



ARDGLEN QUARRY

2024 Annual Environmental Management Report (AEMR)



PROJECT APPROVAL MP 06_0264 - MOD 2

TITLE BLOCK

Table 1: Ardglen Quarry – Title block

Name of operation	Ardglen Quarry
Name of operator	Buttai Gravel Pty Ltd (Daracon Quarries)
Development consent / project approval #	Project Approval MP 06_0624 MOD 2
Name of holder of development consent / project approval	Buttai Gravel Pty Ltd (Daracon Quarries)
Annual Review start date	1 st January 2024
Annual Review end date	31 st December 2024
I, Luke Robinson, certify that this audit report is a true and accurate record of the compliance status of Ardglen Quarry for the period 1st January 2023 to 31st December 2024 and that I am authorised to make this statement on behalf of Buttai Gravel Pty Ltd. <i>Note.</i> <i>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.</i> <i>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).</i>	
Name of authorised reporting officer	Luke Robinson
Title of authorised reporting officer	Systems Manager – Construction Materials
Signature of authorised reporting officer	
Date	25 th March 2025

STATEMENT OF COMPLIANCE

Table 2: Ardglan Quarry – Statement of compliance

Were all of the conditions of the relevant approval complied with?	Yes
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SUMMARY OF 2022 INDEPENDENT ENVIRONMENTAL AUDIT (IEA) NON-COMPLIANCES

Table 3: Ardglan Quarry – Summary of 2022 Independent Environmental Audit (IEA) non-compliances

NON-COMPLIANCES
All previous non-compliances associated with Consent MP 06_0264 arising from the 2022 IEA, including the Statement of Commitments have been resolved.

SUMMARY OF 2022 INDEPENDENT ENVIRONMENTAL AUDIT (IEA) RECOMMENDATIONS

Table 4: Ardglan Quarry – Summary of 2022 IEA recommendations

RECOMMENDATIONS
All previous recommendations associated with Consent MP 06_0264 arising from the 2022 IEA, including the Statement of Commitments have been resolved.

COMPLIANCE STATUS LEGEND

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)

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1. INTRODUCTION

1.1 Scope

This report has been prepared by Daracon Quarries, in accordance with Schedule 5 Condition 4 of the Project Approval MP 06_0264 to record the activities and environmental monitoring undertaken within and surrounding Ardglen Quarry during the period 1st January 2024 to 31st December 2024 (the reporting period).

Figure 1 and **Figure 2** below, show the location and details of the quarry site.



Figure 1: Quarry Location

On 2nd December 2008 Daracon was granted approval (Project Approval MP 06_0264) under part 3A of the Environmental Planning & Assessment Act 1979 to extend the existing quarry operations in a westerly direction into Lot 218 (DP 751028). In December 2010, Modification 1 (Mod 1) for Project Approval MP 06_0264 was implemented whilst in March 2021 Modification 2 (Mod 2) was approved.

Daracon ceased quarrying operations at Ardglen Quarry in February 2012 and the site was placed into 'care and maintenance' at that time.

In August 2018, Ardglen quarry was taken out of 'care and maintenance' due to the need for material at the Scone Bypass Project (SBP). This was communicated to the community and relevant regulatory authorities as part of the recommencement process. The export of material from Ardglen quarry to the SBP was completed in early 2020.

During 2023 the quarry recommenced operations and this continued into 2024 with the screening, blending and export of previously quarried material to various projects / clients occurring. Ongoing construction work also continued to occur on site, including the water management system, crushing pad, noise mitigation and other tasks.

Following the signing of the Conservation Agreement for the Biodiversity Offset Areas by the Biodiversity Conservation Trust (BCT), we officially entered the extension area in July 2024 and will continue to operate there for the foreseeable future. At the end of 2024, the quarry was fully operational and incrementally ramping up to meet the needs of the local area.

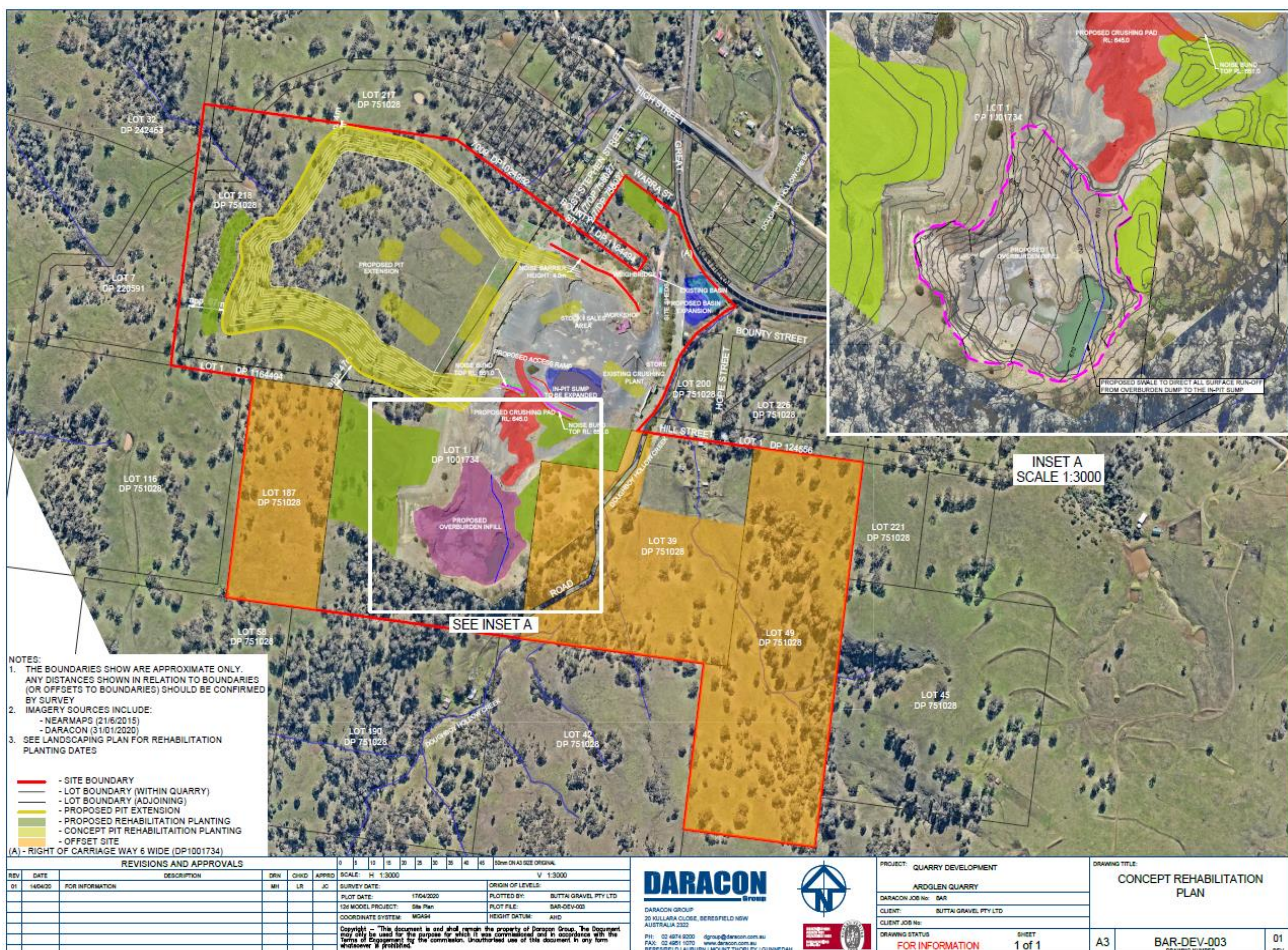


Figure 2: Quarry boundary, disturbance area and offset areas (taken from Appendix 2 of Mod 2)

This document provides an overview of activities and environmental monitoring that occurred within the reporting period and also activities and environmental monitoring planned for 2024. This Annual Environmental Management Report (AEMR) contains the following:

- A description of activities that were carried out in 2024;
- A review of the environmental monitoring results that were carried out in 2024;
- Results of the Independent Environmental Audit that was carried out in 2022;
- A description of measures that will be implemented throughout 2025 to maintain and/or improve the environmental performance of the Quarry;

1.2 Standards and Performance Measures

The owner and operator of Ardglen Quarry, Daracon Quarries (Trading as Buttai Gravel Pty Ltd) is required to operate the approved activities within the Quarry site in accordance with MP 06_0624 MOD 2 and licences listed in **Table 5**.

Table 5 – Ardglen Quarry - Consents and Licences

Approval/Licence	Issue Date	Expiry Date
Project Approval MP 06_0624 MOD 2	March 2021	31 August 2038
Environment Protection Licence (EPL) No.1115	N/A	1 January (anniversary date)

Relevant conditions with Project Approval MP 06_0624 which nominate specific environmental criteria are as follows:

- *Schedule 3 Condition 1: Hours of Operation*
- *Schedule 3 Condition 2: Noise*
- *Schedule 3 Condition 7: Blasting and Vibration*
- *Schedule 3 Condition 15: Air Quality*

- *Schedule 3 Condition 18: Meteorological Monitoring*
- *Schedule 3 Conditions 18A – 18F, plus others: Surface and Ground Water*
- *Schedule 3 Conditions 24 - 32: Rehabilitation and Landscape Management*

In addition to the specific environmental criteria, the following conditions within MP 06_0624 specifically request further information be included in each AEMR:

- *Schedule 3 Conditions 33 - 43: Product Transport*
- *Schedule 3 Conditions 44: Visual Impact*
- *Schedule 3 Conditions 45: Aboriginal and Cultural Heritage*
- *Schedule 3 Condition 46: Greenhouse Gas*
- *Schedule 3 Condition 47: Waste Minimisation*

Daracon have reviewed and revised the Environmental Management Strategy (EMS) in accordance with Schedule 5, Condition 1 the approved consent. The revised EMS has been developed by using the Daracon Integrated Facility Management Plan (IFMP). Daracon have also implemented a strategy to ensure the various management plans are reviewed, revised and updated (if necessary) in accordance with the Approval.

Additionally, Daracon commits to compliance with all Management Plans approved by the Department of Planning, Housing and Infrastructure (DPHI) and the display of all approved Management Plans on the Daracon website.

1.3 Site Management and Responsibilities

The overall management of Ardglen Quarry is the responsibility of Daracon's Quarries Manager, Mr Paul Walker with delegated site supervision tasks completed by Geoff Reeves (Supervisor). Other companies involved with quarry related documentation and monitoring data include:

- RCA Aust. Pty Ltd Laboratories;
- Rubicon Enviro Pty Ltd;
- Umwelt Australia Pty Ltd;

1.4 Document Preparation

The following information and data for this report has been drawn from documents commissioned or held by Daracon.

- Environmental Management Strategy Ardglen Quarry Extension - Major Project 06/0264, September 2010, Orogen Pty Ltd;
- Ardglen Quarry Environmental Monitoring records;
- Other relevant management plans, reports and studies associated with the site;

This document has been prepared by Mr Luke Robinson of Daracon Quarries.

In response to enquiries received from DPHI during the reporting period, **Table 6** below includes the details of specific requests for additional information as well as the relevant action taken.

Table 6: DPHI requests for additional information

DPHI requests	Action taken
Ongoing review and approval of Management Plans	During 2024, Daracon interacted with DPHI on multiple occasions regarding the review and approval of various management plans for the site.
Ardglen Community Consultative Committee (CCC) enquiries through the DPHI	DPHI provided an enquiry / complaint in early 2024 (that was consistent with an enquiry received from local resident in December 2023) regarding the local ground water wells drying up and Doughboy Hollow Creek not flowing. Daracon answered this query and subsequently spent a significant amount of time explaining the likely causes to the complainant. This information was also provided to DPHI.

In response to a previous enquiry received from DPHI, **Table 7** below includes the details of specific actions resulting from previous AEMR's.

Table 7: Specific Actions from previous AEMR's

Actions from previous AEMR's	Requested by	Action taken	Where discussed in AEMR
Long term security of the Biodiversity Offset areas	Daracon	As previously advised, Daracon progressed with ratification of the Conservation Agreement (CA) including ongoing consultation with the Biodiversity Conservation Trust (BCT) in early 2024. The CA was signed by the BCT on the 7 th of May 2024 and commenced from that day.	Section 2.12

2. OPERATIONS DURING THE REPORTING PERIOD

2.1 Introduction

Ardglen quarry was taken out of 'care and maintenance' during the latter part of 2018 due to the need for construction materials at the Scone Bypass Project (SBP). The export of material to the SBP continued intermittently during 2018 and 2019 and was completed in early 2020.

During 2024, the quarry continued operations with the screening, blending and exporting previously quarried material to various projects / clients occurring. In July 2024, we officially entered the 'Extension Area' after the Conservation Agreement for the Biodiversity Offset Areas was signed by the BCT.

Additionally, a figure showing the current operational footprint in relation to development consent boundary has been included with this AEMR as shown in **Appendix 10**.

Table 8 lists the activities that occurred at Ardglen Quarry throughout 2024.

Table 8: Operations during the Reporting Period

January	Quarry operations continuing with crushing screening and export of material occurring. Weekly Site Inspections, environmental monitoring and intermittent maintenance of rehabilitation areas.
February	Quarry operations continuing with crushing screening and export of material occurring. Weekly Site Inspections, environmental monitoring and intermittent maintenance of rehabilitation areas.
March	Quarry operations continuing with crushing screening and export of material occurring. Weekly Site Inspections, environmental monitoring and intermittent maintenance of rehabilitation areas.
April	Quarry operations continuing with crushing screening and export of material occurring. Weekly Site Inspections, environmental monitoring and intermittent maintenance of rehabilitation areas. Daracon Quarterly environmental inspection occurred. The April 2024 CCC meeting occurred.
May	Quarry operations continuing with crushing screening and export of material occurring. Weekly Site Inspections, environmental monitoring and intermittent maintenance of rehabilitation areas. Rubicon annual environmental inspection occurred. The Conservation Agreement to secure the Biodiversity Offset Areas was signed by the BCT.

June	Quarry operations continuing with crushing screening and export of material occurring. Weekly Site Inspections, environmental monitoring and intermittent maintenance of rehabilitation areas.
July	Entered the 'Extension Area' on the 8 th of July 2024 after communicating with DPHI beforehand. Quarry operations continuing with crushing screening and export of material occurring. Weekly Site Inspections, environmental monitoring and intermittent maintenance of rehabilitation areas.
August	Quarry operations continuing with crushing screening and export of material occurring. Weekly Site Inspections, environmental monitoring and intermittent maintenance of rehabilitation areas.
September	Quarry operations continuing with crushing screening and export of material occurring. Weekly Site Inspections, environmental monitoring and intermittent maintenance of rehabilitation areas. Daracon Quarterly environmental inspection occurred.
October	Quarry operations continuing with crushing screening and export of material occurring. Weekly Site Inspections, environmental monitoring and intermittent maintenance of rehabilitation areas.
November	Quarry operations continuing with crushing screening and export of material occurring. Weekly Site Inspections, environmental monitoring and intermittent maintenance of rehabilitation areas. The November 2024 CCC meeting occurred.
December	Quarry operations continuing with crushing screening and export of material occurring. Weekly Site Inspections, environmental monitoring and intermittent maintenance of rehabilitation areas. Daracon Quarterly environmental inspection occurred.

2.2 Extraction And Clearing Operations

No vegetation clearing occurred during the reporting period, but that may occur sometime in the future now we've entered the 'Extension Area'.

During the reporting period, blasting, quarrying and extraction operations recommenced in the 'Extension Area' as described in more detail below.

At the time of this report, blasting, quarrying and extraction operations will continue for the foreseeable future in accordance with the relevant approved management plans.

2.3 Production and Processing Operations

As shown in **Table 9**, there was a moderate quantity of material exported from site during the reporting period, including material sourced from the 'Extension Area'.

Table 9: Ardglan Quarry Sales (tonnes)

Materials	Approved limits	Previous reporting period	This reporting period	Next reporting period (forecast)
Crushing, screening, handling and exporting of existing material and material extracted from the 'Extension Area' (T)	The maximum amount permitted to be extracted, processed and exported is 500,000T per year	16908	112862	200,000
Total		16908	112862	200,000

Source: Ardglan tracking records

2.4 Overburden and Silt Management

As we've now entered the 'Extension Area', overburden removal recommenced during the reporting period. Most of the overburden removed from the 'Extension Area' has been stockpiled in the southern void spoil dump, with the remainder being used to blend with other site materials and / or sold.

The in-pit sump was also progressively enlarged during the latter part of the reporting period, which included the removal of silt and other material present in the basin. Most of the material removed from the in-pit sump has been stockpiled in the southern void spoil dump, with the remainder being used to blend with other site materials and / or sold.

2.5 Waste Management

During 2024, the waste generated from site was:

- General Demolition Waste – Nil;
- Recyclable Concrete – Nil;
- Paper & Cardboard – Minimal;
- Scrap Steel – 93.452 T;
- Recyclables – Minimal;
- Waste Oil – Minimal;
- Waste Oil Filters – Minimal;
- Empty Drums – Minimal;
- Grease – Nil;
- Oily Water – Nil;
- Batteries – Nil;
- Asbestos Containing Material – Nil;

2.6 Emissions

Daracon is committed to ongoing greenhouse gas emission reduction strategies as part of the operation of Ardglen Quarry. The mitigation measures currently employed on site to ensure particulate matter emissions are minimised include:

- Bitumen sealing the haul road to the wheel wash / weighbridge;
- Limiting the speed limit on unpaved surfaces to 15 km/hr;
- High level watering of unpaved road surfaces (greater than 2L/m²/hr);
- Covering all loads leaving the site;
- Wet suppression of static stockpiles as required;

Additionally, the proposed mitigation measures to ensure particulate matter emissions are minimised include:

- Revegetation of exposed surfaces where available;
- Regular inspection and fault reporting for mobile plant and equipment;
- Prompt rectification of reported faults associated with mobile plant and equipment;
- As part of the forward planning for site, considering the use of renewable energy sources including solar, wind and battery storage for example;
- Analysing the regular NGERS / NPI reports for trends and potential avenues for emission reductions;
- Operate and maintain a wheel wash at the end of the unpaved section of the haul road;
- Minimise energy consumption on site by:
 - Shutting down plant and equipment when not used;
 - Regular servicing of plant and equipment;
 - Walking in preference to vehicular use where possible;

2.7 Site Infrastructure and Services

During the reporting period, the following infrastructure/services tasks occurred:

- Various construction activities occurred on site to progress the operation into the 'Extension Area';
- The 'Extension Area clean water drain' was designed and constructed prior to any disturbance occurring in the 'Extension Area'. Photo 1 below shows the downstream end of the drain;
- Following the decommissioning of the electrical substation in 2016, there's currently no permanent lighting associated with the operation of Ardglen Quarry, however we considered it to

be appropriate to undertake the 'External Lighting Audit' during the reporting period and this was provided to DPHI who promptly accepted it;

- The reconstruction of the tertiary water treatment basin commenced and was ongoing during the reporting period. This included the procurement of a modular water treatment plant which was delivered to site in early 2025;



Photo 1: The 'Extension Area clean water drain'

2.8 Water Management

Figure 3 shows the current surface water management system in place at Ardglan Quarry. During the reporting period there was some minor maintenance to the various drainage and sedimentation control structures on site including enlarging the in-pit sump.

The Site Water Management Plan (SWMP) was reviewed and updated to include the recently completed groundwater management strategy. This was provided to the EPA, Crown Lands, ARTC and DPHI Water for consultation in August 2024. The responses to this submission are summarised below:

- The EPA responded promptly with no comments;
- Crown Lands responded promptly with no comments;
- We're still awaiting a response from ARTC despite multiple follow up enquiries;
- DPHI Water provided feedback in late December 2024 and we're currently working on our response to these matters;

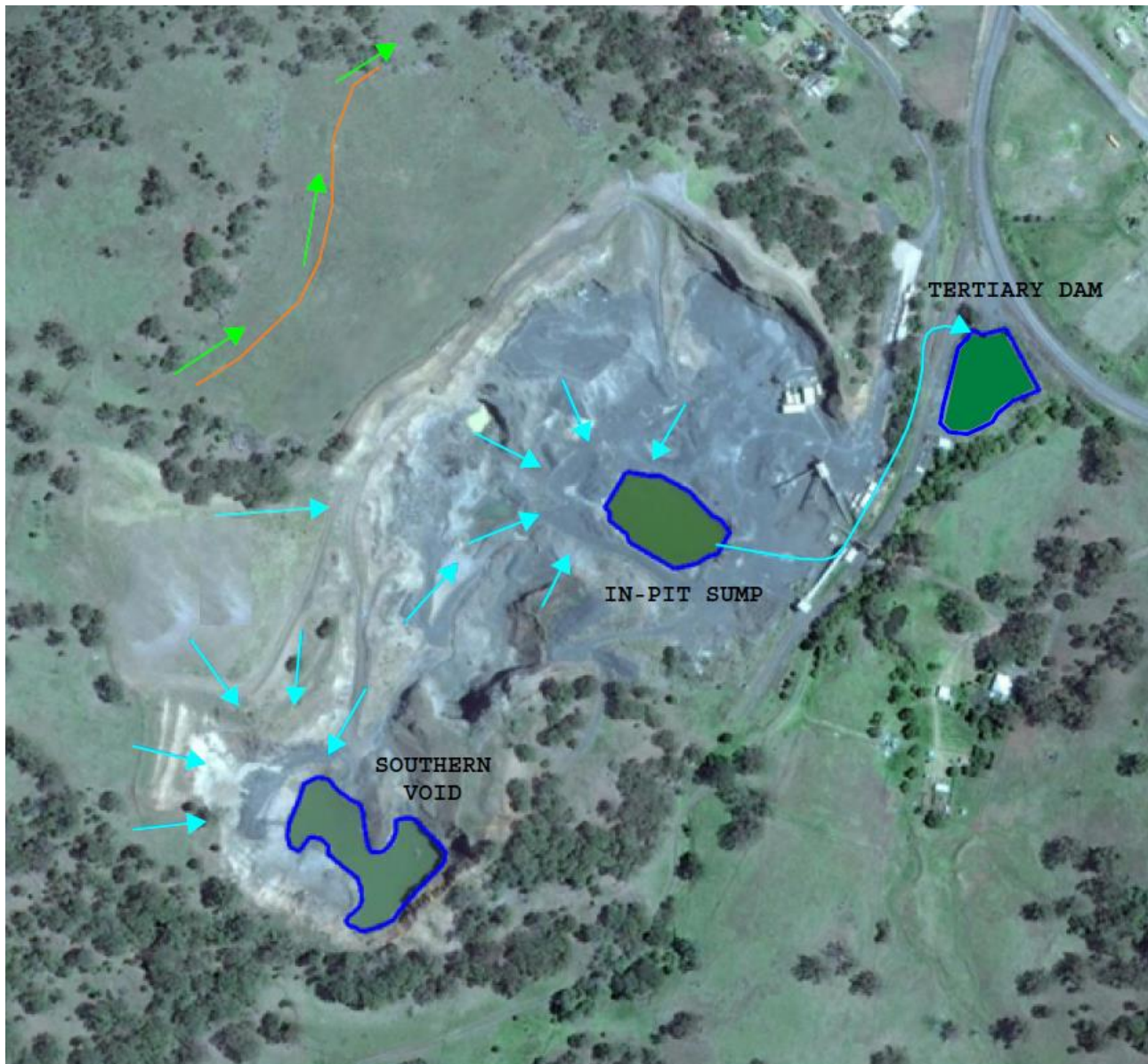


Figure 3: Surface Water Management

Figure 4 below shows the indicative locations of the groundwater monitoring wells installed in 2021. Ongoing monitoring of the various groundwater parameters will continue for the foreseeable future.

In accordance with Mod 2, we've now obtained sufficient data relating to the various groundwater parameters to analyse the data collected and develop the groundwater management strategy. This has now been incorporated into the SWMP and currently awaiting further consultation as described above.



Figure 4: Ground Water Monitoring Network

Additionally, **Table 10** below summarises the various Water Access Licences (WAL's) and the quantity of water obtained during the previous water year (1 July to 30 June). It should be noted that the 'Works Approval' associated with the WAL's nominated in **Table 10** was amended in November 2021 to make work authorised under the water supply work approval **inactive** in accordance with s.95 of the Water Management Act 2000. This will remain inactive until further notice.

Table 10: Summary of Water Access Licences and water take

Water Licence #	Water sharing plan, source and mngt zone	Entitlement (units)	Passive take / inflows	Active pumping	Total
6242	Namoi and Peel unregulated rivers water sources 2012	1.00	Nil	Nil	Nil
6243	Namoi and Peel unregulated rivers water sources 2012	4.00	Nil	Nil	Nil

Additionally, it's worth noting that we're still planning to obtain a sufficient allocation of groundwater shares (as detailed in the revised SWMP) to accommodate the predicted groundwater interception of the site. This is currently in process as at the date of this AEMR.

2.9 Bushfire Management

Minimal bushfire prevention activities occurred during this reporting period apart from selective weed spraying on site.

2.10 Hazardous Materials Management

Hazardous materials within the Quarry site are appropriately managed with incidental quantities of fuels and oils located in an appropriately bunded area. During this reporting period there was no bulk diesel fuel stored onsite. Incidental quantities of aerosols and weed poison are also stored within the appropriately bunded area.

2.11 Product Transportation

The transportation of products, both imported and exported are identified in Schedule 3 Condition 33.

Condition 33 states the following including Daracon responses in red - *The Proponent shall:*

(a) *keep records of the:*

- *amount of quarry materials imported onto the site each year – Refer to commentary below;*
- *amount of quarrying products transported from the site each calendar year – Refer to Table 11;*
- *number of truck movements generated by the development on an hourly basis on any days in which truck loading and distribution occurs - Refer to the table in Appendix 9;*
- *registration plate details and time of departure for all laden trucks dispatched from the quarry – These are collected, recorded and stored in Daracon's head office for all loads departing site;*
- *number of train movements generated by the development, on a weekly basis - Refer to commentary below;*
- *date and time of each train movement generated by the development - Refer to commentary below;*

(b) *provide annual production data to the DPI using the standard form for that purpose – Completed via separate submission to the Resource Regulator (formerly the DPI); and*

(c) *include these records in the AEMR – Included here.*

During the reporting period there was 723 T of material imported to site, delivered by powder tanker trucks and exclusively used to blend with quarried materials (via a pugmill) as an additive to improve the properties of the material to meet client requirements. No material was exported by rail transport and the rail siding remains inactive at the time of this report.

Details of truck movements generated by the project during the reporting period are shown in **Appendix 9**. As shown the **Table 11** and **Appendix 9**, all transport parameters associated with the operation of Ardglan quarry from a sales and transport perspective, were compliant during the reporting period.

Table 11 displays the monthly/annual sales of products exported from Ardglan Quarry during 2024.

Table 11: Sales generated from the quarry (T)

Month - 2024	Road pavement, aggregates and other materials (T)
January	4,887
February	5,296
March	9,976
April	5,312
May	1,636
June	1,356
July	7,119
August	6,079
September	18,131
October	9,335
November	22,835
December	20,900
Total (T)	112,862

Additionally, as part of the approved Mod 2 conditions, we've resolved all aspects of the 2018 Road Safety Audit (RSA) which then permitted an increase to the laden vehicle movements from site (to 55 laden and 110 total per day). We continue to operate with a maximum of 55 laden trucks per day for the foreseeable future.

We also continue to liaise with LPSC regarding a proposal to rectify the ongoing pavement damage that occurs along Main St Ardglen, with temporary repairs being completed until the permanent solution is approved by LPSC. This was still ongoing at the time of this AEMR.

2.12 Rehabilitation

Significant rehabilitation work occurred during previous reporting periods as detailed in the revised Landscape Management Plan (LMP) and the Umwelt Ardglen Annual Biodiversity Monitoring report included as **Appendix 6**.

DPHI previously requested a figure clearly showing the following rehabilitation with Daracon comments noted below in **red**:

- a. Rehabilitation undertaken in the current reporting period – **The Doughboy Hollow Rehabilitation Strategy commenced during the reporting period. Ongoing maintenance (including weed control) of previously planted areas also occurs regularly. The Conservation Agreement for the Biodiversity Offset Areas commenced during the reporting period and this requires ongoing improvement, maintenance, management and reporting tasks for the relevant parcels of land;**
- b. Rehabilitation undertaken in previous reporting period(s) – **See Figure 5;**
- c. Rehabilitation planned for the next reporting period – **The Doughboy Hollow Rehabilitation Strategy will continue for the foreseeable future and the Conservation Agreement for the Biodiversity Offset Areas will continue in perpetuity. Also see Figure 6 showing the proposed future rehabilitation planting areas within the existing quarry footprint (once at final landform);**

With respect to the specific aspects of the actual rehabilitation and landscape activities that occurred during the reporting period, we provide the following status updates:

- The Offset Strategy (S3_C25) – As previously advised, Daracon finalised the Conservation Agreement (CA) during the reporting period, and this officially commenced on the 7th of May 2024;
- The Landscape Management Plan (S3_C27) – Following the formal approval of the Conservation Agreement by the BCT for the long term security of the Biodiversity Offset Areas, the Landscape Management Plan (LMP) was resubmitted and approved by DPHI during the reporting period;
- The Doughboy Hollow Creek Rehabilitation Strategy (S3_C28) – This was developed, consulted with various regulatory authorities, agreed and incorporated into the LMP during the previous reporting period. This revised LMP was approved by DPHI;
- The Rehabilitation and Biodiversity Offset Management Plan (S3_C29) – The Rehabilitation and Biodiversity Offset Management Plan forms an integral component of the revised LMP which was approved by DPHI during the reporting period;

Please also refer to **Figure 5**, **Figure 6** and Section 4.4.4 for further details regarding the rehabilitation progress and suggested actions.



Figure 5: Rehabilitation planting areas (all completed prior to the current reporting period)



Figure 6: Proposed future rehabilitation areas



Photo 2: Rehabilitation planting progress in Offset B

2.13 Closure

The revised LMP, approved by the DPHI includes information regarding the proposed closure arrangements. Any planning associated with the closure of the site are still many years away from commencing.

3. COMMUNITY RELATIONS

3.1 Surrounding Communities

Figure 7 displays the land ownership and residents surrounding the quarry. During the reporting period, it is understood that there were no changes to the land ownership within the area. Ongoing and often informal discussions continue to occur with the local Ardglen residents during the reporting period.

Residents of Ardglen

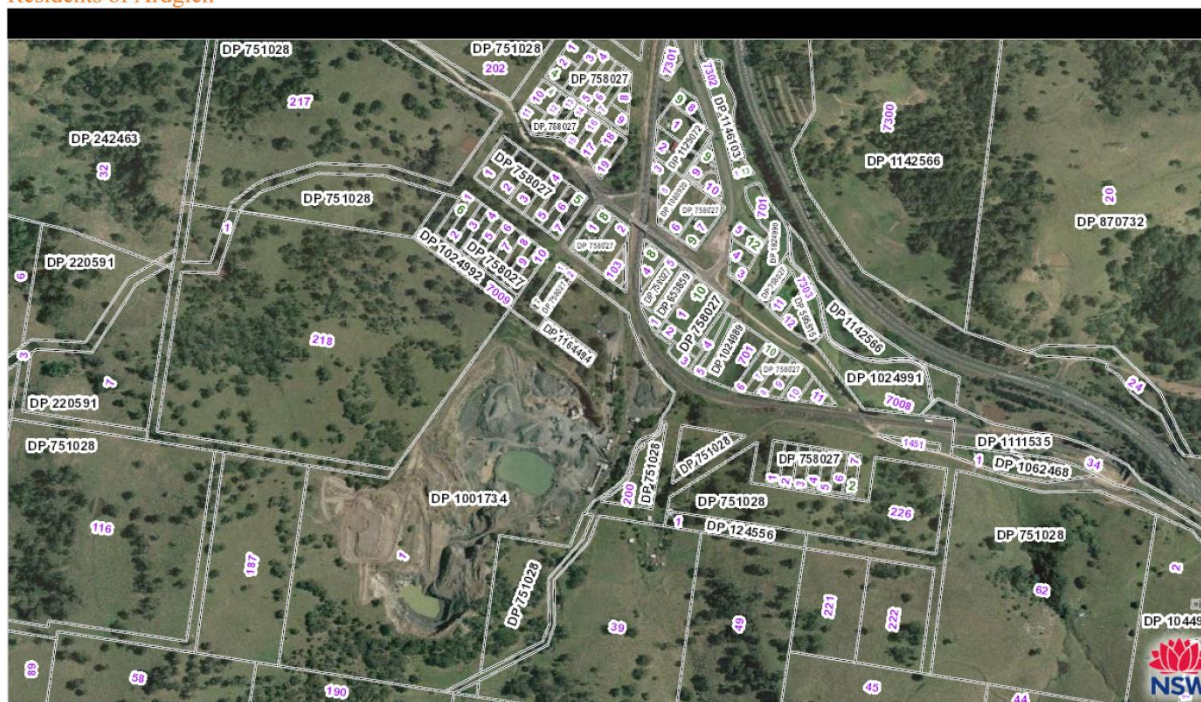


Figure 7: Land Ownership and Residents

Table 12: Land Owners and Residents

Land Owners and Residents	
Mingay Property	Ms P Purtell & Mr S Harnes
The State of New South Wales	Mr W E & Mrs E A Avery
County Property Group	Ms Penny Dalton
Land and Property Management Authority	Ms A Bojba-Lis
Mr and Mrs R McGhie	Ms C M Thompson
Mr D J Bates	Ms E Russell
Mr D J Burraston	Ms M Taylor
Mr G B Smith & Ms N E Ryder	Mr G N & Mrs M A Lewins

3.2 Community Consultative Committee Meetings

Daracon continue to engage the services of Michael Silver to facilitate the Community Consultative Committee (CCC) meetings twice per year, and this continued during the reporting period. During 2024 we also welcomed the addition of David Bates to the Ardglen quarry CCC, and he attended the November 2024 meeting. Please refer to **Section 3.4** for further information regarding community involvement and the various CCC matters.

3.3 Complaints

Daracon received eight complaints during the reporting period as shown in Appendix 4. The nature of these complaints are summarised below:

- Water availability and the perceived impact from quarry operations (one complaint);
- Blasting impacts (three complaints);
- Truck driver compliance with the Code of Conduct (three complaints);
- Noise and dust from trucks (one complaint);

All complaints received during the reporting period were promptly addressed and resolved with the relevant people and we continue to maintain a healthy relationship with all adjacent landholders.

Due to the fact there were eight complaints received during the reporting period, the main difference between the complaints received during 2024 and previous reporting periods are primarily related to the recommencement of blasting and increased truck movements associated with the expansion of the quarrying operation during 2024.

3.4 Community Involvement

All Community Consultative Committee (CCC) meetings that occurred during 2024 were completed face-to-face.

The Ardglen Quarry CCC held two meetings during the reporting period, with the first during April 2024 and the second during November 2024. The meeting minutes associated with both meetings are attached in **Appendix 3**.

Furthermore, Daracon circulated a community newsletter in early 2024 to the local Ardglen and surrounding community via letterbox drop to provide additional information for the local residents regarding the CCC and planned activities associated with the operation of Ardglen Quarry. A copy of the 2024 newsletter is included in **Appendix 8**.

This newsletter also invited nominations from community members, within the Ardglen-Murrurundi area, for appointment as a community representative to the Ardglen Quarry CCC. Following this invitation, we formally welcomed David Bates to the CCC and he attended his first meeting in November 2024.

4. ENVIRONMENTAL MONITORING

4.1 Water Quality

4.1.1 Introduction

Ardglen Quarry operates under an approved Site Water Management Plan (SWMP) as described in Section 2.8 above. One of the purposes of this plan is to ensure that Ardglen Quarry does not pollute any water.

Ardglen Quarry has two sediment basins onsite, the in-pit sump which is approximately 30ML and a tertiary sediment basin which is approximately 3ML. Currently, the majority of the water from the disturbed areas are directed towards the in-pit sump and when this becomes full, water is then directed to the smaller (3ML) tertiary sediment basin for storage and re-use.

The alterations proposed as part of Mod 2 have allowed us to make many critical improvements to the water management processes on site and to permit the appropriate discharge of water.

A variation to the EPL was approved by the EPA during 2022 which now permits the appropriate discharge of water from site.

During the reporting period, the reconstruction of the tertiary water treatment basin commenced and is ongoing. This included the procurement of a modular water treatment plant which was delivered to site in early 2025.

4.1.2 Conclusion

During the reporting period, nil water was discharged over the tertiary basin spillway.

4.2 Noise and Blasting

4.2.1 Introduction

Ardglen Quarry operates under an approved Noise Monitoring Plan and Blast Monitoring Plan. These plans outline the measures which will mitigate the environmental effects of noise and blasting of the quarry activities on our neighbours and includes noise/blast monitoring programs to assess and report the levels of impact in compliance with Schedule 3 of the Project Approval. The noise and blast management plans also provide a mechanism whereby any noise or blast complaints can be dealt with quickly and effectively.

The Approval also permits agreements with various landholders to be negotiated if noise exceedances are likely. Daracon currently have 'in principle' noise agreements with Bill Avery and Christine Thompson and copies of these have previously been provided to the EPA and DPHI.

Additionally, the approval also permits agreements with various landholders to be negotiated if blasting is to occur within 500m of their property. Daracon currently have blasting agreements with Bill and Liz Avery, Shane Harms and Paula Purtell and Ngaire Ryder who all reside in Warra St Ardglan. Copies of these have previously been provided to the DPHI and subsequently accepted.

The Blast Monitoring Plan requires monitoring to take place at specified locations as shown in **Figure 8**. Daracon have approached all local landholders regarding their interest in receiving blast notifications and those that responded to this request are now notified prior to the completion of any blasting activities on site.

The Noise Monitoring Plan calls for monthly attended noise monitoring to be completed when the quarry is operating, and this takes place at the specified noise monitoring locations as shown in **Figure 9**.

The site also operates strictly in accordance with the 'hours of operation' shown in Table 1 of Schedule 3 of the Approval.

Daracon have committed to reporting on any investigations and the implementation of the noise mitigation measures included in the EA associated with MOD 2. During the reporting period for this report, we note the following:

- Monthly noise monitoring continued monthly for the entire reporting period with no exceedances or issues identified;
- No noise complaints were received during the reporting period associated with the quarry operations (however one complaint was received regarding truck noise on the haul route);
- The Noise Compliance Assessment was completed during the reporting period with no noise issues identified;



Figure 8: Blast Monitoring Locations



Figure 9: Noise Monitoring Locations

4.2.2 Noise Criteria

Table 13: Noise Criteria

NOISE IMPACT ASSESSMENT CRITERIA dB(A)				
Land	Day LAeq (15 min)	Evening LAeq (15 min)	Night	
			LAeq (15 min)	LA1 (1 min)
4	44	35	35	45
5 and 6	45	35	35	45
9	37	35	35	45
10	38	35	35	45
12 and 14	36	35	35	45
15	43	35	35	45
16	40	35	35	45
All other privately owned land	35	35	35	45

4.2.3 Noise Monitoring Results

We recommended monthly noise monitoring in accordance with the approved Noise Management Plan (NMP) in August 2023 and will continue to do so for the foreseeable future. Copies of noise monitoring reports from January to December 2024 are included in **Appendix 2**. Table 14 below includes a summary of the attended noise monitoring results obtained for the reporting period.

Table 14: Noise monitoring results

Ardglen Quarry (AQ) Noise Monitoring results

	Location	Time	dB(A)	Wind Speed and Direction	Identified Noise Sources
29-Jan-24	4. Thompson	3:53pm	49	3.1 / 304	Traffic (48), insects (37), birds (35), AQ (27)
	13. McGhie	4:32pm	44	0.6 / 043	Insects (41), birds (39), traffic (34), AQ inaudible
	14. Purtell	4:15pm	54	2.3 / 336	Traffic (54), birds (32), AQ occasionally audible
	16. Bojba	3:33pm	58	0.9 / 219	Traffic (58), birds (38), insects (28), AQ inaudible
26-Feb-24	4. Thompson	3:16pm	43	0.5 / 290	Traffic (43), insects (28), AQ (25)
	13. McGhie	3:35pm	45	2.2 / 200	Traffic (47), birds (44), insects (26), AQ inaudible
	14. Purtell	3:56pm	50	2.4 / 190	Traffic (50), birds (32), insects (25), AQ inaudible
	16. Bojba	2:44pm	52	1.7 / 200	Traffic (52), insects (31), AQ inaudible
22-Mar-24	4. Thompson	11:16am	48	5.5 / 120	Traffic (48), birds (34), AQ inaudible
	13. McGhie	11:36am	35	5.0 / 125	Traffic (34), birds (29), AQ inaudible
	14. Purtell	10:40am	65	5.0 / 120	Traffic (65), train (52), birds (40), AQ (32)¹
	16. Bojba	10:18am	61	5.0 / 115	Trains (59), traffic (57), birds (36), AQ inaudible
19-Apr-24	4. Thompson	2:01pm	48	0.8 / 310	Traffic (48), birds (33), AQ (24)
	13. McGhie	2:32pm	44	1.5 / 285	Traffic (43), dogs (35), insects (27), AQ barely audible
	14. Purtell	2:52pm	45	2.0 / 300	Train (43), traffic (38), birds (37), AQ (29)
	16. Bojba	1:43pm	58	0.8 / 300	Traffic (58), birds (24), AQ inaudible
17-May-24	4. Thompson	12:01pm	45	3.0 / 330	Traffic (45), birds (25), AQ inaudible
	13. McGhie	12:42pm	39	3.0 / 280	Dog (38), traffic (32), birds (23), AQ inaudible
	14. Purtell	12:23pm	42	2.0 / 345	Traffic (41), birds (33), AQ inaudible
	16. Bojba	11:40am	53	3.5 / 300	Traffic (53), birds (28), AQ inaudible

1. AQ noise from trucks entering front gate.

20-June-24	4. Thompson	1:05pm	57	4.0 / 350	Train (56), traffic (51), birds (34), AQ inaudible
	13. McGhie	1:56pm	49	4.5 / 340	Traffic (49), dog (37), birds (25), AQ inaudible
	14. Purtell	1:36pm	43	4.0 / 340	Traffic (42), train (34), birds (26), AQ inaudible
	16. Bojba	12:47pm	55	4.5 / 350	Traffic (55), birds (27), AQ inaudible
25-July-24	4. Thompson	12:37pm	49	8.0 / NW	Traffic (48), train (41), birds (38), AQ inaudible
	13. McGhie	1:09pm	46	8.5 / NW	Traffic (46), birds (31), AQ inaudible
	14. Purtell	1:29pm	38	8.0 / NW	Birds (38), AQ inaudible
	16. Bojba	12:17pm	54	8.5 / NW	Traffic (54), birds (33), AQ inaudible
19-Aug-24	4. Thompson	12:23pm	55	1.5 / 083	Aeroplanes (55), traffic (44), birds (32), AQ occasionally audible
	13. McGhie	1:17pm	43	2.4 / 152	Train (42), traffic (35), birds (30), dogs (27), AQ inaudible
	14. Purtell	12:58pm	56	3.0 / 144	Traffic (54), train (51), birds (30), AQ inaudible
	16. Bojba	12:05pm	59	1.1 / 152	Traffic (59), birds (36), AQ inaudible
17-Sept-24	4. Thompson	11:08am	56	0.8 / 348	Train (56), traffic (44), birds (40), AQ inaudible
	13. McGhie	12:01pm	38	1.4 / 227	Birds (37), traffic (27), aeroplane (26), AQ occasionally audible
	14. Purtell	11:42am	54	2.7 / 072	Traffic (54), birds (39), train (37), aeroplane (26), AQ (25)
	16. Bojba	10:50am	60	2.1 / 026	Traffic (60), birds (26), AQ inaudible
31-Oct-24	4. Thompson	11:58am	51	0.8 / 319	Train (51), traffic (36), birds (28), AQ inaudible
	13. McGhie	12:18pm	55	3.0 / 317	Traffic (55), train (30), insects (23), aeroplane (22), AQ inaudible
	14. Purtell	12:38pm	40	1.3 / 293	Traffic (39), dog (31), insects (29), AQ inaudible
	16. Bojba	11:41am	52	1.8 / 334	Traffic (51), train (45), birds (30), AQ inaudible
27-Nov-24	4. Thompson	1:07pm	42	4.0 / 274	Traffic (40), birds (35), aeroplane (33), AQ inaudible
	13. McGhie	12:44pm	52	3.7 / 285	Train (50), traffic (47), birds (41), AQ inaudible
	14. Purtell	1:25pm	44	5.0 / 293	Traffic (42), birds (40), AQ inaudible

	16. Bojba	12:17pm	56	4.5 / 280	Traffic (55), birds (48), AQ inaudible
20-Dec-24	4. Thompson	2:28pm	49	1.8 / 344	Traffic (48), train (42), AQ inaudible
	13. McGhie	1:46pm	40	1.3 / 277	Birds (38), traffic (35), insects (23), AQ inaudible
	14. Purtell	2:08pm	38	1.4 / 249	Traffic (36), birds (32), insects (28), AQ inaudible
	16. Bojba	2:47pm	55	1.1 / 046	Traffic (55), birds (32), AQ inaudible

4.2.4 Blasting Criteria

Table 15: Blasting Criteria

Airblast overpressure level (dB(Lin Peak))		Allowable exceedance
115		5% of the total number of blasts over a period of 12 months
120		0%
Peak Particle Velocity (mm/s)		Allowable exceedance
5		5% of the total number of blasts over a period of 12 months
10		0%

4.2.5 Blasting Monitoring Results

We recommenced blast monitoring in accordance with the approved Blast Management Plan (BMP) on the 23rd of May 2024 and will continue to do so for the foreseeable future. During the reporting period, we completed five blasts. Table 16 below includes a summary of the blast details and monitoring results obtained for the reporting period.

Table 16: Blast monitoring results

Date	Time	Blast No.	Monitoring Point 2 (Del)		Monitoring Point 7 (Warra)	
			PPV mm/s	O/pressure dBL	PPV mm/s	O/pressure dBL
23/05/2024	14:28	ARD_06	1.73	114.4	1.71	103.1
20/06/2024	12:13	ARD_07	1	114.4	1.54	101.7
2/08/2024	12:19	ARD_08	Nil Trigger	Nil Trigger	1.57	109.7
17/09/2024	12:48	ARD_09	0.92	112.3	3.72	108.5
5/11/2024	13:32	ARD_10	Nil Trigger	Nil Trigger	1.84	110.7

4.2.6 Analysis of Results

All noise monitoring results obtained during the reporting period were compliant with the NMP, Mod 2 Consent and the EPL. We also completed the 'Noise Compliance Assessment' during the reporting period which validated the ongoing noise monitoring and identified no issues.

All blast monitoring results obtained during the reporting period were compliant with the BMP, Mod 2 Consent and the EPL.

4.2.7 Conclusion

The noise and blast monitoring results were within the specified limits identified within the consent and EPL, so no further actions were arising during the reporting period.

4.3 Air Quality

4.3.1 Introduction

Ardglen Quarry operates under an approved Air Quality Management Plan. The objectives of this plan is to comply with all statutory requirements, minimise air quality impacts on surrounding residents and properties, maintain reasonable levels of amenity for surrounding residents, to keep the local community and regulators informed and to respond quickly and effectively to issues and complaints and to ensure that air quality is measured according to best practice and results are presented in a timely and transparent manner to stakeholders.

Following the completion of the 2022 IEA there are now full time staff and a watercart present on site so the wet suppression of stockpiles was actively occurring during the reporting period.

4.3.2 Meteorological Station

Condition 18 of the Approval requires that a meteorological station to operate in the vicinity of the project site for the life of the project. Daracon has installed a meteorological station (**Figure 10**), ensuring that the meteorological station complies with the requirements in the "Approved Methods for Sampling of Air Pollutants in New South Wales Guideline".

The meteorological station currently monitors the following parameters as per EPL 1115:

- Rainfall;
- Wind Speed and Direction;
- Temperature (at 2m and 10m above ground level);
- Sigma theta;
- Solar Radiation;

4.3.3 Air Quality Monitoring Locations and Frequency

The current air quality monitoring network consists of three deposited dust gauges (DDG), two HVAS units, one TSP unit (see **Figure 10**) and one PM2.5 unit as detailed in the revised AQMP approved by DPHI.

The location of the air quality monitoring equipment (primarily to the North-East and East of the Quarry) was deduced from the location of the surrounding residences.



Figure 10: Air Quality Monitoring and Weather Station Locations

4.3.4 Air Quality Criteria

The air quality criteria for the quarry, as outlined with condition 17 (schedule 3) of the approval are provided in the below table.

Table 17: Air Quality Criteria

Parameter	Frequency	Locations	Limit/Guideline	Sampling Method
Deposited dust	Monthly.	DG-1 located at Receptor 2 (EPL point 2). DG-2 located at Receptor 5 (EPL point 3). DG-3 located at Receptor 6 (EPL point 4).	Deposition Rate* Maximum total deposited dust level: 4 g/m ² .month - as an annual average	AM-19 AS3580.10.1 – 2003
Total suspended particulate (TSP) matter	24 hours every 6 days for 12 months.	TSP-1 located at Receptor 2. Removed after 12 months.	Concentration 90 µg/m ³ - as an annual average	AM-15 AS3580.9.3 – 2003
Particulate matter < 10 µm (PM ₁₀)	24 hours every 6 days.	PM10-1 located at Receptor 2. PM10-2 located at Receptor 6.	Concentration 50 µg/m ³ - as a 24 hour average 25 µg/m ³ - as an annual average	AM-16 AS3580.9.6 - 2003
Particulate matter < 2.5 µm (PM _{2.5})	24 hours every 6 days.	PM2.5 located at Receptor 6.	Concentration 25 µg/m ³ - as a 24 hour average 8 µg/m ³ - as an annual average	
Visible air pollution	Weekly. In response to any visible emissions complaint.	Weekly site inspection. At the location of any reported emission.	Project Approval Schedule 3, Condition 16	No required sampling methodology apart from described above. Actions required if visual impact is suspected or confirmed.
Meteorological station	Continuous.	On site near the weighbridge.	Project Approval Schedule 3, Condition 18	AM-1 to AM-4 USEPA (2000) EPA 454/R-99-005
Greenhouse gases (electricity and fuel consumption)	Upon purchase of electricity or fuel.	Entire site.	Project Approval Schedule 3, Condition 46(a) The proponent shall monitor the greenhouse gas emissions generated by the project.	No required sampling methodology. Records of purchase, consumption and storage used to determine emissions.

4.3.5 Air Quality Monitoring Results

The following information presents the results of the Dust Deposition Gauges (DDG), High Volume Air Sampler (HVAS) and Total Suspended Particulate (TSP) monitoring program.

4.3.5.1 Depositional Dust Gauges

Table 18: Depositional Dust Gauge Results

	Insoluble Solids (g/m ² .month)			Insoluble Solids Annual Average (g/m ² .month)		
	EPA2	EPA3	EPA4	EPA2	EPA3	EPA4
5/1/24 to 5/2/24	1.9	0.7	0.8	0.5	0.7	0.4
5/2/24 to 4/3/24	3.2	0.4	0.7	0.7	0.7	0.4
4/3/24 to 4/4/24	1.1	0.7	0.4	0.8	0.8	0.5
4/4/24 to 3/5/24	0.7	0.4	1.5	0.8	0.8	0.5
3/5/24 to 4/6/24	0.3	0.3	0.3	0.9	0.8	0.5
4/6/24 to 5/7/24	0.2	0.3	0.3	0.8	0.7	0.6
5/7/24 to 5/8/24	0.3	0.3	0.4	0.9	0.8	0.6
5/8/24 to 4/9/24	0.3	0.2	0.4	0.8	0.8	0.6
4/9/24 to 3/10/24	1.1	1.1	1	0.9	0.8	0.6
3/10/24 to 4/11/24	0.4	1.6	0.8	0.9	0.9	0.6
4/11/24 to 5/12/24	2.1	1	0.7	1	0.9	0.6
5/12/24 to 6/1/24	1	2.4	0.7	1.1	0.9	0.7

4.3.5.2 HVAS Unit 1 (PM10-1)

Table 19: PM10 Unit 1 Results

		Sample #	Run Date	PM10	Filter #	Date Off	Time Off	Tech	Hrs
Jan-24	PM ₁₀₋₁	01249733A012	6/01/2024	7	A0283713	10/01/2024	7:09	Client	24.02
	PM ₁₀₋₁	01249733A015	12/01/2024	9	A0283716	15/01/2024	11:38	Client	24.01
	PM ₁₀₋₁	01249733A018	18/01/2024	7	A0283719	22/01/2024	6:55	Client	24.01
	PM ₁₀₋₁	01249733A021	24/01/2024	6	A0283722	29/01/2024	12:02	Client	24.01
	PM ₁₀₋₁	01249733A024	30/01/2024	15	A0283725	2/02/2024	7:03	Client	24.01
Feb-24	PM ₁₀₋₁	02249733A012	5/02/2024	17	A0283773	9/02/2024	8:04	Client	24.01
	PM ₁₀₋₁	02249733A015	11/02/2024	1	A0283776	15/02/2024	10:04	Client	24.01
	PM ₁₀₋₁	02249733A018	17/02/2024	9	A0283779	21/02/2024	7:30	Client	24.01
	PM ₁₀₋₁	02249733A021	23/02/2024	9	A0283782	27/02/2024	8:51	Client	24.01
	PM ₁₀₋₁	02249733A024	29/02/2024	13	A0283785	5/03/2024	6:28	Client	21.73
Mar-24	PM ₁₀₋₁	03249733A012	6/03/2024	12	A0283858	11/03/2024	11:37	Client	24

	PM ₁₀₋₁	03249733A015	12/03/2024	10	A0283861	13/03/2024	14:15	Client	24.02
	PM ₁₀₋₁	03249733A018	18/03/2024	4	A0283864	20/03/2024	9:18	Client	24.01
	PM ₁₀₋₁	03249733A021	24/03/2024	6	A0283867	25/03/2024	11:08	Client	20.23
	PM ₁₀₋₁	03249733A024	30/03/2024	5	A0283870	2/04/2024	12:11	Client	24.01
Apr-24	PM ₁₀₋₁	04249733A012	5/04/2024	1	A0283811	10/04/2024	11:48	Client	24.01
	PM ₁₀₋₁	04249733A015	11/04/2024	4	A0283814	16/04/2024	9:55	Client	24.01
	PM ₁₀₋₁	04249733A018	17/04/2024	7	A0283817	22/04/2024	10:51	Client	24.11
	PM ₁₀₋₁	04249733A021	23/04/2024	3	A0283820	24/04/2024	7:49	Client	24.01
	PM ₁₀₋₁	04249733A024	29/04/2024	2	A0283823	30/04/2024	7:02	Client	24.01
May-24	PM ₁₀₋₁	05249733A012	5/05/2024	2	A0283836	10/05/2024	7:40	Client	24.01
	PM ₁₀₋₁	05249733A015	11/05/2024	2	A0280104	15/05/2024	8:30	Client	24.01
	PM ₁₀₋₁	05249733A018	17/05/2024	6	A0280102	22/05/2024	9:38	Client	24.02
	PM ₁₀₋₁	05249733A021	23/05/2024	3	A0283169	24/05/2024	8:00	Client	24.01
	PM ₁₀₋₁	05249733A024	29/05/2024	5	A0283172	30/05/2024	10:19	Client	24.01
Jun-24	PM ₁₀₋₁	06249733A012	4/06/2024	2	A0283175	7/06/2024	10:00	Client	24.01
	PM ₁₀₋₁	06249733A015	10/06/2024	1	A0283178	12/06/2024	9:13	Client	24.01
	PM ₁₀₋₁	06249733A018	16/06/2024	1	A0283181	17/06/2024	9:23	Client	24.01
	PM ₁₀₋₁	06249733A021	22/06/2024	3	A0283184	25/06/2024	9:02	Client	24.01
	PM ₁₀₋₁	06249733A024	28/06/2024	15	A0301590	2/07/2024	8:47	Client	24.01
Jul-24	PM ₁₀₋₁	07249733A012	4/07/2024	1	A0301593	9/07/2024	12:42	Client	24.17
	PM ₁₀₋₁	07249733A015	10/07/2024	2	A0301596	15/07/2024	13:52	Client	24.01
	PM ₁₀₋₁	07249733A018	16/07/2024	1	A0301599	18/07/2024	8:57	Client	24.01
	PM ₁₀₋₁	07249733A021	22/07/2024	5	A0280184	26/07/2024	9:36	Client	24.01
	PM ₁₀₋₁	07249733A024	28/07/2024	1	A0280187	31/07/2024	9:40	Client	24.01
Aug-24	PM ₁₀₋₁	08249733A012	3/08/2024	3	A0280190	8/08/2024	15:22	Client	24.01
	PM ₁₀₋₁	08249733A015	9/08/2024	2	A0280193	13/08/2024	11:42	Client	24.01
	PM ₁₀₋₁	08249733A018	15/08/2024	1	A0280196	19/08/2024	10:30	Client	24.01
	PM ₁₀₋₁	08249733A021	21/08/2024	11	A0280199	26/08/2024	16:40	Client	24.01
	PM ₁₀₋₁	08249733A024	27/08/2024	11	A0280171	30/08/2024	11:18	Client	24.01
Sep-24	PM ₁₀₋₁	09249733A012	2/09/2024	2	A0280175	6/09/2024	14:26	Client	24.07
	PM ₁₀₋₁	09249733A015	8/09/2024	7	A0280177	13/09/2024	8:02	Client	24.01
	PM ₁₀₋₁	09249733A018	14/09/2024	2	A0280180	19/09/2024	11:27	Client	24.01
	PM ₁₀₋₁	09249733A021	20/09/2024	11	A0303030	25/09/2024	16:48	Client	24.01
	PM ₁₀₋₁	09249733A024	26/09/2024	6	A0303033	1/10/2024	9:00	Client	24.01
Oct-24	PM ₁₀₋₁	10249733A012	2/10/2024	4	A0303036	4/10/2024	9:42	Client	24.01
	PM ₁₀₋₁	10249733A015	8/10/2024	9	A0303039	10/10/2024	12:58	Client	24.01

	PM ₁₀₋₁	10249733A018	14/10/2024	1	9586380	16/10/2024	10:46	Client	24
	PM ₁₀₋₁	10249733A021	20/10/2024	6	9586383	23/10/2024	13:17	Client	24.02
	PM ₁₀₋₁	10249733A024	26/10/2024	5	9586386	31/10/2024	14:43	Client	24.04
Nov-24	PM ₁₀₋₁	11249733A012	1/11/2024	8	9586389	6/11/2024	16:04	Client	24.11
	PM ₁₀₋₁	11249733A015	7/11/2024	14	9586392	12/11/2024	14:39	Client	24.01
	PM ₁₀₋₁	11249733A018	13/11/2024	6	A0303069	18/11/2024	13:30	Client	24.01
	PM ₁₀₋₁	11249733A021	19/11/2024	2	A0303074	22/11/2024	15:50	Client	24.01
	PM ₁₀₋₁	11249733A024	25/11/2024	18	A0278502	29/11/2024	7:47	Client	24.01
Dec-24	PM ₁₀₋₁	369985-2	1/12/2024	4	A0278508	6/12/2024	15:59	Client	24
	PM ₁₀₋₁	369985-5	7/12/2024	9	A0278596	12/12/2024	14:51	Client	24
	PM ₁₀₋₁	369985-8	13/12/2024	14	A0278593	18/12/2024	9:52	Client	24
	PM ₁₀₋₁	369985-11	19/12/2024	11	A0278590	20/12/2024	15:56	Client	24
	PM ₁₀₋₁	369985-14	25/12/2024	5	A0278587	30/12/2024	14:58	Client	24
	PM ₁₀₋₁	369985-17	31/12/2024	11	A0278584	4/01/2025	10:40	Client	24

4.3.5.3 HVAS Unit 2 (PM10-2)

Table 20: PM10 Unit 2 Results

		Sample #	Run Date	PM10	Filter #	Date Off	Time Off	Tech	Hrs
Jan-24	PM ₁₀₋₂	01249733A013	6/01/2024	10	A0283714	10/01/2024	6:41	Client	24.01
	PM ₁₀₋₂	01249733A016	12/01/2024	8	A0283717	15/01/2024	11:20	Client	24.01
	PM ₁₀₋₂	01249733A019	18/01/2024	7	A0283720	22/01/2024	6:38	Client	24.01
	PM ₁₀₋₂	01249733A022	24/01/2024	7	A0283723	29/01/2024	11:42	Client	24.01
	PM ₁₀₋₂	01249733A025	30/01/2024	17	A0283726	2/02/2024	6:43	Client	24.01
Feb-24	PM ₁₀₋₂	02249733A013	5/02/2024	16	A0283774	9/02/2024	8:04	Client	24.01
	PM ₁₀₋₂	02249733A016	11/02/2024	4	A0283777	15/02/2024	10:04	Client	24.01
	PM ₁₀₋₂	02249733A019	17/02/2024	5	A0283780	21/02/2024	7:30	Client	24.01
	PM ₁₀₋₂	02249733A022	23/02/2024	8	A0283783	27/02/2024	8:51	Client	24.01
	PM ₁₀₋₂	02249733A025	29/02/2024	11	A0283786	5/03/2024	6:28	Client	21.73
Mar-24	PM ₁₀₋₂	03249733A013	6/03/2024	13	A0283859	11/03/2024	11:03	Client	24.02
	PM ₁₀₋₂	03249733A016	12/03/2024	12	A0283862	13/03/2024	13:48	Client	24.02
	PM ₁₀₋₂	03249733A019	18/03/2024	4	A0283865	20/03/2024	8:59	Client	24.02
	PM ₁₀₋₂	03249733A022	24/03/2024	8	A0283865	25/03/2024	10:46	Client	20.3
	PM ₁₀₋₂	03249733A025	30/03/2024	7	A0283871	2/04/2024	11:55	Client	24.01
Apr-24	PM ₁₀₋₂	04249733A013	5/04/2024	3	A0283812	10/04/2024	11:26	Client	24.01
	PM ₁₀₋₂	04249733A016	11/04/2024	3	A0283815	16/04/2024	9:12	Client	24.02

	PM ₁₀₋₂	04249733A019	17/04/2024	6	A0283818	22/04/2024	10:36	Client	24.08
	PM ₁₀₋₂	04249733A022	23/04/2024	3	A0283821	24/04/2024	7:31	Client	24.01
	PM ₁₀₋₂	04249733A025	29/04/2024	3	A0283824	30/04/2024	6:43	Client	24.01
May-24	PM ₁₀₋₂	05249733A013	5/05/2024	1	A0283837	10/05/2024	7:25	Client	24.01
	PM ₁₀₋₂	05249733A016	11/05/2024	2	A0280105	15/05/2024	8:09	Client	24.01
	PM ₁₀₋₂	05249733A019	17/05/2024	5	A0283167	22/05/2024	9:00	Client	24.01
	PM ₁₀₋₂	05249733A022	23/05/2024	5	A0283170	24/05/2024	7:43	Client	24.01
	PM ₁₀₋₂	05249733A025	29/05/2024	3	A0283173	30/05/2024	10:02	Client	24.01
Jun-24	PM ₁₀₋₂	06249733A013	4/06/2024	<0.1	A0283176	7/06/2024	9:40	Client	24.01
	PM ₁₀₋₂	06249733A016	10/06/2024	<0.1	A0283179	12/06/2024	8:54	Client	24.01
	PM ₁₀₋₂	06249733A019	16/06/2024	<0.1	A0283182	17/06/2024	8:41	Client	24.01
	PM ₁₀₋₂	06249733A022	22/06/2024	3	A0301588	25/06/2024	8:08	Client	24.01
	PM ₁₀₋₂	06249733A025	28/06/2024	3	A0301591	2/07/2024	8:27	Client	24.01
Jul-24	PM ₁₀₋₂	07249733A013	4/07/2024	1	A0301594	9/07/2024	12:26	Client	24.07
	PM ₁₀₋₂	07249733A016	10/07/2024	1	A0301597	15/07/2024	12:51	Client	24.01
	PM ₁₀₋₂	07249733A019	16/07/2024	1	A0301600	18/07/2024	8:36	Client	24.01
	PM ₁₀₋₂	07249733A022	22/07/2024	6	A0280185	26/07/2024	8:28	Client	24.01
	PM ₁₀₋₂	07249733A025	28/07/2024	4	A0280186	31/07/2024	9:08	Client	24.01
Aug-24	PM ₁₀₋₂	08249733A013	3/08/2024	4	A0280191	8/08/2024	15:02	Client	24.01
	PM ₁₀₋₂	08249733A016	9/08/2024	4	A0280194	13/08/2024	11:23	Client	24.01
	PM ₁₀₋₂	08249733A019	15/08/2024	1	A0280197	19/08/2024	10:10	Client	24.01
	PM ₁₀₋₂	08249733A022	21/08/2024	38	A0280200	26/08/2024	16:23	Client	24.01
	PM ₁₀₋₂	08249733A025	27/08/2024	13	A0280172	30/08/2024	10:58	Client	24.01
Sep-24	PM ₁₀₋₂	09249733A013	2/09/2024	18	A0280175	6/09/2024	14:05	Client	24.15
	PM ₁₀₋₂	09249733A016	8/09/2024	12	A0280178	13/09/2024	7:42	Client	24.01
	PM ₁₀₋₂	09249733A019	14/09/2024	4	A0280181	19/09/2024	11:03	Client	24.01
	PM ₁₀₋₂	09249733A022	20/09/2024	11	A0303031	25/09/2024	16:29	Client	24.01
	PM ₁₀₋₂	09249733A025	26/09/2024	8	A0303034	1/10/2024	8:26	Client	24.01
Oct-24	PM ₁₀₋₂	10249733A013	2/10/2024	7	A0303037	4/10/2024	9:18	Client	24.01
	PM ₁₀₋₂	10249733A016	8/10/2024	11	A0303040	10/10/2024	12:38	Client	24.01
	PM ₁₀₋₂	10249733A019	14/10/2024	7	9586381	16/10/2024	11:05	Client	24
	PM ₁₀₋₂	10249733A022	20/10/2024	6	9586384	23/10/2024	13:35	Client	24
	PM ₁₀₋₂	10249733A025	26/10/2024	6	9586387	31/10/2024	14:23	Client	24.03
Nov-24	PM ₁₀₋₂	11249733A013	1/11/2024	14	9586390	6/11/2024	15:42	Client	24.05
	PM ₁₀₋₂	11249733A016	7/11/2024	17	A0303058	12/11/2024	14:00	Client	24.01
	PM ₁₀₋₂	11249733A019	13/11/2024	6	A0303068	18/11/2024	13:05	Client	24.01

	PM ₁₀₋₂	11249733A022	19/11/2024	4	A0303007	22/11/2024	15:30	Client	24.01
	PM ₁₀₋₂	11249733A025	25/11/2024	10	A0278503	29/11/2024	7:30	Client	24.01
Dec-24	PM ₁₀₋₂	369985-3	1/12/2024	7	A0278598	6/12/2024	15:37	Client	24
	PM ₁₀₋₂	369985-6	7/12/2024	16	A0278595	12/12/2024	14:23	Client	24
	PM ₁₀₋₂	369985-9	13/12/2024	10	A0278592	18/12/2024	9:30	Client	24
	PM ₁₀₋₂	369985-12	19/12/2024	10	A0278589	20/12/2024	15:33	Client	24
	PM ₁₀₋₂	369985-15	25/12/2024	5	A0278586	30/12/2024	14:58	Client	24
	PM ₁₀₋₂	369985-18	31/12/2024	15	A0278583	4/01/2025	10:12	Client	24

4.3.5.4 TSP Unit 1

Table 21: TSP Unit 1 Results

		Sample #	Run Date	TSP	Filter #	Date Off	Time Off	Tech	Hrs
Jan-24	TSP	01249733A011	6/01/2024	14	A0273396	10/01/2024	7:13	Client	24.01
	TSP	01249733A014	12/01/2024	13	A0283715	15/01/2024	11:41	Client	24.01
	TSP	01249733A017	18/01/2024	11	A0283718	22/01/2024	6:58	Client	24.01
	TSP	01249733A020	24/01/2024	14	A0283721	29/01/2024	12:05	Client	24.01
	TSP	01249733A023	30/01/2024	25	A0283725	2/02/2024	7:07	Client	24.01
Feb-24	TSP	02249733A011	5/02/2024	30	A0283772	9/02/2024	8:31	Client	24.01
	TSP	02249733A014	11/02/2024	8	A0283775	15/02/2024	10:24	Client	24.01
	TSP	02249733A017	17/02/2024	12	a0283778	21/02/2024	7:50	Client	24.01
	TSP	02249733A020	23/02/2024	17	a0283781	27/02/2024	9:13	Client	24.01
	TSP	02249733A023	29/02/2024	18	A0283784	5/03/2024	6:51	Client	21.73
Mar-24	TSP	03249733A011	6/03/2024	23	A0283857	11/03/2024	11:40	Client	24.01
	TSP	03249733A014	12/03/2024	16	A0283860	13/03/2024	14:18	Client	24.01
	TSP	03249733A017	18/03/2024	8	A0283863	20/03/2024	9:21	Client	24.01
	TSP	03249733A020	24/03/2024	11	A0283866	25/03/2024	11:10	Client	20.27
	TSP	03249733A023	30/03/2024	11	A0283869	2/04/2024	12:13	Client	24.01
Apr-24	TSP	04249733A011	5/04/2024	2	A0283895	10/04/2024	11:51	Client	24.02
	TSP	04249733A014	11/04/2024	9	A0283813	16/04/2024	10:01	Client	24.02
	TSP	04249733A017	17/04/2024	12	A0283816	22/04/2024	10:56	Client	24.12
	TSP	04249733A020	23/04/2024	7	A0283819	24/04/2024	7:54	Client	24.01
	TSP	04249733A023	29/04/2024	6	A0283822	30/04/2024	7:08	Client	24.01
May-24	TSP	05249733A011	5/05/2024	4	A0283835	10/05/2024	7:45	Client	24.01
	TSP	05249733A014	11/05/2024	5	A0280103	15/05/2024	8:35	Client	24.02
	TSP	05249733A017	17/05/2024	8	A0280101	22/05/2024	9:43	Client	24.01
	TSP	05249733A020	23/05/2024	6	A0283168	24/05/2024	8:06	Client	24.02
	TSP	05249733A023	29/05/2024	14	A0283171	30/05/2024	10:24	Client	24.01
Jun-24	TSP	06249733A011	4/06/2024	10	A0283174	7/06/2024	10:06	Client	24.01
	TSP	06249733A014	10/06/2024	3	A0283177	12/06/2024	9:18	Client	24.01
	TSP	06249733A017	16/06/2024	3	A0283180	17/06/2024	9:29	Client	24.01
	TSP	06249733A020	22/06/2024	6	A0283183	25/06/2024	9:07	Client	24.01
	TSP	06249733A023	28/06/2024	6	A0301589	2/07/2024	8:53	Client	24.01

