

ANNUAL REVIEW

for the period
1 July 2019 to 30 June 2020

FINAL

September 2020



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for the period
1 July 2019 to 30 June 2020

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Prepared by
Umwelt (Australia) Pty Limited
on behalf of
Walker Quarries Pty Ltd

Project Director: Alex Irwin
Project Manager: Alex Irwin
Report No. 4433/R14
Date: September 2020



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Document Status

Rev No.	Reviewer		Approved for Issue	
	Name	Date	Name	Date
V1	Alex Irwin	28 September 2020	Johann van der Merwe (Walker Quarries)	30 September 2020

TITLE BLOCK


Name of operation	Wallerawang Quarry
Name of operator	Walker Quarries Pty Ltd
Development consent/project approval #	DA 344-11-2001
Name of holder of development consent/project approval	Walker Quarries Pty Ltd
Mining Lease #	ML 1633
Name of holder of mining lease	Walker Quarries Pty Ltd
Water licence #	N/A
Name of holder of water licence	N/A
MOP/RMP start date	20 July 2020
MOP/RMP end date	19 July 2025
Annual Review start date	1 July 2019
Annual Review end date	30 June 2020
<p>I, Johann van der Merwe, certify that this audit report is a true and accurate record of the compliance status of the Wallerawang Quarry for the period 1 July 2019 to 30 June 2020 and that I am authorised to make this statement on behalf of Walker Quarries Pty Ltd.</p> <p><i>Note</i></p> <p>a) The Annual Review is an 'environmental audit' for the purposes of section 122B(2) of the Environmental Planning and Assessment Act 1979. Section 122E provides that a person must not include false or misleading information (or provide information for inclusion in) an audit report produced to the Minister in connection with an environmental audit if the person knows that the information is false or misleading in a material respect. The maximum penalty is, in the case of a corporation, \$1 million and for an individual, \$250,000.</p> <p>b) The Crimes Act 1900 contains other offences relating to false and misleading information: Section 192G (Intention to defraud by false or misleading statement – maximum penalty 5 years imprisonment); Section 307A, 307B and 307C (false or misleading application/information/documents – maximum penalty 2 years imprisonment or \$22,000, or both).</p>	
Name of authorised reporting officer	Johann van der Merwe
Title of authorised reporting officer	Mine Manager
Signature of authorised reporting officer	
Date	30 September 2020

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Appendix 3	Noise Monitoring Assessments – September 2019 & March 2020
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Appendix 5	Minutes of Wallerawang Quarry Community Consultative Committee
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1.0 Statement of Compliance

The Statement of Compliance comprises **Table 1.1** and **Table 1.2** below and reflects the non-compliance that occurred as a result of activities during the reporting period.

Table 1.1 Statement of Compliance

Were all conditions of the relevant approval(s) complied with?	Yes/No
DA 344-11-2001	No
ML 1633	Yes
EPL 13172	No

Table 1.2 Non-compliances

Condition	Condition Description (summary)	Compliance Status	Comment	Section Where Addressed
DA 344-11-2001 Schedule 3 Condition 11/12	The Applicant must ensure that particulate matter emissions generated by the development do not cause exceedances of the criteria in Table 4	ANC	The Air Quality Management Plan (AQMP), approved by the Secretary, only provides for monitoring of deposited dust in accordance with Australian Standards and Approved Methods (DEC, 2005) with monitoring of PM ₁₀ and TSP to be undertaken should dust deposition results indicate the rolling annual average >4g/m ² /month.	Section 6.5 Section 11.3
DA 344-11-2001-MOD3 Schedule 3 Condition 11		ANC		
DA 344-11-2001 Schedule 3 Condition 14	The Applicant must implement the approved Air Quality Management Plan.	ANC	The Air Quality Management Plan requires dust deposition monitoring to be undertaken in accordance with AS/NZS 3580.10.1:2003. The monitoring period prescribed in this standard is 30 +/- 2 days. On four occasions the monitoring period was outside this standard.	Section 6.5 Section 11.3
EPL 13172 Condition M4.1	Sigma Theta is required to be monitored by the Quarry Weather Station	ANC	All required parameters except Sigma Theta are measured at the meteorological station.	Section 6.2 Section 11.3
EPL 13172 Condition R1.5	The Annual Return for the reporting period must be supplied to the EPA no later than 60 days after the end of the reporting period.	ANC	The Annual Return was received by the EPA on 7 January 2020. This is more than 60 days after the end of the reporting period (20 October 2019).	Section 11.3

