



BUTTAI QUARRY



ANNUAL ENVIRONMENTAL MANAGEMENT REPORT (AEMR)

2022

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1. INTRODUCTION

1.1 Scope

This report has been prepared by Daracon Quarries in accordance with the Project Approvals section 7.1 “Annual Report Requirements of Buttai Quarry Management Plan” to record the activities and environmental monitoring undertaken within and surrounding Buttai Quarry during the period 1st January to 31st December 2022.



Figure 1: Quarry Location

This document provides an overview of activities and environmental monitoring that occurred within the reporting period and also activities and environmental monitoring planned for 2023. This Annual Environmental Management Report (AEMR) contains the following:

- A description of activities that were carried out in 2022 including the response to COVID-19;
- A review of the environmental monitoring results that were obtained during 2022;
- Results of the Environmental Inspections (Rubicon – formerly TREES and internal) completed during 2022;
- A description of potential measures that may be implemented throughout 2023 to improve the environmental performance of the Quarry;

1.2 Standards and Performance Measures

The owner and operator of Buttai Quarry, Daracon Quarries (Trading as Buttai Gravel Pty Ltd) operates the Quarry site in accordance with conditions of consent and licences listed in **Table 1**.

Table 1: Buttai Quarry - Consents and Licences

Approval/Licence	Issue Date
Quarry Project Approval 10286	1997
Modification of Quarry Approval	2008
Modification of Quarry Approval	2008
Modification of Quarry Approval	2010
Modification of Quarry Approval	2015
RRF Project Approval 8/2019/432/1	2021
Environmental Protection License 12829	2022

Relevant conditions with Project Approval 10286 (1997) and associated modifications which nominate specific environmental criteria are as follows providing complete records of all measurements.

- *Project Approval 10286 (1997) Schedule 7 Condition 1 & 2: Operating Hours, Blasting*
- *Project Approval 10286 (1997) Schedule 17: Noise*
- *Project Approval 10286 (1997) Schedule 29: Air Quality*
- *Project Approval 10286 (1997) Schedule 35: Water Quality*
- *Project Approval 10286 (1997) Schedule 39: Blasting*
- *Project Approval 10286 (1997) Schedule 43: Rehabilitation*
- *Project Approval 10286 (1997) Schedule 65: Waste and Effluent*

In addition to the specific environmental criteria, the following conditions within Project Approval 10286 specifically request further information be included in each AEMR.

- *Section 6.12.2 of Buttai Quarry Management Plan: Product Transport*

Relevant conditions with the RRF Project Approval 8/2019/432/1 (2021) nominate specific environmental and operational reporting requirements that are still being developed. As the RRF is not yet operational, these have not yet been implemented.

1.3 Site Management and Responsibilities

Mr Paul Walker continues to undertake the role of overall Daracon Quarries Manager. Mr Geoff Reeves is now the Quarry Manager with Mr Daniel Smith assisting with the operation of Buttai Quarry as required. Mr Luke Robinson (Systems Manager) continues to provide direction and assistance to all staff regarding the various site safety, environmental and quality systems. Other companies involved with quarry related documentation and monitoring include:

- VGT Environmental Compliance Solutions and Laboratories;
- Spectrum Acoustics;
- Rubicon Enviro Pty Ltd (external environmental consultant - formerly TREES);

1.4 Document Preparation

The following information and data for this report has been drawn from documents commissioned or held by Daracon within the various Buttai Quarry Environmental Monitoring Folders (this document was prepared by Mr Luke Robinson).

2. OPERATIONS DURING THE REPORTING PERIOD

2.1 Introduction

During 2022, the Quarry was in an operational phase. **Table 2** summarises the activities that occurred at Buttai Quarry during 2022.

Table 2: Summary of operations during the reporting period

January 2022	Production and sale of various road base and construction materials;
February 2022	Production and sale of various road base and construction materials; Noise monitoring;
March 2022	Production and sale of various road base and construction materials; Daracon site environmental audit and report;

April 2022	Production and sale of various road base and construction materials; Buttai Quarry CCC meeting;
May 2022	Production and sale of various road base and construction materials; Noise monitoring;
June 2022	Production and sale of various road base and construction materials; Rubicon environmental inspection and report;
July 2022	Production and sale of various road base and construction materials;
August 2022	Production and sale of various road base and construction materials; Noise monitoring;
September 2022	Production and sale of various road base and construction materials; Daracon site environmental audit and report;
October 2022	Production and sale of various road base and construction materials; Buttai Quarry CCC meeting;
November 2022	Production and sale of various road base and construction materials; Noise monitoring;
December 2022	Production and sale of various road base and construction materials; Daracon site environmental audit and report;

2.2 Extraction and Clearing Operations

During 2022 there was a total of **312,805** tonnes of material sold to internal and external clients for construction purposes.

During 2022, the quarry footprint and extent of clearing changed marginally from previous operational years. The quarry extent progressed towards the northern part of lot 76 (aerial images below show the difference between **December 2021** and **December 2022**). For the minor additional clearing activities undertaken, the Daracon "tree clearing protocol" continues to be utilised, which has so far revealed no impact to the local fauna.



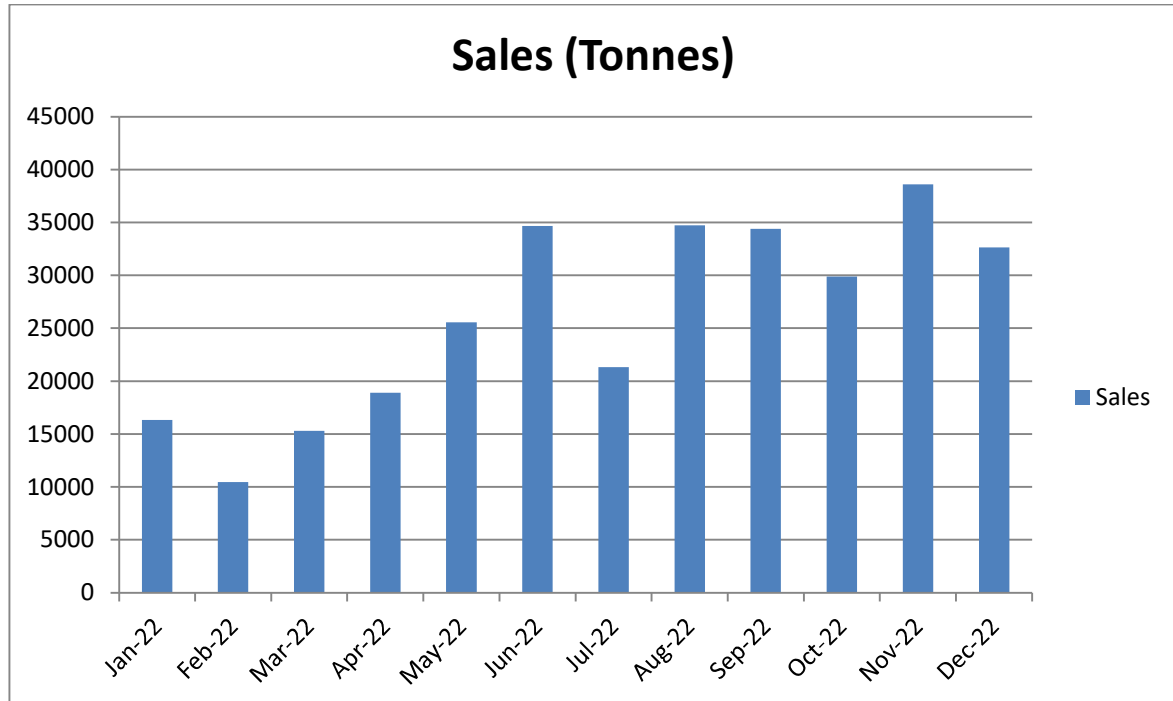
Aerial image from December 2021



Aerial image from December 2022

Table 3 presents the monthly sales from Buttai Quarry during 2022 reporting period.

Table 3: Buttai Quarry Sales (tonnes)



2.3 Overburden and Soil Management

Overburden is the material that sits above the rock reserve and is typically made up of topsoil, clay and other non-rock material. For Buttai quarry, the overburden is separated and stockpiled into specific areas at the top of the quarry. This material may be sold for various purposes within the civil construction industry as required. Soil and water is managed as per Daracon environmental management plans and procedures. Please refer to Section 2.7 Water Management.

2.4 Processing Operations

Processing of material occurs in two stages at Buttai Quarry;

Stage 1 - Drilling and Blasting

Drilling and blasting are critical aspects of the quarrying process. Daracon engage an appropriately qualified subcontractor who's specifically trained in blasting to undertake this activity. The blasting contractor drill holes into the rock, place explosives and stemming material inside, install and operate the blast monitors and then detonate the shot to provide the smallest release of energy necessary to achieve the desired result.

Stage 2 – Material Processing and Stockpiling

The material generated from the drill and blast operation is then processed through a crushing plant. The specialised quarry equipment used to crush the materials will depend on the size of the rock being crushed and the final product required (size, shape and various other properties). The crushed material is then separated by the use of screens and stored in product stockpiles, such as road base, fill or specific client materials.

2.5 Waste Management

The following non-production wastes were produced at the Quarry during the reporting period:

- General Waste – The site contains an onsite waste bin which is serviced and appropriately disposed regularly by Cleanaway;

- Scrap Steel – The site contains a scrap steel bin which is sent to a licensed recycling facility as required;
- Recyclables – The site recycles and / reuses materials where practical (this obviously excludes any materials proposed for the Resource Recovery facility currently in progress);
- Waste Oil, Oil Filters and Grease – All grease and filters are removed from site by service fitters and taken to licensed collection points;
- Batteries – Batteries are removed by field service fitters who take batteries to licensed collection points;

2.6 Site Infrastructure And Services

No changes were made to the main office, lunchroom and overall site facilities during the reporting period. No additional infrastructure or services were added during the reporting period.

Additional infrastructure will be required for the recently approved Resource Recovery Facility (RRF), but this is currently in the planning phase with the expected installation dates yet to be confirmed.

2.7 Water Management

The site water is managed by utilising the various Daracon site procedures. The quarry currently has 5 dams to manage water runoff off during rain events. The water collected in the dams is then re-used for dust control (via a site watercart) or for production purposes as required. The various Daracon water management procedures are contained within the Integrated Facility Management Plan (IFMP) for the site as whole. These records are maintained on site and within the Daracon Management System.

2.8 Bushfire Management

Lantana removal and weed eradication from the quarry site occurred intermittently on a campaign basis during the reporting period.

Additionally, National Parks and Wildlife Services (NPWS) undertook a controlled hazard reduction burn adjacent to the quarry site (but not on quarry land) during the reporting period.

Ongoing fire trail maintenance occurred during the reporting period along boundary lines whilst the quarry supervisor continues to liaise with the local RFS representatives and community members regarding potential bushfire mitigation and general access matters for the quarry and surrounding areas as required.

2.9 Hazardous Materials Management

Hazardous materials within the quarry site are appropriately managed with diesel fuel, oil and greases stored in above ground bunded storage containers. Machinery is fuelled daily via a mobile fuel truck which minimises the quantity of fuel stored on site.

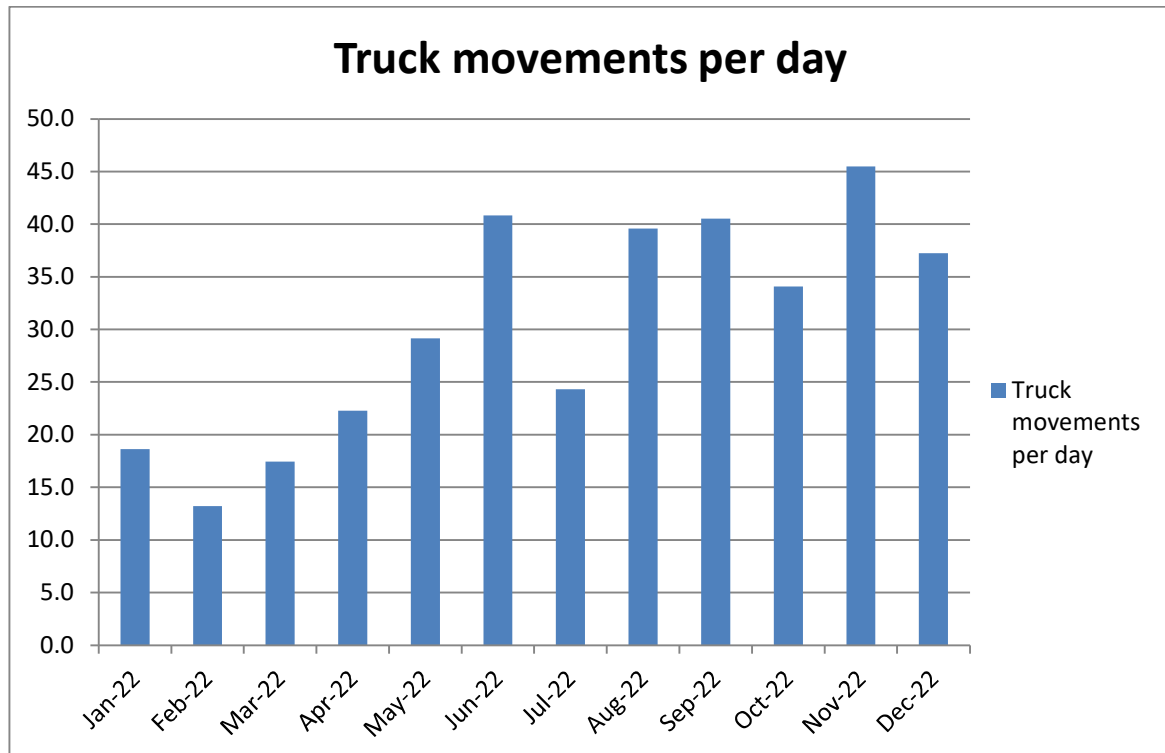
Aerosols and weed poison are stored within the designated hazardous materials cabinets within the bunded storage areas.

2.10 Product Transportation

During this reporting period the quarry was operational, with all materials exported exclusively by road transport.

Table 4 presents the average daily truck movements from Buttai Quarry during 2022 reporting period.

Table 4: Buttai Quarry Truck movements per day



2.11 Rehabilitation

Daracon continued to inspect and maintain the rehabilitation work completed on benches 2 and 3 as well as the additional areas on site. The rehabilitation work is progressing well as shown in the various inspections, reports and images attached.

A rehabilitation report was prepared by Umwelt which is included in Appendix 4 of this document. The following information is provided as an update against the approved "Rehabilitation Plan":

- Rehabilitation is ongoing to the exposed benches along the quarry face of Lots 75 and 76 including permanent bunds and other available areas surrounding the operational quarry pit;
- The rehabilitated areas are regularly inspected and maintained with progress reported regularly;
- Blasting of the various quarry finished faces are being planned, shaped and managed in accordance with the approved 'Rehabilitation Plan';
- The majority of the quarry floor located within Lots 75 and 76 is used primarily for operational purposes (including the RRF site) and has not been rehabilitated as yet;
- Rehabilitation of the eastern section of lot 76 is ongoing and progressing well;
- Rehabilitation of the western section of lot 76 is ongoing and progressing well;
- The rehabilitation planting that's occurred along benches 2 and 3 are progressing satisfactorily however their progress is limited due mostly to their location and significant exposure to the unfavourable meteorological conditions;
- Additional measures to assist the progress of rehabilitation in bench 2 and 3 will be considered during 2023. This includes the option to install 'top-down planting' (scrambling plants) amongst other things as mentioned in the Umwelt report included in Appendix 4;
- Weed control is an ongoing task that occurs regularly on site;
- Targeted weed control for lantana and castor oil are also planned for 2023;

3. COMMUNITY RELATIONS

3.1 Surrounding Communities

Table 5 indicates the residences surrounding the quarry.

Table 5: Adjacent residences

Adjacent Residences
45 Old Buttai Road, Buttai NSW 2323
191 Lings Road, Buttai, NSW 2323
212 Lings Road, Buttai, NSW 2323
160 Lings Road, Buttai, NSW 2323
268 Lings Road, Buttai, NSW 2323
269 Lings Road, Buttai, NSW 2323
Buttai Creek, Buttai, NSW 2323
281 Lings Road, Buttai, NSW 2323
251 Browns Road, Black Hill, NSW 2323
225 Browns Road, Black Hill, NSW 2323
25 Old Buttai Road, Buttai, NSW 2323

3.2 Community Consultative Committee Meetings

Firstly, it's worth noting that due to the reduced impact of COVID-19 and subsequent restrictions imposed, all Community Consultative Committee (CCC) meetings were held face to face during 2022. Additionally, this also permitted the annual site visit to be completed in October 2022.