Jul-24	TSP	07249733A011	4/07/2024	6	A0301592	9/07/2024	12:48	Client	24.09
	TSP	07249733A014	10/07/2024	4	A0301595	15/07/2024	13:56	Client	24.01
	TSP	07249733A017	16/07/2024	4	A0301598	18/07/2024	9:04	Client	24.01
	TSP	07249733A020	22/07/2024	13	A0280183	26/07/2024	9:42	Client	24.01
	TSP	07249733A023	28/07/2024	3	A0280188	31/07/2024	9:44	Client	24.01
Aug-24	TSP	08249733A011	3/08/2024	6	A0280189	8/08/2024	15:27	Client	24.01
	TSP	08249733A014	9/08/2024	5	A0280192	13/08/2024	11:47	Client	24.01
	TSP	08249733A017	15/08/2024	1	A0280195	19/08/2024	10:35	Client	24.02
	TSP	08249733A020	21/08/2024	29	A0280198	26/08/2024	16:46	Client	24.01
	TSP	08249733A023	27/08/2024	32	A0280170	30/08/2024	11:23	Client	24.01
Sep-24	TSP	09249733A011	2/09/2024	36	A0280173	6/09/2024	14:32	Client	24.08
	TSP	09249733A014	8/09/2024	16	A0280176	13/09/2024	8:06	Client	24.03
	TSP	09249733A017	14/09/2024	8	A0280179	19/09/2024	11:33	Client	24.01
	TSP	09249733A020	20/09/2024	31	A0303029	25/09/2024	16:52	Client	24.01
	TSP	09249733A023	26/09/2024	12	A0303032	1/10/2024	9:04	Client	24.01
Oct-24	TSP	10249733A011	2/10/2024	10	A0303035	4/10/2024	9:47	Client	24.01
	TSP	10249733A014	8/10/2024	19	A0303038	10/10/2024	13:02	Client	24.01
	TSP	10249733A017	14/10/2024	8	9586379	16/10/2024	14:42	Client	24.01
	TSP	10249733A020	20/10/2024	12	9586382	23/10/2024	13:15	Client	24.02
	TSP	10249733A023	26/10/2024	17	9586385	31/10/2024	14:48	Client	24.03
Nov-24	TSP	11249733A011	1/11/2024	24	9586388	6/11/2024	16:08	Client	24.11
	TSP	11249733A014	7/11/2024	37	9586391	12/11/2024	14:44	Client	24.01
	TSP	11249733A017	13/11/2024	13	A0303005	18/11/2024	13:40	Client	24.01
	TSP	11249733A020	19/11/2024	4	A0303006	22/11/2024	15:56	Client	24.01
	TSP	11249733A023	25/11/2024	26	A0278501	29/11/2024	7:52	Client	24.01
Dec-24	TSP	369985-1	1/12/2024	12	A0278504	6/12/2024	16:3	Client	24
	TSP	369985-4	7/12/2024	20	A0278597	12/12/2024	14:55	Client	24
	TSP	369985-7	13/12/2024	27	A0278594	18/12/2024	10:01	Client	24
	TSP	369985-10	19/12/2024	18	A0278591	20/12/2024	16:00	Client	24
	TSP	369985-13	25/12/2024	15	A0278588	30/12/2024	15:02	Client	24
	TSP	369985-16	31/12/2024	25	A0278585	4/01/2025	10:44	Client	24

4.3.5.5 PM2.5 unit

Table 22: PM2.5 Results

		Sample #	Run Date	TSP	Filter #	Date Off	Time Off	Tech	Hrs
Jan-24	PM2.5	1249733026	6/01/2024	7	ARD47112302	10/01/2024	6:41	Client	24
	PM2.5	1139733027	12/01/2024	5	ARD47112306	15/01/2024	11:20	Client	24
	PM2.5	11239733028	18/01/2024	5	ARD47112307	22/01/2024	6:38	Client	24
	PM2.5	11239733029	24/01/2024	8	ARD47112304	29/01/2024	11:42	Client	24
	PM2.5	1249733030	30/01/2024	9	ARD47112303	2/02/2024	6:43	Client	24
Feb-24	PM2.5	2249733026	5/02/2024	3	ARD47112309	9/02/2024	8:04	Client	24
	PM2.5	2249733027	11/02/2024	1	ARD47112311	15/02/2024	10:04	Client	24
	PM2.5	2249733028	17/02/2024	7	ARD47122301	21/02/2024	7:30	Client	24

	PM2.5	2249733029	23/02/2024	<1	ARD47122303	27/02/2024	8:51	Client	24
	PM2.5	02249733a030	29/02/2024	12	ARD47122305	5/03/2024	6:28	Client	21.73
Mar-24	PM2.5	3249733026	6/03/2024	12	ARD47112313	11/03/2024	11:03	Client	24
	PM2.5	3249733027	12/03/2024	10	ARD47112310	13/03/2024	13:48	Client	24
	PM2.5	3249733028	18/03/2024	8	ARD47122302	20/03/2024	8:59	Client	24
	PM2.5	3249733029	24/03/2024	8	ARD47122304	25/03/2024	10:46	Client	20.3
	PM2.5	032249733a030	30/03/2024	7	ARD47022408	2/04/2024	11:55	Client	24
	PM2.5	042249733a030	29/04/2024	9	ARD47022406	30/04/2024	6:43	Client	24
Apr-24	PM2.5	4249733026	5/04/2024	2	ARD47022410	10/04/2024	11:26	Client	24
	PM2.5	4249733027	11/04/2024	8	ARD47022401	16/04/2024	9:12	Client	24
	PM2.5	4249733028	17/04/2024	9	ARD47022202	22/04/2024	10:36	Client	24
	PM2.5	4249733029	23/04/2024	7	ARD47022407	24/04/2024	7:31	Client	24
	PM2.5	042249733a030	29/04/2024	9	ARD47022406	30/04/2024	6:43	Client	24
May-24	PM2.5	5249733026	5/05/2024	5	ARD47022405	10/05/2024	11:26	Client	24
	PM2.5	5249733027	11/05/2024	2	ARD47022404	15/05/2024	9:12	Client	24
	PM2.5	5249733028	17/05/2024	1	ARD47022409	22/05/2024	10:36	Client	24
	PM2.5	5249733029	23/05/2024	8	ARD47022403	24/05/2024	7:31	Client	24
	PM2.5	052249733a030	29/05/2024	7	ARD47032406	30/05/2024	10:02	Client	24
Jun-24	PM2.5	6249733026	4/06/2024	8	ARD47032404	7/06/2024	9:40	Client	24
	PM2.5	6249733027	10/06/2024	3	ARD47032405	12/06/2024	8:54	Client	24
	PM2.5	6249733028	16/06/2024	9	ARD47032403	17/06/2024	8:41	Client	24
	PM2.5	6249733029	22/06/2024	9	ARD47032401	25/06/2024	8:08	Client	24
	PM2.5	062249733a030	28/06/2024	11	ARD47032402	2/07/2024	8:27	Client	24
Jul-24	PM2.5	7249733026	4/07/2024	2	ARD47052402	9/07/2024	12:26	Client	24
	PM2.5	7249733027	10/07/2024	1	ARD47052403	15/07/2024	12:51	Client	24
	PM2.5	7249733028	16/07/2024	2	ARD47062404	18/07/2024	8:36	Client	24
	PM2.5	7249733029	22/07/2024	6	ARD47062402	26/07/2024	8:28	Client	24
	PM2.5	072249733a030	28/07/2024	3	ARD47032402	31/07/2024	9:08	Client	24
Aug-24	PM2.5	08249733a026	3/08/2024	5	ARD47052401	8/08/2024	15:02	Client	24
	PM2.5	08249733a027	9/08/2024	5	ARD47062405	13/08/2024	11:23	Client	24
	PM2.5	08249733a028	15/08/2024	2	ARD47062403	19/08/2024	10:10	Client	24
	PM2.5	08249733a029	21/08/2024	29	ARD47062404	26/08/2024	16:23	Client	24
	PM2.5	08249733a030	27/08/2024	4	ARD47062403	30/08/2024	10:58	Client	24
Sep-24	PM2.5	9249733026	2/09/2024	3	ARD47062401	6/09/2024	14:05	Client	24
	PM2.5	9249733027	8/09/2024	7	ARD47062402	13/09/2024	7:42	Client	24
	PM2.5	8949733028	14/09/2024	8	ARD47082405	19/09/2024	8:26	Client	24
	PM2.5	8249733029	20/09/2024	4	ARD47082403	25/09/2024	11:03	Client	24
	PM2.5	092249733a030	26/09/2024	9	ARD47082404	1/10/2024	16:29	Client	24
Oct-24	PM2.5	10249733026	2/10/2024	12	ARD47082402	4/10/2024	9:18	Client	24
	PM2.5	10249733027	8/10/2024	1	ARD47102401	10/10/2024	12:38	Client	24
	PM2.5	10949733028	14/10/2024	4	ARD47082405	16/10/2024	11:05	Client	24
	PM2.5	10249733029	20/10/2024	2	ARD47082403	23/10/2024	13:35	Client	24
	PM2.5	102249733a030	26/10/2024	1	ARD47082404	31/10/2024	14:23	Client	24
No v-	PM2.5	11249733026	1/11/2024	7	ARD47082402	6/11/2024	15:42	Client	24

	PM2.5	11249733027	7/11/2024	13	ARD47082405	12/11/2024	14:00	Client	24
	PM2.5	11949733028	13/11/2024	14	ARD47102407	18/11/2024	13:05	Client	24
	PM2.5	11249733029	19/11/2024	11	ARD47102404	22/11/2024	15:30	Client	24
	PM2.5	112249733a030	25/11/2024	17	ARD47082404	29/11/2024	7:30	Client	24
Dec-24	PM2.5	369984-1	1/12/2024	8	ARD 47102408	6/12/2024	15:37	Client	24
	PM2.5	369984-2	7/12/2024	8	ARD 47102402	12/12/2024	14:23	Client	24
	PM2.5	369984-3	13/12/2024	9	ARD 47102401	18/12/2024	9:30	Client	24
	PM2.5	369984-4	19/12/2024	4	ARD 47102409	20/12/2024	15:33	Client	24
	PM2.5	369984-5	25/12/2024	9	ARD 47102406	30/12/2024	14:35	Client	24
	PM2.5	369984-6	31/12/2024	18	ARD 47102405	4/01/2025	10:12	Client	24

4.3.6 Analysis of Results

Please refer to sections 4.3.6.1 to 4.3.6.4 for a breakdown of the air quality monitoring data.

4.3.6.1 Depositional Dust Gauges

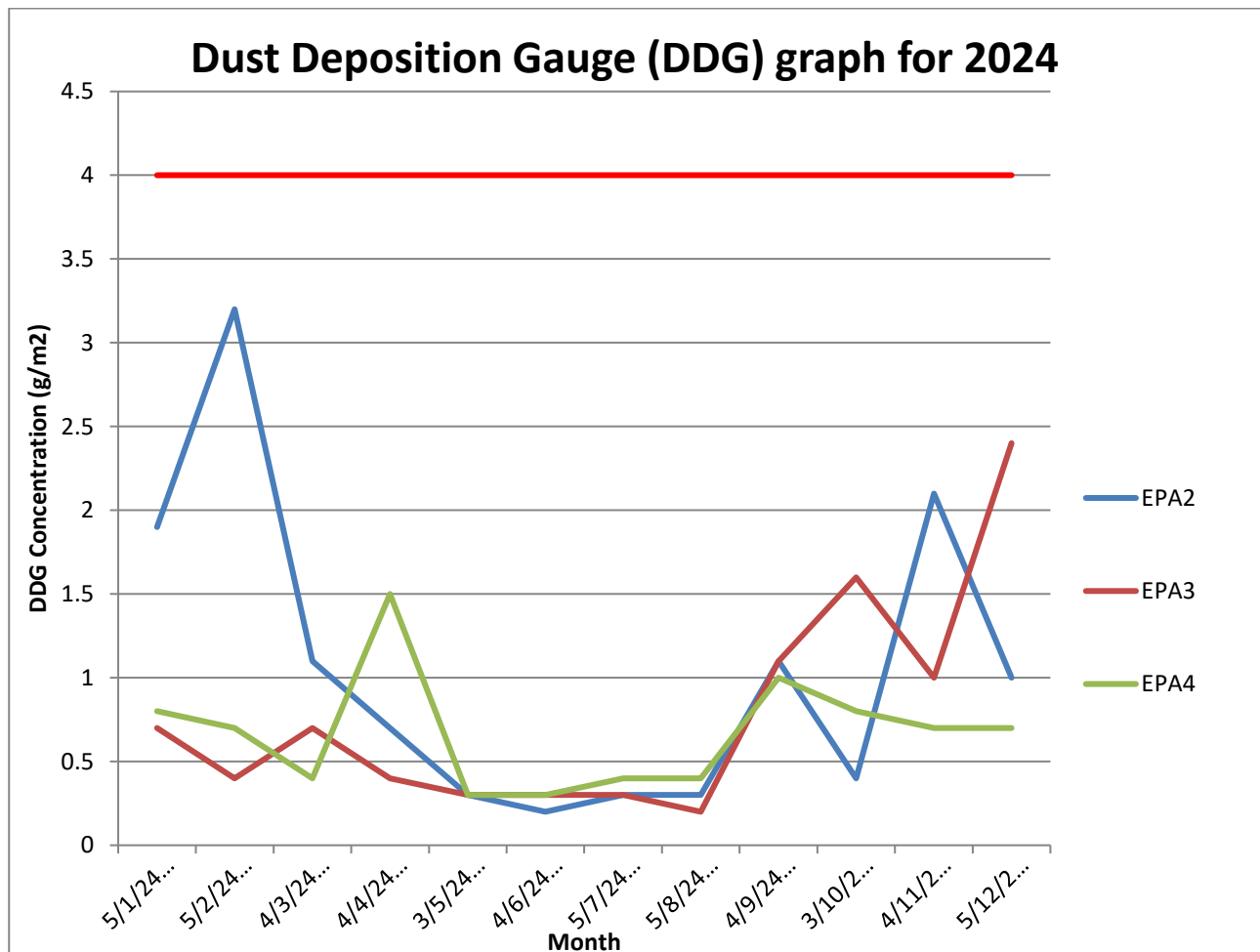


Figure 11: DDG results for the reporting period

4.3.6.2 HVAS PM-10 Unit 1 and 2

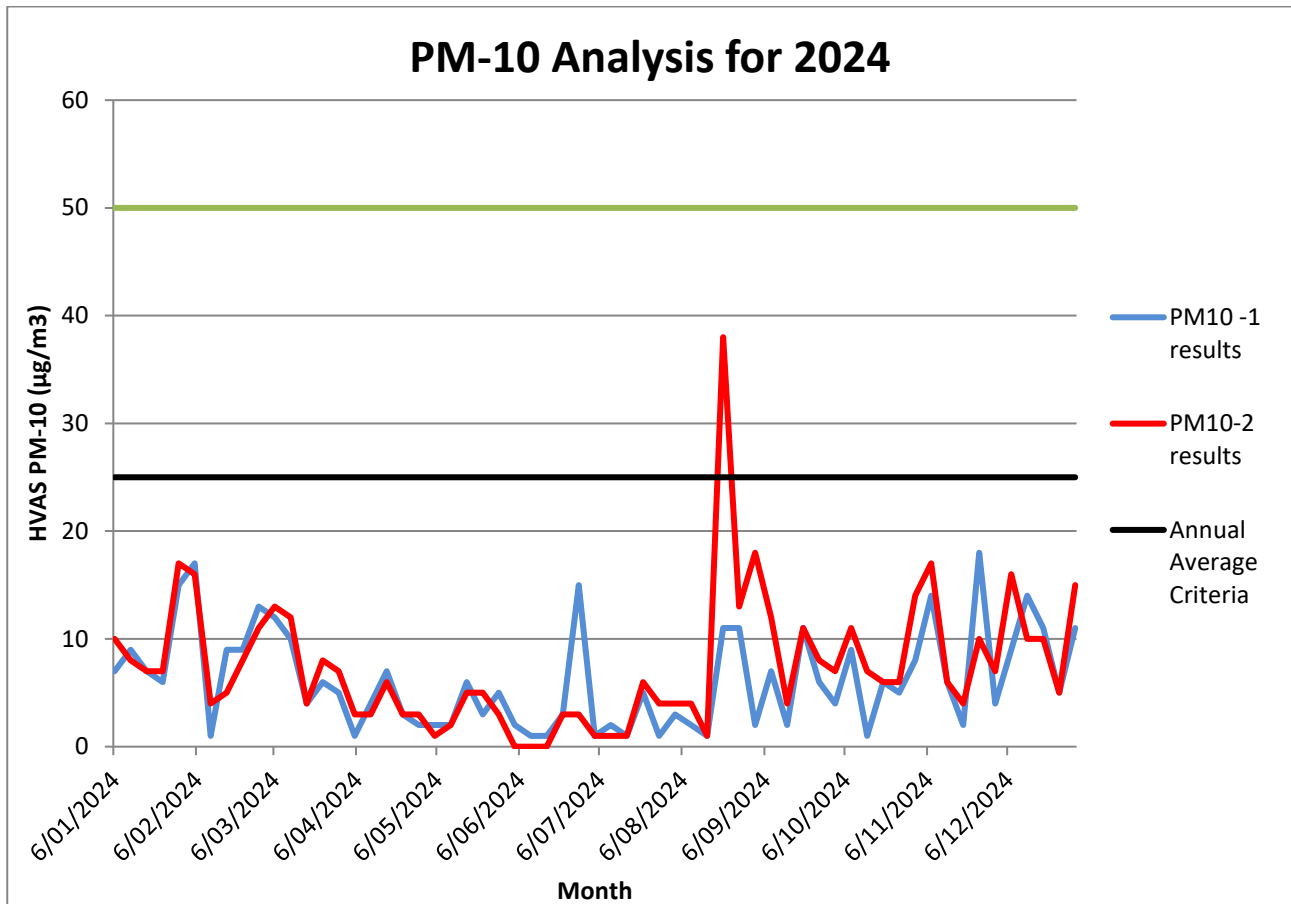


Figure 12: HVAS (PM-10) results for the reporting period

*The HVAS PM10 24-hour criterion of $25\mu\text{g}/\text{m}^3$ is based on the short-term impact assessment criterion for particulate matter. The annual average is the long-term impact assessment criteria for deposited dust as shown in Schedule 3, Condition 15 of the Approval.

Table 23: PM10, TSP and PM2.5 annual average results for the reporting period

Unit	Annual Average results achieved for the period	24 hour Criterion (Short Term)	Annual Average Criterion (Long Term)
PM10-1	6.2	50	25
PM10-2	7.8	50	25
TSP	13.5	N/A	90
PM2.5	6.8	25	8

4.3.6.3 TSP Unit 1

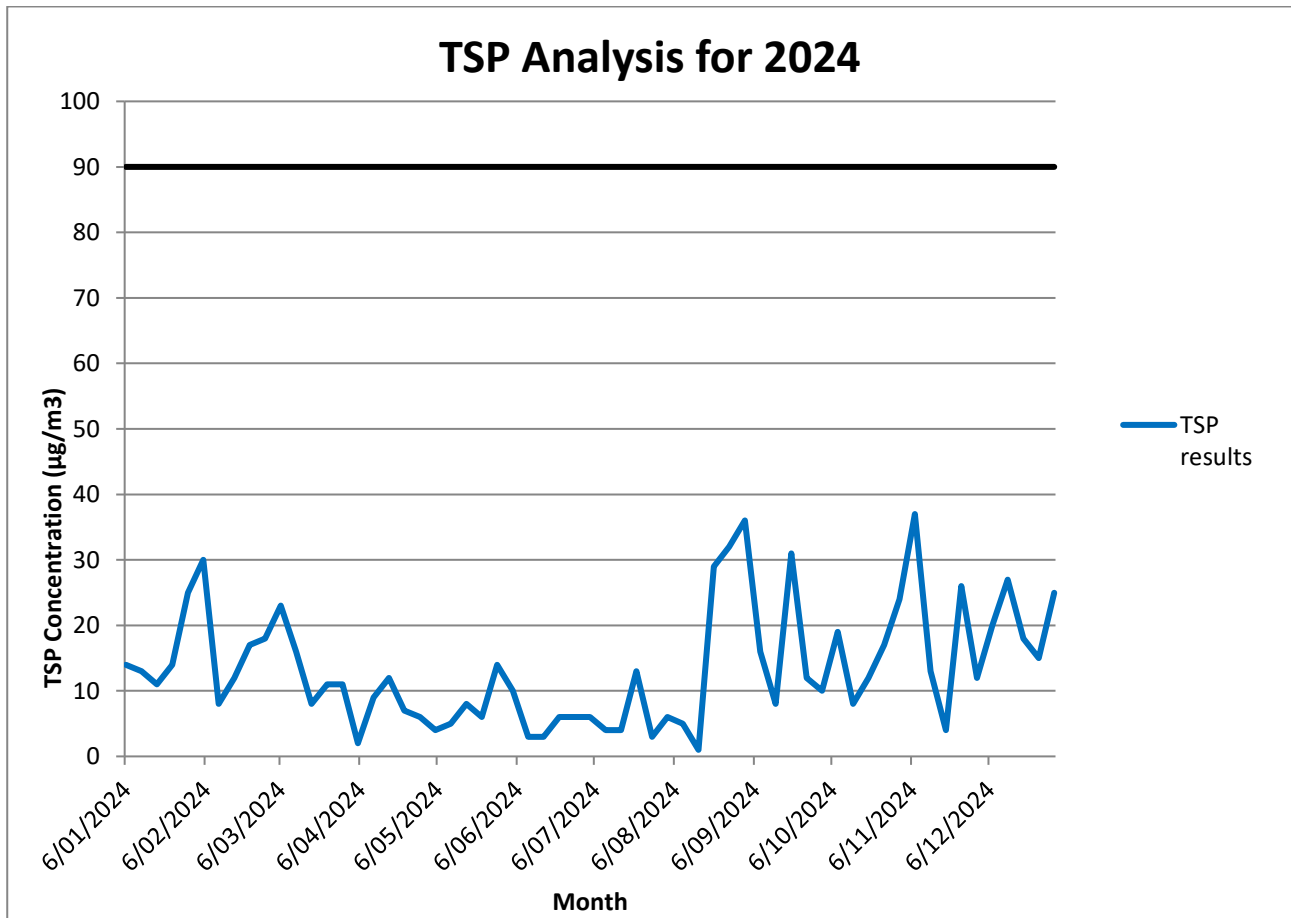


Figure 13: HVAS (TSP) results for the reporting period

4.3.6.4 PM2.5 Unit

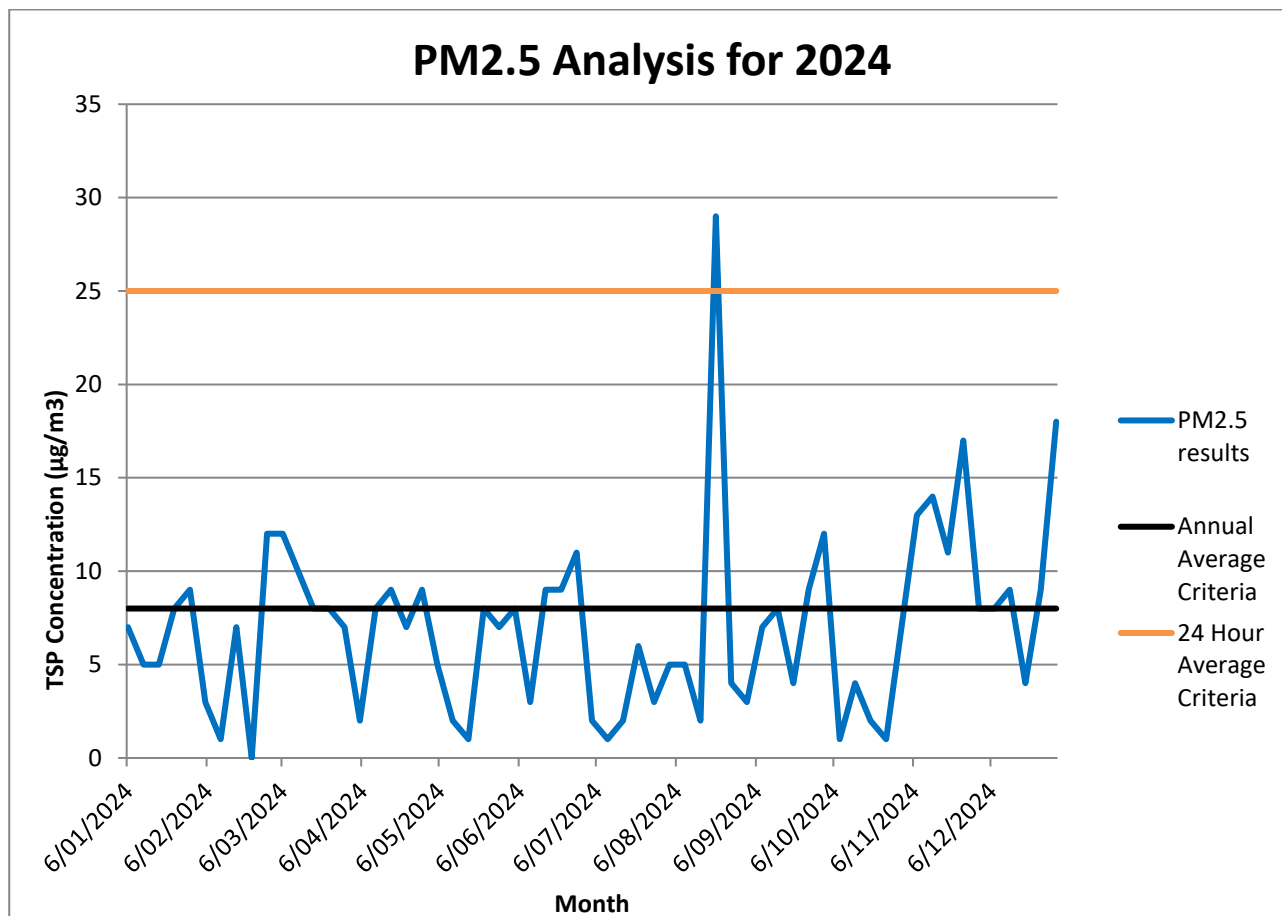


Figure 14: PM2.5 results for the reporting period

4.3.7 Discussion

Commentary on the various air monitoring data is below:

DDG

All DDG's were compliant based on the annual average and individual results achieved during the reporting period.

HVAS and LVAS (PM10, TSP and PM2.5)

The PM10, TSP and PM2.5 units operated as required for the entire duration of the reporting period excluding a few 'run time' stoppages created by local electrical supply outages. The details of all non-compliances associated with 'run times' for the various air quality monitoring equipment were provided to DPHI in accordance with the consent and are summarised in **Section 5.4** below.

All PM10, TSP and PM2.5 monitoring results obtained were compliant based on the annual average results achieved during the reporting period (shown in **Table 23** above).

There was one '24 hour' air quality result that exceeded the criteria on the 21st of August 2024 and was therefore non-complaint. This was reported to DPHI and formally accepted by DPHI on the 6th of November 2024.

4.3.8 Conclusion

All DDG, PM-10, TSP and PM2.5 results obtained during the reporting period were compliant apart from one result for the PM2.5 on the 21st of August 2024. The investigation associated with the air quality non-conformance identified on the 21st of August 2024, demonstrated the poor air quality

was not associated with the operation of Ardglenn quarry but came from an off-site source. This was reported to DPHI and formally accepted by DPHI correspondence on the 6th of November 2024.

The erroneous air quality results have also been removed from the annual averages as noted in previous DPHI correspondence.

4.4 Flora and Fauna Habitat

4.4.1 Introduction

As part of the current consent, the three Biodiversity Offset Areas (BOA's) have been established as described in the off-set strategy. Please refer to Section 2.12 for further details of this ongoing process.

From a fauna perspective, nesting boxes were installed in April 2012 on Lot 187 DP 751028 as identified in the site Landscape Management Plan. It is a requirement of the plan that annual inspections of the nesting boxes are conducted for the life of the quarry, and this occurred again during the reporting period. Please refer to **Appendix 6** for a copy of the 2024 Ardglenn Annual Biodiversity Monitoring report.

4.4.2 Fauna Management

Appropriate feral animal control is an important aspect of the correct management of the site. Feral animal control is therefore ongoing and completed on the site (including offset areas) as required. Once again, this occurred for the entire duration of the reporting period with records kept of feral animals controlled during that time. A summary of the vermin removed from site during the reporting period is contained within **Appendix 7**.

4.4.3 Nest Box Usage

The report associated with the annual inspections of the nesting boxes is attached in **Appendix 6**. Photo 3 below also demonstrates nest box usage as detailed within the 2024 Rehabilitation and nesting inspection report.

4.4.4 Biodiversity offset and rehabilitation areas

The full report associated with the 2024 Rehabilitation and nesting inspection is attached in **Appendix 6**. A summary of this report is shown below.

The methodology for the 2024 monitoring program was consistent with previous years' monitoring with the details of each site provided in **Table 24**. The monitoring program included:

- Conservation Agreement Monitoring within the BOAs;
- Rehabilitation monitoring;
- Monitoring within Doughboy Hollow Creek study area; and
- Nest box monitoring.

Field surveys for the monitoring program were undertaken from the 4th to 6th of December 2024.

Table 24 shows the vegetation zones and corresponding PCT associated with each of the monitoring plots used (taken from the Umwelt report included in Appendix 6).

Table 24: Vegetation Zones and Corresponding PCT and Plot Information

Site Name	Monitoring Method	Year Established	Area	Vegetation Community/Target	PCT	Easting	Northing
Q1	Biometric Flora Plot	2019	Offset C	Yellow Box – White Box - Silvertop Stringybark - Blakely's Red Gum grass shrub woodland	496	290019	6485647
Q2	Biometric Flora Plot	2019	Offset B	River Oak riparian grassy tall woodland of the western Hunter Valley	485	289747	6486167
Q3	Biometric Flora Plot	2019	Offset B	Yellow Box – White Box - Silvertop Stringybark - Blakely's Red Gum grass shrub woodland	496	289761	6485921
Q4	Biometric Flora Plot	2019	Offset A			289144	6486073
A1	Natural Regeneration Monitoring	2019	Offset A			289077	6486201
A2	Natural Regeneration Monitoring	2019	Offset A			289062	6486145
A3	Natural Regeneration Monitoring	2019	Offset A			289060	6486090
A4	Natural Regeneration Monitoring	2019	Offset A			289150	6485973
B1	Natural Regeneration Monitoring	2019	Offset B			289822	6486108
B2	Natural Regeneration Monitoring	2019	Offset B			289821	6486014
B3	Natural Regeneration Monitoring	2019	Offset B	Yellow Box – White Box - Silvertop Stringybark - Blakely's Red Gum grass shrub woodland	496	289945	6485915
B4	Natural Regeneration Monitoring	2019	Offset B			289854	6485906
C1	Natural Regeneration Monitoring	2019	Offset C			290061	6486188
C2	Natural Regeneration Monitoring	2019	Offset C			290034	6485967
C3	Natural Regeneration Monitoring	2019	Offset C			289953	6485745
C4	Natural Regeneration Monitoring	2019	Offset C			289943	6485582
R1	Biometric Flora Plot, Soil Sample	2021	Rehabilitation			289310	6486230
R2	Biometric Flora Plot, Soil Sample	2021	Rehabilitation			288983	6486508
Ref1	Soil Sample	2021	Reference			289114	6486390
DB01	BAM Plot	2023	Doughboy Hollow Creek	River Oak riparian grassy tall woodland of the western Hunter Valley	485	289829	6486315
DB02	BAM Plot	2023	Doughboy Hollow Creek			289927	6486445

A total of 86 flora species were recorded across all monitoring sites in 2024, including 45 native species and 41 weed species. The most speciose family was Poaceae with 23 species recorded followed by Asteraceae with 10 species and Fabaceae subf. Faboideae (peaflowers) with five species. No evidence of plant disease, pests or unnatural dieback was observed during the monitoring program.

All offset areas are progressing towards establishment of the target vegetation community type. Sites Q1, Q3 and Q4 occur within a Yellow Box-White Box-Blakely's Red Gum Woodland and site Q2 occurs within a River Oak Riparian Woodland. The Q1, Q3 and Q4 sites in general provide an adequate abundance of native plant species and native grass cover compared to the benchmark plant community type (PCT). However, overstorey, mid storey (shrubs) and other groundcover are low in cover at these sites when compared to the benchmark PCT. These areas have been subject to moderate to intense grazing for many years. The BOAs are now fenced and being managed for conservation values and therefore the establishment of the overstorey, mid storey and other groundcover species is still developing. Groundcover within the BOAs is likely to increase in diversity and abundance over time, with adequate weed and pest control measures.

4.4.4.1 Recommendations from the Rehabilitation and Nesting Inspection Report

Additionally, as also detailed in the 2024 Rehabilitation and nesting inspection report (**Appendix 6**), the following recommendations (including proposed actions in **red**) are provided for consideration in the 2024 Annual Review:

- Weed control should continue throughout the BOAs, rehabilitation areas and Doughboy Hollow Creek survey area. Priority species should include St John's Wort, Blackberry, Kikuyu, African Lovegrass and Paterson's Curse. A significant amount of effort has been employed during the reporting period to reduce the presence of weeds on the site. This includes the commencement of the Doughboy Hollow Rehabilitation Strategy and the engagement of a local subcontractor (Sky Land Management) to assist with the management of the CA for the BOA's. Multiple weed eradication sessions have occurred recently, with many more planned for the foreseeable future.
- Pest animal control should continue. Although no evidence of pest animals was observed during the monitoring program, control effort should continue. As shown in Appendix 7, we continue to engage the services of a local licensed vermin controller to assist with the removal of pest animals from the site.
- Internal barbed wire fencing along Doughboy Hollow Creek in Offset B was observed. This should be removed to reduce the risk of injury to native fauna and improve fauna movement throughout the offset area. A local fencing contractor has been engaged to assist with the removal of redundant fencing on site and this will occur during early to mid-2025.



Photo 3: Nest box usage – Eastern Rosella chicks

4.5 Greenhouse Gas

4.5.1 Introduction

As part of the current consent, we need to monitor and report the gas emissions generated by the project.

4.5.2 Reporting

Due to the fact that there is no permanent electrical power connected to the site and no plans for this to occur, the primary source of emissions from site is via the operation of plant and machinery. We report the Ardglan quarry contribution to greenhouse gas emissions via the National Pollutant Inventory (NPI) and National Greenhouse and Energy Reporting Scheme (NGERS) annually in accordance with the relevant standards associated with these processes.

4.6 Analysis of monitoring results against those predicted in the EA**4.6.1 Water Quality**

Due to the fact that the quarry has mostly been in 'care and maintenance' for many years and only recently returned to operations and, due to the fact the site has substantial water storage capacity on site, there have been no documented water discharge events or known water quality issues identified. This is consistent with those predicted in the EA which states "the project is unlikely to result in any significant impacts on water".

4.6.2 Noise and Blasting

Now that we've entered the extension area, monthly noise monitoring and regular blasting activities have recommenced, the monitoring results have so far been consistent with those predicted in the EA and below the threshold identified in the consent and the EPL.

4.6.3 Air Quality

Due to the fact that the quarry has mostly been in 'care and maintenance' for many years and only recently returned to operations, there have been no substantial issues relating to air quality identified so far.

There have obviously been a few (but infrequent) air quality monitoring results that have not complied with the consent during previous reporting periods, however these have easily been discounted for reasons not specifically associated with quarry operations (regional dust storms or persistent intense drought conditions). This is consistent with those predicted in the EA which states "air quality modelling indicates that worst case dust emissions generated by the project would comply with the DECC criteria for dust deposition, TSP and small particulate matter (PM-10) at all privately owned residences in the vicinity of the site".

4.7 Trends of monitoring over the life of the project**4.7.1 Water Quality**

Due to the fact that the quarry has mostly been in 'care and maintenance' for many years, the fact that the site has substantial water storage capacity on site there have been no documented water discharge events or known water quality issues identified. It must be noted however that the Approval includes additional water management strategies to permit appropriate water discharge subject to approval of a variation to the EPL.

4.7.2 Noise and Blasting

Due to the fact that the quarry has mostly been in 'care and maintenance' for many years and the fact that the site has only recently recommenced monthly noise monitoring and intermittent blasting activities, there have been no exceedances of the relevant criteria recorded. With appropriate planning and execution, this should continue for the foreseeable future.

4.7.3 Air Quality

Due to the fact that the quarry has mostly been in 'care and maintenance' for many years and the fact that the site has only recently recommenced quarrying activities in the 'Extension Area', there have been no exceedances of the relevant criteria recorded (apart from erroneous results impacted by external factors). With appropriate planning and execution, this should continue for the foreseeable future.

As shown in **Figures 15, 16, 17 and 18** below, the long-term trends associated with the various air quality monitoring parameters are summarised as follows:

- **Figure 15** – This shows the Dust Deposition Gauge (DDG) 'annual average' monitoring results from 2007 to 2024. As seen in this figure, the annual average results are all below the criterion apart from the average result for EPA #4 from 2009;
- **Figure 16** – This shows the HVAS PM10 'annual average' monitoring results from 2012 to 2024. As seen in this figure, the annual average results are all below the criterion;
- **Figure 17** – This shows the HVAS PM-10 '24 hour' monitoring results from 2012 to 2024. As seen in this figure, the annual average results are all below the criterion apart from the results obtained in 2012 and more recently during late 2018, late 2029 into early 2020 and the result obtained for the 19th of December 2023. For clarification regarding the prevailing weather conditions during this reporting period, please see also see below **Figure 20** (taken from the biodiversity monitoring report) which demonstrates that the region surrounding Ardglen quarry was experiencing 'drought affected' conditions for the first half of 2024, with conditions easing to 'non drought' during the second half of the year;
- **Figure 18** – This shows the HVAS TSP '24 hour' monitoring results from 2012 to 2024. As seen in this figure, the TSP results are all below the criterion apart from the results obtained during late 2018, late 2019 into early 2020 and the result obtained for the 19th December 2023. For clarification regarding the prevailing weather conditions during this reporting period, please see also see below **Figure 20** (taken from the biodiversity monitoring report) which demonstrates that the region surrounding Ardglen quarry was experiencing 'drought affected' conditions for the first half of 2024, with conditions easing to 'non drought' during the second half of the year;
- **Figure 19** – This shows the PM2.5 '24 hour' monitoring results from 2022 to 2024. As seen in this figure, all results obtained are well below the 24 hour criteria apart from the result obtained for the 19th of December 2023 and the 21st of August 2024. Both of these exceedances were investigated, resolved and accepted by DPHI;

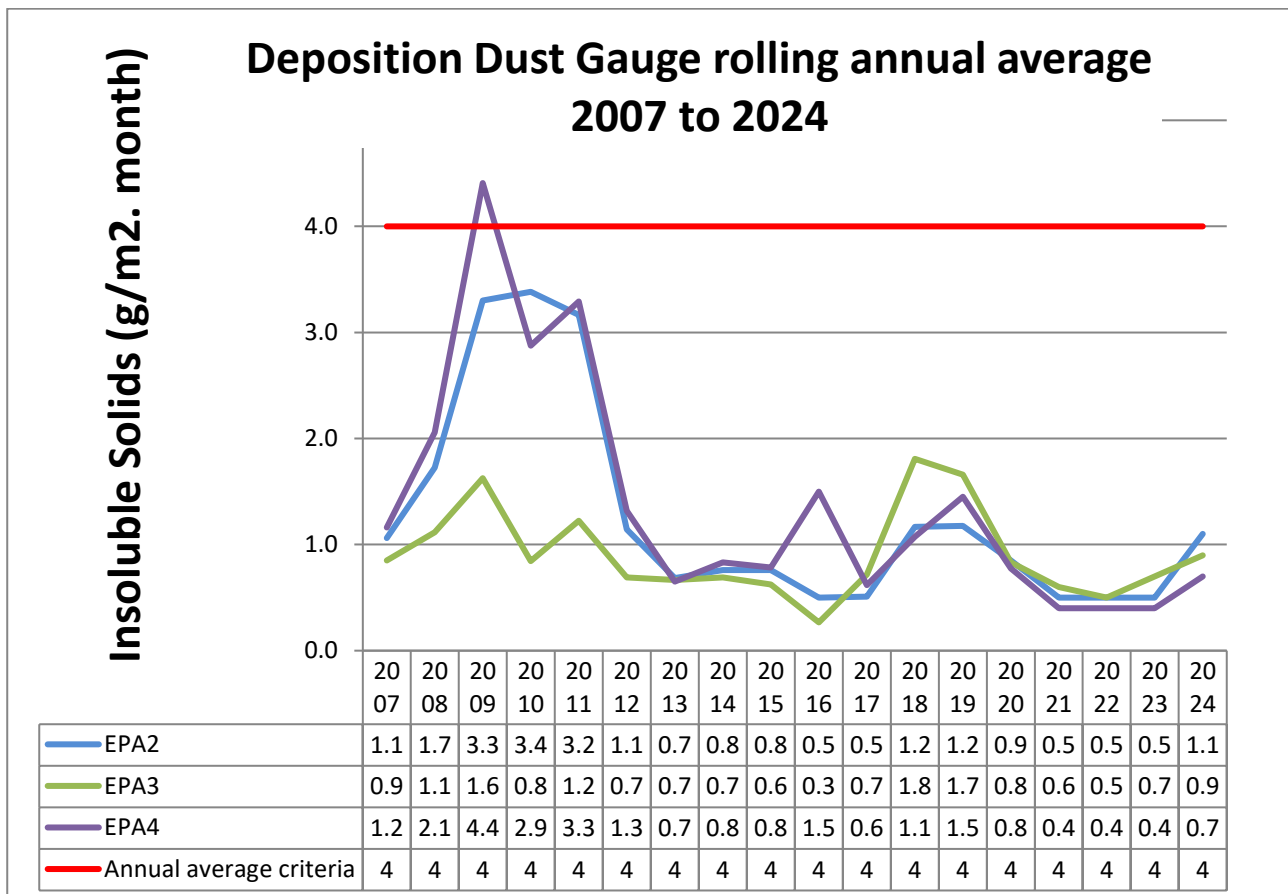


Figure 15: DDG rolling averages from 2007 to 2024

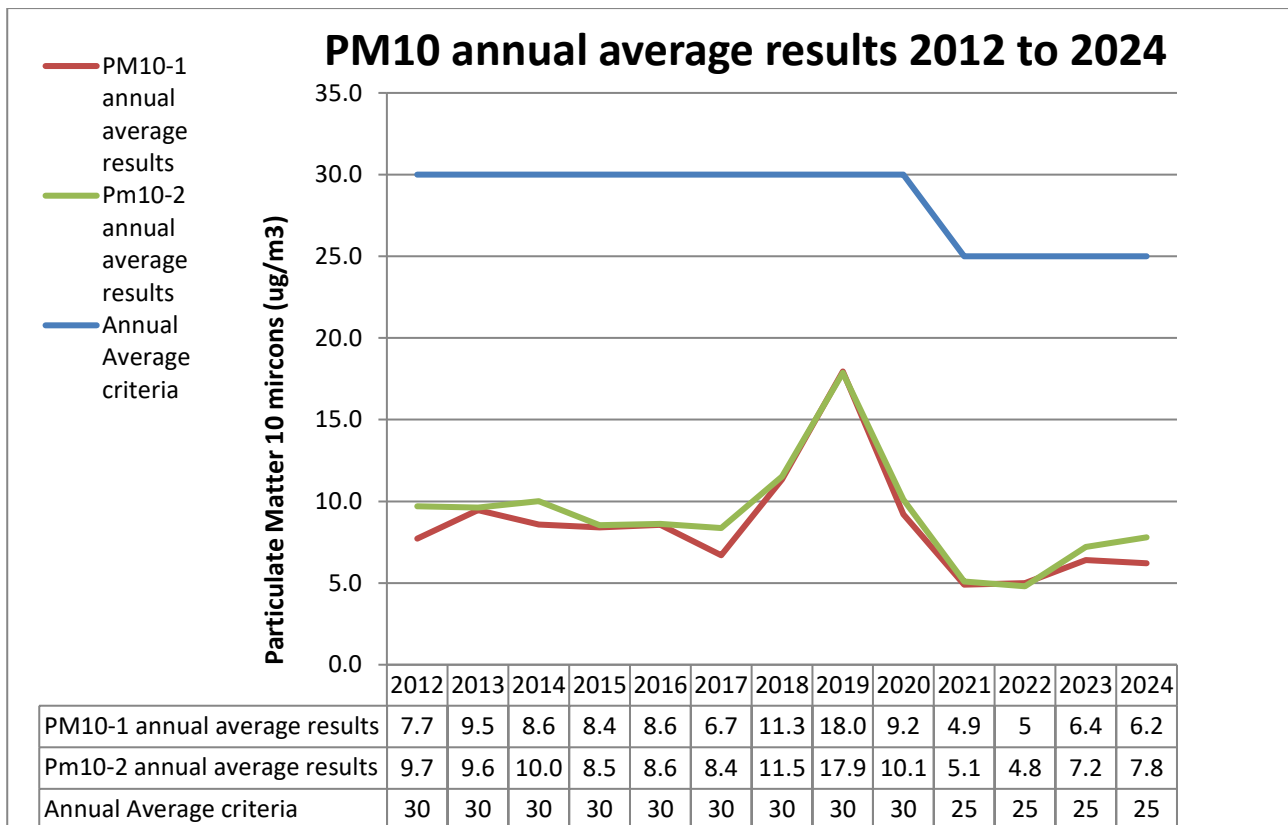


Figure 16: Annual average PM-10 results from 2012 to 2024

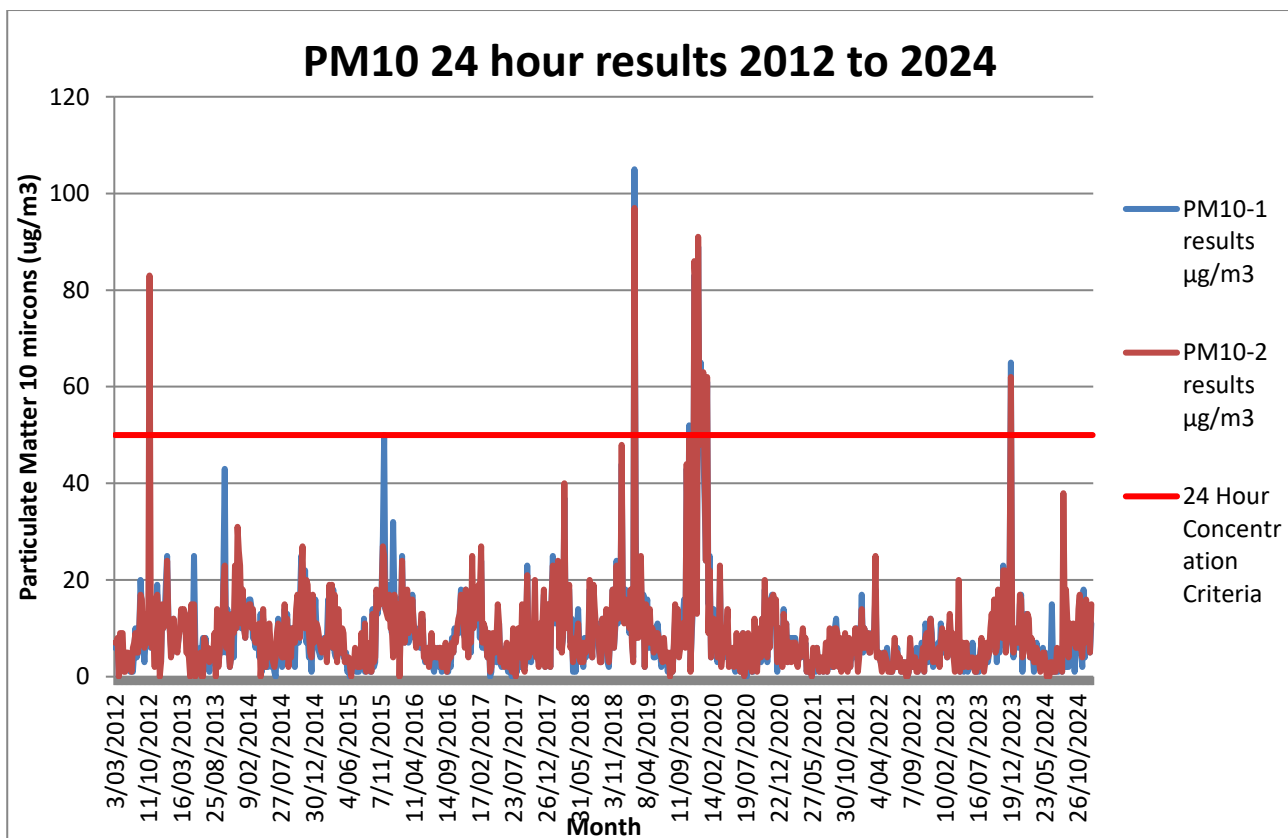


Figure 17: Twenty-four-hour concentration PM-10 results from 2012 to 2023

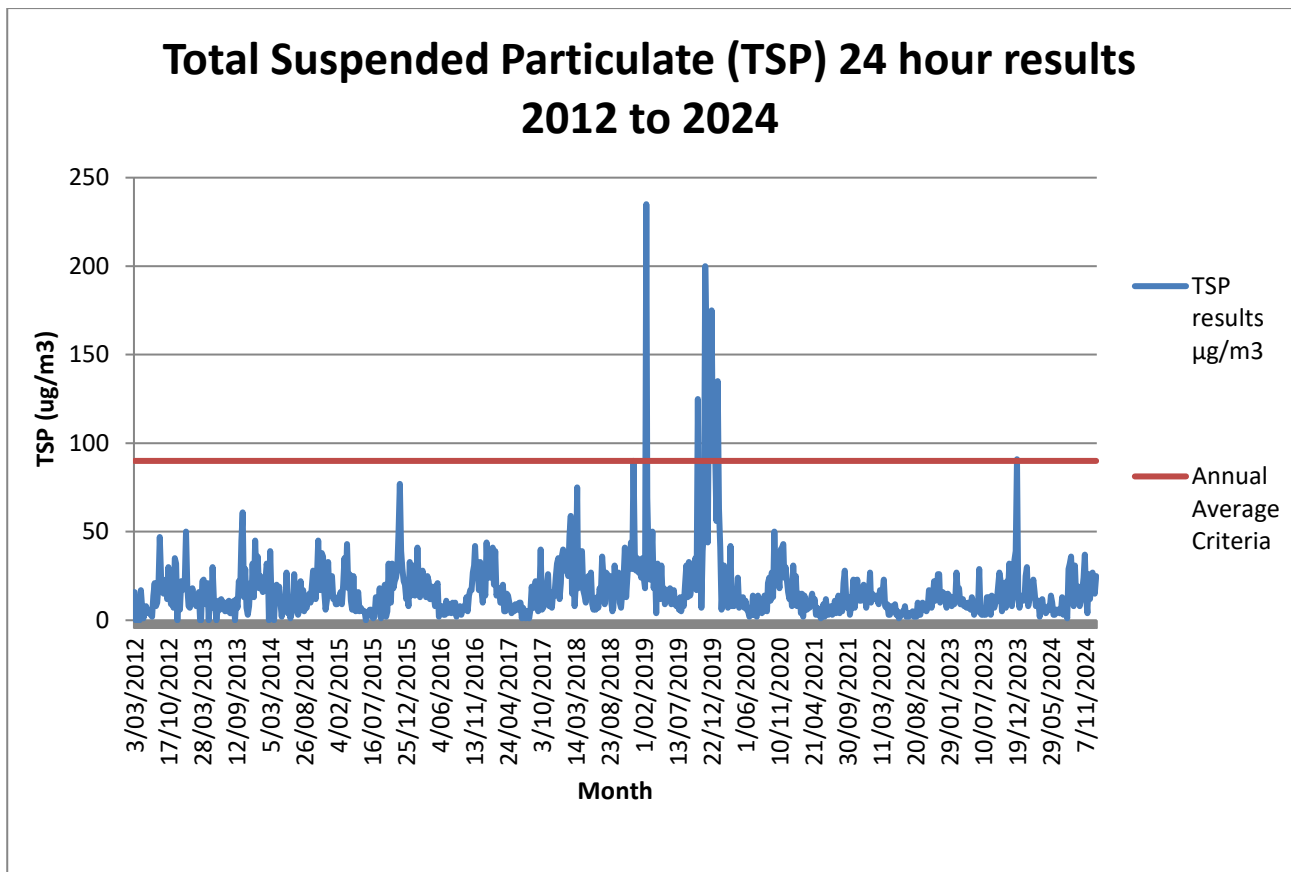


Figure 18: Annual average TSP results from 2012 to 2024

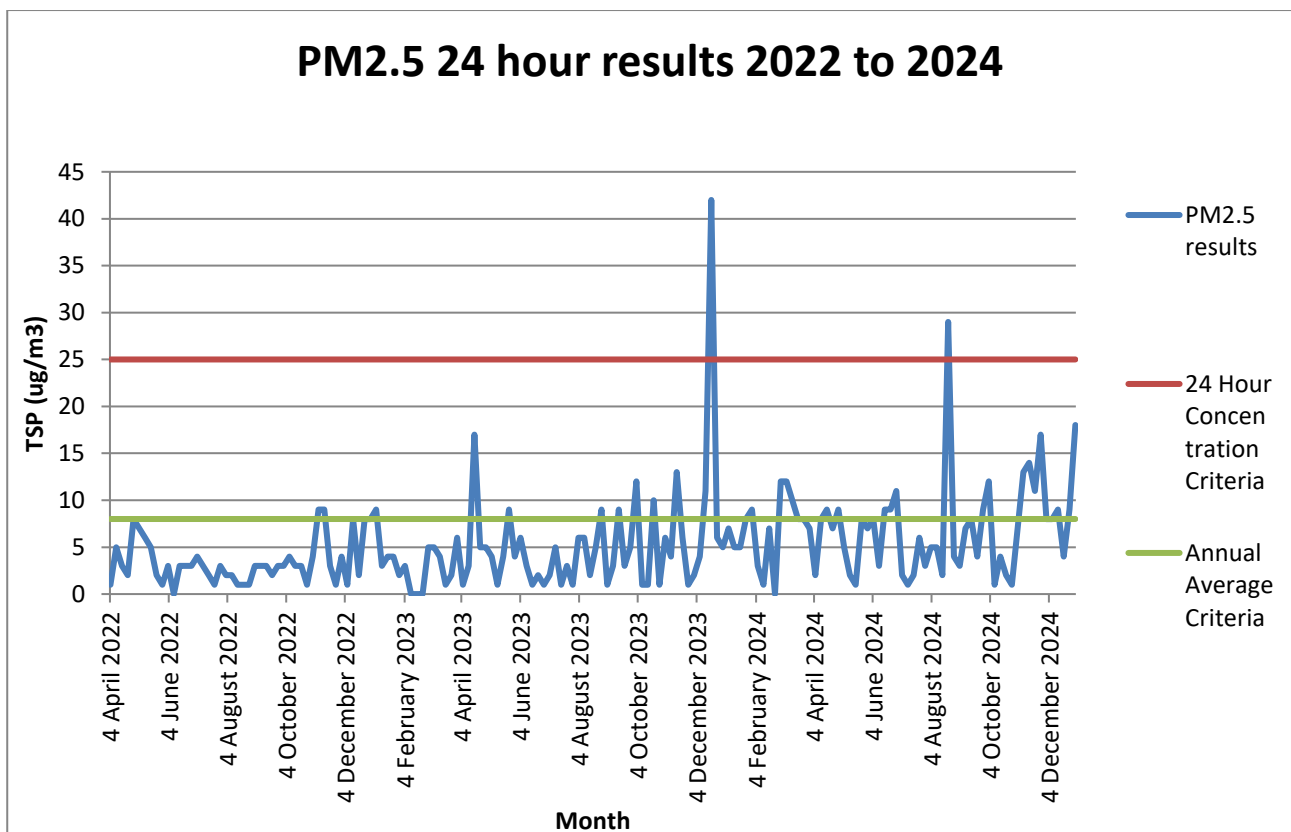


Figure 19: PM2.5 results for 2022 to 2024

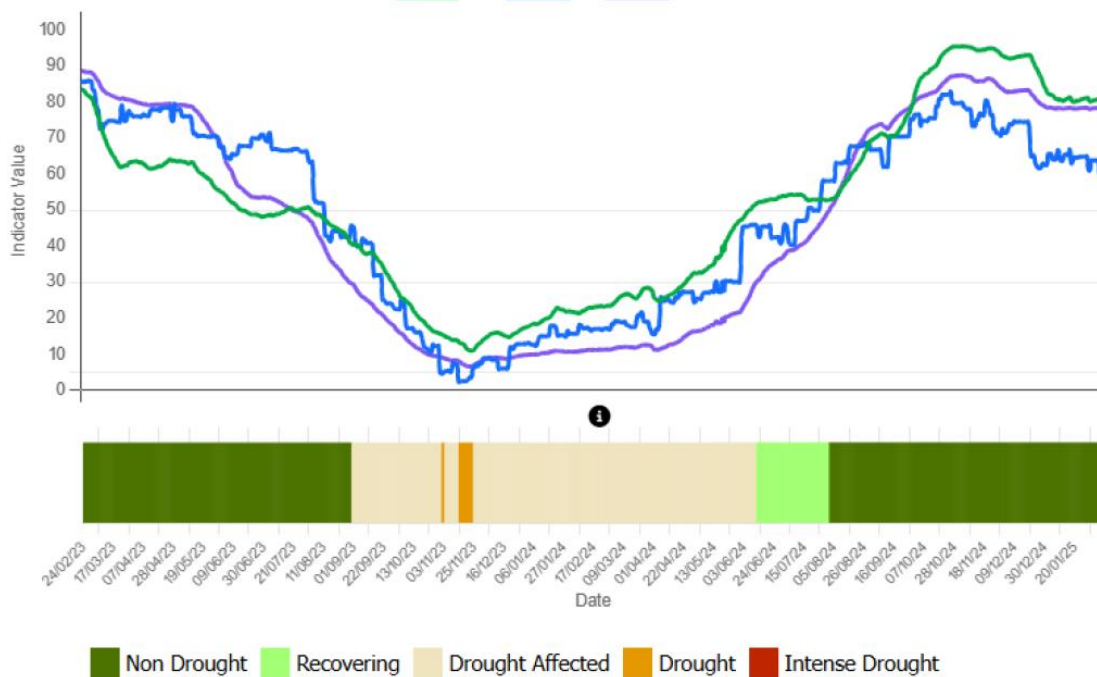


Figure 20: DPHI 'Combined Drought Indicator' taken from Biodiversity monitoring report (Appendix 6)

5. COMPLIANCE ASSESSMENT

5.1 Environmental Protection Licence

Daracon hold Environmental protection Licence 1115 for a 'land based' extractive industry. The licence has an anniversary date of 1 January. The annual return covering the reporting period identified no non-compliances with the conditions of the licence and was submitted to the EPA in February 2024. The current version of the Ardglen Quarry Environment Protection Licence (EPL 1115) is available on site.

Daracon also received approval for a variation to the EPL to accommodate the requirements of Mod 2. This was approved by the EPA during 2022.

5.2 Discrepancies With Predicted and Actual Quarry Operations

The previous AEMR included a list of various activities planned for the following reporting period. With regard to the actual activities undertaken on site during the reporting period, the discrepancies between those predicted and those undertaken are summarised below:

- The security of the offset areas associated with the quarry extension approval took longer than expected, however this was resolved on the 7th of May 2024;

5.3 Independent Audit

During 2022, Daracon engaged the services of an environmental auditor to undertake the Independent Environmental Audit (IEA) in accordance with the Project Approval MP 06_0624 MOD 2. A copy of the IEA report and Response to Audit Recommendations were provided to DPHI and accepted in December 2022. **Table 2**, **Table 3** and **Table 4** show that all non-compliances associated with the 2022 IEA are now resolved.

5.4 Summary of Incidents and Non-Compliances

Table 25 includes a summary of the incidents and non-compliances raised by Daracon during the reporting period. Please also refer to **Appendix 4** for a summary of complaints received.

All incidents raised during the reporting period were investigated, resolved and closed.

Table 25: Summary of incidents and non-compliances raised during the reporting period

Date	Time	Details	Action	Response / acceptance
Feb-24	N/A	On the 19th December 2023 the site exceeded the air quality monitoring criteria at Ardglen quarry for the PM10, TSP and PM2.5 as shown in the attached RCA Australia test reports ('Ardglen HVAS December 2023' and 'Ardglen PM2_5 December 2023').	Daracon investigated the matter and found there was a substantial bush fire that occurred on that day at Pilliga which caused the exceedance	DPHI accepted the fact that the air quality exceedance was not caused by the operation of the quarry, but a 'regional poor air quality event' caused by the Pilliga fires
29/02/2024	10pm	On the 29th February 2024, the TSP, PM-10 and PM2.5 air quality monitoring units ran for 21.73 hours which is almost 2 hours less than required. There was significant thunderstorm activity on that day and, after enquiring with Essential Energy, it became apparent there was brief power outage around 10pm on the 29th February 2024 which caused all of the monitors to cease working approximately 2 hours short of their programmed duration	Daracon investigated the matter and found there was a power outage caused by an electrical storm at 10pm on the day, which caused the monitors to run for less than 24 hours	DPHI accepted this finding
24/03/2024	4am	On the 24th March 2024, the TSP, PM-10 and PM2.5 air quality monitoring units ran for approximately 20 hours which is 3 hours less than the minimum required in accordance with the EPA test method (24 hours plus or minus one hour). Essential Energy have confirmed the electrical power supply to the site was not available between 10pm on the 23th March and 4am on the 24th March 2024	Daracon investigated the matter and found there was an Essential Energy power outage that finished at 4am on the day, which caused the monitors to run for less than 24 hours	DPHI accepted this finding

22/06/2024	0:00	The Ardglen quarry High Volume Air Sampler (PM10-01) operated for 80 hours starting on the 22nd June 2024, which is outside the range of the EPA test method (24 plus or minus one hour). This error was caused by a malfunction with the PM10-01 units timer, which was immediately rectified once we became aware of the situation and it did not impact the subsequent monitoring events.	The PM10-01 result for the 80 hour period was 3.0 µg/m ³ , which is very low and indicates there were no air quality issues during the reporting period. This is also reinforced by the other PM10-02 and TSP results for the period being very low. No further action required	DPHI accepted this finding
21/08/2024	0:00	In accordance with Schedule 5, Condition 3A of Project Approval 06_0264 (Ardglen Quarry Extension), please see below, details of a recent non-compliance. On the 21st of August 2024, the air quality monitoring criteria at Ardglen quarry was exceeded for PM2.5 as shown in the RCA Australia test report ('9733A-337 Ardglen PM2_5 August 2024').	The annual average for the PM2.5 is below the 8 micrograms/cubic metres criteria, the wind rose shows predominantly strong NW winds on that day and the NSW Government PM10 monitor at Aberdeen also showed elevated results for that day. All of this demonstrates the elevated result was not associated with the quarry operation	DPHI accepted this finding
12/12/2024	7:30	A complaint from a resident at Ardglen concerning trucks entering the township of Ardglen without tarps on, which states clearly in the code of conduct that trucks entering or leaving the quarry, loaded or empty must be tarped. The truck driver was therefore non-compliant with the consent, and it was managed as such.	We responded to the complaint by formally reminding all truck drivers of the need reinstate their tarps even when the truck is empty. A signed toolbox talk was used to document this instruction.	DPHI accepted the matter and sent an email on the 17th December 2024 with reference number 'COM-66868709' which LR then enquired with Laura Gothard as it didn't align with 'PA-46'. Laura confirmed via phone call that this matter was now closed.

6. ACTIVITIES PROPOSED DURING THE NEXT REPORTING PERIOD

6.1 Introduction

The following section provides a brief summary of operational & non-operational activities planned throughout the 2025 reporting period. **Table 26** provides a summary of the proposed quarry activities.

Table 26: Proposed Activities for 2025

January - December 2025	• Ongoing review, update and submission of Management Plans as required; • Ongoing monthly noise monitoring once quarrying operations recommence; • Regular Site Inspections; • Ongoing Air Quality Monitoring; • Ongoing site rehabilitation work as required; • Manage the BOA's in accordance with the CA in consultation with BCT; • Construction works will be ongoing as required; • Continue quarrying activities within the 'Extension Area'; • Continue to liaise with the local community via formal and informal mechanisms; • Export material from site to a maximum quantity of 55 laden trucks per day to assist the progression of local construction projects;
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6.2 Extraction Operations from the 'Extension Area'

We expect extraction operations within the 'Extension Area' to continue for the foreseeable future.

6.3 Processing of material from the 'Extension Area'

We expect the processing of material sourced from within the 'Extension Area' to continue for the foreseeable future.

6.4 Overburden And Silt Management

We expect overburden and silt management operations within the 'Extension Area' to continue for the foreseeable future.

6.5 Waste Management

Waste management activities will continue on site for the foreseeable future.

6.6 Site Infrastructure and Services

Apart from some minor changes to site services, there are not expected to be any substantial changes to site infrastructure during the next reporting period.

6.7 Water Management

In accordance with the revised Approval and updated EPL, construction of various water management structures will continue during 2025 to permit the appropriate treatment and discharge of water from site.

Further consultation and subsequent approval of the Groundwater study in accordance with the Approval should occur during the remainder of 2025.

6.8 Bushfire Management

Bush fire management practices will remain in place and monitored.

6.9 Hazardous Materials Management

There will be no importation or disposing of hazardous materials on site during the next period.

6.10 Product Transportation

Truck movements in accordance with Mod 2 will continue to facilitate the export of material from site.

The export of material sourced from the 'extension area' will continue during 2025.

6.11 Rehabilitation and landscape management

During the next reporting period it is likely that the following rehabilitation and landscape management activities will occur:

- Ongoing weed control activities on site;
- Ongoing feral animal and vermin control activities on site;
- Inspection and maintenance of rehabilitation planting in areas identified in the LMP as required;
- Monitoring of BOA's will be conducted on a regular basis;
- Implement the various management strategies as detailed in the consent and revised LMP prior to entering the extension area;
- Continue with the Doughboy Hollow Rehabilitation strategy;

7. REFERENCES

1. ANZECC (2000) – Australian and New Zealand Guidelines Fresh and Marine Water Quality
2. DEC (2007) Approved Methods for Sampling of Air Pollutants in New South Wales
3. DECCW (2007) Methods for the Sampling and Analysis of Air Pollutants in New South Wales
4. EPA (2000) New South Wales Industrial Noise Policy
5. DPHI (2015) Annual Review Guideline

8. APPENDICES

Appendix 1 Project Approval MP 06_0264 (Mod 2)

Project Approval

Section 75J of the *Environmental Planning and Assessment Act 1979*

I approve the application referred to in schedule 1, subject to the conditions in schedules 2 to 5.

These conditions are required to:

- prevent, minimise, and/or offset adverse environmental impacts;
- set standards and performance measures for acceptable environmental performance;
- require regular monitoring and reporting; and
- provide for the ongoing environmental management of the project.