Table 1.3 Compliance Status Key

<i>Risk Level</i>	<i>Colour Code</i>	<i>Description</i>
<i>High</i>	<i>Non-compliant</i>	<i>Non-compliance with potential for significant environmental consequences, regardless of the likelihood of occurrence.</i>
<i>Medium</i>	<i>Non-compliant</i>	<i>Non-compliance with:</i> <ul style="list-style-type: none"> <i>Potential for serious environmental consequences, but is unlikely to occur; or</i> <i>Potential for moderate environmental consequence but is likely to occur.</i>
<i>Low</i>	<i>Non-compliant</i>	<i>Non-compliance with:</i> <ul style="list-style-type: none"> <i>Potential for moderate environmental consequences, but is unlikely to occur; or</i> <i>Potential for low environmental consequences but is likely to occur.</i>
<i>Administrative non-compliance</i>	<i>Non-compliant</i>	<i>Only to be applied where the non-compliance does not result in any risk of environmental harm (e.g. submitting a report to government later than required under approval conditions).</i>

2.0 Introduction

2.1 Scope and Format

This Annual Review has been prepared for the Wallerawang Quarry (the Quarry) in accordance with the requirements of Condition 5(12) of Development Consent DA 344-11-2001 (DA 344-11-2001). The Quarry is operated by Walker Quarries Pty Ltd (Walker Quarries), a wholly owned subsidiary company of Sitegoal Pty Ltd, and is located approximately 8 kilometres (km) north-west of Lithgow (**Figure 2.1**). This report documents the works undertaken and environmental performance from 1 July 2019 to 30 June 2020 (the reporting period).

DA 344-11-2001 was granted by the Minister for Infrastructure and Planning on 19 October 2004, and was modified (MOD 1) on 25 August 2017 to regularise several constructed components of the Quarry and formalise the approval of production of a more extensive range of quarry products. On 7 December 2018, DA 344-11-2001 was modified (MOD 2) to extend the operation of the Quarry to 15 July 2020. On 26 February 2020, DA 344-11-2001 was modified again, to extend the extraction area and increase the area available for stockpiling to the south-west and south of the Western Stockpile Area. This modification (MOD 3) extends the operation of the Quarry to 15 July 2040.

A copy of Schedule 5 of DA 344-11-2001-MOD 2 (in force from 1 July 2019 to 25 February 2020) and Schedule 5 of DA 344-11-2001-MOD 3 (in force from 26 February 2020) is provided in **Appendix 1**. Condition 5(11) of Development Consent DA 344-11-2001-MOD 3 is reproduced below.

“By the end of September in each year [after the commencement of development](#), or other [timeframe](#) agreed by the Secretary, [a report must be submitted](#) to the Department reviewing the environmental performance of the development, to the satisfaction of the Secretary. This review must:

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

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

- relevant statutory requirements, limits or performance measures/criteria;*
- requirements of any plan or program required under this consent;*
- monitoring results of previous years; and*
- relevant predictions in the documents listed in condition 2(c) of Schedule 2;*

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

d) [evaluate and report on](#):

- [the effectiveness of the noise and air quality management systems; and](#)*

- compliance with the performance measures, criteria and operating conditions of this consent;

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

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

*g) describe what measures will be implemented over the **next** financial year to improve the environmental performance of the development."*

Condition 5(11) replaces and updates Condition 5(12) of DA 344-11-2001-MOD 2 (which can be reviewed in **Appendix 1**). The text in **blue** above represents the additional requirements following modification to DA 344-11-2001 approved on 26 February 2020.

The information presented within this Annual Review has been prepared based on information compiled by Umwelt (Australia) Pty Limited (Umwelt) and provided by Walker Quarries, as well as an inspection of the Quarry undertaken by Umwelt (Australia) Pty Limited (Umwelt) on 30 June 2020. This Annual Review adheres to the format and content requirements identified in the Annual Review Guideline of the Department of Planning, Infrastructure and Environment (DPIE) Post-approval requirements for State significant mining developments dated October 2015. It should also be noted that this Annual Review has been prepared based upon the approval and licencing requirements applicable to both DA 344-11-2001-MOD 2 (between 1 July 2019 to 25 February 2020) and DA 344-11-2001-MOD 3 (from 26 February 2020).