The Buttai Quarry CCC held two meetings during 2022 with the first on the 1st April 2022 and the second on the 14th October 2022. The meeting minutes are attached in Appendix 2. Both meetings were well attended and effective in communicating the relevant information.

3.3 Environmental Complaints

There were no complaints received during the 2022 annual reporting period.

3.4 Community Involvement

As mentioned above, we held two CCC meetings during 2022 despite the limitations associated with COVID-19. The proposed Buttai Resource Recovery Facility (RRF) and associated matters were also discussed at length as part of the CCC meetings held during 2022.

4. ENVIRONMENTAL MONITORING

4.1 Water Quality

4.1.1 Introduction

Buttai Quarry operates under an approved Site Water Management Plan. The purpose of this plan is to ensure that Buttai Quarry does not pollute any waters, in accordance with Environmental Protection Licence No. 12829.

4.1.2 Conclusion

During the reporting period, no water was discharged from site.

4.2 Noise and Blasting

4.2.1 Introduction

Buttai Quarry operates under approved Noise Monitoring and Blast Monitoring programs. These programs outline the measures which mitigate the environmental effects of noise and blasting on our nearest neighbours. It proposes noise monitoring programs to assess and report the levels of likely impact so as to comply with the Project Approval. It also provides a mechanism whereby any noise or blasting complaints can be managed effectively.

4.2.2 Blast Criteria

Table 6 shows the blasting criteria to be met.

Table 6: Blasting Criteria

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

4.2.3 Blast Monitoring Locations

The Blast Monitoring program requires monitoring to take place at specified locations as shown in **Figure 2**.

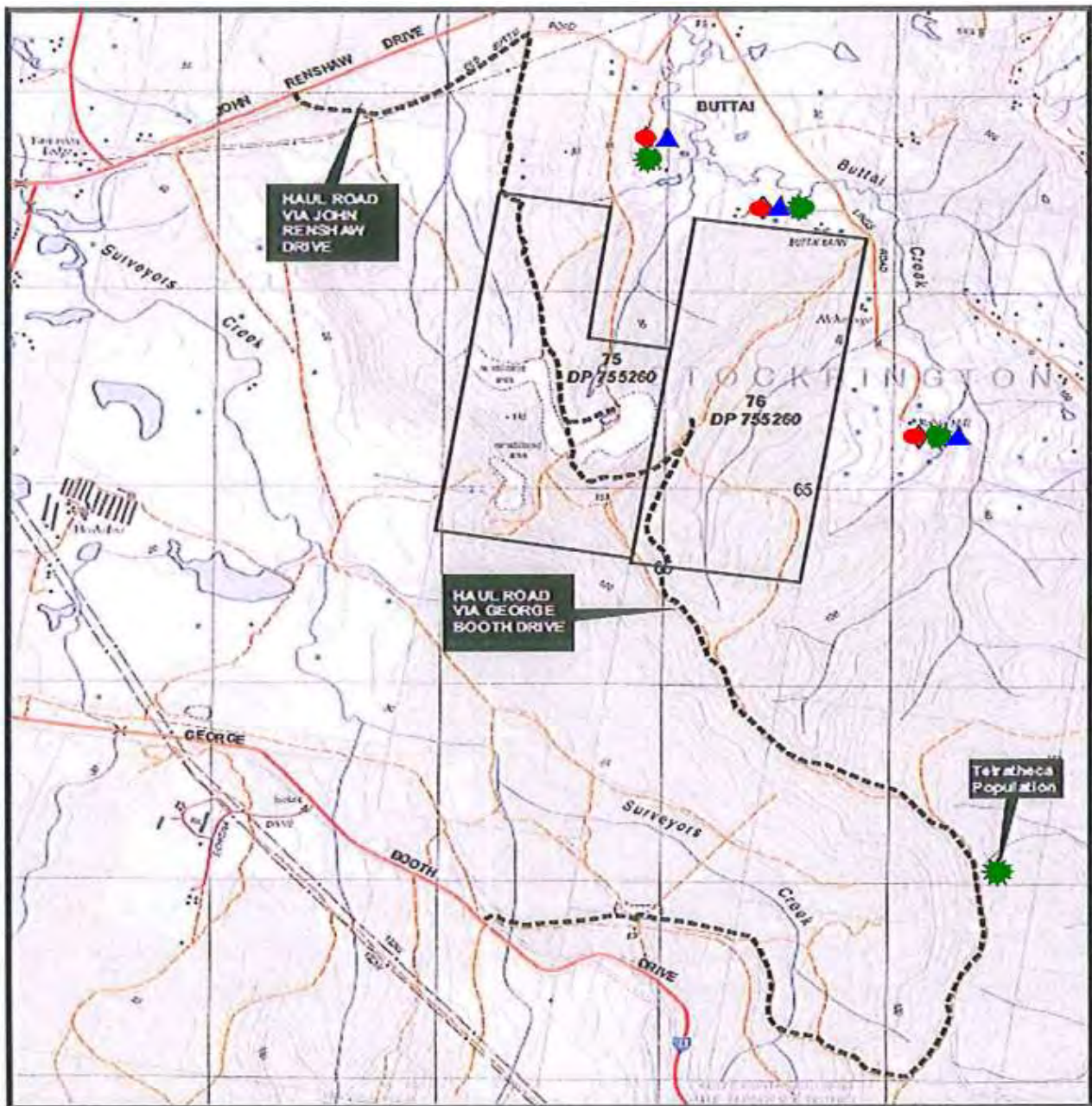


Figure 2: Blast, air quality and noise monitoring locations

4.2.4 Blasting Monitoring Results

During the reporting period there were a total of 7 blasts undertaken at Buttai Quarry. The monitoring results are shown below in Table 7.

4.2.5 Analysis of Blast Results

The blast results in **table 7** indicate that all blast monitoring results are below the specified criteria as described in section 4.2.2.

Table 7: Blast Monitoring Results

Date	Time	Blast No.	Norma Brookes		Lings Rd		Buttai Barn	
			PPV mm/s	O/pressure dBL	PPV mm/s	O/pressure dBL	PPV mm/s	O/pressure dBL
18/01/2022	12:26	P_102	No trigger	No trigger	No trigger	No trigger	No trigger	No trigger
18/03/2022	13:03	P_103	0.42	108.2	No trigger	No trigger	No trigger	No trigger
24/05/2022	13:56	P_104	No trigger	No trigger	No trigger	No trigger	No trigger	No trigger
20/07/2022	14:10	P_105	0.99	110.6	1.59	106.1	No trigger	No trigger
30/08/2022	11:16	P_106	1.18	110.4	No trigger	No trigger	0.73	97.8
21/09/2022	11:54	P_107	0.92	102.1	No trigger	No trigger	No trigger	No trigger
01/11/2022	14:23	P_108	No trigger	No trigger	No trigger	No trigger	0.96	103.2

4.2.6 Noise Criteria

To meet the relevant noise criteria applicable to quarry operations as detailed in conditions of consent (under neutral conditions when measures within a radius of 30 metres);

- LA 10 (15 minute) of 38 dBA (Daytime)
- LA 10 (15 minute) of 32 dBA (Night time)
- Laeq (1 hour) 50 dBA – noise of traffic associated with the quarry operations

The Noise Monitoring Program calls for quarterly attended noise monitoring to take place at specified noise monitoring locations as shown in **Figure 3**.

4.2.7 Noise Monitoring Locations

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

Location 1: Brooks, 45 Old Buttai Road

Location 2: Maddison (Buttai Barn), 160 Lings Road

Location 3: Bishop, 281 Lings Road

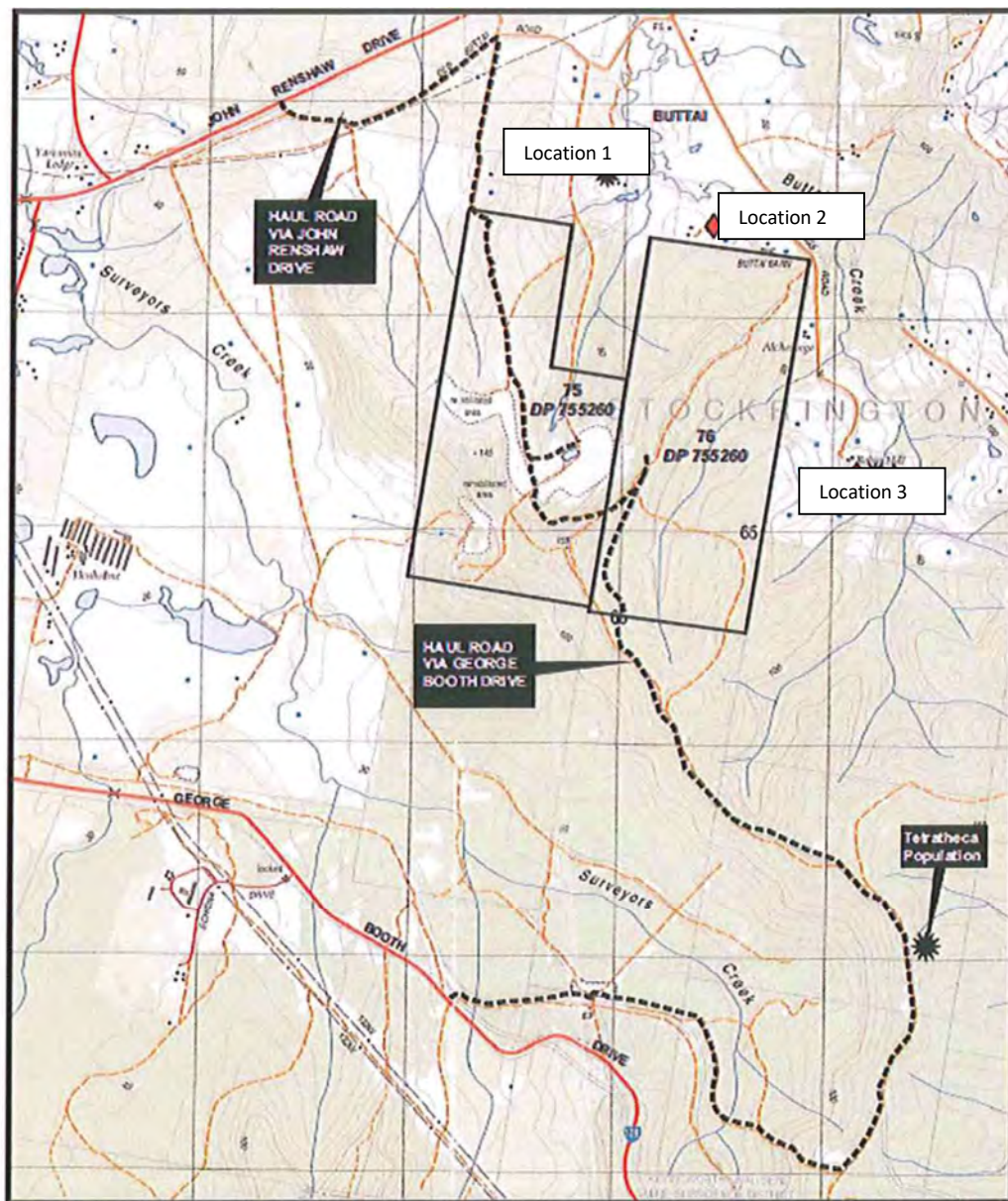


Figure 3: Noise Monitoring Locations

4.2.8 Noise Monitoring Results

During the reporting period there were a total of 4 noise monitoring assessments undertaken at Buttai Quarry. The results are shown below in **table 8**.

4.2.9 Analysis of Noise Results

The noise results in **table 8** indicate that all noise monitoring results are below the specified criteria as described in section 4.2.6.

Table 8: Buttai Quarry Noise Monitoring

Buttai Quarry (BQ) Noise Monitoring

	Location	Time	dB(A)	Wind Speed and Direction	Identified Noise Sources
23-Feb-22	1	9:25 am	44	1.5 m/s SE	Birds (43), traffic (35), planes (30), BQ occasionally audible
	2	10:05 am	40	2.0 m/s ESE	Birds (40), traffic (30), construction noise (28), BQ inaudible
	3	9:45 am	46	1.5 m/s SE	Birds (46), traffic (32), BQ occasionally audible
26-May-22	1	12:02 pm	46	1.5 m/s N	Birds (44), traffic (42), BQ occasionally audible
	2	12:44 pm	43	1.0 m/s NW	Birds (41), traffic (37), BQ inaudible
	3	12:25 pm	40	1.0 m/s N	Frogs & birds (39), traffic (32), BQ inaudible
29-Aug-22	1	1:30 pm	43	2.0 m/s N	Birds (42), traffic (37), BQ inaudible
	2	12:40 pm	36	2.5 m/s ENE	Birds (33), traffic (33), BQ inaudible
	3	1:00 pm	38	2.0 m/s N	Frogs & birds (40), traffic (30), BQ inaudible
29-Nov-22	1	10:45 am	40	1.0 m/s SE	Birds & insects (38), traffic (36), BQ inaudible
	2	9:40 am	37	1.0 m/s SW	Birds & insects (36), traffic (30), BQ inaudible
	3	10:00 am	42	1.0 m/s SW	Plant noise – not quarry related (42), birds (32), BQ inaudible

4.3 Air Quality

4.3.1 Introduction

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

4.3.2 Air Quality Monitoring Locations and Frequency

The current air quality monitoring network consists of five dust deposition gauges, (see **Figure 4.**).

The location of the air quality monitoring equipment (primarily to the North-East and East of the Quarry) was chosen due to the location of the adjacent private residences.

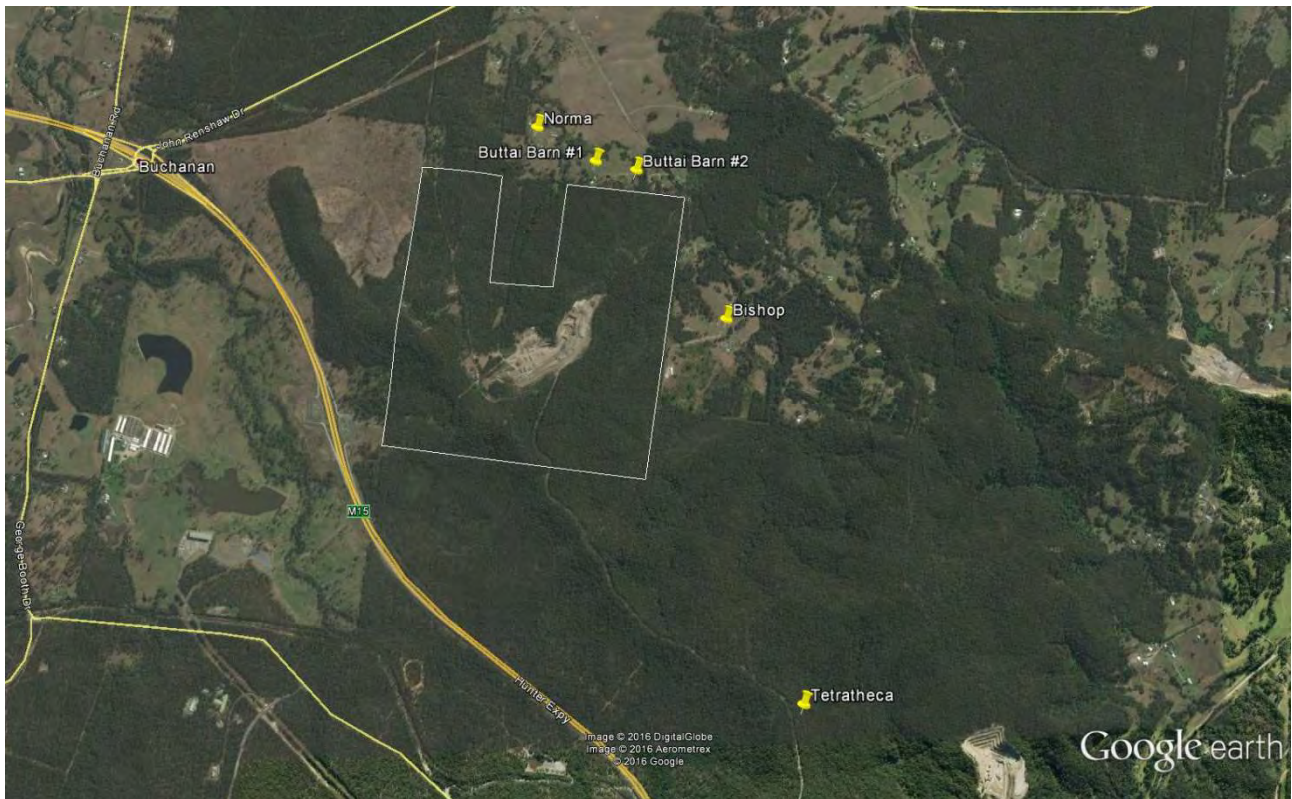


Figure 4: Air Quality Monitoring

4.3.3 Air Quality Criteria

The air quality criteria for the quarry is provided in the below table.

