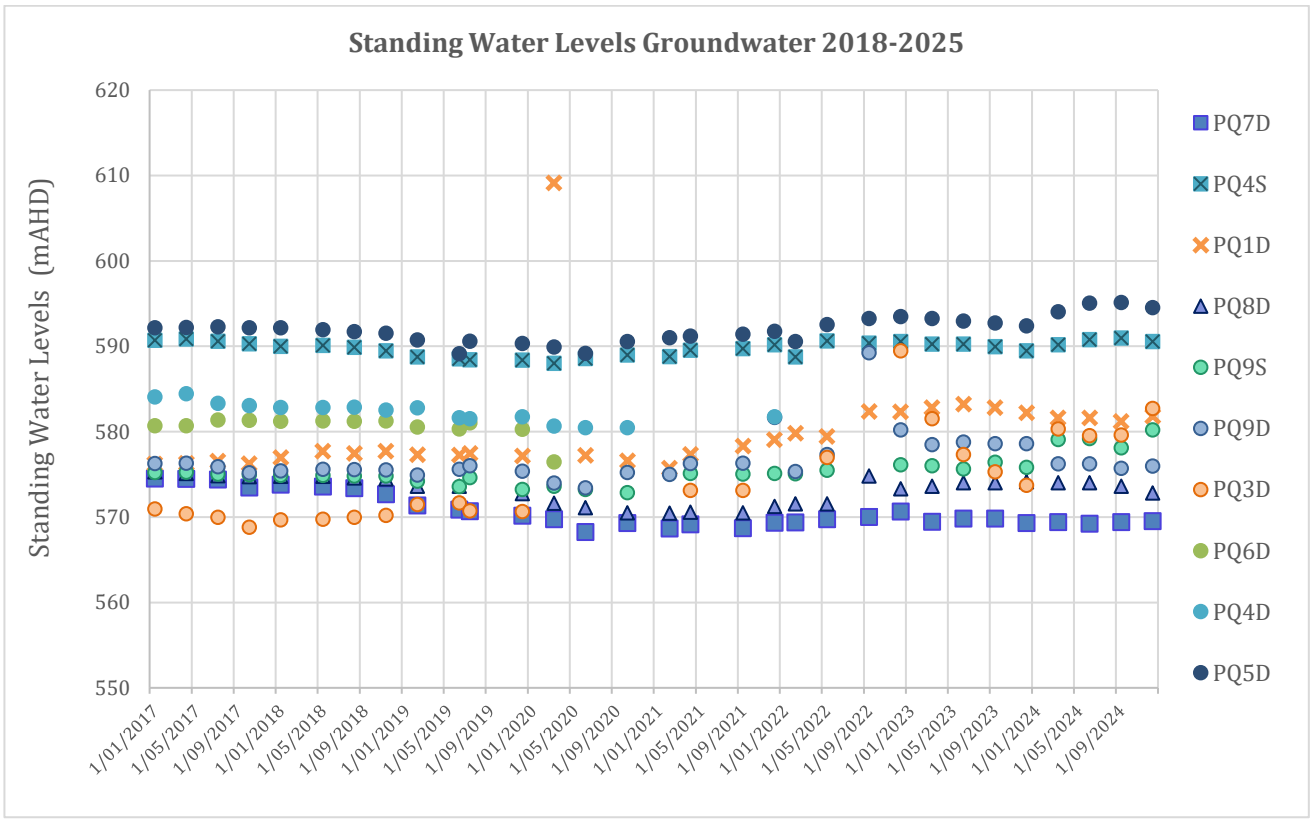
Groundwater Field Parameters

Bore ID	Field Parameters 2025											
	pH				EC (µs/cm)				DO (ppm)			
	March	June	September	December	March	June	September	December	March	June	September	December
PQ01S	DRY											
PQ01D	6.46	7.12	6.6	6.75	3660	3670	3800	4010	3.7	2.78	6.47	4.19
PQ03D	BLOCKAGE AT 30M NO SAMPLING POSSIBLE											
PQ04D	INTERIOR OF WELL CASING DAMAGED. NO SAMPLING POSSIBLE											
PQ04S	8.24	8.13	8.05	8.15	2510	2530	2490	2630	4.63	4.03	4.05	5.06
PQ5D	7.78	7.68	7.61	7.59	1840	1870	2020	1950	2.7	1.96	4.06	3.68
PQ6D	WELL CASING CRACKED											
PQ7D	8.11	8.02	8.11	8.11	439	451	522	465	4.81	3.23	3.18	3.91
PQ8D	7.75	7.64	7.67	7.56	3190	3340	2980	3240	4.77	2.77	4.21	4.02
PQ8S	DRY											
PQ9D	8.83	8.14	8.31	8.59	2120	1960	1260	1990	5.44	5.04	3.77	3.13
PQ9s	BLOCKAGE AT 31.7M NO SAMPLING POSSIBLE											