Image Source: Copyright: (c) 2014 Esri Data source: DFSI (2020)

2.2 Walker Quarries

Sitegoal Pty Ltd was formed in 1994 to identify and develop mineral resources in New South Wales. Walker Quarries Directors maintain a hands-on management style and are either Lithgow or Sydney based.

Walker Quarries Pty Ltd was created to carry out mining, processing, transport and other ancillary activities at the Wallerawang Quarry and remains a wholly owned subsidiary of Sitegoal Pty Ltd. Walker Quarries Pty Ltd is committed to operating the Quarry in a manner that complies with relevant environmental legislation and is environmentally responsible.

2.3 Overview of Operations

2.3.1 Approved Activities

The approved activities at the Quarry comprise the following (**Figure 2.2**):

- Development and use of an extraction area to extract quartzite using conventional drill and blast, load and haul methods.
- Construction and use of stockpile areas for storage of extracted and processed material.
- Use of mobile processing plant to process extracted material by crushing, screening and washing, to produce a range of aggregates, pebbles and sand. Crushing to produce coarse aggregates is currently undertaken within the void space created by the extraction area. Washing and screening to produce finer aggregates and sand is undertaken on Main Stockpile Area 1 to the immediate west of the Extraction Area.
- Construction and use of an access road and haul roads, and an intersection with the Great Western Highway.
- Transportation of up to 500 000 t per year of quarry products via the Great Western Highway using predominantly truck and dog and B-Double trucks.