Table 9: Air Quality Criteria

Parameter	Frequency	Locations	Limit/Guideline	Sampling Method
Deposited dust	Monthly.	DG-1 located at Tetratheca DG-2 located at Norma DG-3 located at Buttai Barn DG-4 located at Bishop DG-5 located at Buttai Barn #2	Deposition Rate* Maximum total deposited dust level: 4 g/m ² .month. (Annual Average)	AM-19 AS3580.10.1 – 2003
Visible air pollution	Weekly. In response to any visible emissions complaint.	Weekly site inspection. At the location of any reported emission.	Daracon shall ensure any visible air pollution generated by the project is assessed regularly, and that quarrying operations are relocated, modified, and/or stopped as required to minimise air quality impacts on privately-owned land	No required sampling methodology. Actions required if visual impact is suspected or confirmed is located in the quarry management plan.

4.3.4 Air Quality Monitoring Results

The following information presents the results and a breakdown of the deposited dust monitoring program.

Table 10: Dust Deposition Gauge Results

		D1 - Tetratheca	D2 – Norma	D3 - Buttai Barn	D4 - Bishop	D5 - Buttai Barn #2
17/12/21 to 14/01/22	Insoluble Solids	0.7	0.8	0.9	5.2	1.2
	Ash*	0.2	0.5	0.5	0.8	0.5
	Combustible Matter**	0.5	0.3	0.4	4.4	0.7
14/01/22 to 11/02/22	Insoluble Solids	0.8	1.9	2.7	3.5	0.6
	Ash*	0.3	0.8	1.5	1.6	0.4
	Combustible Matter**	0.5	1.1	1.2	1.9	0.2
11/02/22 to 11/03/22	Insoluble Solids	2.1	2.4	5.6	2	0.8
	Ash*	0.5	1.2	1.8	0.7	0.5
	Combustible Matter**	1.6	1.2	3.8	1.3	0.3
11/03/22 to 08/04/22	Insoluble Solids	0.6	3.3	5.9	3.4	5.5
	Ash*	0.2	2.4	2.1	1	4.1
	Combustible Matter**	0.4	0.9	3.8	2.4	1.4
08/04/22 to 06/05/22	Insoluble Solids	0.2	4.2	4.2	0.6	1.2
	Ash*	0	3	2.5	0.2	0.6
	Combustible Matter**	0.2	1.2	1.7	0.4	0.6
06/05/22 to 03/06/22	Insoluble Solids	0.2	2.8	4	1.5	0.7
	Ash*	0.1	1.7	3.1	0.8	0.4
	Combustible Matter**	0.1	1.1	0.9	0.7	0.3
03/06/22 to 01/07/22	Insoluble Solids	0.4	1.8	2.5	0.4	0.2
	Ash*	0.2	1.3	1	0.4	0.2
	Combustible Matter**	0.2	0.5	1.5	0	0
01/07/22 to 29/07/22	Insoluble Solids	0.5	0.4	3.3	1	1.5
	Ash*	0	0.1	1.3	0.2	0.4
	Combustible Matter**	0.5	0.3	2	0.8	1.1
29/07/22 to 26/08/22	Insoluble Solids	0.7	1.6	14.1	6.5	1.7
	Ash*	0.2	1	11.8	2.7	1.7
	Combustible Matter**	0.5	0.6	2.3	3.8	0
26/8/22 to 23/9/22	Insoluble Solids	0.3	2.2	1.5	1.5	4
	Ash*	0.2	0.4	1.5	0.4	3
	Combustible Matter**	0.1	1.8	0	1.1	1
23/9/22 to 21/10/22	Insoluble Solids	0.4	2.4	2.5	1.3	2.8
	Ash*	0	1.5	1.3	1.1	2.2
	Combustible Matter**	0.4	0.9	1.2	0.2	0.6
21/10/22 to 18/11/22	Insoluble Solids	0.9	3	1.1	1	0.6
	Ash*	0.2	1.6	0.6	0.6	0.3
	Combustible Matter**	0.7	1.4	0.5	0.4	0.3
18/11/22 to 16/12/22	Insoluble Solids	0.7	1.2	0.5	0.9	0.4
	Ash*	0.3	0.7	0.4	0.9	0.3
	Combustible Matter**	0.4	0.5	0.1	0.6	0.1

Definition

Insoluble solids - This is the matter that does not dissolve in water and is the total of Ash and Combustible matter in the gauge.

Ash* - This is the matter that remains after the sample has been combusted in the laboratory (non organic).

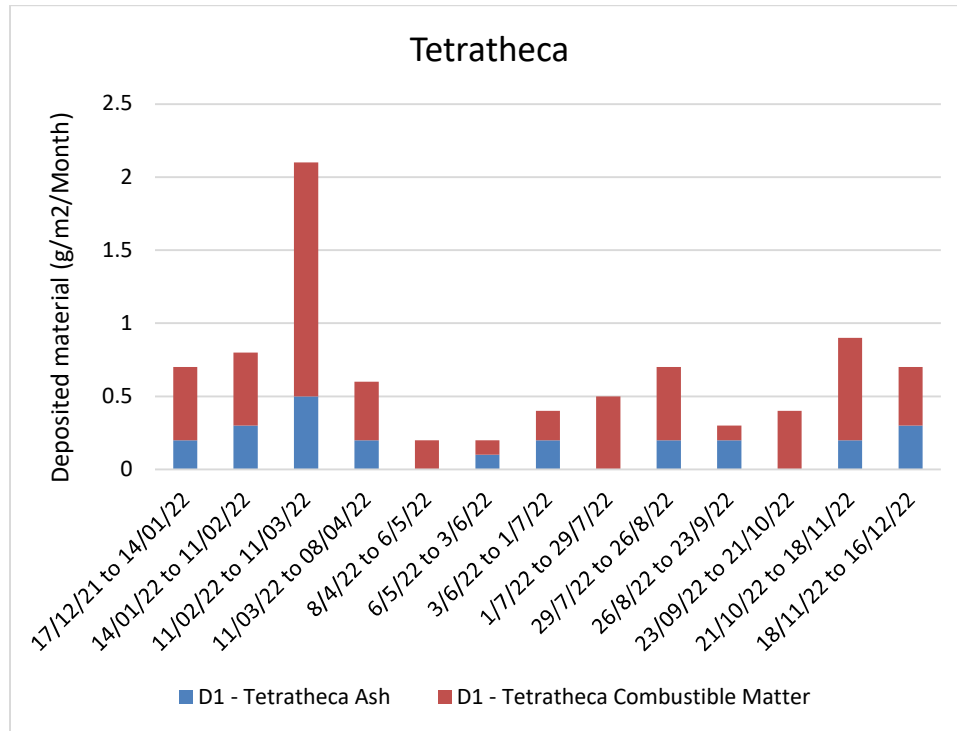
Combustible Matter** - This is the material making up the insoluble solids that has been combusted and is not attributable to quarrying as it is primarily organic matter.

Table 11: Summary of Dust Deposition Gauge Results

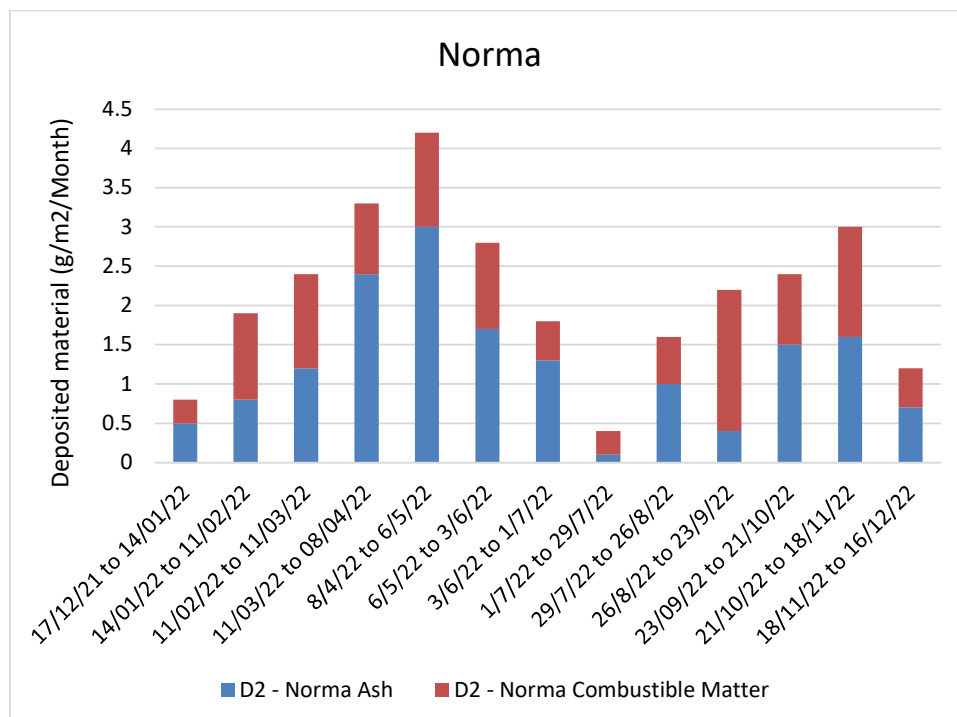
	D1 - Tetratheca	D2 - Norma	D3 - Buttai Barn	D4 - Bishop	D5 - Buttai Barn #2
17/12/22 to 14/01/22	0.7	0.8	0.9	5.2	1.2
14/01/22 to 11/02/22	0.8	1.9	2.7	3.5	0.6
11/02/22 to 11/03/22	2.1	2.4	5.6	2	0.8
11/03/22 to 08/04/22	0.6	3.3	5.9	3.4	5.5
8/4/22 to 6/5/22	0.2	4.2	4.2	0.6	1.2
6/5/22 to 3/6/22	0.2	2.8	4	1.5	0.7
3/6/22 to 1/7/22	0.4	1.8	2.5	0.4	0.2
1/7/22 to 29/7/22	0.5	0.4	3.3	1	1.5
29/7/22 to 26/8/22	0.7	1.6	14.1	6.5	1.7
26/8/22 to 23/9/22	0.3	2.2	1.5	1.5	4
23/09/22 to 21/10/22	0.4	2.4	2.5	1.3	2.8
21/10/22 to 18/11/22	0.9	3	1.1	1	0.6
18/11/22 to 16/12/22	0.7	1.2	0.5	0.9	0.4
Annual Average	0.65	2.15	3.75	2.22	1.63

4.3.5 Depositional Dust Gauge Graphs

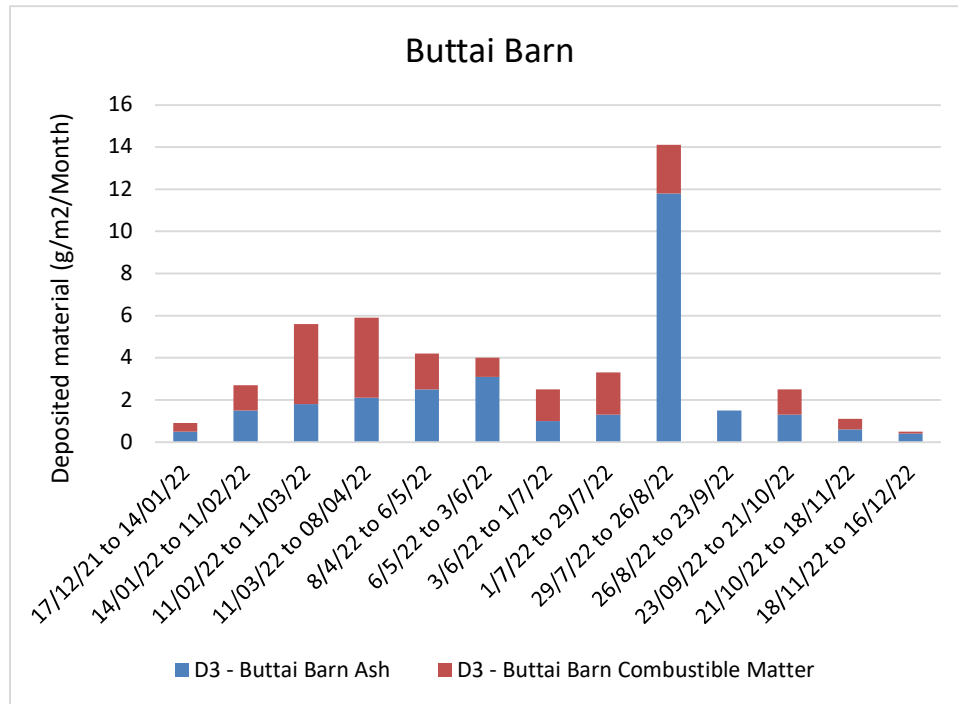
4.3.5.1 Tetratheca



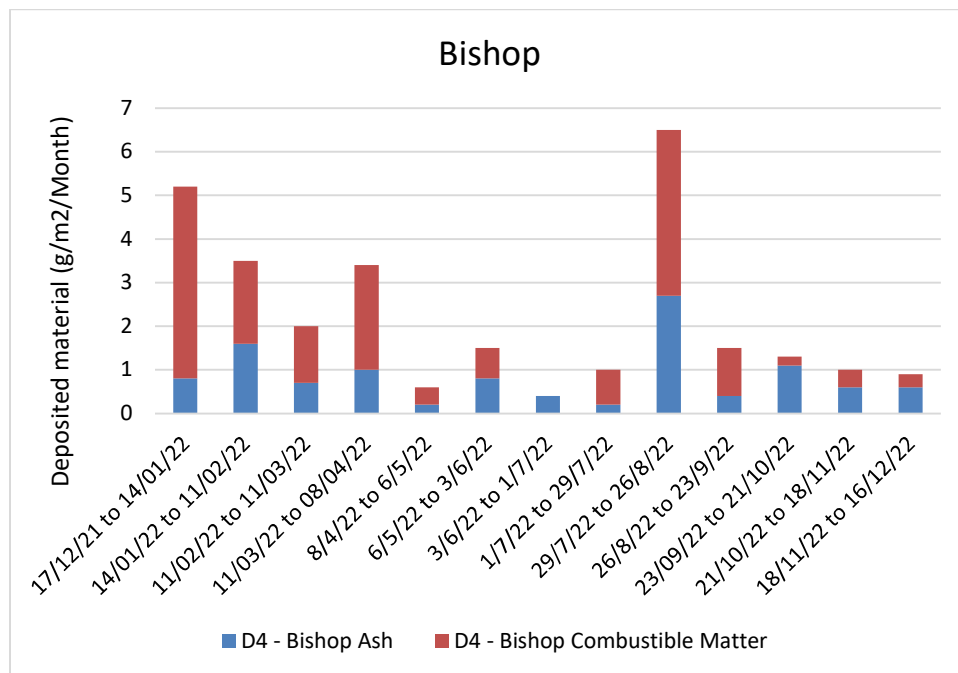
4.3.5.2 Norma



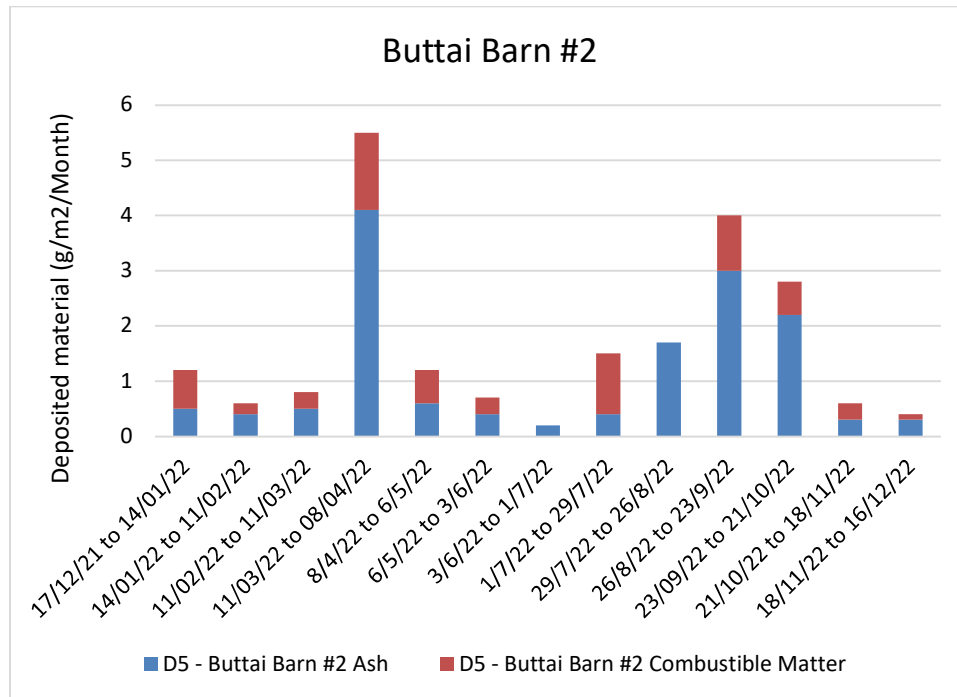
4.3.5.3 Buttai Barn



4.3.5.4 Bishop



4.3.5.5 Buttai Barn #2



4.3.6 Air Quality Discussion

As shown in the tables and graphs above and based on the **annual average** criterion, all of the Dust Deposition Gauge (DDG) monitoring results were well below 4g/m²/month annual average criterion.