The Hon Kristina Keneally MP
Minister for Planning

Sydney

2008

SCHEDULE 1

Application Number:	06_0264
Proponent:	Buttai Gravel Pty Limited (Daracon Quarries)
Approval Authority:	Minister for Planning
Land:	Lot 1 DP 1001734 Lot 218 DP 751028 Lot 1 DP 1164494 Lot 39 DP 751028 Lot 49 DP 751028 Lot 187 DP 751028 Various Crown public roads
Project:	Ardglen Quarry Extension

[Blue type represents December 2010 modification \(MOD 1\)](#)

[Green type represents March 2021 modification \(MOD 2\)](#)

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DEFINITIONS

Aboriginal object / Aboriginal place	Has the same meaning as the definition of the term in section 5 of the <i>National Parks and Wildlife Act 1974</i>
Annual Review	The review required by condition 4 in Schedule 5
Applicant	Buttai Gravel Pty Limited (Daracon Quarries), or any person carrying out any development under this consent
ARTC	Australia Rail Track Corporation
BCA	Building Code of Australia
BCS	Biodiversity, Conservation and Science Directorate within the Department
BCT	Biodiversity Conservation Trust
Biodiversity Offset Areas	The areas shown conceptually in Appendix 3
Biodiversity Offset Strategy	The Biodiversity Offset Strategy described in the EA and Response to Submissions and as shown conceptually in Appendix 3, subject to any revisions required under condition 25 of Schedule 3
Calendar year	A period of 12 months from 1 January to 31 December
CCC	Community Consultative Committee
Conditions of this consent	Conditions contained in Schedules 2 to 5
Construction	All physical works to enable quarrying operations to be carried out, including demolition and removal of buildings or works, and erection of buildings and other infrastructure permitted by this consent
Council	Liverpool Plains Shire Council
Day	The period from 7.00am to 6.00pm on Monday to Saturday, and 8.00am to 6.00pm on Sundays and Public Holidays
Department	Department of Planning, Industry and Environment
Development	The development as described in the documents listed in condition 2 of Schedule 2, as modified by the conditions of this consent
DPIE Crown Lands	Crown Lands Group within the Department
DPIE Water	Water Group within the Department
EA	Environmental assessment titled <i>Ardglen Quarry Extension Environmental Assessment</i> , dated June 2007, including the response to submissions, dated November 2007
EA MOD 2	Means: - the amended environmental assessment titled <i>Section 4.55 Modification to Existing Consent</i> dated May 2019 prepared by Monteath & Powys; - the Response To Submissions dated 14 November 2018 prepared by Monteath & Powys; - additional information dated 12 September 2019 prepared by Monteath & Powys; and - additional information dated 24 October 2019, 28 February 2020 and 23 April 2020 prepared by Daracon
EEC	Endangered Ecological Community as defined under the NSW <i>Biodiversity Conservation Act 2016</i>
Environment	Includes all aspects of the surroundings of humans, whether affecting any human as an individual or in his or her social groupings
EPA	NSW Environment Protection Authority
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EP&A Regulation	<i>Environmental Planning and Assessment Regulation 2000</i>
EPL	Environment Protection Licence
Evening	The period from 6.00pm to 10.00pm
Extension Area	The Extension Area as shown in Appendix 1
Feasible	Means what is possible and practical in the circumstances
Heritage NSW	Heritage NSW within the Department of Premier and Cabinet
Incident	An occurrence or set of circumstances that causes or threatens to cause material harm and which may or may not be or cause a non-compliance
Laden trucks	Trucks transporting quarry products from the site and/or trucks transporting blending products to the site
Land	Land means the whole of a lot, or contiguous lots owned by the same landowner, in a current plan registered at the Land Titles Office at the date of this consent

Material harm	Is harm to the environment that: • involves actual or potential harm to the health or safety of human beings or to the environment that is not trivial; or • results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding \$10,000, (such loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment) This definition excludes “harm” that is authorised under either this consent or any other statutory approval
MEG	Regional NSW – Mining, Exploration and Geoscience
Minister	Minister for Planning and Public Spaces, or delegate
Minimise	Implement all reasonable and feasible mitigation measures to reduce the impacts of the development
MOD 2	The modification described in EA MOD 2
Non-compliance	An occurrence, set of circumstances or development that is a breach of this consent
Night	The period from 10.00pm to 7.00am on Monday to Saturday, and 10.00pm to 8.00am on Sundays and Public Holidays
Planning Secretary	Planning Secretary under the EP&A Act, or nominee
Privately-owned Land	Land that is not owned by a public agency, or a quarrying company (or its subsidiary)
Processing	Includes all crushing, grinding or screening undertaken in the production of quarrying products
Quarry access route	The access route from the New England Highway to the site entrance, comprising Ardglen Street (Main Street), High Street (Swinging Ridges Road), St Stephen Street and Warra Street
Quarrying operations	The extraction, processing, stockpiling and transportation of extractive materials carried out on the site and the associated removal of vegetation, topsoil and overburden
Quarrying products	Includes all saleable quarry products, but excludes tailings and other wastes and rehabilitation material
Reasonable	Means applying judgement in arriving at a decision, taking into account: mitigation benefits, costs of mitigation versus benefits provided, community views, and the nature and extent of potential improvements
Rehabilitation	The restoration of land disturbed by the development to a good condition, to ensure it is safe, stable and non-polluting
Residence	Existing or approved dwelling at the date of grant of this consent
Site	The land referred to in Schedule 1 and shown outlined in red in Appendix 1
Statement of Commitments	The Applicant’s commitments in Appendix 4
TfNSW	Transport for NSW
Truck movements	Means combined inbound and outbound movements
Waste	Has the same meaning as the definition of the term in the Dictionary to the POEO Act

SCHEDULE 2 ADMINISTRATIVE CONDITIONS

Obligation to Minimise Harm to the Environment

1. In addition to meeting the specific performance measures and criteria in this consent, all reasonable and feasible measures must be implemented to prevent, and if prevention is not reasonable and feasible, minimise, any material harm to the environment that may result from the construction and operation of the development, and any rehabilitation required under this consent.

Terms of Consent

2. The Applicant must carry out the development:
 - (a) generally in accordance with the EA;
 - (b) generally in accordance with the EA MOD 2;
 - (c) generally in accordance with the Statement of Commitments; and
 - (d) in compliance with the conditions of this consent.

Note: The general layout of the development is shown in Appendix 1.

3. The conditions of this consent and any reasonable and feasible requirement/s of the Planning Secretary prevail to the extent of any inconsistency, ambiguity or conflict between them and a document/s listed in condition 2(a)-(c) of this Schedule. In the event of an inconsistency, ambiguity or conflict between any of the document/s listed in condition 2(a)-(c) of this Schedule, the most recent document prevails to the extent of the inconsistency, ambiguity or conflict.
4. The Applicant must comply with any reasonable and feasible requirement/s of the Planning Secretary arising from the Department's assessment of:
 - (a) any reports, plans, programs, strategies or correspondence that are submitted in accordance with this approval; and
 - (b) the implementation of any actions or measures contained in these reports, plans, programs, strategies or correspondence.

Limits on Consent

5. This consent expires on 31 August 2038.

Note: Under this consent, the Applicant is required to rehabilitate the site and implement biodiversity offsets to the satisfaction of the Planning Secretary. Consequently, this consent will continue to apply in all other respects other than the right to conduct extractive operations until the site has been rehabilitated and the biodiversity offset provided to a satisfactory standard.

6. The Applicant must not extract or process more than 500,000 tonnes of material on the site each year.
7. The Applicant must not transport more than:
 - (a) 250,000 tonnes of quarrying products from the site by rail a year;
 - (b) 500,000 tonnes of quarrying products from the site by road a year; and
 - (c) a combined total of 500,000 tonnes of quarrying products by rail and/or road a year.
8. The Applicant must not import more than 80,000 tonnes of materials for the purposes of blending and product quality improvement each year.

Surrender of Consents

9. Within 3 years of this consent, the Applicant must surrender all development consents or continuing use rights for the Ardglenn Quarry, to the satisfaction of the Planning Secretary.

Management Plans/Monitoring Programs

10. With the approval of the Planning Secretary, the Applicant may submit any management plan or monitoring program required by this consent on a progressive basis.

Structural Adequacy

11. The Applicant must ensure that all new buildings and structures, and any alterations or additions to existing buildings and structures, are constructed in accordance with the relevant requirements of the BCA.

Notes:

- Under Division 6.2 of the EP&A Act, the Applicant is required to obtain construction and occupation certificates for the proposed building works.
- Part 8 of the EP&A Regulation sets out the requirements for the certification of development.

Demolition

12. The Applicant must ensure that all demolition work is carried out in accordance with *Australian Standard AS 2601-2001: The Demolition of Structures*, or its latest version.

Operation of Plant and Equipment

13. The Applicant must ensure that all plant and equipment used at the site is:
 - (a) maintained in a proper and efficient condition; and
 - (b) operated in a proper and efficient manner.

Protection of Public Infrastructure

14. The Applicant must:
 - (a) repair, or pay all reasonable costs associated with repairing any public infrastructure that is damaged by the development; and
 - (b) relocate, or pay all reasonable costs associated with relocating any public infrastructure that needs to be relocated as a result of the development.

Use of Crown Roads

- 14A. The Applicant must make reasonable efforts to assist in the transfer of any Crown roads forming part of the quarry access route to Council, prior to undertaking any works in the Extension Area.

Revision of Strategies, Plans or Programs

15. Within three months of:
 - (a) the submission of an incident report under condition 3 of Schedule 5;
 - (b) the submission of an Annual Review under condition 4 of Schedule 5;
 - (c) the submission of an Independent Environmental Audit under condition 5 of Schedule 5;
 - (d) the approval of any modification of the conditions of this consent (unless the conditions require otherwise),the suitability of existing strategies, plans and programs required under this consent must be reviewed by the Applicant.

16. The Applicant must continue to apply existing management strategies, plans or programs approved prior to the approval of MOD 2, until the approval of a similar plan, strategy or program following the determination of MOD 2.

17. If necessary, to either improve the environmental performance of the development, cater for a modification or comply with a direction, the strategies, plans and programs required under this consent must be revised, to the satisfaction of the Planning Secretary and submitted to the Planning Secretary for approval within six weeks of the review.

Note: This is to ensure strategies, plans and programs are updated on a regular basis and to incorporate any recommended measures to improve the environmental performance of the development.

18. Where conditions of this consent require consultation with an identified party, the Applicant must:
 - (a) consult with the relevant party prior to submitting the subject document; and
 - (b) provide details to the Department of the consultation undertaken including:
 - (i) the outcome of that consultation, matters resolved and unresolved; and
 - (ii) details of any disagreement remaining between the party consulted and the Applicant and how the Applicant has addressed the matters not resolved.

SCHEDULE 3 SPECIFIC ENVIRONMENTAL CONDITIONS

HOURS OF OPERATION

- The Applicant must comply with the hours of operation in Table 1.

Table 1: Hours of Operation

Activity	Day	Time
Topsoil/overburden removal/emplacement	Monday-Saturday	7.00am to 5.00pm
	Sunday	None
Blasting	Monday-Friday	10:00am to 3.00pm
	Saturdays, Sundays and Public Holidays	None
In-pit activities (including drilling, extraction, and transfer of material out of the pit)	Monday-Saturday	7.00am to 5:30pm
	Sundays and Public Holidays	None
Out-of-pit activities (including processing, and stockpiling)	Monday-Saturday	7.00am to 5:30pm
	Sundays and Public Holidays	None
Maintenance (if inaudible at nearby residences)	Monday-Sunday	Any time
Truck loading and distribution	Monday-Saturday	6.30am to 5.30pm
	Sundays and Public Holidays	None
Rail loading	Monday-Sunday	7:00am to 10:00pm

Note:

- The Applicant may load no more than 2 trains each year outside the hours listed in Table 1 (see condition 41).
- The Applicant may carry out blasting operations outside the hours listed in Table 1 for safety reasons provided the Applicant has notified EPA and the local community about the proposed blast.

NOISE

Noise Impact Assessment Criteria

- The Applicant must ensure that the combined construction and operational noise generated by the development does not exceed the noise impact assessment criteria in Table 2 at any residence on privately-owned land, except where construction works are authorised under a Construction Noise Protocol which has been approved by the Planning Secretary under condition 4A of this Schedule.

Table 2: Noise impact assessment criteria dB(A)

Land	Day	Evening	Night	
	L_{Aeq}(15 min)	L_{Aeq}(15 min)	L_{Aeq}(15 min)	L_{A1}(1 min)
4	44	35	35	45
5, 6	45	35	35	45
9	37	35	35	45

Land	Day	Evening	Night	
	<i>L_{Aeq}(15 min)</i>	<i>L_{Aeq}(15 min)</i>	<i>L_{Aeq}(15 min)</i>	<i>L_{A1}(1 min)</i>
10	38	35	35	45
12, 14	36	35	35	45
15	43	35	35	45
16	40	35	35	45
All other privately-owned land	35	35	35	45

However, if the Applicant has a written negotiated noise agreement with any landowner of the land listed in Table 2, and a copy of this agreement has been forwarded to the Department and EPA, then the Applicant may exceed the noise limits in Table 2 in accordance with the negotiated noise agreement. The Applicant may also exceed the *L_{A1}(1 min)* and *L_{Aeq}(15 min)* noise impact assessment criteria during out of hours rail loading activities provided they are conducted in accordance with condition 41 below.

Notes:

- For information on the numbering and identification of properties used in this approval see Appendix 5.
- Noise generated by the development must be measured in accordance with the relevant requirements and exemptions (including certain meteorological conditions) of the NSW Industrial Noise Policy (EPA, 2000). Appendix 6 sets out the meteorological conditions under which these criteria apply and the requirements for evaluating compliance with these criteria.

3. The Applicant must undertake all construction work within standard construction hours (7.00am to 6.00 pm Monday to Friday and 8.00am to 1.00pm Saturday, excluding Sundays and Public Holidays).
4. The Applicant must ensure that combined construction and operational noise generated by the development does not exceed the limits outlined in Table 2 of this Schedule, except where:
 - (a) the Applicant has a written negotiated agreement with the owner(s) of the relevant residence/land as outlined in condition 2 of this Schedule; or
 - (b) an alternative temporary limit has been approved by the Planning Secretary for specific construction works or for a fixed period of time.
- 4A. In order to seek an alternative temporary construction noise limit under condition 4(b) of this Schedule, the Applicant must submit a Construction Noise Protocol to the Planning Secretary for approval, prior to undertaking the nominated construction works. This protocol must:
 - (a) be prepared in consultation with the EPA and any landowners who may be affected by noise generated by the nominated construction works; and
 - (b) address the relevant requirements of the Interim Construction Noise Guideline (DECC 2009).
- 4B. The Applicant must implement any Construction Noise Protocol as approved by the Planning Secretary.

Operating Conditions

- 4C. The Applicant must:
 - (a) take all reasonable steps to minimise noise from construction and operational activities, including low frequency noise and other audible characteristics, as well as road noise associated with the development;
 - (b) operate a noise management system to guide day to day planning of quarrying operations and implementation of both proactive and reactive noise mitigation measures to ensure compliance with the relevant conditions of this consent;
 - (c) take all reasonable steps to minimise the noise impacts of the development during noise-enhancing meteorological conditions, particularly when the noise criteria in this consent do not apply (see Appendix 6);
 - (d) carry out regular noise monitoring (at least once a month while quarrying operations are being carried out, unless otherwise agreed by the Planning Secretary) to determine whether the development is complying with the relevant conditions of this consent; and
 - (e) regularly assess the noise monitoring data and modify or stop operations on the site to ensure compliance with the relevant conditions of this consent.
- 4D. Prior to carrying out any processing activities under this consent, the Applicant must implement the recommended noise mitigation measures as outlined in the MOD 2 EA to the satisfaction of the Planning Secretary.

- 4E. The Applicant must not operate processing equipment while undertaking:
- (a) rail loading; and/or
 - (b) topsoil/overburden removal or emplacement.

Continuous Improvement

5. The Applicant must:
- (a) investigate ways to reduce the noise generated by the development, including off-site road and rail noise and maximum noise levels which may result in sleep disturbance; and
 - (b) report on these investigations and the implementation and effectiveness of these measures in the Annual Review, to the satisfaction of the Planning Secretary.

Monitoring

6. The Applicant must prepare a Noise Monitoring Program for the development in consultation with EPA and to the satisfaction of the Planning Secretary. The program must:
- (a) include:
 - (i) a combination of attended and unattended noise monitoring measures;
 - (ii) detailed measures to comply with condition 4C of this Schedule; and
 - (iii) a noise monitoring protocol for evaluating compliance with the noise criteria in Table 2 of this Schedule; and
 - (b) be submitted to the Planning Secretary for approval within three months of the determination of MOD 2 (or other timeframe as agreed by the Planning Secretary).
- 6A. The Applicant must implement the Noise Monitoring Program as approved by the Planning Secretary.

BLASTING AND VIBRATION

Airblast Overpressure Criteria

7. The Applicant must ensure that the airblast overpressure level from blasting at the development does not exceed the criteria in Table 5 at any privately-owned residence.

Table 5: Airblast overpressure impact assessment criteria

Airblast overpressure level (dB(Lin Peak))	Allowable exceedance
115	5% of the total number of blasts over a period of 12 months
120	0%

Ground Vibration Impact Assessment Criteria

8. The Applicant must ensure that the ground vibration level from blasting at the development does not exceed the criteria in Table 6 at any privately-owned residence.

Table 6: Ground vibration impact assessment criteria

Peak particle velocity (mm/s)	Allowable exceedance
5	5% of the total number of blasts over a period of 12 months
10	0%

Blasting Frequency

9. The Applicant must not carry out more than 30 blasts a year, or more than 1 blast per day, without the written approval of the Planning Secretary.

Operating Conditions

10. The Applicant must implement best blasting practice to:
- (a) protect the safety of people, property, public infrastructure and livestock; and

- (b) minimise the dust and fume emissions from blasting at the development, to the satisfaction of the Planning Secretary.
11. The Applicant must not undertake blasting within 500 metres of any privately-owned land or any land not owned by the Applicant, unless suitable arrangements have been made with the landowner and any tenants to minimise the risk of flyrock-related impact to the property to the satisfaction of the Planning Secretary.

Public Notice

12. The Applicant must:
- (a) notify the landowner/occupier of any residence within 1 kilometre of the quarry pit who registers an interest in being notified about the blasting schedule at the quarry;
 - (b) operate a Blasting Hotline, or alternate system agreed to by the Planning Secretary, to enable the public to get up-to-date information on the blasting schedule at the quarry;
 - (c) keep local residents informed about this hotline (or any alternative notification protocols), to the satisfaction of the Planning Secretary.

Property Investigations

13. If any landowner of privately-owned land within 1 kilometre of the site claims that buildings and/or structures on his/her land have been damaged as a result of blasting at the site, following commencement of operations within the extension area, then he/she may ask the Planning Secretary in writing to investigate the claim.

If the Planning Secretary is satisfied that an independent property investigation is warranted, the Applicant must within 3 months of the Planning Secretary's determination:

- (a) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the Planning Secretary, to investigate the claim; and
- (b) give the landowner a copy of the property investigation report.

If this independent property investigation confirms the landowner's claim, and both parties agree with these findings, then the Applicant must repair the damages to the satisfaction of the Planning Secretary.

If the Applicant or landowner disagrees with the findings of the independent property investigation, then either party may refer the matter to the Planning Secretary for resolution.

Blast Monitoring Program

14. The Applicant must prepare a Blast Monitoring Program for the development in consultation with the EPA and to the satisfaction of the Planning Secretary. This program must:
- (a) include a protocol for demonstrating compliance with the blasting criteria in Table 6 of this Schedule; and
 - (b) be submitted to the Planning Secretary for approval within three months of the determination of MOD 2 (or other timeframe as agreed by the Planning Secretary).
- 14A. The Applicant must implement the Blast Monitoring Program as approved by the Planning Secretary.

AIR QUALITY

Impact Assessment Criteria

15. The Applicant must ensure that the dust emissions generated by the development do not cause additional exceedances of the air quality impact assessment criteria listed in Tables 8, 9 and 10 at any residence on privately-owned land.

Table 8: Long term impact assessment criteria for particulate matter

Pollutant	Averaging period	Criterion
Total suspended particulate (TSP) matter	Annual	^{a, c} 90 µg/m ³
Particulate matter < 10 µm (PM ₁₀)	Annual	^{a, c} 25 µg/m ³
Particulate matter < 2.5 µm (PM _{2.5})	Annual	^{a, c} 8 µg/m ³

Table 9: Short term impact assessment criterion for particulate matter

Pollutant	Averaging period	Criterion
Particulate matter < 10 µm (PM ₁₀)	24 hour	^b 50 µg/m ³
Particulate matter < 2.5 µm (PM _{2.5})	24 hour	^b 25 µg/m ³

Table 10: Long term impact assessment criteria for deposited dust

Pollutant	Averaging period	Maximum increase in deposited dust level	Maximum total deposited dust level
^d Deposited dust	Annual	^b 2 g/m ² /month	^a 4 g/m ² /month

Notes:

- ^a Total impact (i.e. incremental increase in concentrations due to the development plus background concentrations due to all other sources).
- ^b Incremental impact (i.e. incremental increase in concentrations due to the development on its own).
- ^c Excludes extraordinary events such as bushfires, prescribed burning, dust storms, fire incidents or any other activity agreed by the Planning Secretary.
- ^d Deposited dust is to be assessed as insoluble solids as defined by Standards Australia, AS/NZS 3580.10.1:2003: Methods for Sampling and Analysis of Ambient Air - Determination of Particulate Matter - Deposited Matter - Gravimetric Method.

- 15A. The air quality criteria in Tables 8, 9 and 10 do not apply if the Applicant has an agreement with the owner/s of the relevant residence or infrastructure to exceed the air quality criteria, and the Applicant has advised the Department in writing of the terms of this agreement.

Operating Conditions

16. The Applicant must:
- take all reasonable steps to:
 - minimise the particulate matter (including PM₁₀ and PM_{2.5}) emissions of the development, paying particular attention to minimising wheel-generated haul road emissions;
 - improve energy efficiency and reduce greenhouse gas emissions of the development;
 - minimise any visible off-site air pollution generated by the development; and
 - minimise the extent of potential dust generating surfaces exposed on the site at any given point in time;
 - operate an air quality management system to guide the day to day planning of quarrying operations and implementation of both proactive and reactive air quality mitigation measures to ensure compliance with the relevant conditions of this consent;
 - minimise the air quality impacts of the development during adverse meteorological conditions and extraordinary events (see Note C to Tables 8 to 10 above);
 - carry out regular air quality monitoring to determine whether the development is complying with the relevant conditions in this consent; and
 - regularly assess meteorological and air quality monitoring data and relocate, modify or stop operations on the site to ensure compliance with the relevant conditions of this consent.

Monitoring

17. The Applicant must prepare an Air Quality Monitoring Program for the development in consultation with EPA and to the satisfaction of the Planning Secretary. This program must:
- (a) use a combination of high volume air samplers and dust deposition gauges to monitor the dust emissions from the development;
 - (b) include a protocol for demonstrating compliance with the air quality impact assessment criteria in this approval; and
 - (c) be submitted to the Planning Secretary for approval prior to within three months of the determination of MOD 2 (or other timeframe as agreed by the Planning Secretary).
- 17A. The Applicant must implement the Air Quality Monitoring Program as approved by the Planning Secretary.

METEOROLOGICAL MONITORING

18. The Applicant must ensure the development has a suitable meteorological station in the vicinity of the site that:
- (a) complies with the requirements in the *Approved Methods for Sampling and Analysis of Air Pollutants in New South Wales* (DEC, 2007); and
 - (b) is capable of measuring meteorological conditions in accordance with the *NSW Industrial Noise Policy* (EPA, 2000),
- unless a suitable alternative is approved by the Planning Secretary following consultation with the EPA.

SURFACE AND GROUND WATER

- 18A. The Applicant must ensure that the sediment basin described in EA MOD 2 and any associated drainage structures required for the carrying out of the development are located wholly within the site, except as authorised in writing by ARTC and/or DPIE Crown Lands (as relevant).
- 18B. The Applicant must obtain any necessary licences and/or approvals from DPIE Crown Lands under the *Crown Lands Management Act 2016* prior to:
- (a) carrying out any works on Crown Land; or
 - (b) allowing the controlled discharge of water from the site to Doughboy Hollow Creek.
- 18C. The Applicant must obtain any necessary licences and/or approvals from the ARTC prior to carrying out any works described in the MOD 2 EA within the Right of Carriageway which burdens Lot 1 DP 1001734.
- 18D. The Applicant must not undertake any excavation exceeding 2 m in depth within 25 m of the Main Northern Railway corridor unless otherwise approved in writing by ARTC.^a
- ^a *The 25 m setback is to be measured from the site boundary adjacent to the Main Northern Railway.*
- 18E. Prior to commencing quarrying operations in the Extension Area (or other timeframe as agreed by the Planning Secretary), the Applicant must install a groundwater monitoring bore with a minimum depth equivalent to the finished depth of the in-pit sump, in consultation with DPIE Water.
- Notes:
- *The in-pit sump is shown in Appendix 1*
 - *The purpose of the groundwater monitoring bore is to inform the development of the Groundwater Monitoring Program*
- 18F. The Applicant must ensure that any works to be conducted on waterfront land are carried out in accordance with *Guidelines for Controlled Activities on Waterfront Land* (2018) and in consultation with DPIE Water.

Surface Water Discharges

19. The Applicant must only discharge water from the site in accordance with the provisions of an EPL.

Site Water Management Plan

20. The Applicant must prepare a Site Water Management Plan for the development,^a in consultation with EPA, DPIE Water, DPIE Crown Lands and ARTC, and to the satisfaction of the Planning Secretary. This plan must be prepared by suitably qualified expert/s whose appointment/s have been approved by the Planning Secretary, and must include:
- (a) a Site Water Balance;
 - (b) an Erosion and Sediment Control Plan; and
 - (c) a Surface Water Management Plan;

- (d) a Groundwater Monitoring Program; and
- (e) a Dewatering Management Plan.^b

^a The Site Water Management Plan must incorporate the existing quarry operations and operations within the extension area

^b In accordance with condition 23D of this Schedule, the Planning Secretary may waive the requirement for a Dewatering Management Plan if no pit dewatering is required

Site Water Balance

21. The Site Water Balance must include details of:
- (a) sources and reliability of water supply;
 - (a1) predicted annual inflows to and outflows from the site;
 - (b) water storage capacity;
 - (c) water use and management on the site;
 - (d) licensed discharge points and limits;
 - (e) reporting procedures, including the annual preparation of an updated site water balance during quarrying operations.

Erosion and Sediment Control

22. The Erosion and Sediment Control Plan must:
- (a) be consistent with the requirements of the *Managing Urban Stormwater: Soils and Construction Manual* (Landcom 2004, or its latest version);
 - (b) identify activities that could cause soil erosion and generate sediment;
 - (c) describe measures to minimise soil erosion and the potential for the transport of sediment to downstream waters;
 - (d) describe the location, function, and capacity of erosion and sediment control structures; and
 - (e) describe what measures would be implemented to maintain the structures over time.

Surface Water Management Plan

23. The Surface Water Management Plan must include:
- (a) detailed baseline data on surface water quality in Doughboy Hollow Creek;
 - (b) flow modelling of Doughboy Hollow Creek;
 - (c) surface water impact assessment criteria, including trigger levels for investigating any potentially adverse impacts, and surface water management performance measures;
 - (d) a detailed description of the surface water management system on the site, including the:
 - (i) clean water diversion system;
 - (ii) erosion and sediment controls;
 - (iii) dirty water management system; and
 - (iv) water storages;
 - (e) a program to monitor and evaluate:
 - (i) any surface water discharges;
 - (ii) the effectiveness of the water management system, particularly in minimising the risk of uncontrolled discharges from the site; and
 - (iii) surface water flows and quality in watercourses and/or waterbodies that could potentially be impacted by the development;
 - (f) a protocol for identifying and investigating any exceedances of the surface water impact assessment criteria and for notifying the Department and relevant stakeholders of these events; and
 - (g) a trigger action response plan to respond to any exceedances of the relevant performance measures or performance criteria.

- 23A. The Applicant must submit the Site Water Balance, Erosion and Sediment Control Plan and Surface Water Management Plan to the Planning Secretary for approval within three months of the determination of MOD 2 (or other timeframe as agreed by the Planning Secretary).

Groundwater Monitoring Program

- 23B. The Groundwater Monitoring Program must:
- (a) incorporate at least 12 months of baseline data on groundwater levels obtained from the monitoring bore required under condition 18E of this Schedule;

- (b) include groundwater performance criteria, including trigger levels for identifying and investigating any potentially adverse groundwater impacts (or trends) associated with the development;
- (c) include a program to identify, report on and respond to any unauthorised groundwater interference, including inflows into extraction areas or interaction between on-site water storages and the groundwater system; and
- (d) include a protocol to obtain appropriate water licence(s) for any groundwater take; and
- (e) be submitted to the Planning Secretary for approval within 12 months of commencing quarrying operations in the Extension Area (or other timeframe as agreed by the Planning Secretary).

Dewatering Management Plan

23D. Unless otherwise agreed by the Planning Secretary^a, the Applicant must prepare a Dewatering Management Plan for the overburden infill area^b to the satisfaction of the Planning Secretary. This plan must:

- (a) include details of:
 - (i) any pumping or pipeline infrastructure to be used for dewatering activities;
 - (ii) proposed water transfer and discharge arrangements; and
- (b) include a program to monitor and report on any dewatering activities that involves any discharges from the site; and
- (c) be submitted to the Planning Secretary for approval prior to carrying out emplacement activities in the overburden infill area.

^a The Planning Secretary may waive the requirement for a Dewatering Management Plan if no pit dewatering is required

^b The overburden infill area is shown in Appendix 2

23E. The Applicant must implement the Site Water Management Plan as approved by the Planning Secretary.

REHABILITATION AND LANDSCAPE MANAGEMENT

Rehabilitation

24. The Applicant must progressively rehabilitate the site in a manner that is generally consistent with the conceptual rehabilitation principles and proposed rehabilitation strategy in the documents listed in condition 2(a)-(c) of Schedule 2 and as shown conceptually in Appendix 2, and must comply with the objectives in Table 11.

Table 11: Rehabilitation objectives

Feature	Objective
<i>All areas of the site affected by the development</i>	• Safe • Hydraulically and geotechnically stable • Non-polluting • Fit for the intended post-quarrying operations land use(s) • Final landform integrated with surrounding natural landforms as far as is reasonable and feasible, and minimising visual impacts when viewed from surrounding land
<i>Surface infrastructure</i>	• Decommissioned and removed, unless otherwise agreed by the Planning Secretary
<i>Quarry benches and pit floor</i>	• Landscaped and vegetated using native tree and understorey species representative of Yellow Box White Box Blakely's Red Gum Woodland EEC
<i>Overburden infill area^a</i>	• Backfilled areas integrated with surrounding natural landforms as far as is reasonable and feasible • Emplacement areas integrated with the site water management system • Establish grassland to support sustainable agricultural activities • Use species found in the local area that are suitable for pasture production

^a The overburden infill area is shown in Appendix 2

Offset Strategy

25. Prior to undertaking any works in the Extension Area, the Applicant must revise the Biodiversity Offset Strategy described in the EA and Response to Submissions (shown conceptually in Appendix 3), to the satisfaction of the Planning Secretary. The revised strategy must be prepared in consultation with the BCS, and include additional areas where Yellow Box White Box Blakely's Red Gum Woodland EEC would be actively re-established within the identified Biodiversity Offset Areas shown in Appendix 3.
26. Prior to undertaking any works in the Extension Area (or other timeframe as agreed by the Planning Secretary), the Applicant must make suitable arrangements to provide appropriate long term security for the Biodiversity Offset Areas to the satisfaction of the BCT.
- 26A. By the end of June 2021, the Applicant must ensure that the Biodiversity Offset Areas are fenced to an appropriate standard to exclude stock access. The Applicant must maintain the exclusionary fencing over the life of the development, to the satisfaction of the Planning Secretary.

Landscape Management Plan

27. The Applicant must prepare a detailed Landscape Management Plan for the development to the satisfaction of the Planning Secretary. This plan must:
 - (a) be prepared by suitably qualified expert/s whose appointment/s have been approved by the Planning Secretary;
 - (b) submitted to the Planning Secretary for approval within three months of the determination of MOD 2 (or other timeframe as agreed by the Planning Secretary); and
 - (c) include a:
 - Doughboy Hollow Creek Rehabilitation Strategy;
 - Rehabilitation and Biodiversity Offset Management Plan; and
 - Quarry Closure Plan.

Note: The Department accepts that the initial Landscape Management Plan may not include the detailed Quarry Closure Plan. However, if this occurs, the Applicant will be required to seek approval from the Planning Secretary for an alternative timetable for the completion and approval of the Quarry Closure Plan.

Doughboy Hollow Creek Rehabilitation Strategy

28. The Doughboy Hollow Creek Rehabilitation Strategy must:
 - (a) be prepared in consultation with BCS, DPIE Crown Lands and DPIE Water;
 - (b) describe the measures that would be implemented to:
 - remove the weir from Doughboy Hollow Creek;
 - rehabilitate sections of the creek within or directly adjacent to Lot 1 DP1001734 and Lot 39 DP 751028; and
 - rehabilitate and/or re-establish riparian vegetation within Lot 39 DP 751028.

Rehabilitation and Biodiversity Offset Management Plan

29. The Rehabilitation and Biodiversity Offset Management Plan must:
 - (d) be prepared by suitably qualified expert/s whose appointment/s have been approved by the Planning Secretary;
 - (e) describe in general the short, medium, and long term measures that would be implemented to:
 - rehabilitate the site;
 - implement the Biodiversity Offset Strategy and Doughboy Hollow Creek Rehabilitation Strategy; and
 - manage the remnant vegetation and habitat on the site;
 - (f) include a detailed description of what measures would be implemented over the next 3 years to implement the Biodiversity Offset Strategy and Doughboy Hollow Creek Rehabilitation Strategy;
 - (g) include a detailed description of what measures would be implemented over the next 5 years to rehabilitate the site, including the procedures to be implemented for:
 - progressively rehabilitating areas disturbed by quarrying as shown conceptually in Appendix 2;
 - implementing revegetation and regeneration as shown conceptually in Appendix 2, including establishment of canopy, sub-canopy (if relevant), understorey and ground strata;
 - managing the remnant vegetation and habitat on site;
 - managing impacts on fauna;

- reducing the visual impacts of the development, including the vegetation of the noise barrier shown in Appendix 2 and the establishment of screen planting as described in EA MOD 2 and the Statement of Commitments;
 - landscaping the site to minimise visual impacts;
 - protecting areas outside the disturbance areas;
 - conserving and reusing topsoil;
 - collecting and propagating seeds for rehabilitation works;
 - salvaging and reusing material from the site for habitat enhancement;
 - controlling weeds and feral pests;
 - controlling access; and
 - bushfire management;
- (h) detailed performance and completion criteria for the rehabilitation of the site and implementation of the Biodiversity Offset Strategy and Doughboy Hollow Creek Rehabilitation Strategy;
- (i) a detailed description of how the performance of the rehabilitation of the site and implementation of the Biodiversity Offset Strategy and Doughboy Hollow Creek Rehabilitation Strategy would be monitored over time to achieve the relevant objectives and completion criteria;
- (j) a description of the potential risks to successful revegetation and/or rehabilitation in the offset areas and development area, and a description of the contingency measures that would be implemented to mitigate these risks; and
- (k) details of who is responsible for monitoring, reviewing and implementing the plan.

Quarry Closure Plan

30. The Quarry Closure Plan must:
- (l) define the objectives and criteria for quarry closure;
 - (m) investigate options for the future use of the site, including any final void(s);
 - (n) describe the measures that would be implemented to minimise or manage the ongoing environmental effects of the development ; and
 - (o) describe how the performance of these measures would be monitored over time.
- 30A. The Applicant must implement the Landscape Management Plan as approved by the Planning Secretary.

Rehabilitation Bond

31. Within 6 months of the approval of the Rehabilitation and Biodiversity Offset Management Plan, the Applicant must lodge a Rehabilitation Bond with the Department to ensure that the rehabilitation of the site is implemented in accordance with the performance and completion criteria set out in the plan and the relevant conditions of this consent. The sum of the bond must be an amount agreed by the Planning Secretary and determined by:
- (a) calculating the cost of rehabilitating all disturbed areas of the site, taking into account the likely surface disturbance over the next 3 years of quarrying operations; and
 - (b) employing a suitably qualified, independent and experienced person to verify the calculated costs.

The calculation of the Rehabilitation Bond must be submitted to the Department for approval at least 2 months prior to the lodgement of the bond.

32. The 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 Rehabilitation and Biodiversity Offset Management Plan;
 - (b) the completion of an Independent Environmental Audit in which recommendations relating to rehabilitation have been made; or
 - (c) in response to a request by the Planning Secretary.
- 32A. If rehabilitation is completed generally in accordance with the relevant performance and completion criteria, to the satisfaction of the Planning Secretary, the Planning Secretary will release the bond.
- 32B. If rehabilitation is not completed generally in accordance with the relevant performance and completion criteria, the Planning Secretary will call in all, or part of, the bond and arrange for the completion of the relevant works.

TRANSPORT

Product Transport

33. The Applicant must:
- (a) keep records of the:
 - amount of quarry materials imported onto the site each calendar year;
 - amount of quarrying products transported from the site each calendar year;
 - number of truck movements generated by the development on an hourly basis on any days in which truck loading and distribution occurs;
 - registration plate details and time of departure for all laden trucks dispatched from the quarry;
 - number of train movements generated by the development, on a weekly basis;
 - date and time of each train movement generated by the development;
 - (b) provide annual production data to MEG using the standard form for that purpose; and
 - (c) include these records in the Annual Review.

Road Safety and Condition Audit

- 33A. Prior to truck movements associated with the development exceeding 55 movements per day, the Applicant must undertake (and complete) all agreed actions outlined in the Road Safety and Condition Audit Report prepared by Crossroads Civil Design dated October 2018, to the satisfaction of the relevant roads authority (i.e. TfNSW or Council). If there is a dispute about the implementation of these measures, then the Applicant may refer the matter to the Planning Secretary for resolution.
34. By 31 December 2025 or within five years of commencing quarrying operations in the Extension Area (whichever is the latter), the Applicant must undertake a Road Safety and Condition Audit for the development, to the satisfaction of the Planning Secretary. This audit must:
- (a) be prepared by a suitably independent and qualified expert/s whose appointment has been approved by the Planning Secretary;
 - (b) be prepared in consultation with the TfNSW and Council;
 - (c) assess the safety, performance and condition of the Ardglen Street (Main Street)-New England Highway intersection and the quarry access route; and
 - (d) identify any road works that are required to comply with relevant AUSROAD standards or other relevant TfNSW or Council requirements.
35. Within 12 months of completing the Road Safety and Condition Audit required under condition 34 of this Schedule, unless otherwise agreed by the Planning Secretary, the Applicant must undertake (and complete) any road works recommended in the Audit, to the satisfaction of the relevant roads authority (i.e. TfNSW or Council). If there is a dispute about the implementation of these measures, then the Applicant may refer the matter to the Planning Secretary for resolution.

Road Signage

36. Within 3 months of this approval, the Applicant must install warning signs ("Truck Turning") on the northern and southern approaches to the quarry access route on the New England Highway, to the satisfaction of the TfNSW.

Road Maintenance

37. The Applicant must maintain the quarry access route until the cessation of quarrying operations on the site, to the satisfaction of Council.

If the Applicant and the Council fail to reach agreement on the road maintenance requirements, then either party may refer the matter to the Planning Secretary for resolution. Any determination by the Planning Secretary on this matter will be binding on the Applicant and the Council.

Road Haulage

38. The Applicant must ensure that truck movements associated with the development do not exceed:
- (a) a total of 110 movements per day;
 - (b) a total of 5 movements between 6.30 am and 7.00 am; and
 - (c) a total of 30 movements per hour between 7.00 am and 5.30 pm.
39. The Applicant must not use trucks which are larger than truck and dog combination vehicles^a or have a capacity of greater than 38 tonnes to transport product from the site, unless otherwise agreed in writing by TfNSW.

^a In this condition, 'truck and dog combination vehicle' means National Class 2 Performance Based Standards Level 1 & 2A Truck and Dog Trailer (or equivalent) as determined by the National Heavy Vehicle Regulator

40. The Applicant must:
- (a) implement a speed limit of not more than 40 kilometres per hour for quarry-related truck movements^a along the quarry access route;
 - (b) investigate options to impose a speed limit of 20 kilometres per hour for all heavy vehicle movements along the High Street bridge and install appropriate warning signage, in consultation with Council;
 - (c) ensure that all laden trucks entering or leaving the site are covered, and are cleaned of materials that may fall onto public roads;
 - (d) ensure that all laden trucks pass through a wheel wash prior to departing the site; and
 - (e) take all reasonable steps to minimise traffic safety issues and disruption to local road users.

^a In this condition, 'quarry-related truck movements' means trucks used for the transport of quarrying products or the importation of blending material to the site

- 40A. Prior to commencing increased truck movements as described in EA MOD 2, or other timing as agreed by the Planning Secretary, the Applicant must undertake road widening along Ardglen Street (Main Street) to achieve a minimum pavement width of 7 m (excluding road shoulders), to the satisfaction of Council.

Rail Loading

41. The Applicant may only load a maximum of 2 trains outside the rail loading and distribution hours in Table 1 in any 12 month period, unless agreed to in writing by the Planning Secretary.
42. If the Applicant intends to undertake out of hours rail loading, it must use its best endeavours to notify all local residents at least 12 hours prior to the proposed rail loading, to the satisfaction of the Planning Secretary.

Traffic and Transport Management Plan

43. The Applicant must prepare a Traffic and Transport Management Plan, to the satisfaction of the Planning Secretary. The plan must:
- (a) include a driver code of conduct which outlines;
 - safety initiatives for haulage through the village and along school bus routes;
 - an induction procedure for truck drivers; and
 - complaints handling and disciplinary procedures;
 - (b) include:
 - measures that would be put in place to ensure compliance with the driver code of conduct;
 - measures that would be implemented to ensure compliance with condition 40 of this Schedule;
 - measures that would be taken to avoid night time train loading operations; and
 - procedures for notifying local residents about night time train loading activities when these occur; and
 - (c) be submitted to the Planning Secretary for approval prior to truck movements associated with the development exceeding 55 movements per day, (or other timeframe as agreed by the Planning Secretary).
- 43A. The Applicant must implement the Traffic and Transport Management Plan as approved by the Planning Secretary.

VISUAL IMPACT

44. The Applicant must:
- (a) take all reasonable steps to minimise the visual and off-site lighting impacts of the development;
 - (b) ensure that all external lighting associated with the development complies with *Australian Standard AS4282 (INT) 1995 – Control of Obtrusive Effects of Outdoor Lighting*, to the satisfaction of the Planning Secretary.

ABORIGINAL CULTURAL HERITAGE

45. The Applicant must not destroy any known Aboriginal object or Aboriginal place (as defined in the *National Parks and Wildlife Act 1974*) without the written approval of the Planning Secretary.

- 45A. If any previously unknown Aboriginal object or Aboriginal place 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) Heritage NSW must be contacted immediately.
- 45B. Work in the immediate vicinity may only recommence if:
- (a) the potential Aboriginal object or Aboriginal place is confirmed by Heritage NSW upon consultation with the Registered Aboriginal Parties not to be an Aboriginal object or Aboriginal Place; or
 - (b) an Aboriginal Cultural Heritage Management Plan is prepared in consultation with Registered Aboriginal Parties and Heritage NSW, and 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 or Aboriginal place and makes a written direction in that regard.
- 45C. If suspected human remains are discovered on site, then all work surrounding the area must cease, and the area must be secured. The Applicant must immediately notify NSW Police and Heritage NSW, and work must not recommence in the area until authorised by NSW Police and NSW.

GREENHOUSE GAS

46. The Applicant must:
- (a) monitor the greenhouse gas emissions generated by the development;
 - (b) investigate ways to reduce greenhouse gas emissions generated by the development; and
 - (c) report on greenhouse gas monitoring and abatement measures in the Annual Review, to the satisfaction of the Planning Secretary.

WASTE MINIMISATION

47. The Applicant must:
- (a) manage on-site sewage treatment and disposal in accordance with the requirements of an applicable EPL, and to the satisfaction of EPA and Council;
 - (b) minimise the waste generated by the development;
 - (c) ensure that the waste generated by the development is appropriately stored, handled, and disposed of; and
 - (a) report on waste minimisation and management in the Annual Review.
48. The Applicant must ensure that all waste generated or stored on site is assessed, classified and managed in accordance with the EPA's *Waste Classification Guidelines Part 1: Classifying Waste*.
-

SCHEDULE 4 ADDITIONAL PROCEDURES

NOTIFICATION OF LANDOWNERS

1. If the results of monitoring required in Schedule 3 identify that impacts generated by the development are greater than the relevant impact assessment criteria, then the Applicant must notify the Planning Secretary and the affected landowners and/or existing or future tenants (including tenants of quarry owned properties) accordingly, and provide quarterly monitoring results to each of these parties until the results show that the development is complying with the relevant criteria.

NOTIFICATION OF EXCEEDANCES

- 1A. As soon as practicable and no longer than 7 days after obtaining monitoring results showing an exceedance of any noise, blasting or air quality criterion in Schedule 3 of this consent, the Applicant must provide the details of the exceedance to any affected landowners and/or tenants. For any exceedance of any air quality criterion in Schedule 3 of this consent, the Applicant must also provide to any affected land owners and tenants a copy of the fact sheet entitled "*Mine Dust and You*" (NSW Health, 2017).

INDEPENDENT REVIEW

2. If a landowner (excluding quarry owned properties) considers that the operations of the development are exceeding the impact assessment criteria in Schedule 3 then he/she may ask the Planning Secretary in writing for an independent review of the impacts of the development on his/her land.
3. If the Planning Secretary is not satisfied that an independent review is warranted, the Planning Secretary will notify the landowner in writing of that decision, and the reasons for that decision, within 21 days of the request for a review.
4. If the Planning Secretary is satisfied that an independent review is warranted, within 3 months, or as otherwise agreed by the Planning Secretary and the landowner, of the Planning Secretary's decision, the Applicant must:
 - (a) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the Planning Secretary, to:
 - (i) consult with the landowner to determine their concerns;
 - (ii) conduct monitoring to determine whether the development is complying with the relevant criteria in Schedule 3 of this consent; and
 - (iii) if the development is not complying with that criteria, identify measures that could be implemented to ensure compliance with the relevant criteria; and
 - (b) give the Planning Secretary and landowner a copy of the independent review; and
 - (c) comply with any written requests made by the Planning Secretary to implement any findings of the review.

SCHEDULE 5

ENVIRONMENTAL MANAGEMENT, MONITORING, AUDITING & REPORTING

ENVIRONMENTAL MANAGEMENT STRATEGY

1. The Applicant must prepare and implement an Environmental Management Strategy for the development to the satisfaction of the Planning Secretary. This strategy must:
 - (a) provide the strategic framework for environmental management of the development;
 - (b) identify the statutory requirements that apply to the development;
 - (c) describe in general how the environmental performance of the development would be monitored and managed;
 - (d) describe the procedures that would be implemented to:
 - keep the local community and relevant agencies informed about the operation and environmental performance of the development;
 - receive, handle, respond to, and record complaints;
 - resolve any disputes that may arise during the course of the development;
 - respond to any non-compliance; and
 - respond to emergencies; and
 - (e) describe the role, responsibility, authority, and accountability of all the key personnel involved in environmental management of the development.
- 1A. The Applicant must not carry out quarrying operations under this consent until the Environmental Management Strategy is approved by the Planning Secretary.

ENVIRONMENTAL MONITORING

2. Any condition of this consent that requires the carrying out of monitoring or an environmental audit, whether directly or by way of a plan, strategy or program, is taken to be a condition requiring monitoring or an environmental audit under Division 9.4 of Part 9 of the EP&A Act. This includes conditions in respect of incident notification, reporting and response, non-compliance notification, compliance report and independent audit.

For the purposes of this condition, as set out in the EP&A Act, “monitoring” is monitoring of the development to provide data on compliance with the consent or on the environmental impact of the development, and an “environmental audit” is a periodic or particular documented evaluation of the development to provide information on compliance with the consent or the environmental management or impact of the development.
- 2A. Noise, blast and/or air quality monitoring under this consent may be undertaken at suitable representative monitoring locations instead of at privately-owned residences or other locations listed in Schedule 3, providing that these representative monitoring locations are set out in the respective management plan(s) and/or monitoring program(s).

REPORTING

Incident Notification

3. The Applicant must immediately notify the Department and any other relevant agencies immediately after it becomes aware of an incident. The notification must be in writing to compliance@planning.nsw.gov.au and identify the development (including the development application number and name) and set out the location and nature of the incident.

Non-Compliance Notification

- 3A. Within seven days of becoming aware of a non-compliance, the Applicant must notify the Department of the non-compliance. The notification must be in writing to compliance@planning.nsw.gov.au and identify the development (including the development application number and name), set out the condition of this consent that the development is non-compliant with, why it does not comply and the reasons for the non-compliance (if known) and what actions have been, or will be, undertaken to address the non-compliance.

Note: A non-compliance which has been notified as an incident does not need to also be notified as a non-compliance.

Annual Reporting

4. By the end of March in each year after the granting of the development consent, 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 financial/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 2(a)-(c) of Schedule 2.
 - (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 of 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.

INDEPENDENT ENVIRONMENTAL AUDIT

5. Prior to 31 December 2012, and every 5 years thereafter, unless the Planning Secretary directs otherwise, the Applicant must commission and pay the full cost of an Independent Environmental Audit of the development. This audit must:
 - (a) be led by a suitably qualified, experienced and independent auditor whose appointment has been endorsed by the Planning Secretary;
 - (b) be conducted by a suitably qualified, experienced and independent team of experts (including any expert in field/s specified by the Planning Secretary) whose appointment has been endorsed by the Planning Secretary;
 - (c) be carried out in consultation with the relevant agencies and the CCC;
 - (d) assess the environmental performance of the development and whether it is complying with the relevant requirements in this consent, water licences and mining leases for the development (including any assessment, strategy, plan or program required under these approvals);
 - (e) review the adequacy of any approved strategy, plan or program required under the abovementioned approvals and this consent;
 - (f) recommend appropriate measures or actions to improve the environmental performance of the development and any assessment, strategy, plan or program required under the abovementioned approvals and this consent; and
 - (g) be conducted and reported to the satisfaction of the Planning Secretary.
6. Within three months of commencing an Independent Environmental Audit, or within another timeframe agreed by the Planning Secretary, the Applicant must submit a copy of the audit report to the Planning Secretary, and any other NSW agency that requests it, together with its response to any recommendations contained in the audit report, and a timetable for the implementation of the recommendations. The recommendations must be implemented to the satisfaction of the Planning Secretary.

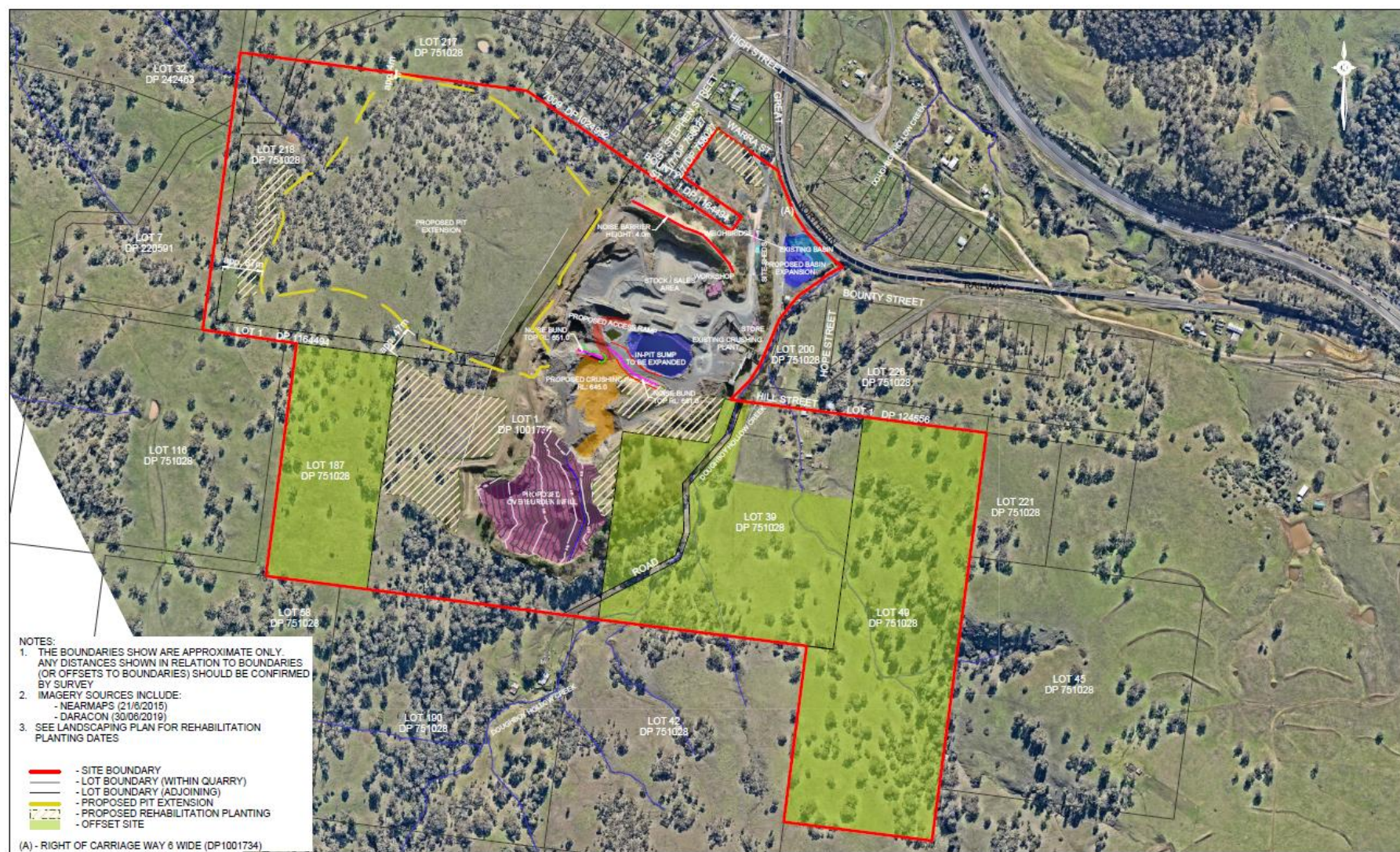
COMMUNITY CONSULTATIVE COMMITTEE

7. The Applicant must operate a Community Consultative Committee (CCC) for the project to the satisfaction of the Planning Secretary, in accordance with the Department's *Community Consultative Committee Guidelines: State Significant Projects* (2019).

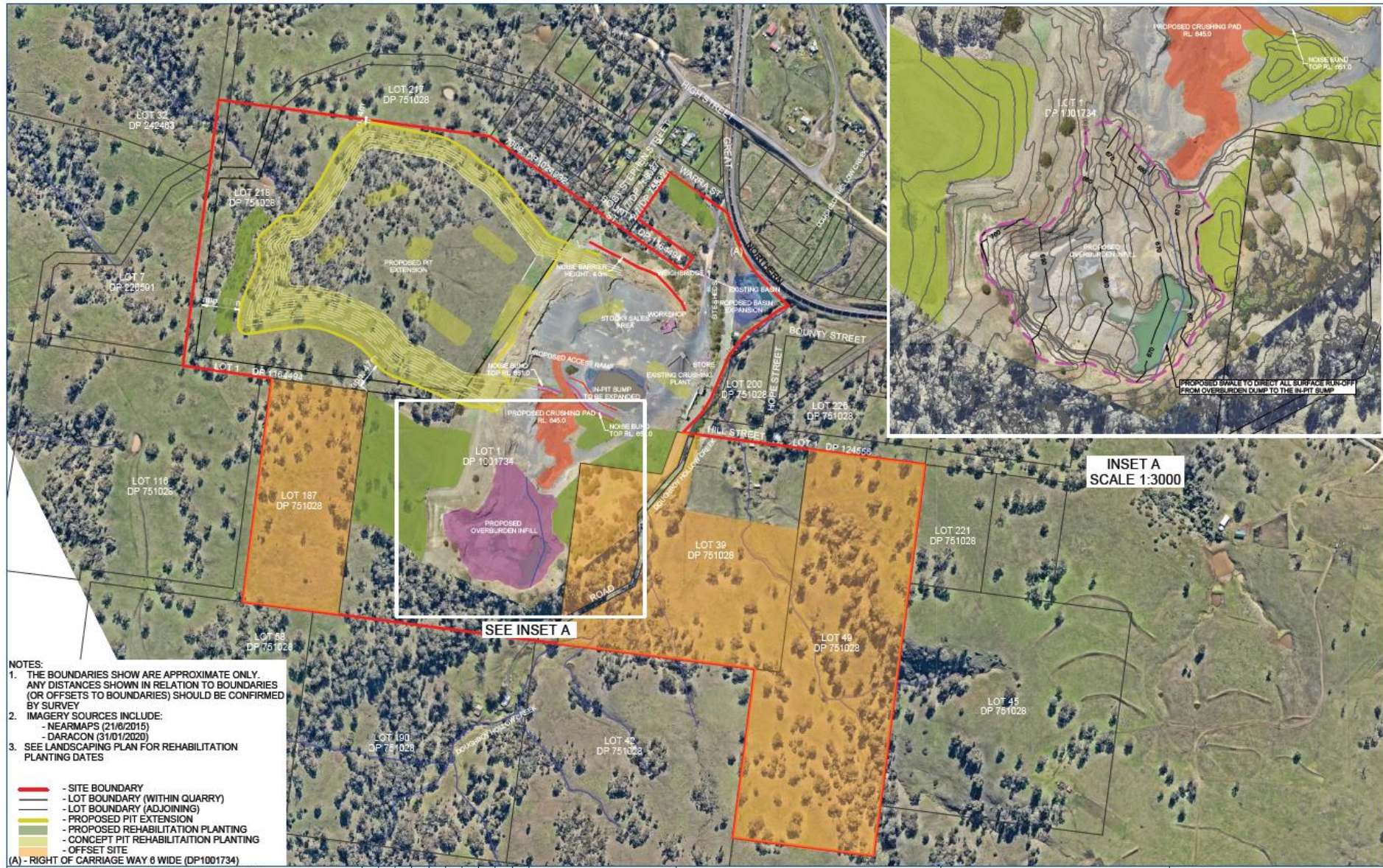
ACCESS TO INFORMATION

8. Within 3 months of the approval of any plan/strategy/program required under this consent (or any subsequent revision of these plans/strategies/programs), or the completion of the audits or Annual Reviews required under this consent, the Applicant must:
 - (a) provide a copy of the relevant document/s to the relevant agencies and CCC; and
 - (b) put a copy of the relevant document/s on its website.
 9. During the development, the Applicant must:
 - (a) include a copy of this consent, as may be modified from time to time, on its website;
 - (b) provide a full summary of monitoring results required under this consent on its website; and
 - (c) update these results on a regular basis (at least every 6 months).
-

APPENDIX 1 GENERAL PROJECT LAYOUT



APPENDIX 2 CONCEPTUAL REHABILITATION PLAN



APPENDIX 3 CONCEPTUAL OFFSET PLAN



APPENDIX 4 STATEMENT OF COMMITMENTS

Table 1: Statement of Commitments

Item Number	Item	Commitment	Responsibility	Timing
1	Scope of Development	The project will be carried out generally in accordance with the following plans and documentation, except where amended by the conditions of the project approval: - the Environmental Assessment (EA) prepared by ERM (June, 2007) and accompanying specialist reports; - the Response to Submissions report prepared by ERM (November, 2007); and - this revised Statement of Commitments.	Daracon Quarries	Ongoing for the duration of the project.
2	Statutory Requirements	All necessary licences, permits and approvals will be obtained and maintained for the project.	Daracon Quarries	Ongoing for the duration of the project.
3		In accordance with section 104A of the EP&A Act, the proponent will surrender the existing development consent applying to Lot 1 DP 1001734, issued by Murrumbidgee Shire Council in May 1994.	Daracon Quarries	Within 2 years of work commencing within the extension area.
4	General	The proponent will prepare and implement an Environmental Management System (EMS) based on the AS/NZA ISO 14001:2004 - Environmental Management Systems. The EMS will: - incorporate an operational Environmental Management Plan (EMP); - detail potential environmental risks due to operation of the proposed quarry; - provide measures for the prevention, minimisation and management of these impacts to within acceptable limits; and - provide a means for the project to improve environmental performance and move towards environmental sustainability.	Daracon Quarries	EMS to be submitted for approval prior to work commencing within the extension area.
5	Water Management	The proponent will prepare and implement a Surface Water Management Plan for the project that will include: an Erosion and Sediment Control Plan (including procedures to minimise erosion, capture of sediment on-site, and maintenance of control structures);	Daracon Quarries	Plan to be submitted for approval prior to work commencing within the extension area.

Item Number	Item	Commitment	Responsibility	Timing															
		• a Site Water Balance; and • a Water Quality Monitoring Program																	
6	Biodiversity	The proponent will implement the biodiversity offset strategy outlined in the EA, which includes the conservation and long term protection of the areas described in <i>Table 1</i>. <i>Table 1 Biodiversity Offset Areas</i> <table><tr><th>Land Description</th><th>Area (ha)</th><th>Proposed Management Strategy</th></tr><tr><td>Lot 187 DP 751028</td><td>8.2</td><td>stock removal, weed control, planting of EEC trees, transport of logs and rocks, provision of nest boxes</td></tr><tr><td>Lot 39 DP 751028</td><td>11.65</td><td>stock removal, weed control, major planting of EEC trees and grasses, transport of logs and rocks</td></tr><tr><td>Lot 49 DP 751028</td><td>16.3</td><td>stock removal, weed control</td></tr><tr><td>Total</td><td>36.15</td><td></td></tr></table>	Land Description	Area (ha)	Proposed Management Strategy	Lot 187 DP 751028	8.2	stock removal, weed control, planting of EEC trees, transport of logs and rocks, provision of nest boxes	Lot 39 DP 751028	11.65	stock removal, weed control, major planting of EEC trees and grasses, transport of logs and rocks	Lot 49 DP 751028	16.3	stock removal, weed control	Total	36.15		Daracon Quarries	Ongoing for the duration of the project.
Land Description	Area (ha)	Proposed Management Strategy																	
Lot 187 DP 751028	8.2	stock removal, weed control, planting of EEC trees, transport of logs and rocks, provision of nest boxes																	
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Lot 49 DP 751028	16.3	stock removal, weed control																	
Total	36.15																		
7		The proponent will prepare a detailed biodiversity offset management plan in consultation with the DECC and submit it for approval by the Director-General. The plan will include: ▪ proposed staging; ▪ planting details such as final density, species mix, sowing rates, fertiliser; ▪ proposed maintenance schedule; ▪ weed control; ▪ importation of rock and log shelter; ▪ topsoil handling; ▪ fencing;	Daracon Quarries	Plan to be submitted for approval prior to work commencing within the extraction area.															

Item Number	Item	Commitment	Responsibility	Timing
		- pre-clearing surveys of all hollow bearing trees within the proposed quarry extension area; - herbivore control; and - number and location of nest boxes.		
8		The proponent will make suitable arrangements to provide appropriate long term security for the offset areas.	Daracon Quarries	Within 3 years of work commencing within the extraction area.
9	Noise	The proponent will continue to implement the following measures, which are currently in place at Ardglan Quarry, to mitigate noise impacts: - quarry hours are restricted to between 6am and 5.30pm; - noise created by the haul trucks, both empty and loaded, is reduced by imposing a speed limit of 50 km/h when travelling on local roads between the quarry and the highway. Trucks on site are limited to a speed of 25 km/h; - all on-site, fixed and mobile diesel-powered plant, excluding road vehicles, are correctly fitted and maintained to manufacturer specifications. Particular attention is given to engine exhaust systems and the care and maintenance of mufflers. Further noise control is nominated through the implementation of the following measures: - reduction of equipment through the separation of site activities to overburden stripping and extraction, whereby they do not occur simultaneously; - rail loading will be limited to the day period (7am to 6pm) as much as practicable; - the surge bin will be lined with latex or polymer liners to reduce impulsive noise; - a sheet metal enclosure will be built around the rail loader discharge and extend to include the rail wagon being loaded. The enclosure will be constructed of sheet metal and will cover the length of a minimum of three wagons whereby the wagon being loaded will be in the centre of the enclosure. The enclosure will be open at the ends and will contain a roof which will be connected to the rail loader discharge.	Daracon Quarries	Ongoing for the duration of the project.

Item Number	Item	Commitment	Responsibility	Timing																
		Gaps between the loader discharge and the roof will be sealed; ▪ the two scrapers initially assigned for overburden stripping will be replaced by one excavator and two articulated dump trucks; ▪ the existing three crushers will be acoustically treated by extending the metal cladding on the crushing and screening station building to ground level with no gaps or openings; ▪ the existing screens will be located behind earth bunds; and ▪ mobile acoustic barriers or earth mounds will surround the drill rig and any mobile plant situated on the surface during initial stripping; and ▪ where land slopes away from stripping activities to receivers, barriers will be raised to a height of 4 metres, so there is no direct line of sight to receivers.																		
10		Except during night-time rail loading activities, the proponent will ensure that the noise generated by the project does not exceed the levels set out in <i>Table 2</i>, at any privately-owned residence, unless a specific agreement is reached with the landholder, in which case the proponent may exceed the noise limits set out in <i>Table 2</i> in accordance with the negotiated noise agreement. <i>Table 2 Noise Criteria</i> <table><tr><th>Land</th><th>Noise Level LAeq dB(A)</th></tr><tr><td>1 - Burraston</td><td>35</td></tr><tr><td>2 - Rose</td><td>35</td></tr><tr><td>4 - CM Thomson</td><td>44</td></tr><tr><td>5 - M Taylor</td><td>45</td></tr><tr><td>6 - S Thompson</td><td>45</td></tr><tr><td>9 - Bates</td><td>37</td></tr><tr><td>10 - Avery</td><td>38</td></tr></table>	Land	Noise Level LAeq dB(A)	1 - Burraston	35	2 - Rose	35	4 - CM Thomson	44	5 - M Taylor	45	6 - S Thompson	45	9 - Bates	37	10 - Avery	38	Daracon Quarries	Ongoing for the duration of the project.
Land	Noise Level LAeq dB(A)																			
1 - Burraston	35																			
2 - Rose	35																			
4 - CM Thomson	44																			
5 - M Taylor	45																			
6 - S Thompson	45																			
9 - Bates	37																			
10 - Avery	38																			

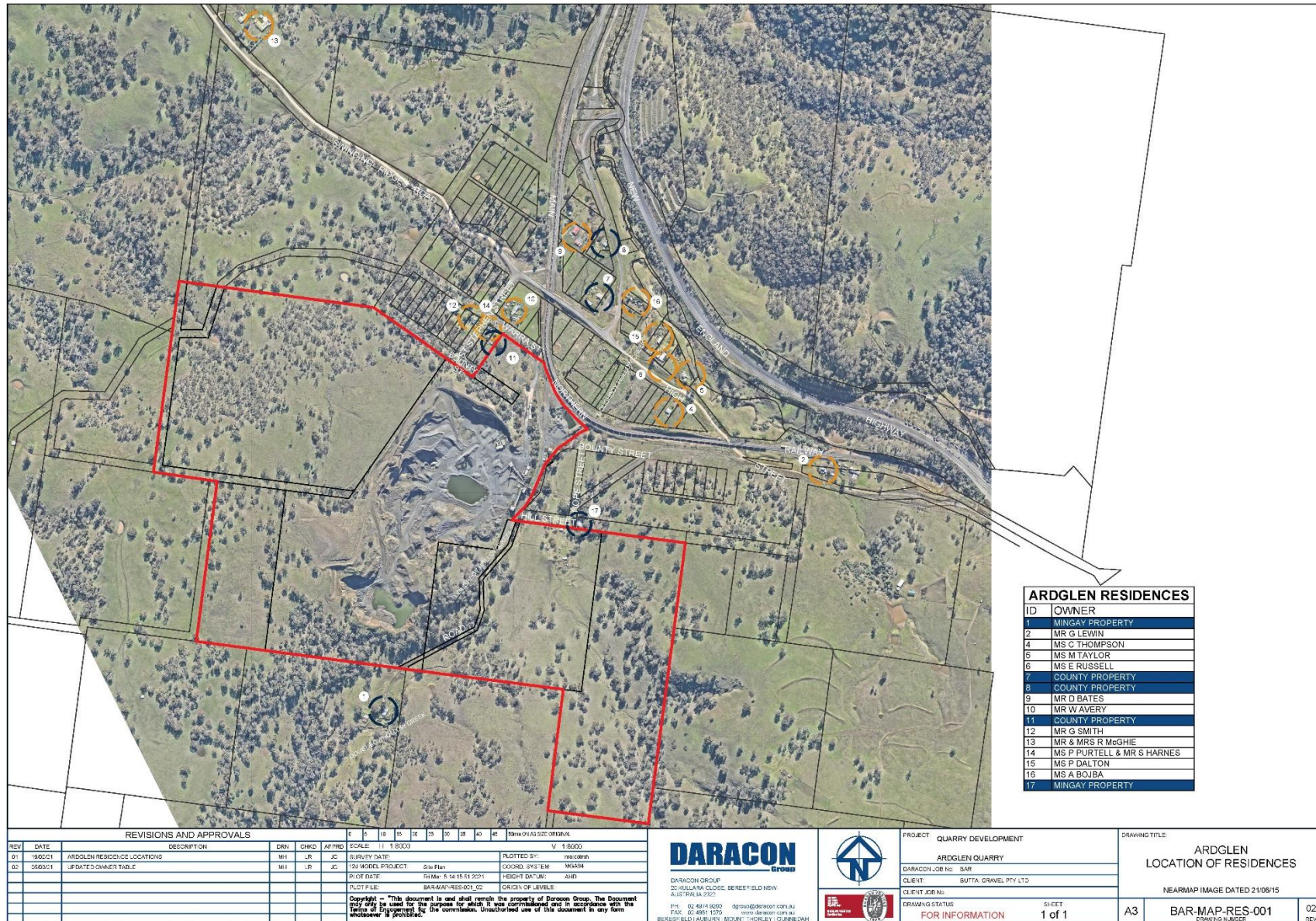
Item Number	Item	Commitment	Responsibility	Timing
		11 - Shipman 37		
		12 - Hall 36		
		13 - McGhie 35		
		14 - Purtell 36		
		15 - J Taylor 43		
		16 - Bojba 40		
11	Blasting and Vibration	The proponent will implement the following measures to mitigate the impacts of blasting and vibration: ▪ blasting will be limited to between the hours of 10am and 4pm, Monday to Friday and residents in the vicinity of the quarry will be given adequate notification of forthcoming blasts; ▪ air-blast overpressure from any blast will not exceed 120 dB(Lpeak) at any privately-owned residence for more than 5% of all blasts over a 12 month period. It will not exceed 115 dB(Lpeak) at any time, unless specific prior agreement is reached with the affected landholder; ▪ peak particle velocity (ppv) from ground vibration will not exceed 5 mm/s at any privately-owned residence for more than 5% of the total number of blasts over a 12 month period. The maximum level will not exceed 10 mm/s at any time; ▪ the existing blast management strategy will continue to be implemented to ensure appropriate charge masses are used to avoid excessive air blast overpressure and ground vibrations; and ▪ a Blast Monitoring Program will be prepared and submitted to the Director-General for approval	Daracon Quarries	Ongoing for the duration of the project.

Item Number	Item	Commitment	Responsibility	Timing
12	Air Quality	In addition to the dust mitigation measures currently employed, the proponent will implement the following measures to ensure particulate matter emissions are minimised: ▪ revegetation of exposed surfaces where possible; ▪ sealing the haul road; ▪ limiting the speed limit on unpaved surfaces to 15 km/hr; ▪ high level watering of unpaved road surfaces (greater than 2L/m²/hr); ▪ covering all loads leaving the site; ▪ building a wheel wash at the end of the unpaved section of the haul road (after the weighbridge); and ▪ wet suppression or chemical coating of static stockpiles.	Daracon Quarries	Ongoing for the duration of the project.
13		The proponent will prepare and implement an air quality monitoring program for the project. The program will include: ▪ a series of dust deposition gauges operated in accordance with Australian/New Zealand Standard AS/NZS 3580.10.1:2003; and ▪ a series of high volume or low volume air samplers to monitor levels of PM10, operated in accordance with Australian/New Zealand AS/NZS 3580.9.6:2003 and AS/NZS 3580.9.6:2003.	Daracon Quarries	Program to be submitted for approval prior to work commencing within the extension area.
14	Rehabilitation	The proponent will prepare a detailed biodiversity offset plan to provide an integrated plan for the whole site, considering the existing quarry areas, the western extension, the areas of box-gum woodland to be preserved and the areas to be planted as offsets. This plan will be prepared in liaison with the DECC and lodged for approval by the Director-General.	Daracon Quarries	Plan to be submitted for approval prior to work commencing within the extension area.
15		The proponent will progressively rehabilitate the site, generally in accordance with the rehabilitation strategy outlined in the EA.	Daracon Quarries	Ongoing for the duration of the project.