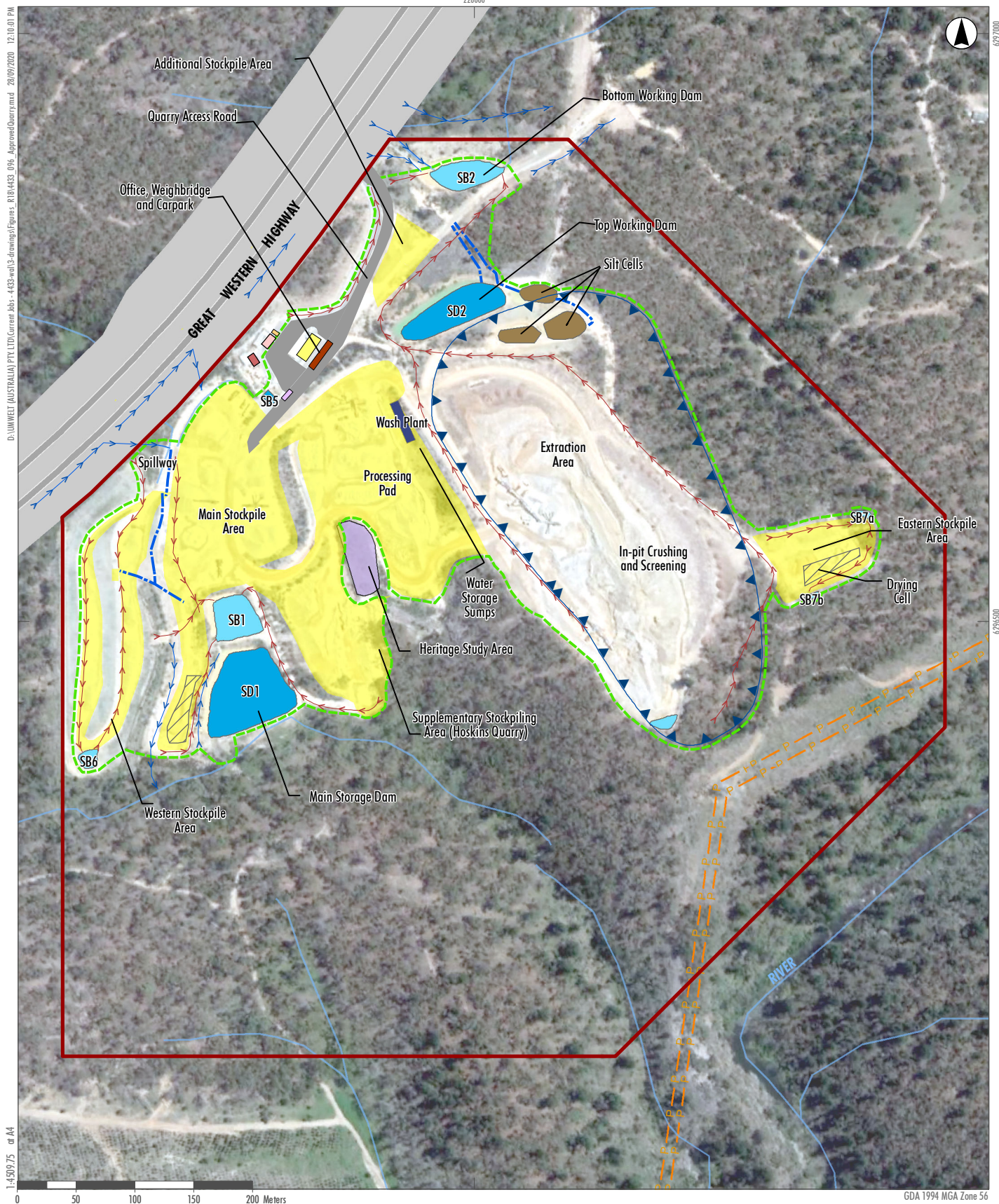
2.3.2 Hours of Operation

The approved hours of operation are outlined in **Table 2.1**.

Table 2.1 Hours of Operation

Activity	Hours
Quarrying operations	<ul style="list-style-type: none"> • 7.00 am to 6.00 pm Monday to Friday • 8.00 am to 1.00 pm Saturday
Loading and dispatch of trucks	Any time, provided activities comply with specified noise criteria
Blasting	<ul style="list-style-type: none"> • 9.00 am to 5.00 pm Monday to Friday • 9.00 am to 1.00 pm Saturday
Maintenance	Any time, provided activities are inaudible at privately-owned residences

All activities during the reporting period were undertaken within the approved hours of operation.



Legend

- | | |
|--|---|
| Quarry Site - ML1633 | Water Storage Sumps |
| Approved Extraction Area | → Clean Water Drain |
| Approved Area of Disturbance | → Dirty water drain |
| Drying Cell | — Water Pipeline |
| Sealed Quarry Access Road and Carparks | — P — Electricity Transmission Lines |
| Stockpile Area | Heritage Study Area |
| Sediment Basin | |
| Silt Cell | |
| Storage Dam | |

FIGURE 2.2

Approved Quarry Site Layout
(DA 344-11-2001-MOD2)

2.3.3 Employment

The Quarry currently employs five management staff and nine equipment operators. Employment is expected to remain the same during the next reporting period.

2.4 Key Personnel Contact Details

The key personnel contact names, position and phone numbers are listed in **Table 2.2**.

Table 2.2 Key Personnel Contact Details

Name	Position	24 Hour Contact
Johann van der Merwe	Mine Manager	0413 784 420
Trevor Hoffman	Operations Manager	0417 663 222
Paul Hensley	Compliance Manager	0418 680 022
David Murray	Managing Director	0418 264 745

2.5 Management of Document Preparation

This document has been prepared by Mrs Cheryl Henriques (B.Eng. (Hons)), Senior Environmental Consultant. The document was reviewed by Mr Alex Irwin (B.Sc. (Hons)), Principal Environmental Consultant, both with Umwelt. Mr Irwin completed the site inspection of 30 June 2020 noted in **Section 2.1**.

Mr Johann Van der Merwe, Quarry Manager and Mr David Murray Managing Director, Walker Quarries, provided technical input and information on Quarry operations and environmental performance during the reporting period. Mr van der Merwe was present during the site inspection and was assisted during the inspection by Mr Irwin.

3.0 Approvals

Table 3.1 presents the approvals and licences held in relation to the Quarry.