As shown in Tables 10 and 11, we received a number of elevated DDG results at 'Bishop', 'Buttai Barn', and 'Buttai Barn #2' during the reporting period as well as a single elevated DDG result at 'Norma' for the period 8/4/22 to 6/5/22. We discuss the details of these below:

- Bishop DDG result between 17/12/21 to 14/01/22:
 - The annual average for 'Bishop' is very low and well below the annual average criterion;
 - The DDG result obtained contains almost 85% combustible material which is not attributable to quarrying as it's primarily organic matter. If this was removed from the sample, the result is far less than 4g/m²/month;
 - We received no air quality complaints or enquiries from the community during this time;
- Buttai Barn and Buttai barn #2 (various dates):
 - Firstly, it's worth noting again that following various high DDG results received at 'Buttai Barn' during 2015, a second dust gauge at Buttai Barn ('Buttai Barn #2') was installed in August 2015. We've continued to monitor both 'Buttai Barn' and 'Buttai Barn #2' continuously since that time;
 - The annual averages for 'Buttai Barn' and 'Buttai Barn #2' are low and below the annual average criterion;
 - Substantial and ongoing evidence of ground disturbance activities continues to occur adjacent to both Buttai Barn DDG's (non-quarry related) when the new owners have been undertaking earthworks and burning material on site;

- We received no air quality complaints or enquiries from the community during this time;
- Norma DDG result between 8/4/22 to 6/5/22:
 - The annual average for 'Norma' is very low and well below the annual average criterion;
 - The DDG result obtained contains almost 30% combustible material which is not attributable to quarrying as it's primarily organic matter. If this was removed from the sample, the result is less than 4g/m²/month;
 - We received no air quality complaints or enquiries from the community during this time;
- Bishop DDG result between 29/07/22 and 26/08/22:
 - The annual average for 'Bishop' is very low and well below the annual average criterion;
 - The DDG result obtained contains almost 50% combustible material which is not attributable to quarrying as it's primarily organic matter. If this was removed from the sample, the result is far less than 4g/m²/month;
 - We received no air quality complaints or enquiries from the community during this time;

Once again, we'll continue to report all DDG results (including the elevated results obtained at 'Buttai Barn' and 'Buttai Barn #2'), with additional investigations completed for ongoing or unexpected outcomes.

5. COMPLIANCE ASSESSMENT

5.1 Environmental Protection Licence

Daracon hold Environmental protection Licence 12829 for a 'land based' extractive industry. The licence has an anniversary date of 29th June. The annual return covering the reporting period identified no non-compliances with the conditions of the licence.

A variation to EPL 12829 was approved by the EPA during 2022 to incorporate the RRF into the activities and monitoring regime for the site as whole. The RRF is still in the process of being initiated and the majority of the changes made to the EPL will apply once the RRF is operational. We'll keep the community informed of the progress and implementation of the revised EPL as it occurs.

5.2 Environmental Inspections

Daracon continued to utilise the previous TREES soils conservation representative (Andrew Littlewood) who now operates under the banner of Rubicon Enviro Pty Ltd to undertake an inspection of the quarry annually. Daracon also undertakes regular internal environmental audits of the site. The various reports are attached in Appendix 1 of this document.

All minor deficiencies identified as part of the various inspections were promptly rectified or are ongoing.

5.3 Regulatory Authorities involvement

Daracon had one inspection by the Resource Regulator during the reporting period with no significant issues identified.

Daracon continues to regularly communicate with all regulatory authorities regarding the operation of the quarry and now that the RRF has been approved, the incorporation of that into the quarry management practices. This includes the EPA as we varied the EPL during 2022 to incorporate the RRF operation as described above in Section 5.1, as well as other operational matters requiring the involvement of regulatory authorities such as Cessnock City Council and others.

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 2023 reporting period. **Table 12** provides a summary of the proposed quarry activities.

Table 12: Proposed Activities for 2023

January - December 2023	<ul style="list-style-type: none">• Ongoing review of various Management Plans;• Regular site Inspections;• Noise Monitoring;• Blast Monitoring;• Dust Monitoring;• Continuation of quarrying operations;• Ongoing rehabilitation of non-operational quarry areas where available;• Ongoing CCC involvement;• Progression of the Resource Recovery Facility (RRF) development will be ongoing;• Upgrading Old Buttai Rd and the access road into the quarry once Cessnock City Council approve the work;• Additional minor vegetation clearing at the northern extent of the quarry;
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6.2 Extraction Operations

At this stage, it's envisaged that extraction activities will remain the same for the 2023 period.

6.3 Processing

At this stage, it's envisaged that the Quarry processing operations will remain the same for the 2023 period.

6.4 Overburden And Silt Management

Current controls for overburden and soil management to remain in place and monitored.

6.5 Waste Management

Current controls for waste management to remain in place and monitored.

6.6 Site Infrastructure And Services

Changes will be made to the existing site infrastructure and services as a result of the Resource Recovery Facility (RRF) approval. These changes include the installation of a weighbridge, wheelwash, RRF material receipt and processing areas, bitumen sealing the remainder of the access road from John Renshaw Drive to the quarry site and various other associated tasks. As the planning for the additional infrastructure progresses, we will keep the CCC informed as required.

6.7 Water Management

It is expected that no substantial changes will be made and the current water management practices will remain in place and continued to be monitored.

It is worth noting that the RRF will be located within the existing quarry disturbance footprint and therefore requires minimal additional water control measures to be installed.

6.8 Bushfire Management

Bush fire management practices will remain in place and be continually monitored as noted above. This will also include ongoing consultation with the Rural Fire Service and the adjacent property owners as previously described.

6.9 Hazardous Materials Management

There will be no importation or disposing of hazardous materials on site.

6.10 Product Transportation

Now that the RRF has been approved and we're currently working through the various subsequent approvals required to operate the RRF, we do not expect there to be any substantial changes to the product transportation during the early parts of 2023. Once the various additional approvals are received and the RRF commences operation, the quantity of material to and from the RRF will therefore lead to an increase in the truck movements as previously described in the RRF approval documentation. We will keep the CCC informed of the progress of the RRF any associated product transportation increases as required.

Additionally, and further to the extraordinary CCC meeting that occurred in August 2022, we're still working on the proposal to temporarily increase quarry truck movements (up to 100 laden trucks per day) to assist in the supply of civil construction materials in the region. This is currently ongoing.

6.11 Rehabilitation


The quarry will continue to rehabilitate the finished benches and maintain the bench planting as outlined in the rehabilitation report. Further lantana removal and weed eradication will take place during 2023.

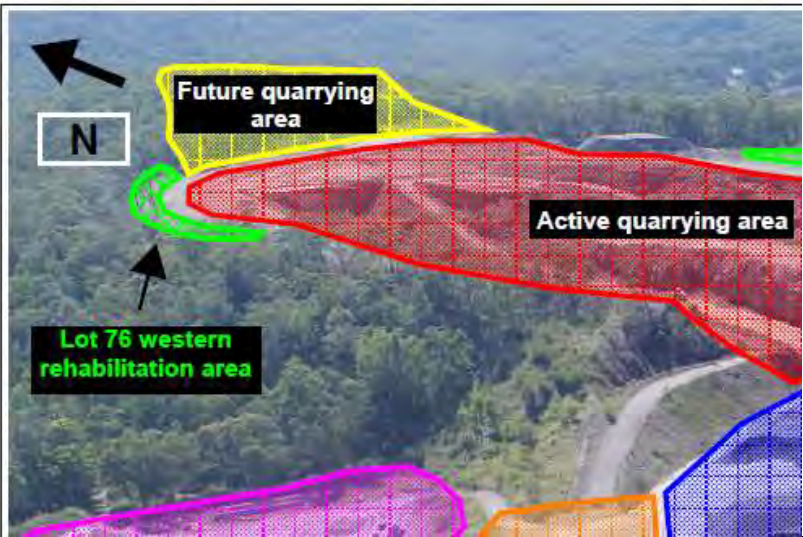

7. REFERENCES


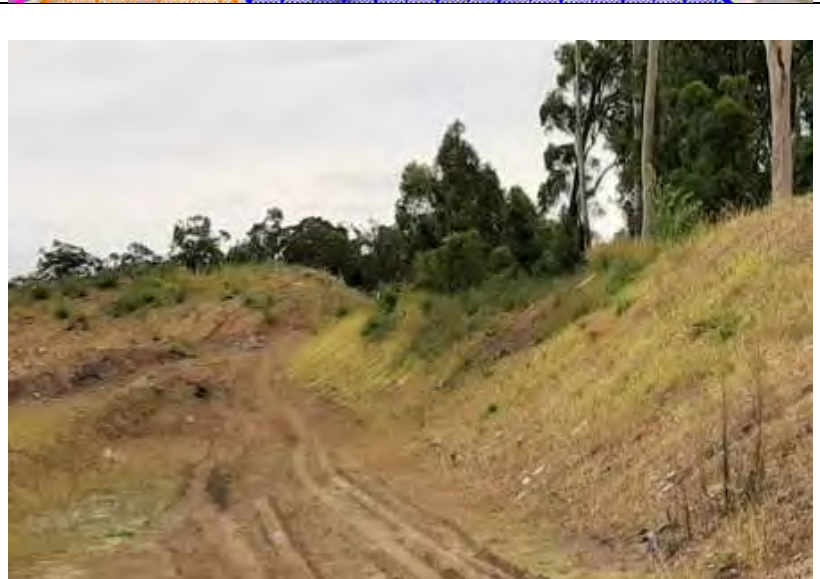
1. ANZECC (2000) – Australian and New Zealand Guidelines Fresh and Marine Water Quality
2. DEC (2007) Approved Methods for Sampling of Air Pollutants in New South Wales
3. DECCW (2007) Methods for the Sampling and Analysis of Air Pollutants in New South Wales
4. EPA (2000) New South Wales Industrial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


8. APPENDICES*Appendix 1 Environmental Inspection Reports*



ENVIRONMENTAL INSPECTION REPORT



WORKPLACE: Buttai Quarry LOCATION: Buttai WORKS UNDERTAKEN BY: Daracon <input checked="" type="checkbox"/> Subcontractor <input type="checkbox"/> Subcontractor name:	DATE OF INSPECTION: 28/03/22 ATTENDEES: Luke Robinson	WEATHER CONDITIONS: <div style="display: flex; justify-content: space-around; align-items: center;"> </div> <div style="display: flex; justify-content: space-around; align-items: center; margin-top: 10px;"> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> </div> <p>Rain (mm): More than 300 mm rain over the last month</p> <p>Other:</p>	OVERALL STATUS <div style="display: flex; align-items: center; margin-bottom: 10px;"> <div style="width: 15px; height: 15px; background-color: red; border-radius: 50%; margin-right: 5px;"></div> <input type="checkbox"/> High </div> <div style="display: flex; align-items: center; margin-bottom: 10px;"> <div style="width: 15px; height: 15px; background-color: yellow; border-radius: 50%; margin-right: 5px;"></div> <input type="checkbox"/> Medium </div> <div style="display: flex; align-items: center;"> <div style="width: 15px; height: 15px; background-color: green; border-radius: 50%; margin-right: 5px;"></div> <input checked="" type="checkbox"/> Low </div>		
No.	Location (Area / description)	Issue / Comment	Recommended priority	Action	Close out date
1	Buttai Quarry access		N/A	Nil – Appropriate signage installed at the main gate and there was no evidence of dust generation on site during the inspection – Positive observations.	N/A

2	Rehab' area along western edge of the future quarrying area 'Lot 76'	  <p>The aerial map shows a quarrying area with a yellow 'Future quarrying area' and a red 'Active quarrying area'. A green 'Lot 76 western rehabilitation area' is outlined. A north arrow points towards the top left. The ground-level photo shows a dirt bund with a line of trees in the background.</p>	N/A	<p>Nil – As shown in the images, the future quarrying area has progressed to the north and the bund has recently been shaped and seeded. All water is directed to the quarry Water Management System – Positive observations.</p>	N/A
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3	Recently re-shaped batter along eastern edge of the quarry pit 'Lot 76' area	 	N/A	Nil - Following the previous inspection, the eastern batter was seeded in late December 2021. As seen in the image, the batter now has a good vegetation cover which should only increase over time – Positive observation.	N/A
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4	Dam 4 water transfer		N/A	Nil – At the time of inspection, site water was being Managed appropriately with additional water pumped from Dam #4 to the ‘western detention basin’ as required due to substantial rainfall received – Positive observation.	N/A
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5	Active quarry area		N/A	Nil – The active quarry area was tidy with no evidence of dust generation on site during the inspection – Positive observations.	N/A
6	Sed' controls along access road		N/A	Nil – The various sedimentation controls installed along the site access road were functional at the time of inspection – Positive observation.	N/A

7	Site security		N/A	Nil – A number of remotely activated cameras are installed on site to mitigate unauthorised access – Positive observation.	N/A
8	Bench #2 and #3		N/A	Nil – Both upper benches rehabilitation areas were progressing appropriately at the time of inspection – Positive observation.	N/A

9	New 'down ramp' from top of quarry to floor		N/A	Nil – The bulk earthworks for the 'down ramp' has recently been completed with minor shaping and bunding yet to be completed – Positive observation.	N/A
10	Panoramic image of the quarry looking east over the active quarry area				

11	Summary	Overall, the site is being well maintained with no issues identified.			
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Issued by: L.Robinson**Issued to:** G.Reeves**Copy to:** D.Smith**Actions Checked:****Key****Recommended Priority for Completion of Actions**

Immediate To be addressed straight away

High Within 24hrs*




Medium Within 3 working days*

Low Within 5 working days*

N/A No work required




*To be completed sooner if adverse weather conditions are predicated

Inspection Report – Daracon Group

CLIENT	Daracon Group	REPORT DATE	3 rd June 2022	REPORT NO.	6	REPORT TO:	Luke Robinson, Jason Gorton – Daracon Group
PROJECT	Buttai Quarry	INSPECTION DATE	3 rd June 2022	ATTENDEES:	Luke Robinson – Daracon Group, Andrew Littlewood – Rubicon Enviro		
WEATHER	Partly cloudy, cool, moderate winds.	COMMENT	The quarry working areas were inspected with no significant issues with drainage or erosion and sediment control noted. Site controllers advised that ongoing weed suppression program had been limited due to ongoing wet weather. One minor maintenance issue was identified, as detailed below.				
ISSUE NO.	LOCATION	ISSUE/MATTER		RECOMMENDATION/COMMENT		PHOTOGRAPH	
1.	Dam 4.	The area around Dam 4 was inspected. The controls adjacent to the haul road remain in position and functional. Water in Dam 4 continues to be transferred to dams in the upper floor of the quarry.		The controls in the area remain functional and no actions were required.			
2.	Proposed Resource Recovery Facility (RRF).	The area for the proposed Resource Recovery Facility (RRF) was inspected. Site controllers indicated the planning and approvals process is continuing. We noted a quantity of stockpiled material which is proposed to be utilised to form a noise attenuation bund.		The controls in the area remain functional and no actions were required.			
3.	Northern quarry development area.	The recent clearing undertaken for the northern quarry development area was inspected. Following vegetation removal, large earth berms have been formed on the eastern and western boundary, with a large timber windrow constructed along the northern boundary. Runoff from the exposed catchment is contained by the earthen berms and is filtered by the timber windrows.		The controls in the area remain functional and no actions were required.			