Item Number	Item	Commitment	Responsibility	Timing
16		The proponent will lodge a rehabilitation bond with the Director-General to ensure that rehabilitation of the site is satisfactorily completed, generally in accordance with the rehabilitation strategy outlined in the EA.	Daracon Quarries	Within 6 months of work commencing within the extension area.
17	Traffic Management and Access	The proponent will not transport more than 500,000 tonnes of product from the site each year.	Daracon Quarries	Ongoing for the duration of the project.
18		The proponent will keep daily records of: - the type and amount of product transported from the site and the method of transportation i.e. road or rail; and - the type and amount of quarry material imported onto the site and the method of transportation i.e. road or rail.	Daracon Quarries	Ongoing for the duration of the project.
19		The proponent will maintain the quarry access route from the New England Highway to the quarry entrance, to at least its present standard (two lane rural road), to the satisfaction of Council.	Daracon Quarries	Ongoing for the duration of the project.
20	Visual Amenity	The proponent will implement the following mitigation measures to reduce the potential visual impacts of the project: - those areas of the quarry in which the resource has been exhausted will be progressively rehabilitated and revegetated; and - further planting will be undertaken along the ridgeline to the west of the proposed extension area.	Daracon Quarries	Further planting to be undertaken prior to work commencing within the extension area.

21	Aboriginal Cultural Heritage	Should any Aboriginal objects (artefacts) be exposed during ground surface disturbance, all works involving ground surface disturbance will be suspended. A representative of the Nungaroo Local Aboriginal Land Council and an archaeologist will conduct an assessment of the significance of the Aboriginal object(s) and identify appropriate mitigation and management measures.	Daracon Quarries	Ongoing for the duration of the project.
22	Community Consultation	The proponent will continue to engage the community in consultation, with the aim of providing the community with up-to-date information in relation to the project and quarry operations in general, and allowing the community to provide feedback and raise any issues or concerns. On-going consultation will include distribution of an annual community newsletter and individual face-to-face meetings with adjoining landowners and other stakeholders when required.	Daracon Quarries	Ongoing for the duration of the project.
23	Annual Reporting	The proponent will prepare and submit to the Director-General an Annual Environmental Management Report (AEMR). The AEMR will: ▪ include a summary of the environmental monitoring results for the project for the past year; ▪ include an analysis of the monitoring results against relevant limits/criteria and monitoring results from previous years; and ▪ identify and discuss any non-compliances during the past year and detail any actions taken to ensure compliance.	Daracon Quarries	Report to be submitted annually

APPENDIX 5 LOCATION OF RESIDENCES



APPENDIX 6 NOISE COMPLIANCE ASSESSMENT

Applicable Meteorological Conditions

1. The noise criteria in Schedule 3 of this consent are to apply under all meteorological conditions except the following:
 - (a) where 3°C/100 metres (m) lapse rates have been assessed, then:
 - (i) wind speeds greater than 3 metres/second (m/s) measured at 10m above ground level;
 - (ii) temperature inversion conditions between 1.5°C and 3°C/100m and wind speeds greater than 2m/s measured at 10m above ground level; or
 - (iii) temperature inversion conditions greater than 3°C/100m.
 - (b) where Pasquill Stability Classes have been assessed, then:
 - (i) wind speeds greater than 3m/s at 10m above ground level;
 - (ii) stability category F temperature inversion conditions and wind speeds greater than 2m/s at 10m above ground level; or
 - (iii) stability category G temperature inversion conditions.

Determination of Meteorological Conditions

2. Except for wind speed at microphone height, the data to be used for determining meteorological conditions shall be that recorded by the meteorological station required under condition 18 of Schedule 3 .

Compliance Monitoring

3. A noise compliance assessment must be undertaken within two months of commencement of quarrying operations in the Extension Area. The assessment must be conducted by a suitably qualified and experienced acoustical practitioner and must assess compliance with noise criteria presented above. A report must be provided to EPA within 1 month of the assessment.
4. Unless otherwise agreed by the Planning Secretary, attended compliance monitoring must be carried out in accordance with the relevant requirements for reviewing performance set out in the *NSW Industrial Noise Policy* (EPA, 2000), in particular the requirements relating to:
 - (a) monitoring locations for the collection of representative noise data;
 - (b) meteorological conditions during which collection of noise data is not appropriate;
 - (c) equipment used to collect noise data, and conformity with Australian Standards relevant to such equipment; and
 - (d) modifications to noise data collected, including for the exclusion of extraneous noise and/or penalties for modifying factors apart from adjustments for duration,
 - (e) modifying factors apart from adjustments for duration,

with the exception of applying appropriate modifying factors for low frequency noise during compliance testing. This should be undertaken in accordance with Fact Sheet C of the *NSW Noise Policy for Industry* (EPA, 2017).

Appendix 2 Noise monitoring reports



5 March 2024

Ref: 10584/10257

Daracon Quarries Pty Ltd
PO Box 299
WALLSEND NSW 2287

RE: JANUARY 2024 NOISE MONITORING RESULTS – ARDGLEN QUARRY

This letter report presents the results of attended and unattended noise monitoring conducted for the Ardglenn Quarry (AQ) between Thursday 25th and Monday 29th January, 2024. The monitoring was carried out to measure noise emissions from the operations of the quarry. Noise monitoring was carried out in accordance with the conditions of the AQ Noise Monitoring Plan (NMP) as detailed below.

NOISE CRITERIA

*The Proponent shall ensure that the noise generated by the project does not exceed the noise impact assessment criteria in **Table 1** at any residence on privately-owned land, or more than 25% of any privately owned land.*

Table 1 Noise Impact Assessment Criteria				
Land	Day Leq (15 min)	Evening Leq (15 min)	Night	
			Leq (15 min)	L1 (1 min)
1 Burraston	35	35	35	45
3 Rose	35	35	35	45
4 C M Thompson	44	35	35	45
5 M Taylor	45	35	35	45
6 S Thompson	45	35	35	45
9 Bates	37	35	35	45
10 Avery	38	35	35	45
11 Shipman	37	35	35	45
12 Hall	36	35	35	45
13 McGhie	35	35	35	45
14 Purtell	36	35	35	45
15 J Taylor	43	35	35	45
16 Bojba	40	35	35	45
All other privately owned land	35	35	35	45

However, if the Proponent has a written negotiated noise agreement with any landowner of the land listed in Table 1, and a copy of this agreement has been forwarded to the Department and the DECCW, then the Proponent may exceed the noise limits in Table 1 in accordance with the negotiated agreement. The Proponent may also exceed the L1 (1 min) and Leq (15 min) noise impact criteria during out of hours rail loading activities provided they are conducted in accordance with Section 3, Condition 41 of the Project Approval (which is reproduced below).

41. The Proponent may only load a maximum of 2 trains outside the rail loading and distribution hours listed in Table 1 (of the Project Approval, being Monday to Sunday 7:00am to 10:00pm) in any 12 month period, unless agreed in writing by the Director General.

Notes:

- For information on the numbering and identification of properties used in this approval see Figure 2 on Page 14 of this Noise Monitoring Program).
- To determine compliance with the LAeq (15 minute) noise limits, noise from the project is to be measured at the most affected point on or within the residential boundary, or at the most affected point within 30 metres of a dwelling (rural situations) where the dwelling is more than 30 metres from the boundary. Where it can be demonstrated that direct measurement of noise from the development is impractical, the DECCW may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy). The modification factors in Section 4 of the NSW Industrial Noise Policy shall also be applied to the measured noise levels where applicable.
- To determine compliance with the L1 (1 minute) noise limits, noise from the project is to be measured 1m from the dwelling facade. Where it can be demonstrated that direct measurement of noise from the development is impractical, the DECCW may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy).
- The noise emission limits identified in the above table apply under meteorological conditions of:
 - wind speeds of up to 3 m/s at 10 metres above ground level; or
 - Temperature inversion conditions of up to 3°C/100m, and wind speeds of up to 2 m/s at 10 metres above ground level.

NOISE MONITORING LOCATIONS

Noise measurement locations for the attended noise survey are listed below and shown in the accompanying **Figure 1**:

Location 4: C M Thompson
Location 13: McGhie
Location 14: Purtell
Location 16: Bojba



Figure 1 – Attended Noise Monitoring Locations

ATTENDED NOISE MEASUREMENTS

Noise emission levels were measured with a Brüel & Kjær Type 2250 Precision Sound Analyser. This instrument has Type 1 characteristics as defined in AS1259-1982 “Sound Level Meters”. Calibration of the instrument was confirmed with a Brüel & Kjær Type 4231 Sound Level Calibrator prior to and at the completion of measurements.

Meteorological data used in this report was obtained from the quarry operated weather station with real time observations made at the start of each 15 minute monitoring period (and confirmed with reference to the summary data provided by the proponent at the time of reporting). The weather throughout the survey was mild with clear skies. The wind speed was moderate and generally from the southeast.

RESULTS OF ATTENDED MONITORING

The measured noise levels, over 1 second intervals, were analysed using Brüel & Kjær “*Evaluator*” software. The software enables the contributions of the quarry and other significant noise sources to the overall to be quantified.

Noise levels were recorded for each of the Leq (15 min), Lmax, L1, L10, L90 and Lmin percentiles. As shown in Table 1, the noise criterion for AQ during the day is based on an Leq noise level. The results, shown in **Table 2**, represent the total 15 minute Leq noise level for all noise sources and the relative contributions of each. Levels for the other percentiles are not shown as they have no compliance criteria for comparison but are available on request. The exception is the L1 (1 min) noise

level (which is the standard measure of sleep disturbance) which is applicable to noise emissions at night (i.e. between 10 pm and 7 am).

Table 2 Ardglen Quarry Noise Monitoring Results – 29th January 2024 (Day)				
Location	Time	dB(A),_{Leq}	Wind speed/ direction°	Identified Noise Sources
4. Thompson	3:53pm	49	3.1 / 304	Traffic (48), insects (37), birds (35), AQ (27)
13. McGhie	4:32pm	44	0.6 / 043	Insects (41), birds (39), traffic (34), AQ inaudible
14. Purtell	4:15pm	54	2.3 / 336	Traffic (54), birds (32), AQ occasionally audible
16. Bojba	3:33pm	58	0.9 / 219	Traffic (58), birds (38), insects (28), AQ inaudible

The results in Table 2 show that, under the meteorological and operating conditions at the time, the noise emissions from AQ were compliant with the relevant noise criteria at all monitoring locations.

At the time of the noise monitoring the following plant items were operational at the quarry;

- 1 x 972 Loader
- 1 x 35t Excavator
- 1 x Isuzu water truck
- 2 x generator
- 1 x 2' water pump
- 2 x steel bin truck & dog

The noise from AQ was audible and quantifiable at R4, and also audible at R14. The noise from AQ was not audible at the other monitoring locations.

The results of the noise monitoring programme have shown that AQ is operating within approved noise limits. No actions are recommended with respect to noise management at the Quarry.

UNATTENDED NOISE MEASUREMENTS

The NMP requires that unattended noise logging be undertaken over a period of three days, part of which coincides with the quarterly attended noise monitoring.

To measure the acoustic environment an ARL EL-315 environmental noise logger and an ARL Ngara environmental noise logger, were located as shown in Figure 2 from 25th to 29th January, 2024, however only data from the three day period is given in this report. **Table 3** shows a summary of the relevant measured data from the loggers which is also shown graphically in **Appendix A**.

TABLE 3 Measured Logger Noise Levels dB(A) – 25 th to 28 th January 2024						
Logger Location	Day (7am to 6pm)		Evening (6pm to 10 pm)		Night (10pm to 7am)	
	Leq	L90	Leq	L90	Leq	L90
Logger 1	45	31	46	31	50	39
Logger 2	51	39	45	33	45	36



Figure 2 – Unattended Noise Monitoring Locations

The logger locations were chosen to be representative of the acoustic environment of the closest residences to the quarry and for security reasons.

Logger 1 was located on the fence at location R14. This is adjacent to the attended noise monitoring location for this residence.

Logger 2 was in an open paddock north of the house.

The unattended noise loggers measure the total noise level in the environment, but the data cannot discriminate between various noise sources. As such, the data is presented here with no further analysis.

We trust this report fulfils your requirements at this time, however, should you require additional information or assistance please contact the undersigned on 0412 023 455.

Yours faithfully,

SPECTRUM ACOUSTICS PTY LIMITED

Author:

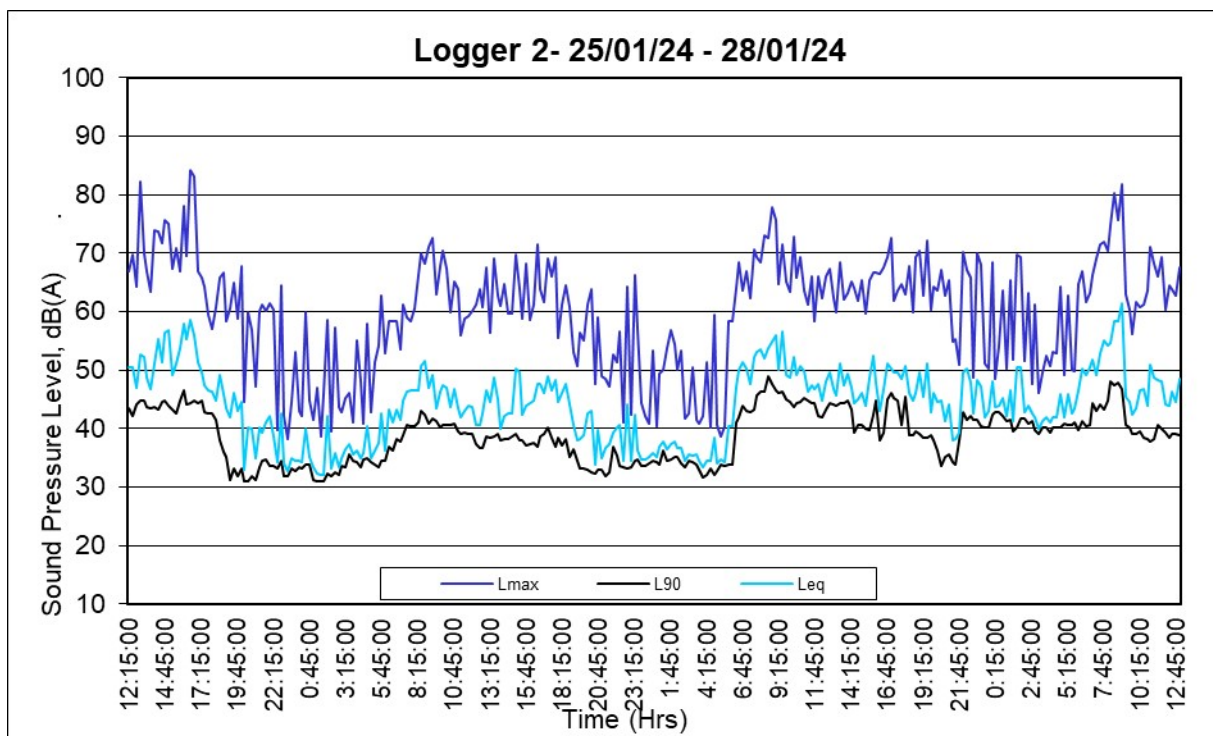
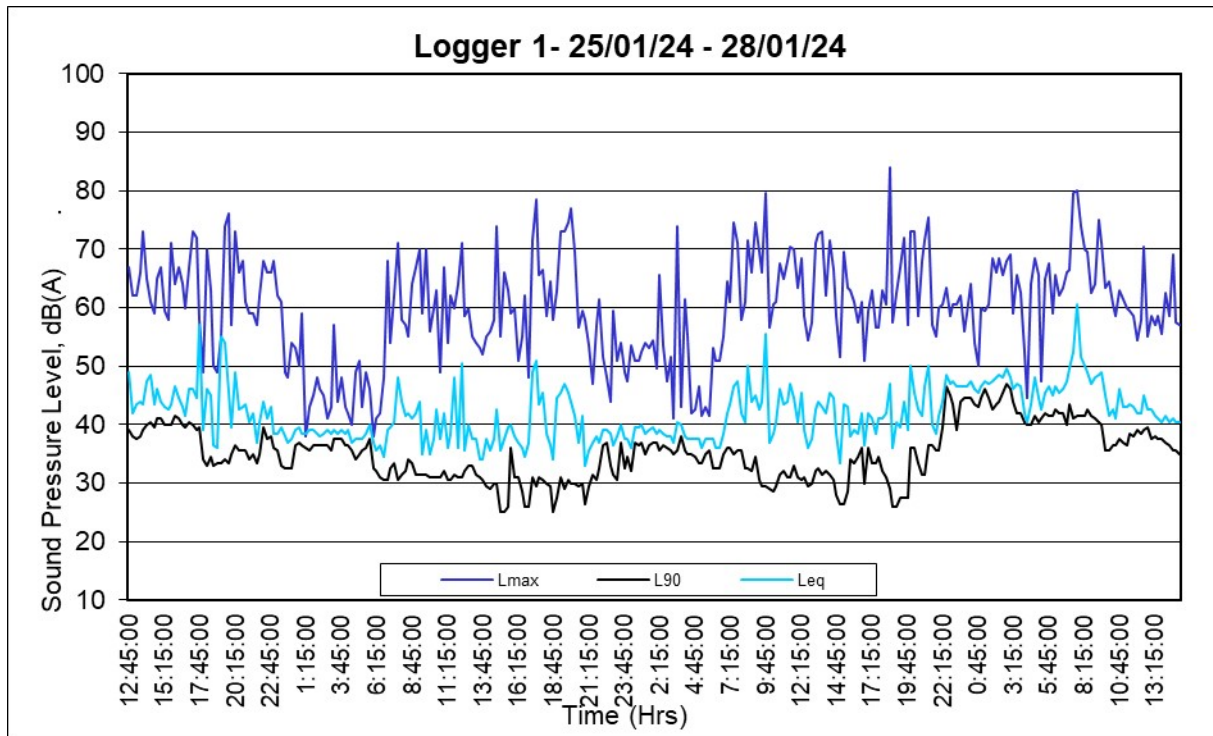


Neil Pennington MAIP, MAAS, MASA

B. Sc., B.Math. (Hons)

Principal / Director

APPENDIX A
NOISE LOGGER CHARTS





20 March 2024

Ref: 10584/10276

Daracon Quarries Pty Ltd
PO Box 299
WALLSEND NSW 2287

RE: FEBRUARY 2024 NOISE MONITORING RESULTS – ARDGLEN QUARRY

This letter report presents the results of attended and unattended noise monitoring conducted for the Ardglenn Quarry (AQ) between Monday 26th and Thursday 29th February, 2024. The monitoring was carried out to measure noise emissions from the operations of the quarry. Noise monitoring was carried out in accordance with the conditions of the AQ Noise Monitoring Plan (NMP) as detailed below.

NOISE CRITERIA

*The Proponent shall ensure that the noise generated by the project does not exceed the noise impact assessment criteria in **Table 1** at any residence on privately-owned land, or more than 25% of any privately owned land.*

Table 1				
Noise Impact Assessment Criteria				
<i>Land</i>	<i>Day Leq (15 min)</i>	<i>Evening Leq (15 min)</i>	<i>Night</i>	
			<i>Leq (15 min)</i>	<i>L1 (1 min)</i>
1 Burraston	35	35	35	45
3 Rose	35	35	35	45
4 C M Thompson	44	35	35	45
5 M Taylor	45	35	35	45
6 S Thompson	45	35	35	45
9 Bates	37	35	35	45
10 Avery	38	35	35	45
11 Shipman	37	35	35	45
12 Hall	36	35	35	45
13 McGhie	35	35	35	45
14 Purtell	36	35	35	45
15 J Taylor	43	35	35	45
16 Bojba	40	35	35	45
All other privately owned land	35	35	35	45

However, if the Proponent has a written negotiated noise agreement with any landowner of the land listed in Table 1, and a copy of this agreement has been forwarded to the Department and the DECCW, then the Proponent may exceed the noise limits in Table 1 in accordance with the negotiated agreement. The Proponent may also exceed the L1 (1 min) and Leq (15 min) noise impact criteria during out of hours rail loading activities provided they are conducted in accordance with Section 3, Condition 41 of the Project Approval (which is reproduced below).

41. The Proponent may only load a maximum of 2 trains outside the rail loading and distribution hours listed in Table 1 (of the Project Approval, being Monday to Sunday 7:00am to 10:00pm) in any 12 month period, unless agreed in writing by the Director General.

Notes:

- For information on the numbering and identification of properties used in this approval see Figure 2 on Page 14 of this Noise Monitoring Program).
- To determine compliance with the LAeq (15 minute) noise limits, noise from the project is to be measured at the most affected point on or within the residential boundary, or at the most affected point within 30 metres of a dwelling (rural situations) where the dwelling is more than 30 metres from the boundary. Where it can be demonstrated that direct measurement of noise from the development is impractical, the DECCW may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy). The modification factors in Section 4 of the NSW Industrial Noise Policy shall also be applied to the measured noise levels where applicable.
- To determine compliance with the L1 (1 minute) noise limits, noise from the project is to be measured 1m from the dwelling facade. Where it can be demonstrated that direct measurement of noise from the development is impractical, the DECCW may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy).
- The noise emission limits identified in the above table apply under meteorological conditions of:
 - wind speeds of up to 3 m/s at 10 metres above ground level; or
 - Temperature inversion conditions of up to 3°C/100m, and wind speeds of up to 2 m/s at 10 metres above ground level.

NOISE MONITORING LOCATIONS

Noise measurement locations for the attended noise survey are listed below and shown in the accompanying **Figure 1**:

Location 4: C M Thompson
Location 13: McGhie
Location 14: Purtell
Location 16: Bojba



Figure 1 – Attended Noise Monitoring Locations

ATTENDED NOISE MEASUREMENTS

Noise emission levels were measured with a Brüel & Kjær Type 2250 Precision Sound Analyser. This instrument has Type 1 characteristics as defined in AS1259-1982 “Sound Level Meters”. Calibration of the instrument was confirmed with a Brüel & Kjær Type 4231 Sound Level Calibrator prior to and at the completion of measurements.

Meteorological data used in this report was obtained from a hand held weather station with measurements made at approximately 2m above ground level. The weather throughout the survey was mild with clear skies. The wind speed was moderate and generally from the southwest.

RESULTS OF ATTENDED MONITORING

The measured noise levels, over 1 second intervals, were analysed using Brüel & Kjær “*Evaluator*” software. The software enables the contributions of the quarry and other significant noise sources to the overall to be quantified.

Noise levels were recorded for each of the Leq (15 min), Lmax, L1, L10, L90 and Lmin percentiles. As shown in Table 1, the noise criterion for AQ during the day is based on an Leq noise level. The results, shown in **Table 2**, represent the total 15 minute Leq noise level for all noise sources and the relative contributions of each. Levels for the other percentiles are not shown as they have no compliance criteria for comparison but are available on request. The exception is the L1 (1 min) noise level (which is the standard measure of sleep disturbance) which is applicable to noise emissions at night (i.e. between 10 pm and 7 am).

Table 2 Ardglen Quarry Noise Monitoring Results – 26th February 2024 (Day)				
Location	Time	dB(A)_{L_{eq}}	Wind speed/ direction°	Identified Noise Sources
4. Thompson	3:16pm	43	0.5 / 290	Traffic (43), insects (28), AQ (25)
13. McGhie	3:35pm	45	2.2 / 200	Traffic (47), birds (44), insects (26), AQ inaudible
14. Purtell	3:56pm	50	2.4 / 190	Traffic (50), birds (32), insects (25), AQ inaudible
16. Bojba	2:44pm	52	1.7 / 200	Traffic (52), insects (31), AQ inaudible

The results in Table 2 show that, under the meteorological and operating conditions at the time, the noise emissions from AQ were compliant with the relevant noise criteria at all monitoring locations.

At the time of the noise monitoring the following plant items were operational at the quarry;

- 1 x 972 Loader
- 1 x 35t Excavator
- 1 x Isuzu water truck
- 2 x generator
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The noise from AQ was audible and quantifiable at R4. The noise from AQ was not audible at the other monitoring locations.

The results of the noise monitoring programme have shown that AQ is operating within approved noise limits. No actions are recommended with respect to noise management at the Quarry.

UNATTENDED NOISE MEASUREMENTS

The NMP requires that unattended noise logging be undertaken over a period of three days, part of which coincides with the quarterly attended noise monitoring.

To measure the acoustic environment an ARL EL-315 environmental noise logger and an ARL Ngara environmental noise logger, were located as shown in Figure 2 from 26th to 29th February 2024. **Table 3** shows a summary of the relevant measured data from the loggers which is also shown graphically in **Appendix A**.

TABLE 3

Measured Logger Noise Levels dB(A) – 26 th to 29 th February 2024						
Logger Location	Day (7am to 6pm)		Evening (6pm to 10 pm)		Night (10pm to 7am)	
	Leq	L90	Leq	L90	Leq	L90
Logger 1	55	35	54	40	57	38
Logger 2	57	33	56	37	59	39

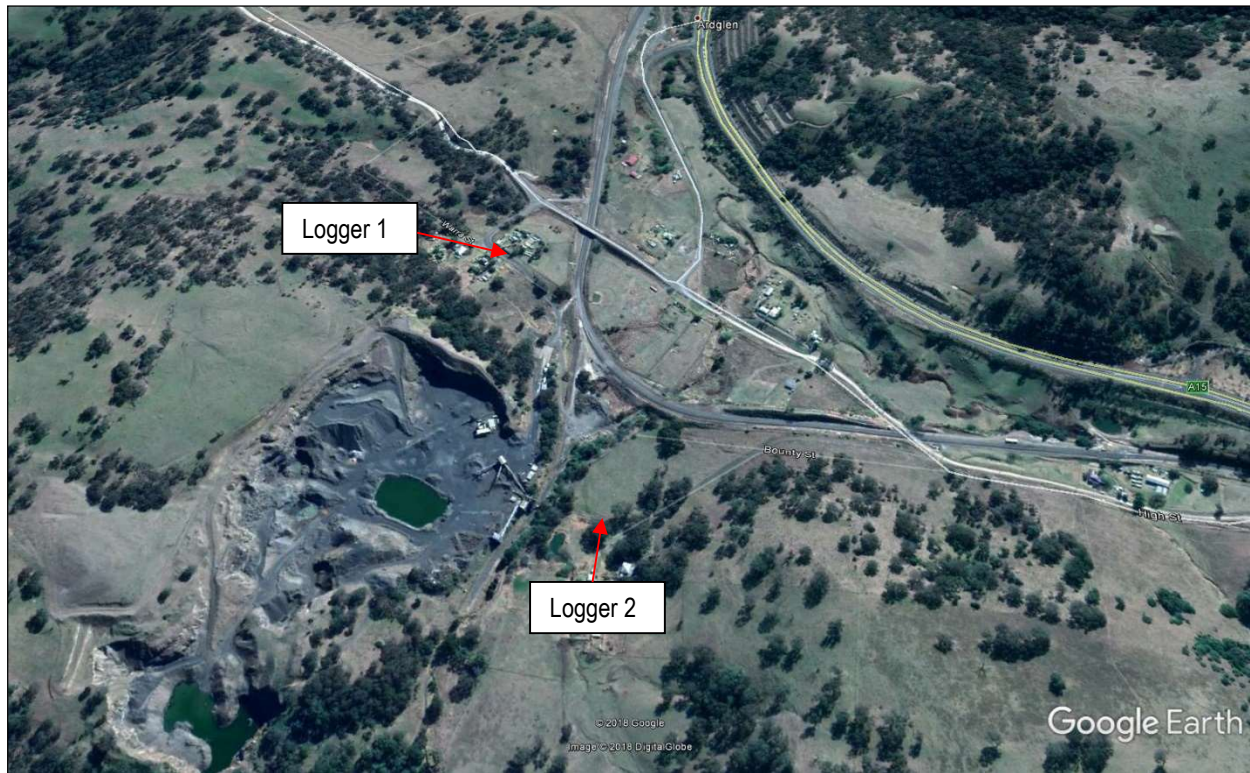


Figure 2 – Unattended Noise Monitoring Locations

The logger locations were chosen to be representative of the acoustic environment of the closest residences to the quarry and for security reasons.

Logger 1 was located on the fence at location R14. This is adjacent to the attended noise monitoring location for this residence.

Logger 2 was in an open paddock north of the house.

The unattended noise loggers measure the total noise level in the environment, but the data cannot discriminate between various noise sources. As such, the data is presented here with no further analysis.

We trust this report fulfils your requirements at this time, however, should you require additional information or assistance please contact the undersigned on 0412 023 455.

Yours faithfully,

SPECTRUM ACOUSTICS PTY LIMITED

Author:

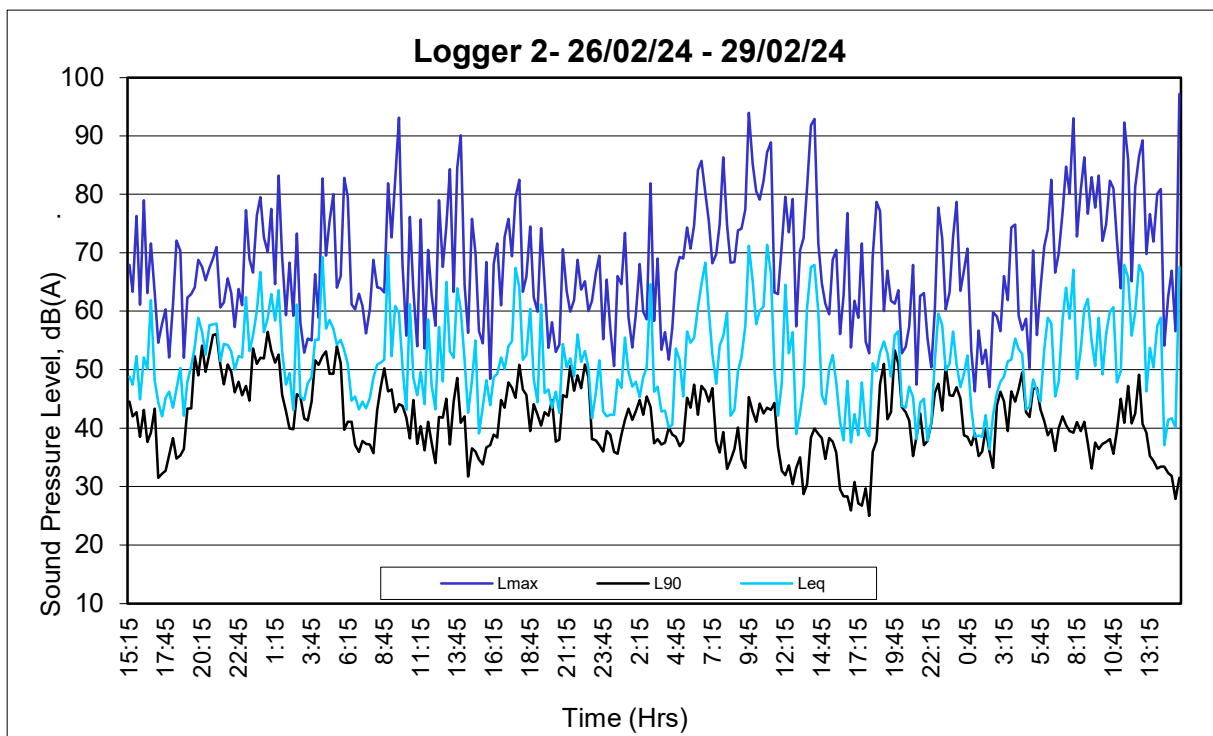
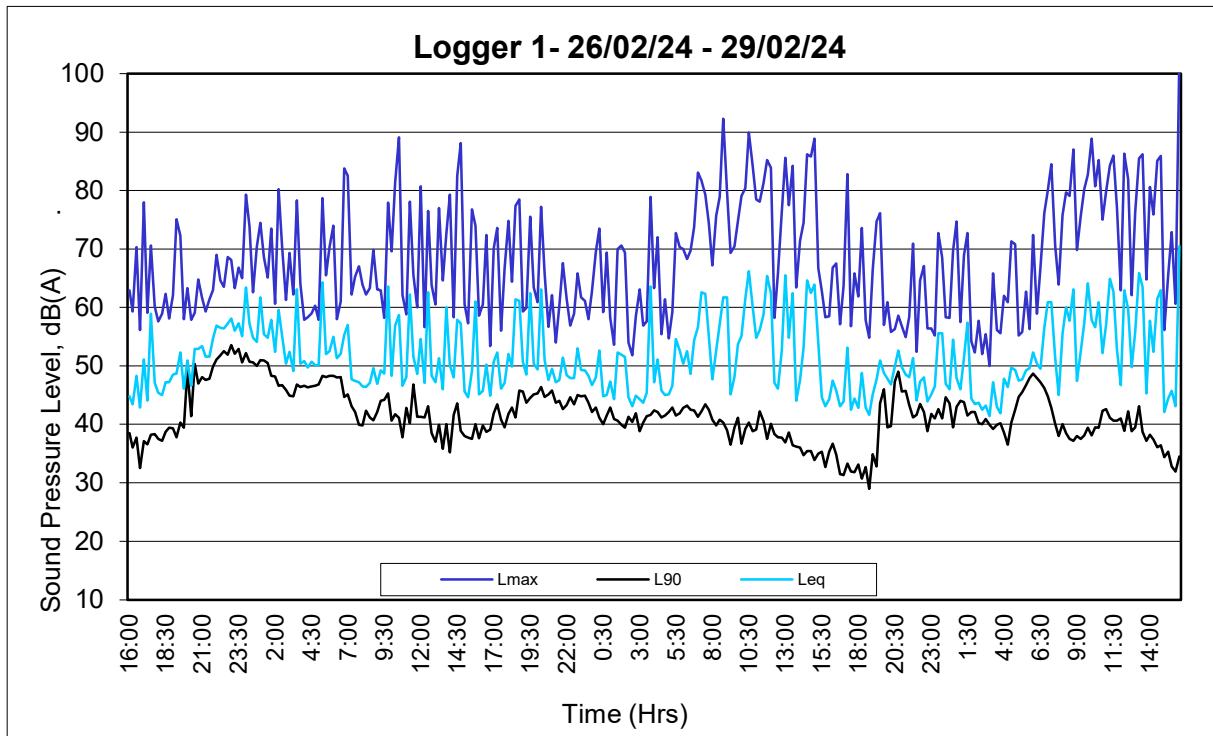


Neil Pennington MAIP, MAAS, MASA

B. Sc., B.Math. (Hons)

Principal / Director

APPENDIX A
NOISE LOGGER CHARTS





16 April 2024

Ref: 10584/10302

Daracon Quarries Pty Ltd
PO Box 299
WALLSEND NSW 2287

RE: MARCH 2024 NOISE MONITORING RESULTS – ARDGLEN QUARRY

This letter report presents the results of attended and unattended noise monitoring conducted for the Ardglenn Quarry (AQ) between Friday 22nd and Monday 25th March, 2024. The monitoring was carried out to measure noise emissions from the operations of the quarry. Noise monitoring was carried out in accordance with the conditions of the AQ Noise Monitoring Plan (NMP) as detailed below.

NOISE CRITERIA

*The Proponent shall ensure that the noise generated by the project does not exceed the noise impact assessment criteria in **Table 1** at any residence on privately-owned land, or more than 25% of any privately owned land.*

Table 1 Noise Impact Assessment Criteria				
Land	Day Leq (15 min)	Evening Leq (15 min)	Night	
			Leq (15 min)	L1 (1 min)
1 Burraston	35	35	35	45
3 Rose	35	35	35	45
4 C M Thompson	44	35	35	45
5 M Taylor	45	35	35	45
6 S Thompson	45	35	35	45
9 Bates	37	35	35	45
10 Avery	38	35	35	45
11 Shipman	37	35	35	45
12 Hall	36	35	35	45
13 McGhie	35	35	35	45
14 Purtell	36	35	35	45
15 J Taylor	43	35	35	45
16 Bojba	40	35	35	45
All other privately owned land	35	35	35	45

However, if the Proponent has a written negotiated noise agreement with any landowner of the land listed in Table 1, and a copy of this agreement has been forwarded to the Department and the DECCW, then the Proponent may exceed the noise limits in Table 1 in accordance with the negotiated agreement. The Proponent may also exceed the L1 (1 min) and Leq (15 min) noise impact criteria during out of hours rail loading activities provided they are conducted in accordance with Section 3, Condition 41 of the Project Approval (which is reproduced below).

41. The Proponent may only load a maximum of 2 trains outside the rail loading and distribution hours listed in Table 1 (of the Project Approval, being Monday to Sunday 7:00am to 10:00pm) in any 12 month period, unless agreed in writing by the Director General.

Notes:

- For information on the numbering and identification of properties used in this approval see Figure 2 on Page 14 of this Noise Monitoring Program).
- To determine compliance with the LAeq (15 minute) noise limits, noise from the project is to be measured at the most affected point on or within the residential boundary, or at the most affected point within 30 metres of a dwelling (rural situations) where the dwelling is more than 30 metres from the boundary. Where it can be demonstrated that direct measurement of noise from the development is impractical, the DECCW may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy). The modification factors in Section 4 of the NSW Industrial Noise Policy shall also be applied to the measured noise levels where applicable.
- To determine compliance with the L1 (1 minute) noise limits, noise from the project is to be measured 1m from the dwelling facade. Where it can be demonstrated that direct measurement of noise from the development is impractical, the DECCW may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy).
- The noise emission limits identified in the above table apply under meteorological conditions of:
 - wind speeds of up to 3 m/s at 10 metres above ground level; or
 - Temperature inversion conditions of up to 3°C/100m, and wind speeds of up to 2 m/s at 10 metres above ground level.

NOISE MONITORING LOCATIONS

Noise measurement locations for the attended noise survey are listed below and shown in the accompanying **Figure 1**:

Location 4: C M Thompson
Location 13: McGhie
Location 14: Purtell
Location 16: Bojba



Figure 1 – Attended Noise Monitoring Locations

ATTENDED NOISE MEASUREMENTS

Noise emission levels were measured with a Brüel & Kjær Type 2250 Precision Sound Analyser. This instrument has Type 1 characteristics as defined in AS1259-1982 “Sound Level Meters”. Calibration of the instrument was confirmed with a Brüel & Kjær Type 4231 Sound Level Calibrator prior to and at the completion of measurements.

Meteorological data used in this report was obtained from a hand held weather station with measurements made at approximately 2m above ground level. The weather throughout the survey was mild with clear skies. The wind speed was moderate and generally from the southeast.

RESULTS OF ATTENDED MONITORING

The measured noise levels, over 1 second intervals, were analysed using Brüel & Kjær “*Evaluator*” software. The software enables the contributions of the quarry and other significant noise sources to the overall to be quantified.

Noise levels were recorded for each of the Leq (15 min), Lmax, L1, L10, L90 and Lmin percentiles. As shown in Table 1, the noise criterion for AQ during the day is based on an Leq noise level. The results, shown in **Table 2**, represent the total 15 minute Leq noise level for all noise sources and the relative contributions of each. Levels for the other percentiles are not shown as they have no compliance criteria for comparison but are available on request. The exception is the L1 (1 min) noise level (which is the standard measure of sleep disturbance) which is applicable to noise emissions at night (i.e. between 10 pm and 7 am).

Table 2 Ardglen Quarry Noise Monitoring Results – 22 nd March 2024 (Day)				
Location	Time	dB(A), _{Leq}	Wind speed/ direction°	Identified Noise Sources
4. Thompson	11:16am	48	5.5 / 120	Traffic (48), birds (34), AQ inaudible
13. McGhie	11:36am	35	5.0 / 125	Traffic (34), birds (29), AQ inaudible
14. Purtell	10:40am	65	5.0 / 120	Traffic (65), train (52), birds (40), AQ (32)¹
16. Bojba	10:18am	61	5.0 / 115	Trains (59), traffic (57), birds (36), AQ inaudible

1. AQ noise from trucks entering front gate.

The results in Table 2 show that, under the meteorological and operating conditions at the time, the noise emissions from AQ were compliant with the relevant noise criteria at all monitoring locations.

At the time of the noise monitoring the following plant items were operational at the quarry;

- 1x 35t Excavator
- 1x 972 Front end loader
- 1x Warrior screen screening rock
- 1x 2" pump running intermittently
- 1x water truck
- 1x Kollar generator
- 1x Kubota generator
- Various truck and dogs carting material.

The noise from AQ was audible and quantifiable at R14. The noise from AQ was not audible at the other monitoring locations.

The results of the noise monitoring programme have shown that AQ is operating within approved noise limits. No actions are recommended with respect to noise management at the Quarry.

UNATTENDED NOISE MEASUREMENTS

The NMP requires that unattended noise logging be undertaken over a period of three days, part of which coincides with the quarterly attended noise monitoring.

To measure the acoustic environment an ARL EL-315 environmental noise logger and an ARL Ngara environmental noise logger, were located as shown in Figure 2 from 22nd to 25th March 2024. **Table 3** shows a summary of the relevant measured data from the loggers which is also shown graphically in **Appendix A**.

TABLE 3 Measured Logger Noise Levels dB(A) – 22 nd to 25 th March 2024						
Logger Location	Day (7am to 6pm)		Evening (6pm to 10 pm)		Night (10pm to 7am)	
	Leq	L90	Leq	L90	Leq	L90
Logger 1	57	33	55	38	57	37
Logger 2	58	32	59	35	60	33

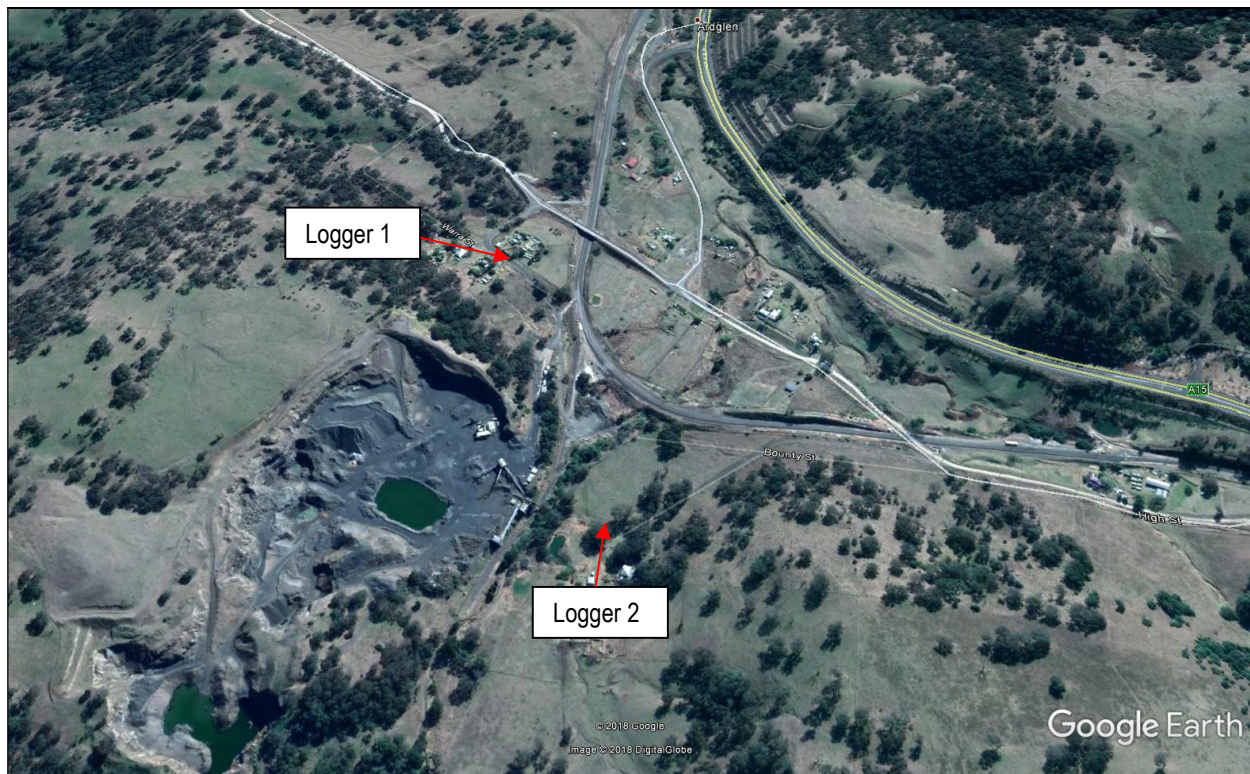


Figure 2 – Unattended Noise Monitoring Locations

The logger locations were chosen to be representative of the acoustic environment of the closest residences to the quarry and for security reasons.

Logger 1 was located on the fence at location R14. This is adjacent to the attended noise monitoring location for this residence.

Logger 2 was in an open paddock north of the house.

The unattended noise loggers measure the total noise level in the environment, but the data cannot discriminate between various noise sources. As such, the data is presented here with no further analysis.

We trust this report fulfils your requirements at this time, however, should you require additional information or assistance please contact the undersigned on 0412 023 455.

Yours faithfully,

SPECTRUM ACOUSTICS PTY LIMITED

Author:

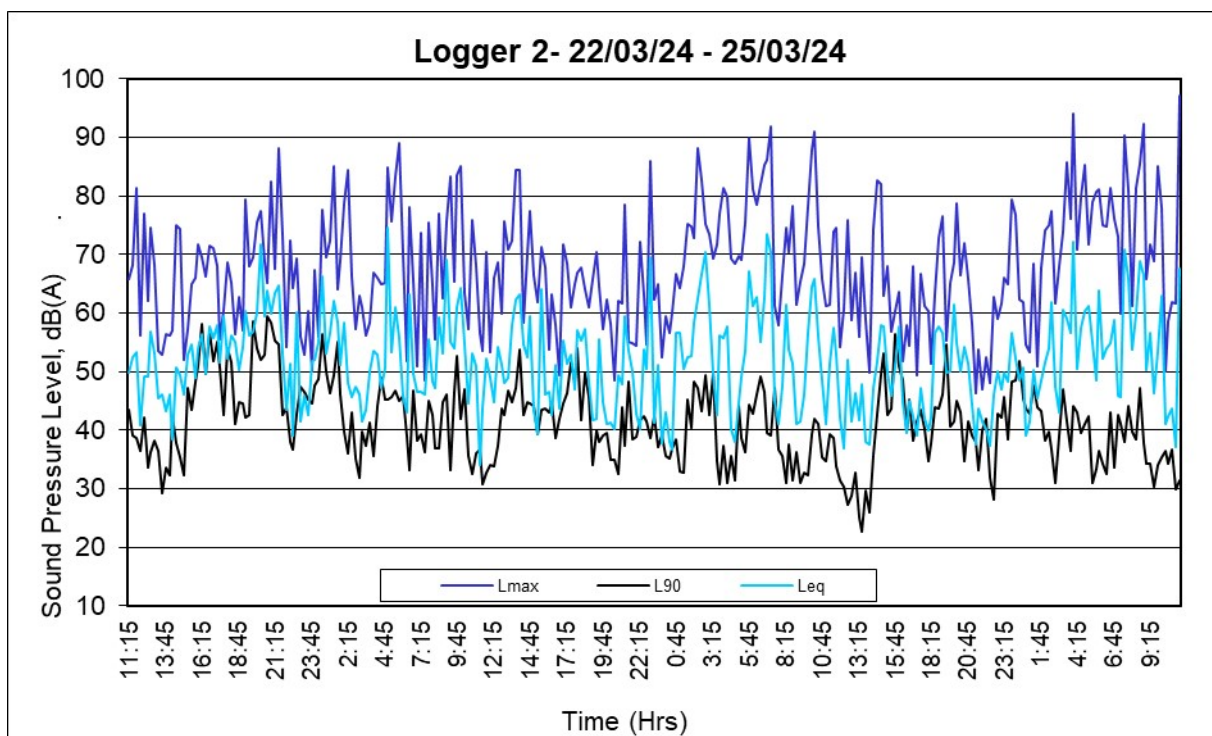
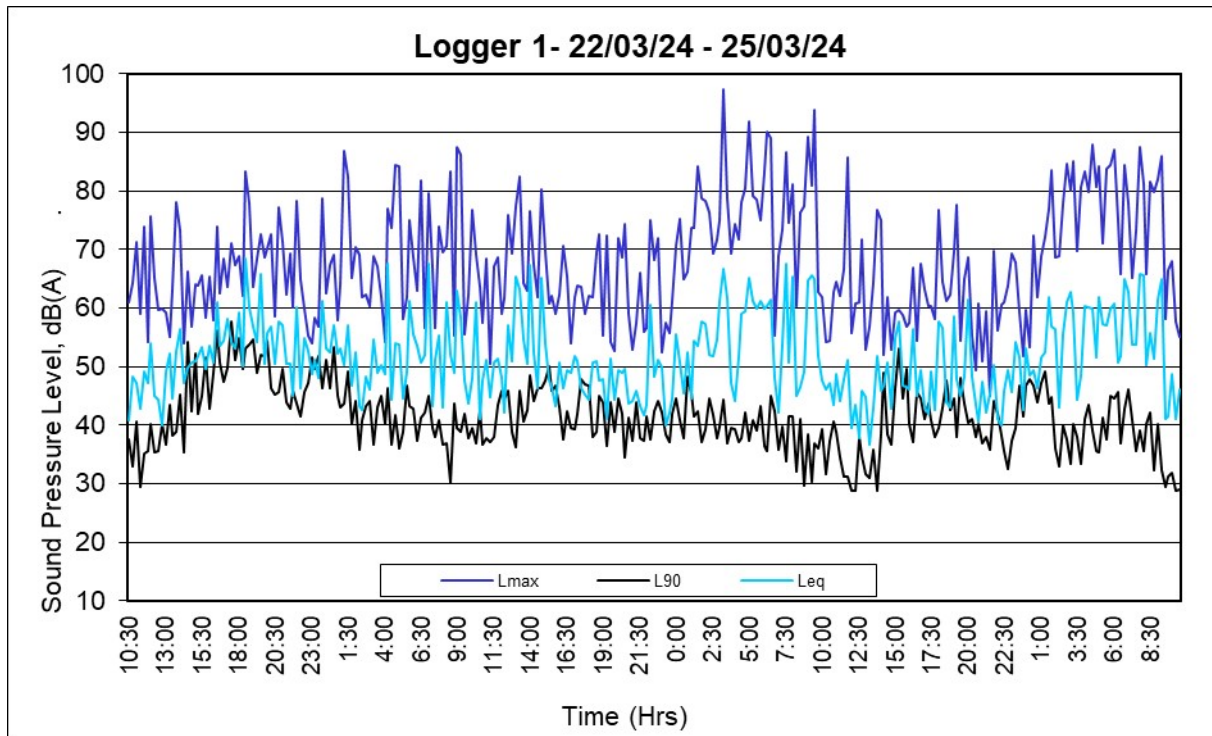


Neil Pennington MAIP, MAAS, MASA

B. Sc., B.Math. (Hons)

Principal / Director

APPENDIX A
NOISE LOGGER CHARTS





1 May 2024

Ref: 10584/10321

Daracon Quarries Pty Ltd
PO Box 299
WALLSEND NSW 2287

RE: APRIL 2024 NOISE MONITORING RESULTS – ARDGLEN QUARRY

This letter report presents the results of attended and unattended noise monitoring conducted for the Ardglen Quarry (AQ) between Friday 19nd and Monday 22nd April, 2024. The monitoring was carried out to measure noise emissions from the operations of the quarry. Noise monitoring was carried out in accordance with the conditions of the AQ Noise Monitoring Plan (NMP) as detailed below.

NOISE CRITERIA

*The Proponent shall ensure that the noise generated by the project does not exceed the noise impact assessment criteria in **Table 1** at any residence on privately-owned land, or more than 25% of any privately owned land.*

Table 1 Noise Impact Assessment Criteria				
Land	Day Leq (15 min)	Evening Leq (15 min)	Night	
			Leq (15 min)	L1 (1 min)
1 Burraston	35	35	35	45
3 Rose	35	35	35	45
4 C M Thompson	44	35	35	45
5 M Taylor	45	35	35	45
6 S Thompson	45	35	35	45
9 Bates	37	35	35	45
10 Avery	38	35	35	45
11 Shipman	37	35	35	45
12 Hall	36	35	35	45
13 McGhie	35	35	35	45
14 Purtell	36	35	35	45
15 J Taylor	43	35	35	45
16 Bojba	40	35	35	45
All other privately owned land	35	35	35	45

However, if the Proponent has a written negotiated noise agreement with any landowner of the land listed in Table 1, and a copy of this agreement has been forwarded to the Department and the DECCW, then the Proponent may exceed the noise limits in Table 1 in accordance with the negotiated agreement. The Proponent may also exceed the L1 (1 min) and Leq (15 min) noise impact criteria during out of hours rail loading activities provided they are conducted in accordance with Section 3, Condition 41 of the Project Approval (which is reproduced below).

41. The Proponent may only load a maximum of 2 trains outside the rail loading and distribution hours listed in Table 1 (of the Project Approval, being Monday to Sunday 7:00am to 10:00pm) in any 12 month period, unless agreed in writing by the Director General.

Notes:

- For information on the numbering and identification of properties used in this approval see Figure 2 on Page 14 of this Noise Monitoring Program).
- To determine compliance with the LAeq (15 minute) noise limits, noise from the project is to be measured at the most affected point on or within the residential boundary, or at the most affected point within 30 metres of a dwelling (rural situations) where the dwelling is more than 30 metres from the boundary. Where it can be demonstrated that direct measurement of noise from the development is impractical, the DECCW may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy). The modification factors in Section 4 of the NSW Industrial Noise Policy shall also be applied to the measured noise levels where applicable.
- To determine compliance with the L1 (1 minute) noise limits, noise from the project is to be measured 1m from the dwelling facade. Where it can be demonstrated that direct measurement of noise from the development is impractical, the DECCW may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy).
- The noise emission limits identified in the above table apply under meteorological conditions of:
 - wind speeds of up to 3 m/s at 10 metres above ground level; or
 - Temperature inversion conditions of up to 3°C/100m, and wind speeds of up to 2 m/s at 10 metres above ground level.

NOISE MONITORING LOCATIONS

Noise measurement locations for the attended noise survey are listed below and shown in the accompanying **Figure 1**:

Location 4: C M Thompson
Location 13: McGhie
Location 14: Purtell
Location 16: Bojba



Figure 1 – Attended Noise Monitoring Locations

ATTENDED NOISE MEASUREMENTS

Noise emission levels were measured with a Brüel & Kjær Type 2250 Precision Sound Analyser. This instrument has Type 1 characteristics as defined in AS1259-1982 “Sound Level Meters”. Calibration of the instrument was confirmed with a Brüel & Kjær Type 4231 Sound Level Calibrator prior to and at the completion of measurements.

Meteorological data used in this report was obtained from a hand held weather station with measurements made at approximately 2m above ground level. The weather throughout the survey was mild with clear skies. The wind speed was moderate and generally from the northwest.

RESULTS OF ATTENDED MONITORING

The measured noise levels, over 1 second intervals, were analysed using Brüel & Kjær “*Evaluator*” software. The software enables the contributions of the quarry and other significant noise sources to the overall to be quantified.

Noise levels were recorded for each of the Leq (15 min), Lmax, L1, L10, L90 and Lmin percentiles. As shown in Table 1, the noise criterion for AQ during the day is based on an Leq noise level. The results, shown in **Table 2**, represent the total 15 minute Leq noise level for all noise sources and the relative contributions of each. Levels for the other percentiles are not shown as they have no compliance criteria for comparison but are available on request. The exception is the L1 (1 min) noise level (which is the standard measure of sleep disturbance) which is applicable to noise emissions at night (i.e. between 10 pm and 7 am).

Table 2 Ardglen Quarry Noise Monitoring Results – 19 th April 2024 (Day)				
Location	Time	dB(A), _{L_{eq}}	Wind speed/ direction°	Identified Noise Sources
4. Thompson	2:01pm	48	0.8 / 310	Traffic (48), birds (33), AQ (24)
13. McGhie	2:32pm	44	1.5 / 285	Traffic (43), dogs (35), insects (27), AQ barely audible
14. Purtell	2:52pm	45	2.0 / 300	Train (43), traffic (38), birds (37), AQ (29)
16. Bojba	1:43pm	58	0.8 / 300	Traffic (58), birds (24), AQ inaudible

The results in Table 2 show that, under the meteorological and operating conditions at the time, the noise emissions from AQ were compliant with the relevant noise criteria at all monitoring locations.

At the time of the noise monitoring the following plant items were operational at the quarry;

- 1x 35t Volvo Excavator
- 1x Cat 972 loader
- 1x Metso LT 106 jaw crusher, crushing basalt rock
- 1x LT 2200 cone screen working in conjunction with jaw
- 2 x generators
- 1x isuzu water truck running intermittently
- 1x Kohla 3" pump running intermittently
- 4x Various truck and dogs carting material

The noise from AQ was audible and quantifiable at R14, and R4. The noise from AQ was audible at R13 but not loud enough to be quantifiable. AQ was not audible at monitoring location R16.

The results of the noise monitoring programme have shown that AQ is operating within approved noise limits. No actions are recommended with respect to noise management at the Quarry.

UNATTENDED NOISE MEASUREMENTS

The NMP requires that unattended noise logging be undertaken over a period of three days, part of which coincides with the quarterly attended noise monitoring.

To measure the acoustic environment an ARL EL-315 environmental noise logger and an ARL Ngara environmental noise logger, were located as shown in Figure 2 from 19th to 22nd April 2024. **Table 3** shows a summary of the relevant measured data from the loggers which is also shown graphically in **Appendix A**.

TABLE 3 Measured Logger Noise Levels dB(A) – 19 th to 22 nd April 2024						
Logger Location	Day (7am to 6pm)		Evening (6pm to 10 pm)		Night (10pm to 7am)	
	Leq	L90	Leq	L90	Leq	L90
Logger 1	58	32	57	36	59	36
Logger 2	60	32	58	33	59	32



Figure 2 – Unattended Noise Monitoring Locations

The logger locations were chosen to be representative of the acoustic environment of the closest residences to the quarry and for security reasons.

Logger 1 was located on the fence at location R14. This is adjacent to the attended noise monitoring location for this residence.

Logger 2 was in an open paddock north of the house.

The unattended noise loggers measure the total noise level in the environment, but the data cannot discriminate between various noise sources. As such, the data is presented here with no further analysis.

We trust this report fulfils your requirements at this time, however, should you require additional information or assistance please contact the undersigned on 0412 023 455.

Yours faithfully,

SPECTRUM ACOUSTICS PTY LIMITED

Author:

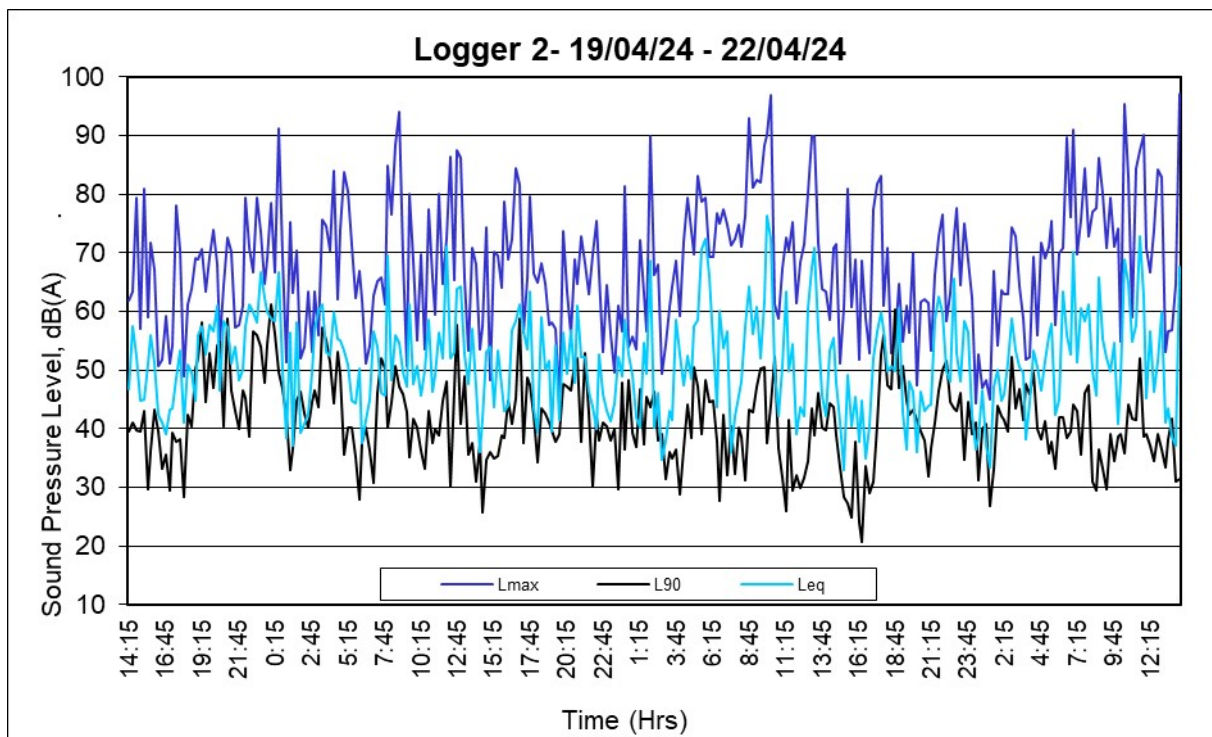
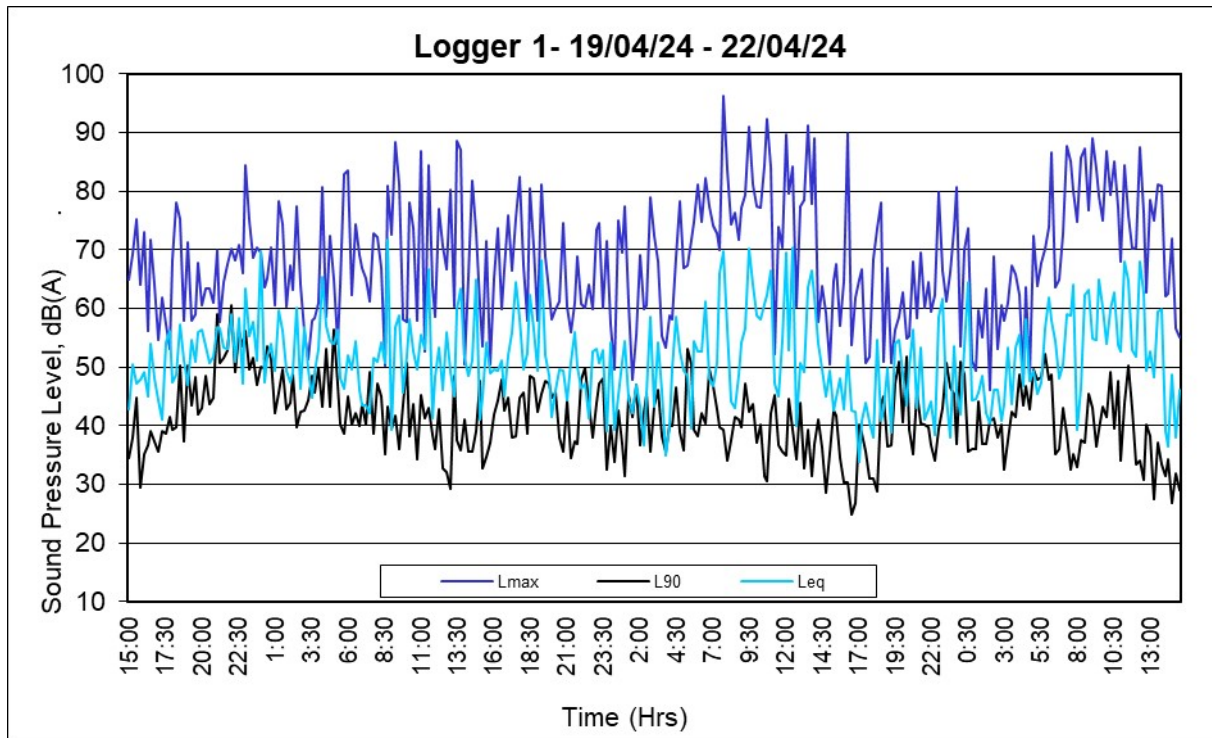


Neil Pennington MAIP, MAAS, MASA

B. Sc., B.Math. (Hons)

Principal / Director

APPENDIX A
NOISE LOGGER CHARTS





21 June 2024

Ref: 10584/10371

Daracon Quarries Pty Ltd
PO Box 299
WALLSEND NSW 2287

RE: MAY 2024 NOISE MONITORING RESULTS – ARDGLEN QUARRY

This letter report presents the results of attended and unattended noise monitoring conducted for the Ardglenn Quarry (AQ) between Tuesday 14th and Friday 17th May, 2024. The monitoring was carried out to measure noise emissions from the operations of the quarry. Noise monitoring was carried out in accordance with the conditions of the AQ Noise Monitoring Plan (NMP) as detailed below.

NOISE CRITERIA

*The Proponent shall ensure that the noise generated by the project does not exceed the noise impact assessment criteria in **Table 1** at any residence on privately-owned land, or more than 25% of any privately owned land.*

Table 1 Noise Impact Assessment Criteria				
Land	Day Leq (15 min)	Evening Leq (15 min)	Night	
			Leq (15 min)	L1 (1 min)
1 Burraston	35	35	35	45
3 Rose	35	35	35	45
4 C M Thompson	44	35	35	45
5 M Taylor	45	35	35	45
6 S Thompson	45	35	35	45
9 Bates	37	35	35	45
10 Avery	38	35	35	45
11 Shipman	37	35	35	45
12 Hall	36	35	35	45
13 McGhie	35	35	35	45
14 Purtell	36	35	35	45
15 J Taylor	43	35	35	45
16 Bojba	40	35	35	45
All other privately owned land	35	35	35	45

However, if the Proponent has a written negotiated noise agreement with any landowner of the land listed in Table 1, and a copy of this agreement has been forwarded to the Department and the DECCW, then the Proponent may exceed the noise limits in Table 1 in accordance with the negotiated agreement. The Proponent may also exceed the L1 (1 min) and Leq (15 min) noise impact criteria during out of hours rail loading activities provided they are conducted in accordance with Section 3, Condition 41 of the Project Approval (which is reproduced below).

41. The Proponent may only load a maximum of 2 trains outside the rail loading and distribution hours listed in Table 1 (of the Project Approval, being Monday to Sunday 7:00am to 10:00pm) in any 12 month period, unless agreed in writing by the Director General.

Notes:

- For information on the numbering and identification of properties used in this approval see Figure 2 on Page 14 of this Noise Monitoring Program).
- To determine compliance with the LAeq (15 minute) noise limits, noise from the project is to be measured at the most affected point on or within the residential boundary, or at the most affected point within 30 metres of a dwelling (rural situations) where the dwelling is more than 30 metres from the boundary. Where it can be demonstrated that direct measurement of noise from the development is impractical, the DECCW may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy). The modification factors in Section 4 of the NSW Industrial Noise Policy shall also be applied to the measured noise levels where applicable.
- To determine compliance with the L1 (1 minute) noise limits, noise from the project is to be measured 1m from the dwelling facade. Where it can be demonstrated that direct measurement of noise from the development is impractical, the DECCW may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy).
- The noise emission limits identified in the above table apply under meteorological conditions of:
 - wind speeds of up to 3 m/s at 10 metres above ground level; or
 - Temperature inversion conditions of up to 3°C/100m, and wind speeds of up to 2 m/s at 10 metres above ground level.

NOISE MONITORING LOCATIONS

Noise measurement locations for the attended noise survey are listed below and shown in the accompanying **Figure 1**:

Location 4: C M Thompson
Location 13: McGhie
Location 14: Purtell
Location 16: Bojba



Figure 1 – Attended Noise Monitoring Locations

ATTENDED NOISE MEASUREMENTS

Noise emission levels were measured with a Brüel & Kjær Type 2250 Precision Sound Analyser. This instrument has Type 1 characteristics as defined in AS1259-1982 “Sound Level Meters”. Calibration of the instrument was confirmed with a Brüel & Kjær Type 4231 Sound Level Calibrator prior to and at the completion of measurements.

Meteorological data used in this report was obtained from a hand held weather station with measurements made at approximately 2m above ground level. The weather throughout the survey was mild with cloudy skies. The wind speed was light to moderate and generally from the northwest.

RESULTS OF ATTENDED MONITORING

The measured noise levels, over 1 second intervals, were analysed using Brüel & Kjær “*Evaluator*” software. The software enables the contributions of the quarry and other significant noise sources to the overall to be quantified.

Noise levels were recorded for each of the Leq (15 min), Lmax, L1, L10, L90 and Lmin percentiles. As shown in Table 1, the noise criterion for AQ during the day is based on an Leq noise level. The results, shown in **Table 2**, represent the total 15 minute Leq noise level for all noise sources and the relative contributions of each. Levels for the other percentiles are not shown as they have no compliance criteria for comparison but are available on request. The exception is the L1 (1 min) noise level (which is the standard measure of sleep disturbance) which is applicable to noise emissions at night (i.e. between 10 pm and 7 am).

Table 2 Ardglen Quarry Noise Monitoring Results – 17 th May 2024 (Day)				
Location	Time	dB(A), _{Leq}	Wind speed/ direction°	Identified Noise Sources
4. Thompson	12:01pm	45	3.0 / 330	Traffic (45), birds (25), AQ inaudible
13. McGhie	12:42pm	39	3.0 / 280	Dog (38), traffic (32), birds (23), AQ inaudible
14. Purtell	12:23pm	42	2.0 / 345	Traffic (41), birds (33), AQ inaudible
16. Bojba	11:40am	53	3.5 / 300	Traffic (53), birds (28), AQ inaudible

The results in Table 2 show that, under the meteorological and operating conditions at the time, the noise emissions from AQ were inaudible at all monitoring locations.

At the time of the noise monitoring the following plant items were operational at the quarry;

- Truck and dog carting material
- Rigid truck carting material
- 1x Caterpillar 972 Loader
- 1x Caterpillar 14t excavator
- 1x Water truck
- 1x Kohler generator
- 1x Kobota generator
- 1x Kohler 3" water pump running intermittently

The noise from AQ was not audible or quantifiable at any of the monitoring locations.