Table 3.1 Wallerawang Quarry – Approvals, Leases and Licences

Consent/Lease/Licence	Issue Date	Expiry Date	Details/Comments
Development Approval DA 344-11-2001	19/10/2004 Modified 25/8/2017 (MOD 1) Modified 7/12/2018 (MOD 2) Modified 26/02/2020 (MOD 3)	15/7/2040	Issued by the Minister for Planning
Development Approval DA 019/18	28/2/2018	28/2/2023	Issued by Lithgow City Council for demountable office buildings
Environment Protection Licence EPL 13172	21/10/2012 Last varied 17/7/2018	-	Issued by the Environment Protection Authority
Mining Lease 1633	15/7/2009	15/7/2040	Issued by the Minister for Mineral Resources

As identified in **Table 3.1** and noted in **Section 2.1**, a third modification to the development consent (identified as DA 344-11-2001-MOD3) was issued under delegation by the Minister for Planning on 26 February 2020 to extend the extraction area and increase the area available for stockpiling to the south-west and south of the Western Stockpile Area. The approved modification extends the period of consent to July 2040.

In addition to the approvals and licences listed in **Table 3.1**, Walker Quarries retains a Compensation Agreement with Forestry Corporation of NSW (FC NSW) which allows Walker Quarries to operate within an area of Lidsdale State Forest on Lot 7322 DP1149335 and Lot 7071 DP1201227. In a submission to the proposed modification to DA 344-11-2001 (MOD 3), FC NSW noted no objection to the proposed extension of operations within Lidsdale State Forest, subject to the continuation and enforcement of the existing Compensation Agreement and avoidance of their softwood plantation harvesting operations. Following correspondence sent to FC NSW seeking recommendations and requests relating to the Quarry Bush Fire and Rehabilitation Management Plans, FC NSW sought for inclusion of relevant information in relation to rehabilitation as nominated in the Statement of Environmental Effects submitted to support DA 344-11-2001-MOD 3

Table 3.2 presents the documentation used by Quarry management to guide day-to-day operations at the Quarry. In accordance with *Condition 5(3)* of DA 344-11-2001-MOD 3, all plans were reviewed, revised and re-submitted to the Department of Planning, Industry & Environment (DPIE)¹ in May 2020 following the issue of DA 344-11-2001-MOD 3. As of 30 June 2020, these revised management plans remained to be finalised as additional information was prepared to satisfy initial DPIE review.

¹ The Rehabilitation Management Plan was submitted to the Resources Regulator of DPIE in accordance with the *Condition 3(31)*.

Table 3.2 Quarry Documentation

Document Title (date)	Date Approved
Supporting Documentation for DA 344-11-2001	
Environmental Impact Statement Proposed Wallerawang Quarry (13/11/2001)	19/10/2004
Supplementary Report to the Environmental Impact Statement Proposed Wallerawang Quarry (July 2002)	
Environmental Assessment for Modification to Operations at the Wallerawang Quarry (DA 344-11-2001) (MOD 1) (4/5/2017)	25/8/2017
Statement of Environmental Effects for Proposed Modification No 2 (MOD 2) to DA 344-11-2001 (Wallerawang Quarry) (October 2018)	7/12/2018
Wallerawang Quarry Modification 3 Statement of Environmental Effects (MOD 3) to DA 344-11-2001 (28/6/2018)	26/2/2020
Supporting Documentation for ML 1633	
Mining Operations Plan (incorporating a Rehabilitation Management Plan)	8/5/2018 (extension to term approved on 14/1/2019) ¹
Environmental Management Plans	
Environmental Management Strategy (April 2019)	3/4/2019 ³
Rehabilitation Management Plan (March 2018)	8/5/2018 (extension to term approved on 14/1/2019) ¹
Noise Management Plan (April 2019)	3/4/2019 ⁴
Blast Management and Explosives Control Plan (April 2019)	3/4/2019 ²
Air Quality Management Plan (April 2019)	3/4/2019 ⁴
Biodiversity Management Plan (April 2019)	8/4/2019
Soil and Water Management Plan (April 2019)	3/4/2019
Environmental Monitoring Program (April 2019)	N/A ³
Bushfire Management Plan (February 2019)	6/3/2019 ²
Aboriginal Cultural Heritage Management Plan	N/A ²
Pollution Incident Response Management Plan	15/8/2019

Note 1: The Rehabilitation Management Plan (as the Mining Operations Plan) has been updated and was approved on 7 July 2020

Note 2: An updated version of this plan has been submitted to DPIE and approved on 19 August 2020.