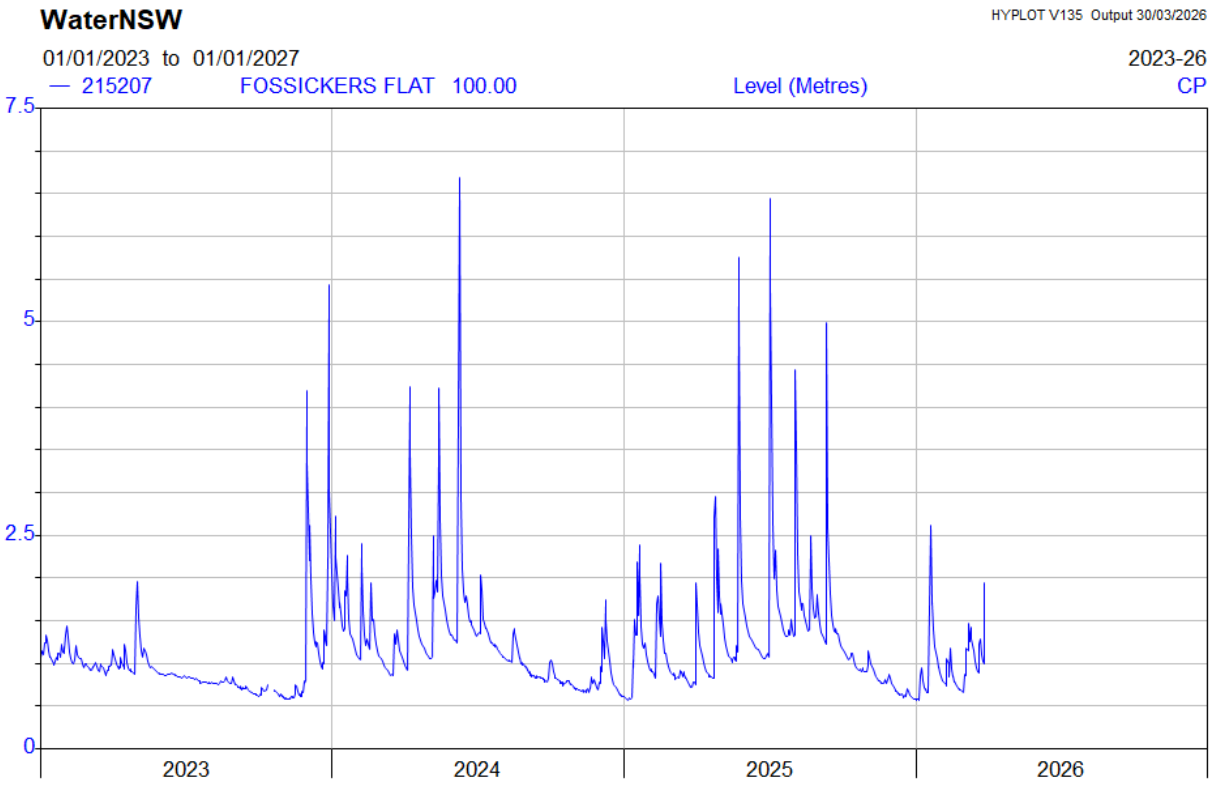
Groundwater Standing Water Levels

Bore ID	Standing Water Levels (mAHD) 2025			
	March	June	September	December
PQ01D	581.7	581.45	581.5	581.6
PQ01S	DRY			
PQ03D	578.29	575.54	575.54	585.09
PQ04D	DAMAGED INTERIOR. NO SAMPLING POSSIBLE			
PQ04S	590.45	590.55	590.85	590.85
PQ5D	594.53	594.13	594.43	594.43
PQ6D	DAMAGED INTERIOR. NO SAMPLING POSSIBLE			
PQ7D	569.35	569.2	569.05	569
PQ8D	571.36	569.61	571.16	569.61
PQ8S	DRY			
PQ9D	578.98	578.13	575.71	575.71
PQ9S	575.91	575.51	580.08	578.48


Standing Water Levels Groundwater 2025
Standing Water Levels (mAHD)
600
595
590
585
580
575
570
565
560
1/03/2025
1/06/2025
1/09/2025
1/12/2025
PQ3D
PQ7D
PQ4S
PQ1D
PQ8D
PQ9S
PQ9D
PQ5D


Standing Water Levels Groundwater 2018-2025
Standing Water Levels (mAHD)
620
610
600
590
580
570
560
550
1/01/2017
1/05/2017
1/09/2017
1/01/2018
1/05/2018
1/09/2018
1/01/2019
1/05/2019
1/09/2019
1/01/2020
1/05/2020
1/09/2020
1/01/2021
1/05/2021
1/09/2021
1/01/2022
1/05/2022
1/09/2022
1/01/2023
1/05/2023
1/09/2023
1/01/2024
1/05/2024
1/09/2024
PQ7D
PQ4S
PQ1D
PQ8D
PQ9S
PQ9D
PQ3D
PQ6D
PQ4D
PQ5D

Fossickers Flat Water level for 2025 - no changes identified



Groundwater - Laboratory Analysis Results (2015 - 2025)

NOTES:

1. Shaded Cells: Exceedances of ANZECC (2000) threshold values
2. NA: Not Analysed
3. ND: Non-Detect

Sample ID	Date	Inorganics																
		Total Dissolved Solids	Suspended Solids	Turbidity	Total Alkalinity as	Bicarbonate Alkalinity as	Carbonate Alkalinity as	Sulfate	Chloride	Calcium	Magnesium	Potassium	Sodium	Fluoride	Nitrate + Nitrite as N	Total Kjeldahl Nitrogen as N	Total Nitrogen as N	Reactive Phosphorous	Oil & Grease
		mg/L	mg/L	NTU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L N	mg/L N	mg/L N	mg/L P	mg/L
		<10	<1	<1	<20	<20	<10	<5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.2	<0.2	<0.01	<10
ANZG 2018 (95% Protection Values)				25											0.015		0.25	0.02	
PQ01D	19/01/2017	2570	294	52.7	156			70	1180	197	144	28	335	0.1	0.07	1.1	1.2	1.33	<5
PQ01D	27/04/2017	2230	10	5.3	36			92	972	210	6	30	313	<0.1	1.68	0.4	2.1	<0.01	<5
PQ01D	27/07/2017	2130	9	0.6	27			93	830	249	7	32	374	0.1	3.03	0.3	3.3	<0.01	<5
PQ01D	26/10/2017	2190	124	27.2	18			123	948	190	47	41	370	<0.1	3.64	0.4	4	0.01	<5
PQ01D	23/01/2018	2100	117	85.5	28			108	1060	228	44	38	370	<0.1	3.51	1.2	4.7	0.1	74
PQ01D	11/05/2018	1840	103	44.6	25			125	1070	216	32	22	330	<0.1	3.59	3.1	6.7	0.06	8
PQ01D	8/08/2018	1970	48	42.4	10			104	854	214	52	27	334	<0.1	3.45	0.8	4.2	0.01	<5
PQ01D	8/11/2018	2690	53	46.1	16			90	1010	236	45	52	344	<0.1	2.94	0.5	3.4	0.03	<5
PQ01D	26/02/2019	2130			10			104	1080	235	49	36	384		2.81	0.3	3.1	<0.01	<5
PQ01D	12/06/2019	2030			10			104	1000	262	42	26	341		3.06	0.5	3.6	<0.01	<5
PQ01D	23/07/2019	2080			<1			139	976	237	52	34	380		2.75	1.3	4	0.1	<5