The results of the noise monitoring programme have shown that AQ is operating within approved noise limits. No actions are recommended with respect to noise management at the Quarry.

UNATTENDED NOISE MEASUREMENTS

The NMP requires that unattended noise logging be undertaken over a period of three days, part of which coincides with the quarterly attended noise monitoring.

To measure the acoustic environment an ARL EL-315 environmental noise logger and an ARL Ngara environmental noise logger, were located as shown in Figure 2 from 14th to 17th May 2024. **Table 3** shows a summary of the relevant measured data from the loggers which is also shown graphically in **Appendix A**.

TABLE 3 Measured Logger Noise Levels dB(A) – 14 th to 17 th May 2024						
Logger Location	Day (7am to 6pm)		Evening (6pm to 10 pm)		Night (10pm to 7am)	
	Leq	L90	Leq	L90	Leq	L90
Logger 1	59	30	59	34	59	38
Logger 2	60	32	59	35	59	33

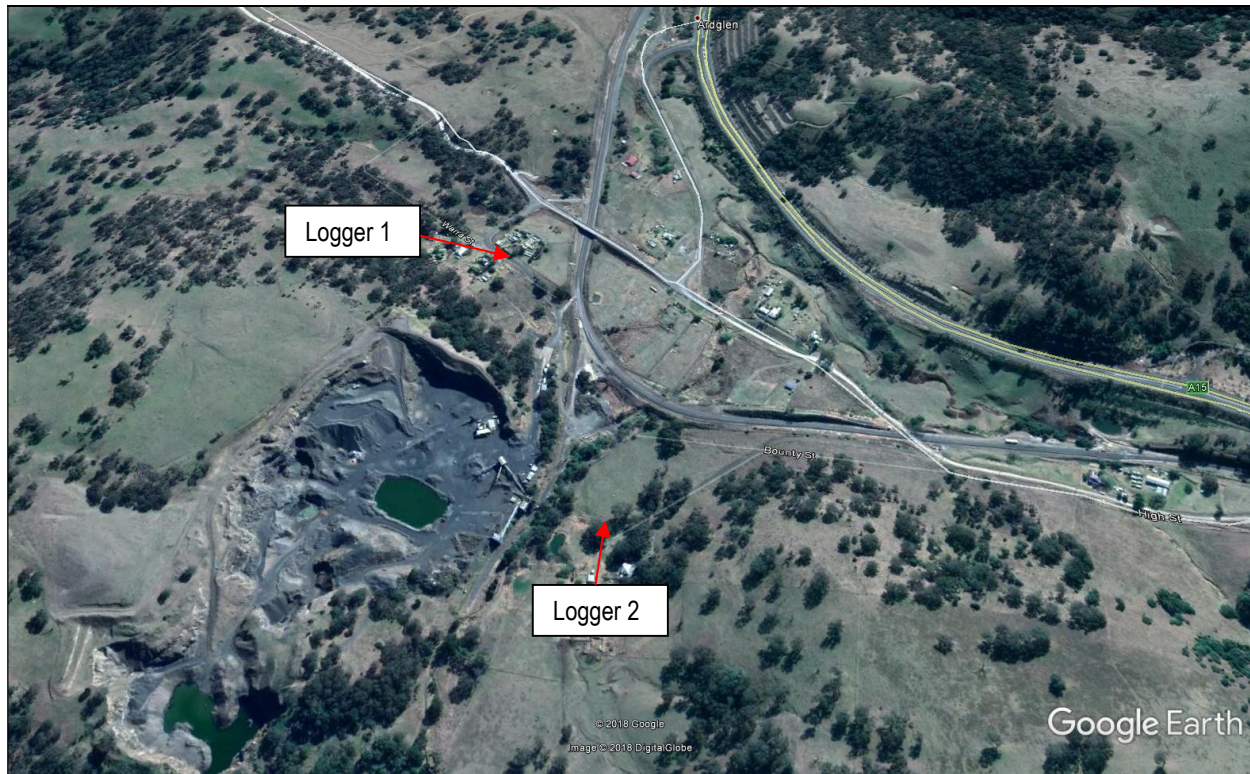


Figure 2 – Unattended Noise Monitoring Locations

The logger locations were chosen to be representative of the acoustic environment of the closest residences to the quarry and for security reasons.

Logger 1 was located on the fence at location R14. This is adjacent to the attended noise monitoring location for this residence.

Logger 2 was in an open paddock north of the house.

The unattended noise loggers measure the total noise level in the environment, but the data cannot discriminate between various noise sources. As such, the data is presented here with no further analysis.

We trust this report fulfils your requirements at this time, however, should you require additional information or assistance please contact the undersigned on 4954 2276.

Yours faithfully,

SPECTRUM ACOUSTICS PTY LIMITED

Author:

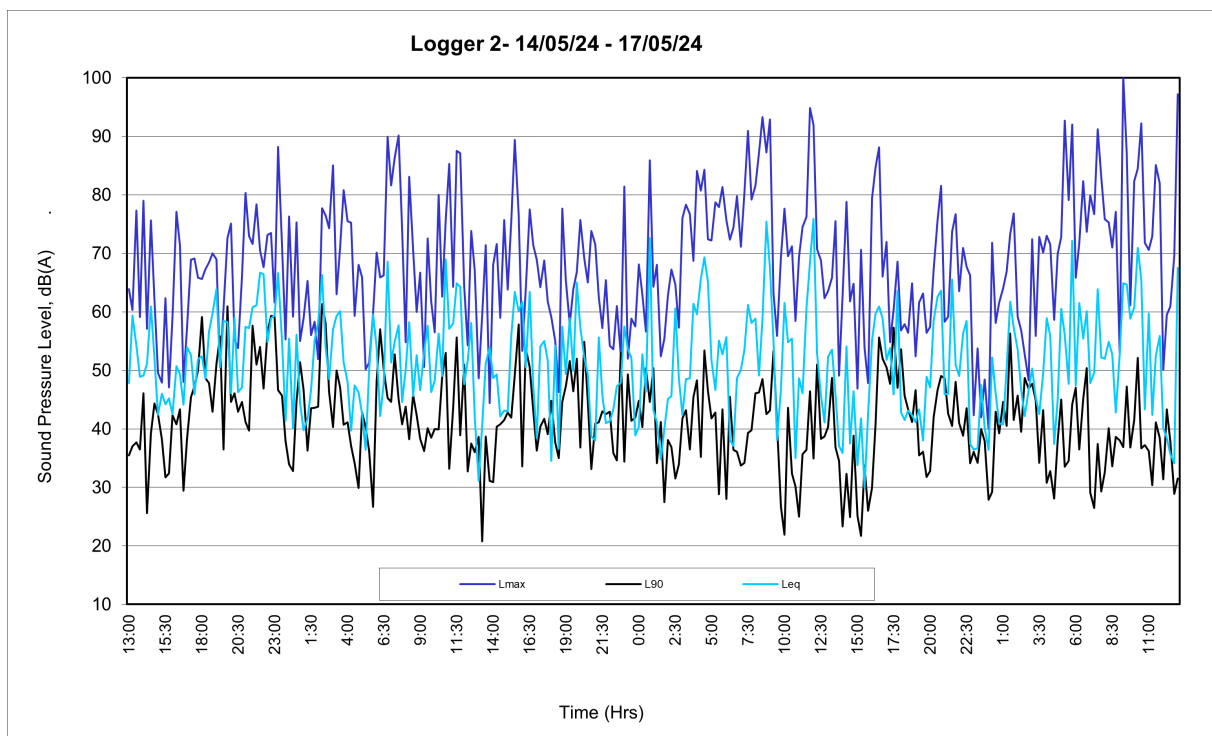
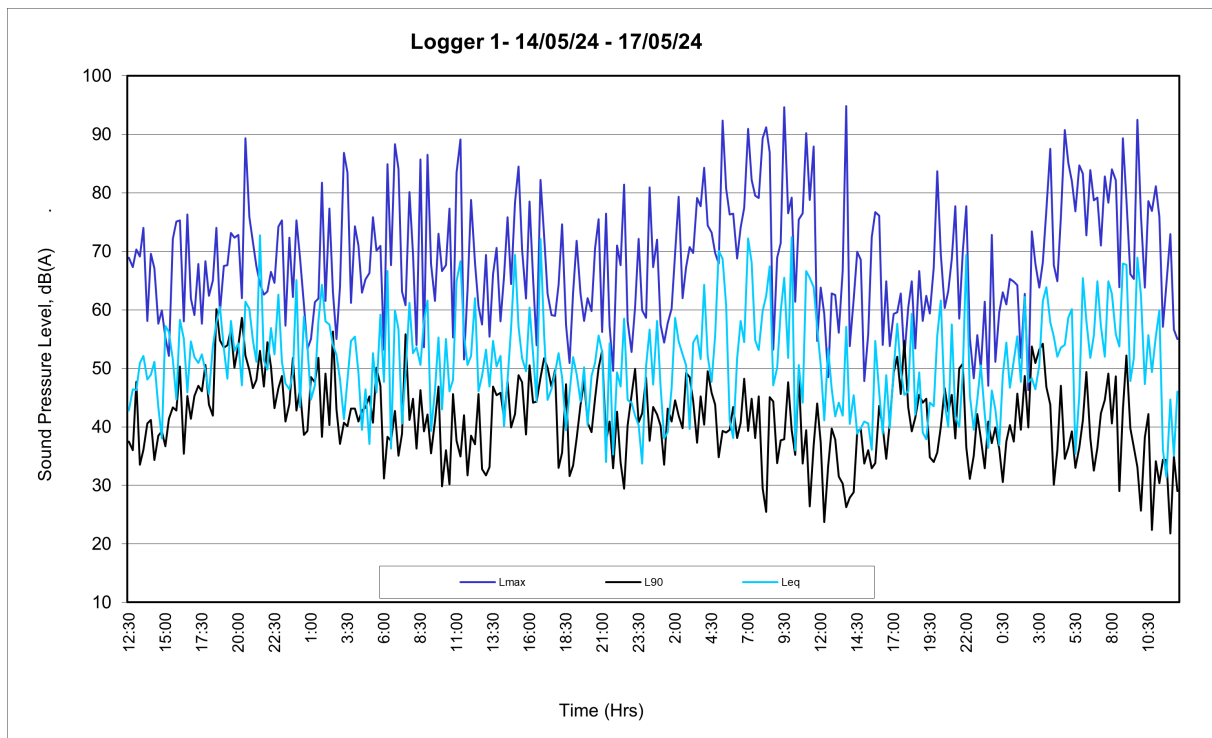


Neil Pennington MAIP, MAAS, MASA

B. Sc., B.Math. (Hons)

Principal / Director

APPENDIX A NOISE LOGGER CHARTS





16 July 2024

Ref: 10584/10411

Daracon Quarries Pty Ltd
PO Box 299
WALLSEND NSW 2287

RE: JUNE 2024 NOISE MONITORING RESULTS – ARDGLEN QUARRY

This letter report presents the results of attended and unattended noise monitoring conducted for the Ardglenn Quarry (AQ) between Monday 17th and Thursday 20th June, 2024. The monitoring was carried out to measure noise emissions from the operations of the quarry. Noise monitoring was carried out in accordance with the conditions of the AQ Noise Monitoring Plan (NMP) as detailed below.

NOISE CRITERIA

*The Proponent shall ensure that the noise generated by the project does not exceed the noise impact assessment criteria in **Table 1** at any residence on privately-owned land, or more than 25% of any privately owned land.*

Table 1				
Noise Impact Assessment Criteria				
Land	Day Leq (15 min)	Evening Leq (15 min)	Night	
			Leq (15 min)	L1 (1 min)
1 Burraston	35	35	35	45
3 Rose	35	35	35	45
4 C M Thompson	44	35	35	45
5 M Taylor	45	35	35	45
6 S Thompson	45	35	35	45
9 Bates	37	35	35	45
10 Avery	38	35	35	45
11 Shipman	37	35	35	45
12 Hall	36	35	35	45
13 McGhie	35	35	35	45
14 Purtell	36	35	35	45
15 J Taylor	43	35	35	45
16 Bojba	40	35	35	45
All other privately owned land	35	35	35	45

However, if the Proponent has a written negotiated noise agreement with any landowner of the land listed in Table 1, and a copy of this agreement has been forwarded to the Department and the DECCW, then the Proponent may exceed the noise limits in Table 1 in accordance with the negotiated agreement. The Proponent may also exceed the L1 (1 min) and Leq (15 min) noise impact criteria during out of hours rail loading activities provided they are conducted in accordance with Section 3, Condition 41 of the Project Approval (which is reproduced below).

41. The Proponent may only load a maximum of 2 trains outside the rail loading and distribution hours listed in Table 1 (of the Project Approval, being Monday to Sunday 7:00am to 10:00pm) in any 12 month period, unless agreed in writing by the Director General.

Notes:

- For information on the numbering and identification of properties used in this approval see Figure 2 on Page 14 of this Noise Monitoring Program).
- To determine compliance with the LAeq (15 minute) noise limits, noise from the project is to be measured at the most affected point on or within the residential boundary, or at the most affected point within 30 metres of a dwelling (rural situations) where the dwelling is more than 30 metres from the boundary. Where it can be demonstrated that direct measurement of noise from the development is impractical, the DECCW may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy). The modification factors in Section 4 of the NSW Industrial Noise Policy shall also be applied to the measured noise levels where applicable.
- To determine compliance with the L1 (1 minute) noise limits, noise from the project is to be measured 1m from the dwelling facade. Where it can be demonstrated that direct measurement of noise from the development is impractical, the DECCW may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy).
- The noise emission limits identified in the above table apply under meteorological conditions of:
 - wind speeds of up to 3 m/s at 10 metres above ground level; or
 - Temperature inversion conditions of up to 3°C/100m, and wind speeds of up to 2 m/s at 10 metres above ground level.

NOISE MONITORING LOCATIONS

Noise measurement locations for the attended noise survey are listed below and shown in the accompanying **Figure 1**:

Location 4: C M Thompson
Location 13: McGhie
Location 14: Purtell
Location 16: Bojba



Figure 1 – Attended Noise Monitoring Locations

ATTENDED NOISE MEASUREMENTS

Noise emission levels were measured with a Brüel & Kjær Type 2250 Precision Sound Analyser. This instrument has Type 1 characteristics as defined in AS1259-1982 “Sound Level Meters”. Calibration of the instrument was confirmed with a Brüel & Kjær Type 4231 Sound Level Calibrator prior to and at the completion of measurements.

Meteorological data used in this report was obtained from a hand held weather station with measurements made at approximately 2m above ground level. The weather throughout the survey was mild with cloudy skies. The wind speed was moderate and generally from the northwest.

RESULTS OF ATTENDED MONITORING

The measured noise levels, over 1 second intervals, were analysed using Brüel & Kjær “*Evaluator*” software. The software enables the contributions of the quarry and other significant noise sources to the overall to be quantified.

Noise levels were recorded for each of the Leq (15 min), Lmax, L1, L10, L90 and Lmin percentiles. As shown in Table 1, the noise criterion for AQ during the day is based on an Leq noise level. The results, shown in **Table 2**, represent the total 15 minute Leq noise level for all noise sources and the relative contributions of each. Levels for the other percentiles are not shown as they have no compliance criteria for comparison but are available on request. The exception is the L1 (1 min) noise level (which is the standard measure of sleep disturbance) which is applicable to noise emissions at night (i.e. between 10 pm and 7 am).

Table 2 Ardglen Quarry Noise Monitoring Results – 20 th June 2024 (Day)				
Location	Time	dB(A), _{Leq}	Wind speed/ direction°	Identified Noise Sources
4. Thompson	1:05pm	57	4.0 / 350	Train (56), traffic (51), birds (34), AQ inaudible
13. McGhie	1:56pm	49	4.5 / 340	Traffic (49), dog (37), birds (25), AQ inaudible
14. Purtell	1:36pm	43	4.0 / 340	Traffic (42), train (34), birds (26), AQ inaudible
16. Bojba	12:47pm	55	4.5 / 350	Traffic (55), birds (27), AQ inaudible

The results in Table 2 show that, under the meteorological and operating conditions at the time, the noise emissions from AQ were inaudible at all monitoring locations.

At the time of the noise monitoring the following plant items were operational at the quarry;

- 1x Kobota generator
- 1x Kohla generator
- 1x Caterpillar 972 front end loader
- 1x Caterpillar 740 dump truck
- 1x Volvo 35t excavator
- 1x truck and dog carting multiple loads
- 1x Isuzu water truck
- 1x Kohla 3" water pump running intermittently

The noise from AQ was not audible or quantifiable at any of the monitoring locations.

The results of the noise monitoring programme have shown that AQ is operating within approved noise limits. No actions are recommended with respect to noise management at the Quarry.

UNATTENDED NOISE MEASUREMENTS

The NMP requires that unattended noise logging be undertaken over a period of three days, part of which coincides with the attended noise monitoring.

To measure the acoustic environment an ARL EL-315 environmental noise logger and an ARL Ngara environmental noise logger, were located as shown in Figure 2 from 17th to 20th June 2024. **Table 3** shows a summary of the relevant measured data from the loggers which is also shown graphically in **Appendix A**.

TABLE 3 Measured Logger Noise Levels dB(A) – 17 th to 20 th June 2024						
Logger Location	Day (7am to 6pm)		Evening (6pm to 10 pm)		Night (10pm to 7am)	
	Leq	L90	Leq	L90	Leq	L90
Logger 1	59	29	59	35	60	36
Logger 2	60	32	59	37	60	33

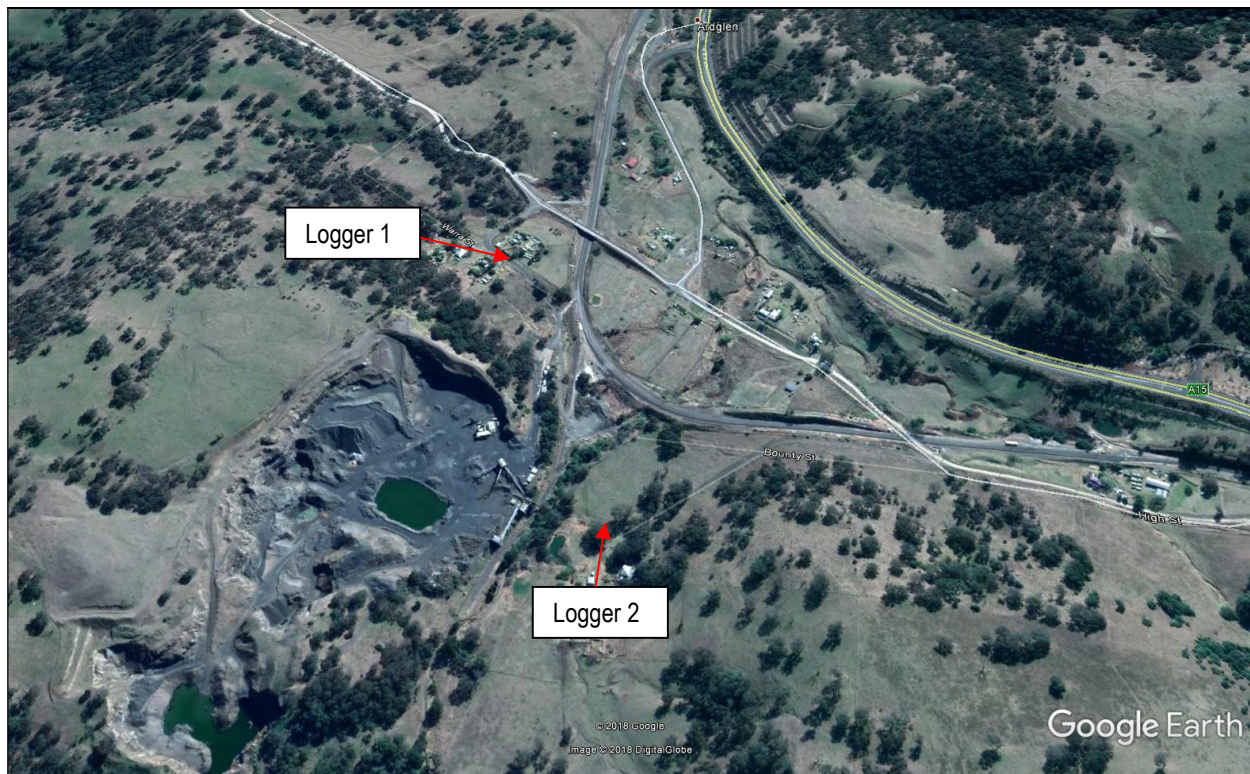


Figure 2 – Unattended Noise Monitoring Locations

The logger locations were chosen to be representative of the acoustic environment of the closest residences to the quarry and for security reasons.

Logger 1 was located on the fence at location R14. This is adjacent to the attended noise monitoring location for this residence.

Logger 2 was in an open paddock north of the house.

The unattended noise loggers measure the total noise level in the environment, but the data cannot discriminate between various noise sources. As such, the data is presented here with no further analysis.

We trust this report fulfils your requirements at this time, however, should you require additional information or assistance please contact the undersigned on 4954 2276.

Yours faithfully,

SPECTRUM ACOUSTICS PTY LIMITED

Author:

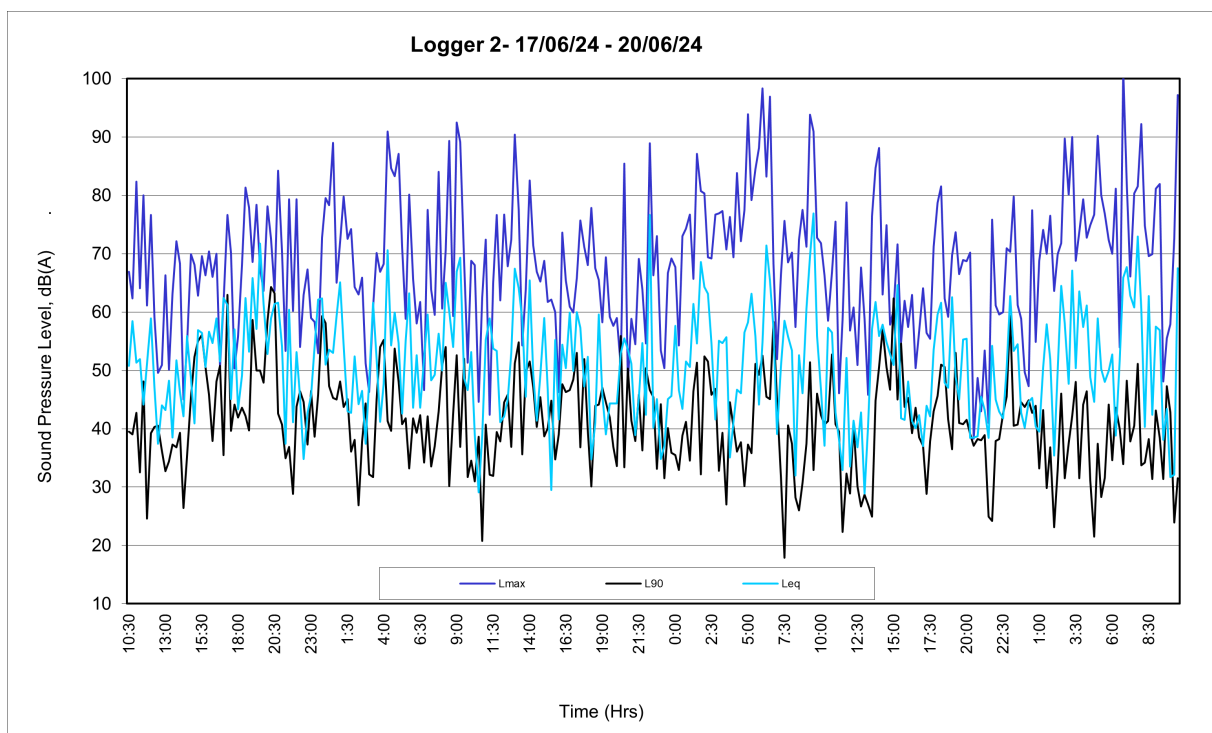
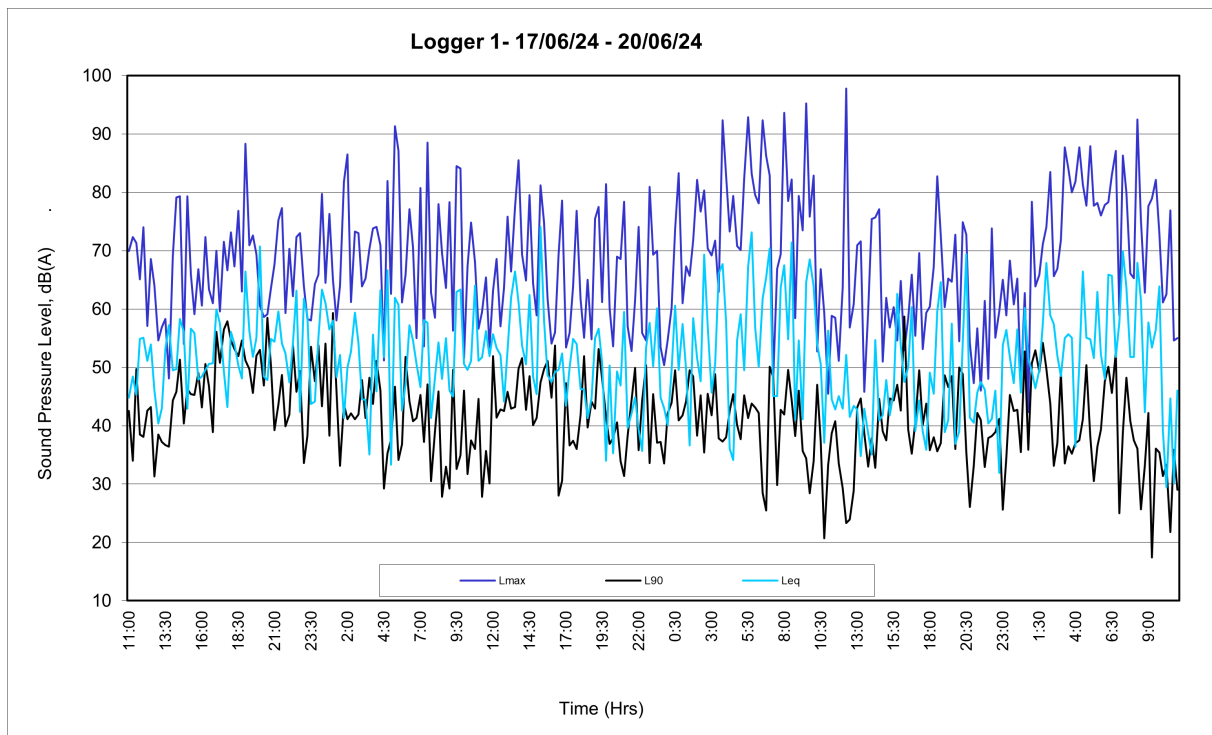


Neil Pennington MAIP, MAAS, MASA

B. Sc., B.Math. (Hons)

Principal / Director

APPENDIX A NOISE LOGGER CHARTS





6 August 2024

Ref: 10584/10431

Daracon Quarries Pty Ltd
PO Box 299
WALLSEND NSW 2287

RE: JULY 2024 NOISE MONITORING RESULTS – ARDGLEN QUARRY

This letter report presents the results of attended and unattended noise monitoring conducted for the Ardglenn Quarry (AQ) between Monday 22nd and Thursday 25th July, 2024. The monitoring was carried out to measure noise emissions from the operations of the quarry. Noise monitoring was carried out in accordance with the conditions of the AQ Noise Monitoring Plan (NMP) as detailed below.

NOISE CRITERIA

*The Proponent shall ensure that the noise generated by the project does not exceed the noise impact assessment criteria in **Table 1** at any residence on privately-owned land, or more than 25% of any privately owned land.*

Table 1 Noise Impact Assessment Criteria				
Land	Day Leq (15 min)	Evening Leq (15 min)	Night	
			Leq (15 min)	L1 (1 min)
1 Burraston	35	35	35	45
3 Rose	35	35	35	45
4 C M Thompson	44	35	35	45
5 M Taylor	45	35	35	45
6 S Thompson	45	35	35	45
9 Bates	37	35	35	45
10 Avery	38	35	35	45
11 Shipman	37	35	35	45
12 Hall	36	35	35	45
13 McGhie	35	35	35	45
14 Purtell	36	35	35	45
15 J Taylor	43	35	35	45
16 Bojba	40	35	35	45
All other privately owned land	35	35	35	45

However, if the Proponent has a written negotiated noise agreement with any landowner of the land listed in Table 1, and a copy of this agreement has been forwarded to the Department and the DECCW, then the Proponent may exceed the noise limits in Table 1 in accordance with the negotiated agreement. The Proponent may also exceed the L1 (1 min) and Leq (15 min) noise impact criteria during out of hours rail loading activities provided they are conducted in accordance with Section 3, Condition 41 of the Project Approval (which is reproduced below).

41. The Proponent may only load a maximum of 2 trains outside the rail loading and distribution hours listed in Table 1 (of the Project Approval, being Monday to Sunday 7:00am to 10:00pm) in any 12 month period, unless agreed in writing by the Director General.

Notes:

- For information on the numbering and identification of properties used in this approval see Figure 2 on Page 14 of this Noise Monitoring Program).
- To determine compliance with the LAeq (15 minute) noise limits, noise from the project is to be measured at the most affected point on or within the residential boundary, or at the most affected point within 30 metres of a dwelling (rural situations) where the dwelling is more than 30 metres from the boundary. Where it can be demonstrated that direct measurement of noise from the development is impractical, the DECCW may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy). The modification factors in Section 4 of the NSW Industrial Noise Policy shall also be applied to the measured noise levels where applicable.
- To determine compliance with the L1 (1 minute) noise limits, noise from the project is to be measured 1m from the dwelling facade. Where it can be demonstrated that direct measurement of noise from the development is impractical, the DECCW may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy).
- The noise emission limits identified in the above table apply under meteorological conditions of:
 - wind speeds of up to 3 m/s at 10 metres above ground level; or
 - Temperature inversion conditions of up to 3°C/100m, and wind speeds of up to 2 m/s at 10 metres above ground level.

NOISE MONITORING LOCATIONS

Noise measurement locations for the attended noise survey are listed below and shown in the accompanying **Figure 1**:

Location 4: C M Thompson
Location 13: McGhie
Location 14: Purtell
Location 16: Bojba



Figure 1 – Attended Noise Monitoring Locations

ATTENDED NOISE MEASUREMENTS

Noise emission levels were measured with a Brüel & Kjær Type 2250 Precision Sound Analyser. This instrument has Type 1 characteristics as defined in AS1259-1982 “Sound Level Meters”. Calibration of the instrument was confirmed with a Brüel & Kjær Type 4231 Sound Level Calibrator prior to and at the completion of measurements.

Meteorological data used in this report was obtained from a hand held weather station with measurements made at approximately 2m above ground level. The weather throughout the survey was strong with faintly cloudy skies. The wind speed was strong and from the northwest.

RESULTS OF ATTENDED MONITORING

The measured noise levels, over 1 second intervals, were analysed using Brüel & Kjær “*Evaluator*” software. The software enables the contributions of the quarry and other significant noise sources to the overall to be quantified.

Noise levels were recorded for each of the Leq (15 min), Lmax, L1, L10, L90 and Lmin percentiles. As shown in Table 1, the noise criterion for AQ during the day is based on an Leq noise level. The results, shown in **Table 2**, represent the total 15 minute Leq noise level for all noise sources and the relative contributions of each. Levels for the other percentiles are not shown as they have no compliance criteria for comparison but are available on request. The exception is the L1 (1 min) noise level (which is the standard measure of sleep disturbance) which is applicable to noise emissions at night (i.e. between 10 pm and 7 am).

Table 2 Ardglen Quarry Noise Monitoring Results – 25 th July 2024 (Day)				
Location	Time	dB(A), _{Leq}	Wind speed/ direction°	Identified Noise Sources
4. Thompson	12:37pm	49	8.0 / NW	Traffic (48), train (41), birds (38), AQ inaudible
13. McGhie	1:09pm	46	8.5 / NW	Traffic (46), birds (31), AQ inaudible
14. Purtell	1:29pm	38	8.0 / NW	Birds (38), AQ inaudible
16. Bojba	12:17pm	54	8.5 / NW	Traffic (54), birds (33), AQ inaudible

The results in Table 2 show that, under the meteorological and operating conditions at the time, the noise emissions from AQ were inaudible at all monitoring locations.

At the time of the noise monitoring the following plant items were operational at the quarry;

- 1x Caterpillar 740 dump truck
- 1x Hitachi ZW370 Loader
- 1x Sumotomo 25t Excavator
- 2x truck and dogs carting oversize rock
- Truck and dogs carting other materials
- 1x Kohla generator
- 1x Kabota generator
- 1x drill rig drilling blast holes
- 1x Caterpillar 972 loader.

The noise from AQ was not audible or quantifiable at any of the monitoring locations.

The results of the noise monitoring programme have shown that AQ is operating within approved noise limits. No actions are recommended with respect to noise management at the Quarry.

UNATTENDED NOISE MEASUREMENTS

The NMP requires that unattended noise logging be undertaken over a period of three days, part of which coincides with the attended noise monitoring.

To measure the acoustic environment an ARL EL-315 environmental noise logger and an ARL Ngara environmental noise logger, were located as shown in Figure 2 from 22nd to 25th July 2024. **Table 3** shows a summary of the relevant measured data from the loggers which is also shown graphically in **Appendix A**.

TABLE 3 Measured Logger Noise Levels dB(A) – 22 nd to 25 th July 2024						
Logger Location	Day (7am to 6pm)		Evening (6pm to 10 pm)		Night (10pm to 7am)	
	Leq	L90	Leq	L90	Leq	L90
Logger 1	60	30	61	34	60	36
Logger 2	61	29	61	37	62	33



Figure 2 – Unattended Noise Monitoring Locations

The logger locations were chosen to be representative of the acoustic environment of the closest residences to the quarry and for security reasons.

Logger 1 was located on the fence at location R14. This is adjacent to the attended noise monitoring location for this residence.

Logger 2 was in an open paddock north of the house.

The unattended noise loggers measure the total noise level in the environment, but the data cannot discriminate between various noise sources. As such, the data is presented here with no further analysis.

We trust this report fulfils your requirements at this time, however, should you require additional information or assistance please contact the undersigned on 4954 2276.

Yours faithfully,

SPECTRUM ACOUSTICS PTY LIMITED

Author:

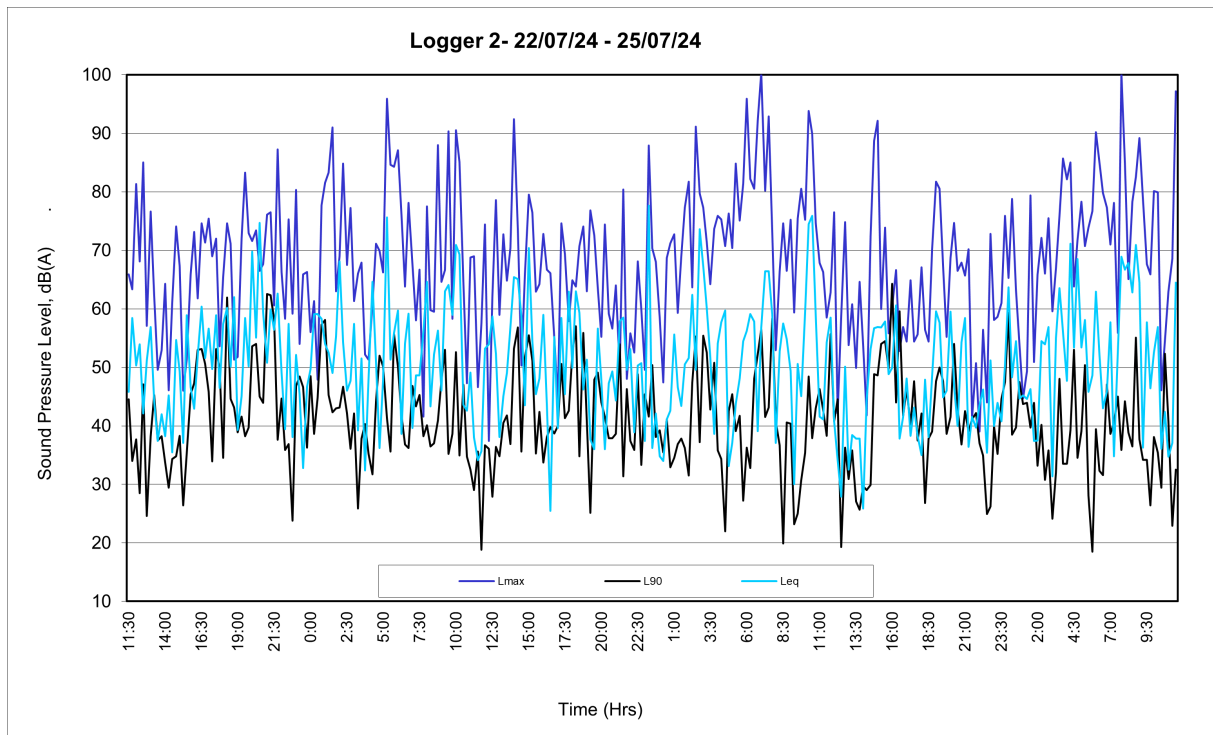
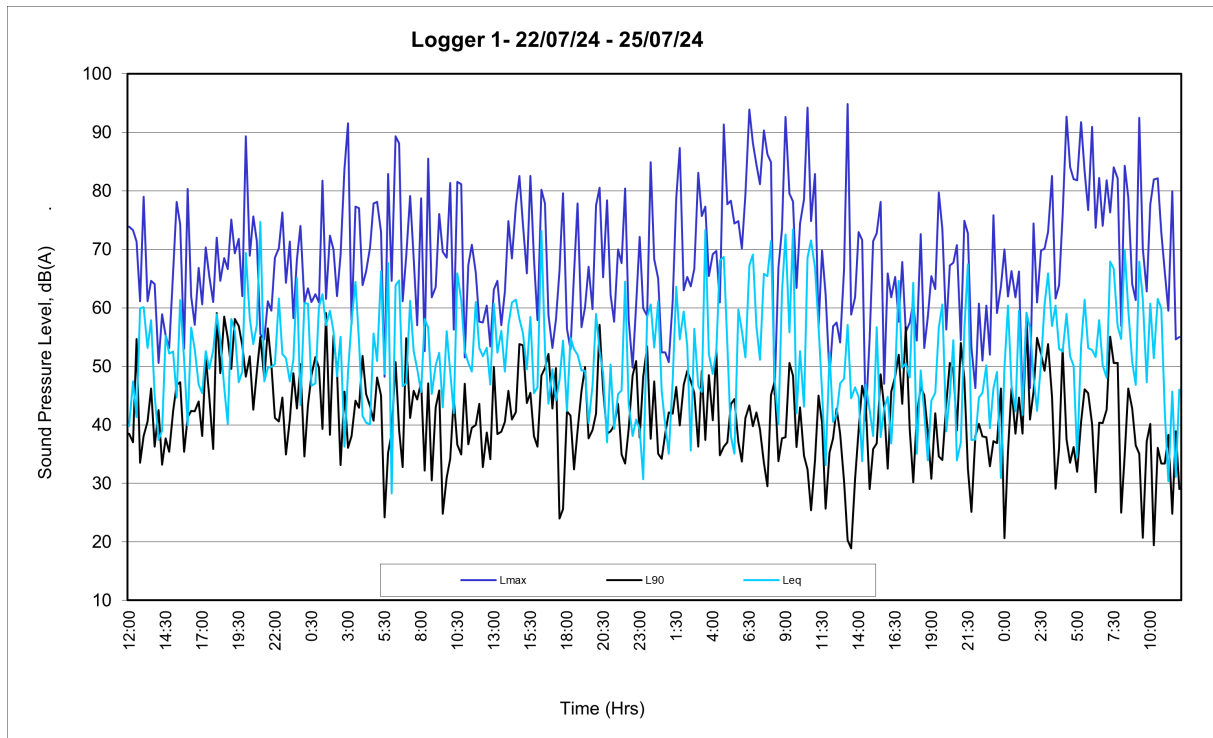


Neil Pennington MAIP, MAAS, MASA

B. Sc., B.Math. (Hons)

Principal / Director

APPENDIX A NOISE LOGGER CHARTS





5 September 2024

Ref: 10584/10472

Daracon Quarries Pty Ltd
PO Box 299
WALLSEND NSW 2287

RE: AUGUST 2024 NOISE MONITORING RESULTS – ARDGLEN QUARRY

This letter report presents the results of attended and unattended noise monitoring conducted for the Ardglenn Quarry (AQ) between Monday 19th and Thursday 22nd August, 2024. The monitoring was carried out to measure noise emissions from the operations of the quarry. Noise monitoring was carried out in accordance with the conditions of the AQ Noise Monitoring Plan (NMP) as detailed below.

NOISE CRITERIA

*The Proponent shall ensure that the noise generated by the project does not exceed the noise impact assessment criteria in **Table 1** at any residence on privately-owned land, or more than 25% of any privately owned land.*

Table 1 Noise Impact Assessment Criteria				
Land	Day Leq (15 min)	Evening Leq (15 min)	Night	
			Leq (15 min)	L1 (1 min)
1 Burraston	35	35	35	45
3 Rose	35	35	35	45
4 C M Thompson	44	35	35	45
5 M Taylor	45	35	35	45
6 S Thompson	45	35	35	45
9 Bates	37	35	35	45
10 Avery	38	35	35	45
11 Shipman	37	35	35	45
12 Hall	36	35	35	45
13 McGhie	35	35	35	45
14 Purtell	36	35	35	45
15 J Taylor	43	35	35	45
16 Bojba	40	35	35	45
All other privately owned land	35	35	35	45

However, if the Proponent has a written negotiated noise agreement with any landowner of the land listed in Table 1, and a copy of this agreement has been forwarded to the Department and the DECCW, then the Proponent may exceed the noise limits in Table 1 in accordance with the negotiated agreement. The Proponent may also exceed the L1 (1 min) and Leq (15 min) noise impact criteria during out of hours rail loading activities provided they are conducted in accordance with Section 3, Condition 41 of the Project Approval (which is reproduced below).

41. The Proponent may only load a maximum of 2 trains outside the rail loading and distribution hours listed in Table 1 (of the Project Approval, being Monday to Sunday 7:00am to 10:00pm) in any 12 month period, unless agreed in writing by the Director General.

Notes:

- For information on the numbering and identification of properties used in this approval see Figure 2 on Page 14 of this Noise Monitoring Program).
- To determine compliance with the LAeq (15 minute) noise limits, noise from the project is to be measured at the most affected point on or within the residential boundary, or at the most affected point within 30 metres of a dwelling (rural situations) where the dwelling is more than 30 metres from the boundary. Where it can be demonstrated that direct measurement of noise from the development is impractical, the DECCW may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy). The modification factors in Section 4 of the NSW Industrial Noise Policy shall also be applied to the measured noise levels where applicable.
- To determine compliance with the L1 (1 minute) noise limits, noise from the project is to be measured 1m from the dwelling facade. Where it can be demonstrated that direct measurement of noise from the development is impractical, the DECCW may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy).
- The noise emission limits identified in the above table apply under meteorological conditions of:
 - wind speeds of up to 3 m/s at 10 metres above ground level; or
 - Temperature inversion conditions of up to 3°C/100m, and wind speeds of up to 2 m/s at 10 metres above ground level.

NOISE MONITORING LOCATIONS

Noise measurement locations for the attended noise survey are listed below and shown in the accompanying **Figure 1**:

Location 4: C M Thompson
Location 13: McGhie
Location 14: Purtell
Location 16: Bojba



Figure 1 – Attended Noise Monitoring Locations

ATTENDED NOISE MEASUREMENTS

Noise emission levels were measured with a Brüel & Kjær Type 2250 Precision Sound Analyser. This instrument has Type 1 characteristics as defined in AS1259-1982 “Sound Level Meters”. Calibration of the instrument was confirmed with a Brüel & Kjær Type 4231 Sound Level Calibrator prior to and at the completion of measurements.

Meteorological data used in this report was obtained from the quarry operated weather station with real time observations made at the start of each 15 minute monitoring period. The weather throughout the survey was generally calm with cloudy skies. The wind speed was light from the east to south-east.

RESULTS OF ATTENDED MONITORING

The measured noise levels, over 1 second intervals, were analysed using Brüel & Kjær “*Evaluator*” software. The software enables the contributions of the quarry and other significant noise sources to the overall to be quantified.

Noise levels were recorded for each of the Leq (15 min), Lmax, L1, L10, L90 and Lmin percentiles. As shown in Table 1, the noise criterion for AQ during the day is based on an Leq noise level. The results, shown in **Table 2**, represent the total 15 minute Leq noise level for all noise sources and the relative contributions of each. Levels for the other percentiles are not shown as they have no compliance criteria for comparison but are available on request. The exception is the L1 (1 min) noise level (which is the standard measure of sleep disturbance) which is applicable to noise emissions at night (i.e. between 10 pm and 7 am).

Table 2 Ardglen Quarry Noise Monitoring Results – 19th August 2024 (Day)				
Location	Time	dB(A),_{Leq}	Wind speed (m/s) / direction°	Identified Noise Sources
4. Thompson	12:23pm	55	1.5 / 083	Aeroplanes (55), traffic (44), birds (32), AQ occasionally audible
13. McGhie	1:17pm	43	2.4 / 152	Train (42), traffic (35), birds (30), dogs (27), AQ inaudible
14. Purtell	12:58pm	56	3.0 / 144	Traffic (54), train (51), birds (30), AQ inaudible
16. Bojba	12:05pm	59	1.1 / 152	Traffic (59), birds (36), AQ inaudible

The results in Table 2 show that, under the meteorological and operating conditions at the time, the noise emissions from AQ were inaudible at monitoring locations R13, R14 & R15, and were occasionally audible but not quantifiable and therefore below the noise criterion at R4.

At the time of the noise monitoring the following plant items were operational at the quarry;

- 1x Cat 972 loader
- 1x Volvo 35t Excavator
- 1x Warrior scalping screen
- 1x Metso Jaw crusher
- 1x Chefton 1300 cone crusher
- 1x Kohla generator
- 1x Kobota generator
- 1x Hitachi ZW370 loader

The noise from AQ was not audible or quantifiable at the monitoring locations R13, R14 & R15, and was occasionally audible at R4 but was not quantifiable.

The results of the noise monitoring programme have shown that AQ is operating within approved noise limits. No actions are recommended with respect to noise management at the Quarry.

UNATTENDED NOISE MEASUREMENTS

The NMP requires that unattended noise logging be undertaken over a period of three days, part of which coincides with the attended noise monitoring.

To measure the acoustic environment an ARL EL-315 environmental noise logger and an ARL Ngara environmental noise logger, were located as shown in Figure 2 from 19th to 22nd August 2024. **Table 3** shows a summary of the relevant measured data from the loggers which is also shown graphically in **Appendix A**.

TABLE 3 Measured Logger Noise Levels dB(A) – 19 th to 22 nd August 2024						
Logger Location	Day (7am to 6pm)		Evening (6pm to 10 pm)		Night (10pm to 7am)	
	Leq	L90	Leq	L90	Leq	L90
Logger 1	62	28	62	34	61	33
Logger 2	60	30	62	34	64	32

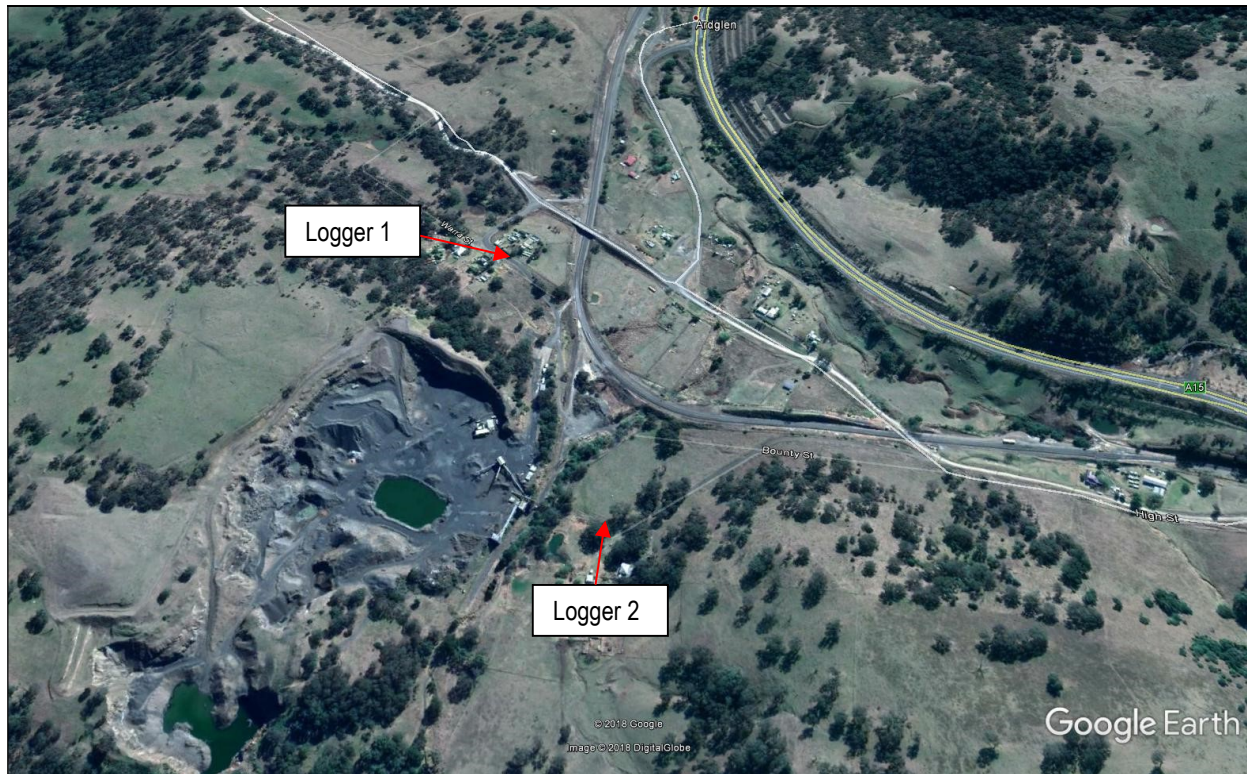


Figure 2 – Unattended Noise Monitoring Locations

The logger locations were chosen to be representative of the acoustic environment of the closest residences to the quarry and for security reasons.

Logger 1 was located on the fence at location R14. This is adjacent to the attended noise monitoring location for this residence.

Logger 2 was in an open paddock north of the house.

The unattended noise loggers measure the total noise level in the environment, but the data cannot discriminate between various noise sources. As such, the data is presented here with no further analysis.

We trust this report fulfils your requirements at this time, however, should you require additional information or assistance please contact the undersigned on 4954 2276.

Yours faithfully,

SPECTRUM ACOUSTICS PTY LIMITED

Author:

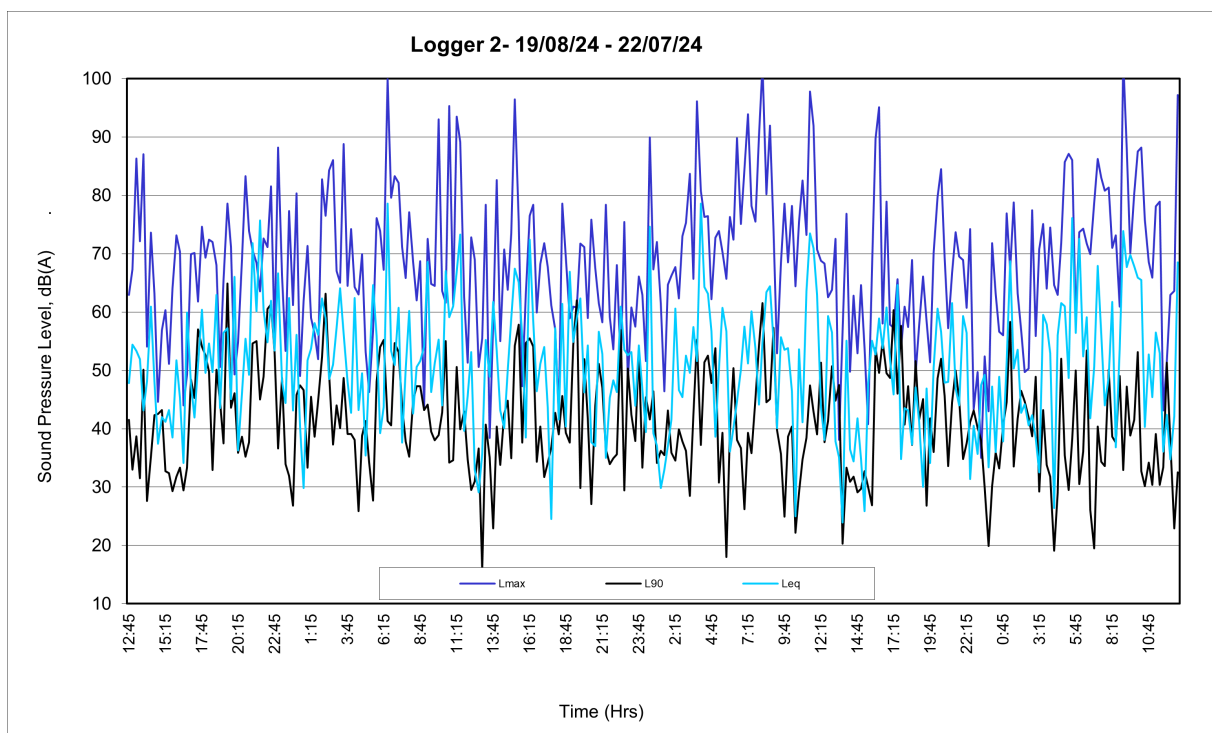
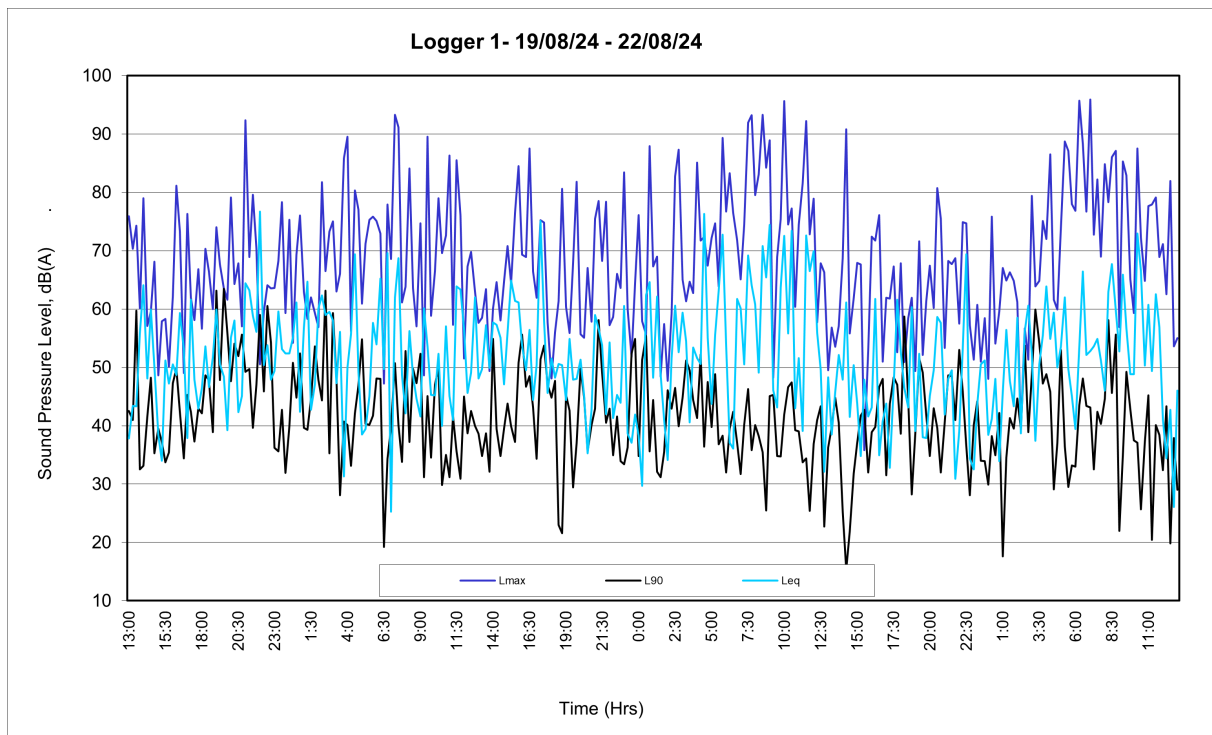


Neil Pennington MAIP, MAAS, MASA

B. Sc., B.Math. (Hons)

Principal / Director

APPENDIX A NOISE LOGGER CHARTS





27 September 2024

Ref: 10584/10524

Daracon Quarries Pty Ltd
PO Box 299
WALLSEND NSW 2287

RE: SEPTEMBER 2024 NOISE MONITORING RESULTS – ARDGLLEN QUARRY

This letter report presents the results of attended and unattended noise monitoring conducted for the Ardglenn Quarry (AQ) between Tuesday 17th and Friday 20th September, 2024. The monitoring was carried out to measure noise emissions from the operations of the quarry. Noise monitoring was carried out in accordance with the conditions of the AQ Noise Monitoring Plan (NMP) as detailed below.

NOISE CRITERIA

*The Proponent shall ensure that the noise generated by the project does not exceed the noise impact assessment criteria in **Table 1** at any residence on privately-owned land, or more than 25% of any privately owned land.*

Table 1 Noise Impact Assessment Criteria				
Land	Day Leq (15 min)	Evening Leq (15 min)	Night	
			Leq (15 min)	L1 (1 min)
1 Burraston	35	35	35	45
3 Rose	35	35	35	45
4 C M Thompson	44	35	35	45
5 M Taylor	45	35	35	45
6 S Thompson	45	35	35	45
9 Bates	37	35	35	45
10 Avery	38	35	35	45
11 Shipman	37	35	35	45
12 Hall	36	35	35	45
13 McGhie	35	35	35	45
14 Purtell	36	35	35	45
15 J Taylor	43	35	35	45
16 Bojba	40	35	35	45
All other privately owned land	35	35	35	45

However, if the Proponent has a written negotiated noise agreement with any landowner of the land listed in Table 1, and a copy of this agreement has been forwarded to the Department and the DECCW, then the Proponent may exceed the noise limits in Table 1 in accordance with the negotiated agreement. The Proponent may also exceed the L1 (1 min) and Leq (15 min) noise impact criteria during out of hours rail loading activities provided they are conducted in accordance with Section 3, Condition 41 of the Project Approval (which is reproduced below).

41. The Proponent may only load a maximum of 2 trains outside the rail loading and distribution hours listed in Table 1 (of the Project Approval, being Monday to Sunday 7:00am to 10:00pm) in any 12 month period, unless agreed in writing by the Director General.

Notes:

- For information on the numbering and identification of properties used in this approval see Figure 2 on Page 14 of this Noise Monitoring Program).
- To determine compliance with the LAeq (15 minute) noise limits, noise from the project is to be measured at the most affected point on or within the residential boundary, or at the most affected point within 30 metres of a dwelling (rural situations) where the dwelling is more than 30 metres from the boundary. Where it can be demonstrated that direct measurement of noise from the development is impractical, the DECCW may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy). The modification factors in Section 4 of the NSW Industrial Noise Policy shall also be applied to the measured noise levels where applicable.
- To determine compliance with the L1 (1 minute) noise limits, noise from the project is to be measured 1m from the dwelling facade. Where it can be demonstrated that direct measurement of noise from the development is impractical, the DECCW may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy).
- The noise emission limits identified in the above table apply under meteorological conditions of:
 - wind speeds of up to 3 m/s at 10 metres above ground level; or
 - Temperature inversion conditions of up to 3°C/100m, and wind speeds of up to 2 m/s at 10 metres above ground level.

NOISE MONITORING LOCATIONS

Noise measurement locations for the attended noise survey are listed below and shown in the accompanying **Figure 1**:

Location 4: C M Thompson
Location 13: McGhie
Location 14: Purtell
Location 16: Bojba



Figure 1 – Attended Noise Monitoring Locations

ATTENDED NOISE MEASUREMENTS

Noise emission levels were measured with a Brüel & Kjær Type 2250 Precision Sound Analyser. This instrument has Type 1 characteristics as defined in AS1259-1982 “Sound Level Meters”. Calibration of the instrument was confirmed with a Brüel & Kjær Type 4231 Sound Level Calibrator prior to and at the completion of measurements.

Meteorological data used in this report was obtained from the quarry operated weather station with real time observations made at the start of each 15 minute monitoring period. The weather throughout the survey was generally calm with cloudy skies. The wind speed was light from the east to south-east.

RESULTS OF ATTENDED MONITORING

The measured noise levels, over 1 second intervals, were analysed using Brüel & Kjær “*Evaluator*” software. The software enables the contributions of the quarry and other significant noise sources to the overall to be quantified.

Noise levels were recorded for each of the Leq (15 min), Lmax, L1, L10, L90 and Lmin percentiles. As shown in Table 1, the noise criterion for AQ during the day is based on an Leq noise level. The results, shown in **Table 2**, represent the total 15 minute Leq noise level for all noise sources and the relative contributions of each. Levels for the other percentiles are not shown as they have no compliance criteria for comparison but are available on request. The exception is the L1 (1 min) noise level (which is the standard measure of sleep disturbance) which is applicable to noise emissions at night (i.e. between 10 pm and 7 am).

Table 2 Ardglen Quarry Noise Monitoring Results – 17 th September 2024 (Day)				
Location	Time	dB(A), _{Leq}	Wind speed (m/s) / direction°	Identified Noise Sources
4. Thompson	11:08am	56	0.8 / 348	Train (56), traffic (44), birds (40), AQ inaudible
13. McGhie	12:01pm	38	1.4 / 227	Birds (37), traffic (27), aeroplane (26), AQ occasionally audible
14. Purtell	11:42am	54	2.7 / 072	Traffic (54), birds (39), train (37), aeroplane (26), AQ (25)
16. Bojba	10:50am	60	2.1 / 026	Traffic (60), birds (26), AQ inaudible

The results in Table 2 show that, under the meteorological and operating conditions at the time, the noise emissions from AQ were inaudible at monitoring locations R4 & R16, were occasionally audible but not quantifiable and therefore below the noise criterion at R13, and were audible and quantifiable at R14, but below the noise criterion. At R14, the noise from AQ was from a water truck operating near the quarry entrance.

At the time of the noise monitoring the following plant items were operational at the quarry;

- 1x 1300 Maxtrak cone crusher
- 1x Metso LT 2200 cone- screen plant
- 2x Cat 972 loaders
- 1x Volvo 35t excavator
- 1x Sumotomo 25t excavator
- 1x Isuzu water truck
- 1x 3" water pump running intermittently
- 1x Kobota generator
- 1x coats hire generator
- 47 truck and dog movements
- There was also blasting activities on the 17th
- Various light vehicle movements.

The results of the noise monitoring programme have shown that AQ is operating within approved noise limits. No actions are recommended with respect to noise management at the Quarry.

UNATTENDED NOISE MEASUREMENTS

The NMP requires that unattended noise logging be undertaken over a period of three days, part of which coincides with the attended noise monitoring.

To measure the acoustic environment an ARL EL-315 environmental noise logger and an ARL Ngara environmental noise logger, were located as shown in Figure 2 from 17th to 20th September 2024. **Table 3** shows a summary of the relevant measured data from the loggers which is also shown graphically in **Appendix A**.

TABLE 3 Measured Logger Noise Levels dB(A) – 17 th to 20 th September 2024						
Logger Location	Day (7am to 6pm)		Evening (6pm to 10 pm)		Night (10pm to 7am)	
	Leq	L90	Leq	L90	Leq	L90
Logger 1	62	27	61	34	62	34
Logger 2	62	30	62	31	66	31



Figure 2 – Unattended Noise Monitoring Locations

The logger locations were chosen to be representative of the acoustic environment of the closest residences to the quarry and for security reasons.

Logger 1 was located on the fence at location R14. This is adjacent to the attended noise monitoring location for this residence.

Logger 2 was in an open paddock north of the house.

The unattended noise loggers measure the total noise level in the environment, but the data cannot discriminate between various noise sources. As such, the data is presented here with no further analysis.

We trust this report fulfils your requirements at this time, however, should you require additional information or assistance please contact the undersigned on 4954 2276.

Yours faithfully,

SPECTRUM ACOUSTICS PTY LIMITED

Author:

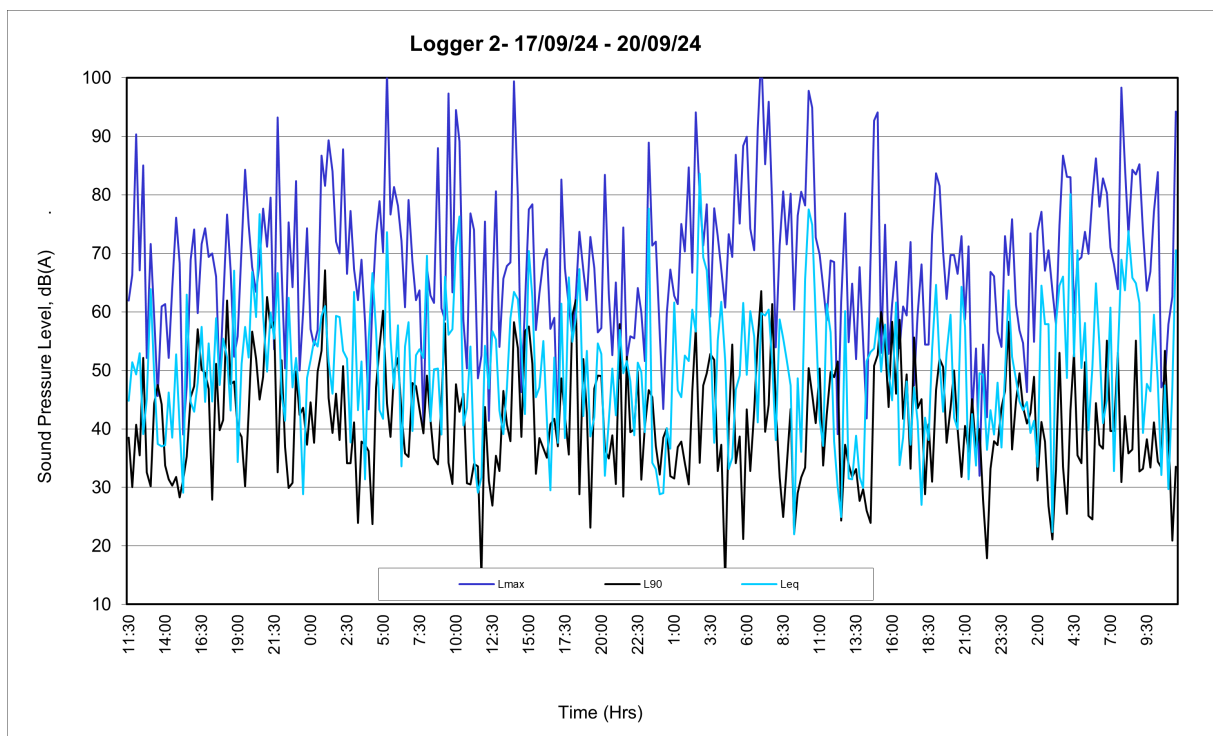
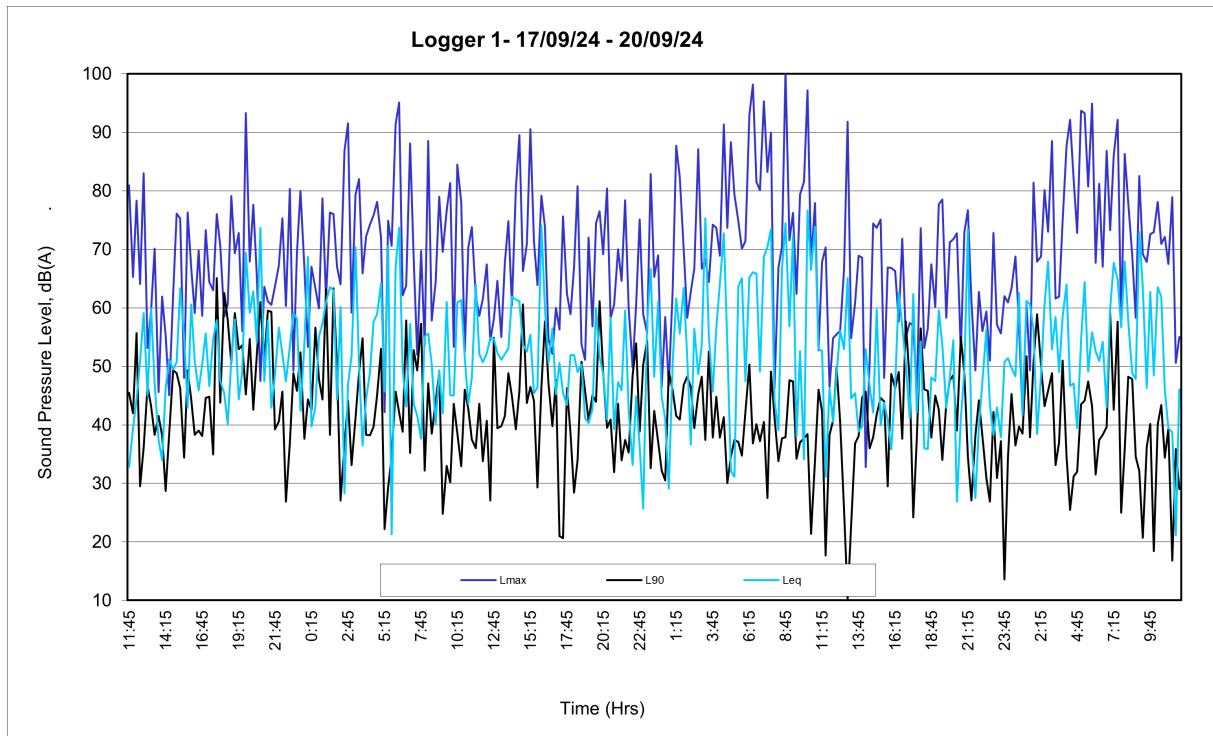


Neil Pennington MAIP, MAAS, MASA

B. Sc., B.Math. (Hons)

Principal / Director

APPENDIX A NOISE LOGGER CHARTS





9 December 2024

Ref: 10584/10617

Daracon Quarries Pty Ltd
PO Box 299
WALLSEND NSW 2287

RE: OCTOBER 2024 NOISE MONITORING RESULTS – ARDGLEN QUARRY

This letter report presents the results of attended and unattended noise monitoring conducted for the Ardglan Quarry (AQ) between Monday 28th and Thursday 31st October 2024. The monitoring was carried out to measure noise emissions from the operations of the quarry. Noise monitoring was carried out in accordance with the conditions of the AQ Noise Monitoring Plan (NMP) as detailed below.