Note 3: An updated version of this plan has been submitted to DPIE and approved on 21 August 2020.

Note 4: An updated version of this plan has been submitted to DPIE and approved on 16 September 2020.

4.0 Operations Summary

4.1 Introduction

Figure 4.1 presents an overview of the Quarry layout at the end of the current reporting period. Operations were undertaken in accordance with the Mining Operations Plan (MOP) in effect over the reporting period (RWC, 2018) with no increase in the total or active disturbance area. **Plate 1** (refer to p. 18) provides an easterly view of the Quarry Site taken from the Western Stockpile Area.

The following sections provide further detail on the activities undertaken over the reporting period, with **Plates 2 to 10** (pp. 18-20) included to provide photographic records where relevant

4.2 Mining Operations

Table 4.1 presents the material movements during the reporting period and the anticipated movements during the next reporting period.

Table 4.1 Production Summary – tonnes

Material	Approved limit (specify source)	Previous reporting period (actual)	This reporting period (actual)	Next reporting period (forecast)
Soil	N/A	0	0	20,000
Overburden	N/A	0	0	40,000
Product (sold and transported off site)	500,000	152,654	208,032	275,000

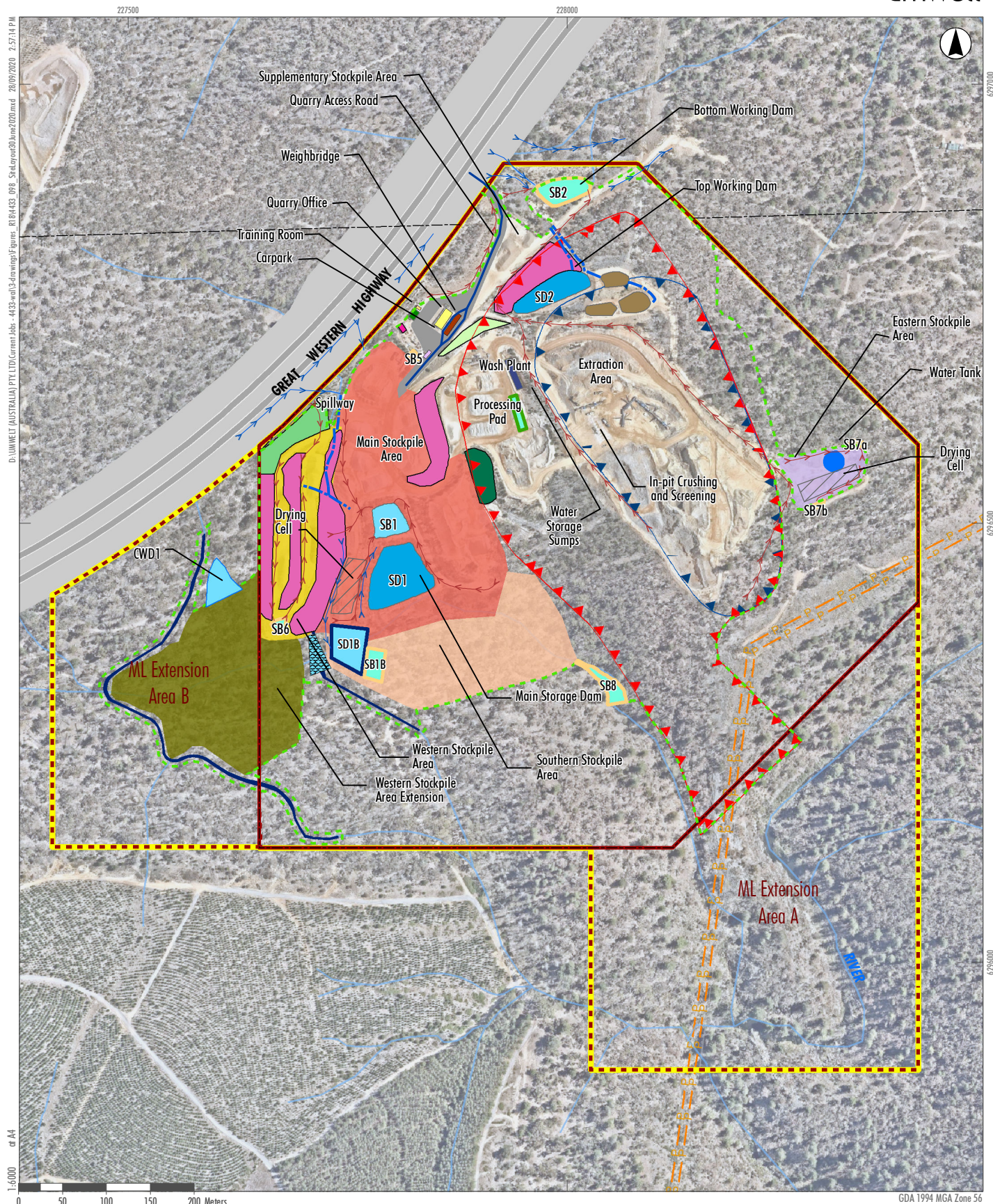
Source: Walker Quarries Pty Ltd

A copy of Form S1 submitted to Mining, Exploration and Geoscience (MEG) during the reporting period is included as **Appendix 2**. It is noted that the Form S1 only reports on the products for which royalties are payable, noting that non-mineral select fill and other rock products were also produced and sold during the reporting period.

In summary production and sales during the reporting period was as follows.

- Quartzite aggregates, road base and gabion/ballast: 70,919 t.
- Manufactured sand: 51,200 t.
- Quartzite pebble: 966 t.
- Non-quartzite select fill and other products: 84,947 t.

A total of five blasts were initiated during the reporting period. **Table 4.2** presents the date and volume of each blast. All blasts were production blasts and occurred within the approved extraction area.



Legend

- | | | | |
|------------------------------------|--|--------------------------------|--------------------------|
| Quarry Site Boundary | Western Stockpile Area | Clean Water Dam | Ecosystem Establishment |