Sample ID	Date	Inorganics																
		Total Dissolved Solids	Suspended Solids	Turbidity	Total Alkalinity as	Bicarbonate Alkalinity as	Carbonate Alkalinity as	Sulfate	Chloride	Calcium	Magnesium	Potassium	Sodium	Fluoride	Nitrate + Nitrite as N	Total Kjeldahl Nitrogen as N	Total Nitrogen as N	Reactive Phosphorous	Oil & Grease
		mg/L	mg/L	NTU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L N	mg/L N	mg/L N	mg/L P	mg/L
		<10	<1	<1	<20	<20	<10	<5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.2	<0.2	<0.01	<10
ANZG 2018 (95% Protection Values)				**25**											**0.015**		**0.25**	**0.02**	
PQ01D	16/10/2020	2200	1.6	< 1	< 20	< 20	< 10	76	910	180	77	32	300	< 0.5	3.1	< 0.2	3.1	< 0.01	< 10
PQ01D	2/02/2021	3200	3.2	< 1	< 20	< 20	< 10	80	1000	190	77	17	330	< 0.5	2.6	1.6	4.2	< 0.01	< 10
PQ01D	21/04/2021	2400	9.8	-	< 20	< 20	< 10	79	1000	130	77	14	280	< 0.5	2.7	0.78	1.92	< 0.01	< 10
PQ01D	29/09/2021	1800	< 1	< 1	56	56	< 10	67	900	150	100	15	320	< 0.5	1.1	0.6	1.7	< 0.01	-
PQ01D	23/02/2022	3800	< 5	<1	32	32	<10	55	890	140	75	14	300	1.1	1.9	0.6	2.5	<0.05	<10
PQ01D	6/05/2022	2000	6.5	<1	<20	<20	<10	49	890	160	56	15	290	<0.5	2.0	0.8	2.8	<0.01	<10
PQ01D	29/09/2022	2560	5		10	10	<1	49	941	201	35	13	289	0.1	2.15	0.2	2.4	0.02	<5
PQ01D	21/12/2022	2020	< 5	0.6	13	13	<1	54	1050	222	47	17	356	<0.1	2.71	0.7	3.4	<0.01	<5
PQ01D	21/03.2023	1960	7	2.1	11	11	<1	75	1050	208	49	15	349	<0.1	3.14	1.0	4.1	0.01	<5
PQ01D	21/06/2023	2370	32	7.2	26	26	<1	68	1080	229	61	13	372	<0.1	3.06	0.5	3.6	0.01	<5
PQ01D	4/12/2023	2430	<5	3.6	12	12	<1	63	1100	276	64	14	368	<0.1	2.51	0.4	2.9	0.01	<5
PQ01D	26/03/2024	2450	10	1.6	14	14	<1	64	1130	320	68	15	372	<0.1	3.12	0.9	4.1	0.01	<5
PQ01D	19/06/2024	2670	28	4.2	15	15	<1	63	1100	308	73	13	383	<0.1	3.06	0.6	3.6	0.01	<5
PQ01D	11/09/2024	2380	36	4.9	25	25	<1	61	979	211	39	16	374	<0.1	3.73	0.7	3.9	0.01	<5
PQ01D	17/12/2024	2520	44	7.9	29	29	<1	57	1080	245	32	14	378	<0.1	3.62	0.6	2.9	0.01	<5
PQ01D	11/03/2025	2380	8	4	14	14	<1	59	1110	270	31	41	402	<0.1	3.72	1.0	4.7	<0.01	<5
PQ01D	19/06/2025	2380	6	4.2	38	38	<1	65	1070	238	30	74	388	<0.1	3.82	0.5	4.3	<0.01	<5
PQ01D	18/09/2025	2470	6	1.8	13	13	<1	59	1200	293	29	36	408	<0.1	3.83	0.8	4.6	<0.01	<5

Sample ID	Date	Inorganics																	
		Total Dissolved Solids	Suspended Solids	Turbidity	Total Alkalinity as	Bicarbonate Alkalinity as	Carbonate Alkalinity as	Sulfate	Chloride	Calcium	Magnesium	Potassium	Sodium	Fluoride	Nitrate + Nitrite as N	Total Kjeldahl Nitrogen as N	Total Nitrogen as N	Reactive Phosphorous	Oil & Grease
		mg/L	mg/L	NTU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L N	mg/L N	mg/L N	mg/L P	mg/L
		<10	<1	<1	<20	<20	<10	<5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.2	<0.2	<0.01	<10
ANZG 2018 (95% Protection Values)				25											0.015		0.25	0.02	
PQ01D	16/12/2025	2610	5	3.1	12	12	<1	52	1230	303	28	39	399	<0.1	3.4	1.2	4.6	<0.01	<5
PQ03D	19/01/2017	1110	123	91.3	556			13	224	64	<1	222	196	0.4	<0.01	1.2	1.2	0.01	<5
PQ03D	27/04/2017	1100	88	53.3	518			14	212	76	<1	160	159	0.3	<0.01	1.5	1.5	0.05	<5
PQ03D	27/07/2017	977	118	49.3	503			12	174	78	<1	171	176	0.5	0.02	1.1	1.1	<0.01	<5
PQ03D	26/10/2017	923	111	55.5	457			12	198	37	<1	148	175	0.4	<0.01	1.3	1.3	0.06	<5
PQ03D	23/01/2018	975	81	49	303			12	215	76	<1	141	178	0.4	<0.01	1.3	1.3	0.03	<5
PQ03D	11/05/2018	910	26	9.2	400			18	226	80	<1	111	162	0.4	<0.01	1.5	1.5	0.06	<5
PQ03D	8/08/2018	956	32	32.7	482			18	197	87	<1	110	168	0.4	0.03	1.2	1.2	0.03	<5
PQ03D	8/11/2018	785	443	536	401			20	216	88	<1	106	172	0.4	0.02	1.9	1.9	0.19	<5
PQ03D	26/02/2019	886			377			24	201	90	<1	117	194		0.02	1.3	1.3	<0.01	<5
PQ03D	12/06/2019	1000			423			28	214	99	<1	122	179		0.26	2.0	2.3	0.01	<5
PQ04S	19/01/2017	1930	136	36.7	410			86	881	65	72	4	602	1.3	0.45	0.7	0.9	0.07	<5
PQ04S	27/04/2017	1950	61	21.5	368			89	865	58	63	3	444	0.9	0.21	1.0	1.2	0.07	<5
PQ04S	27/07/2017	1940	48	35.6	474			43	698	62	64	5	534	1	0.03	0.4	0.4	<0.01	<5
PQ04S	26/10/2017	1650	234	48	565			23	649	55	56	5	464	1	<0.01	0.5	0.5	0.13	6
PQ04S	24/01/2018	1400	110	28.6	504			50	654	69	62	4	437	0.9	0.08	0.5	0.6	0.1	11
PQ04S	11/05/2018	1390	78	5.2	580			39	641	71	57	4	417	0.9	0.11	1.2	1.3	0.1	<5