NOISE CRITERIA

*The Proponent shall ensure that the noise generated by the project does not exceed the noise impact assessment criteria in **Table 1** at any residence on privately-owned land, or more than 25% of any privately owned land.*

Table 1 Noise Impact Assessment Criteria				
Land	Day Leq (15 min)	Evening Leq (15 min)	Night	
			Leq (15 min)	L1 (1 min)
1 Burraston	35	35	35	45
3 Rose	35	35	35	45
4 C M Thompson	44	35	35	45
5 M Taylor	45	35	35	45
6 S Thompson	45	35	35	45
9 Bates	37	35	35	45
10 Avery	38	35	35	45
11 Shipman	37	35	35	45
12 Hall	36	35	35	45
13 McGhie	35	35	35	45
14 Purtell	36	35	35	45
15 J Taylor	43	35	35	45
16 Bojba	40	35	35	45
All other privately owned land	35	35	35	45

However, if the Proponent has a written negotiated noise agreement with any landowner of the land listed in Table 1, and a copy of this agreement has been forwarded to the Department and the DECCW, then the Proponent may exceed the noise limits in Table 1 in accordance with the negotiated agreement. The Proponent may also exceed the L1 (1 min) and Leq (15 min) noise impact criteria during out of hours rail loading activities provided they are conducted in accordance with Section 3, Condition 41 of the Project Approval (which is reproduced below).

41. The Proponent may only load a maximum of 2 trains outside the rail loading and distribution hours listed in Table 1 (of the Project Approval, being Monday to Sunday 7:00am to 10:00pm) in any 12 month period, unless agreed in writing by the Director General.

Notes:

- For information on the numbering and identification of properties used in this approval see Figure 2 on Page 14 of this Noise Monitoring Program).
- To determine compliance with the LAeq (15 minute) noise limits, noise from the project is to be measured at the most affected point on or within the residential boundary, or at the most affected point within 30 metres of a dwelling (rural situations) where the dwelling is more than 30 metres from the boundary. Where it can be demonstrated that direct measurement of noise from the development is impractical, the DECCW may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy). The modification factors in Section 4 of the NSW Industrial Noise Policy shall also be applied to the measured noise levels where applicable.
- To determine compliance with the L1 (1 minute) noise limits, noise from the project is to be measured 1m from the dwelling facade. Where it can be demonstrated that direct measurement of noise from the development is impractical, the DECCW may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy).
- The noise emission limits identified in the above table apply under meteorological conditions of:
 - wind speeds of up to 3 m/s at 10 metres above ground level; or
 - Temperature inversion conditions of up to 3°C/100m, and wind speeds of up to 2 m/s at 10 metres above ground level.

NOISE MONITORING LOCATIONS

Noise measurement locations for the attended noise survey are listed below and shown in the accompanying **Figure 1**:

Location 4: C M Thompson
Location 13: McGhie
Location 14: Purtell
Location 16: Bojba



Figure 1 – Attended Noise Monitoring Locations

ATTENDED NOISE MEASUREMENTS

Noise emission levels were measured with a Brüel & Kjær Type 2250 Precision Sound Analyser. This instrument has Type 1 characteristics as defined in AS1259-1982 “Sound Level Meters”. Calibration of the instrument was confirmed with a Brüel & Kjær Type 4231 Sound Level Calibrator prior to and at the completion of measurements.

Meteorological data used in this report was obtained from the quarry operated weather station with real time observations made at the start of each 15 minute monitoring period. The weather throughout the survey was generally calm with clear skies. The wind speed was light from the north-west.

RESULTS OF ATTENDED MONITORING

The measured noise levels, over 1 second intervals, were analysed using Brüel & Kjær “*Evaluator*” software. The software enables the contributions of the quarry and other significant noise sources to the overall to be quantified.

Noise levels were recorded for each of the Leq (15 min), Lmax, L1, L10, L90 and Lmin percentiles. As shown in Table 1, the noise criterion for AQ during the day is based on an Leq noise level. The results, shown in **Table 2**, represent the total 15 minute Leq noise level for all noise sources and the relative contributions of each. Levels for the other percentiles are not shown as they have no compliance criteria for comparison but are available on request. The exception is the L1 (1 min) noise level (which is the standard measure of sleep disturbance) which is applicable to noise emissions at night (i.e. between 10 pm and 7 am).

Table 2 Ardglen Quarry Noise Monitoring Results – 31 st October 2024 (Day)				
Location	Time	dB(A), _{L_{eq}}	Wind speed (m/s) / direction°	Identified Noise Sources
4. Thompson	11:58am	51	0.8 / 319	Train (51), traffic (36), birds (28), AQ inaudible
13. McGhie	12:18pm	55	3.0 / 317	Traffic (55), train (30), insects (23), aeroplane (22), AQ inaudible
14. Purtell	12:38pm	40	1.3 / 293	Traffic (39), dog (31), insects (29), AQ inaudible
16. Bojba	11:41am	52	1.8 / 334	Traffic (51), train (45), birds (30), AQ inaudible

The results in Table 2 show that, under the meteorological and operating conditions at the time, the noise emissions from AQ were inaudible at all monitoring locations throughout the survey.

At the time of the noise monitoring the following plant items were operational at the quarry;

- 1x Warrior scalping screen
- 1x 15t Excavator
- 1x25t excavator
- 2x Cat 972 loaders
- 1x Cat 980 loader
- 1x Cat 740 Moxy dump truck
- 1x 3" pump running intermittently
- 1x Isuzu water truck
- 1x Kubota generator
- 1x Coates Hire 15 kva generator
- 25 Truck and dog movements for the day

The results of the noise monitoring programme have shown that AQ is operating within approved noise limits. No actions are recommended with respect to noise management at the Quarry.

UNATTENDED NOISE MEASUREMENTS

The NMP requires that unattended noise logging be undertaken over a period of three days, part of which coincides with the attended noise monitoring.

To measure the acoustic environment an ARL EL-315 environmental noise logger and an ARL Ngara environmental noise logger, were located as shown in Figure 2 from 28th to 31st October 2024. **Table 3** shows a summary of the relevant measured data from the loggers which is also shown graphically in **Appendix A**.

TABLE 3 Measured Logger Noise Levels dB(A) – 28 th to 31 st October 2024						
Logger Location	Day (7am to 6pm)		Evening (6pm to 10 pm)		Night (10pm to 7am)	
	Leq	L90	Leq	L90	Leq	L90
Logger 1	64	27	64	33	63	33
Logger 2	65	30	65	31	68	30



Figure 2 – Unattended Noise Monitoring Locations

The logger locations were chosen to be representative of the acoustic environment of the closest residences to the quarry and for security reasons.

Logger 1 was located on the fence at location R14. This is adjacent to the attended noise monitoring location for this residence.

Logger 2 was in an open paddock north of the house.

The unattended noise loggers measure the total noise level in the environment, but the data cannot discriminate between various noise sources. As such, the data is presented here with no further analysis.

We trust this report fulfils your requirements at this time, however, should you require additional information or assistance please contact the undersigned on 4954 2276.

Yours faithfully,

SPECTRUM ACOUSTICS PTY LIMITED

Author:

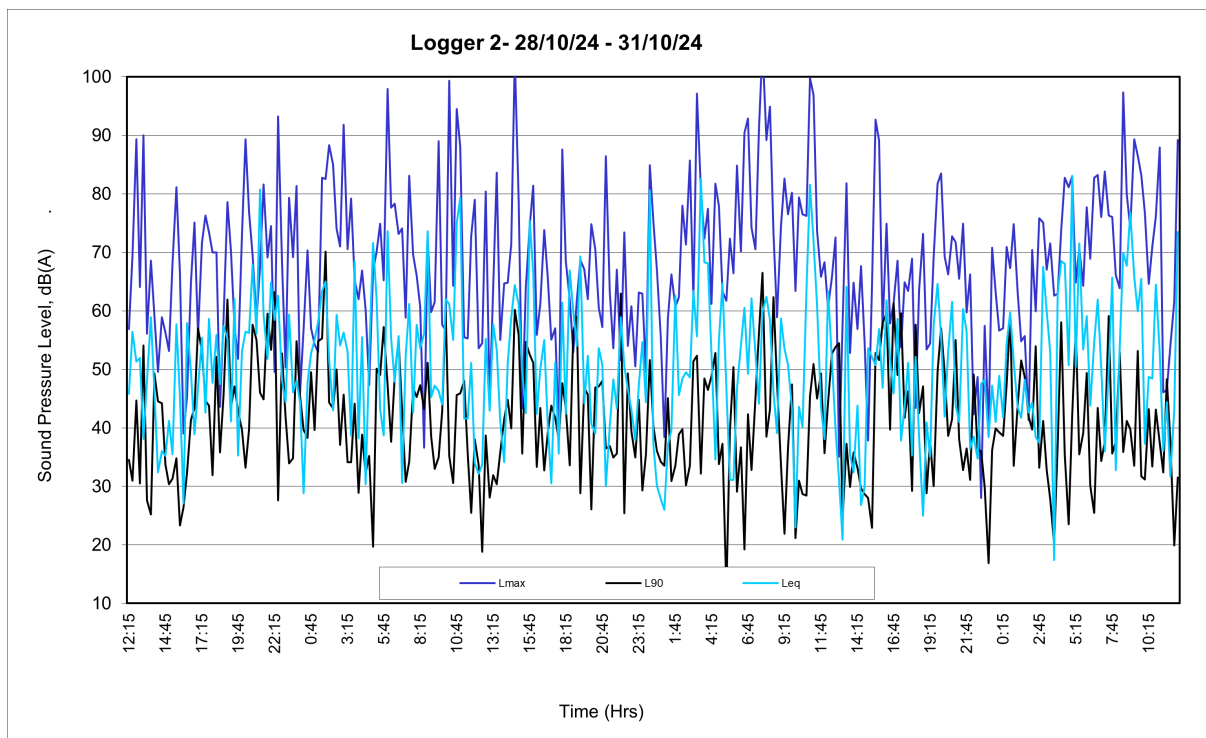
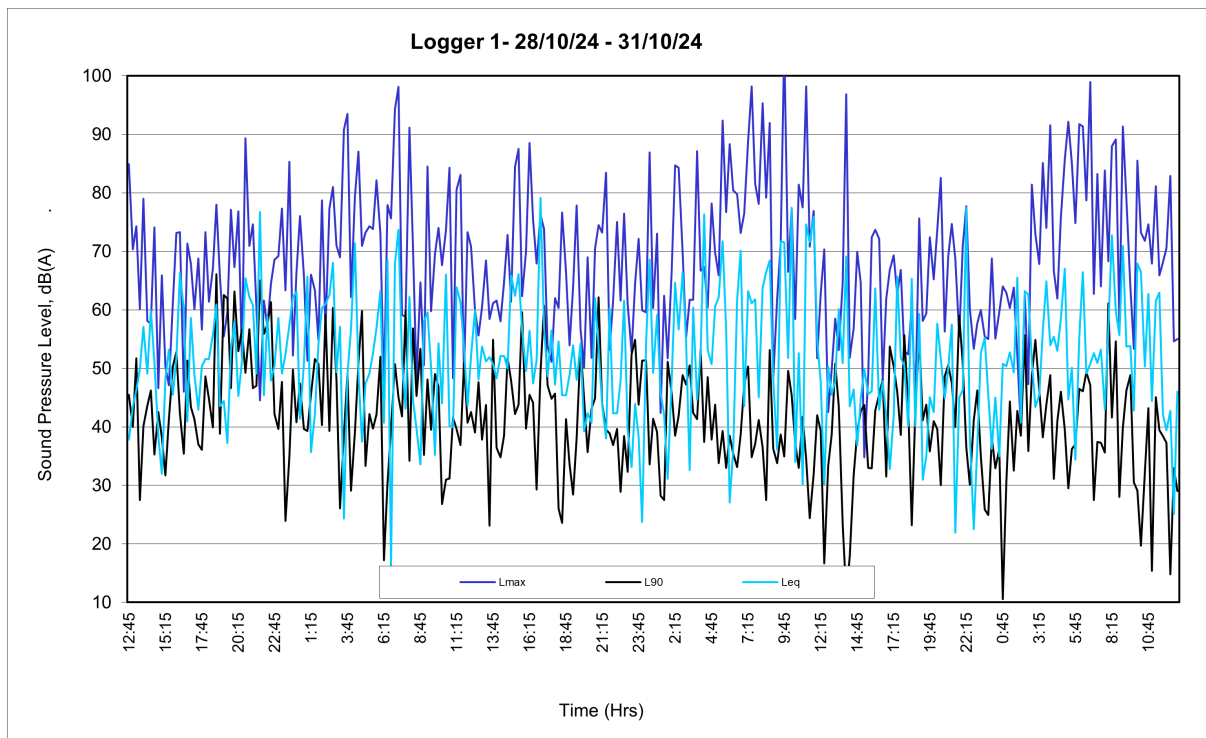


Neil Pennington MAIP, MAAS, MASA

B. Sc., B.Math. (Hons)

Principal / Director

APPENDIX A NOISE LOGGER CHARTS





10 December 2024

Ref: 10584/10635

Daracon Quarries Pty Ltd
PO Box 299
WALLSEND NSW 2287

RE: NOVEMBER 2024 NOISE MONITORING RESULTS – ARDGLEN QUARRY

This letter report presents the results of attended and unattended noise monitoring conducted for the Ardglan Quarry (AQ) between Sunday 24th and Wednesday 27th November 2024. The monitoring was carried out to measure noise emissions from the operations of the quarry. Noise monitoring was carried out in accordance with the conditions of the AQ Noise Monitoring Plan (NMP) as detailed below.

NOISE CRITERIA

*The Proponent shall ensure that the noise generated by the project does not exceed the noise impact assessment criteria in **Table 1** at any residence on privately-owned land, or more than 25% of any privately owned land.*

Table 1 Noise Impact Assessment Criteria				
Land	Day Leq (15 min)	Evening Leq (15 min)	Night	
			Leq (15 min)	L1 (1 min)
1 Burraston	35	35	35	45
3 Rose	35	35	35	45
4 C M Thompson	44	35	35	45
5 M Taylor	45	35	35	45
6 S Thompson	45	35	35	45
9 Bates	37	35	35	45
10 Avery	38	35	35	45
11 Shipman	37	35	35	45
12 Hall	36	35	35	45
13 McGhie	35	35	35	45
14 Purtell	36	35	35	45
15 J Taylor	43	35	35	45
16 Bojba	40	35	35	45
All other privately owned land	35	35	35	45

However, if the Proponent has a written negotiated noise agreement with any landowner of the land listed in Table 1, and a copy of this agreement has been forwarded to the Department and the DECCW, then the Proponent may exceed the noise limits in Table 1 in accordance with the negotiated agreement. The Proponent may also exceed the L1 (1 min) and Leq (15 min) noise impact criteria during out of hours rail loading activities provided they are conducted in accordance with Section 3, Condition 41 of the Project Approval (which is reproduced below).

41. The Proponent may only load a maximum of 2 trains outside the rail loading and distribution hours listed in Table 1 (of the Project Approval, being Monday to Sunday 7:00am to 10:00pm) in any 12 month period, unless agreed in writing by the Director General.

Notes:

- For information on the numbering and identification of properties used in this approval see Figure 2 on Page 14 of this Noise Monitoring Program).
- To determine compliance with the LAeq (15 minute) noise limits, noise from the project is to be measured at the most affected point on or within the residential boundary, or at the most affected point within 30 metres of a dwelling (rural situations) where the dwelling is more than 30 metres from the boundary. Where it can be demonstrated that direct measurement of noise from the development is impractical, the DECCW may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy). The modification factors in Section 4 of the NSW Industrial Noise Policy shall also be applied to the measured noise levels where applicable.
- To determine compliance with the L1 (1 minute) noise limits, noise from the project is to be measured 1m from the dwelling facade. Where it can be demonstrated that direct measurement of noise from the development is impractical, the DECCW may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy).
- The noise emission limits identified in the above table apply under meteorological conditions of:
 - wind speeds of up to 3 m/s at 10 metres above ground level; or
 - Temperature inversion conditions of up to 3°C/100m, and wind speeds of up to 2 m/s at 10 metres above ground level.

NOISE MONITORING LOCATIONS

Noise measurement locations for the attended noise survey are listed below and shown in the accompanying **Figure 1**:

Location 4: C M Thompson
Location 13: McGhie
Location 14: Purtell
Location 16: Bojba



Figure 1 – Attended Noise Monitoring Locations

ATTENDED NOISE MEASUREMENTS

Noise emission levels were measured with a Brüel & Kjær Type 2250 Precision Sound Analyser. This instrument has Type 1 characteristics as defined in AS1259-1982 “Sound Level Meters”. Calibration of the instrument was confirmed with a Brüel & Kjær Type 4231 Sound Level Calibrator prior to and at the completion of measurements.

Meteorological data used in this report was obtained from the quarry operated weather station with real time observations made at the start of each 15 minute monitoring period. The weather throughout the survey was generally mild with clear skies. The wind speed was mild from the north-west.

RESULTS OF ATTENDED MONITORING

The measured noise levels, over 1 second intervals, were analysed using Brüel & Kjær “*Evaluator*” software. The software enables the contributions of the quarry and other significant noise sources to the overall to be quantified.

Noise levels were recorded for each of the Leq (15 min), Lmax, L1, L10, L90 and Lmin percentiles. As shown in Table 1, the noise criterion for AQ during the day is based on an Leq noise level. The results, shown in **Table 2**, represent the total 15 minute Leq noise level for all noise sources and the relative contributions of each. Levels for the other percentiles are not shown as they have no compliance criteria for comparison but are available on request. The exception is the L1 (1 min) noise level (which is the standard measure of sleep disturbance) which is applicable to noise emissions at night (i.e. between 10 pm and 7 am).

Table 2 Ardglen Quarry Noise Monitoring Results – 27 th November 2024 (Day)				
Location	Time	dB(A), _{Leq}	Wind speed (m/s) / direction°	Identified Noise Sources
4. Thompson	1:07pm	42	4.0 / 274	Traffic (40), birds (35), aeroplane (33), AQ inaudible
13. McGhie	12:44pm	52	3.7 / 285	Train (50), traffic (47), birds (41), AQ inaudible
14. Purtell	1:25pm	44	5.0 / 293	Traffic (42), birds (40), AQ inaudible
16. Bojba	12:17pm	56	4.5 / 280	Traffic (55), birds (48), AQ inaudible

The results in Table 2 show that, under the meteorological and operating conditions at the time, the noise emissions from AQ were inaudible at all monitoring locations throughout the survey.

At the time of the noise monitoring the following plant items were operational at the quarry;

- 1x Warrior scalping screen
- 1x Metso LT2200 cone screen plant
- 1x Maxtrak cone crushing plant
- 1x Metso LT106 Jaw crushing plant
- 2x Cat 972 loaders
- 1x Cat 740 Moxy dump truck
- 1x 25t Excavator
- 1x Cat 980 Loader
- 1x Isuzu water truck
- 1x Kohler 3" pump running intermittently
- 1x Coates Hire 15KVA generator
- 1x Kubota generator
- 41 truck and dog movements for the day

The results of the noise monitoring programme have shown that AQ is operating within approved noise limits. No actions are recommended with respect to noise management at the Quarry.

UNATTENDED NOISE MEASUREMENTS

The NMP requires that unattended noise logging be undertaken over a period of three days, part of which coincides with the attended noise monitoring.

To measure the acoustic environment an ARL EL-315 environmental noise logger and an ARL Ngara environmental noise logger, were located as shown in Figure 2 from 24th to 27th November 2024. **Table 3** shows a summary of the relevant measured data from the loggers which is also shown graphically in **Appendix A**.

TABLE 3 Measured Logger Noise Levels dB(A) – 24 th to 27 th November 2024						
Logger Location	Day (7am to 6pm)		Evening (6pm to 10 pm)		Night (10pm to 7am)	
	Leq	L90	Leq	L90	Leq	L90
Logger 1	64	27	62	36	64	34
Logger 2	64	28	64	29	68	28



Figure 2 – Unattended Noise Monitoring Locations

The logger locations were chosen to be representative of the acoustic environment of the closest residences to the quarry and for security reasons.

Logger 1 was located on the fence at location R14. This is adjacent to the attended noise monitoring location for this residence.

Logger 2 was in an open paddock north of the house.

The unattended noise loggers measure the total noise level in the environment, but the data cannot discriminate between various noise sources. As such, the data is presented here with no further analysis.

We trust this report fulfils your requirements at this time, however, should you require additional information or assistance please contact the undersigned on 4954 2276.

Yours faithfully,

SPECTRUM ACOUSTICS PTY LIMITED

Author:

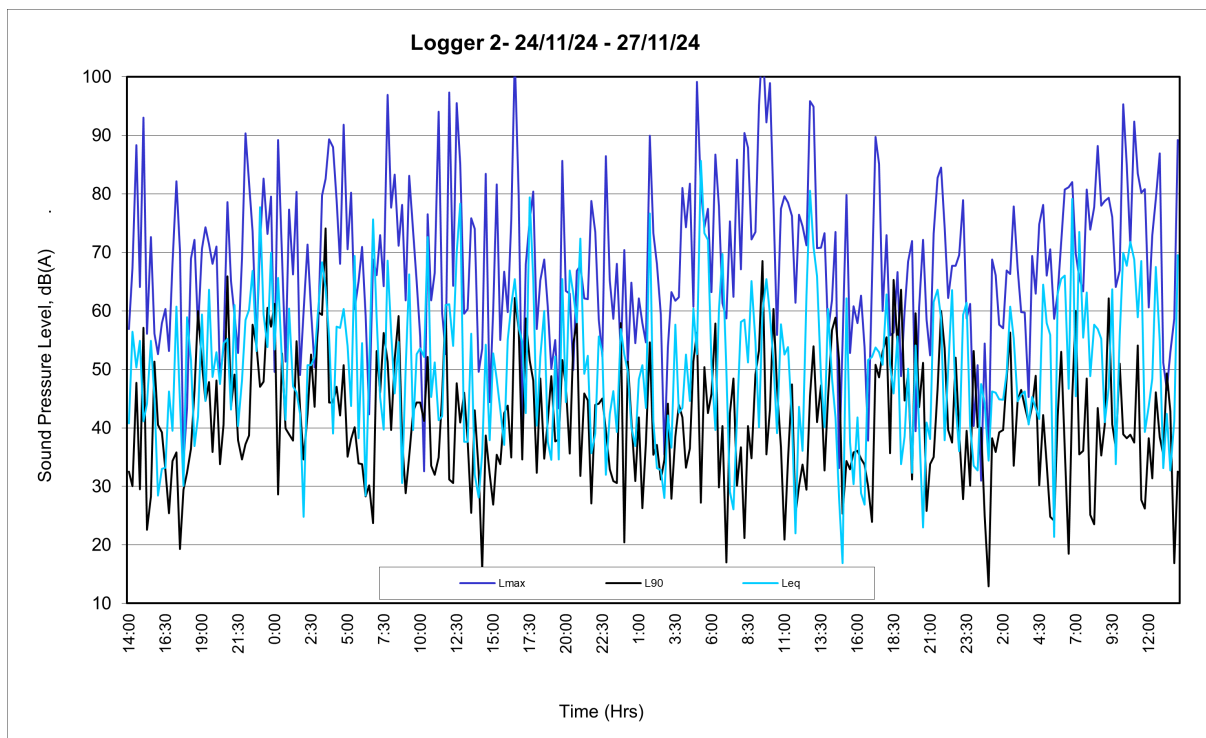
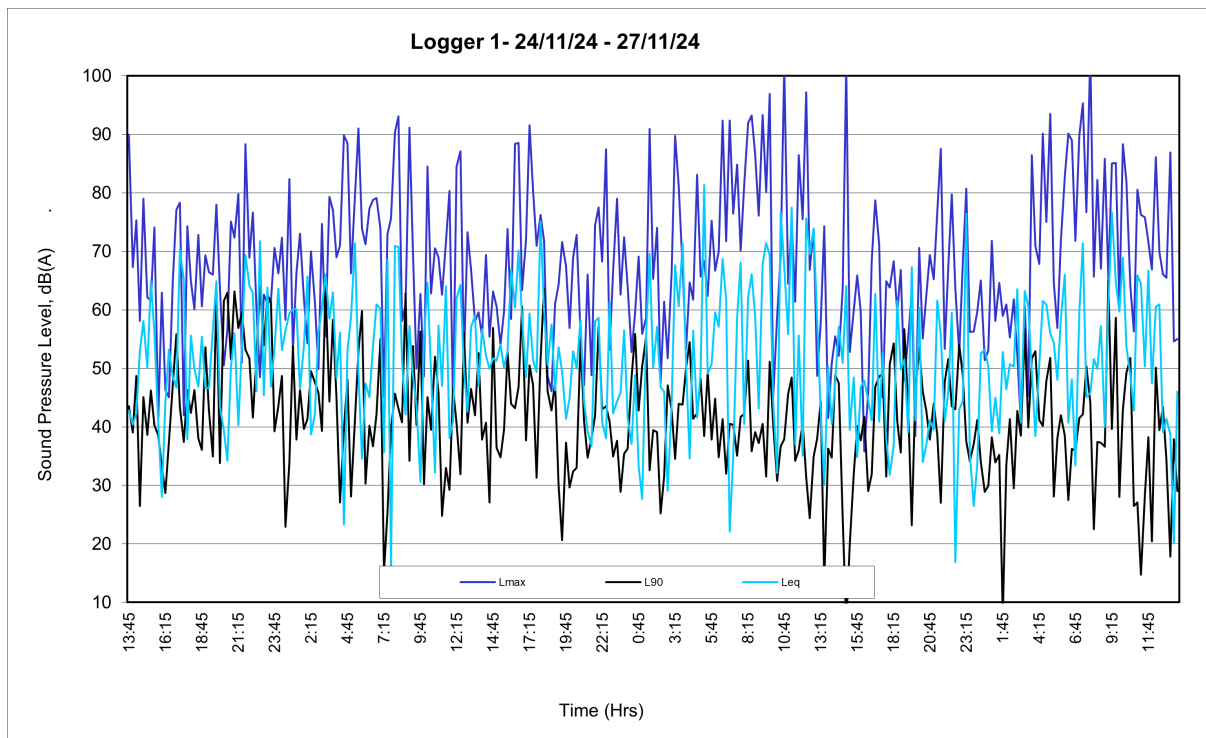


Neil Pennington MAIP, MAAS, MASA

B. Sc., B.Math. (Hons)

Principal / Director

APPENDIX A NOISE LOGGER CHARTS





5 February 2025

Ref: 10584/10701

Daracon Quarries Pty Ltd
PO Box 299
WALLSEND NSW 2287

RE: DECEMBER 2024 NOISE MONITORING RESULTS – ARDGLEN QUARRY

This letter report presents the results of attended and unattended noise monitoring conducted for the Ardglan Quarry (AQ) between Tuesday 17th and Friday 20th December 2024. The monitoring was carried out to measure noise emissions from the operations of the quarry. Noise monitoring was carried out in accordance with the conditions of the AQ Noise Monitoring Plan (NMP) as detailed below.

NOISE CRITERIA

*The Proponent shall ensure that the noise generated by the project does not exceed the noise impact assessment criteria in **Table 1** at any residence on privately-owned land, or more than 25% of any privately owned land.*

Table 1				
Noise Impact Assessment Criteria				
Land	Day Leq (15 min)	Evening Leq (15 min)	Night	
			Leq (15 min)	L1 (1 min)
1 Burraston	35	35	35	45
3 Rose	35	35	35	45
4 C M Thompson	44	35	35	45
5 M Taylor	45	35	35	45
6 S Thompson	45	35	35	45
9 Bates	37	35	35	45
10 Avery	38	35	35	45
11 Shipman	37	35	35	45
12 Hall	36	35	35	45
13 McGhie	35	35	35	45
14 Purtell	36	35	35	45
15 J Taylor	43	35	35	45
16 Bojba	40	35	35	45
All other privately owned land	35	35	35	45

However, if the Proponent has a written negotiated noise agreement with any landowner of the land listed in Table 1, and a copy of this agreement has been forwarded to the Department and the DECCW, then the Proponent may exceed the noise limits in Table 1 in accordance with the negotiated agreement. The Proponent may also exceed the L1 (1 min) and Leq (15 min) noise impact criteria during out of hours rail loading activities provided they are conducted in accordance with Section 3, Condition 41 of the Project Approval (which is reproduced below).

41. The Proponent may only load a maximum of 2 trains outside the rail loading and distribution hours listed in Table 1 (of the Project Approval, being Monday to Sunday 7:00am to 10:00pm) in any 12 month period, unless agreed in writing by the Director General.

Notes:

- For information on the numbering and identification of properties used in this approval see Figure 2 on Page 14 of this Noise Monitoring Program).
- To determine compliance with the LAeq (15 minute) noise limits, noise from the project is to be measured at the most affected point on or within the residential boundary, or at the most affected point within 30 metres of a dwelling (rural situations) where the dwelling is more than 30 metres from the boundary. Where it can be demonstrated that direct measurement of noise from the development is impractical, the DECCW may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy). The modification factors in Section 4 of the NSW Industrial Noise Policy shall also be applied to the measured noise levels where applicable.
- To determine compliance with the L1 (1 minute) noise limits, noise from the project is to be measured 1m from the dwelling facade. Where it can be demonstrated that direct measurement of noise from the development is impractical, the DECCW may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy).
- The noise emission limits identified in the above table apply under meteorological conditions of:
 - wind speeds of up to 3 m/s at 10 metres above ground level; or
 - Temperature inversion conditions of up to 3°C/100m, and wind speeds of up to 2 m/s at 10 metres above ground level.

NOISE MONITORING LOCATIONS

Noise measurement locations for the attended noise survey are listed below and shown in the accompanying **Figure 1**:

Location 4: C M Thompson
Location 13: McGhie
Location 14: Purtell
Location 16: Bojba



Figure 1 – Attended Noise Monitoring Locations

ATTENDED NOISE MEASUREMENTS

Noise emission levels were measured with a Brüel & Kjær Type 2250 Precision Sound Analyser. This instrument has Type 1 characteristics as defined in AS1259-1982 “Sound Level Meters”. Calibration of the instrument was confirmed with a Brüel & Kjær Type 4231 Sound Level Calibrator prior to and at the completion of measurements.

Meteorological data used in this report was obtained from the quarry operated weather station with real time observations made at the start of each 15 minute monitoring period. The weather throughout the survey was generally mild with clear skies. The wind speed was mild from the north-west.

RESULTS OF ATTENDED MONITORING

The measured noise levels, over 1 second intervals, were analysed using Brüel & Kjær “*Evaluator*” software. The software enables the contributions of the quarry and other significant noise sources to the overall to be quantified.

Noise levels were recorded for each of the Leq (15 min), Lmax, L1, L10, L90 and Lmin percentiles. As shown in Table 1, the noise criterion for AQ during the day is based on an Leq noise level. The results, shown in **Table 2**, represent the total 15 minute Leq noise level for all noise sources and the relative contributions of each. Levels for the other percentiles are not shown as they have no compliance criteria for comparison but are available on request. The exception is the L1 (1 min) noise level (which is the standard measure of sleep disturbance) which is applicable to noise emissions at night (i.e. between 10 pm and 7 am).

Table 2 Ardglen Quarry Noise Monitoring Results – 20th December 2024 (Day)				
Location	Time	dB(A), _{Leq}	Wind speed (m/s) / direction°	Identified Noise Sources
4. Thompson	2:28pm	49	1.8 / 344	Traffic (48), train (42), AQ inaudible
13. McGhie	1:46pm	40	1.3 / 277	Birds (38), traffic (35), insects (23), AQ inaudible
14. Purtell	2:08pm	38	1.4 / 249	Traffic (36), birds (32), insects (28), AQ inaudible
16. Bojba	2:47pm	55	1.1 / 046	Traffic (55), birds (32), AQ inaudible

The results in Table 2 show that, under the meteorological and operating conditions at the time, the noise emissions from AQ were inaudible at all monitoring locations throughout the survey.

At the time of the noise monitoring the following plant items were operational at the quarry;

- 2x 740 articulated dump trucks
- 2x Caterpillar 972 loaders
- 1x Volvo 36t excavator
- 1x 3" pump running intermittently
- 1x Isuzu water truck
- 1x 20KVA generator
- 1x 11KVA generator

The results of the noise monitoring programme have shown that AQ is operating within approved noise limits. No actions are recommended with respect to noise management at the Quarry.

UNATTENDED NOISE MEASUREMENTS

The NMP requires that unattended noise logging be undertaken over a period of three days, part of which coincides with the attended noise monitoring.

To measure the acoustic environment an ARL EL-315 environmental noise logger and an ARL Ngara environmental noise logger, were located as shown in Figure 2 from 17th to 20th December 2024. **Table 3** shows a summary of the relevant measured data from the loggers which is also shown graphically in **Appendix A**.

TABLE 3 Measured Logger Noise Levels dB(A) – 17th to 20th December 2024						
Logger Location	Day (7am to 6pm)		Evening (6pm to 10 pm)		Night (10pm to 7am)	
	Leq	L90	Leq	L90	Leq	L90
Logger 1	66	26	63	34	64	32
Logger 2	66	27	66	27	70	26



Figure 2 – Unattended Noise Monitoring Locations

The logger locations were chosen to be representative of the acoustic environment of the closest residences to the quarry and for security reasons.

Logger 1 was located on the fence at location R14. This is adjacent to the attended noise monitoring location for this residence.

Logger 2 was in an open paddock north of the house.

The unattended noise loggers measure the total noise level in the environment, but the data cannot discriminate between various noise sources. As such, the data is presented here with no further analysis.

We trust this report fulfils your requirements at this time, however, should you require additional information or assistance please contact the undersigned on 4954 2276.

Yours faithfully,

SPECTRUM ACOUSTICS PTY LIMITED

Author:

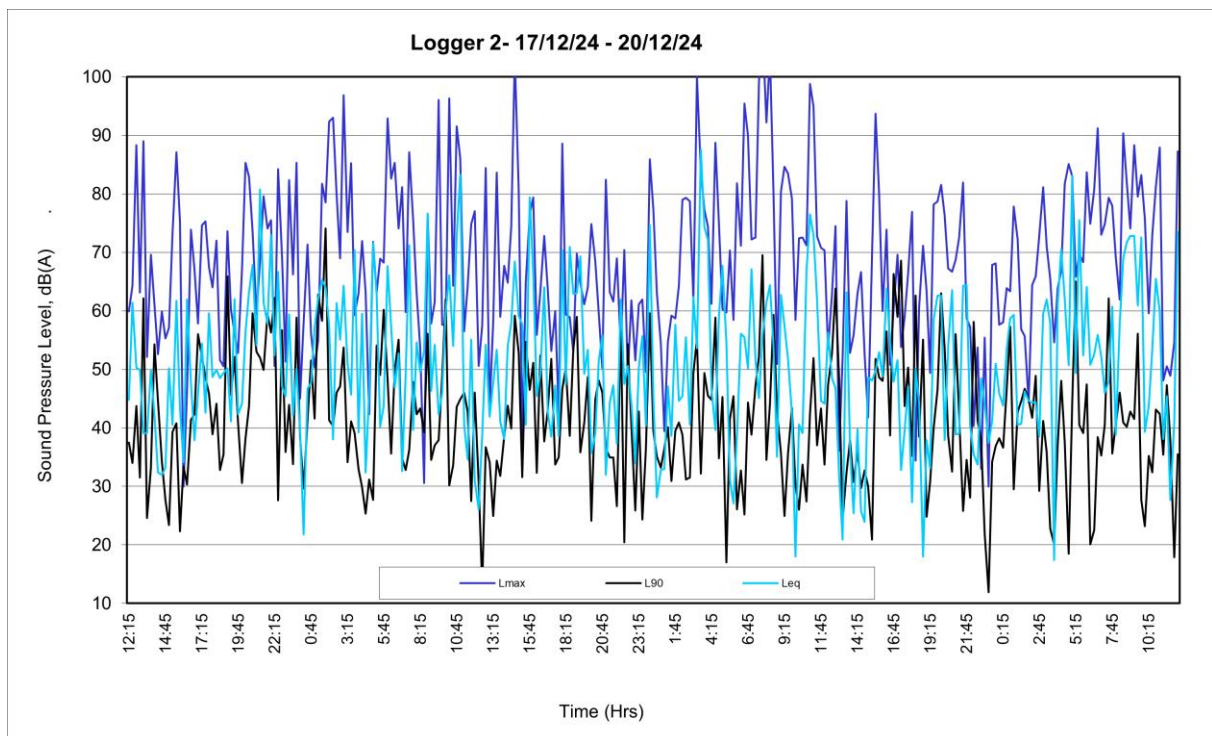
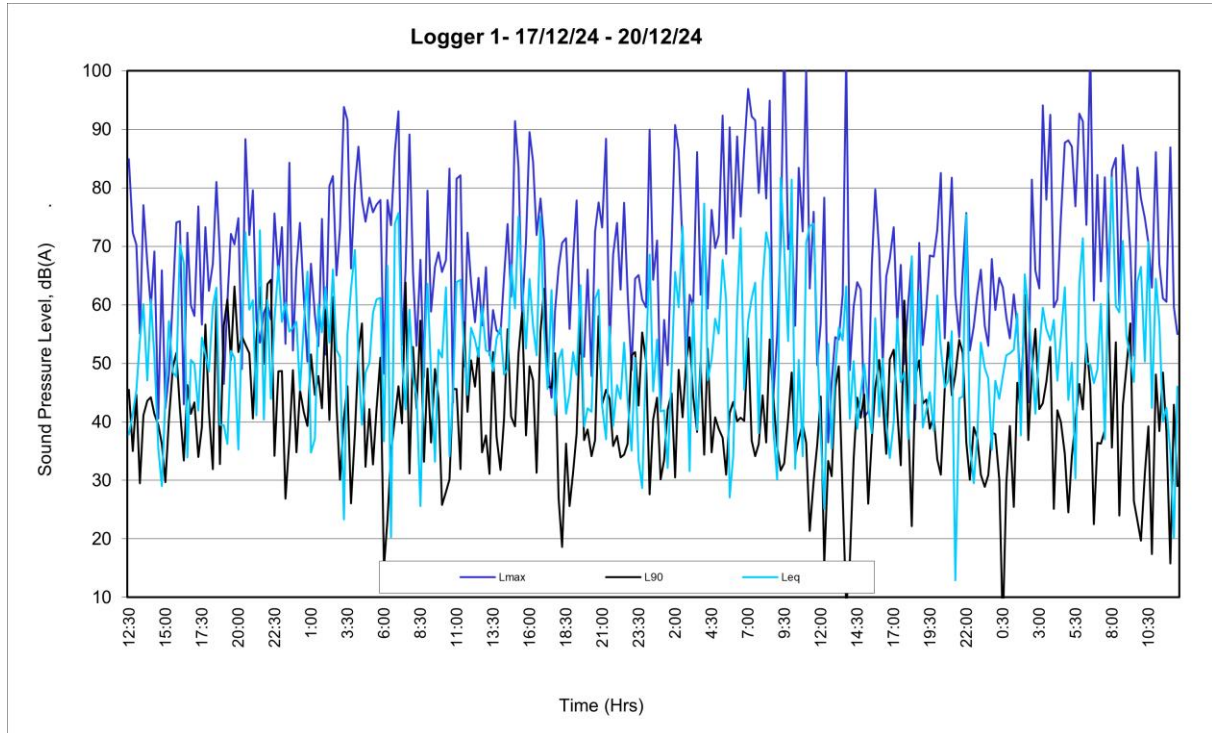


Neil Pennington MAIP, MAAS, MASA

B. Sc., B.Math. (Hons)

Principal / Director

APPENDIX A NOISE LOGGER CHARTS



Appendix 3 2024 Community Consultative Committee Meeting Minutes

**Tuesday, 9 April 2024 at Murrurundi Library,
Murrurundi commencing at 9.35am**

Attendees	Initials	Position
Michael Silver OAM	MJS	Independent Chairperson
Delma Ross	DR	Community Member
William Avery	WA	Community Member
Penny Dalton	PD	Community Member
Luke Robinson	LR	Systems Manager – Construction Materials, Daracon Group

Observers

John Cannon	JC	Divisional Manager - Construction Materials, Daracon Group
Geoff Reeves	GR	Ardglen Quarry Site Manager – Construction Materials, Daracon Group

Apologies

Megan Taylor	MT	Community Member
Nathan Skelly	NS	Director Infrastructure Services, Liverpool Plains Shire Council
Geoff Phillips	GP	Crown Lands (Tamworth)

Item	Details and Actions
1.0 Welcome and Introductions	Michael Silver welcomed all present.
2.0 Acknowledgement of Country	The Chair acknowledged the Traditional Owners of the land on which the meeting is being held and recognised their continuing connection to land, waters, and culture, paying respects to their Elders past, present and emerging.
3.0 Declarations of Interest	• MJS declared that his expenses as Independent Chairperson are borne by the proponent. • MJS noted that there were no declarations of pecuniary or other conflict of interests from Community Members.
4.0 Chair's Minute	• MJS reported that Ms Christine Thompson had resigned from the Committee. He indicated this created a casual vacancy. Advertising consistent with the CCC Guidelines would be initiated seeking nominations from community members in the Murrurundi/Ardglen area. LR confirmed he would prepare the necessary advertisements.
5.0 Correspondence	• Christine Thompson – resigning from the Ardglen Quarry Community Consultative Committee.

5.0 Previous Meeting	• It was noted that the minutes of the meeting of 14 November 2023 were approved on 4 December 2023. • No Business Arising
6.0 Proponent's Report	• Luke Robinson presented the Proponent's Presentation. <i>(Copy attached to the Minutes)</i> • LR provided a brief overview of the quarry and the current status of the site, summarising the current operations. • LR advised that previously quarried material has been screened and supplied to various Daracon projects and clients since the last meeting. He indicated that quarrying would move into the extension area shortly. This will support the Coulsons Creek Road upgrade project (Willow Tree to Merriwa). Daracon have been awarded this project. • LR advised that the primary focus at the quarry has been on construction works such as water management, crushing pad and associated infrastructure. He highlighted the adjusted weighbridge entry and the new wheel wash. • LR noted the progress associated with the offset area. • LR explained the air quality monitoring results and particularly the dust gauge depositions, noting the spike in monitoring results for PM10, PM 2.5 and Total Suspended Particulates during December 2023. Whilst this was an exceedance and required reporting to the Department of Planning Housing and Infrastructure (DPHI) it was deemed to be the result of the bushfires in the Pilliga during that period. LR advised that the required air quality monitoring results were compliant for all annual averages and 24-hour results during 2023. • LR stepped the Committee through the noise monitoring results. He advised that with operations recommencing, noise monitoring will now occur on a monthly schedule. • LR detailed the management of flora and fauna. PD sought clarification if feral animals are being shot on the quarry site. GR advised that Daracon do engage a licenced shooter. PD suggested pigs are a major problem in the village. This comment was supported by WA who indicated deer was also a problem, DR noted that there was now no market for the sale feral pig carcasses. GR indicated he can advise residents when the shooter is on site. • LR advised that there had been a complaint/enquiry regarding the quarry operation and potential impact on water availability. He indicated that in consultation with DPHI and the resident the matter was resolved. • LR noted that the Doughboy Hollow Rehabilitation Strategy was recently finalised and approved by DPHI. This process has commenced and will be ongoing for many years. He also noted that 97 mm of rain had been recorded at the site in the last week. He indicated the first priority will be the removal of noxious weeds. Erosions and stability issues are a primary

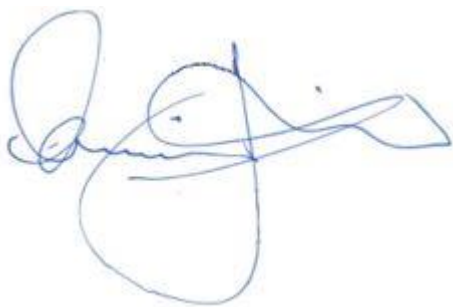
	consideration in the Doughboy Hollow rehabilitation works – the larger scope rehabilitation works will occur in the future. These rehabilitation of Doughboy Hollow will occur over an extended period. • In terms of tree planting LR reported that the results have been most encouraging with recent rain supporting growth and tree establishment. • LR advised that between July and December 2023, we exported 16,908 tonnes of material from the quarry. LR explained in detail the haulage requirements and standards. He emphasised the driver education and expectations that the required standards are complied with by the drivers. • WA and PD noted a section of the haul road appears to be impacted by water, causing deterioration and requires repair. JC advised it is a spring and does require attention – the problem has been reported to Liverpool Plains Shire Council. • JC added that material will continue to be exported by truck for the foreseeable future – the possible use of the rail siding is not on the horizon at the moment. He highlighted that truck movements will increase when quarrying moves into the extension area. He encouraged residents to advise Daracon if there is a problem with trucks and their movements through the Ardglen village. LR added that drivers are subject to a Code of Conduct and the truck speed limit through the village is 40 kph. • In respect to entering the extension area, JC noted it is a quality product – there is now a need to move into this area and increase output from the quarry. • LR outlined the planned activities for 2024. He indicated that work in the extension area would occur soon. This will result in the commencement of blasting. • Discussion occurred on the safety standards and protocols associated with blasting. LR noted that two blast monitors are located at DR's former residence and WA's residence. • LR updated the Committee on the requirement of the Modification 2 consent. • LR explained how the quarrying process in the extension area will be undertaken and the stepped formation that will occur. PD enquired as to impacts on a historical TSR – LR advised there is no stock route. He advised that the existing tall face (northeastern face) will remain. • LR noted that the 2022 Independent Environmental Audit had been completed. He advised that a hard copy could be provided upon request. • Further discussion progressed on blasting. LR encourage persons to register on Daracon's blast notification list. He also advised that a letterbox drop notifying residents of blast activities would occur prior to events. It was suggested these letter box drops should coincide with ordinary mail deliveries on Mondays and Wednesdays.
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8.0 Other Agenda Items	1. Long Term Plan JC provided an overview of the long-term planning for the quarry. He explained the detailed extensive geological work undertaken as part of the Optimisation Analysis. JC advised that he expected up to 250,000 tonnes per year to be extracted from the quarry as the customer base is rebuilt and the operation ramps up - with the total allowed being 500,000 tonnes per annum. Sales will be dependent on what projects the quarry is within economical distance of, adding that the current consent is valid till 2038. It is estimated that the resource has a life of between 50-60 years at maximum annual extraction. .
9.0 General Business	• Historical Book – PD advised that she was pursuing information on a potential historical book on the village of Ardglen. • Blasting – LR confirmed that blasting is likely to recommence in the next week or so.
10.0 Next Meeting	• Proposed for November 2024 – date to be confirmed

Meeting closed at 10.50 am.

MJS thanked all present for their attendance.

Meeting Minutes Approved:



Michael J Silver OAM
Independent Chair

Date: 2 May 2024

**Tuesday, 12 November 2024 at Murrurundi Library,
Murrurundi commencing at 9.35am**

Attendees	Initials	Position
Michael Silver OAM	MJS	Independent Chairperson
Delma Ross	DR	Community Member
William Avery	WA	Community Member
Penny Dalton	PD	Community Member
David Bates	DB	Community Member
Luke Robinson	LR	Systems Manager – Construction Materials, Daracon Group

Observers

John Cannon	JC	Divisional Manager - Construction Materials, Daracon Group
Geoff Reeves	GR	Ardglen Quarry Site Manager – Construction Materials, Daracon Group

Apologies

Megan Taylor	MT	Community Member
Nathan Skelly	NS	Director Infrastructure Services, Liverpool Plains Shire Council
Geoff Phillips	GP	Crown Lands (Tamworth)

Item	Details and Actions
1.0 Welcome and Introductions	Michael Silver welcomed all present, particularly Mr David Bates attending his first meeting.
2.0 Acknowledgement of Country	The Chair acknowledged the Traditional Owners of the land on which the meeting is being held and recognised their continuing connection to land, waters, and culture, paying respects to their Elders past, present and emerging.
3.0 Declarations of Interest	• MJS declared that his expenses as Independent Chairperson are borne by the proponent. • DB advised he had a casual agreement with the Proponent regarding undertaking maintenance on the Proponent's property adjoining his land. • MJS noted that there were no other declarations of pecuniary or other conflict of interests from Community Members.
4.0 Chair's Minute	• MJS reported that following public advertising Mr David Bates had been appointed by the NSW Department of Planning Housing and Infrastructure (DPHI) to the CCC.
5.0 Correspondence	• <i>NSW Department of Planning Housing and Infrastructure</i> – Advising the appointment of Mr David Bates to the CCC.

	• <i>Megan Taylor</i> – Expressing concern at the deteriorating condition of a section of the haul road in the village. LR advised this would be addressed in the Proponent's Presentation.
5.0 Previous Meeting	• It was noted that the minutes of the meeting of 9 April 2024 were approved on 2 May 2024. • No Business Arising
6.0 Proponent's Report	• Luke Robinson presented the Proponent's Presentation. <i>(Copy attached to the Minutes)</i> • LR provided a brief overview of the history of the quarry and the current status of the site, summarising the current operations. • LR advised that Daracon has now entered the 'Extension Area', with several critical tasks completed. The stockpile of previously quarried material continues to be supplied to various Daracon projects and clients. Noise compliance assessment has been completed and accepted by the EPA whilst environmental monitoring in accordance with the Modification 2 conditions continues. The Committee noted the various photographs highlighting the current status of operations at the quarry. • LR stepped the Committee through the Air Quality monitoring data and associated tables and graphs. • It was noted that the monthly averages were relatively low and well within the required criteria. It was also noted that a PM 2.5 spike was detected on 4 August 2024 created by strong north westerly winds, with the probable source being trucks (not associated with the quarry) on the Swinging Ridge Road creating dust. • DB raised concerns over the movement of quarry trucks through the village, asking what constitutes a "movement". LR advised 55 movements per day are permitted with one movement being an in and out viz. 110 truck movements overall. • DB highlighted issues associated with trucks exceeding speed limits and driver behaviour on the haul route in Ardglen. ACTION: Daracon to provide a response to concerns regarding 'truck speed' and 'driver behaviour' in the Ardglen village. <i>Daracon: The alleged truck speed matter was promptly addressed with the trucking company and the driver in question. The truck was GPS tracked, and all this information was fed back to DB promptly after the CCC meeting.</i> • The Committee noted the Noise Monitoring data as presented complies with the consent. It also noted that the Noise Compliance Assessment was completed in August 2024 and subsequently accepted by the EPA on the 1 November 2024. • LR advised that since the commencement of blasting there have been five (5) blasts. DB indicated that on one occasion he felt the blast and his coffee had sloshed in the cup. LR explained the blast notification process. JC suggested a dilapidation survey could be

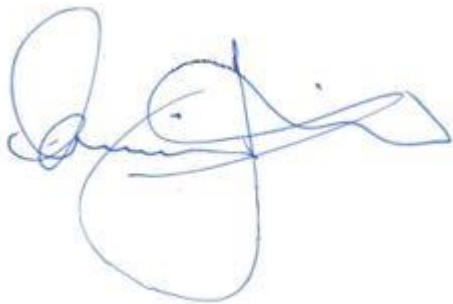
	undertaken on DB's dwelling. DB explained that his well and the quarry dam are on the same groundwater stream, and this could contribute to tremor transfer. WA noted the latest blast was very noisy as was the one prior to that. WA also advised the monitor near his property had been removed – LR explained that it was historically placed near WA's property in error and had now been relocated to the correct position in accordance with the original Environmental Assessment. • LR advised that topsoil is being removed from the extension area. • PD questioned the extent of feral animals at the quarry. GR advised that feral pigs remain a considerable problem however the number of deer appears to have declined. • The Committee noted that five (5) incidents and six (6) complaints have been recorded during 2024 – refer to extracts from the registers in the presentation. • Considerable discussion proceeded on the deteriorating condition of a section of Main Street, Ardglen caused primarily by water infiltrating into the road pavement material. LR advised that Daracon is liaising with Liverpool Plains Shire Council (as the road authority) to resolve this issue by the installation of 'inter-pavement drainage' to rectify the section of road that is currently failing. The current action is with the Council and Daracon is awaiting its instruction. The Committee noted the images provided in the presentation highlight the damage to the road. • LR advised that in terms of rehabilitation, the Conservation Agreement (CA) which permanently secures the Biodiversity Offset Areas (BOAs) was formally ratified by the Biodiversity Conservation Trust (BCT) and commenced on the 7 May 2024 whilst work on the Doughboy Hollow Rehabilitation Strategy recently commenced – this work will extend over several years. • LR provided details of truck movements over the last ten months. He indicated that the number of truck movements will increase as few large projects will commence shortly which is likely to increase truck movements from the quarry (up to 55 laden per day). • LR outlined the planned activities and works associated with the quarry for the rest of 2024. He indicated that hard copies of Management Plans can be provided to Committee members upon request. He highlighted that a groundwater monitoring network is in place with monitoring undertaken on an ongoing basis. The focus over the next couple of years will be the establishment of the Extension Area.
8.0 Other Agenda Items	Current and Upcoming Projects JC provided an overview of the projects to be supplied from the Ardglen Quarry in the immediate term:

	• Gabion Rock – Coulson Creek Project • Barrington Tops Road works • Ballast – ARTC (10,000 tonnes) • Other mine and infrastructure projects JC noted that there was demand for the resource at the quarry as other quarries have currently reached the limit of their consent and are not operational.
9.0 General Business	• Traffic Safety Mirrors – WA highlighted the need to check the traffic safety mirrors along Warra Street for adequate alignment. ACTION <i>Daracon: Mirrors have been adjusted and tightened as requested</i> • Telstra Pit Lid – WA advised that the Telstra pit lid adjacent to his property was dislocated during the road widening works and requires reinstatement. ACTION <i>Daracon: Telstra pit lid has been reinstated as requested.</i>
10.0 Next Meeting	• Proposed for April 2025 – date to be confirmed

Meeting closed at 10.50 am.

MJS thanked all present for their attendance.

Meeting Minutes Approved:



Michael J Silver OAM
Independent Chair

Date: 4 December 2024

Appendix 4 2024 Community Complaints Register

Date	Time	Details	Response
Jan-24	N/A	Local ground water wells and Doughboy Hollow is drying up	Daracon answered the queries by providing additional information regarding site water
23/05/2024	3:02pm	Blasting query	We answered all of the queries raised and also their subsequent similar enquiry in July 2024
2/08/2024	10:30am	Truck speeding through the Ardglen township, without registration details available	Despite the fact we did not have the registration details for the truck seen speeding through the Ardglen township, we immediately contacted our transport subcontractor's supervisor (and owner) who responded promptly by undertaking a toolbox talk with all his drivers to remind them of the Ardglen quarry truck drivers Code of Conduct and the strict requirement to adhere to 40kph within the township of Ardglen. We also suggested that it is very helpful to obtain the registration details for any vehicles seen breaching the site access rules in the future please
14/08/2024	11:57am	Blasting query	The location for 'blast monitor 7' was interpreted, agreed and appears to have resolved this matter.
During the latter part of 2024	Various	Various feedback received from a few community members regarding the condition of Main St Ardglen	We've responded to all enquiries regarding the condition of Main St Ardglen by explaining we continue to liaise with LPSC to resolve this issue ASAP. The current action is with LPSC and we await their instruction.
5/11/2024	13:33	Blasting query	We answered the query raised
8/12/2024	14:28	An enquiry was received regarding: * Noise and dust generated by trucks departing site; * The presence of vegetation on the corner adjacent to their driveway was creating a sight distance issue; * Another question regarding blast monitors;	We've responded to all enquiries raised and they were satisfied with the responses.

12/12/2024	7:30	A complaint from a resident at Ardglen concerning trucks entering the township of Ardglen without tarps on, which states clearly in the code of conduct that trucks entering or leaving the quarry, loaded or empty must be tarped.	We responded to the complaint by formally reminding all truck drivers of the need reinstate their tarps even when the truck is empty. A signed toolbox talk was used to document this instruction.
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Appendix 5 Rubicon (formerly TREES) Erosion & Sediment Control Inspection Report

Ardglen Quarry Inspection Report – Daracon Group

CLIENT	Daracon Group	REPORT DATE	31 st May 2024	REPORT NO.	8	REPORT TO:	Geoff Reeves, Luke Robinson, Jason Gorton – Daracon Group
PROJECT	Ardglen Quarry	INSPECTION DATE	30 th May 2024	ATTENDEES:	Geoff Reeves, Luke Robinson – Daracon Group, Andrew Littlewood – Rubicon Enviro.		
WEATHER	Fine, mild, light to moderate winds.	COMMENT	The inspection was conducted as the periodic review of erosion and sediment control management practices within the quarry. The re-activation of the quarry has commenced, with a series of upgrades & repairs of internal haul & access roads, relocation of site facilities and weighbridge, and installation of a wheel wash. The proposed works in planning include the expansion of the main central dam and the tertiary dam adjacent to the rail siding. Runoff within the quarry environs continues to be managed by the dams and sump areas which are monitored and managed under the quarry’s Water Management Plan. The targeted weed suppression program continues with dieback of weed species noted at various locations in the quarry surrounds. No significant issues were identified and our comments from the inspection are detailed below.				
ISSUE NO.	LOCATION	ISSUE/MATTER	RECOMMENDATION/COMMENT			PHOTOGRAPH	
1.	Northern quarry expansion – permanent ‘clean’ water cut-off drain.	Planning for quarry operations intends to continue extraction activities in a westerly direction from the existing quarry highwall. Prior to the expansion of the extraction area, a ‘clean’ water cut-off drain is required upslope of the proposed workings to divert ‘clean’ runoff to stabilised, vegetated areas to the north.	The proposed alignment of the ‘clean’ water drain was assessed onsite. As discussed, we recommend the following measures: • The upper 50-75m of the drainage line can be formed using a compacted earth berm that is stabilised with topsoil, coir fibre matting installed and subsequent seeding. • The berm formation will then transition to an excavated drain approximately in a position that is central to the proposed highwall alignment. The cross-section of the drain should be trapezoidal or parabolic in profile. The drain invert to be stabilised with topsoil, coir fibre matting installed and subsequent seeding • We recommend calculations are undertaken to assess the increasing internal dimensions of the drain as it follows the contour in a northerly direction to the discharge point. • The flows from the drainage outlet to be discharged over a level spreader with an adjacent rock diffuser with approximate dimensions of 10-15m wide, and 5-10m depth in a downslope direction. We suggest that ungraded blast rock is utilised for the rock diffuser.			  	

Ardglen Quarry Inspection Report – Daracon Group

PROJECT:	Ardglen Quarry	INSPECTION REPORT NO.	8	INSPECTION DATE	31 st May 2024
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ISSUE NO.	LOCATION	ISSUE/MATTER	RECOMMENDATION/COMMENT	PHOTOGRAPH
2.	Western rehabilitation area – above western void highwall.	The rehabilitation area at the western extent of the quarry area was inspected. The rehabilitation plantings on the ridgeline have exhibited varying degrees of establishment, with some mortalities noted.	Site controllers indicated that the area continues to be monitored on a regular basis by engaged Ecologists. No actions were required.	
3.	Quarry operations.	Processing operations have recommenced on the quarry floor, with crushing and screening of product underway. We note the screening and crushing operations are undertaken within the quarry void and dust emissions were visibly minimal.	As discussed, continue to implement effective dust suppression measures.	
4.	Quarry floor sediment basin.	The in pit sediment basin continues to be the primary storage for runoff from the adjacent quarry void workings. At the time of the inspection, the water quality in the basin had visibly low turbidity.	Site controllers indicated that the sediment basin will be substantially augmented in volume to accommodate the increased runoff volumes when disturbance in the expansion area commences. No actions were required.	

Ardglen Quarry Inspection Report – Daracon Group

PROJECT:	Ardglen Quarry	INSPECTION REPORT NO.	8	INSPECTION DATE	31 st May 2024
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ISSUE NO.	LOCATION	ISSUE/MATTER	RECOMMENDATION/COMMENT	PHOTOGRAPH
5.	Quarry weighbridge area.	The ancillary sheds adjacent to the quarry weighbridge have been relocated to the quarry floor, and a prefabricated concrete panel wheel wash has been installed for departing vehicles, prior to the approaches of the weighbridge. In addition, we note the adjacent rock batter has been reprofiled and concrete barriers placed along the toe of the batter.	The controls in the area remain functional, and no actions were required.	
6.	Tertiary basin.	The tertiary basin was inspected. At the time of the inspection, the basin had 100% available capacity, with no standing water noted in the structure. Site controllers indicated that the existing footprint of the basin will be extended in a southerly direction toward the rail siding facility.	The controls in the area remain functional, and no actions were required.	
7.	Rail siding area.	The rail siding area was inspected. The area has remained generally dormant in the time since the previous inspection, with the exception of some minor drainage improvements along the former rail access.	As discussed, there are no actions in the area required beyond some periodic weed suppression in the area.	

Ardglen Quarry Inspection Report – Daracon Group

PROJECT:	Ardglen Quarry	INSPECTION REPORT NO.	8	INSPECTION DATE	31 st May 2024
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ISSUE NO.	LOCATION	ISSUE/MATTER	RECOMMENDATION/COMMENT	PHOTOGRAPH
8.	Lube shed and fuel storage area.	The lube shed and maintenance bay area was inspected. The bunded re-fuelling areas have been desilted, together with bunded containerised storage within the lube shed areas, and the oil and water separator unit is now recommissioned. In addition, diesel fuel supplies are now housed in a self-bunded containerised diesel tank unit.	The controls and mechanisms that have been reactivated are functioning adequately and no actions were required.	

Report by: Andrew Littlewood – Senior Soil Conservationist & CPESC No. 5988	Signed: 	Date: 31 st May 2024
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Appendix 6 Rehabilitation and nesting inspection report - Ardglen Quarry



2024 Ardglen Quarry Annual Biodiversity Monitoring Report

Report prepared for Daracon

18 February 2025

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1.0 Introduction

Emergent Ecology was engaged through Umwelt (Australia) Pty Limited (Umwelt) on behalf of Daracon to undertake the 2024 annual biodiversity monitoring at Ardglen Quarry. Ardglen Quarry is a hard rock quarry located approximately five kilometres north-west of Murrurundi, in the Upper Hunter Valley of NSW, refer to **Figure 1.1**.

This report satisfies the annual ecological reporting requirements as specified in the Landscape Management Plan (LMP) (Umwelt 2024) and Project Approval (06_0264). The objectives of the monitoring program are to monitor the:

- General health of the vegetation within the Biodiversity Offset Areas (BOAs), rehabilitation areas and Doughboy Hollow Creek survey area;
- Condition of perimeter fencing around BOAs and Doughboy Hollow Creek survey area to exclude livestock;
- Weed composition within BOAs, rehabilitation areas and Doughboy Hollow Creek survey area, including the need for any works to control weeds during the following 12-month period;
- Success of natural regeneration and plantings within BOAs and if any assisted revegetation is required; and
- Location and usage of nest boxes of which have been placed within the BOAs.

Where appropriate, management recommendations have been provided to guide the improvement of biodiversity values of the BOAs, rehabilitation areas and Doughboy Hollow Creek survey area.

2.0 Methods

The methodology for the 2024 monitoring program was consistent with previous years' monitoring. Details of each site are provided in **Table 2.1**. The monitoring program included:

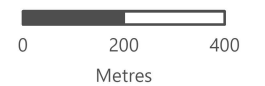
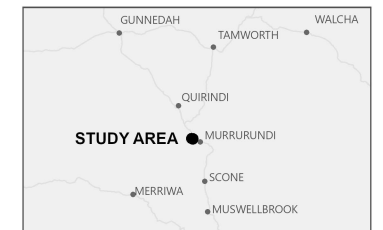
- Conservation Agreement Monitoring within the BOAs;
- Rehabilitation monitoring;
- Monitoring within Doughboy Hollow Creek study area; and
- Nest box monitoring.

Field surveys for the monitoring program were undertaken from 4th to 6th December 2024.

FIGURE 1.1
Location Map

Legend

-  Doughboy Hollow Creek Study Area
-  Biodiversity Offset Area



Scale 1:15,000 at A4
GDA2020

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APPROVED FOR AND ON BEHALF OF Umwelt

Figure 1.1. Locality Map
Table 2.1 Monitoring Site Locations

Site Name	Monitoring Method	Year Established	Area	Vegetation Community/Target	PCT	Easting	Northing
Q1	Biometric Flora Plot	2019	Offset C	Yellow Box – White Box - Silvertop Stringybark - Blakely's Red Gum grass shrub woodland	496	290019	6485647
Q2	Biometric Flora Plot	2019	Offset B	River Oak riparian grassy tall woodland of the western Hunter Valley	485	289747	6486167
Q3	Biometric Flora Plot	2019	Offset B	Yellow Box – White Box - Silvertop Stringybark - Blakely's Red Gum grass shrub woodland	496	289761	6485921
Q4	Biometric Flora Plot	2019	Offset A			289144	6486073
A1	Natural Regeneration Monitoring	2019	Offset A			289077	6486201
A2	Natural Regeneration Monitoring	2019	Offset A			289062	6486145
A3	Natural Regeneration Monitoring	2019	Offset A			289060	6486090
A4	Natural Regeneration Monitoring	2019	Offset A			289150	6485973
B1	Natural Regeneration Monitoring	2019	Offset B			289822	6486108
B2	Natural Regeneration Monitoring	2019	Offset B			289821	6486014
B3	Natural Regeneration Monitoring	2019	Offset B			289945	6485915
B4	Natural Regeneration Monitoring	2019	Offset B			289854	6485906
C1	Natural Regeneration Monitoring	2019	Offset C			290061	6486188
C2	Natural Regeneration Monitoring	2019	Offset C			290034	6485967

Site Name	Monitoring Method	Year Established	Area	Vegetation Community/Target	PCT	Easting	Northing
C3	Natural Regeneration Monitoring	2019	Offset C			289953	6485745
C4	Natural Regeneration Monitoring	2019	Offset C			289943	6485582
R1	Biometric Flora Plot, Soil Sample	2021	Rehabilitation			289310	6486230
R2	Biometric Flora Plot, Soil Sample	2021	Rehabilitation			288983	6486508
Ref1	Soil Sample	2021	Reference			289114	6486390
DB01	BAM Plot	2023	Doughboy Hollow Creek	River Oak riparian grassy tall woodland of the western Hunter Valley	485	289829	6486315
DB02	BAM Plot	2023	Doughboy Hollow Creek			289927	6486445

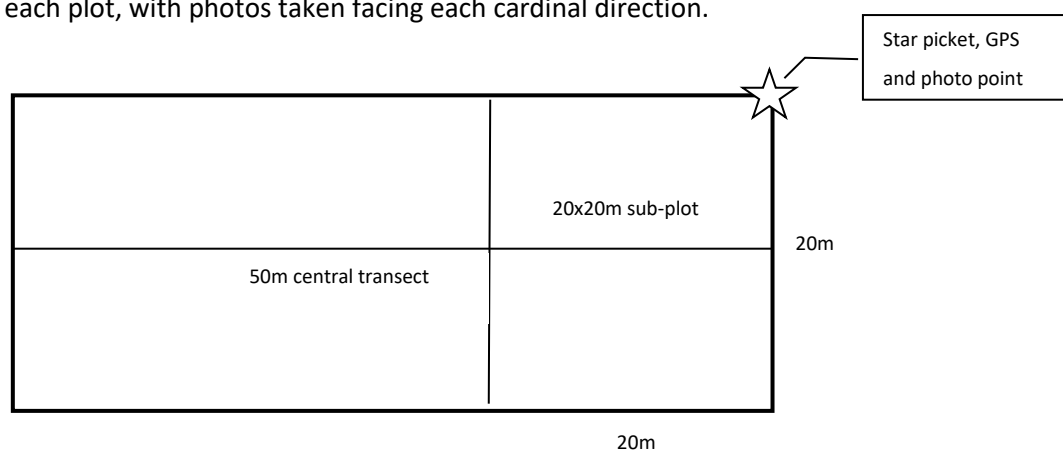
- Coordinates are in GDA2020.

2.1 Conservation Agreement Monitoring

Four permanent monitoring plots were established in the BOAs, as shown in **Figure 2.1**. Photo monitoring, floristic/biometric data collection and a walkover assessment were completed in accordance with the BioBanking Assessment Method (BBAM) methodology (OEH 2014). The following section outlines monitoring methodologies undertaken for the Conservation Agreement Monitoring.

2.1.1 Site layout

Site layout involved a 20m by 50m plot, with a nested 20m by 20m sub-plot, and included a 50m transect running through the plot, as shown in **Graph 2.1**. A permanent marker (metal star picket) was placed in the north-east corner of the sub-plot. Photo monitoring was undertaken from the north-east corner of each plot, with photos taken facing each cardinal direction.