| Quarry Site (ML1633) | Western Stockpile Extension (940m AHD) | Silt Cells | Ecosystem Sustainability |
| Quarry Site ML Extension | Eastern Stockpile Area | Electricity Transmission Lines | |
| EL 4473 | Clean Water Drain | Clean Water Drain | |
| Approved Area of Disturbance | Sediment Basins | Dirty water drain | |
| Proposed Extraction Area | Settlement Ponds | Water Pipeline | |
| Approved Extraction Area | Storage Dam | Decommissioned | |
| Main Stockpile Area (935m AHD) | Water Tank | Landform Establishment | |
| Southern Stockpile Area (935m AHD) | Rock-lined Drain | Growth Medium Development | |

Image Source: Nearmap (2020) Data source: Walker Quarries (2019); Umwelt (2019); NSW LPI DTDB (2019); CEH Survey (November 2016)

FIGURE 4.1

Site Layout
30 June 2020

Table 4.2 Blasting Operations during the Reporting Period

Blast Date	Volume of Blast (tonnes)
15 August 2019	43,129
20 September 2019	52,736
21 January 2020	35,159
12 May 2020	53,420
30 June 2020	27,532
Total	211,976

Source: Walker Quarries Pty Ltd

Walker Quarries and blast contractors implement a continuous improvement protocol for blasting through implementation of the following procedures (which are nominated in the Blast Management Plan).

- Blast energies are minimised as far as possible.
- Electronic detonators are not used at the Quarry at any time.
- Quality control practices are implemented on the ground to ensure blasts are kept within design tolerances.
- Adequate burden is maintained on all faces to prevent blowouts and blast anomalies.
- Blasts are designed to ensure fly-rock, dust and fumes, and the impact/damage to people, property, livestock and infrastructure, are limited as much as reasonably practicable.
- Each blast is monitored to confirm compliance with air blast overpressure and ground vibration criteria.
- Following each blast, the area surrounding the blast location is inspected and fly-rock distribution to the front, rear and both sides of the blast site observed.
- Blast contractors, in conjunction with the Quarry Manager, review blast monitoring records to enable continuous improvement and quality control, resulting in continual development of optimum blast parameters.

Plate 2 (p. 18) identifies the prepared area of the final blast initiated during the reporting period (30 June 2020).

The results of blast monitoring are provided in **Section 6.4.2 (Table 6.8)**.