Sample ID	Date	Inorganics																
		Total Dissolved Solids	Suspended Solids	Turbidity	Total Alkalinity as	Bicarbonate Alkalinity as	Carbonate Alkalinity as	Sulfate	Chloride	Calcium	Magnesium	Potassium	Sodium	Fluoride	Nitrate + Nitrite as N	Total Kjeldahl Nitrogen as N	Total Nitrogen as N	Reactive Phosphorous	Oil & Grease
		mg/L	mg/L	NTU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L N	mg/L N	mg/L N	mg/L P	mg/L
		<10	<1	<1	<20	<20	<10	<5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.2	<0.2	<0.01	<10
ANZG 2018 (95% Protection Values)				25											0.015		0.25	0.02	
PQ04S	8/08/2018	1550	10	3	590			29	501	70	55	3	405	0.9	0.02	0.2	0.2	0.02	<5
PQ04S	8/11/2018	1650	48	13.7	486			44	570	74	59	3	409	0.9	0.02	0.3	0.3	0.03	<5
PQ04S	26/02/2019	1560			484			90	598	83	62	4	464		0.03	0.2	0.2	0.02	<5
PQ04S	26/06/2019	1160			406			195	206	23	<1	166	253		<0.01	2.0	2	<0.01	<5
PQ04S	23/07/2019	1690			450			106	756	110	76	4	536		0.44	0.6	1	0.33	<5
PQ04S	22/11/2019	1800	81	41	570	570	<10	110	620	90	66	4.5	450		<0.05	0.6	0.6		<10
PQ04S	5/03/2020	1820	39	14	485	485	<0.1	705	100	102	72	4.8	445	1	0.36	0.2	0.56	0.02	<1
PQ04S	24/06/2020	1600	600	370	700	700	< 10	130	650	110	76	4.9	470	1.2	< 0.05	< 0.2	< 0.2	0.11	12
PQ04S	16/10/2020	1200	2	1.4	680	650	26	100	510	69	59	5	430	0.9	0.09	0.2	0.29	< 0.01	< 10
PQ04S	2/02/2021	1600	9.8	1.8	990	960	32	74	460	86	61	5.5	450	1	0.07	0.5	0.57	< 0.01	< 10
PQ04S	21/04/2021	1500	3.2	-	860	790	69	69	440	17	23	4.6	340	1	< 0.05	< 0.2	< 0.2	0.01	-
PQ04S	29/09/2021	1400	1.6	1.1	790	790	< 10	31	430	65	61	16	460	1.1	0.1	< 0.2	< 0.2	< 0.01	< 10
PQ04S	15/12/2021	1500	< 5	1.1	750	720	30	12	460	46	53	15	500	1.1	< 0.05	0.2	0.2	0.01	97
PQ04S	23/02/2022	2900	<5	5.9	710	710	<10	56	380	58	57	6.4	460	1.8	<0.05	0.8	0.8	<0.05	47
PQ04S	6/05/2022	1200	5.2	2	1000	1000	<10	23	390	25	45	5.1	420	1.1	<0.05	<0.2	<0.2	0.01	21
PQ04S	29/09/2022	1520	<5		834	834	<1	51	401	73	49	7	401	1.1	<0.01	0.2	0.2	0.02	<5
PQ04S	21/12/2022	1560	21	1.9	676	676	<1	70	415	75	52	9	452	1.2	0.01	1.1	1.1	<0.01	<5
PQ04S	21/03/2023	1430	12	4.8	820	820	<1	68	373	65	49	7	434	1.2	0.01	0.3	0.3	0.01	<5

Sample ID	Date	Inorganics																
		Total Dissolved Solids	Suspended Solids	Turbidity	Total Alkalinity as	Bicarbonate Alkalinity as	Carbonate Alkalinity as	Sulfate	Chloride	Calcium	Magnesium	Potassium	Sodium	Fluoride	Nitrate + Nitrite as N	Total Kjeldahl Nitrogen as N	Total Nitrogen as N	Reactive Phosphorous	Oil & Grease
		mg/L	mg/L	NTU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L N	mg/L N	mg/L N	mg/L P	mg/L
		<10	<1	<1	<20	<20	<10	<5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.2	<0.2	<0.01	<10
ANZG 2018 (95% Protection Values)				25											0.015		0.25	0.02	
PQ04S	21/06/2023	1640	9	4.7	776	776	<1	58	391	68	51	6	455	1.1	0.01	0.3	0.3	0.01	<5
PQ04S	4/12/2023	1640	22	9.7	834	834	<1	26	394	52	50	8	431	1.2	0.06	0.3	0.4	0.01	<5
PQ04S	26/03/2024	1610	24	3.6	838	838	<1	22	400	64	54	12	487	1.2	0.01	0.6	0.6	0.02	<5
PQ04S	19/06/2024	1730	32	5.8	742	742	<1	75	398	66	55	11	466	1.2	0.01	1.4	1.4	0.01	<5
PQ04S	11/09/2024	1750	28	4.3	775	775	<1	102	392	72	55	8	446	1.1	0.19	0.5	0.7	0.01	<5
PQ04S	17/12/2024	1640	25	3.2	766	766	<1	104	424	74	50	8	434	1.1	0.02	0.5	0.5	0.01	<5
PQ04S	11/03/2025	1630	14	7.2	702	702	<1	88	417	49	51	7	451	1.0	0.04	0.4	0.4	<0.01	<5
PQ04S	19/06/2025	1640	10	4.9	792	792	<1	76	448	65	43	9	467	1.0	0.02	0.5	0.5	<0.01	<5
PQ04S	18/09/2025	1620	24	5.8	777	777	<1	57	471	67	52	6	447	1.0	<0.01	0.4	0.4	<0.01	<5
PQ04S	16/12/2025	1710	13	3.1	764	764	<1	54	453	64	50	13	424	1.0	<0.01	0.7	0.7	<0.01	<5
PQ04D	19/01/2017	736	18	7.4	102			31	355	38	19	10	184	1.6	0.25	0.2	0.4	0.02	<5
PQ04D	27/04/2017	760	<5	2	93			33	365	33	18	10	148	1.3	0.27	0.1	0.4	0.16	<5
PQ04D	27/07/2017	770	28	17.5	110			31	310	40	22	15	187	1.7	0.29	<0.1	0.3	0.08	<5
PQ04D	26/10/2017	707	9	5.8	122			33	345	33	20	14	181	1.5	0.37	0.2	0.6	0.01	<5
PQ04D	24/01/2018	712	36	22.2	117			30	386	44	25	14	186	1.5	0.38	0.2	0.6	<0.01	<5
PQ04D	11/05/2018	688	38	2.9	117			35	394	39	21	10	181	1.6	0.37	0.2	0.6	0.02	<5
PQ04D	8/08/2018	818	23	16.2	129			34	325	41	24	10	184	1.5	0.37	0.2	0.6	0.02	<5

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		mg/L	mg/L	NTU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L N	mg/L N	mg/L N	mg/L P	mg/L
		<10	<1	<1	<20	<20	<10	<5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.2	<0.2	<0.01	<10
ANZG 2018 (95% Protection Values)				25											0.015		0.25	0.02	
PQ04D	8/11/2018	761	26	9.4	120			32	369	41	25	11	188	1.6	0.36	0.2	0.6	0.01	<5
PQ04D	26/02/2019	828			110			34	383	45	27	15	218	-	0.52	<0.1	0.5	0.01	<5
PQ05D	19/01/2017	1190	521	420	618			1	391	140	40	24	262	0.3	<0.01	0.6	0.6	0.19	<5
PQ05D	27/04/2017	1110	1490	622	504			4	390	110	32	7	218	0.2	<0.01	0.4	0.4	0.12	<5
PQ05D	27/07/2017	1120	48	98.9	460			7	320	125	35	8	232	0.3	0.02	0.6	0.6	0.08	<5
PQ05D	26/10/2017	984	78	154	529			<1	360	108	33	6	210	0.4	<0.01	<0.1	<0.1	0.02	<5
PQ05D	24/01/2018	992	1310	640	381			35	398	134	51	30	149	0.2	0.03	0.4	0.4	0.04	<5
PQ05D	11/05/2018	1150	3640	1780	478			6	410	137	36	5	184	0.3	0.01	0.6	0.6	0.16	22
PQ05D	8/08/2018	1080	42	148	490			16	334	140	43	15	172	0.2	<0.01	<0.1	<0.1	0.02	<5
PQ05D	8/11/2018	1200	183	138	383			5	376	139	42	13	174	0.3	0.04	0.5	0.5	0.18	<5
PQ05D	26/02/2019	1070			356			26	368	122	47	38	162		0.03	<0.1	<0.1	<0.01	<5
PQ05D	12/06/2019	981			332			42	367	133	52	49	132		<0.01	0.4	0.4	<0.01	<5
PQ05D	23/07/2019	1060			282			58	371	122	52	49	138		<0.01	0.6	0.6	0.01	<5
PQ05D	21/11/2019	110	38	31	410	410	<10	41	320	130	49	33	140		<0.05	0.3	0.3		
PQ05D	5/03/2020	1150	43	101	406	406	<0.1	11.6	339	150	46.2	25.1	134	0.22	<0.01	0.15	0.24	<0.02	<1
PQ05D	24/06/2020	1200	50	100	540	540	< 10	10	370	160	55	27	150	< 0.5	< 0.05	0.4	0.4	0.01	< 10
PQ05D	16/10/2020	990	< 1	< 1	250	190	63	55	320	25	40	200	150	< 0.5	0.3	0.8	1.1	< 0.01	46