Inspection Report – Daracon Group

PROJECT:	Buttai Quarry	INSPECTION REPORT NO.	6	REPORT DATE	3 rd June 2022
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ISSUE NO.	LOCATION	ISSUE/MATTER	RECOMMENDATION/COMMENT	PHOTOGRAPH
4.	Bench 2 and Bench 3 rehabilitation areas.	The revegetation along Bench 2 and Bench 3 was inspected. The rehabilitation plantings are well established in most areas however a few isolated areas remain where the onset of seedlings is impacted due to the aspect and weather impacts.	Site controllers indicated that additional plantings are scheduled in the affected areas and that weed treatment will resume with a return to extended dry conditions.	
5.	Bench 2 and Bench 3 rehabilitation areas.	As noted above, the bench rehabilitation areas were inspected. The rehabilitation in the area is progressing however, as noted previously, an outbreak of castor oil weed was noted in the northern section of Bench 3.	As discussed, continue to implement the periodic weed suppression, targeting the weed identified on Bench 3.	
6.	Eastern bund.	The eastern bund rehabilitation area was inspected. The bund has been extended and revegetated. The revegetation on the initial bund is well established, whilst the bund extension section has surface vegetation establishing and native seedlings are evident. Some minor outbreaks of Pampas Grass was noted in one area.	The area remains stable and well vegetated, and no actions are required. As discussed, continue to schedule the area for periodic weed suppression.	

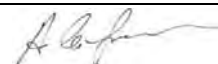
Inspection Report – Daracon Group

PROJECT:	Buttai Quarry	INSPECTION REPORT NO.	6	REPORT DATE	3 rd June 2022
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ISSUE NO.	LOCATION	ISSUE/MATTER	RECOMMENDATION/COMMENT	PHOTOGRAPH
7.	Air quality – general.	The inspection occurred during dry conditions with moderate wind conditions present. Dust emissions were visibly minimal within the area of works.	Continue to implement effective dust mitigation management.	
8.	Main access road.	The areas along the main access road were inspected. The road is being well maintained and installed sediment controls are functional and in good condition. Two minor sections of failed chip seal were noted on section of the road a small distance upslope from the entrance gate.	As discussed, continue to monitor, implement, and maintain the drainage controls to minimise erosion and improve runoff water quality. In addition, we recommend temporarily repairing the failed asphalt sections with 'cold mix' bitumen until the asphalt re-sealing works commence.	
9.	Front entrance grate.	The area around the front entrance grate was inspected. The drainage line and outlet structures remain stable.	The controls in the area remain functional and no actions were required.	

Report by: Andrew Littlewood – Senior Soil Conservationist & CPESC No. 5988

Signed :



ENVIRONMENTAL INSPECTION REPORT


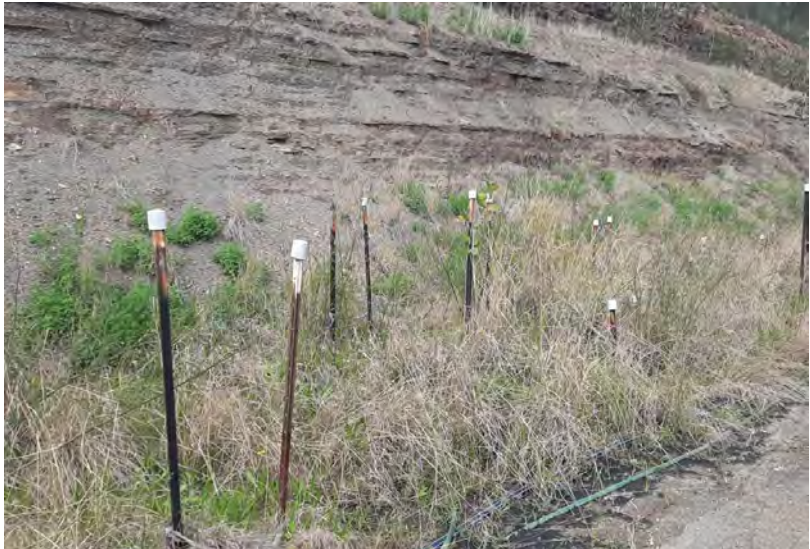
WORKPLACE: Buttai Quarry LOCATION: Buttai WORKS UNDERTAKEN BY: Daracon <input checked="" type="checkbox"/> Subcontractor <input type="checkbox"/> Subcontractor name:		DATE OF INSPECTION: 08/09/22 ATTENDEES: Luke Robinson		WEATHER CONDITIONS: <div style="display: flex; justify-content: space-around; align-items: center;">       </div> <div style="display: flex; justify-content: space-around; align-items: center; margin-top: 10px;"> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> </div> Rain (mm): More than 100 mm rain over the last month Other:		OVERALL STATUS <div style="display: flex; align-items: center; margin-bottom: 5px;"> <input type="checkbox"/> High </div> <div style="display: flex; align-items: center; margin-bottom: 5px;"> <input type="checkbox"/> Medium </div> <div style="display: flex; align-items: center;"> <input checked="" type="checkbox"/> Low </div>	
No.	Location (Area / description)	Issue / Comment	Recommended priority	Action	Close out date		
1	Buttai Quarry access		N/A	Nil – There was no evidence of dust generation on site during the inspection and appropriate signage installed at the main gate – Positive observations.	N/A		

2	Gates at the top of the quarry	 	N/A	Nil – As shown in the images, the gates at the top of the quarry were intact and appropriately sign posted – Positive observations.	N/A
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3	Active quarry and stockpile areas		N/A	Nil – The active quarry and stockpile areas were tidy with no evidence of dust generation on site during the inspection – Positive observations.	N/A
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4	Haul roads	 	N/A	Nil – The haul roads had recently been graded – Positive observation.	N/A
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5	Diversion channel near main entrance		N/A	Nil – Rock lined drainage channel and sediment controls adjacent to the main access gate are all effective and well maintained - Positive observation.	N/A
6	Sed' controls along access road		Low	Following the recent road grading, there were a number of instances where a small windrow was left in front of the sediment control structure. The small windrows need to be removed to allow water to flow into the structures and minimise the flow paths.	Completed In October 22 - LR

7	Site security		N/A	Nil – A number of remotely activated cameras are installed on site to mitigate unauthorised access – Positive observation.	N/A
8	Bench #3		Low	Small areas of delayed rehabilitation on bench #3 mean that we're currently planning to install some additional plants and improved soil amelioration to this area shortly.	Additional maintenance and planting occurred on the 20th September 2022. Ongoing maintenance will occur over the next few months - Ongoing

9	Summary	<p>Overall, the site is being well maintained with no issues identified. A few minor issues identified as below:</p> <ul style="list-style-type: none">• Following the recent road grading, there were a number of instances where a small windrow was left in front of the sediment control structure. The small windrows need to be removed to allow water to flow into the structures and minimise the flow paths.• Small areas of delayed rehabilitation on bench #3 mean that we're currently planning to install some additional plants and improved soil amelioration to this area shortly.			
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Issued by: L.Robinson**Issued to:** G.Reeves**Copy to:** D.Smith**Actions Checked:****Key
Recommended Priority for Completion of Actions**

Immediate To be addressed straight away

High Within 24hrs*

Medium Within 3 working days*


Low Within 5 working days*




N/A No work required



*To be completed sooner if adverse weather conditions are predicated



ENVIRONMENTAL INSPECTION REPORT



WORKPLACE: Buttai Quarry LOCATION: Buttai WORKS UNDERTAKEN BY: Daracon <input checked="" type="checkbox"/> Subcontractor <input type="checkbox"/> Subcontractor name:	DATE OF INSPECTION: 01/12/22 ATTENDEES: Luke Robinson	WEATHER CONDITIONS: <div style="display: flex; justify-content: space-around; align-items: center;"> </div> <div style="display: flex; justify-content: space-around; align-items: center; margin-top: 10px;"> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> </div> <p>Rain (mm): Minimal in the last month</p> <p>Other:</p>	OVERALL STATUS <div style="display: flex; align-items: center; margin-bottom: 10px;"> <div style="width: 15px; height: 15px; background-color: red; border-radius: 50%; margin-right: 5px;"></div> <input type="checkbox"/> High </div> <div style="display: flex; align-items: center; margin-bottom: 10px;"> <div style="width: 15px; height: 15px; background-color: yellow; border-radius: 50%; margin-right: 5px;"></div> <input type="checkbox"/> Medium </div> <div style="display: flex; align-items: center;"> <div style="width: 15px; height: 15px; background-color: green; border-radius: 50%; margin-right: 5px;"></div> <input checked="" type="checkbox"/> Low </div>
--	---	--	---



No.	Location (Area / description)	Issue / Comment	Recommended priority	Action	Close out date
1	Buttai Quarry access		N/A	Nil – There was appropriate signage installed at the main gate and no evidence of dust generation on site during the inspection – Positive observations.	N/A



2	Gates at the top of the quarry		N/A	Nil – As shown in the top image, the gates at the top of the quarry were intact, closed and locked – Positive observation.	N/A
			High	Evidence of unauthorised access found adjacent to the top gate. The excavator operator was informed and promptly rectified as shown below 	02/12/22


3	Active quarry and stockpile areas	 	N/A	Nil – There was no evidence of dust generation during the inspection due to active use of the watercart – Positive observations.	N/A
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4	Dam #4 and water re-use pipework	 	N/A	Nil – Dam #4 was holding a moderate amount of water which is actively managed using the ‘re-use pipework’ when required – Positive observation.	N/A
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5	Annual rehab' inspection		N/A	Nil – An ecologist from Umwelt was undertaking the annual rehab' inspection on same day. All was in reasonable condition with a few minor recommendations to be provided shortly - Positive observation.	N/A
6	Site security		N/A	Nil – A number of remotely activated cameras are installed on site to mitigate unauthorised access – Positive observation.	N/A

7	Northern pre-strip area	 	N/A	<p>Nil – The northern pre-strip area is well contained with all runoff directed to a control structure whilst the western bund now has a decent vegetation cover – Positive observations.</p>	N/A
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8	Bench #3	 	Low	<p>Despite the fact we recently planted more tube stock onto Bench #3, it was recently suggested that we could consider 'top-down planting' by the CCC during the recent site inspection. This will be further investigated over the next few weeks and additional plants installed if deemed feasible – Positive observation.</p>	<p>N/A</p> <p>Ongoing into 2023 - LR</p>
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9	Panoramic image of the quarry				
10	Summary	<p>Overall, the site is being well maintained with no issues identified. A few minor issues identified as below:</p> <ul style="list-style-type: none"> Evidence of unauthorised access to site was found and rectified promptly – Now complete; Daracon Landscapers to assist with investigation into the feasibility of ‘top-down planting’ – Ongoing; 			

Issued by: L.Robinson

Issued to: G.Reeves

Copy to: D.Smith

Actions Checked:

Key**Recommended Priority for Completion of Actions**

Immediate To be addressed straight away

High Within 24hrs*

Medium Within 3 working days*

Low Within 5 working days*

N/A No work required

*To be completed sooner if adverse weather conditions are predicated

Buttai quarry
Monthly site condition checklist

(Extract from Buttai quarry management plan February 2011)

This checklist is to be completed monthly by the operations manager, Daracon quarry.

Completed checklists are to be retained and included in the annual report to council

Date of inspection:	28-01-22	Inspected by:		Geoff Reeves
SEDIMENT CONTROLS	Yes	No	Comments/ Action	
Sediment fences installed and maintained	✓			
Site checked for erosion	✓			
Stockpiles located and maintained correctly	✓			
Tree clearance restricted to required area	✓			
WATER QUALITY AND QUANTITY	YES	NO		
Drainage and sediment controls in place and in good order. (Including water storages, pumps and pipes.)	✓			
Fuel or oil spills reported and cleaned up			No spills	
Fuels\ Chemicals stored in bunded areas	✓			
AIR QUALITY	YES	NO		
Continuous dust deposition monitoring Under taken. (Collected for analysis every 28 days.)	✓			
On site dust suppression undertaken as required	✓			
All loads covered entering and leaving site.	✓			
Vegetation burnt on site		✓		
NOISE	YES	NO		
Operating only during hours of operation	✓			
Have there been any noise complaints received nearby residents?		✓		
Noise monitoring of new plant and equipment. (Initially and then every 12 months)	✓			
Ambient noise monitoring at nearby residents. (Frequency: 12 monthly)	✓			
BLAST MANAGEMENT	YES	NO		
Blast notification checklist completed for each blast undertaken during the month.	✓		BU-P-102	
Blast record form completed for each blast undertaken for the month	✓		Blast ok 18/1	

[illegible]

Buttai quarry
Monthly site condition checklist

(Extract from Buttai quarry management plan February 2011)

This checklist is to be completed monthly by the operations manager, Daracon quarry.

Completed checklists are to be retained and included in the annual report to council

Date of inspection:	28-02-22		Inspected by:	Geoff Reeves	
SEDIMENT CONTROLS			Yes	No	Comments/ Action
Sediment fences installed and maintained			✓		
Site checked for erosion			✓		
Stockpiles located and maintained correctly			✓		
Tree clearance restricted to required area			✓		
WATER QUALITY AND QUANTITY			YES	NO	
Drainage and sediment controls in place and in good order. (Including water storages, pumps and pipes.)			✓		
Fuel or oil spills reported and cleaned up					No spills
Fuels\ Chemicals stored in bunded areas			✓		
AIR QUALITY			YES	NO	
Continuous dust deposition monitoring Under taken. (Collected for anaylsis every 28 days.)			✓		
On site dust suppression undertaken as required			✓		
All loads covered entering and leaving site.			✓		
Vegetation burnt on site				✓	
NOISE			YES	NO	
Operating only during hours of operation			✓		
Have there been any noise complaints received nearby residents?				✓	
Noise monitoring of new plant and equipment. (Initially and then every 12 months)			✓		
Ambient noise monitoring at nearby residents. (Frequency: 12 monthly)			✓		
BLAST MANAGEMENT			YES	NO	
Blast notification checklist completed for each blast undertaken during the month.					No blasting
Blast record form completed for each blast undertaken for the month					"

[illegible]

BUTTAI QUARRY

MONTHLY SITE CONDITION CHECKLIST

*This checklist is to be completed monthly by the Operations Manager, Daracon Quarry.
Completed checklists are to be retained and included in the Annual Report to Council.*

Date of Inspection: 28-03-22		
Inspected by: Geoff Reeves		
	Yes / No	Comments / Action
SEDIMENT CONTROLS		
Sediment fences installed and maintained	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Site checked for erosion	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Stockpiles located and maintained correctly	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Tree clearance restricted to required area	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
WATER QUALITY AND QUANTITY		
Drainage and sediment controls in place and in good order (including water storages, pumps and pipes)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Fuel or oil spills reported and cleaned up.	<input type="checkbox"/> Yes <input type="checkbox"/> No	No spills
Fuels / chemicals stored in bunded areas	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
AIR QUALITY		
Continuous dust deposition monitoring (collected for analysis every 28 days) undertaken	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
On site dust suppression undertaken as required	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
All loads covered entering and leaving site	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Vegetation burnt on site	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
NOISE		
Operating only during hours of operation	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Have there been any noise complaints received from nearby residences	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Noise monitoring of new plant and equipment (initially and then every 12 months)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Ambient noise monitoring at nearby residences (frequency: 12 monthly)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
BLAST MANAGEMENT		
Blast Notification Checklist completed for each blast undertaken during the month	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Blast Record Form completed for each blast undertaken during the month	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Blast ok 18/3

FLORA AND FAUNA		
Any disturbance outside area of operations	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Road seal and drainage adjacent to <i>Tetratheca juncea</i> population in good order	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
All buffer areas and buffer boundary markings intact	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Weed control undertaken (also document presence of weeds on site and effectiveness of control works)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	No spraying due to wet weather
REHABILITATION		
Rehabilitated areas in good condition	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
WEEDS		
Identify location of weed species sighted during inspection (distribution and occurrence) and effectiveness of weed control undertaken during the month.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
HERITAGE		
Stop work if sites located, consulted with DECC - NPWS?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Non found
Evidence of inspection for mine portals prior to rehabilitation in Lot 75.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
BUSHFIRE		
Hazard reduction measures have been undertaken	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
WASTE MANAGEMENT		
Any rubbish visible or buried on site	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Waste removed by licensed contractors	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Cleanaway
Fuels / waste oils stored in bunded area	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
ROADS AND TRANSPORT		
Haul roads and associated drainage in good condition	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Truck movements not exceeding 60 loads per day (120 truck movements) combined	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
COMPLAINTS AND INCIDENTS		
Complaints register maintained	<input type="checkbox"/> Yes <input type="checkbox"/> No	No complaints
Incident register maintained	<input type="checkbox"/> Yes <input type="checkbox"/> No	No incidents

Buttai quarry

Monthly site condition checklist

(Extract from Buttai quarry management plan February 2011)

This checklist is to be completed monthly by the operations manager, Daracon quarry.