Graph 2.1. Monitoring Plot Layout

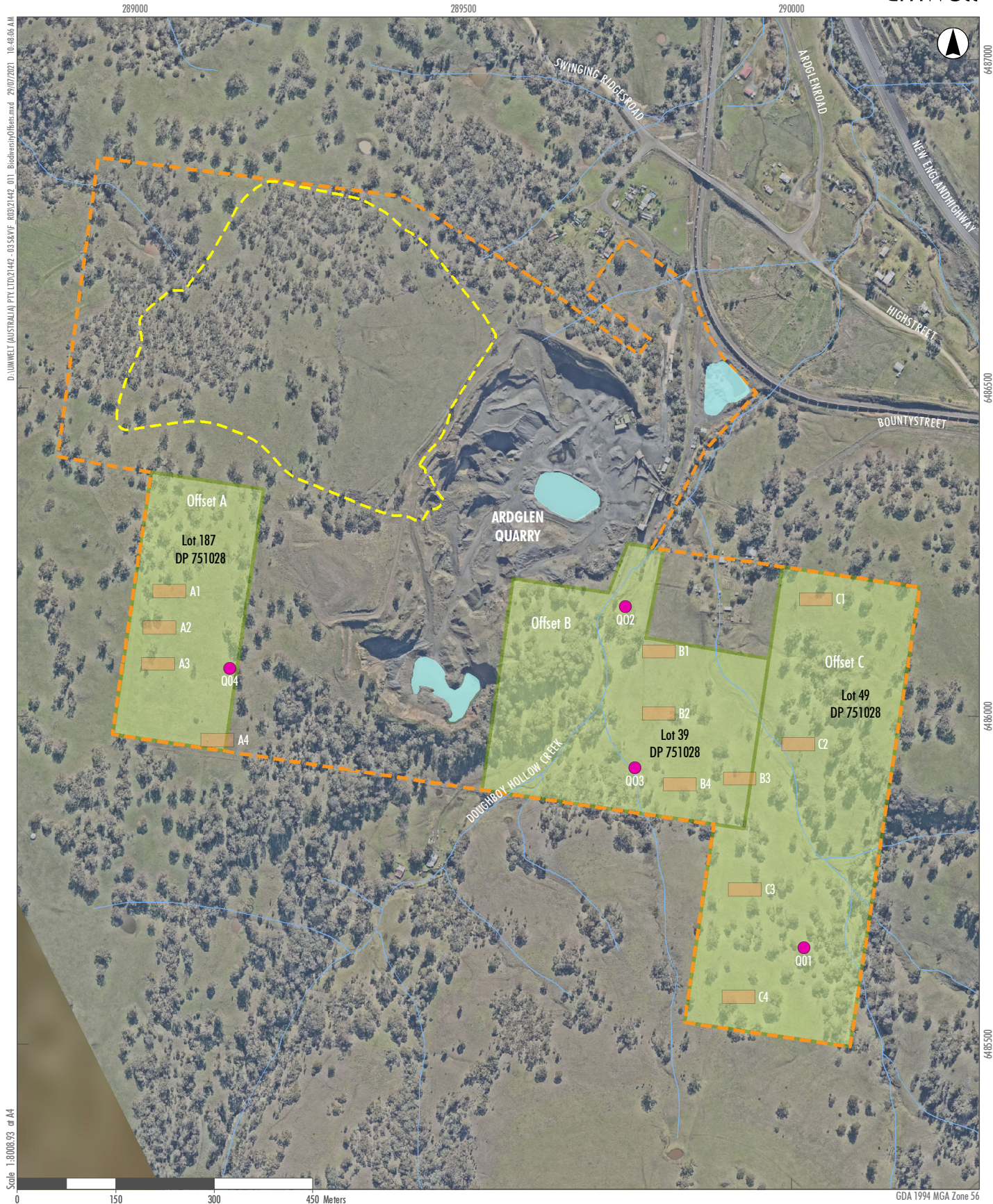
2.1.2 Floristic and Biometric Data Collection

Floristic and biometric data collection compares the results of the monitoring program to a standard vegetation classification. This methodology was undertaken at each of the four flora monitoring sites and involved measuring the following components:

Native plant species richness (NPS): total number of species recorded in a 20m x 20m plot. The plot was systematically traversed, and the number of indigenous vascular plant species were counted. All species were recorded to ensure the vegetation community is trending towards the target PCT;

Native over-storey (NOC): percent foliage cover at 10 points along a 50m transect. Native over-storey is the tallest woody stratum present (including emergents) that is 1m and higher and includes all species native to New South Wales;

Native mid-storey cover (NMC): percent foliage cover within the 20m x 20m plot. The mid-storey contains all vegetation between the over-storey stratum and 1m in height and includes all species



- Legend**
- Site Boundary
 - Pit Extension Boundary
 - Biodiversity Offset Area Boundary
 - Permanent Floristic Monitoring Plots
 - Natural Regeneration Monitoring Plot

FIGURE 2.1

Location of BOA Monitoring Sites

native to New South Wales;

Native ground cover: percent foliage cover within the 20m x 20m plot for grasses (NGCG), shrubs (NGCS) and other (NGCO) (such as herbs and forbs). The ground stratum contains all native vegetation below 1m in height and includes all species native to New South Wales;

Exotic plant cover (EPC): percent foliage cover within the 20m x 20m plot;

No. of trees with hollows (NTH): total number of hollow trees within the 50m x 20m plot;

Total length of fallen logs (FL): total length of logs at least 10cm diameter and at least 0.5m long within a 50m x 20m plot; and

Regeneration (OR): measured as the proportion of over-storey species present at the site that are regenerating (i.e. with dbh < 5cm) within the entire zone. For example, if there are three tree species present at the site but only one of these species is regenerating, then the value is 0.33.

2.1.3 Walkover Assessment

As outlined in the BBAM, a walkthrough assessment of opportunistic sightings was undertaken across the BOAs, making observations of:

- fire events or impacts of fire management;
- weeds (including compilation of list of exotic species and recording new weed infestations including location and extent);
- pest animals (species and location must be recorded, including evidence of pest animals such as burrows, scats or disturbance);
- visitor impact and vehicle access (including evidence of any recent usage, and the presence of any new access trails or tracks);
- rubbish dumping;
- natural regeneration of previously disturbed areas;
- sightings of threatened species; and
- condition of perimeter fencing around BOAs to exclude livestock.

2.2 Natural Regeneration/Planting Monitoring

Natural regeneration and tree planting was assessed within Derived Native Grassland communities at each of the BOAs. Four 50 m x 20 m plots were established in 2019 in the grassland area within each BOA (12 plots in total), with a wooden picket marking the north-east corner of each permanent plot. The canopy cover (projective foliage cover as a percent) and stem count was assessed within each plot for natural regeneration and planting individuals. Saplings were defined as individuals of native canopy species with a diameter at breast height less than five centimetres. This number was then multiplied to give the number of saplings per hectare.

The location of monitoring plots is shown on **Figure 2.1** and location of planting areas shown in **Figure 2.2**.

2.3 Rehabilitation Monitoring

The following methods were undertaken as part of the rehabilitation monitoring:

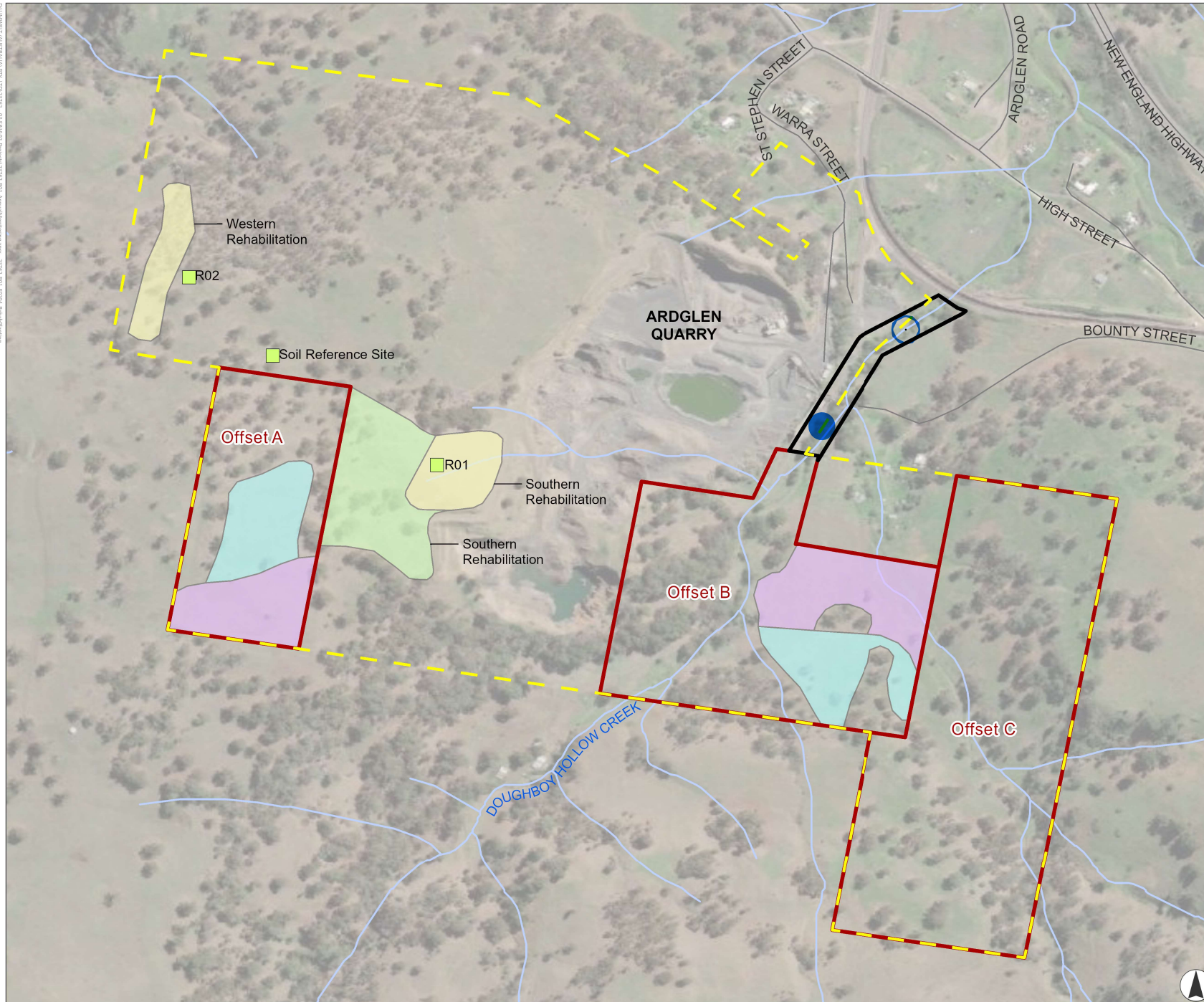
- Two rehabilitation monitoring plots (20m x 50m) were established west of the quarry operation and two monitoring plots were established east of the quarry operation in Doughboy Hollow Creek, shown in **Figure 2.2**. Photo monitoring, floristic and biometric data collection and a walkover assessment were completed at each plot in accordance with the BioBanking Assessment Method (BBAM) methodology (OEH 2014), outlined in **Section 2.1**.
- The proportion of seedling survivability was monitored in each of the rehabilitation monitoring plots west of the operation. This was calculated by counting the number of stems within each rehabilitation monitoring plot and assessing their survivability status (dead, alive, senescent etc.) over time.
- A soil sample was taken at each of the rehabilitation plot locations and reference location west of the quarry operation. Soil samples were sent to a NATA-accredited lab for analysis. Soil testing parameters included pH, electrical conductivity (EC), nitrogen and phosphorus.

Rehabilitated Areas and Permanent Plots

Legend

-  Doughboy Hollow Creek Study Area
-  Biodiversity Offset Area
-  Site Boundary
-  Older Offset Planting
-  Older Rehabilitation Planting
-  Recent Offset Planting
-  Recent Rehabilitation Planting
-  Permanent Rehabilitation Monitoring Plots
-  Doughboy Hollow Creek Monitoring Plot

Figure 2.2



2.4 Nest Box Monitoring

A total of 27 nest boxes were inspected during the 2024 monitoring program. All nest boxes were located in Offset Area A, shown in **Figure 2.3**. Nest box types included:

- brush-tailed phascogale boxes (rear entry);
- glider boxes (front entry); and
- microbat boxes (base entry).

Nest boxes were monitored for content using a digital camera/video attached to a pole. Content and condition data collected included:

- evidence of occupation;
- record of species utilising the nest box, where possible;
- nesting material present;
- photo evidence of material (where relevant);
- condition of the nest box; and
- recommendations for maintenance/installation.

Any issues with attachment or structure (i.e. lid/base not attached) of the boxes was documented and reported.

FIGURE 2.3
Nest Box Locations



Legend

Doughboy Hollow Creek Study Area

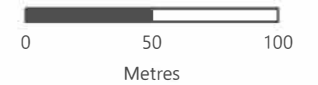
Biodiversity Offset Area

Nest Box Locations

Glider

Microbat

Phascogale



Scale 1:3,000 at A4
GDA2020

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3.0 Results and Discussion

The results of the field surveys, and relevant discussion points, are provided in the following sections. The results of the photo monitoring are provided in **Appendix 1**.

3.1 Climatic Conditions

Field surveys for the monitoring program were undertaken from 4th to 6th December 2024. The weather conditions during this period were mild to hot (20 to 33 degrees Celsius) with light rain (5-10mm) and light (<10km/hr) northerly wind.

The Combined Drought Indicator (CDI) (DPI 2024), developed by the NSW Department of Primary Industries, uses three indices (Plant Growth Index, Rainfall Index and Soil Water Index) to determine the drought category at any given time. The CDI classifies each parish in NSW into one of five drought categories:

- Non drought: At least one indicator is above the 50th percentile.
- Recovering phase: All indicators are below the 50th percentile but above the 30th percentile.
- Drought Affected: At least one indicator is below the 30th percentile.
- Drought: At least one indicator is below the 5th percentile.
- Intense Drought: All three indicators (rainfall, soil water, plant growth) are below the 5th percentile.

Temi Parish is the representative Parish for Ardglen Quarry, and the Combined Drought Indicator (CDI) identifies the Temi Parish as “Non Drought” during the 2024 monitoring period. These trends are shown in **Figure 3.1**.

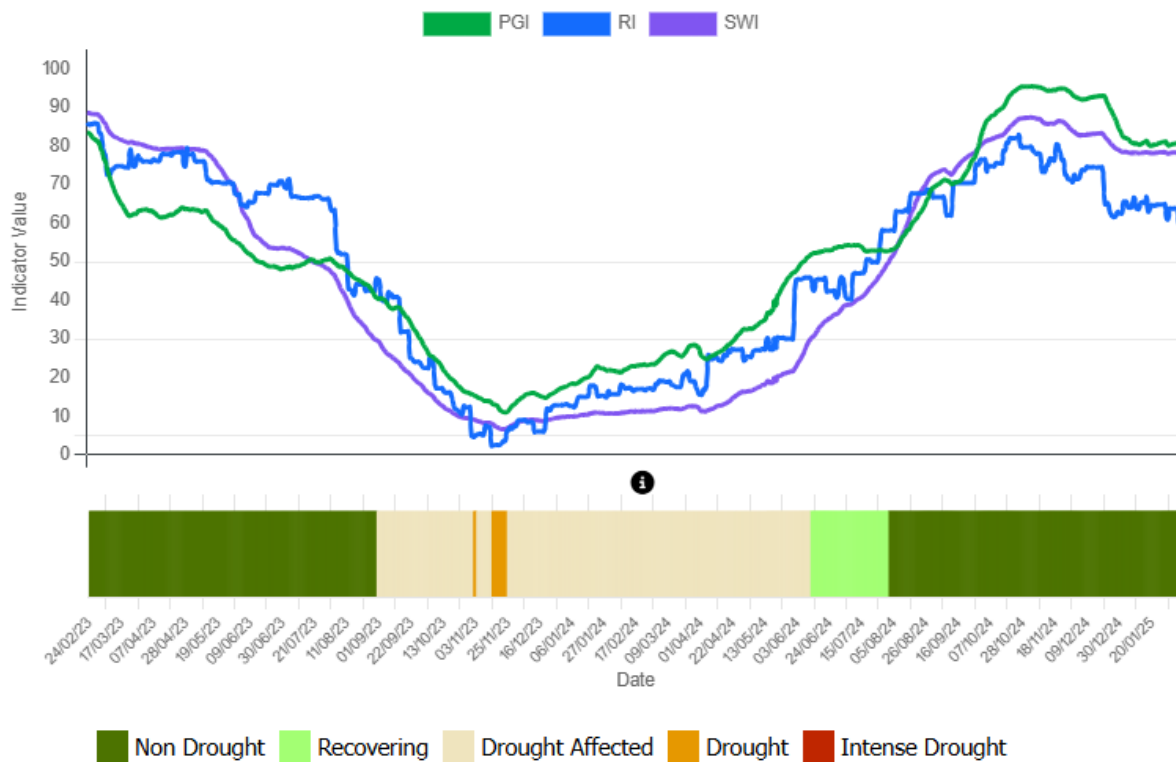


Figure 3.1. Combined Drought Indicator

3.2 Floristic Results

The following section outlines the general native and weed species composition at the sites monitored within the BOAs, Doughboy Hollow Creek and rehabilitation areas. A full list of flora species is provided in **Appendix 2**.

A total of 86 flora species were recorded across all monitoring sites in 2024, including 45 native species and 41 weed species. The most speciose family was Poaceae with 23 species recorded followed by Asteraceae with 10 species and Fabaceae subf. Faboideae (peaflowers) with five species. No evidence of plant disease, pests or unnatural dieback was observed during the monitoring program.

Weed species provide a significant barrier in restoration of native ecosystems and the establishment of rehabilitation. The performance criteria in the LMP states that weed species should not comprise more than 15 percent cover in any stratum and there are no significant weed infestations. Weed species can be categorised as:

- **High Threat Exotic (HTE):** pose a threat to the integrity of the target vegetation community and requires active control; and
- **Exotic:** generally require minimal to no active control and does not pose a significant threat to the restoration of native ecosystems and development of the rehabilitation.

Figure 3.2 indicates the total number of native and weed species recorded at all monitoring sites in 2024. Native species are shown in green, Exotic species (such as Scarlet Pimpernel, Plantain and Sow Thistle) are shown in orange and HTE species (such as St John’s Wort, African Lovegrass and Kikuyu) are shown in red.

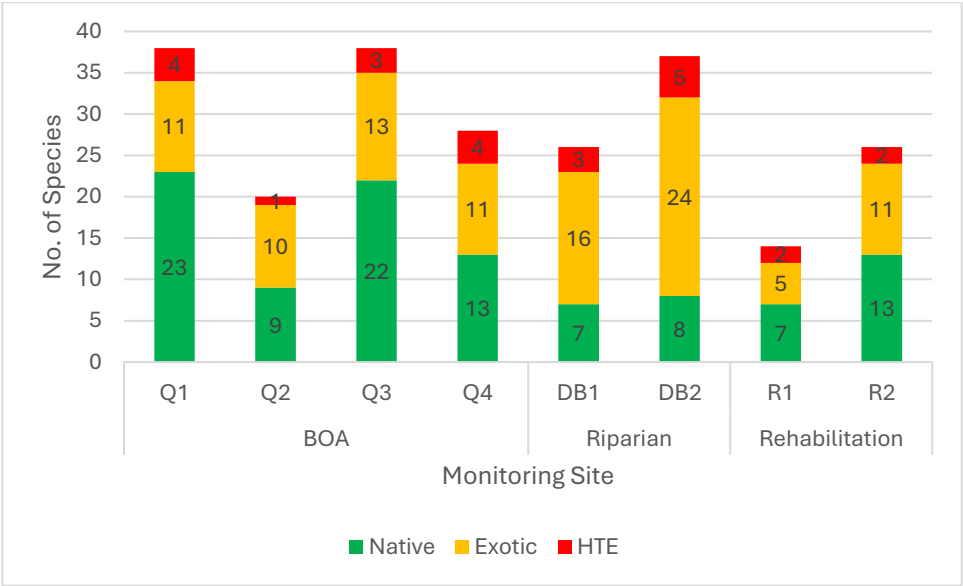


Figure 3.2. Abundance of Native, Exotic and High Threat Exotic Species

The abundance of native species recorded in 2024 within the BOA sites ranged from nine to 23, riparian sites ranged from seven to eight species and rehabilitation sites ranged from seven to 13 species. The similarity between the rehabilitation sites and BOA sites shows the species composition at the rehabilitation sites are trending towards the remnant vegetation within the BOA’s.

As shown in **Figure 3.3**, the abundance of native species at each site has varied since 2021, ranging from four to 23 species at BOA sites, five to 11 species in riparian sites and seven to 16 at rehabilitation sites. The results of the 2024 monitoring program are within range of previous years results. Native species abundance at the BOA sites has generally shown an increase in diversity from the 2021 monitoring program. Although native species abundance has declined at the rehabilitation sites since 2022, the results show that species diversity is within natural variation from 2021 to 2024.

The composition of Exotic species at most sites are generally high. These species, although not typically a significant barrier to the development of native ecosystems, should be monitored to ensure their cover over time does not suppress the development of target native species. Annual spikes in cover occur for many Exotic species, based on environmental triggers. Persistent high cover over successional years may trigger the need for a control response.

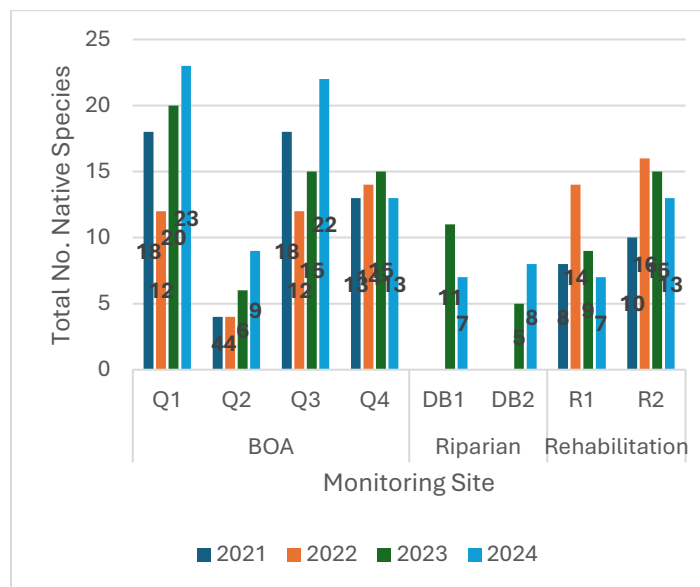


Figure 3.3. Total Number of Native Species from 2021 to 2024

High Threat Exotic species abundance in the BOA sites ranges from one to four species, riparian sites range from three to five species and rehabilitation sites provided two species. This is within range of previous years monitoring. **Table 3.1** identifies the cover abundance of HTE species at each site. BOA sites Q1 and Q2 were within the LMP performance criteria however sites Q2 and Q4 provided a significantly higher cover than the target performance criteria of less than 15 percent. Sites Q2, DB1 and DB2 occur area along Doughboy Hollow Creek. Kikuyu (*Cenchrus clandestinus*) is a dominant groundcover throughout these areas. Gradual control of this species over time is required to assist in reducing the cover and progress the development of the target PCT. Additional seeding of native species may be required if natural regeneration is absent. Site Q4 was dominated by St John's Wort (*Hypericum perforatum*). This species is dominant throughout the BOAs and requires a significant control effort over several years.

Other species listed in **Table 3.4** occur at a low abundance however these should be targeted to ensure the do not dominate any areas.

Table 3.1. Percent Foliage Cover of High Threat Exotic Species Recorded During the 2024 Monitoring Effort

Family	Scientific Name	Common Name	Monitoring Sites							
			BOA				Riparian		Rehabilitation	
			Q1	Q2	Q3	Q4	DB1	DB2	R1	R2
Asteraceae	<i>Bidens pilosa</i>	cobblers pegs	0.1		0.1					
Asteraceae	<i>Carthamus lanatus</i>	saffron thistle	0.1		0.1	0.1				0.1
Boraginaceae	<i>Echium plantagineum</i>	Paterson's curse					0.1	0.1	0.1	
Hypericaceae	<i>Hypericum perforatum</i>	St John's wort	3		5	50	0.1	0.1	0.1	
Poaceae	<i>Cenchrus clandestinus</i>	kikuyu	1	70			50	40		
Poaceae	<i>Eragrostis curvula</i>	African lovegrass				2		3		3
Rosaceae	<i>Rubus fruticosus</i> sp. agg	Blackberry				0.1		0.1		
Performance Criteria: Significant Weed Cover <15% Total:			4.2	70	5.2	52.2	50.2	43.3	0.2	3.1

3.3 Conservation Agreement Monitoring and Walkover Assessment

The following section outlines the results of the ecological monitoring within the BOAs.

3.3.1 Floristic and Biometric Data

All offset areas are progressing towards establishment of the target vegetation community type. Sites Q1, Q3 and Q4 occur within a Yellow Box-White Box-Blakely's Red Gum Woodland and site Q2 occurs within a River Oak Riparian Woodland. The Q1, Q3 and Q4 sites in general provide an adequate abundance of native plant species and native grass cover compared to the benchmark plant community type (PCT). However, overstorey, mid storey (shrubs) and other groundcover are low in cover at these sites when compared to the benchmark PCT. These areas have been subject to moderate to intense grazing for many years. The BOAs are now fenced and being managed for conservation values and therefore the establishment of the overstorey, mid storey and other groundcover species is still developing. Groundcover within the BOAs is likely to increase in diversity and abundance over time, with adequate weed and pest control measures.

Site Q2 performed poorly against the benchmark PCT, with low scores for all features. This site was dominated (70% cover) by Kikuyu (*Cenchrus clandestinus*) and therefore native species in all stratum were low. Gradual control of this species over time is required to assist in reducing the cover and progressing the development of the target PCT. Additional seeding of native species may be required if natural regeneration is absent.

Appendix 3 provides the details of Biometric data results for each site since monitoring commenced.

3.3.2 Tree Planting/Natural Regeneration

Approximately 447 trees were planted across Offset Areas A and B in 2021 and natural regeneration is progressing well in Offset Area C. The tree planting program has provided a good abundance of target canopy species however, due to the long grass in all areas, it is difficult to determine the stem count. It is recommended that no additional plantings are undertaken for at least two years so the success of the planting effort and appropriate infill planting can be adequately assessed and planned. The risk of infill planting prematurely would be that the smaller seedlings would be damaged through ground preparation for the planting effort.

The results of the regeneration monitoring are provided in **Table 3.2**. The results show that there has been an increase in stem count and cover in all BOAs since the 2023 monitoring effort. Natural regeneration and growth in detecting juvenile plants are likely to be reason for the increase.

Table 3.2. Results of Regeneration Monitoring

Plot Name	Cover (%)	Native Sapling Count/Plot	Planted Sapling Count/Plot	Sapling Count/Hectare	Count Change from 2023
Offset A					
A1	0.2	0	10	100	Increase
A2	0.2	0	7	70	Increase
A3	0.1	0	5	50	Increase
A4	0.1	0	3	30	-
Offset B					
B1	0.2	0	5	50	-
B2	0.8	10	0	100	Increase
B3	0	0	0	0	-
B4	1	0	10	100	Increase
Offset C					
C1	0	0	0	0	-
C2	0	0	0	0	-
C3	0.5	8	0	80	Increase
C4	0.5	5	0	50	Increase

3.3.3 Weed Cover

Weed infestation is currently the greatest threat to the restoration of the BOAs. St John's Wort, Blackberry and African Lovegrass require control in all BOAs, in particular Offset A. Kikuyu is dominant along Doughboy Hollow Creek and will require control effort over several years to reduce the dominance. Saffron Thistle currently occurs in low abundance throughout all BOAs, and this species should be targeted to ensure it does not dominate.

3.3.4 Pest Animal

Evidence of pest animals was not observed in any of the BOAs however, previous monitoring reports have reported wild dogs, deer, pigs and hare/rabbit. This indicates the current effort of pest animal control is adequate. Pest control activities should continue to ensure pest animals do not impact the BOAs.

3.3.5 Fence Condition, Access Tracks, Visitor Impacts and Rubbish Dumping

Fencing and signage of all BOAs is adequate. A small (ten metre) section of fence was cut for access in the south-east corner of Offset A. This was repaired immediately after being reported, no further action required. Internal barbed wire fencing along Doughboy Hollow Creek in Offset B was observed. This should be removed to reduce the risk of injury to native fauna and improve fauna movement throughout the offset area.

Access tracks were in good condition and allowed appropriate movement through the BOAs.

No other impacts from visitors, vehicles or rubbish dumping were recorded in the BOAs.

3.3.6 Threatened Species

No threatened species were recorded during the monitoring effort.

3.3.7 Impact of Fire/Fire Management

No evidence of fire or fire management was recorded during the monitoring.

3.4 Rehabilitation Monitoring Results

The following section outlines the results of the ecological monitoring within the rehabilitation areas.

3.4.1 Floristic and Walkover Assessment

Site R1 occurs on shaped overburden in the Southern Rehabilitation Area and has been seeded with a locally occurring native seed mix and planted with tree species. R2 occurs in a tree planting area in the Western Rehabilitation Area located on existing landform.

Both rehabilitation areas are slowly progressing towards the target PCT however, native diversity within the plots was slightly lower than previous years. This is likely to be the result of seasonal variation of groundcover species, due to the similar results from existing landform and shaped overburden. Grazing from macropods may be impacting the establishment of ground cover at R1 and the density of native grasses at R2 may be slowing the development of ground cover diversity.

Rehabilitation sites are providing low values for all features of Biometric data compared to benchmark values. These areas were established during drought conditions and are still in an early stage of development. Native canopy, shrub and groundcover species were establishing throughout the rehabilitation areas and cover should increase through this non drought period. If cover remains low for several years during the non-drought period, additional seeding may be required.

Weed cover is significantly lower at the rehabilitation sites than the BOA sites however should continue to be managed. Paterson's Curse (*Echium plantagineum*) was observed in moderate cover in the west of the Southern Rehabilitation overburden area. This species should be targeted to ensure it does not spread throughout the rehabilitation area.

Table 3.3 shows the survival of plantings within the rehabilitation area. The density of canopy species was low within both plots and tree planting success has decreased since 2021. The area surrounding both plots provided a higher density of planting success, similar to the surrounding woodland area, and therefore infill planting is not currently recommended. The growth rate of plantings in the Southern Rehabilitation (R1) is slow due to the environmental exposure of the area. The planting south of R2 (within the Western Rehabilitation) provided a good cover, density and growth rate of canopy species. Remnant canopy trees surrounding R2 and the Western Rehabilitation should contribute to the development of canopy over time.

Table 3.3. Survival of plantings in rehabilitation area

Plot Name	Alive	Dead/Missing	Total
R1 (2022)	9 (100%)	0	9
R1 (2023)	7 (78%)	2	9
R1 (2024)	6 (67%)	3	9
R2 (2022)	9 (100%)	0	9
R2 (2023)	6 (57%)	3	9
R2 (2024)	3 (33%)	6	9

3.4.2 Soil Samples

Soil sample results from 2021 to 2024 are shown in **Table 3.4**, and a complete list of soil analysis results is provided in **Appendix 4**. These results show that R2 is generally within the limits of the reference site, as expected as this area occurs on an existing landform. Site R1 occurs on shaped overburden and resulted in more alkaline soil, slightly higher pH, lower nitrogen and increased total phosphorus. Although varying from R2 and reference sites, the results for R1 are within general plant growth limits and will improve over time with increased rainfall events neutralising pH, EC and total phosphorus, and increased vegetation contributing to total nitrogen.

Table 3.4 Soil Samples Results

Plot Name	pH	Electrical Conductivity (EC) (µS/cm)	Total Nitrogen (mg/kg)	Total Phosphorus (mg/kg)
R1 (2021)	8.2	112	0.4	3480
R1 (2024)	8.26	94	1.5	2490
R2 (2021)	6.5	61	11.7	1880
R2 (2024)	5.88	78	15.1	1630
REF1 (2021)	6.4	51	6.0	1110
REF2 (2024)	6.04	73	10.2	2160

3.5 Doughboy Hollow Creek Assessment

Doughboy Hollow Creek is a third order stream located directly east of the quarry operation. A baseline ecological survey was undertaken in 2023 covering a 200 metre by 20 metre area of the creek (the survey area). A Rehabilitation Strategy has been developed for the survey area, as specified in Schedule 3 Condition 28 of the Development Consent (06_0264), including measures to rehabilitate and/or re-establish riparian vegetation.

3.5.1 Floristic and Biometric Data

Two permanent plots have been established within the survey area. Plot DB1 occurs in the southern part of the survey area. All biometric values were low when compared to benchmark values. Native species richness was at seven species (25% of benchmark), native overstorey coverage was 0.1% (0.2% of benchmark), mid-storey coverage was at 0% and ground cover types combined was at 5.5% (10% of benchmark). This is a similar result to the base line survey. The Exotic plant cover has slightly reduced from 59% to 50.2%. Weed control effort was observed within the plot however exotic species continue to dominate.

Plot DB2 occurs in the northern part of the survey area. Biometric values were generally low when compared to benchmark values. Native species richness was at eight species (29% of benchmark), native overstorey coverage was 10% (26% of benchmark), mid-storey coverage was at 0% and ground cover types combined was at 12% (23% of benchmark). This is a similar result to the base line survey. The Exotic plant cover reduced significantly from 125% across all stratum in 2023 to 43% in 2024. Weed control effort was observed throughout the plot (refer to **Plate 1**), targeting mid-storey and canopy weed species. This has resulted in the reduction of weed cover and increase in native species richness and native ground cover. Although this is a significant improvement, continued weed control effort is required to progress the survey area towards the target vegetation community.



Plate 1. Evidence of Weed Control along Doughboy Hollow Creek

Although the monitoring sites are providing low values for Biometric data compared to the benchmark sites, these areas are performing moderately well compared to the reference site within Offset B (Q2). Native diversity at R1 is 78% of the reference site and R2 is 89% of the reference site. The ground cover total at R1 is 71% of the reference site score and R2 is 156% of the reference site score. Mid-storey cover is low at the reference site and within the survey area.

3.5.2 Walkover Assessment

The survey area has maintained a reasonably healthy ecosystem, with no decline in pool-riffle sequence, observable macro-invertebrates and abundance of aquatic vegetation. Scrap metal was observed again in the north of the survey area, within plot DB2. Legacy carbonaceous material was observed along the creek bank. This material is unlikely to contribute to a decline in the ecological values and therefore the effort to remove would negatively impact the survey area.

Erosion identified during the baseline surveys appears to be consistent with the 2023 monitoring program, refer to **Plate 2**. Slight increase in ground cover on embankments may indicate a period of stability. These types of erosion within creek lines are common throughout the surrounding area and therefore further monitoring should be undertaken to determine if the area will naturally stabilise or further action is required. It is likely the area will go through periods of stability and erosion over time, based on levels of drought impacting vegetation.



Plate 2. Erosion along Doughboy Hollow Creek

No evidence of fire, unplanned human impact or impact from pest animals was observed. The riparian area was adequately fenced to restrict livestock access.

3.6 Nest Box Monitoring

A total of 27 nestboxes were installed in Offset A in 2012. All boxes were inspected for condition and content during the 2024 monitoring program. A total of 17 (68%) of boxes showed evidence of usage, with one Glider box being occupied during the inspections. Evidence of usage included scratches/chew marks on the exterior of the box or nesting material in the box. **Table 3.5** shows a summary of usage rate, predicted/identified species, pest species present and maintenance requirements. These results show an increase in usage from the previous year's monitoring results. The complete results for nest box monitoring are provided in **Appendix 5**.

Three Eastern Rosella chicks were observed in a Glider box during the 2024 monitoring program, refer to **Plate 3**. Five nest boxes showed evidence of a leaf ball nest, indicative of gliders. These results are a slight increase from the previous year.

Table 3.5. Summary Results for Nest Box Monitoring

Nest Box Design	Evidence of Usage	Occupation	Predicted Species	Pest Species	Maintenance Required
Phascogale (rear entry) (9 boxes)	Chew mark on entry x 9, Leaf nest x 3	Nil	Glider x 9	Spider x 1, spider web x 2, mud wasp nest x 1	Nil
Glider (9 boxes)	Chew mark on entry x 8, Leaf nest x 2	Rosella chicks x 1	Glider x 3, Rosella/ Parrot x 4	Spider x 1, spider web x 1, mud wasp nest x 1	Nil
Microbat (9 boxes)	Nil	Nil	Nil	Spider web x 6	Nil
Total = 27	17	1	16	13	Nil
% of Boxes	63	4	59	48	Nil



Plate 3. Nest Box with Eastern Rosella Chicks

4.0 Compliance with Landscape Management Plan

An evaluation of the BOAs against the relevant performance/completion criteria outlined in the LMP is provided in **Table 4.1** for the Offset Areas and **Table 4.2** for Rehabilitated Areas.

Table 4.1. Assessment of BOAs against LMP Performance Criteria

Feature	Aspect	Performance/Completion Criteria	Assessment
Landscape Condition	Weed infestation	Weeds do not comprise more than 15% cover in any stratum. There are no significant weed infestations.	Progressing. Weed cover is dense throughout the BOAs. HTE weed cover ranged between 4% and 70% at the monitoring sites. These are the most likely species to be a barrier in the development of the vegetation community. Species include St John's Wort, Blackberry, Kikuyu, African Lovegrass and Paterson's Curse. Control effort for these species was observed during the monitoring program. Continued effort is required.
	Rubbish removal	Offset Areas free of rubbish.	Achieved.
Natural Regeneration	Short term - Grazing exclusion	Fencing has been established around all offset areas and is maintained.	Achieved.
	Medium term - Quality and cover of existing overstorey within Offset Area C (Lot 49 DP 751028)	A stem count of >30 stems/ha is achieved via natural recruitment in over 75% of the Natural Regeneration monitoring plots by 2023.	Achieved. 75% of plots achieved stem counts >30 stems/ha and 25% of plots achieved some measure of natural regeneration. This planting success is an increase from previous years monitoring.
	Long term - Recruitment and rehabilitation of overstorey	More than 15% cover of midstorey and overstorey species is achieved in over half of the Natural Regeneration monitoring plots by 2030.	Not applicable.

Feature	Aspect	Performance/Completion Criteria	Assessment
Assisted Regeneration	Short term - Vegetation establishment	Assisted planting program as outlined in Section 5.2.1.2 of the LMP commenced in 2020. Species planting list follows that which is outlined in this Section.	Achieved in 2021.
	Medium term - Seedling survivability	Following the implementation of the assisted planting program, more than 70% of planted seedlings have survived in each of the offset rehabilitation monitoring plots. Seedlings must have a survival rate of >70% in each planting area for at least three years post-planting before monitoring this parameter can cease.	Achieved. 75% of plots achieved stem counts >30 stems/ha and 25% of plots achieved some measure of natural regeneration. This planting success is an increase from previous years monitoring.
	Long term - Overstorey restoration	A density of >30 mature stems/ha is achieved in more than 75% of the offset rehabilitation monitoring plots ten years after the initial planting year. A mature stem is a tree (overstorey species) with a diameter at breast height (dbh) greater than 10 cm.	Not applicable.
	Long term - Vegetation community	Long term monitoring indicates that planted vegetation is recognisable as a vegetation community consistent with the NSW determination for White Box Yellow Box Blakely's Red Gum Woodland CEEC at the end of the Quarry life.	Not applicable.
Habitat Material	All salvageable hollows shall be re-erected within 12 weeks from completion of staged clearing operations	Hollows are installed as required and monitored annually (condition and content) for the life of the Quarry.	Not applicable. No clearing works that would yield salvageable hollows have been undertaken in 2024.
Long Term Security of Offset Site	Security of Offset	Offset security mechanism as detailed in Section 5.6 of the LMP is established and implemented.	Achieved. The Conservation Agreement (CA0363) was executed on 24 April 2024.

Table 4.2. Assessment of Rehabilitated Areas against LMP Performance Criteria

Feature	Aspect	Performance/Completion Criteria	Assessment
Vegetation Establishment	Short term – Species appropriateness	Assisted planting program commenced in 2019. Species planting list follows that which is outlined in Section 5.2.1.2 of the LMP.	Achieved.
	Medium term – Seedling survivability	Following the implementation of the assisted planting program, more than 70% of planted seedlings have survived in each of the Rehabilitation Monitoring plots. Seedlings must have a survival rate of >70% in each planting area for at least three years post- planting before monitoring this parameter can cease.	Decrease. Planting survival has decreased however the abundance of canopy species is adequate for a woodland ecosystem. Consider revising the criteria to cover abundance score.
	Long term - Overstorey restoration	A density of >30 mature stems/ha is achieved in more than 75% of the rehabilitation monitoring plots ten years after the initial planting year. A mature stem is a tree (overstorey species) with a diameter at breast height (dbh) greater than 10 cm.	Not applicable.
	Long term - Vegetation community	Long term monitoring indicates that planted vegetation is recognisable as a vegetation community consistent with the NSW determination for White Box Yellow Box Blakely's Red Gum Woodland CEEC at the end of the Quarry life.	Not applicable.

5.0 Recommendations

Management recommendations to improve the ecological value of the BOAs, rehabilitation areas and Doughboy Hollow Creek survey area include:

- Weed control should continue throughout the BOAs, rehabilitation areas and Doughboy Hollow Creek survey area. Priority species should include St John's Wort, Blackberry, Kikuyu, African Lovegrass and Paterson's Curse.
- Pest animal control should continue. Although no evidence of pest animals was observed during the monitoring program, control effort should continue.
- Internal barbed wire fencing along Doughboy Hollow Creek in Offset B was observed. This should be removed to reduce the risk of injury to native fauna and improve fauna movement throughout the offset area.

6.0 Conclusion

The 2024 monitoring program identified the BOAs are being appropriately managed for exclusion of livestock, access, pest animal control, natural/planting regeneration, visitor impacts, rubbish dumping, fire and erosion. Dominance of weed species is the greatest barrier for establishing and maintain a native ecosystem within the BOAs. Although weed control effort was observed during the monitoring program, significant effort is required to reduce the dominance of weed species.

The rehabilitation areas are progressing slowly towards the target vegetation community. The Southern Rehabilitation is in early phase ecosystem establishment and therefore requires further monitoring to determine if and when infill planting/seeding is required. Infill planting or seeding is not currently recommended. Native groundcover species should improve with appropriate weed control and when shrub and canopy species establish.

Although weed control was observed within Doughboy Hollow Creek study area during the monitoring program, significant effort is required to reduce the dominance of weed species. Currently, creekbank erosion is stabilising within the study area and no further erosion control is recommended. Doughboy Hollow Creek survey area is being appropriately managed for exclusion of livestock, access, pest animal control, natural/planting regeneration, visitor impacts, rubbish dumping, fire and erosion.

Nest box monitoring identified an increase in usage in 2024. No boxes required maintenance or replacement.

7.0 References

Department of Primary Industries (DPI) 2024. Interactive combined drought indicator map. NSW Government, sourced: https://www.dpi.nsw.gov.au/climate_applications/interactive-drought-map. Accessed 10 February 2025.

Office of Environment and Heritage (OEH) 2014. BioBanking Assessment Methodology. NSW Government, Sydney.

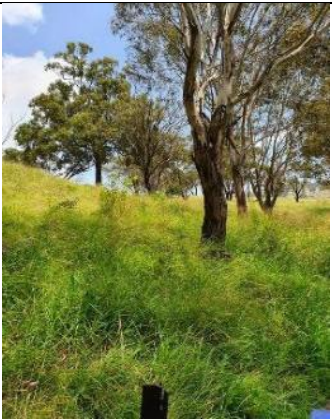
Umwelt 2024. Landscape Management Plan. Prepared for Daracon Quarries, May 2024.

A large, stylized graphic of a plant with several broad, rounded leaves in various shades of teal and green, set against a light blue background. The leaves are layered, creating a sense of depth. A white diagonal band cuts across the lower half of the page, providing a space for text.

APPENDIX 1

Photo Monitoring Results

Plot Q1 - North		
2019	2020	2021
		
2022	2023	2024
		
Plot Q1 - East		
2019	2020	2021
		
2022	2023	2024
		

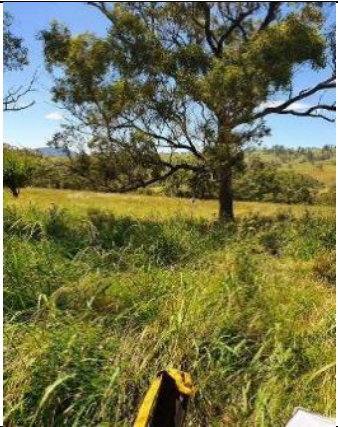
Plot Q1 - South		
2019	2020	2021
		
2022	2023	2024
		
Plot Q1 - West		
2019	2020	2021
		
2022	2023	2024
		

Plot Q2 - North		
2019	2020	2021
		
2022	2023	2024
	Photos not taken In 2023	
Plot Q2 - East		
2019	2020	2021
		
2022	2023	2024
	Photos not taken In 2023	

Plot Q2 - South		
2019	2020	2021
		
2022	2023	2024
	Photos not taken In 2023	
Plot Q2 - West		
2019	2020	2021
		
2022	2023	2024
	Photos not taken In 2023	

Plot Q3 - North		
2019	2020	2021
		
2022	2023	2024
		
Plot Q3 - East		
2019	2020	2021
		
2022	2023	2024
		

Plot Q3 - South		
2019	2020	2021
		
2022	2023	2024
		
Plot Q3 - West		
2019	2020	2021
		
2022	2023	2024
		

Plot Q4 - North		
2019	2020	2021
		
2022	2023	2024
		
Plot Q4 - East		
2019	2020	2021
		
2022	2023	2024
		

Plot Q4 - South		
2019	2020	2021
	Photos not taken In 2020	
2022	2023	2024
		
Plot Q4 - West		
2019	2020	2021
Photos not taken	Photos not taken	Photos not taken
2022	2023	2024
Photos not taken	Photos not taken	Photos not taken

Plot R1 - North		
2021	2022	2023
		
2024		
		
Plot R1 - East		
2021	2022	2023
		
2024		
		

Plot R1 - South		
2021	2022	2023
		
2024		
		
Plot R1 - West		
2021	2022	2023
		
2024		
		

Plot R2 - North		
2021	2022	2023
		
2024		
		
Plot R2 - East		
2021	2022	2023
		
2024		
		

Plot R2 - South		
2021	2022	2023
		
2024		
		
Plot R2 - West		
2021	2022	2023
		
2024		
		

DB01			
North 2023	East 2023	South 2023	West 2023
			
North 2024	East 2024	South 2024	West 2024
			
DB02			
North 2023	East 2023	South 2023	West 2023
			
North 2024	East 2024	South 2024	West 2024
			

A large, stylized graphic of a plant branch with several leaves in various shades of teal and green, extending from the top right towards the center of the page.

APPENDIX 2

Flora Species List

Appendix 2 – Flora Species List

Table 1 provides a list of all flora species recorded during the 2024 monitoring program at each site. Note: N= native, HTE = High Threat Exotic and E = Exotic. The values provided in the table are cover scores as a percent.

Table 1. 2023 Flora Species List

Family	Scientific Name	Common Name	N, E, HTE	BOA				Rehab		Riparian	
				Q1	Q2	Q3	Q4	R1	R2	DB1	DB2
Apiaceae	<i>Cyclospermum leptophyllum</i>	slender celery	N	0.1		0.1	0.1		0.1		
Apiaceae	<i>Foeniculum vulgare</i>	fennel	E							0.2	0.1
Apocynaceae	<i>Gomphocarpus fruticosus</i>	narrow-leaved cotton bush	E	0.1		0.1		0.1	0.1		
Araliaceae	<i>Hedera helix</i>	English ivy	E							1	
Araliaceae	<i>Hydrocotyle sibthorpioides</i>	pennywort	N				0.1				
Asparagaceae	<i>Arthropodium strictum</i>	chocolate lily	N				0.1				
Asphodelaceae	<i>Dianella caerulea</i> var. <i>caerulea</i>	blue flax-lily	N	0.1							
Asteraceae	<i>Bidens pilosa</i>	cobblers pegs	HTE	0.1		0.1					
Asteraceae	<i>Carthamus lanatus</i>	saffron thistle	HTE	0.1		0.1	0.1		0.1		
Asteraceae	<i>Cirsium vulgare</i>	spear thistle	E	0.1		0.1			0.1	0.1	0.1
Asteraceae	<i>Conyza bonariensis</i>	fleabane	E							0.1	0.1
Asteraceae	<i>Hypochaeris radicata</i>	flatweed	E				0.1			0.1	0.1
Asteraceae	<i>Lactuca serriola</i>	prickly lettuce	E			0.1			0.1		
Asteraceae	<i>Senecio quadridentatus</i>	cotton fireweed	N	0.1		0.1	0.1			0.1	
Asteraceae	<i>Sigesbeckia orientalis</i>	Indian weed	N	0.2							
Asteraceae	<i>Sonchus oleraceus</i>	common sowthistle	E			0.1				0.1	0.1
Asteraceae	<i>Xanthium spinosum</i>	Bathurst burr	E								0.1
Boraginaceae	<i>Echium plantagineum</i>	Paterson's curse	HTE					0.1		0.1	0.1

Family	Scientific Name	Common Name	N, E, HTE	BOA				Rehab		Riparian	
				Q1	Q2	Q3	Q4	R1	R2	DB1	DB2
Campanulaceae	<i>Wahlenbergia communis</i>	tufted bluebell	N			0.1					
Campanulaceae	<i>Wahlenbergia gracilis</i>	sprawling bluebell	N				0.1				
Caprifoliaceae	<i>Lonicera japonica</i>	Japanese honeysuckle	E							0.1	
Caryophyllaceae	<i>Petrorhagia nanteuillii</i>		E	0.1		0.1	0.1	0.1	0.1		0.1
Casuarinaceae	<i>Casuarina cunninghamiana</i>	river oak	N		10						
Chenopodiaceae	<i>Einadia hastata</i>	berry saltbush	N			0.1			0.1		
Chenopodiaceae	<i>Einadia nutans</i> subsp. <i>linifolia</i>	saltbush	N	0.1		0.1					
Convolvulaceae	<i>Convolvulus erubescens</i>	blushing bindweed	N			0.1					
Convolvulaceae	<i>Dichondra repens</i>	kidney weed	N	0.1		0.1			0.1		0.1
Cyperaceae	<i>Cyperus erogrostis</i>	sedge	E		0.1						0.1
Cyperaceae	<i>Cyperus gracilis</i>	slender flat-sedge	N	0.1	1	0.1			1	0.1	
Cyperaceae	<i>Gahnia sieberiana</i>	redfruit saw-sedge	N							0.1	
Fabaceae subf. Faboideae	<i>Glycine tabacina</i>	a love creeper	N	0.1		0.1	0.1		0.1	0.1	0.1
Fabaceae subf. Faboideae	<i>Medicago sativa</i>	lucerne	E						5		
Fabaceae subf. Faboideae	<i>Trifolium campestre</i>	hop clover	E	0.1	0.1	0.1	0.2			0.1	0.1
Fabaceae subf. Faboideae	<i>Trifolium repens</i>	white clover	E				0.1				0.1
Fabaceae subf. Faboideae	<i>Vicia sativa</i>	vetch	E		0.1		0.1				0.1
Geraniaceae	<i>Geranium solanderi</i> var. <i>solanderi</i>	Austral cranesbill	N	0.1	0.1	0.1	0.1		0.1	0.1	0.1
Hypericaceae	<i>Hypericum perforatum</i>	St John's wort	HTE	3		5	50	0.1		0.1	0.1
Juncaceae	<i>Juncus usitatus</i>	juncus	N				1				
Juncaceae	<i>Juncus</i> sp.	juncus	E								0.1
Lamiaceae	<i>Mentha satureioides</i>	creeping mint	N	0.1					0.2		
Linaceae	<i>Linum marginale</i>	native flax	N	0.1							
Lomandraceae	<i>Lomandra confertifolia</i>	mat-rush	N	0.1							
Lomandraceae	<i>Lomandra longifolia</i>	spiny-headed mat-rush	N								0.5
Malvaceae	<i>Modiola caroliana</i>	red-flowered mallow	E						0.1		0.1

Family	Scientific Name	Common Name	N, E, HTE	BOA				Rehab		Riparian	
				Q1	Q2	Q3	Q4	R1	R2	DB1	DB2
Malvaceae	<i>Sida hackettiana</i>	spiked sida	N						0.1		
Myrtaceae	<i>Eucalyptus albens</i>	white box	N	10		15	1	4			
Myrtaceae	<i>Eucalyptus blakelyi</i>	Blakely's red gum	N	5							
Myrtaceae	<i>Eucalyptus viminalis</i>	ribbon gum	N							15	
Oleaceae	<i>Ligustrum lucidum</i>	large-leaved privet	E								0.1
Oleaceae	<i>Ligustrum sinense</i>	small-leaved privet	E							5	25
Oxalidaceae	<i>Oxalis perennans</i>	-	E	0.1					0.1		
Phyllanthaceae	<i>Phyllanthus virgatus</i>	phyllanthus	N	0.1							
Plantaginaceae	<i>Plantago debilis</i>		N			0.1					
Plantaginaceae	<i>Plantago lanceolata</i>	plantain	E		0.1	0.1	0.1	0.1		0.1	0.1
Plantaginaceae	<i>Veronica plebeia</i>	creeping speedwell	N	0.1		0.1					0.1
Poaceae	<i>Aristida ramosa</i>	purple wiregrass	N		0.1	5		2	5		
Poaceae	<i>Austrostipa aristiglumis</i>	plains grass	N			40			60		
Poaceae	<i>Austrostipa scabra</i>	speargrass	N					0.1			
Poaceae	<i>Avena sativa</i>	wild oats	E							0.1	5
Poaceae	<i>Bothriochloa macra</i>	red grass	N		0.2	5		5	2		1
Poaceae	<i>Bromus catharticus</i>	prairie grass	E		1		5			1	5
Poaceae	<i>Bromus hordeaceus</i>	soft brome	E						1		
Poaceae	<i>Cenchrus clandestinus</i>	kikuyu	HTE	1	70					50	40
Poaceae	<i>Chloris ventricosa</i>	tall chloris	N	10							
Poaceae	<i>Cymbopogon refractus</i>	barbed-wire grass	N					30			
Poaceae	<i>Cynodon dactylon</i>	common couch	N	1	1					5	5
Poaceae	<i>Dicanthium sericeum</i>	Queensland bluegrass	N	2	0.1	20	2	1			
Poaceae	<i>Dichelachne micrantha</i>	shorthair plumegrass	N	0.1		0.1		0.1			
Poaceae	<i>Echinopogon ovatus</i>	forest hedgehog grass	N			0.1					
Poaceae	<i>Eragrostis curvula</i>	African lovegrass	HTE				2		3		3

Family	Scientific Name	Common Name	N, E, HTE	BOA				Rehab		Riparian	
				Q1	Q2	Q3	Q4	R1	R2	DB1	DB2
Poaceae	<i>Lolium perenne</i>	perennial ryegrass	E	5	5	2	1		5	1	2
Poaceae	<i>Microlaena stipoides</i>	weeping grass	N	20	5	10	5		5		5
Poaceae	<i>Paspalum dilatatum</i>	paspalum	E	10	5	1	20		5		5
Poaceae	<i>Phalaris aquatica</i>	phalaris	E		1					10	3
Poaceae	<i>Poa labillardierei</i>	tussock	N				0.5				
Poaceae	<i>Rytidosperma fulvum</i>	wallaby grass	N			0.2			2		
Poaceae	<i>Sorghum halepense</i>	Johnson grass	E	50			5				
Poaceae	<i>Themeda triandra</i>	kangaroo grass	N	2		0.2	2				
Polygonaceae	<i>Rumex crispus</i>	curled dock	E		0.1	0.1	0.1				0.1
Primulaceae	<i>Lysimachia arvensis</i>	scarlet pimpernel	E	0.1		0.1		3			
Rosaceae	<i>Rubus fruticosus</i> sp. agg	blackberry	HTE				0.1				0.1
Rubiaceae	<i>Asperula conferta</i>	common woodruff	N	0.1							
Salicaceae	<i>Salix babylonica</i>	weeping willow	E							1	10
Urticaceae	<i>Urtica incisa</i>	stinging nettle	N		0.1						
Verbenaceae	<i>Verbena bonariensis</i>	purple top	E	0.1	0.1	0.1			0.1	0.1	
Verbenaceae	<i>Verbena rigida</i>	veined verbena	E	0.1		0.1		0.1			0.1



APPENDIX 3

Biometric Data

Appendix 3 – Biometric Data

Table 1 provides the results of the Biometric data sampling recorded during the 2024 monitoring program at each site.

Table 1. 2024 Biometric Data

Plot Name	NPS	NOC	NMC	NGCG	NGCS	NGCO	EPC	NTH	OR	FL
Q01 (2019)	29	25	0	32	0	4	6	0	0.5	24
Q01 (2020)	17	28	0	44	2	0	54	0	1	9
Q01 (2021)	18	24.5	1	42	0	8	94	0	1	16
Q01 (2022)	12	11.5	0	74	0	30	62	0	1	10
Q01 (2023)	20	11.5	0	98	0	4	10	0	1	5
Q01 (2024)	23>	15>	0	35.3<	0	1.4<	4.2<	0	1	8>
Benchmark	37	43	7	45	7	13				26
Q02 (2019)	11	16	2	22	0	8	58	1	0.5	5
Q02 (2020)	7	15	0	0	0	6	94	1	0	9
Q02 (2021)	4	20	1	0	0	10	100	1	0	2
Q02 (2022)	4	11.5	1.5	52	0	18	70	1	0	0
Q02 (2023)	6	24	1	12	0	0	88	1	0	0
Q02 (2024)	20>	10<	0<	7.5<	0	0.2>	70<	1	0	3>
Benchmark	28	38	10	35	10	8				36
Q03 (2019)	13	7.5	0	40	0	10	4	0	1	2
Q03 (2020)	13	16	0	52	0	0	48	0	1	0
Q03 (2021)	18	16.5	0.5	62	2	15	94	1	1	0
Q03 (2022)	12	12	0	66	0	20	80	0	1	0
Q03 (2023)	15	18	0	94	0	0	18	0	1	0

Plot Name	NPS	NOC	NMC	NGCG	NGCS	NGCO	EPC	NTH	OR	FL
Q03 (2024)	38>	15<	0	80.7<	0	1.1>	5.2<	0	1	0
Benchmark	37	43	7	45	7	13				26
Q04 (2019)	16	0	0	52	0	2	24	0	0	1
Q04 (2020)	9	0	0	24	0	4	72	0	0	0
Q04 (2021)	13	0	0	54	0	7	94	0	0	0
Q04 (2022)	14	0	0	28	0	6	96	0	0	0
Q04 (2023)	15	0	0	72	0	2	48	0	0	0
Q04 (2024)	28>	1>	0	10.5<	0	0.7<	52.2>	0	0	0
Benchmark	37	43	7	45	7	13				26
R01 (2021)	8	2	0	36	0	2	28	0	0	0
R01 (2022)	14	2	0	76	0	12	68	0	0	0
R01 (2023)	9	2	0	62	0	1	36	0	0	0
R01 (2024)	14>	4>	0	38.2<	0	0	0.2<	0	1>	0
Benchmark	37	43	7	45	7	13				26
R02 (2021)	10	10	2	1	2	4	92	0	1	0
R02 (2022)	18	11	3	80	0	14	27	0	1	0
R02 (2023)	15	11	0	68	0	14	8	0	1	0
R02 (2024)	26>	0<	0	75>	0	0.8<	3.1<	0	1	0
Benchmark	37	43	7	45	7	13				26
DB01 (2024)	26	15	0	5.2	0	0.3	50.2	1	1	4
DB02 (2024)	37	0	0	11.6	0	0.4	43.3	0	0	8
Benchmark	28	38	10	35	10	8				36

A large, stylized graphic of a plant with several broad, rounded leaves in various shades of teal and green, positioned in the upper right corner of the page.

APPENDIX 4

Soil Assessment Results

Appendix 4 – Soil Assessment Results

Table 1 provides the results of the soil assessment. Soil analysis was undertaken by Environmental Analysis Laboratory, Southern Cross University. Certificate of analysis No. E25-00-0264.

Table 1. 2024 Soil Assessment Results

Parameter	Unit	Method Reference	LOR	R2	R1	Reference
Calcium - Soluble	mg/kg	** Inhouse S10 - Morgan 1	<10	2250	3070	1890
Magnesium - Soluble	mg/kg	** Inhouse S10 - Morgan 1	<1	702	1350	725
Potassium - Soluble	mg/kg	** Inhouse S10 - Morgan 1	<25	112	26	193
Phosphorus - Soluble	mg/kg	** Inhouse S10 - Morgan 1	<1	5	1.6	4.4
Phosphorus - Bray 1	mg/kg	** Rayment & Lyons 2011 - 9E2	<1	23	13	28
Phosphorus - Colwell	mg/kg	** Rayment & Lyons 2011 - 9B2	<1	130	41	170
Phosphorus - Bray 2	mg/kg	** Inhouse S3A	<1	67	430	100
Nitrate-N - KCl extractable	mg/kg	** Inhouse S37	<0.1	15.1	1.5	10.2
Ammonium-N - KCl extractable	mg/kg	** Inhouse S37	<0.1	3.2	0.3	2.9
Sulfur - KCl extractable	mg/kg	** Inhouse S37	<1	7.3	1.1	5.3
pH (H2O)	units	Rayment & Lyons 2011 - 4A1	---	5.88	8.26	6.04
Electrical Conductivity	dS/m	Rayment & Lyons 2011 - 3A1	<0.005	0.078	0.094	0.073
Calcium - Exchangeable	cmol+/kg	Rayment & Lyons 2011 - 15D3	<0.05	28.4	42.4	27.1
Calcium - Exchangeable	kg/ha	Rayment & Lyons 2011 - 15D3	<22	12800	19000	12200
Calcium - Exchangeable	mg/kg	Rayment & Lyons 2011 - 15D3	<10	5700	8490	5430
Magnesium - Exchangeable	cmol+/kg	Rayment & Lyons 2011 - 15D3	<0.01	11.3	32.6	13.9
Magnesium - Exchangeable	kg/ha	Rayment & Lyons 2011 - 15D3	<2	3070	8880	3770
Magnesium - Exchangeable	mg/kg	Rayment & Lyons 2011 - 15D3	<1	1370	3970	1680
Potassium - Exchangeable	cmol+/kg	Rayment & Lyons 2011 - 15D3	<0.12	1.08	0.43	1.93
Potassium - Exchangeable	kg/ha	Rayment & Lyons 2011 - 15D3	<112	945	381	1690
Potassium - Exchangeable	mg/kg	Rayment & Lyons 2011 - 15D3	<50	422	170	756

Parameter	Unit	Method Reference	LOR	R2	R1	Reference
Sodium - Exchangeable	cmol+/kg	Rayment & Lyons 2011 - 15D3	<0.065	0.07	0.24	0.07
Sodium - Exchangeable	kg/ha	Rayment & Lyons 2011 - 15D3	<33	36.7	122	34
Sodium - Exchangeable	mg/kg	Rayment & Lyons 2011 - 15D3	<15	16.4	54.5	15.2
Aluminium - Exchangeable	cmol+/kg	** Inhouse S37	<0.01	0.02	< 0.01	0.02
Aluminium - Exchangeable	kg/ha	** Inhouse S37	<1	3	1.1	3
Aluminium - Exchangeable	mg/kg	** Inhouse S37	<1	1.3	< 1	1.3
Hydrogen - Exchangeable	cmol+/kg	** Rayment & Lyons 2011 - 15G1	<0.01	0.24	< 0.01	0.13
Hydrogen - Exchangeable	kg/ha	** Rayment & Lyons 2011 - 15G1	<1	5.3	< 1	2.8
Hydrogen - Exchangeable	mg/kg	** Rayment & Lyons 2011 - 15G1	<1	2.4	< 1	1.3
Calcium - Base Saturation	%	** Calculation	<0.1	69	56	63
Magnesium - Base Saturation	%	** Calculation	<0.1	27	43	32
Potassium - Base Saturation	%	** Calculation	<0.1	2.6	0.6	4.5
Sodium - Base Saturation (ESP)	%	** Calculation	<0.1	0.2	0.3	0.2
Aluminium - Base Saturation	%	** Calculation	<0.1	< 0.1	< 0.1	< 0.1
Hydrogen - Base Saturation	%	** Calculation	<0.1	0.6	< 0.1	0.3
Calcium/Magnesium Ratio	---	** Calculation	<0.1	2.5	1.3	2
Effective Cation Exchange Capacity	cmol+/kg	** Calculation	---	41.1	75.7	43.1
Zinc - DTPA	mg/kg	Rayment & Lyons 2011 - 12A1	<0.5	1.6	0.7	2.1
Manganese - DTPA	mg/kg	Rayment & Lyons 2011 - 12A1	<0.1	42.9	4	37.9
Iron - DTPA	mg/kg	Rayment & Lyons 2011 - 12A1	<0.5	187	13.4	226
Copper - DTPA	mg/kg	Rayment & Lyons 2011 - 12A1	<0.1	2.3	0.5	3.2
Boron - CaCl2 extractable	mg/kg	** Rayment & Lyons 2011 - 12C2	<0.1	0.58	< 0.1	0.71
Silicon - CaCl2 extractable	mg/kg	** Inhouse S11	<1	88	37	78
Carbon - Total	%	Inhouse S4a	<0.02	6.91	0.3	7.19
Nitrogen - Total	%	Inhouse S4a	<0.02	0.44	< 0.02	0.51
Carbon : Nitrogen Ratio	Ratio	Inhouse S4a	<1	15.8	65.7	14.2
Estimated Organic Matter	%	Inhouse S4a	<0.04	12.1	0.52	12.6

Parameter	Unit	Method Reference	LOR	R2	R1	Reference
Basic Texture	---	** Inhouse S65	---	Clay	Loam	Clay Loam
Basic Colour	---	** Inhouse S65	---	Brownish	Brownish	Brownish
Sodium	mg/kg	1:3 Nitric:HCl - APHA 3125 ICPMS	<50	80.9	2420	122
Potassium	mg/kg	1:3 Nitric:HCl - APHA 3125 ICPMS	<50	1720	1200	2040
Calcium	mg/kg	1:3 Nitric:HCl - APHA 3125 ICPMS	<50	8950	16000	8500
Magnesium	mg/kg	1:3 Nitric:HCl - APHA 3125 ICPMS	<50	8300	11400	10800
Phosphorus	mg/kg	1:3 Nitric:HCl - APHA 3125 ICPMS	<50	1630	2490	2160
Silver	mg/kg	1:3 Nitric:HCl - APHA 3125 ICPMS	<1	< 1	< 1	< 1
Aluminium	mg/kg	1:3 Nitric:HCl - APHA 3125 ICPMS	<50	32900	40400	42300
Arsenic	mg/kg	1:3 Nitric:HCl - APHA 3125 ICPMS	<2	< 2	< 2	< 2
Cadmium	mg/kg	1:3 Nitric:HCl - APHA 3125 ICPMS	<0.5	< 0.5	< 0.5	< 0.5
Chromium	mg/kg	1:3 Nitric:HCl - APHA 3125 ICPMS	<2	97.3	32.4	98.2
Copper	mg/kg	1:3 Nitric:HCl - APHA 3125 ICPMS	<1	48	19	59
Iron	mg/kg	1:3 Nitric:HCl - APHA 3125 ICPMS	<50	56200	63400	63900
Manganese	mg/kg	1:3 Nitric:HCl - APHA 3125 ICPMS	<1	1750	1360	1700
Nickel	mg/kg	1:3 Nitric:HCl - APHA 3125 ICPMS	<1	85.7	31	89.9
Lead	mg/kg	1:3 Nitric:HCl - APHA 3125 ICPMS	<1	5.97	3.47	4.53
Selenium	mg/kg	1:3 Nitric:HCl - APHA 3125 ICPMS	<0.5	0.547	< 0.5	< 0.5
Zinc	mg/kg	1:3 Nitric:HCl - APHA 3125 ICPMS	<1	71	66	68
Mercury	mg/kg	1:3 Nitric:HCl - APHA 3125 ICPMS	<0.1	< 0.1	< 0.1	< 0.1
Boron	mg/kg	1:3 Nitric:HCl - APHA 3125 ICPMS	<2	3	< 2	2.5
Silicon	mg/kg	1:3 Nitric:HCl - APHA 3125 ICPMS	<50	516	630	395
Cobalt	mg/kg	1:3 Nitric:HCl - APHA 3125 ICPMS	<0.05	54	24	60
Molybdenum	mg/kg	1:3 Nitric:HCl - APHA 3125 ICPMS	<0.2	0.75	0.72	0.61
Sulfur	%	1:3 Nitric:HCl - APHA 3120 ICPOES	<0.01	0.05	< 0.01	0.04
Maximum Soil Chloride Estimate	mg/kg	** Calculation (Electrical Conductivity x 640)	---	50	60	47

A large, stylized graphic of a plant with several broad, rounded leaves in various shades of teal and green, positioned in the upper right corner of the page.

APPENDIX 5

Nest Box Monitoring Results

Appendix 5 – Nest Box Monitoring Results

Table 1 provides the results of the nest box monitoring undertaken during the 2024 monitoring program. Nest box monitoring was undertaken on 5 December 2024.

Table 1. Nest Box Monitoring Results

Box Number	Tree Tag Number	Design	Evidence of usage	Fauna Sp Observed	Fauna Sp Predicted	Pest Species	Condition
1	175	phascogale	Chew marks on entry, leaf ball nest	Nil	Glider	Nil	good
2	-	glider	Chew marks on entry, leaf ball nest	Nil	Glider	Spider	good
3	178	phascogale	Chew marks on entry, leaf ball nest	Nil	Glider	Nil	good
4	177	glider	Chew marks on entry	Nil	Rosella/ Parrot	Nil	good
5	172	phascogale	Chew marks on entry	Nil	Glider	spider web	good
7	171	glider	Chew marks on entry	Rosella Chicks x 3	-	Nil	good
8	168	phascogale	Chew marks on entry	Nil	Glider	Spider	good
9	169	phascogale	Chew marks on entry, leaf ball nest	Nil	Glider	Nil	good
10	164	phascogale	Chew marks on entry	Nil	Glider	Spider web	good
11	165	glider	Chew marks on entry	Nil	Rosella/ Parrot	Nil	good
15	161	glider	Chew marks on entry, leaf ball nest	Nil	Glider	Mud wasp nest	good
17	158	phascogale	Chew marks on entry	Nil	Glider	Mud wasp nest	good
18	157	glider	Chew marks on entry	Nil	Rosella/ Parrot	Nil	good
20	114	glider	Chew marks on entry	Nil	Rosella/ Parrot	Nil	good
22	112	phascogale	Chew marks on entry	Nil	Glider	Nil	good
23	111	glider	Chew marks on entry	Nil	Glider	Spider web	good
24	115	phascogale	Chew marks on entry	Nil	Glider	Nil	good

Appendix 7 Vermin control summaries for 2024



SHAUN'S ROO & DEER SHOOTING

Shaun's Roo & Deer Shooting

Phone: 0431 034 447

E-mail: ss181984@hotmail.com

Shaun Stothard

33 Beauty Point Road,
Morisset,
NSW, 2264

To whom it may concern,

12th July, 2024

Please find attached a brief outline of vermin harvested during the period January-June 2024:

TOTALS:

- Fallow Deer - 63
- Feral Cats - 0
- Foxes - 6
- Wild pigs - 33

Regards,

Shaun Stothard



SHAUN'S ROO & DEER SHOOTING

Shaun's Roo & Deer Shooting

Phone: 0431 034 447

E-mail: ss181984@hotmail.com

Shaun Stothard

33 Beauty Point Road,
Morisset,
NSW, 2264

To whom it may concern,

13th January, 2025

Please find attached a brief outline of vermin harvested during the period July-December 2024:

TOTALS:

- Fallow Deer - 43
- Feral Cats - 1
- Foxes - 6
- Wild pigs - 35

Regards,

Shaun Stothard

Appendix 8 2024 Daracon newsletter

Ardglen Quarry Community Newsletter – April 2024

Welcome to 2024, we hope everyone has enjoyed a productive and prosperous start to the year. We're pleased to report that during the last half of 2023, the quarry recommenced the supply of construction materials to the local area, including many essential road repair and upgrade projects.