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		Total Dissolved Solids	Suspended Solids	Turbidity	Total Alkalinity as	Bicarbonate Alkalinity as	Carbonate Alkalinity as	Sulfate	Chloride	Calcium	Magnesium	Potassium	Sodium	Fluoride	Nitrate + Nitrite as N	Total Kjeldahl Nitrogen as N	Total Nitrogen as N	Reactive Phosphorous	Oil & Grease
		mg/L	mg/L	NTU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L N	mg/L N	mg/L N	mg/L P	mg/L
		<10	<1	<1	<20	<20	<10	<5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.2	<0.2	<0.01	<10
ANZG 2018 (95% Protection Values)				25											0.015		0.25	0.02	
PQ05D	2/02/2021	770	5.9	< 1	380	300	76	62	340	10	38	210	160	0.6	< 0.05	2.1	2.1	< 0.01	< 10
PQ05D	21/04/2021	920	2.4	-	340	240	100	58	360	7.8	43	220	160	< 0.5	0.09	2.1	2.19	< 0.01	< 10
PQ05D	29/09/2021	860	< 1	< 1	330	220	120	54	380	2.4	47	230	170	< 0.5	0.13	2.4	2.53	< 0.01	11
PQ05D	15/12/2021	1100	< 5	<1	130	130	< 10	300	350	1.8	41	230	150	< 0.5	0.23	0.9	1.13	< 0.01	<10
PQ05D	23/02/2022	1900	15	68	390	390	<10	7.4	360	150	58	14	130	<0.5	<0.05	0.5	0.5	<0.01	<10
PQ05D	6/05/2022	1300	18	58	480	480	<10	7.4	370	130	53	8	120	<0.5	<0.05	0.3	0.3	<0.01	<10
PQ05D	29/09/2022	1220	23		442	442	<1	5	409	173	53	14	117	0.2	0.04	0.2	0.2	0.02	<5
PQ05D	21/12/2022	1190	39	67	417	417	<1	10	448	180	59	23	135	0.3	0.07	0.7	0.8	<0.01	<5
PQ05D	21/03/2023	1160	49	72.2	450	450	<1	12	416	168	59	25	134	0.2	0.14	0.2	0.3	0.01	<5
PQ05D	21/06/2023	1250	26	66.4	426	426	<1	10	416	178	61	16	134	0.2	0.07	0.3	0.4	0.01	<5
PQ05D	4/12/2023	1270	27	66.9	462	462	<1	6	398	174	60	11	123	0.2	0.01	0.4	0.4	0.01	<5
PQ05D	26/03/2024	1220	26	45.9	451	451	<1	7	383	175	57	6	116	0.2	0.02	0.3	0.3	0.01	<5
PQ05D	19/06/2024	1270	30	63.3	414	414	<1	15	397	195	67	8	118	0.3	0.03	0.3	0.3	0.01	<5
PQ05D	11/09/2024	1240	30	25.2	436	436	<1	18	407	184	68	5	111	0.2	0.24	0.4	0.6	0.01	<5
PQ05D	17/12/2024	1290	14	47.4	442	442	<1	13	395	192	60	11	118	0.3	0.03	0.3	0.3	0.01	<5
PQ05D	11/03/2025	1200	20	44.2	404	404	<1	16	418	155	64	8	126	0.2	<0.01	0.2	0.2	<0.01	<5
PQ05D	19/06/2025	1220	36	69.9	464	464	<1	11	451	185	62	8	128	0.2	<0.01	0.3	0.3	<0.01	<5
PQ05D	18/09/2025	1310	43	58.2	448	448	<1	11	441	180	61	10	119	0.2	0.01	0.4	0.4	<0.01	<5

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		mg/L	mg/L	NTU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L N	mg/L N	mg/L N	mg/L P	mg/L
		<10	<1	<1	<20	<20	<10	<5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.2	<0.2	<0.01	<10
ANZG 2018 (95% Protection Values)				25											0.015		0.25	0.02	
PQ05D	16/12/2025	1270	28	43.8	435	435	<1	12	423	177	61	9	109	0.2	0.03	0.4	0.4	<0.01	<5
PQ06D	19/01/2017	1240	26	11.4	406			168	213	27	<1	204	252	0.6	<0.01	1.5	1.5	0.01	<5
PQ06D	27/04/2017	1260	46	24.2	467			178	210	50	<1	166	208	0.5	<0.01	1.9	1.9	0.04	<5
PQ06D	27/07/2017	1130	34	13.4	463			169	172	48	<1	189	253	0.6	<0.01	1.5	1.5	<0.01	<5
PQ06D	26/10/2017	1120	57	22	421			198	190	17	<1	153	238	0.6	<0.01	2	2	0.02	<5
PQ06D	24/01/2018	1110	64	33.4	351			174	211	23	<1	169	261	0.5	0.03	1.7	1.7	0.03	<5
PQ06D	11/05/2018	1040	28	4.2	422			181	218	49	<1	147	235	0.5	<0.01	1.9	1.9	0.02	<5
PQ06D	8/08/2018	1190	157	90.6	469			163	185	23	<1	162	244	0.5	0.03	1.7	1.7	0.02	<5
PQ06D	8/11/2018	1420	112	42.4	366			176	194	4	<1	164	256	0.5	<0.01	2.1	2.1	0.06	<5
PQ06D	26/02/2019	1220			375			189	211	52	<1	158	283	-	0.05	1.3	1.4	<0.01	<5
PQ06D	12/06/2019	1730			506			64	731	105	76	4	480	-	0.05	0.5	0.6	0.02	<5
PQ07D	19/01/2017	937	33	13.7	86			124	331	106	<1	88	166	0.2	<0.01	0.4	0.4	<0.01	<5
PQ07D	27/04/2017	892	24	22.8	150			123	333	79	<1	76	138	0.1	<0.01	0.6	0.6	0.02	<5
PQ07D	27/07/2017	898	54	24.4	124			121	274	93	<1	86	164	0.2	0.02	1.6	1.6	2.1	<5
PQ07D	26/10/2017	994	1210	540	99			140	302	66	<1	81	159	0.2	<0.01	0.6	0.6	0.02	<5
PQ07D	24/01/2018	916	2720	1670	86			116	326	85	<1	81	164	0.2	0.02	0.5	0.5	0.04	<5
PQ07D	11/05/2018																		