Completed checklists are to be retained and included in the annual report to council

Date of inspection:	29-04-22	Inspected by:	Geoff Reeves	
SEDIMENT CONTROLS		Yes	No	Comments/ Action
Sediment fences installed and maintained		✓		
Site checked for erosion		✓		
Stockpiles located and maintained correctly		✓		
Tree clearance restricted to required area		✓		
WATER QUALITY AND QUANTITY		YES	NO	
Drainage and sediment controls in place and in good order. (Including water storages, pumps and pipes.)		✓		
Fuel or oil spills reported and cleaned up				No spills
Fuels\ Chemicals stored in bunded areas		✓		
AIR QUALITY		YES	NO	
Continuous dust deposition monitoring Under taken. (Collected for anaylsis every 28 days.)		✓		
On site dust suppression undertaken as required		✓		
All loads covered entering and leaving site.		✓		
Vegetation burnt on site			✓	
NOISE		YES	NO	
Operating only during hours of operation		✓		
Have there been any noise complaints received nearby residents?		✓		
Noise monitoring of new plant and equipment. (Initially and then every 12 months)		✓		
Ambient noise monitoring at nearby residents. (Frequency: 12 monthly)		✓		
BLAST MANAGEMENT		YES	NO	
Blast notification checklist completed for each blast undertaken during the month.		✓		
Blast record form completed for each blast undertaken for the month		✓		No blasting activities

[illegible]

Buttai quarry

Monthly site condition checklist

(Extract from Buttai quarry management plan February 2011)

This checklist is to be completed monthly by the operations manager, Daracon quarry.

Completed checklists are to be retained and included in the annual report to council

Date of inspection:	27-05-22	Inspected by:		Geoff Reeves
SEDIMENT CONTROLS	Yes	No	Comments/ Action	
Sediment fences installed and maintained	✓			
Site checked for erosion	✓			
Stockpiles located and maintained correctly	✓			
Tree clearance restricted to required area	✓			
WATER QUALITY AND QUANTITY	YES	NO		
Drainage and sediment controls in place and in good order. (Including water storages, pumps and pipes.)	✓			
Fuel or oil spills reported and cleaned up			No spills	
Fuels\ Chemicals stored in bunded areas	✓			
AIR QUALITY	YES	NO		
Continuous dust deposition monitoring Under taken. (Collected for anaylsis every 28 days.)	✓			
On site dust suppression undertaken as required	✓			
All loads covered entering and leaving site.	✓			
Vegetation burnt on site		✓		
NOISE	YES	NO		
Operating only during hours of operation	✓			
Have there been any noise complaints received nearby residents?		✓		
Noise monitoring of new plant and equipment. (Initially and then every 12 months)	✓			
Ambient noise monitoring at nearby residents. (Frequency: 12 monthly)	✓			
BLAST MANAGEMENT	YES	NO		
Blast notification checklist completed for each blast undertaken during the month.	✓			
Blast record form completed for each blast undertaken for the month	✓		Blast ok - 24/5/22	

[illegible]

Buttai quarry

Monthly site condition checklist

(Extract from Buttai quarry management plan February 2011)

This checklist is to be completed monthly by the operations manager, Daracon quarry.

Completed checklists are to be retained and included in the annual report to council

Date of inspection:	03-06-22	Inspected by:	Geoff Reeves	
SEDIMENT CONTROLS	Yes	No	Comments/ Action	
Sediment fences installed and maintained	✓			
Site checked for erosion	✓			
Stockpiles located and maintained correctly	✓			
Tree clearance restricted to required area	✓			
WATER QUALITY AND QUANTITY	YES	NO		
Drainage and sediment controls in place and in good order. (Including water storages, pumps and pipes.)	✓			
Fuel or oil spills reported and cleaned up			No spills	
Fuels\ Chemicals stored in bunded areas	✓			
AIR QUALITY	YES	NO		
Continuous dust deposition monitoring Under taken. (Collected for anaylsis every 28 days.)	✓			
On site dust suppression undertaken as required	✓			
All loads covered entering and leaving site.	✓			
Vegetation burnt on site		✓		
NOISE	YES	NO		
Operating only during hours of operation	✓			
Have there been any noise complaints received nearby residents?		✓		
Noise monitoring of new plant and equipment. (Initially and then every 12 months)	✓			
Ambient noise monitoring at nearby residents. (Frequency: 12 monthly)	✓			
BLAST MANAGEMENT	YES	NO		
Blast notification checklist completed for each blast undertaken during the month.	✓			
Blast record form completed for each blast undertaken for the month	✓			

[illegible]

Buttai quarry

Monthly site condition checklist

(Extract from Buttai quarry management plan February 2011)

This checklist is to be completed monthly by the operations manager, Daracan quarry.

Completed checklists are to be retained and included in the annual report to council

Date of inspection:	1-07-22	Inspected by:	Geoff Reeves
SEDIMENT CONTROLS	Yes	No	Comments/ Action
Sediment fences installed and maintained	✓		
Site checked for erosion	✓		
Stockpiles located and maintained correctly	✓		
Tree clearance restricted to required area	✓		
WATER QUALITY AND QUANTITY	YES	NO	
Drainage and sediment controls in place and in good order. (Including water storages, pumps and pipes.)	✓		
Fuel or oil spills reported and cleaned up			No spills
Fuels\ Chemicals stored in bunded areas	✓		
AIR QUALITY	YES	NO	
Continuous dust deposition monitoring Under taken. (Collected for anaylsis every 28 days.)	✓		
On site dust suppression undertaken as required	✓		
All loads covered entering and leaving site.	✓		
Vegetation burnt on site		✓	
NOISE	YES	NO	
Operating only during hours of operation	✓		
Have there been any noise complaints received nearby residents?		✓	
Noise monitoring of new plant and equipment. (Initially and then every 12 months)	✓		
Ambient noise monitoring at nearby residents. (Frequency: 12 monthly)	✓		
BLAST MANAGEMENT	YES	NO	
Blast notification checklist completed for each blast undertaken during the month.	✓		
Blast record form completed for each blast undertaken for the month	✓		

[illegible]

Buttai quarry

Monthly site condition checklist

(Extract from Buttai quarry management plan February 2011)

This checklist is to be completed monthly by the operations manager, Daracon quarry.

Completed checklists are to be retained and included in the annual report to council

Date of inspection:	05-08-22	Inspected by:		Geoff Reeves
SEDIMENT CONTROLS		Yes	No	Comments/ Action
Sediment fences installed and maintained		✓		
Site checked for erosion		✓		
Stockpiles located and maintained correctly		✓		
Tree clearance restricted to required area		✓		
WATER QUALITY AND QUANTITY		YES	NO	
Drainage and sediment controls in place and in good order. (Including water storages, pumps and pipes.)		✓		
Fuel or oil spills reported and cleaned up				No spills
Fuels\ Chemicals stored in bunded areas		✓		
AIR QUALITY		YES	NO	
Continuous dust deposition monitoring Under taken. (Collected for analysis every 28 days.)		✓		
On site dust suppression undertaken as required		✓		
All loads covered entering and leaving site.		✓		
Vegetation burnt on site			✓	
NOISE		YES	NO	
Operating only during hours of operation		✓		
Have there been any noise complaints received nearby residents?			✓	
Noise monitoring of new plant and equipment. (Initially and then every 12 months)		✓		
Ambient noise monitoring at nearby residents. (Frequency: 12 monthly)		✓		
BLAST MANAGEMENT		YES	NO	
Blast notification checklist completed for each blast undertaken during the month.		✓		
Blast record form completed for each blast undertaken for the month		✓		Blast ok 20/7/22

[illegible]

Buttai quarry

Monthly site condition checklist

(Extract from Buttai quarry management plan February 2011)

This checklist is to be completed monthly by the operations manager, Daracon quarry.

Completed checklists are to be retained and included in the annual report to council

Date of inspection:	02-09-22	Inspected by:	Geoff Reeves
SEDIMENT CONTROLS	Yes	No	Comments/ Action
Sediment fences installed and maintained	✓		
Site checked for erosion	✓		
Stockpiles located and maintained correctly	✓		
Tree clearance restricted to required area	✓		
WATER QUALITY AND QUANTITY	YES	NO	
Drainage and sediment controls in place and in good order. (Including water storages, pumps and pipes.)	✓		
Fuel or oil spills reported and cleaned up			No spills
Fuels\ Chemicals stored in bunded areas	✓		
AIR QUALITY	YES	NO	
Continuous dust deposition monitoring Under taken. (Collected for anaylsis every 28 days.)	✓		
On site dust suppression undertaken as required	✓		
All loads covered entering and leaving site.	✓		
Vegitation burnt on site		✓	
NOISE	YES	NO	
Operating only during hours of operation	✓		
Have there been any noise complaints received nearby residents?		✓	
Noise monitoring of new plant and equipment. (Initially and then every 12 months)	✓		
Ambient noise monitoring at nearby residents. (Frequency: 12 monthly)	✓		
BLAST MANAGEMENT	YES	NO	
Blast notification checklist completed for each blast undertaken during the month.	✓		
Blast record form completed for each blast undertaken for the month	✓		Blast ok - 30/8/22

[illegible]

Buttai quarry

Monthly site condition checklist

(Extract from Buttai quarry management plan February 2011)

This checklist is to be completed monthly by the operations manager, Darocon quarry.

Completed checklists are to be retained and included in the annual report to council

Date of inspection:	06-10-22	Inspected by:	Geoff Reeves	
SEDIMENT CONTROLS		Yes	No	Comments/ Action
Sediment fences installed and maintained		✓		
Site checked for erosion		✓		
Stockpiles located and maintained correctly		✓		
Tree clearance restricted to required area		✓		
WATER QUALITY AND QUANTITY		YES	NO	
Drainage and sediment controls in place and in good order. (Including water storages, pumps and pipes.)		✓		
Fuel or oil spills reported and cleaned up				No spills
Fuels\ Chemicals stored in bunded areas		✓		
AIR QUALITY		YES	NO	
Continuous dust deposition monitoring Under taken. (Collected for analysis every 28 days.)		✓		
On site dust suppression undertaken as required		✓		
All loads covered entering and leaving site.		✓		
Vegetation burnt on site			✓	
NOISE		YES	NO	
Operating only during hours of operation		✓		
Have there been any noise complaints received nearby residents?			✓	
Noise monitoring of new plant and equipment. (Initially and then every 12 months)		✓		
Ambient noise monitoring at nearby residents. (Frequency: 12 monthly)		✓		
BLAST MANAGEMENT		YES	NO	
Blast notification checklist completed for each blast undertaken during the month.		✓		
Blast record form completed for each blast undertaken for the month		✓		Blast ok - 21/9/22

[illegible]

Buttai quarry

Monthly site condition checklist

(Extract from Buttai quarry management plan February 2011)

This checklist is to be completed monthly by the operations manager, Daracon quarry.

Completed checklists are to be retained and included in the annual report to council

Date of inspection:	07-11-22	Inspected by:		Geoff Reeves
SEDIMENT CONTROLS	Yes	No	Comments/ Action	
Sediment fences installed and maintained	✓			
Site checked for erosion	✓			
Stockpiles located and maintained correctly	✓			
Tree clearance restricted to required area	✓			
WATER QUALITY AND QUANTITY	YES	NO		
Drainage and sediment controls in place and in good order. (Including water storages, pumps and pipes.)	✓			
Fuel or oil spills reported and cleaned up	N/A		No spills	
Fuels\ Chemicals stored in bunded areas	✓			
AIR QUALITY	YES	NO		
Continuous dust deposition monitoring Under taken. (Collected for anaylsis every 28 days.)	✓			
On site dust suppression undertaken as required	✓			
All loads covered entering and leaving site.	✓			
Vegetation burnt on site		✓		
NOISE	YES	NO		
Operating only during hours of operation	✓			
Have there been any noise complaints received nearby residents?		✓		
Noise monitoring of new plant and equipment. (Initially and then every 12 months)	✓			
Ambient noise monitoring at nearby residents. (Frequency: 12 monthly)	✓			
BLAST MANAGEMENT	YES	NO		
Blast notification checklist completed for each blast undertaken during the month.	✓			
Blast record form completed for each blast undertaken for the month	✓		Blast ok - 1/11/22	

[illegible]

Buttai quarry Monthly site condition checklist

(Extract from Buttai quarry management plan February 2011)

This checklist is to be completed monthly by the operations manager, Daracon quarry.

Completed checklists are to be retained and included in the annual report to council

Date of inspection:	02-12-22	Inspected by:	Geoff Reeves	
SEDIMENT CONTROLS		Yes	No	Comments/ Action
Sediment fences installed and maintained		✓		
Site checked for erosion		✓		
Stockpiles located and maintained correctly		✓		
Tree clearance restricted to required area		✓		
WATER QUALITY AND QUANTITY		YES	NO	
Drainage and sediment controls in place and in good order. (Including water storages, pumps and pipes.)		✓		
Fuel or oil spills reported and cleaned up				No spills
Fuels\ Chemicals stored in bunded areas		✓		
AIR QUALITY		YES	NO	
Continuous dust deposition monitoring Under taken. (Collected for analysis every 28 days.)		✓		
On site dust suppression undertaken as required		✓		
All loads covered entering and leaving site.		✓		Trucks ok
Vegetation burnt on site			✓	
NOISE		YES	NO	
Operating only during hours of operation		✓		
Have there been any noise complaints received nearby residents?			✓	
Noise monitoring of new plant and equipment. (Initially and then every 12 months)		✓		
Ambient noise monitoring at nearby residents. (Frequency: 12 monthly)		✓		
BLAST MANAGEMENT		YES	NO	
Blast notification checklist completed for each blast undertaken during the month.		✓		
Blast record form completed for each blast undertaken for the month		✓		

[illegible]

Appendix 2 2022 Community Consultative Committee Meeting Minutes

Minutes

BUTTAI QUARRY COMMUNITY CONSULTATIVE COMMITTEE

9am to 11am, Friday 1 April 2022

Kurri Kurri Community Centre, 251 Lang Road, Kurri Kurri

Attendees

Kate Baartz	Independent facilitator (Baartz & Co)
Janet Murray	Community representative
Terry Lewin	Community representative
Colin East	Community representative
Luke Robinson	Daracon

Agenda items

1. Welcome, acknowledgment and introductions

TL: Advised that Cr Rosa Grine is likely to be the new Council representative and Cr Mitchell Hill is the alternate

2. Apologies

Richard Forbes	Cessnock City Council
John Canon	Daracon
Dan Smith	Daracon

3. Minutes

Minutes for Thursday 14 October 2021 were adopted as final with the following amendments, (moved by JM and seconded TL):

- update location of the minutes to say the meeting was remote.

Action: KB to edit to minutes and provide to LR for website

One additional edit noted for the Annual Report

- new down ramp update from John Renshaw to George Booth Drive
- annual report needs to be updated to say the first meeting was 'face to face' whilst the second was remote.

Action: LR to incorporate above edit into Annual Report.

4. Actions arising from previous minutes

Actions arising

Action

1. **Contact Hunter Central Coast Planning Panel (HCCPP) requesting Cessnock City Council (CCC) involvement in the assessment of the Newcastle City Council (NCC) portion of the Richmond Vale Rail Trail (RVRT) before determination by the HCCPP.**

KB provided update from RF: The HCCPP approved the Newcastle section of RVRT Shortland to Pambalong Reserve on 8 December 2021. Council's role was limited but the decision is consistent with overall strategy. The section to Kurri Kurri has not yet been considered.

TL: 13 kilometres approved minus 2ish kilometres across the wetlands park. The panel was not eligible to approve because of a plan of management. The Tarro connection also removed temporarily.

TL: Spoke to Kate Harris, Cessnock City Council two REFs for Lake Mac and Cessnock. Cessnock to put everything on exhibition, 13/4 council briefing, 20/4 to council for decision. All of the major agencies have already provided feedback. All the landowners still to comment on REFs, one landowner not interested. One section is privately-owned, and Cessnock may need to acquire.

Daracon are an interested party, and they will be able to comment.

2. **Cr Darrin Gray stepping aside on 4 December 2021, replacement councillor to be arranged.**

KB provided update from RF: The division of Committee's has not been finalised following the local government elections in December 2022. A new Councillor representative has not been nominated as yet. As soon as this information is available, KB will advise the CCC.

TL: List of nominated councillors is in the most recent council business paper

Action: RF to confirm Councillor representatives to KB. KB to send on the CCC.

3. Request Council's weed team add Buttai Road to their weeding schedule.

KB provided update from RF: RF provided the weeds team with details inclusive of species provided by Janet Murray. Schedules have been severely affected by weather at this point so cannot advise on programme.

JM: Will continue to pull out weeds.

4. Confirm ownership of fire trail with discussions with Crown Land.

KB provided update from RF: Discussed at previous meeting – Crown contacted and can only commit to community consultation should closures be sought.

LR: Item has been discussed many times. The road reserve for the Fire trail runs through the quarry, however we've always committed to maintaining the fire trail access and will continue to do so.