Geoff Reeves continues his role as the Quarry Manager on site and his contact details are shown at the bottom of this newsletter, should you ever need to speak with him.

Following the approval of the consent modification in 2021, we continue to progress with the various planning actions required to

facilitate the efficient operation of the site and we expect to commence work in the 'Approved Extension Area' soon (as shown in the image below).

As we previously advised, one of the critical tasks to re-opening the quarry was the widening of Warra, St Stephens and Main Streets Ardglen. This work was completed during the first half of 2023, which then allowed the export of material from the quarry by truck to recommence soon thereafter. Additionally, we continue to undertake preparatory, and construction works in the 'Existing Quarry Pit' and adjacent areas. This will ensure the quarry resource is extracted efficiently and with minimal disruption to surrounding areas.

Upcoming Blasting

The quarry has primarily been in 'care and maintenance' for many years, and we've not undertaken any blasting activities on site for more than a decade. We now wish to advise that blasting activities are likely to recommence in the very near future, so we're



Figure 1- Ardglen Quarry - General Layout

therefore asking all local residents again, if they'd like to be included in the **blast notifications**? If you'd therefore like to be included in any future blast notifications for Ardglen quarry, please provide your details via the '**Contact Us**' section contained in Daracon website link shown below.

General enquiries regarding Ardglen Quarry, including blasting, can also be made by contacting us on Daracon Quarries contact numbers listed below.

Quarrying Operations in the 'Approved Extension Area'

As previously mentioned, we expect to be entering the 'Approved Extension Area' very soon, so it's likely you'll see more activity in this part of the site during 2024.

A return to quarrying at Ardglen will provide a high-quality resource for concrete and asphalt aggregates as well as gravels for use in the various infrastructure and maintenance projects required throughout the Hunter Valley.

Community Consultative Committee

We continue to consult with the community via the Ardglen quarry Community Consultative Committee (CCC), which is assisted by an independent facilitator and comprises representatives from Crown Lands, Council and a number of local community representatives.

Nominations are now invited from community members, within the Ardglen-Murrurundi area, for appointment as a community representative to the Ardglen Quarry CCC.

We are currently looking for a person who lives locally or is a member of a community interest group (community, environment, Aboriginal or industry) to fill a casual vacancy on the CCC.

The role as a committee member is voluntary. Nomination forms may be obtained by contacting the Independent Chair on **0427 723 747**.

Nominations close with Michael Silver OAM, Independent Chair, Ardglen Quarry CCC, P.O. Box 37, Gunnedah 2380 or via email, **ardglenquarryccc@gmail.com** on Wednesday, 15 May 2024.

History of The Site

Ardglen quarry has been operating as a hard rock quarry for over 100 years with a modification to the Ardglen quarry consent submitted to the NSW Department of Planning, Housing and Infrastructure (DPHI) by Daracon in 2018. Following substantial consultation with the relevant stakeholders, the modification was approved by the DPHI in March 2021.

During 2023, the quarry recommenced the export of construction materials to support the local area with various road repairs and rail infrastructure upgrade projects.

Contact information

Daracon website address –
<https://daracon.com.au/services/quarries>

Daracon quarries general contact number -
1300 663 151

Daracon Quarry Manager – **Geoff Reeves**
on 0429 813 442

Ardglen quarry CCC independent facilitator –
Michael Silver on 0427 723 747

Ardglen quarry CCC email address -
ardglenquarryccc@gmail.com

Appendix 9 Summary of truck movements and loads

Ardglen quarry loaded truck analysis January to December 2024

Date	Hour Range	Laden truck load count
8/01/2024	07:00 - 08:00	3
8/01/2024	08:00 - 09:00	2
8/01/2024	09:00 - 10:00	3
8/01/2024	10:00 - 11:00	4
8/01/2024	11:00 - 12:00	3
8/01/2024	12:00 - 13:00	2
8/01/2024	13:00 - 14:00	3
8/01/2024 Total		20
10/01/2024	07:00 - 08:00	3
10/01/2024	08:00 - 09:00	1
10/01/2024	09:00 - 10:00	4
10/01/2024	11:00 - 12:00	4
10/01/2024	13:00 - 14:00	4
10/01/2024 Total		16
12/01/2024	08:00 - 09:00	1
12/01/2024 Total		1
15/01/2024	06:00 - 07:00	1
15/01/2024	07:00 - 08:00	1
15/01/2024 Total		2
16/01/2024	06:00 - 07:00	1
16/01/2024	07:00 - 08:00	6
16/01/2024	09:00 - 10:00	3
16/01/2024	10:00 - 11:00	4
16/01/2024	12:00 - 13:00	5
16/01/2024	13:00 - 14:00	2
16/01/2024 Total		21
17/01/2024	06:00 - 07:00	1
17/01/2024	07:00 - 08:00	4
17/01/2024	09:00 - 10:00	4
17/01/2024	11:00 - 12:00	4
17/01/2024	12:00 - 13:00	1
17/01/2024	13:00 - 14:00	5
17/01/2024 Total		19
18/01/2024	06:00 - 07:00	2
18/01/2024	07:00 - 08:00	2
18/01/2024	08:00 - 09:00	1
18/01/2024	09:00 - 10:00	3
18/01/2024	10:00 - 11:00	1
18/01/2024	11:00 - 12:00	3
18/01/2024	13:00 - 14:00	2
18/01/2024	14:00 - 15:00	1
18/01/2024 Total		15
19/01/2024	06:00 - 07:00	1
19/01/2024	07:00 - 08:00	1
19/01/2024	10:00 - 11:00	1
19/01/2024	11:00 - 12:00	1

Date	Hour Range	Laden truck load count
19/01/2024	14:00 - 15:00	1
19/01/2024 Total		5
22/01/2024	06:00 - 07:00	1
22/01/2024	07:00 - 08:00	1
22/01/2024	10:00 - 11:00	1
22/01/2024	13:00 - 14:00	1
22/01/2024 Total		4
23/01/2024	06:00 - 07:00	1
23/01/2024	07:00 - 08:00	1
23/01/2024	10:00 - 11:00	1
23/01/2024	11:00 - 12:00	1
23/01/2024	14:00 - 15:00	2
23/01/2024 Total		6
24/01/2024	06:00 - 07:00	1
24/01/2024	07:00 - 08:00	1
24/01/2024	10:00 - 11:00	2
24/01/2024	13:00 - 14:00	2
24/01/2024	15:00 - 16:00	1
24/01/2024 Total		7
29/01/2024	06:00 - 07:00	1
29/01/2024	07:00 - 08:00	1
29/01/2024	10:00 - 11:00	2
29/01/2024	14:00 - 15:00	2
29/01/2024 Total		6
30/01/2024	07:00 - 08:00	3
30/01/2024	11:00 - 12:00	1
30/01/2024	12:00 - 13:00	1
30/01/2024 Total		5
31/01/2024	06:00 - 07:00	1
31/01/2024	07:00 - 08:00	2
31/01/2024	10:00 - 11:00	2
31/01/2024	11:00 - 12:00	1
31/01/2024	13:00 - 14:00	2
31/01/2024	15:00 - 16:00	1
31/01/2024 Total		9
1/02/2024	06:00 - 07:00	1
1/02/2024	07:00 - 08:00	2
1/02/2024	10:00 - 11:00	3
1/02/2024	12:00 - 13:00	2
1/02/2024	13:00 - 14:00	1
1/02/2024	14:00 - 15:00	1
1/02/2024 Total		10
2/02/2024	06:00 - 07:00	1
2/02/2024	07:00 - 08:00	1
2/02/2024	10:00 - 11:00	2
2/02/2024	13:00 - 14:00	2
2/02/2024 Total		6
5/02/2024	06:00 - 07:00	1

Date	Hour Range	Laden truck load count
5/02/2024	07:00 - 08:00	3
5/02/2024	09:00 - 10:00	1
5/02/2024	10:00 - 11:00	2
5/02/2024	11:00 - 12:00	1
5/02/2024	13:00 - 14:00	3
5/02/2024 Total		11
6/02/2024	06:00 - 07:00	1
6/02/2024	07:00 - 08:00	1
6/02/2024	08:00 - 09:00	2
6/02/2024	10:00 - 11:00	3
6/02/2024	12:00 - 13:00	1
6/02/2024	13:00 - 14:00	2
6/02/2024 Total		10
7/02/2024	07:00 - 08:00	2
7/02/2024	11:00 - 12:00	1
7/02/2024 Total		3
12/02/2024	06:00 - 07:00	1
12/02/2024	07:00 - 08:00	1
12/02/2024	08:00 - 09:00	1
12/02/2024	10:00 - 11:00	2
12/02/2024	13:00 - 14:00	2
12/02/2024 Total		7
13/02/2024	06:00 - 07:00	1
13/02/2024	07:00 - 08:00	1
13/02/2024	10:00 - 11:00	2
13/02/2024	13:00 - 14:00	2
13/02/2024 Total		6
14/02/2024	07:00 - 08:00	6
14/02/2024	10:00 - 11:00	2
14/02/2024	11:00 - 12:00	4
14/02/2024	12:00 - 13:00	1
14/02/2024	13:00 - 14:00	4
14/02/2024	14:00 - 15:00	1
14/02/2024	15:00 - 16:00	1
14/02/2024 Total		19
15/02/2024	07:00 - 08:00	1
15/02/2024 Total		1
16/02/2024	10:00 - 11:00	1
16/02/2024	11:00 - 12:00	1
16/02/2024	13:00 - 14:00	1
16/02/2024	15:00 - 16:00	1
16/02/2024 Total		4
19/02/2024	06:00 - 07:00	1
19/02/2024	07:00 - 08:00	1
19/02/2024 Total		2
20/02/2024	08:00 - 09:00	1
20/02/2024	09:00 - 10:00	1
20/02/2024 Total		2

Date	Hour Range	Laden truck load count
21/02/2024	06:00 - 07:00	1
21/02/2024	07:00 - 08:00	1
21/02/2024	10:00 - 11:00	2
21/02/2024	12:00 - 13:00	1
21/02/2024	13:00 - 14:00	4
21/02/2024	14:00 - 15:00	2
21/02/2024 Total		11
22/02/2024	06:00 - 07:00	1
22/02/2024	07:00 - 08:00	3
22/02/2024	09:00 - 10:00	1
22/02/2024	10:00 - 11:00	2
22/02/2024	12:00 - 13:00	1
22/02/2024	14:00 - 15:00	2
22/02/2024 Total		10
23/02/2024	07:00 - 08:00	2
23/02/2024	10:00 - 11:00	2
23/02/2024 Total		4
26/02/2024	07:00 - 08:00	2
26/02/2024	10:00 - 11:00	1
26/02/2024	11:00 - 12:00	1
26/02/2024 Total		4
27/02/2024	06:00 - 07:00	1
27/02/2024	10:00 - 11:00	1
27/02/2024	14:00 - 15:00	1
27/02/2024 Total		3
28/02/2024	06:00 - 07:00	1
28/02/2024	07:00 - 08:00	3
28/02/2024	08:00 - 09:00	4
28/02/2024	09:00 - 10:00	1
28/02/2024	10:00 - 11:00	4
28/02/2024	11:00 - 12:00	4
28/02/2024	13:00 - 14:00	4
28/02/2024	14:00 - 15:00	4
28/02/2024 Total		25
29/02/2024	06:00 - 07:00	2
29/02/2024	07:00 - 08:00	2
29/02/2024	08:00 - 09:00	4
29/02/2024	09:00 - 10:00	2
29/02/2024	10:00 - 11:00	3
29/02/2024	11:00 - 12:00	3
29/02/2024	12:00 - 13:00	1
29/02/2024	13:00 - 14:00	4
29/02/2024	14:00 - 15:00	2
29/02/2024 Total		23
1/03/2024	07:00 - 08:00	4
1/03/2024	08:00 - 09:00	3
1/03/2024	09:00 - 10:00	4
1/03/2024	11:00 - 12:00	4
1/03/2024	12:00 - 13:00	4

Date	Hour Range	Laden truck load count
1/03/2024	13:00 - 14:00	3
1/03/2024	14:00 - 15:00	5
1/03/2024	15:00 - 16:00	4
1/03/2024	16:00 - 17:00	1
1/03/2024 Total		32
4/03/2024	06:00 - 07:00	2
4/03/2024	07:00 - 08:00	2
4/03/2024	08:00 - 09:00	3
4/03/2024	09:00 - 10:00	3
4/03/2024	10:00 - 11:00	2
4/03/2024	11:00 - 12:00	2
4/03/2024	12:00 - 13:00	4
4/03/2024	13:00 - 14:00	3
4/03/2024	14:00 - 15:00	2
4/03/2024	15:00 - 16:00	3
4/03/2024 Total		26
5/03/2024	06:00 - 07:00	1
5/03/2024	07:00 - 08:00	3
5/03/2024	08:00 - 09:00	4
5/03/2024	09:00 - 10:00	2
5/03/2024	10:00 - 11:00	3
5/03/2024	11:00 - 12:00	3
5/03/2024	12:00 - 13:00	2
5/03/2024	13:00 - 14:00	4
5/03/2024	14:00 - 15:00	1
5/03/2024	15:00 - 16:00	3
5/03/2024 Total		26
6/03/2024	05:00 - 06:00	1
6/03/2024	06:00 - 07:00	1
6/03/2024	07:00 - 08:00	3
6/03/2024	08:00 - 09:00	5
6/03/2024	09:00 - 10:00	3
6/03/2024	10:00 - 11:00	3
6/03/2024	11:00 - 12:00	4
6/03/2024	12:00 - 13:00	2
6/03/2024	13:00 - 14:00	3
6/03/2024	14:00 - 15:00	3
6/03/2024	15:00 - 16:00	2
6/03/2024 Total		30
7/03/2024	06:00 - 07:00	1
7/03/2024	07:00 - 08:00	6
7/03/2024	08:00 - 09:00	4
7/03/2024	09:00 - 10:00	3
7/03/2024	10:00 - 11:00	5
7/03/2024	11:00 - 12:00	3
7/03/2024	12:00 - 13:00	1
7/03/2024	13:00 - 14:00	3
7/03/2024	14:00 - 15:00	3
7/03/2024	15:00 - 16:00	1

Date	Hour Range	Laden truck load count
7/03/2024 Total		30
8/03/2024	06:00 - 07:00	2
8/03/2024	07:00 - 08:00	2
8/03/2024	08:00 - 09:00	3
8/03/2024	09:00 - 10:00	4
8/03/2024	10:00 - 11:00	4
8/03/2024	11:00 - 12:00	4
8/03/2024	12:00 - 13:00	2
8/03/2024	13:00 - 14:00	5
8/03/2024 Total		26
11/03/2024	06:00 - 07:00	1
11/03/2024	07:00 - 08:00	2
11/03/2024	08:00 - 09:00	3
11/03/2024	09:00 - 10:00	3
11/03/2024	10:00 - 11:00	2
11/03/2024	11:00 - 12:00	1
11/03/2024	12:00 - 13:00	2
11/03/2024	13:00 - 14:00	1
11/03/2024	14:00 - 15:00	3
11/03/2024 Total		18
12/03/2024	06:00 - 07:00	1
12/03/2024	07:00 - 08:00	1
12/03/2024	08:00 - 09:00	3
12/03/2024	09:00 - 10:00	2
12/03/2024	10:00 - 11:00	1
12/03/2024	11:00 - 12:00	1
12/03/2024	12:00 - 13:00	3
12/03/2024	13:00 - 14:00	3
12/03/2024	15:00 - 16:00	2
12/03/2024 Total		17
13/03/2024	06:00 - 07:00	2
13/03/2024	07:00 - 08:00	2
13/03/2024	08:00 - 09:00	2
13/03/2024	09:00 - 10:00	3
13/03/2024	11:00 - 12:00	3
13/03/2024	12:00 - 13:00	1
13/03/2024	13:00 - 14:00	1
13/03/2024 Total		14
14/03/2024	06:00 - 07:00	1
14/03/2024	07:00 - 08:00	3
14/03/2024	08:00 - 09:00	1
14/03/2024	09:00 - 10:00	3
14/03/2024	10:00 - 11:00	5
14/03/2024	11:00 - 12:00	4
14/03/2024	12:00 - 13:00	3
14/03/2024	13:00 - 14:00	5
14/03/2024	14:00 - 15:00	4
14/03/2024 Total		29
15/03/2024	06:00 - 07:00	1

Date	Hour Range	Laden truck load count
15/03/2024	07:00 - 08:00	4
15/03/2024	08:00 - 09:00	4
15/03/2024	09:00 - 10:00	4
15/03/2024	10:00 - 11:00	4
15/03/2024	11:00 - 12:00	4
15/03/2024	12:00 - 13:00	4
15/03/2024	13:00 - 14:00	4
15/03/2024	14:00 - 15:00	4
15/03/2024 Total		33
19/03/2024	07:00 - 08:00	5
19/03/2024	08:00 - 09:00	3
19/03/2024	09:00 - 10:00	2
19/03/2024	10:00 - 11:00	4
19/03/2024	11:00 - 12:00	4
19/03/2024	12:00 - 13:00	3
19/03/2024	13:00 - 14:00	5
19/03/2024	15:00 - 16:00	2
19/03/2024 Total		28
20/03/2024	06:00 - 07:00	2
20/03/2024	08:00 - 09:00	4
20/03/2024	10:00 - 11:00	4
20/03/2024	11:00 - 12:00	1
20/03/2024	12:00 - 13:00	2
20/03/2024	13:00 - 14:00	1
20/03/2024	14:00 - 15:00	4
20/03/2024 Total		18
21/03/2024	07:00 - 08:00	6
21/03/2024	10:00 - 11:00	7
21/03/2024	11:00 - 12:00	3
21/03/2024	12:00 - 13:00	2
21/03/2024	13:00 - 14:00	6
21/03/2024	15:00 - 16:00	6
21/03/2024 Total		30
22/03/2024	07:00 - 08:00	6
22/03/2024	08:00 - 09:00	2
22/03/2024	09:00 - 10:00	4
22/03/2024	10:00 - 11:00	4
22/03/2024	11:00 - 12:00	2
22/03/2024	12:00 - 13:00	5
22/03/2024	13:00 - 14:00	4
22/03/2024	14:00 - 15:00	4
22/03/2024 Total		31
27/03/2024	07:00 - 08:00	2
27/03/2024 Total		2
3/04/2024	10:00 - 11:00	1
3/04/2024 Total		1
4/04/2024	11:00 - 12:00	2
4/04/2024	12:00 - 13:00	2

Date	Hour Range	Laden truck load count
4/04/2024 Total		4
11/04/2024	11:00 - 12:00	1
11/04/2024	13:00 - 14:00	3
11/04/2024	14:00 - 15:00	1
11/04/2024	16:00 - 17:00	2
11/04/2024 Total		7
12/04/2024	07:00 - 08:00	2
12/04/2024	08:00 - 09:00	1
12/04/2024	09:00 - 10:00	3
12/04/2024	10:00 - 11:00	2
12/04/2024	11:00 - 12:00	4
12/04/2024	12:00 - 13:00	1
12/04/2024	13:00 - 14:00	5
12/04/2024 Total		18
15/04/2024	06:00 - 07:00	2
15/04/2024	07:00 - 08:00	5
15/04/2024	08:00 - 09:00	1
15/04/2024	09:00 - 10:00	3
15/04/2024	10:00 - 11:00	2
15/04/2024	11:00 - 12:00	3
15/04/2024	12:00 - 13:00	3
15/04/2024	13:00 - 14:00	2
15/04/2024	14:00 - 15:00	5
15/04/2024	15:00 - 16:00	1
15/04/2024	16:00 - 17:00	1
15/04/2024 Total		28
16/04/2024	06:00 - 07:00	1
16/04/2024	07:00 - 08:00	2
16/04/2024	08:00 - 09:00	2
16/04/2024	09:00 - 10:00	3
16/04/2024	10:00 - 11:00	2
16/04/2024	11:00 - 12:00	1
16/04/2024	12:00 - 13:00	4
16/04/2024	14:00 - 15:00	3
16/04/2024	15:00 - 16:00	2
16/04/2024 Total		20
17/04/2024	06:00 - 07:00	1
17/04/2024	07:00 - 08:00	2
17/04/2024	08:00 - 09:00	2
17/04/2024	09:00 - 10:00	3
17/04/2024	10:00 - 11:00	2
17/04/2024	11:00 - 12:00	1
17/04/2024	12:00 - 13:00	2
17/04/2024	13:00 - 14:00	2
17/04/2024	14:00 - 15:00	3
17/04/2024	15:00 - 16:00	2
17/04/2024 Total		20
18/04/2024	06:00 - 07:00	1
18/04/2024	07:00 - 08:00	2

Date	Hour Range	Laden truck load count
18/04/2024	08:00 - 09:00	3
18/04/2024	09:00 - 10:00	2
18/04/2024	10:00 - 11:00	2
18/04/2024	11:00 - 12:00	3
18/04/2024	12:00 - 13:00	2
18/04/2024	13:00 - 14:00	1
18/04/2024	14:00 - 15:00	3
18/04/2024	15:00 - 16:00	4
18/04/2024 Total		23
19/04/2024	06:00 - 07:00	2
19/04/2024	08:00 - 09:00	2
19/04/2024	09:00 - 10:00	2
19/04/2024	10:00 - 11:00	2
19/04/2024	11:00 - 12:00	2
19/04/2024	13:00 - 14:00	3
19/04/2024	14:00 - 15:00	1
19/04/2024 Total		14
22/04/2024	13:00 - 14:00	2
22/04/2024	14:00 - 15:00	1
22/04/2024	15:00 - 16:00	1
22/04/2024 Total		4
23/04/2024	06:00 - 07:00	1
23/04/2024	08:00 - 09:00	1
23/04/2024	10:00 - 11:00	2
23/04/2024	14:00 - 15:00	1
23/04/2024	#VALUE!	1
23/04/2024 Total		6
30/04/2024	06:00 - 07:00	1
30/04/2024	08:00 - 09:00	1
30/04/2024	11:00 - 12:00	1
30/04/2024	#VALUE!	1
30/04/2024 Total		4
1/05/2024	12:00 - 13:00	2
1/05/2024 Total		2
7/05/2024	09:00 - 10:00	1
7/05/2024	11:00 - 12:00	2
7/05/2024 Total		3
8/05/2024	06:00 - 07:00	1
8/05/2024	08:00 - 09:00	1
8/05/2024	11:00 - 12:00	1
8/05/2024	13:00 - 14:00	1
8/05/2024	14:00 - 15:00	1
8/05/2024 Total		5
9/05/2024	16:00 - 17:00	1
9/05/2024 Total		1
10/05/2024	06:00 - 07:00	1
10/05/2024	08:00 - 09:00	1
10/05/2024	10:00 - 11:00	1

Date	Hour Range	Laden truck load count
10/05/2024	12:00 - 13:00	1
10/05/2024	14:00 - 15:00	1
10/05/2024 Total		5
14/05/2024	10:00 - 11:00	1
14/05/2024 Total		1
15/05/2024	06:00 - 07:00	1
15/05/2024	08:00 - 09:00	1
15/05/2024	11:00 - 12:00	1
15/05/2024	14:00 - 15:00	1
15/05/2024 Total		4
16/05/2024	06:00 - 07:00	1
16/05/2024	08:00 - 09:00	1
16/05/2024	11:00 - 12:00	1
16/05/2024	13:00 - 14:00	1
16/05/2024 Total		4
17/05/2024	08:00 - 09:00	1
17/05/2024	10:00 - 11:00	1
17/05/2024	12:00 - 13:00	1
17/05/2024	13:00 - 14:00	1
17/05/2024 Total		4
20/05/2024	06:00 - 07:00	2
20/05/2024	10:00 - 11:00	1
20/05/2024	12:00 - 13:00	1
20/05/2024	14:00 - 15:00	1
20/05/2024 Total		5
21/05/2024	06:00 - 07:00	1
21/05/2024	09:00 - 10:00	1
21/05/2024 Total		2
22/05/2024	09:00 - 10:00	1
22/05/2024 Total		1
23/05/2024	06:00 - 07:00	1
23/05/2024	09:00 - 10:00	1
23/05/2024	11:00 - 12:00	1
23/05/2024	14:00 - 15:00	1
23/05/2024 Total		4
27/05/2024	06:00 - 07:00	1
27/05/2024	08:00 - 09:00	1
27/05/2024	10:00 - 11:00	1
27/05/2024	13:00 - 14:00	1
27/05/2024 Total		4
28/05/2024	10:00 - 11:00	2
28/05/2024 Total		2
29/05/2024	07:00 - 08:00	1
29/05/2024	08:00 - 09:00	1
29/05/2024	10:00 - 11:00	1
29/05/2024	12:00 - 13:00	1
29/05/2024 Total		4
31/05/2024	06:00 - 07:00	1

Date	Hour Range	Laden truck load count
31/05/2024	08:00 - 09:00	1
31/05/2024	10:00 - 11:00	1
31/05/2024	12:00 - 13:00	1
31/05/2024 Total		4
7/06/2024	08:00 - 09:00	1
7/06/2024 Total		1
12/06/2024	06:00 - 07:00	1
12/06/2024	09:00 - 10:00	1
12/06/2024	10:00 - 11:00	1
12/06/2024	11:00 - 12:00	1
12/06/2024	14:00 - 15:00	1
12/06/2024 Total		5
14/06/2024	06:00 - 07:00	1
14/06/2024	08:00 - 09:00	1
14/06/2024	10:00 - 11:00	1
14/06/2024	12:00 - 13:00	1
14/06/2024 Total		4
17/06/2024	06:00 - 07:00	1
17/06/2024 Total		1
18/06/2024	07:00 - 08:00	1
18/06/2024	13:00 - 14:00	2
18/06/2024	14:00 - 15:00	1
18/06/2024	16:00 - 17:00	1
18/06/2024 Total		5
19/06/2024	06:00 - 07:00	1
19/06/2024	08:00 - 09:00	1
19/06/2024	10:00 - 11:00	1
19/06/2024	12:00 - 13:00	1
19/06/2024 Total		4
20/06/2024	08:00 - 09:00	1
20/06/2024 Total		1
21/06/2024	07:00 - 08:00	1
21/06/2024	08:00 - 09:00	1
21/06/2024 Total		2
24/06/2024	07:00 - 08:00	1
24/06/2024	09:00 - 10:00	1
24/06/2024	11:00 - 12:00	1
24/06/2024 Total		3
25/06/2024	10:00 - 11:00	1
25/06/2024 Total		1
26/06/2024	06:00 - 07:00	1
26/06/2024	08:00 - 09:00	1
26/06/2024	10:00 - 11:00	1
26/06/2024	13:00 - 14:00	1
26/06/2024	14:00 - 15:00	1
26/06/2024 Total		5
27/06/2024	11:00 - 12:00	1
27/06/2024	13:00 - 14:00	1

Date	Hour Range	Laden truck load count
27/06/2024 Total		2
28/06/2024	06:00 - 07:00	1
28/06/2024	08:00 - 09:00	2
28/06/2024	10:00 - 11:00	1
28/06/2024	11:00 - 12:00	1
28/06/2024	13:00 - 14:00	1
28/06/2024 Total		6
2/07/2024	06:00 - 07:00	1
2/07/2024	07:00 - 08:00	6
2/07/2024	10:00 - 11:00	4
2/07/2024	11:00 - 12:00	2
2/07/2024 Total		13
3/07/2024	06:00 - 07:00	1
3/07/2024	07:00 - 08:00	2
3/07/2024	09:00 - 10:00	1
3/07/2024	11:00 - 12:00	2
3/07/2024	12:00 - 13:00	1
3/07/2024	13:00 - 14:00	1
3/07/2024 Total		8
4/07/2024	07:00 - 08:00	3
4/07/2024	08:00 - 09:00	2
4/07/2024	09:00 - 10:00	3
4/07/2024	10:00 - 11:00	1
4/07/2024	11:00 - 12:00	3
4/07/2024	12:00 - 13:00	1
4/07/2024	13:00 - 14:00	2
4/07/2024	14:00 - 15:00	2
4/07/2024	15:00 - 16:00	1
4/07/2024 Total		18
5/07/2024	06:00 - 07:00	1
5/07/2024	07:00 - 08:00	3
5/07/2024	08:00 - 09:00	3
5/07/2024	10:00 - 11:00	2
5/07/2024	11:00 - 12:00	2
5/07/2024	12:00 - 13:00	1
5/07/2024	13:00 - 14:00	2
5/07/2024 Total		14
8/07/2024	06:00 - 07:00	2
8/07/2024	07:00 - 08:00	6
8/07/2024	09:00 - 10:00	2
8/07/2024	10:00 - 11:00	7
8/07/2024	11:00 - 12:00	1
8/07/2024	13:00 - 14:00	6
8/07/2024	14:00 - 15:00	3
8/07/2024 Total		27
10/07/2024	07:00 - 08:00	1
10/07/2024	10:00 - 11:00	1
10/07/2024	11:00 - 12:00	1
10/07/2024	12:00 - 13:00	1

Date	Hour Range	Laden truck load count
10/07/2024 Total		4
11/07/2024	06:00 - 07:00	1
11/07/2024	07:00 - 08:00	5
11/07/2024	09:00 - 10:00	1
11/07/2024	10:00 - 11:00	3
11/07/2024	11:00 - 12:00	2
11/07/2024	12:00 - 13:00	1
11/07/2024 Total		13
12/07/2024	03:00 - 04:00	1
12/07/2024	06:00 - 07:00	1
12/07/2024	07:00 - 08:00	1
12/07/2024	08:00 - 09:00	1
12/07/2024	10:00 - 11:00	1
12/07/2024	11:00 - 12:00	1
12/07/2024 Total		6
15/07/2024	08:00 - 09:00	1
15/07/2024	11:00 - 12:00	1
15/07/2024	15:00 - 16:00	2
15/07/2024 Total		4
16/07/2024	06:00 - 07:00	2
16/07/2024	07:00 - 08:00	2
16/07/2024	09:00 - 10:00	1
16/07/2024	10:00 - 11:00	2
16/07/2024	11:00 - 12:00	1
16/07/2024	13:00 - 14:00	4
16/07/2024	16:00 - 17:00	2
16/07/2024 Total		14
17/07/2024	06:00 - 07:00	1
17/07/2024	07:00 - 08:00	4
17/07/2024	08:00 - 09:00	1
17/07/2024	10:00 - 11:00	3
17/07/2024	11:00 - 12:00	6
17/07/2024	12:00 - 13:00	1
17/07/2024	13:00 - 14:00	2
17/07/2024	14:00 - 15:00	2
17/07/2024	16:00 - 17:00	2
17/07/2024 Total		22
18/07/2024	07:00 - 08:00	1
18/07/2024	08:00 - 09:00	1
18/07/2024	10:00 - 11:00	3
18/07/2024	14:00 - 15:00	1
18/07/2024	15:00 - 16:00	1
18/07/2024 Total		7
19/07/2024	06:00 - 07:00	1
19/07/2024	08:00 - 09:00	1
19/07/2024	10:00 - 11:00	3
19/07/2024	12:00 - 13:00	1
19/07/2024 Total		6

Date	Hour Range	Laden truck load count
22/07/2024	06:00 - 07:00	1
22/07/2024	07:00 - 08:00	1
22/07/2024	09:00 - 10:00	1
22/07/2024	11:00 - 12:00	2
22/07/2024	13:00 - 14:00	1
22/07/2024	16:00 - 17:00	1
22/07/2024 Total		7
23/07/2024	09:00 - 10:00	1
23/07/2024	10:00 - 11:00	1
23/07/2024	12:00 - 13:00	1
23/07/2024	15:00 - 16:00	2
23/07/2024 Total		5
24/07/2024	06:00 - 07:00	1
24/07/2024	07:00 - 08:00	2
24/07/2024	08:00 - 09:00	1
24/07/2024	09:00 - 10:00	1
24/07/2024	10:00 - 11:00	1
24/07/2024	11:00 - 12:00	2
24/07/2024	12:00 - 13:00	2
24/07/2024	13:00 - 14:00	1
24/07/2024 Total		11
25/07/2024	06:00 - 07:00	2
25/07/2024	09:00 - 10:00	2
25/07/2024	11:00 - 12:00	2
25/07/2024	13:00 - 14:00	1
25/07/2024 Total		7
26/07/2024	06:00 - 07:00	1
26/07/2024	08:00 - 09:00	1
26/07/2024	10:00 - 11:00	1
26/07/2024	12:00 - 13:00	1
26/07/2024	14:00 - 15:00	1
26/07/2024 Total		5
29/07/2024	06:00 - 07:00	2
29/07/2024	07:00 - 08:00	1
29/07/2024	08:00 - 09:00	1
29/07/2024	10:00 - 11:00	1
29/07/2024	11:00 - 12:00	2
29/07/2024	12:00 - 13:00	2
29/07/2024	14:00 - 15:00	2
29/07/2024 Total		11
30/07/2024	06:00 - 07:00	1
30/07/2024	07:00 - 08:00	1
30/07/2024	11:00 - 12:00	2
30/07/2024	15:00 - 16:00	1
30/07/2024 Total		5
31/07/2024	06:00 - 07:00	2
31/07/2024	07:00 - 08:00	1
31/07/2024	08:00 - 09:00	1
31/07/2024	10:00 - 11:00	1

Date	Hour Range	Laden truck load count
31/07/2024	12:00 - 13:00	3
31/07/2024	14:00 - 15:00	1
31/07/2024 Total		9
1/08/2024	06:00 - 07:00	1
1/08/2024	07:00 - 08:00	1
1/08/2024	11:00 - 12:00	2
1/08/2024	13:00 - 14:00	1
1/08/2024	14:00 - 15:00	2
1/08/2024 Total		7
2/08/2024	06:00 - 07:00	1
2/08/2024	07:00 - 08:00	1
2/08/2024	08:00 - 09:00	1
2/08/2024	09:00 - 10:00	4
2/08/2024	10:00 - 11:00	1
2/08/2024	11:00 - 12:00	2
2/08/2024	12:00 - 13:00	1
2/08/2024	14:00 - 15:00	2
2/08/2024 Total		13
5/08/2024	06:00 - 07:00	1
5/08/2024	08:00 - 09:00	1
5/08/2024	10:00 - 11:00	1
5/08/2024	12:00 - 13:00	1
5/08/2024	14:00 - 15:00	1
5/08/2024 Total		5
7/08/2024	07:00 - 08:00	1
7/08/2024	09:00 - 10:00	1
7/08/2024	11:00 - 12:00	1
7/08/2024	14:00 - 15:00	1
7/08/2024 Total		4
8/08/2024	07:00 - 08:00	1
8/08/2024	08:00 - 09:00	1
8/08/2024	09:00 - 10:00	1
8/08/2024	11:00 - 12:00	1
8/08/2024 Total		4
9/08/2024	06:00 - 07:00	1
9/08/2024	08:00 - 09:00	1
9/08/2024	10:00 - 11:00	1
9/08/2024	12:00 - 13:00	2
9/08/2024 Total		5
12/08/2024	06:00 - 07:00	1
12/08/2024	07:00 - 08:00	2
12/08/2024	08:00 - 09:00	2
12/08/2024	09:00 - 10:00	4
12/08/2024	10:00 - 11:00	2
12/08/2024	11:00 - 12:00	2
12/08/2024	12:00 - 13:00	4
12/08/2024	14:00 - 15:00	3
12/08/2024	15:00 - 16:00	3

Date	Hour Range	Laden truck load count
12/08/2024 Total		23
13/08/2024	06:00 - 07:00	3
13/08/2024	07:00 - 08:00	2
13/08/2024	08:00 - 09:00	4
13/08/2024	09:00 - 10:00	4
13/08/2024	11:00 - 12:00	5
13/08/2024	12:00 - 13:00	4
13/08/2024	14:00 - 15:00	3
13/08/2024 Total		25
14/08/2024	07:00 - 08:00	1
14/08/2024	09:00 - 10:00	1
14/08/2024	10:00 - 11:00	1
14/08/2024	12:00 - 13:00	1
14/08/2024 Total		4
20/08/2024	06:00 - 07:00	2
20/08/2024	07:00 - 08:00	1
20/08/2024	08:00 - 09:00	3
20/08/2024	09:00 - 10:00	2
20/08/2024	10:00 - 11:00	1
20/08/2024	11:00 - 12:00	2
20/08/2024	12:00 - 13:00	3
20/08/2024	14:00 - 15:00	3
20/08/2024 Total		17
21/08/2024	06:00 - 07:00	2
21/08/2024	07:00 - 08:00	1
21/08/2024	08:00 - 09:00	2
21/08/2024	09:00 - 10:00	2
21/08/2024	10:00 - 11:00	1
21/08/2024	11:00 - 12:00	1
21/08/2024	12:00 - 13:00	2
21/08/2024	13:00 - 14:00	2
21/08/2024	14:00 - 15:00	3
21/08/2024 Total		16
22/08/2024	02:00 - 03:00	1
22/08/2024	06:00 - 07:00	2
22/08/2024	07:00 - 08:00	2
22/08/2024	08:00 - 09:00	4
22/08/2024	09:00 - 10:00	3
22/08/2024	10:00 - 11:00	1
22/08/2024	11:00 - 12:00	2
22/08/2024	12:00 - 13:00	3
22/08/2024	13:00 - 14:00	2
22/08/2024	14:00 - 15:00	1
22/08/2024 Total		21
23/08/2024	01:00 - 02:00	1
23/08/2024	06:00 - 07:00	2
23/08/2024	07:00 - 08:00	2
23/08/2024	08:00 - 09:00	4
23/08/2024	09:00 - 10:00	2

Date	Hour Range	Laden truck load count
23/08/2024	10:00 - 11:00	2
23/08/2024	11:00 - 12:00	2
23/08/2024	12:00 - 13:00	4
23/08/2024	14:00 - 15:00	2
23/08/2024 Total		21
26/08/2024	05:00 - 06:00	1
26/08/2024	06:00 - 07:00	2
26/08/2024	07:00 - 08:00	2
26/08/2024	08:00 - 09:00	3
26/08/2024	09:00 - 10:00	2
26/08/2024	10:00 - 11:00	3
26/08/2024	11:00 - 12:00	2
26/08/2024	12:00 - 13:00	3
26/08/2024	13:00 - 14:00	2
26/08/2024	14:00 - 15:00	3
26/08/2024	15:00 - 16:00	1
26/08/2024 Total		24
27/08/2024	06:00 - 07:00	2
27/08/2024	07:00 - 08:00	2
27/08/2024	08:00 - 09:00	5
27/08/2024	09:00 - 10:00	2
27/08/2024	10:00 - 11:00	3
27/08/2024	11:00 - 12:00	3
27/08/2024	12:00 - 13:00	4
27/08/2024	13:00 - 14:00	4
27/08/2024	14:00 - 15:00	1
27/08/2024	15:00 - 16:00	1
27/08/2024	16:00 - 17:00	1
27/08/2024 Total		28
28/08/2024	06:00 - 07:00	1
28/08/2024	07:00 - 08:00	5
28/08/2024	08:00 - 09:00	1
28/08/2024	09:00 - 10:00	1
28/08/2024	10:00 - 11:00	6
28/08/2024	12:00 - 13:00	2
28/08/2024	13:00 - 14:00	4
28/08/2024	14:00 - 15:00	2
28/08/2024 Total		22
29/08/2024	06:00 - 07:00	2
29/08/2024	07:00 - 08:00	2
29/08/2024	08:00 - 09:00	2
29/08/2024	09:00 - 10:00	1
29/08/2024	10:00 - 11:00	2
29/08/2024	11:00 - 12:00	3
29/08/2024	12:00 - 13:00	2
29/08/2024	13:00 - 14:00	3
29/08/2024	14:00 - 15:00	1
29/08/2024	15:00 - 16:00	2
29/08/2024	16:00 - 17:00	1

Date	Hour Range	Laden truck load count
29/08/2024 Total		21
30/08/2024	06:00 - 07:00	1
30/08/2024	07:00 - 08:00	1
30/08/2024	08:00 - 09:00	1
30/08/2024	10:00 - 11:00	2
30/08/2024	12:00 - 13:00	1
30/08/2024	13:00 - 14:00	1
30/08/2024 Total		7
2/09/2024	09:00 - 10:00	1
2/09/2024	11:00 - 12:00	1
2/09/2024	12:00 - 13:00	2
2/09/2024 Total		4
3/09/2024	06:00 - 07:00	2
3/09/2024	07:00 - 08:00	1
3/09/2024	08:00 - 09:00	1
3/09/2024	10:00 - 11:00	1
3/09/2024	12:00 - 13:00	1
3/09/2024	14:00 - 15:00	3
3/09/2024	15:00 - 16:00	1
3/09/2024 Total		10
4/09/2024	06:00 - 07:00	2
4/09/2024	07:00 - 08:00	2
4/09/2024	08:00 - 09:00	4
4/09/2024	09:00 - 10:00	4
4/09/2024	10:00 - 11:00	1
4/09/2024	11:00 - 12:00	3
4/09/2024	12:00 - 13:00	5
4/09/2024	13:00 - 14:00	1
4/09/2024	14:00 - 15:00	4
4/09/2024	15:00 - 16:00	4
4/09/2024 Total		30
5/09/2024	06:00 - 07:00	2
5/09/2024	07:00 - 08:00	5
5/09/2024	08:00 - 09:00	4
5/09/2024	09:00 - 10:00	4
5/09/2024	10:00 - 11:00	4
5/09/2024	11:00 - 12:00	4
5/09/2024	12:00 - 13:00	5
5/09/2024	13:00 - 14:00	2
5/09/2024	14:00 - 15:00	2
5/09/2024	15:00 - 16:00	5
5/09/2024	16:00 - 17:00	1
5/09/2024 Total		38
6/09/2024	06:00 - 07:00	2
6/09/2024	07:00 - 08:00	4
6/09/2024	08:00 - 09:00	4
6/09/2024	09:00 - 10:00	4
6/09/2024	10:00 - 11:00	2
6/09/2024	11:00 - 12:00	5

Date	Hour Range	Laden truck load count
6/09/2024	12:00 - 13:00	1
6/09/2024 Total		22
9/09/2024	06:00 - 07:00	1
9/09/2024	07:00 - 08:00	1
9/09/2024	08:00 - 09:00	1
9/09/2024	10:00 - 11:00	2
9/09/2024	12:00 - 13:00	4
9/09/2024	14:00 - 15:00	1
9/09/2024	15:00 - 16:00	3
9/09/2024 Total		13
10/09/2024	06:00 - 07:00	1
10/09/2024	08:00 - 09:00	4
10/09/2024	10:00 - 11:00	1
10/09/2024	11:00 - 12:00	3
10/09/2024	12:00 - 13:00	1
10/09/2024	14:00 - 15:00	2
10/09/2024	15:00 - 16:00	2
10/09/2024	16:00 - 17:00	1
10/09/2024 Total		15
11/09/2024	07:00 - 08:00	1
11/09/2024	08:00 - 09:00	2
11/09/2024	09:00 - 10:00	3
11/09/2024	10:00 - 11:00	2
11/09/2024	12:00 - 13:00	4
11/09/2024	13:00 - 14:00	2
11/09/2024	15:00 - 16:00	3
11/09/2024	16:00 - 17:00	1
11/09/2024 Total		18
16/09/2024	06:00 - 07:00	2
16/09/2024	07:00 - 08:00	5
16/09/2024	08:00 - 09:00	6
16/09/2024	09:00 - 10:00	3
16/09/2024	10:00 - 11:00	4
16/09/2024	11:00 - 12:00	6
16/09/2024	12:00 - 13:00	6
16/09/2024	13:00 - 14:00	6
16/09/2024	14:00 - 15:00	5
16/09/2024	15:00 - 16:00	5
16/09/2024 Total		48
17/09/2024	06:00 - 07:00	2
17/09/2024	07:00 - 08:00	5
17/09/2024	08:00 - 09:00	5
17/09/2024	09:00 - 10:00	4
17/09/2024	10:00 - 11:00	5
17/09/2024	11:00 - 12:00	4
17/09/2024	12:00 - 13:00	5
17/09/2024	13:00 - 14:00	4
17/09/2024	14:00 - 15:00	6
17/09/2024	15:00 - 16:00	4

Date	Hour Range	Laden truck load count
17/09/2024	16:00 - 17:00	3
17/09/2024 Total		47
18/09/2024	06:00 - 07:00	1
18/09/2024	07:00 - 08:00	5
18/09/2024	08:00 - 09:00	4
18/09/2024	09:00 - 10:00	6
18/09/2024	10:00 - 11:00	3
18/09/2024	11:00 - 12:00	5
18/09/2024	12:00 - 13:00	6
18/09/2024	13:00 - 14:00	4
18/09/2024	14:00 - 15:00	4
18/09/2024	15:00 - 16:00	6
18/09/2024	16:00 - 17:00	5
18/09/2024 Total		49
19/09/2024	06:00 - 07:00	1
19/09/2024	07:00 - 08:00	5
19/09/2024	08:00 - 09:00	5
19/09/2024	09:00 - 10:00	6
19/09/2024	10:00 - 11:00	4
19/09/2024	11:00 - 12:00	6
19/09/2024	12:00 - 13:00	6
19/09/2024	13:00 - 14:00	4
19/09/2024	14:00 - 15:00	3
19/09/2024	15:00 - 16:00	6
19/09/2024	16:00 - 17:00	4
19/09/2024 Total		50
20/09/2024	07:00 - 08:00	6
20/09/2024	08:00 - 09:00	6
20/09/2024	09:00 - 10:00	6
20/09/2024	10:00 - 11:00	5
20/09/2024	11:00 - 12:00	5
20/09/2024	12:00 - 13:00	6
20/09/2024	13:00 - 14:00	3
20/09/2024	14:00 - 15:00	2
20/09/2024	15:00 - 16:00	2
20/09/2024	16:00 - 17:00	2
20/09/2024 Total		43
23/09/2024	06:00 - 07:00	2
23/09/2024	07:00 - 08:00	6
23/09/2024	08:00 - 09:00	5
23/09/2024	09:00 - 10:00	2
23/09/2024	10:00 - 11:00	5
23/09/2024	11:00 - 12:00	4
23/09/2024	12:00 - 13:00	5
23/09/2024	13:00 - 14:00	3
23/09/2024	14:00 - 15:00	6
23/09/2024	15:00 - 16:00	4
23/09/2024 Total		42
24/09/2024	06:00 - 07:00	2

Date	Hour Range	Laden truck load count
24/09/2024	07:00 - 08:00	3
24/09/2024	08:00 - 09:00	4
24/09/2024	09:00 - 10:00	4
24/09/2024	10:00 - 11:00	6
24/09/2024	11:00 - 12:00	3
24/09/2024	12:00 - 13:00	5
24/09/2024	13:00 - 14:00	3
24/09/2024	14:00 - 15:00	4
24/09/2024 Total		34
25/09/2024	06:00 - 07:00	1
25/09/2024	07:00 - 08:00	3
25/09/2024	08:00 - 09:00	2
25/09/2024	09:00 - 10:00	3
25/09/2024	10:00 - 11:00	1
25/09/2024	11:00 - 12:00	5
25/09/2024	12:00 - 13:00	3
25/09/2024	13:00 - 14:00	2
25/09/2024	14:00 - 15:00	3
25/09/2024	15:00 - 16:00	1
25/09/2024 Total		24
26/09/2024	06:00 - 07:00	2
26/09/2024	07:00 - 08:00	3
26/09/2024	08:00 - 09:00	2
26/09/2024	09:00 - 10:00	2
26/09/2024	10:00 - 11:00	3
26/09/2024	11:00 - 12:00	2
26/09/2024 Total		14
27/09/2024	07:00 - 08:00	4
27/09/2024	09:00 - 10:00	2
27/09/2024	10:00 - 11:00	6
27/09/2024	11:00 - 12:00	2
27/09/2024 Total		14
30/09/2024	06:00 - 07:00	1
30/09/2024	07:00 - 08:00	1
30/09/2024	09:00 - 10:00	2
30/09/2024	11:00 - 12:00	2
30/09/2024 Total		6
1/10/2024	06:00 - 07:00	1
1/10/2024	07:00 - 08:00	2
1/10/2024	08:00 - 09:00	3
1/10/2024	09:00 - 10:00	3
1/10/2024	10:00 - 11:00	2
1/10/2024	11:00 - 12:00	3
1/10/2024	12:00 - 13:00	4
1/10/2024	13:00 - 14:00	2
1/10/2024	14:00 - 15:00	3
1/10/2024	15:00 - 16:00	2
1/10/2024	16:00 - 17:00	1
1/10/2024 Total		26

Date	Hour Range	Laden truck load count
2/10/2024	15:00 - 16:00	1
2/10/2024 Total		1
3/10/2024	07:00 - 08:00	1
3/10/2024 Total		1
4/10/2024	09:00 - 10:00	1
4/10/2024	12:00 - 13:00	3
4/10/2024 Total		4
8/10/2024	06:00 - 07:00	1
8/10/2024	08:00 - 09:00	2
8/10/2024	10:00 - 11:00	2
8/10/2024	13:00 - 14:00	1
8/10/2024	16:00 - 17:00	1
8/10/2024 Total		7
9/10/2024	06:00 - 07:00	2
9/10/2024	08:00 - 09:00	1
9/10/2024	10:00 - 11:00	1
9/10/2024	12:00 - 13:00	2
9/10/2024	14:00 - 15:00	1
9/10/2024 Total		7
10/10/2024	06:00 - 07:00	1
10/10/2024	08:00 - 09:00	1
10/10/2024	09:00 - 10:00	1
10/10/2024	10:00 - 11:00	1
10/10/2024	12:00 - 13:00	1
10/10/2024	15:00 - 16:00	1
10/10/2024 Total		6
11/10/2024	07:00 - 08:00	1
11/10/2024	09:00 - 10:00	3
11/10/2024	11:00 - 12:00	2
11/10/2024	12:00 - 13:00	1
11/10/2024	13:00 - 14:00	1
11/10/2024 Total		8
14/10/2024	07:00 - 08:00	2
14/10/2024	10:00 - 11:00	2
14/10/2024	12:00 - 13:00	2
14/10/2024 Total		6
15/10/2024	07:00 - 08:00	2
15/10/2024	09:00 - 10:00	2
15/10/2024	11:00 - 12:00	2
15/10/2024	13:00 - 14:00	3
15/10/2024 Total		9
16/10/2024	06:00 - 07:00	1
16/10/2024	07:00 - 08:00	3
16/10/2024	08:00 - 09:00	1
16/10/2024	09:00 - 10:00	3
16/10/2024	10:00 - 11:00	3
16/10/2024	11:00 - 12:00	1
16/10/2024	12:00 - 13:00	3

Date	Hour Range	Laden truck load count
16/10/2024	13:00 - 14:00	1
16/10/2024 Total		16
17/10/2024	06:00 - 07:00	1
17/10/2024	07:00 - 08:00	1
17/10/2024	08:00 - 09:00	1
17/10/2024	09:00 - 10:00	1
17/10/2024	10:00 - 11:00	3
17/10/2024	12:00 - 13:00	2
17/10/2024	14:00 - 15:00	1
17/10/2024 Total		10
18/10/2024	06:00 - 07:00	2
18/10/2024	07:00 - 08:00	5
18/10/2024	08:00 - 09:00	2
18/10/2024	09:00 - 10:00	2
18/10/2024	10:00 - 11:00	6
18/10/2024	11:00 - 12:00	2
18/10/2024	12:00 - 13:00	2
18/10/2024	13:00 - 14:00	5
18/10/2024 Total		26
21/10/2024	06:00 - 07:00	2
21/10/2024	07:00 - 08:00	6
21/10/2024	08:00 - 09:00	2
21/10/2024	10:00 - 11:00	8
21/10/2024	12:00 - 13:00	2
21/10/2024	13:00 - 14:00	5
21/10/2024	14:00 - 15:00	3
21/10/2024	16:00 - 17:00	2
21/10/2024 Total		30
22/10/2024	06:00 - 07:00	2
22/10/2024	07:00 - 08:00	2
22/10/2024	08:00 - 09:00	4
22/10/2024	09:00 - 10:00	1
22/10/2024	10:00 - 11:00	2
22/10/2024	11:00 - 12:00	2
22/10/2024	12:00 - 13:00	2
22/10/2024	13:00 - 14:00	1
22/10/2024	14:00 - 15:00	3
22/10/2024	15:00 - 16:00	2
22/10/2024 Total		21
23/10/2024	14:00 - 15:00	1
23/10/2024	16:00 - 17:00	2
23/10/2024 Total		3
24/10/2024	06:00 - 07:00	2
24/10/2024	07:00 - 08:00	1
24/10/2024	08:00 - 09:00	2
24/10/2024	10:00 - 11:00	3
24/10/2024	12:00 - 13:00	2
24/10/2024	13:00 - 14:00	3
24/10/2024 Total		13

Date	Hour Range	Laden truck load count
25/10/2024	06:00 - 07:00	1
25/10/2024	12:00 - 13:00	1
25/10/2024	13:00 - 14:00	2
25/10/2024	14:00 - 15:00	2
25/10/2024 Total		6
28/10/2024	06:00 - 07:00	2
28/10/2024	07:00 - 08:00	3
28/10/2024	09:00 - 10:00	2
28/10/2024	10:00 - 11:00	3
28/10/2024	13:00 - 14:00	2
28/10/2024	14:00 - 15:00	3
28/10/2024	16:00 - 17:00	3
28/10/2024 Total		18
29/10/2024	07:00 - 08:00	1
29/10/2024	09:00 - 10:00	1
29/10/2024	11:00 - 12:00	1
29/10/2024 Total		3
30/10/2024	06:00 - 07:00	1
30/10/2024	07:00 - 08:00	2
30/10/2024	08:00 - 09:00	1
30/10/2024	09:00 - 10:00	1
30/10/2024	10:00 - 11:00	1
30/10/2024	11:00 - 12:00	1
30/10/2024	12:00 - 13:00	1
30/10/2024	13:00 - 14:00	1
30/10/2024	15:00 - 16:00	1
30/10/2024	16:00 - 17:00	3
30/10/2024 Total		13
31/10/2024	06:00 - 07:00	2
31/10/2024	07:00 - 08:00	2
31/10/2024	08:00 - 09:00	6
31/10/2024	09:00 - 10:00	1
31/10/2024	11:00 - 12:00	4
31/10/2024	12:00 - 13:00	3
31/10/2024	13:00 - 14:00	3
31/10/2024	14:00 - 15:00	1
31/10/2024	16:00 - 17:00	3
31/10/2024 Total		25
1/11/2024	06:00 - 07:00	2
1/11/2024	07:00 - 08:00	2
1/11/2024	08:00 - 09:00	6
1/11/2024	09:00 - 10:00	1
1/11/2024	10:00 - 11:00	3
1/11/2024	11:00 - 12:00	7
1/11/2024	12:00 - 13:00	6
1/11/2024	13:00 - 14:00	8
1/11/2024	14:00 - 15:00	7
1/11/2024	15:00 - 16:00	6
1/11/2024	16:00 - 17:00	6

Date	Hour Range	Laden truck load count
1/11/2024 Total		54
2/11/2024	07:00 - 08:00	8
2/11/2024	08:00 - 09:00	10
2/11/2024	09:00 - 10:00	9
2/11/2024	10:00 - 11:00	5
2/11/2024	11:00 - 12:00	8
2/11/2024 Total		40
4/11/2024	06:00 - 07:00	2
4/11/2024	07:00 - 08:00	6
4/11/2024	08:00 - 09:00	7
4/11/2024	09:00 - 10:00	1
4/11/2024	10:00 - 11:00	6
4/11/2024	11:00 - 12:00	2
4/11/2024	12:00 - 13:00	5
4/11/2024	13:00 - 14:00	3
4/11/2024	14:00 - 15:00	5
4/11/2024	15:00 - 16:00	4
4/11/2024	16:00 - 17:00	1
4/11/2024 Total		42
5/11/2024	06:00 - 07:00	2
5/11/2024	07:00 - 08:00	5
5/11/2024	08:00 - 09:00	6
5/11/2024	09:00 - 10:00	2
5/11/2024	10:00 - 11:00	5
5/11/2024	11:00 - 12:00	5
5/11/2024	12:00 - 13:00	5
5/11/2024	13:00 - 14:00	2
5/11/2024	14:00 - 15:00	2
5/11/2024	16:00 - 17:00	1
5/11/2024 Total		35
6/11/2024	06:00 - 07:00	2
6/11/2024	07:00 - 08:00	7
6/11/2024	09:00 - 10:00	2
6/11/2024	10:00 - 11:00	8
6/11/2024	11:00 - 12:00	4
6/11/2024	13:00 - 14:00	2
6/11/2024	14:00 - 15:00	4
6/11/2024 Total		29
7/11/2024	06:00 - 07:00	1
7/11/2024	07:00 - 08:00	1
7/11/2024	09:00 - 10:00	4
7/11/2024	10:00 - 11:00	2
7/11/2024	12:00 - 13:00	1
7/11/2024	13:00 - 14:00	2
7/11/2024	14:00 - 15:00	1
7/11/2024 Total		12
8/11/2024	06:00 - 07:00	1
8/11/2024	08:00 - 09:00	1
8/11/2024	10:00 - 11:00	1

Date	Hour Range	Laden truck load count
8/11/2024	12:00 - 13:00	2
8/11/2024	13:00 - 14:00	5
8/11/2024	14:00 - 15:00	3
8/11/2024	15:00 - 16:00	3
8/11/2024 Total		16
11/11/2024	07:00 - 08:00	3
11/11/2024	08:00 - 09:00	2
11/11/2024	09:00 - 10:00	6
11/11/2024	11:00 - 12:00	5
11/11/2024	12:00 - 13:00	4
11/11/2024	13:00 - 14:00	4
11/11/2024	14:00 - 15:00	4
11/11/2024	16:00 - 17:00	6
11/11/2024 Total		34
12/11/2024	06:00 - 07:00	1
12/11/2024	07:00 - 08:00	3
12/11/2024	08:00 - 09:00	1
12/11/2024	09:00 - 10:00	7
12/11/2024	10:00 - 11:00	1
12/11/2024	11:00 - 12:00	2
12/11/2024	12:00 - 13:00	7
12/11/2024	13:00 - 14:00	5
12/11/2024	14:00 - 15:00	3
12/11/2024	15:00 - 16:00	2
12/11/2024	16:00 - 17:00	7
12/11/2024 Total		39
13/11/2024	07:00 - 08:00	2
13/11/2024	08:00 - 09:00	6
13/11/2024	09:00 - 10:00	4
13/11/2024	10:00 - 11:00	4
13/11/2024	11:00 - 12:00	3
13/11/2024	12:00 - 13:00	8
13/11/2024	13:00 - 14:00	1
13/11/2024	14:00 - 15:00	4
13/11/2024	15:00 - 16:00	1
13/11/2024	16:00 - 17:00	8
13/11/2024 Total		41
14/11/2024	07:00 - 08:00	3
14/11/2024	08:00 - 09:00	5
14/11/2024	09:00 - 10:00	5
14/11/2024	10:00 - 11:00	3
14/11/2024	11:00 - 12:00	2
14/11/2024	12:00 - 13:00	8
14/11/2024	13:00 - 14:00	2
14/11/2024	14:00 - 15:00	5
14/11/2024	15:00 - 16:00	6
14/11/2024	16:00 - 17:00	3
14/11/2024 Total		42
15/11/2024	07:00 - 08:00	3

Date	Hour Range	Laden truck load count
15/11/2024	08:00 - 09:00	8
15/11/2024	09:00 - 10:00	3
15/11/2024	10:00 - 11:00	5
15/11/2024	12:00 - 13:00	9
15/11/2024	13:00 - 14:00	1
15/11/2024	14:00 - 15:00	1
15/11/2024 Total		30
18/11/2024	13:00 - 14:00	2
18/11/2024 Total		2
19/11/2024	12:00 - 13:00	5
19/11/2024	13:00 - 14:00	1
19/11/2024 Total		6
20/11/2024	06:00 - 07:00	2
20/11/2024	07:00 - 08:00	4
20/11/2024	08:00 - 09:00	3
20/11/2024	09:00 - 10:00	3
20/11/2024	10:00 - 11:00	3
20/11/2024	11:00 - 12:00	2
20/11/2024	12:00 - 13:00	8
20/11/2024	13:00 - 14:00	1
20/11/2024	14:00 - 15:00	2
20/11/2024	15:00 - 16:00	2
20/11/2024	16:00 - 17:00	5
20/11/2024 Total		35
21/11/2024	07:00 - 08:00	3
21/11/2024	08:00 - 09:00	5
21/11/2024	09:00 - 10:00	4
21/11/2024	11:00 - 12:00	4
21/11/2024	12:00 - 13:00	6
21/11/2024	14:00 - 15:00	1
21/11/2024	15:00 - 16:00	2
21/11/2024	16:00 - 17:00	5
21/11/2024 Total		30
22/11/2024	06:00 - 07:00	2
22/11/2024	07:00 - 08:00	6
22/11/2024	08:00 - 09:00	3
22/11/2024	09:00 - 10:00	4
22/11/2024	10:00 - 11:00	2
22/11/2024	11:00 - 12:00	9
22/11/2024	12:00 - 13:00	6
22/11/2024	15:00 - 16:00	3
22/11/2024	16:00 - 17:00	3
22/11/2024 Total		38
25/11/2024	06:00 - 07:00	1
25/11/2024	07:00 - 08:00	5
25/11/2024	08:00 - 09:00	5
25/11/2024	09:00 - 10:00	3
25/11/2024	10:00 - 11:00	2
25/11/2024	11:00 - 12:00	3

Date	Hour Range	Laden truck load count
25/11/2024	12:00 - 13:00	7
25/11/2024	14:00 - 15:00	2
25/11/2024	15:00 - 16:00	3
25/11/2024	16:00 - 17:00	2
25/11/2024 Total		33
26/11/2024	07:00 - 08:00	8
26/11/2024	08:00 - 09:00	6
26/11/2024	09:00 - 10:00	2
26/11/2024	11:00 - 12:00	5
26/11/2024	12:00 - 13:00	13
26/11/2024	14:00 - 15:00	2
26/11/2024	15:00 - 16:00	3
26/11/2024	16:00 - 17:00	6
26/11/2024 Total		45
27/11/2024	06:00 - 07:00	1
27/11/2024	07:00 - 08:00	6
27/11/2024	08:00 - 09:00	7
27/11/2024	09:00 - 10:00	3
27/11/2024	10:00 - 11:00	2
27/11/2024	11:00 - 12:00	6
27/11/2024	12:00 - 13:00	10
27/11/2024	15:00 - 16:00	2
27/11/2024	16:00 - 17:00	4
27/11/2024 Total		41
28/11/2024	06:00 - 07:00	1
28/11/2024	07:00 - 08:00	4
28/11/2024	08:00 - 09:00	10
28/11/2024	09:00 - 10:00	1
28/11/2024	10:00 - 11:00	3
28/11/2024	11:00 - 12:00	2
28/11/2024	12:00 - 13:00	11
28/11/2024	13:00 - 14:00	1
28/11/2024 Total		33
29/11/2024	06:00 - 07:00	2
29/11/2024	08:00 - 09:00	2
29/11/2024	10:00 - 11:00	2
29/11/2024 Total		6
2/12/2024	06:00 - 07:00	2
2/12/2024	07:00 - 08:00	7
2/12/2024	08:00 - 09:00	2
2/12/2024	09:00 - 10:00	3
2/12/2024	10:00 - 11:00	7
2/12/2024	11:00 - 12:00	6
2/12/2024	13:00 - 14:00	3
2/12/2024	14:00 - 15:00	4
2/12/2024 Total		34
3/12/2024	06:00 - 07:00	2
3/12/2024	07:00 - 08:00	4
3/12/2024	08:00 - 09:00	6

Date	Hour Range	Laden truck load count
3/12/2024	09:00 - 10:00	2
3/12/2024	10:00 - 11:00	4
3/12/2024	11:00 - 12:00	4
3/12/2024	12:00 - 13:00	7
3/12/2024	13:00 - 14:00	2
3/12/2024	14:00 - 15:00	3
3/12/2024	15:00 - 16:00	1
3/12/2024 Total		35
4/12/2024	07:00 - 08:00	6
4/12/2024	09:00 - 10:00	1
4/12/2024	10:00 - 11:00	6
4/12/2024	11:00 - 12:00	4
4/12/2024	12:00 - 13:00	2
4/12/2024	13:00 - 14:00	2
4/12/2024	14:00 - 15:00	6
4/12/2024	15:00 - 16:00	1
4/12/2024 Total		28
5/12/2024	06:00 - 07:00	2
5/12/2024	07:00 - 08:00	13
5/12/2024	08:00 - 09:00	2
5/12/2024	09:00 - 10:00	2
5/12/2024	10:00 - 11:00	7
5/12/2024	11:00 - 12:00	4
5/12/2024	12:00 - 13:00	3
5/12/2024	13:00 - 14:00	6
5/12/2024	14:00 - 15:00	4
5/12/2024	15:00 - 16:00	1
5/12/2024	16:00 - 17:00	3
5/12/2024 Total		47
6/12/2024	06:00 - 07:00	2
6/12/2024	07:00 - 08:00	6
6/12/2024	08:00 - 09:00	4
6/12/2024	09:00 - 10:00	1
6/12/2024	10:00 - 11:00	4
6/12/2024	11:00 - 12:00	4
6/12/2024	12:00 - 13:00	3
6/12/2024	13:00 - 14:00	3
6/12/2024	14:00 - 15:00	2
6/12/2024 Total		29
9/12/2024	06:00 - 07:00	1
9/12/2024	07:00 - 08:00	6
9/12/2024	08:00 - 09:00	7
9/12/2024	10:00 - 11:00	4
9/12/2024	11:00 - 12:00	7
9/12/2024	12:00 - 13:00	5
9/12/2024	13:00 - 14:00	1
9/12/2024	14:00 - 15:00	7
9/12/2024	15:00 - 16:00	5
9/12/2024 Total		43

Date	Hour Range	Laden truck load count
10/12/2024	06:00 - 07:00	1
10/12/2024	07:00 - 08:00	8
10/12/2024	08:00 - 09:00	4
10/12/2024	09:00 - 10:00	1
10/12/2024	10:00 - 11:00	6
10/12/2024	11:00 - 12:00	7
10/12/2024	12:00 - 13:00	1
10/12/2024	13:00 - 14:00	3
10/12/2024	14:00 - 15:00	6
10/12/2024	15:00 - 16:00	1
10/12/2024 Total		38
11/12/2024	06:00 - 07:00	2
11/12/2024	07:00 - 08:00	9
11/12/2024	08:00 - 09:00	7
11/12/2024	10:00 - 11:00	7
11/12/2024	11:00 - 12:00	6
11/12/2024	12:00 - 13:00	5
11/12/2024	13:00 - 14:00	2
11/12/2024	14:00 - 15:00	6
11/12/2024	15:00 - 16:00	1
11/12/2024 Total		45
12/12/2024	02:00 - 03:00	1
12/12/2024	06:00 - 07:00	2
12/12/2024	07:00 - 08:00	9
12/12/2024	08:00 - 09:00	5
12/12/2024	09:00 - 10:00	2
12/12/2024	10:00 - 11:00	5
12/12/2024	11:00 - 12:00	7
12/12/2024	12:00 - 13:00	4
12/12/2024	13:00 - 14:00	3
12/12/2024	14:00 - 15:00	6
12/12/2024	15:00 - 16:00	1
12/12/2024 Total		45
13/12/2024	06:00 - 07:00	2
13/12/2024	07:00 - 08:00	10
13/12/2024	08:00 - 09:00	5
13/12/2024	09:00 - 10:00	1
13/12/2024	10:00 - 11:00	5
13/12/2024	11:00 - 12:00	6
13/12/2024	12:00 - 13:00	4
13/12/2024	13:00 - 14:00	2
13/12/2024	14:00 - 15:00	4
13/12/2024 Total		39
16/12/2024	06:00 - 07:00	2
16/12/2024	07:00 - 08:00	7
16/12/2024	08:00 - 09:00	9
16/12/2024	09:00 - 10:00	1
16/12/2024	10:00 - 11:00	9
16/12/2024	11:00 - 12:00	3

Date	Hour Range	Laden truck load count
16/12/2024	12:00 - 13:00	7
16/12/2024	13:00 - 14:00	5
16/12/2024	14:00 - 15:00	2
16/12/2024	15:00 - 16:00	1
16/12/2024 Total		46
17/12/2024	06:00 - 07:00	2
17/12/2024	07:00 - 08:00	10
17/12/2024	08:00 - 09:00	8
17/12/2024	10:00 - 11:00	6
17/12/2024	11:00 - 12:00	8
17/12/2024	12:00 - 13:00	7
17/12/2024	13:00 - 14:00	5
17/12/2024	14:00 - 15:00	3
17/12/2024	15:00 - 16:00	2
17/12/2024	16:00 - 17:00	2
17/12/2024 Total		53
18/12/2024	06:00 - 07:00	3
18/12/2024	07:00 - 08:00	10
18/12/2024	08:00 - 09:00	6
18/12/2024	09:00 - 10:00	1
18/12/2024	10:00 - 11:00	4
18/12/2024	11:00 - 12:00	12
18/12/2024	12:00 - 13:00	6
18/12/2024	13:00 - 14:00	3
18/12/2024	14:00 - 15:00	7
18/12/2024	16:00 - 17:00	2
18/12/2024 Total		54
19/12/2024	06:00 - 07:00	3
19/12/2024	07:00 - 08:00	10
19/12/2024	08:00 - 09:00	8
19/12/2024	09:00 - 10:00	1
19/12/2024	10:00 - 11:00	6
19/12/2024	11:00 - 12:00	7
19/12/2024	12:00 - 13:00	9
19/12/2024	13:00 - 14:00	1
19/12/2024 Total		45

Appendix 10 Figure showing the current operational footprint