Sample ID	Date	Inorganics																	
		Total Dissolved Solids	Suspended Solids	Turbidity	Total Alkalinity as	Bicarbonate Alkalinity as	Carbonate Alkalinity as	Sulfate	Chloride	Calcium	Magnesium	Potassium	Sodium	Fluoride	Nitrate + Nitrite as N	Total Kjeldahl Nitrogen as N	Total Nitrogen as N	Reactive Phosphorous	Oil & Grease
		mg/L	mg/L	NTU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L N	mg/L N	mg/L N	mg/L P	mg/L
		<10	<1	<1	<20	<20	<10	<5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.2	<0.2	<0.01	<10
ANZG 2018 (95% Protection Values)				25											0.015		0.25	0.02	
PQ07D	8/08/2018	824	52	21.8	119			111	288	77	<1	72	157	0.2	0.02	0.5	0.5	0.06	<5
PQ07D	8/11/2018	652	58	12.6	66			77	319	36	27	55	135	0.1	<0.01	0.4	0.4	<0.01	<5
PQ07D	26/02/2019	482			80			80	220	23	15	65	114		0.07	1.3	1.4	0.09	<5
PQ07D	12/06/2019	472			137			43	115	18	9	76	82		0.67	1.1	1.8	0.02	<5
PQ07D	23/07/2019	625			52			83	284	24	15	74	145		0.04	0.8	0.8	0.02	<5
PQ07D	21/11/2019	760	120	75	85	77	<10	71	270	26	20	62	140		<0.05	0.9	0.9		
PQ07D	5/03/2020	366	89	43.5	142	142	<0.1	37.1	37.6	24.6	10.7	46.9	56.1	0.16	18.5	0.2	18.7	0.04	<1
PQ07D	24/06/2020	440	120	67	180	180	< 10	45	88	38	14	40	51	< 0.5	11	1.6	12.6	0.02	< 10
PQ07D	16/10/2020	250	1.2	1.2	160	150	< 10	26	16	19	12	32	31	< 0.5	1.8	< 0.2	1.8	0.01	< 10
PQ07D	2/02/2021	300	4.6	1.9	220	220	< 10	33	16	24	17	22	26	< 0.5	0.57	1.3	1.87	< 0.01	< 10
PQ07D	21/04/2021	300	4.2	-	160	150	10	36	22	15	8.8	39	35	< 0.5	0.6	0.7	1.3	0.01	< 10
PQ07D	29/09/2021	88	56	2	130	130	< 10	39	19	28	8.9	28	33	< 0.5	0.28	0.6	0.88	0.02	< 10
PQ07D	15/12/2021	240	28	24	160	150	< 10	45	22	17	5.7	30	29	< 0.5	0.14	0.3	0.44	0.01	<10
PQ07D	23/02/2022	220	13	11	44	150	140	41	21	23	5.5	26	34	<0.5	0.08	0.8	0.88	0.02	<10
PQ07D	29/09/2022	280	62		46	136	127		23	24	7	30	38	0.2	0.03	1.1	1.1	0.08	<5
PQ07D	21/12/2022	269	132	73.9	123	123	<1	40	31	25	8	30	39	0.3	0.25	1.7	2	<0.01	<5
PQ07D	21/03/2023	268	70	66.7	135	135	<1	46	29	23	7	29	37	0.3	0.02	1.1	1.1	0.01	
PQ07D	21/06/2023	268	35	30.7	127	127	<1	47	26	23	6	29	38	0.3	0.01	0.9	0.9	0.01	

Sample ID	Date	Inorganics																	
		Total Dissolved Solids	Suspended Solids	Turbidity	Total Alkalinity as	Bicarbonate Alkalinity as	Carbonate Alkalinity as	Sulfate	Chloride	Calcium	Magnesium	Potassium	Sodium	Fluoride	Nitrate + Nitrite as N	Total Kjeldahl Nitrogen as N	Total Nitrogen as N	Reactive Phosphorous	Oil & Grease
		mg/L	mg/L	NTU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L N	mg/L N	mg/L N	mg/L P	mg/L
		<10	<1	<1	<20	<20	<10	<5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.2	<0.2	<0.01	<10
ANZG 2018 (95% Protection Values)				25											0.015		0.25	0.02	
PQ07D	4/12/2023	284	54	57.2	135	135	<1	45	28	24	7	32	40	0.3	0.03	1.0	1.0	0.01	
PQ07D	26/03/2024	282	44	37.5	136	136	11	40	33	21	6	33	42	0.2	0.02	0.6	0.7	0.01	<5
PQ07D	19/06/2024	292	8	7.1	128	128	<1	55	34	22	8	35	45	0.3	0.01	0.7	0.9	0.01	<5
PQ07D	11/09/2024	283	26	20.3	134	134	<1	44	31	22	7	34	49	0.3	0.04	1.1	1.2	0.01	<5
PQ07D	17/12/2024	304	5	3.5	134	134	<1	42	35	23	7	34	43	0.3	0.03	1.0	1.0	0.01	<5
PQ07D	11/03/2025	285	<5	5.8	123	123	<1	43	33	21	7	35	44	0.2	0.02	0.7	0.7	<0.01	<5
PQ07D	19/06/2025	293	<5	5.6	132	132	<1	52	42	20	5	32	50	0.2	0.03	1.1	1.1	<0.01	<5
PQ07D	18/09/2025	339	26	16.1	114	114	<1	57	53	22	5	33	55	0.2	0.04	1.0	1.0	0.01	<5
PQ07D	16/12/2025	302	52	45.3	131	131	<1	41	36	18	6	35	42	0.3	0.01	0.9	0.9	<0.01	<5
PQ08D	19/01/2017	2110	37	68.5	402			54	822	240	162	3	143	0.2	<0.01	<0.1	<0.1	<0.01	<5
PQ08D	27/04/2017	2260	23	52.4	371			55	823	217	141	2	113	0.2	<0.01	<0.1	<0.1	<0.01	<5
PQ08D	27/07/2017	2250	35	25	391			38	664	235	145	7	134	0.2	0.03	0.1	0.1	<0.01	<5
PQ08D	26/10/2017	2230	52	58	442			66	745	211	146	3	130	0.3	<0.01	<0.1	<0.1	0.02	<5
PQ08D	24/01/2018	2070	39	60.4	389			61	828	239	147	3	133	0.2	0.05	<0.1	<0.1	<0.01	<5
PQ08D	11/05/2018	1600	20	38.4	405			61	835	242	137	3	124	0.2	<0.01	<0.1	<0.1	0.01	<5
PQ08D	8/08/2018	1890	17	46.7	427			48	673	226	140	4	128	0.2	0.02	<0.1	<0.1	<0.1	<5
PQ08D	8/11/2018	2550	35	61.1	318			43	754	238	139	3	125	0.3	<0.01	<0.1	<0.1	0.02	<5