JM: Road needs to remain a crown road, outrageous revenue raising.

LR: Handing a lot of crown land over to local councils, divesting from a lot of it. Haven't heard anything about the fire trail, Geoff maintains and keeps tight security near the pit. There are gates and alarmed cameras, RFS has keys for locks. Geoff has been talking to RFS about this regularly

TL: About a year ago a draft fire management plan was exhibited with all the named fire trails.

CE: Crown lands trying to revenue raise from selling crown roads, important to community to preserve fire trail around the quarry.

LR: Intent from Daracon is to maintain condition and accessibility.

5. Annual Report to include commentary regarding the noise results eg. Noise results complied for the period except for anomalous results

LR: Noise results were compliant so there was no need to include commentary

CE: It has been satisfactorily addressed.

LR: Buttai DDG monitors are the only deviation from requirements

JM: Look at them in the annual report, can't remember the weather at the time. It is difficult to look back and have a sensible comment about it

LR: Results are available on the web, if there are any air quality issues then we expect someone let us know.

LR: If the air monitors go over then LR raises an incident about it (only if both monitors go

over). Then this is investigated to understand why.

CE: Buttai Barn continues to be the cause of erroneous results.

LR: Issue over a long period of time, please continue to let Daracon know if there are any air quality (or other operational) issues.

6. Check and confirm the appropriateness of the plan checking fee for the road ~~update~~ required for the recycling.

Update provided prior to meeting from RF: Daracon patiently seeking a meeting with Council engineers to discuss design and arrangements including fee apportionment. To be advised.

Action: LR/RF to provide an update on the plan checking fee when more information is available.

5. Daracon presentation

Refer to Attachment 1

Group: Discussion about deep lift asphalt and using it for road repairs – especially given the volume of rain.

Blasting results: No trigger recorded

JM: Are the shot chargers getting better?

LR: Precision Drill and Blast are the contractors for blasting, and they put a lot of effort and planning into the blast design.

TL: Are we sure that the no trigger is working correctly? Is the sensitivity set correctly?

LR: The blast criteria are set in the EPL. They have to set it to make sure it isn't set off by cars driving past blast site or similar.

CE: Can you talk to them about it?

Action: LR to talk to provider to further explain the blasting process to the CCC.

JM: Received letter on Thursday about blast on the Friday, there was a blast on Thursday then they came to do the blast on Friday and set up monitors and heard nothing.

LR: Confirmed the blast was on Friday and shared a 'no trigger' letter with the group.

Planting: Use a native mix of seeds on site. Plants that grew out of the top soil do much better. Have also weeds growing from site to private properties

CE: Has there been any planting in the last 12 months?

Action: LR to check when the last planting.

CE: Dot point 7 on page 10- Goal for community is screening the benches. What additional measures are you considering? Umwelt (Appendix 4)

CE: how can you get topsoil up there

LR: not in bulk, this will damage what we have already done. Need to improve the soil locally around the plants by hand. Looking at where the gaps exist and continue to plant, then go back and keep planting until the gaps are filled. Have been working on for many years

CE: Umwelt report – it's extremely rocky and the soil profile is the problem. These months are the optimum time for planting. When are you going to take these actions? Advantageous to do at this time of the year.

JM: Optimal growing conditions for weeds, it would be good to get the lantana and castor oil plants out while the ground is wet.

CE: Request to progress actions in the Umwelt report bench 2 and 3. Action with respect to adding soil around the plants and new planning this season.

Action: LR to discuss actions in the Umwelt report for bench 2 and 3 with landscape team to improve the soil and plant more trees.

TL: can you spray soil? if the soil along the whole bench is no good, then the whole section is compromised. What is the timing for planting for bench 4?

LR: has been investigated, the section is approximately 100m. There are a selection of trees that we plant, there is a batter. Re bench 4 the focus is the stuff you can see from the site not the long term regeneration of the lower benches.

JM: Also, a recommendation to mulch section to retain moistures.

LR: Already do this and have also used coir mats helps to shield trees from weeds and animals.

JM: Bales of hay mulch will support growth. Maybe a good option to plant creepers to grow from the top down while we are waiting for the trees to grow.

CE: Congratulations on the report and the use of the experts. The report has a lot of good recommendations and actions, the next step is to implement actions.

RFF update: Engineering design for access road has been Council for further discussion to try and stop the need to remove more trees.

John Renshaw Drive improvement will be complete before the RRF starts operating.

JM: Is there anything you can do about hooners on the road?

LR: Not sure, without an involvement from the Road Authority (Cessnock Council).

TL: Would more surveillance from John Renshaw drive be useful? Eg keeping undergrowth low.

JM: East on Old Buttai Road towards the quarry, other people from pilot business use the road. Have right of way, will that change?

LR: Confirmed traffic to and from site has right of way.

Action: LR to provide the timeline for construction once it is known and request potential traffic calming measures (hoon management) on Old Buttai Road with RF.

JM: there is pampas grass in the photos in the Annual Report

Action: LR to pass on to Geoff to remove pampas grass and general weed control

6. General business

Note: Buttai Quarry CCC minutes, presentations and reports are available on the Daracon website, this link is publicly available and can be shared with other interested groups
<https://daracon.com.au/services/quarries>

7. Next meeting

The next meeting will be a site visit and will happen in Mid-October 2022, future meetings to be held on a Friday at 9am.

8. Action table

Action	Responsibility
KB to edit to minutes and provide to LR for website.	COMPLETE
LR to incorporate above edit into Annual Report.	LR
RF to confirm Councillor representatives to KB. KB to send on the CCC.	RF/KB
LR to provide an update on the plan checking fee when more information is available.	RF/RF
LR to talk to provider to further explain the blasting process to the CCC.	LR
LR to check when the last planting.	LR
LR to discuss actions in the Umwelt report for bench 2 and 3 with landscape team to improve the soil and plant more trees.	LR
LR to pass on to Geoff to remove pampas grass and general weed control.	LR

Attachments

1. Daracon presentation

Minutes

BUTTAI QUARRY COMMUNITY CONSULTATIVE COMMITTEE

9am to 12noon, Friday 14 October 2022

Kurri Kurri Community Centre, 251 Lang Road, Kurri Kurri

Invitees

Janet Murray	Community Representative
Terry Lewin	Community Representative
Colin East	Community Representative
Cr Rosa Grine	Cessnock City Councillor
Cr Mitchell Hill	Cessnock City Councillor (alternate)
Richard Forbes	Cessnock City Council
Luke Robinson	Daracon
John Canon	Daracon
Kate Baartz	Independent Chairperson (Baartz & Co)

Agenda items

1. Welcome, acknowledgement and apologies
2. Minutes from April 2022 meeting
Minutes were adopted as final.
3. Actions arising from previous minutes

Action	Status
1. KB to edit to minutes and provide to LR for website. Item complete, no discussion	Complete
2. LR to incorporate edits noted in the draft minutes from the April 2022 meeting into the Annual Report. Item completed, no discussion	Complete
3. RF to confirm Councillor representatives to KB. KB to send on the CCC. Item completed, no discussion	Complete
4. LR to provide an update on the plan checking fee when more information is available. Item was discussed at Extraordinary meeting in August 2022, no further discussion.	Complete
5. LR to talk to provider to further explain the blasting process to the CCC. Item included in Daracon presentation, see notes below	Complete
6. LR to check when the last planting was. Item complete, no discussion	Complete
7. LR to discuss actions in the Umwelt report for bench 2 and 3 with landscape team to	Complete

<p>improve the soil and plant more trees.</p> <p>Item included as part of Daracon presentation, CE requested more information about the number and variety of plants. Advice was given that there were 25 plants and that the advice from Umwelt was followed in completing the plantings. The site visit will demonstrate the plantings and progress.</p>	
<p>8. LR to pass on to Geoff to remove pampas grass and general weed control.</p> <p>Ongoing and intermittent given the resources and weather.</p>	Complete

4. Daracon presentation

Blasting

Provided an explanation on blast trigger levels on behalf of the blasting Contractor (Precision Drill and Blast). See notes in presentation. Trigger level set to filter out general day to day vibration but well below the maximum allowable levels for ground vibration and over-pressure.

There was discussion around the triggers levels, TL suggested dropping the level of the trigger to demonstrate the equipment is working and JM suggested maybe incrementally dropping it down.

Action: LR to ask the blasting contractor to advise what the trigger level is set at and see if the calibration level can be included in reporting

Operations

It is busy as long as weather is kind. There have been six blasts to date and the site is well managed from an environmental perspective. There were minor actions from resource regulator.

Items flagged included

- an air quality spike on Buttai Barn 3 monitor during August – there was a bonfire right next to the monitor
- noise monitoring three monthly
- there has been a few recent instances of trespassing from the George Booth Drive access, people have cut through gate and taken fuel
- motorbikes also an issue, noticeable increase the last two weekends

There was discussion around different options to address the trespassing and anti-social behaviour including

- the need to report if you hear anything
- installing more CCTV cameras
- issues on old Buttai Road with a burnt out car and trailer
- authority responsible for appropriately managing used tyres (MTA and EPA)
- management controls as part of the new road
- the importance of recording number plates if you see vehicles doing the wrong thing, example included a Cleanaway truck not truck and dogs, and reporting to LR to investigate

{Post meeting note – JM contacted LR on the 20 October to inform us that the Cleanaway truck used Lings Rd again. LR immediately contacted Cleanaway and they informed their driver of the correct way to enter and leave the quarry site without using Lings Rd. LR informed JM of such – Complete.}

JM advised there is a new RID (Regional Illegal Dumping) officer at Cessnock City Council, Carrie Barrett and JM will pass on LR contact details.

Action: JM to provide LR contact details for new RID officer.

Planting on bench three

Tubestock and advanced planting have been done in this location previously and tubestock fares better on this part of the site. Daracon have replanted species that have thrived. Discussion included

- potentially planting more rows of trees in the problematic area given the screening process takes such a long time

It was generally agreed that the majority of bench three has good vegetation coverage with some small areas still under active rehabilitation as described in the Daracon presentation.

RRF update

RF advised that traffic committee will need to sign off the Old Buttai Rd design.

TL explained there has never been any formal design for the Old Buttai Road, that why it's of interest now

There was discussion about altering the road alignment but agreement that removing vegetation to change the road alignment is not the right course of action.

The Daracon presentation also includes this information.

Increase truck movements

Daracon have engaged a planner from SLR Consulting to progress the approvals. The recommended approach is to submit a stand-alone development application, which is time limited. A traffic impact assessment is underway. There is no indication of timing for submitting and assessing the DA yet but demand for product is still high and there was no end in sight.

Discussion around it might not be a temporary solution, it might be the increase in the demand. There is a significant time lag on all fronts of the supply chain. You can't build modern infrastructure without quarries, discussion around quarry operations.

RF suggested that the advice from Traffic Committee was that the DA needed to keep the truck movements under the yearly limits, which is consistent with Daracon's proposed actions.

There was discussion around DA lodged for neighbouring quarry site. Early days for application RF advised Councillors to have a good look. Also explained disused coal seams on site. Council has a long standing resolution about not accepting waste from outside the area.

5. General business

The next meeting will be held in April 2023.

6. Site visit

Visit to site included a discussion around the bench plantings, particularly the section visible from John Renshaw Drive. CCC was escorted to the bench on foot due to muddy site conditions.

JM suggested top down plantings of Happy Wanderer and Dusky Coral Pea which are naturally occurring in the area.

LR explained the different areas of the site and what the materials were used for including a substantial amount for the Astra Street remediation project.

Action: LR to discuss top down plantings with landscape team.

Actions arising

Action	Responsibility	Status
Ask the blasting contractor to advise what the trigger level is set at and see if the calibration level can be included in reporting	LR	In progress
Provide LR contact details for RID officer.	JM	Complete
Discuss top down plantings with landscape team.	LR	In progress

Attachments

Daracon presentation

[Meeting share file](#)

Appendix 3 2022 Community Complaints Register

2022 Complaint Register

<i>Date received</i>	<i>Complaint was received regarding?</i>	<i>Complaint was received from?</i>	<i>Buttai Gravel response</i>	<i>Buttai Gravel action following complaint</i>	<i>Closed out (Y/N)</i>
NIL					

Appendix 4 Vegetation Report

Our Ref: 23047_R01_Buttai Quarry 2022_Annual Rehabilitation Inspection_V1

16 December 2022

Luke Robinson
Systems Manager – Construction Materials
Daracon
20 Kullara Close
Beresfield NSW 2322

E| Luke.Robinson@daracon.com.au

Dear Luke

RE: Buttai Quarry 2022 Annual Rehabilitation Inspection

Umwelt (Australia) Pty Limited (Umwelt) was commissioned by Daracon Group (Daracon) to undertake the 2022 annual monitoring for the rehabilitation areas at Buttai Quarry, John Renshaw Drive, Buchanan. Six areas were subject to inspection in this monitoring event, of which, four sites have been monitored previously. All established rehabilitated areas appeared to be in moderate to good health. Lot 76 East and West continue to exhibit high diversity and growth, while Bench #2 and #3 exhibit slower growth.

1.0 Methods

The site inspection was undertaken over one day (2 December 2022) by a suitably qualified Ecologist and involved visual walkover inspection of the plantings within the Bench #2 and Bench #3 rehabilitation areas and Lot 76 eastern rehabilitation area and Lot 76 western rehabilitation area. At these last two sites, recent extension of the quarry towards the north has resulted in extension of the rehabilitated bunds northwards from the existing rehabilitation. These new sites have been included for comment in this report. A walking traverse of each rehabilitated area was undertaken, with notes made on the following:

- Rapid vegetation assessment (dominant species in each stratum)
- High threat weed presence
- Condition and health, and
- Fauna utilisation.

Management recommendations have also been made where appropriate. All geographic co-ordinates in this report are provided in GDA94 MGA56 format.

**Umwelt (Australia)
Pty Limited**

ABN 18 059 519 041

T| 1300 793 267
E| info@umwelt.com.au

www.umwelt.com.au

2.0 Results

Table 2.1 Lot 76 Western Rehabilitation (South End)


Site Name	Lot 76 Western Rehabilitation (South End)	
Form	Linear strip on bund	
Adjoining Native Vegetation?	Yes, to west	
Establishment Date	2017	
Monitoring Point Co-ordinates	365151, 6365644	
High Threat Weeds Present	Lantana (<i>Lantana camara</i>) encroaching from adjoining native vegetation.	
Other Exotics	Some fleabane (<i>Conyza</i> sp.) and spear thistle (<i>Cirsium vulgare</i>).	
General Description	Linear area of rehabilitated forest that occurs between access road at the top of quarry, and remnant vegetation. Quarrying is planned to continue to the north-east of this area and the bund has been extended to the north (see following table). This area has regenerated from stripped topsoil and displays high diversity.	
Canopy Description	Height 1.5 – 7.5m. Canopy is dense, dominated by spotted gum (<i>Corymbia maculata</i>), with occurrences of grey gum (<i>Eucalyptus punctata</i>), smooth-barked apple (<i>Angophora costata</i>), narrow-leaved ironbark (<i>Eucalyptus crebra</i>) and red ironbark (<i>Eucalyptus fibrosa</i>).	
Mid-storey/Shrub Layer Description	Height 0.5 – 3m. Mid-storey/shrub layer is diverse, dominated with Acacias such as green wattle (<i>Acacia decurrens</i>), silver-stemmed wattle (<i>Acacia parvipinnula</i>) and sickle wattle (<i>Acacia falcata</i>). A diverse array of smaller shrubs such as coffee bush (<i>Breynia oblongifolia</i>), slender rice flower (<i>Ozothamnus diosmifolius</i>), Australian indigo (<i>Indigofera australis</i>) and spiny bush-pea (<i>Pultenaea spinosa</i>) also occur.	
Ground Cover Description	Height 0.1 – 1m. Ground cover is somewhat sparse in areas with a dense canopy layer, however is being colonised by exotic pasture grasses such as slender pigeon grass (<i>Setaria parviflora</i>), Rhodes grass (<i>Chloris gayana</i>) and Phalaris (<i>Phalaris aquatica</i>) in areas where the canopy is thinner. Present leguminous species include purple coral pea (<i>Hardenbergia violacea</i>), dusky coral pea (<i>Kennedia rubicunda</i>) and variable glycine (<i>Glycine tabacina</i>).	
Health and Condition	This area is generally in good health, and with a defined structure. <i>Acacia</i> dieback is accelerating; however this is to be expected at the five-year mark since the rehabilitated area was established as <i>Acacia</i> species generally have a short lifespan. A large amount of <i>Acacia</i> seed was seen on the ground and this will facilitate the growth of the next generation of Acacias. A small number of spotted gums had fallen over, it is unsure whether this was from dieback associated with overcrowding (which is a natural self-thinning process) or perhaps a result of soil instability due to the high level of rainfall experienced in 2022. Evidence of fruiting, recruitment and new growth for both mid-storey and canopy species is also present. No substantial erosion was noted in this area.	
Fauna Utilisation	An array of small woodland birds were seen and heard in the area.	
Management Recommendations	Continue to use stripped topsoil for rehabilitation in the future. Continue to monitor canopy species that have fallen over.	

Table 2.2 Lot 76 Western Rehabilitation (North End)


Site Name	Lot 76 Western Rehabilitation (North End)	
Form	Linear strip on bund	
Adjoining Native Vegetation?	Yes, to west	
Establishment date	2022	
Monitoring Point Co-ordinates	365271, 6365707	
High Threat Weeds Present	Nil	
Other Exotics	Sow thistle (<i>Sonchus oleracea</i>), <i>Conyza</i> sp., cobbler's pegs (<i>Bidens pilosa</i>), spear thistle (<i>Cirsium vulgare</i>).	
General Description	Recently shaped bund that forms an extension of Lot 76 Western Rehabilitation (Southern End) towards the north. Bund has been shaped and seeded with a native shrub and tree mix that includes a cover crop of perennial rye grass (<i>Lolium perenne</i>). Stripped topsoil has also been used over the bund.	
Canopy Description	Nil.	
Mid-storey/Shrub Layer Description	Height to 0.3m. <i>Acacia</i> spp. and <i>Pultenaea</i> spp. starting to emerge.	
Ground Cover Description	Height 0.1 – 0.5m. Dominated by the exotic species perennial rye grass (<i>Lolium perenne</i>), with some natives including paddock lovegrass (<i>Eragrostis leptostachya</i>), Indian weed (<i>Sigesbeckia orientalis</i>) and purple coral pea (<i>Hardenbergia violacea</i>).	
Health and Condition	The rehabilitated bund is well vegetated with the rye grass cover crop. Soil is holding well, and no erosion was observed.	
Fauna Utilisation	Nil observed.	
Management Recommendations	Nil for this area. Continue to use stripped topsoil for rehabilitation in the future.	

Table 2.3 Lot 76 Eastern Rehabilitation (South End)


Site Name	Lot 76 Eastern Rehabilitation (South End)	
Form	Linear strip on bund	
Adjoining Native Vegetation?	Yes, to east	
Establishment date	Prior to 2017	
Monitoring Point Co-ordinates	365131, 6365262	
High Threat Weeds Present	Lantana (<i>Lantana camara</i>) encroaching from adjoining native vegetation, some pampas grass (<i>Cortaderia selloana</i>) at the northern end and golden wreath wattle (<i>Acacia saligna</i>) at southern end.	
Other Exotics	Fleabane (<i>Conyza</i> sp.), purpletop (<i>Verbena bonariensis</i>), cobbler's pegs (<i>Bidens pilosa</i>) and Paddy's Lucerne (<i>Sida rhombifolia</i>).	
General Description	Linear area of rehabilitated forest adjoining remnant vegetation at the eastern edge of the quarry. The southern half of the rehabilitated bund has a dense canopy, while the northern half has a more open canopy.	
Canopy Description	Height 2 – 7m. Canopy is mid-dense, dominated by grey gum (<i>Eucalyptus punctata</i>), spotted gum (<i>Corymbia maculata</i>) and red ironbark (<i>Eucalyptus fibrosa</i>).	
Mid-storey/Shrub Layer Description	Height 0.5 – 4m. Mid-storey is dominated with Acacias such as green wattle (<i>Acacia decurrens</i>), silver-stemmed wattle (<i>Acacia parvipinnula</i>) and sickle wattle (<i>Acacia falcata</i>). An emerging layer of native rosella (<i>Hibiscus heterophyllus</i>) is appearing either from the seed bank or natural recruitment from adjacent remnant vegetation. Gorse bitter pea (<i>Daviesia ulicifolia</i>) is also colonising the lower shrub layer.	
Ground Cover Description	Height 0.1 – 1m. Ground cover is generally dominated by exotic pasture species such as pigeon grass (<i>Setaria sphacelata</i>), kikuyu (<i>Cenchrus clandestinus</i>) and guinea grass (<i>Megathyrsus maximus</i>) in areas where the canopy is sparser. There is more native ground cover this year, with species such as tussock grass (<i>Poa labillardierei</i>), fishweed (<i>Einadia trigonos</i>) and whiteroot (<i>Lobelia purpurascens</i>). Some leguminous species are present, such as purple coral pea (<i>Hardenbergia violacea</i>), dusky coral pea (<i>Kennedia rubicunda</i>) and variable glycine (<i>Glycine tabacina</i>).	
Health and Condition	This area is generally in good health, and with a defined structure. There appears to be a minor level of insect attack that is affecting the health of the area to a small degree. Some <i>Acacia</i> individuals are senescing; however, many were fruiting at the time of survey and there is an abundance of seed in the area. No substantial erosion was recorded in the area.	
Fauna Utilisation	An array of small woodland birds were seen and heard in the area, along with macropod scats. Large ant nests were recorded, and these will promote bioturbation of the soil.	
Management Recommendations	Weed control measures recommended for the high threat weeds (<i>Lantana camara</i> , <i>Cortaderia selloana</i> and <i>Acacia saligna</i>) in the area. Previous weed spraying of pampas grass was successful however more have taken hold toward the northern end of the bund.	

Table 2.4 Lot 76 Eastern Rehabilitation (North End)


Site Name	Lot 76 Eastern Rehabilitation (North End)	
Form	Linear strip on bund	
Adjoining Native Vegetation?	Yes, to east	
Establishment date	2022	
Monitoring Point Co-ordinates	365254, 6365426	
High Threat Weeds Present	Nil	
Other Exotics	Nil	
General Description	Newly shaped bund that forms an extension of Lot 76 Eastern Rehabilitation (South End) to the north. This area is due for rehabilitation.	
Canopy Description	Nil	
Mid-storey/Shrub Layer Description	Nil	
Ground Cover Description	Nil	
Health and Condition	N/A – no vegetation as yet.	
Fauna Utilisation	Nil	
Management Recommendations	Recommend addition of stripped topsoil and seeding with native species as per other rehabilitated areas as soon as possible. If left bare for too long, it is likely that exotic species will colonise the area.	

Table 2.5 Bench #2 (Upper Bench)



Site Name	Bench #2 (Upper Bench)	
Form	Linear strip along bench	
Adjoining Native Vegetation?	No direct adjoining vegetation.	
Establishment date	2013	
Monitoring Point Co-ordinates	364974, 6365205	
High Threat Weeds Present	Golden wreath wattle (<i>Acacia saligna</i>) towards the northern entrance to the bench, fireweed (<i>Senecio madagascariensis</i>).	
Other Exotics	Balloon cotton (<i>Gomphocarpus fruticosus</i>) red natal grass (<i>Melinis repens</i>) and purpletop (<i>Verbena bonariensis</i>).	
General Description	Strip of planted vegetation along upper bench of southern side of the quarry. Growth pattern is slightly patchy, with some sparse areas and others densely vegetated. Bench faces north-west and is very exposed, particularly to mid-afternoon sun.	
Canopy Description	Height 1 – 6m. Canopy is open and is dominated by grey gum (<i>Eucalyptus punctata</i>), spotted gum (<i>Corymbia maculata</i>), forest she-oak (<i>Allocasuarina torulosa</i>) and swamp mahogany (<i>Eucalyptus robusta</i>).	
Mid-storey/Shrub Layer Description	Height 0.5 – 4m. Mid-storey is dominated by Acacias such as green wattle (<i>Acacia decurrens</i>), swamp wattle (<i>Acacia elongata</i>) and sickle wattle (<i>Acacia falcata</i>). Large-leaf bush pea (<i>Pultenaea daphnoides</i>) and spiny bush-pea (<i>Pultenaea spinosa</i>) are emerging from the seed bank.	
Ground Cover Description	Height 0.1 – 1m. Ground cover is sparse, comprising exotic species such as lamb's tongues (<i>Plantago lanceolata</i>), Rhodes grass (<i>Chloris gayana</i>) and natives such as two-colour panic (<i>Panicum simile</i>). The ground cover becomes extremely sparse towards the southern end of the bench where exposure is greatest.	
Health and Condition	Canopy exhibiting signs of active growth. Some Eucalypts with mistletoes, and a high proportion of the canopy and mid-storey species are flowering and fruiting. Ground texture is extremely rocky, and it is possible that the soil profile may be hindering the growth of the rehabilitation. There is a large and prominent erosion rill at the far west end of the bench, however this is a known issue and is being stabilised by <i>Acacia</i> species.	
Fauna Utilisation	Macropod scats present.	
Management Recommendations	Weed control of <i>Acacia saligna</i> is recommended. If surplus stripped topsoil is available, it would be worthwhile spreading on some of the sparser areas along Bench #2 to promote growth. Mulch may be another alternative to help retain moisture and build a soil profile.	

Table 2.6 Bench #3 (Lower Bench)

Site Name	Bench #3 (Lower Bench)	
Form	Linear strip along bench	
Adjoining Native Vegetation?	No direct adjoining vegetation.	
Establishment date	2015 (additional plantings in 2016, 2018, 2020 and 2022).	
Monitoring Point Co-ordinates	364935, 6365195	
High Threat Weeds Present	Golden wreath wattle (<i>Acacia saligna</i>) towards the northern entrance to the bench, fireweed (<i>Senecio madagascariensis</i>).	
Other Exotics	Balloon cotton (<i>Gomphocarpus fruticosus</i>), red natal grass (<i>Melinis repens</i>), Paddy's lucerne (<i>Sida rhombifolia</i>), Conyza sp. and purpletop (<i>Verbena bonariensis</i>).	
General Description	Strip of planted vegetation along upper bench of southern side of the quarry. Growth pattern is quite patchy. Bench faces north-west and is very exposed, particularly to mid-afternoon sun. Supplementary plantings of mulched tubestock made in 2022 have had an 87% success rate.	
Canopy Description	Height 1 – 5m. Canopy is open and of lower height than the plantings on Bench #2. The canopy is dominated by grey gum (<i>Eucalyptus punctata</i>), spotted gum (<i>Corymbia maculata</i>), narrow-leaved ironbark (<i>Eucalyptus crebra</i>) and rough-barked apple (<i>Angophora floribunda</i>).	
Mid-storey/Shrub Layer Description	Height 1– 3m. Sparse mid-storey dominated with Acacias such as green wattle (<i>Acacia decurrens</i>) and sickle wattle (<i>Acacia falcata</i>), with some hickory wattle (<i>Acacia implexa</i>). A high number of species are flowering and producing seed.	
Ground Cover Description	Height 0.1 – 1m. Ground cover is patchy, with a variety of both native and exotic species. These include Rhodes grass (<i>Chloris gayana</i>), kidney weed (<i>Dichondra repens</i>), lamb's tongues (<i>Plantago lanceolata</i>) and couch (<i>Cynodon dactylon</i>).	
Health and Condition	Rehabilitation is very patchy and the canopy continues to exhibit some noticeable gaps. Plantings in these gaps have been largely successful, though growth has been slow given the exposed western aspect of the bench. Older tubestock is doing well, however some of the newer tubestock have been browsed by grazing mammals. Some mistletoes are present in Eucalypt species, and most canopy species were showing signs of active growth.	
Fauna Utilisation	Woodland birds observed in the area, macropod scats recorded.	
Management Recommendations	Continue to monitor the success of plantings. Weed control of <i>Acacia saligna</i> is recommended. Further management recommendations for this bench are outlined in Section 3.1 .	

3.0 Management Recommendations

The rehabilitated areas at Buttai Quarry appear to be largely in good health and marginally improved from 2021 in terms of active growth and diversity. The extra plantings in Bench #3 appear to have a high survival rate, though will likely continue to have a slow growth rate due to the exposed conditions of the bench. Regeneration has historically been most prolific in Lot 76 Eastern Rehabilitation (South End) and Lot 76 Western Rehabilitation (South End), and this is likely due to the natural stripped topsoil that was spread on the rehabilitated areas. These areas are starting to naturally self-thin and move towards a density that is closer to that of a natural forest.

Future management recommendations include:

- The 2023 monitoring event should continue to utilise fixed photo monitoring points for future comparison.
- Some occurrences of lantana (*Lantana camara*) were recorded in Lot 76 Western Rehabilitation (South End) and Lot 76 Eastern Rehabilitation (South End), golden wreath wattle (*Acacia saligna*) on Lot 76 Eastern Rehabilitation (South End), Bench #2 and #3, and pampas grass (*Cortaderia selloana*) on Lot 76 Eastern Rehabilitation (South End). It is recommended that these infestations are controlled while they are small.
- The exposed bund at Lot 76 Eastern Rehabilitation (North End) should be rehabilitated as soon as possible to avoid interim colonisation by undesirable exotic species.
- Stripped topsoil should be used on future rehabilitation areas, where possible. The existing rehabilitation areas that have used this method have retained much more native and diverse understorey than the areas that have not had natural topsoil spread.

3.1 Bench #3 Management Recommendations

It is noted that the rehabilitation on Bench #3 has historically seen low performance in terms of vegetation establishment and growth due to its exposed aspect. This bench remains an issue in terms of visual amenity, as the bench is visible from John Renshaw Drive and the surrounding community. The exposed rocky slope behind the plantings on Bench #3 are visible through gaps in the plantings towards the centre of this bench (see **Photo 3.1**). Minutes from a recent Buttai Quarry Community Consultative Committee meeting (Buttai Quarry Community Consultative Committee 2022) show that the visibility of this exposed section of bench are a community concern, and that “top-down” plantings were put forward as a suggestion. This would involve planting climbing or scrambling plants at the lip of the upper bench (Bench #2) so that the plants could colonise and cover the exposed rocky slope behind the plantings on Bench #3 and form a “green wall” for better visual amenity.

The planting of native scrambling plants to cover the exposed rocky slope is a potential mitigation measure for this issue, however the success of this strategy cannot be predicted. There are existing plants on this site that have been observed colonising rocky slopes (see **Photo 3.2** for example), such as purple coral pea (*Hardenbergia violacea*), dusky coral pea (*Kennedia rubicunda*) and variable glycine (*Glycine tabacina*), however these were observed on slopes that had more shade and protected than that found at Bench #3. It is unknown how these plants would fare in the proposed location. If this mitigation measure is chosen, planting the tubestock with mulch and/or topsoil will increase chances of survival.



Photo 3.1 Exposed rocky slope behind plantings on Bench #3 (seen in foreground)



Photo 3.2 *Hardenbergia violacea*, *Kennedia rubicunda* and *Glycine tabacina* colonising rocky slope at Lot 76 Eastern Rehabilitation (South End)

Alternative options to help progress the visual screening of this area could include planting extra rows of tubestock or seeding the area with *Acacia* species such as *A. decurrens*, *A. parvipinnula*, *A. falcata* and *A. implexa*, which are fast-growing and may provide more vegetative screening in terms of both width and height.

4.0 Conclusion

We trust this information meets with your current requirements. Please do not hesitate to contact me on 0436 626 231 should you require clarification or further information.

Yours sincerely

A handwritten signature in blue ink, appearing to read 'Amber Wilson'.

Amber Wilson
Senior Ecologist

5.0 References

Buttai Quarry Community Consultative Committee (2022) 'Item 6: Site Visit'. *Minutes of Buttai Quarry Community Consultative Committee meeting*, 14 October 2022, Kurri Kurri Community Centre, 251 Lang Rd Kurri Kurri.

Appendix 5 Images of Quarry

Panoramic image of Buttai Quarry (operational quarry face in the foreground) – March 2022



Panoramic image of Buttai Quarry - December 2022



Rehabilitation images of the quarry (Lings Rd and quarry site) – May 2022

Rehabilitation images of the quarry (Lings Rd and quarry site) – November 2022

Buttai Quarry Bench #2 and #3 rehabilitation – March 2022***Buttai Quarry Bench #2 rehabilitation – December 2022***

Buttai Quarry stockpile area – March 2022***Buttai Quarry operational pit area – December 2022***

Aerial photograph of Buttai Quarry – December 2022

Aerial photograph of Buttai Quarry – December 2021

Aerial photograph of Buttai Quarry – September 2020

Aerial photograph of Buttai Quarry – December 2019

Aerial photograph of Buttai Quarry – December 2018

Aerial photograph of Buttai Quarry – December 2017

Aerial photograph of Buttai Quarry – January 2017

Aerial photograph of Buttai Quarry – November 2015

Aerial photograph of Buttai Quarry – September 2014

Appendix 6 Annotated quarry layout image