Sample ID	Date	Inorganics																
		Total Dissolved Solids	Suspended Solids	Turbidity	Total Alkalinity as	Bicarbonate Alkalinity as	Carbonate Alkalinity as	Sulfate	Chloride	Calcium	Magnesium	Potassium	Sodium	Fluoride	Nitrate + Nitrite as N	Total Kjeldahl Nitrogen as N	Total Nitrogen as N	Reactive Phosphorous	Oil & Grease
		mg/L	mg/L	NTU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L N	mg/L N	mg/L N	mg/L P	mg/L
		<10	<1	<1	<20	<20	<10	<5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.2	<0.2	<0.01	<10
ANZG 2018 (95% Protection Values)				25											0.015		0.25	0.02	
PQ08D	26/02/2019	2000			364			70	809	239	150	4	137		0.1	<0.1	0.1	0.02	<5
PQ08D	12/06/2019	1860			371			46	767	247	150	5	132		<0.01	0.2	0.2	<0.01	
PQ08D	23/07/2019	1900			333			57	746	234	148	4	135		<0.01	0.3	0.3	0.03	<1
PQ08D	21/11/2019	2800	39	78	430	430	<10	60	1100	230	140	3.4	130		<0.05	2.2	2.2		<1
PQ08D	5/03/2020	1790	45	55.9	326	326	<0.1	46.2	747	224	139	4	124	0.2	<0.05	0.16	0.16	<0.02	<1
PQ08D	24/06/2020	2100	47	92	400	400	< 10	55	770	240	150	5.2	140	< 0.5	0.26	0.6	0.86	0.03	<1
PQ08D	16/10/2020	1600	7.3	35	370	370	< 10	56	680	190	120	21	120	< 0.5	0.21	0.4	0.61	< 0.01	<1
PQ08D	2/02/2021	2700	10	2.3	500	500	< 10	59	790	230	140	12	130	< 0.5	0.08	0.6	0.68	0.01	< 10
PQ08D	21/04/2021	1900	9.8	-	430	430	< 10	58	770	160	150	12	130	< 0.5	< 0.05	3.6	3.6	< 0.01	< 10
PQ08D	29/09/2021	2200	< 1	< 1	430	430	< 10	57	720	240	150	18	140	< 0.5	0.22	< 0.2	0.22	0.11	< 10
PQ08D	15/12/2021	2100	31	40	370	370	< 10	52	800	220	140	16	130	< 0.5	0.16	< 0.2	< 0.2	< 0.01	< 10
PQ08D	23/02/2022	2900	17	53	430	430	<10	61	820	210	160	3	140	<0.5	<0.05	0.5	0.5	<0.05	<10
PQ08D	6/05/2022	1400	15	47	450	450	<10	70	830	230	150	3.4	140	<0.5	<0.05	0.3	0.3	<0.01	<10
PQ08D	29/09/2022	2750	18		405	405	<1	56	852	271	151	3	136	0.2	<0.01	<0.1	<0.1	0.01	<5
PQ08D	21/12/2022	2020	35	54	396	396	<1	66	920	265	167	5	150	0.2	0.03	0.3	0.3	<0.01	<5
PQ08D	21/03/2023	1830	38	68.2	416	416	<1	65	864	245	164	4	148	0.2	0.03	0.2	0.2	0.01	<5
PQ08D	21/06/2023	2200	30	72.2	399	399	<1	71	873	248	170	3	150	0.2	0.02	0.1	0.1	0.01	<5
PQ08D	4/12/2023	2200	16	79.4	439	439	<1	63	844	252	175	3	152	0.2	0.01	0.1	0.1	0.01	<5

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		mg/L	mg/L	NTU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L N	mg/L N	mg/L N	mg/L P	mg/L
		<10	<1	<1	<20	<20	<10	<5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.2	<0.2	<0.01	<10
ANZG 2018 (95% Protection Values)				**25**											**0.015**		**0.25**	**0.02**	
PQ08D	26/03/2024	2110	14	73.3	429	429	<1	66	857	340	200	3	179	0.2	0.08	0.2	0.3	0.01	<5
PQ08D	19/06/2024	2290	18	68	402	402	<1	67	784	283	186	4	164	0.2	0.06	0.2	0.3	0.01	<5
PQ08D	11/09/2024	2270	25	66.3	431	431	<1	62	832	249	175	4	156	0.2	0.04	0.2	0.2	0.01	<5
PQ08D	17/12/2024	2330	18	54.3	422	422	<1	62	882	245	159	4	144	0.2	0.01	0.5	0.5	0.01	<5
PQ08D	11/03/2025	2070	18	77.8	388	388	<1	66	890	241	178	5	160	0.2	<0.01	0.2	0.2	<0.01	<5
PQ08D	19/06/2025	2170	19	80.6	433	433	<1	74	877	267	188	4	161	0.2	0.02	0.3	0.3	<0.01	<5
PQ08D	18/09/2025	1940	19	65.2	402	402	<1	79	812	240	159	4	132	0.2	0.01	0.2	0.2	<0.01	<5
PQ08D	16/12/2025	2110	18	69	406	406	<1	67	854	234	168	5	139	0.2	0.01	0.3	0.3	<0.01	<5
PQ09S	19/01/2017	1830	803	426	472			23	712	180	172	8	153	0.3	4.95	0.9	5.8	0.51	<5
PQ09S	27/04/2017	1870	601	253	443			23	685	160	144	6	122	0.2	3.58	1	4.6	1.14	<5
PQ09S	27/07/2017	1860	150	54.8	476			23	560	166	148	7	139	0.3	7.37	0.3	7.7	<0.01	<5
PQ09S	26/10/2017	1730	76	14.6	456			24	595	146	144	7	131	0.3	6.47	1	7.5	<0.01	<5
PQ09S	24/01/2018	1780	480	297	477			22	650	168	149	7	140	0.3	5.23	0.8	6	2.23	<5
PQ09S	11/05/2018	1280	200	88.4	490			26	653	154	134	5	125	0.3	6.4	0.5	6.9	0.08	<5
PQ09S	8/08/2018	1550	1047	61.4	515			24	531	154	138	6	130	0.3	6.82	0.4	7.2	0.04	<5
PQ09S	8/11/2018	2040	121	68.1	422			23	597	149	145	6	136	0.3	6.57	1.9	8.5	0.09	5
PQ09S	26/02/2019	1660			436			29	632	163	152	8	140		6.67	0.3	7	0.01	<5

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		mg/L	mg/L	NTU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L N	mg/L N	mg/L N	mg/L P	mg/L
		<10	<1	<1	<20	<20	<10	<5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.2	<0.2	<0.01	<10
ANZG 2018 (95% Protection Values)				25											0.015		0.25	0.02	
PQ09S	12/06/2019	1420			470			18	590	170	151	7	136		6.76	1.2	8	0.21	<5
PQ09S	23/07/2019	1500			412			21	585	162	150	7	141		6.3	1.7	8	0.12	<5
PQ09S	21/11/2019	1700	690	430	520	520	<10	37	580	150	140	6.1	130		5.1	<0.2	5.1		<10
PQ09S	5/03/2020	1670	324	140	483	483	<0.1	19.8	538	149	137	6.5	122	0.27	3.67	<0.05	3.48	<0.02	<1
PQ09S	24/06/2020	1500	940	430	600	600	< 10	29	570	170	150	7.1	140	< 0.5	2.5	< 0.2	2.5	0.29	< 10
PQ09D	19/01/2017	1010	382	201	360			25	352	120	95	4	101	0.3	<0.01	<0.1	<0.1	0.07	<5
PQ09D	27/04/2017	868	686	285	425			21	354	118	86	3	82	0.2	<0.01	0.1	0.1	0.37	<5
PQ09D	27/07/2017	1070	117	52.2	432			24	294	118	98	4	105	0.3	0.02	<0.1	<0.1	0.01	<5
PQ09D	26/10/2017	1020	49	29.9	513			20	320	106	89	4	94	0.4	<0.01	0.1	0.1	0.03	<5
PQ09D	24/01/2018	1060	66	42.6	496			9	349	122	93	5	100	0.2	0.03	0.1	0.1	<0.01	<5
PQ09D	11/05/2018	906	59	11	482			30	367	113	91	3	93	0.2	<0.01	<0.1	<0.1	0.06	<5
PQ09D	8/08/2018	970	23	18.3	535			12	301	117	92	7	97	0.2	0.1	0.2	0.3	0.01	<5
PQ09D	8/11/2018	1180	28	18	425			10	326	108	94	6	98	0.3	<0.01	0.3	0.3	0.04	<5
PQ09D	26/02/2019	1110			445			12	337	122	97	10	98		<0.01	<0.1	<0.1	<0.01	<5
PQ09D	12/06/2019	1050			467			10	336	131	101	8	103		<0.01	0.2	0.2	<0.01	<5
PQ09D	23/07/2019	988			397			11	342	123	99	9	101		0.01	0.4	0.4	0.02	<5
PQ09D	21/11/2019	1200	24	14	540	540	<10	19	300	120	94	8.2	99		<0.05	0.3	0.3		<10

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		Total Dissolved Solids	Suspended Solids	Turbidity	Total Alkalinity as	Bicarbonate Alkalinity as	Carbonate Alkalinity as	Sulfate	Chloride	Calcium	Magnesium	Potassium	Sodium	Fluoride	Nitrate + Nitrite as N	Total Kjeldahl Nitrogen as N	Total Nitrogen as N	Reactive Phosphorous	Oil & Grease
		mg/L	mg/L	NTU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L N	mg/L N	mg/L N	mg/L P	mg/L
		<10	<1	<1	<20	<20	<10	<5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.2	<0.2	<0.01	<10
ANZG 2018 (95% Protection Values)				**25**											**0.015**		**0.25**	**0.02**	
PQ09D	5/03/2020	1050	30	6.9	465	465	<0.1	13.1	284	115	87.6	20.5	90.8	0.24	<0.05	0.37	0.37	<0.02	<5
PQ09D	24/06/2020	1100	47	32	490	490	< 10	15	310	120	100	22	110	< 0.5	< 0.05	0.3	0.3	< 0.01	< 10
PQ09D	16/10/2020	920	13	< 1	470	450	13	15	310	110	95	32	94	< 0.5	< 0.05	< 0.2	< 0.2	< 0.01	< 10
PQ09D	2/02/2021	1200	6.6	3.7	620	620	< 10	30	550	100	89	24	100	< 0.5	< 0.05	0.7	0.7	< 0.01	< 10
PQ09D	21/04/2021	1000	2.6	-	530	530	< 10	29	310	110	98	19	99	< 0.5	< 0.05	0.9	0.9	< 0.01	< 10
PQ09D	29/09/2021	910	1.6	< 1	530	530	< 10	22	270	99	86	29	94	< 0.5	< 0.05	0.4	0.4	0.02	< 10
PQ09D	15/12/2021	1100	11	13	540	540	< 10	21	300	88	91	46	96	< 0.5	< 0.05	< 0.2	< 0.2	< 0.01	<10
PQ09D	23/02/2022	1300	22	14	550	550	<10	21	310	100	95	10	96	<0.5	<0.05	1	1	<0.05	<10
PQ09D	6/05/2022	1200	20	6.9	560	560	<10	31	310	92	93	13	96	<0.5	<0.05	0.4	0.4	0.04	<10
PQ09D	29/09/2022	1110	92		509	509	<1	22	354	125	94	9	95	0.2	<0.01	<0.1	<0.1	0.03	<5
PQ09D	21/12/2022	1160	42	25.8	454	454	<1	22	379	132	105	18	111	0.3	0.15	0.6	0.8	<0.01	<5
PQ09D	26/03/2023	1150	109	59.3	519	519	<1	23	364	118	102	23	108	0.2	0.01	0.3	0.3	0.01	<5
PQ09D	21/06/2023	1190	36	35.6	479	479	<1	30	350	114	100	18	110	0.3	0.01	0.3	0.3	0.01	<5
PQ09D	4/12/2024	1200	<5	22.4	519	519	<1	24	333	82	97	60	110	0.2	0.01	0.4	0.4	0.01	<5
PQ09D	26/03/2024	1180	246	179	591	591	<1	27	332	142	116	17	121	0.3	0.01	0.5	0.5	0.01	<5
PQ09D	19/06/2024	1250	217	119	524	524	<1	28	331	43	98	181	127	0.2	0.01	1.1	1.1	0.01	<5
PQ09D	11/09/2024	1240	40	14.5	532	487	45	28	318	7	94	239	126	0.2	0.01	1.1	1.1	0.01	<5
PQ09D	17/12/2024	1330	40	32	527	488	38	36	341	9	87	232	128	0.2	0.01	1	1	0.01	<5

Sample ID	Date	Inorganics																	
		Total Dissolved Solids	Suspended Solids	Turbidity	Total Alkalinity as	Bicarbonate Alkalinity as	Carbonate Alkalinity as	Sulfate	Chloride	Calcium	Magnesium	Potassium	Sodium	Fluoride	Nitrate + Nitrite as N	Total Kjeldahl Nitrogen as N	Total Nitrogen as N	Reactive Phosphorous	Oil & Grease
		mg/L	mg/L	NTU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L N	mg/L N	mg/L N	mg/L P	mg/L
		<10	<1	<1	<20	<20	<10	<5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.2	<0.2	<0.01	<10
ANZG 2018 (95% Protection Values)				**25**											**0.015**		**0.25**	**0.02**	
PQ09D	11/03/2025	1380	59	54.4	528	444	84	34	353	18	93	233	136	0.2	<0.01	0.8	0.8	<0.01	<5
PQ09D	19/06/2025	1270	30	27	555	555	<1	24	356	44	94	189	134	0.38	0.02	0.8	0.8	<0.01	<5
PQ09D	18/09/2025	819	38	25.2	544	524	19	28	363	28	91	200	130	0.2	<0.01	0.8	0.8	<0.01	<5
PQ09D	16/12/2025	1290	<5	7.7	539	499	40	32	370	10	86	195	128	0.2	0.02	0.8	0.8	<0.01	<5