4.3 Other Operations

4.3.1 Construction Operations

No construction operations were undertaken during the reporting period.

The Construction and Occupation Certificates for the buildings approved under DA 019/18 (issued by Lithgow City Council) were received during the reporting period. Occupation of these buildings commenced during the reporting period.

4.3.2 Processing Operations

The processing operations involve the use of a series of crushers and screens to crush, separate and wash the quartzite into various size aggregates and sands. The development consent does not impose restrictions on the processing equipment which may be used subject to compliance with noise and air emission criteria. Walker Quarries operates two crushing and screening circuits, as well as a washing circuit as follows.

Crushing and Screening Circuits

There are currently two crushing and screening circuits operating, one producing road base materials and the second aggregates of various sizes. The number of crushing trains and arrangement of the crushing and screening equipment may be modified in accordance with DA 344-11-2001-MOD 3 subject to meeting noise and air emission criteria.

Both crushing circuits were operated within the extraction area during the reporting period (**Plate 3**, p. 18).

Washing Circuit

A sand washing plant was operated on the Main Stockpile Area with a series of silt settlement cells located adjacent to the washing plant and to the immediate north of the extraction area (**Plate 4**, p. 18).

Water is added to the <7 millimetre (mm) material over a variable sized vibrating screen (mesh sizes of 7 mm or 5 mm). This initial mixing of water and rock, along with the vibrating nature of the screen, allows for the removal of fine clay and silt particles. Water sprays are also used to remove additional clays and silts with the heavier and washed aggregates moving to the bottom of the tanks and the silt containing water drawn off the top and pumped initially to a water storage sump to the immediate east of the processing plant for initial settlement. The <7 mm or <5 mm quartzite aggregate collected at the base of the tank is then dewatered with the aggregates stacked before being loaded to trucks and delivered to stockpile. The washing plant incorporates a Silt Arrestor to improve the recovery of water and produce a drier product.

The washing plant was also used to wash and grade a small volume of cobble conglomerate to produce decorative pebble products for landscaping during the reporting period.

4.3.3 Stockpiling Operations

The Quarry features several hardstand stockpile areas identified on **Figure 2.2**, which were used as follows during the reporting period.

- The Main Stockpile Area (MSA) was operated as the principal stockpile areas for quarry products.

During the reporting period, Walker Quarries improved management of the stockpiled area by creating segregated areas for the different products using concrete bollards (**Plate 5**, p. 19).

- Supplementary Stockpile Area (SSA), which was used for the stockpiling of crushing and screening reject material prior to sale or use of this material in rehabilitation works.
- Western Stockpile Area (WSA), which was used for the stockpiling of smaller volume and specialty products (**Plates 6 and 7**, p. 19).

The stockpile areas of the two-tiered WSA is limited in width. During the inspection of 30 June 2020, truck movement and loading was observed to operate efficiently and safely. A small over-topping of the upper tier was observed (**Plate 8**, p. 19). Quarry management confirmed this would be remediated and increased inspections undertaken to ensure stockpiles maintain sufficient 'free board' to the edge stockpile bunding to prevent future over-topping.

- Eastern Stockpile Area (ESA), which was used for the drying of silts removed from the sand washing plant silt cells prior to use in rehabilitation.
- Hoskins Quarry Stockpile Area (HQSA), which has continued to be used for the stockpiling of crusher dust/scalps, also identified as McCloskey Sand (**Plate 9**, p. 20).

Similar to the WSA, overtopping of the HQSA was observed with sand spilling over the vegetated slope to the west (**Plate 10**, p. 20). Quarry management confirmed this would be remediated and increased inspections undertaken to ensure stockpiles maintain sufficient ‘free board’ to the edge stockpile bunding to prevent future over-topping.

4.3.4 Product Transportation

Product transported off site during the reporting period was approximately 122,936 tonnes of material, below the approved annual transportation volume of 500,000 tonnes.

Walker Quarries reports the number of truck movements from the Quarry on their website on a 6 monthly basis, in accordance with Condition 3(19) of DA 344-11-2001. Truck movements are currently reported for the following periods:

- 1 August – 31 January, and
- 1 February – 31 July.

There were a total of 7,600 truck movements during the period 1 August 2019 to 31 July 2020.

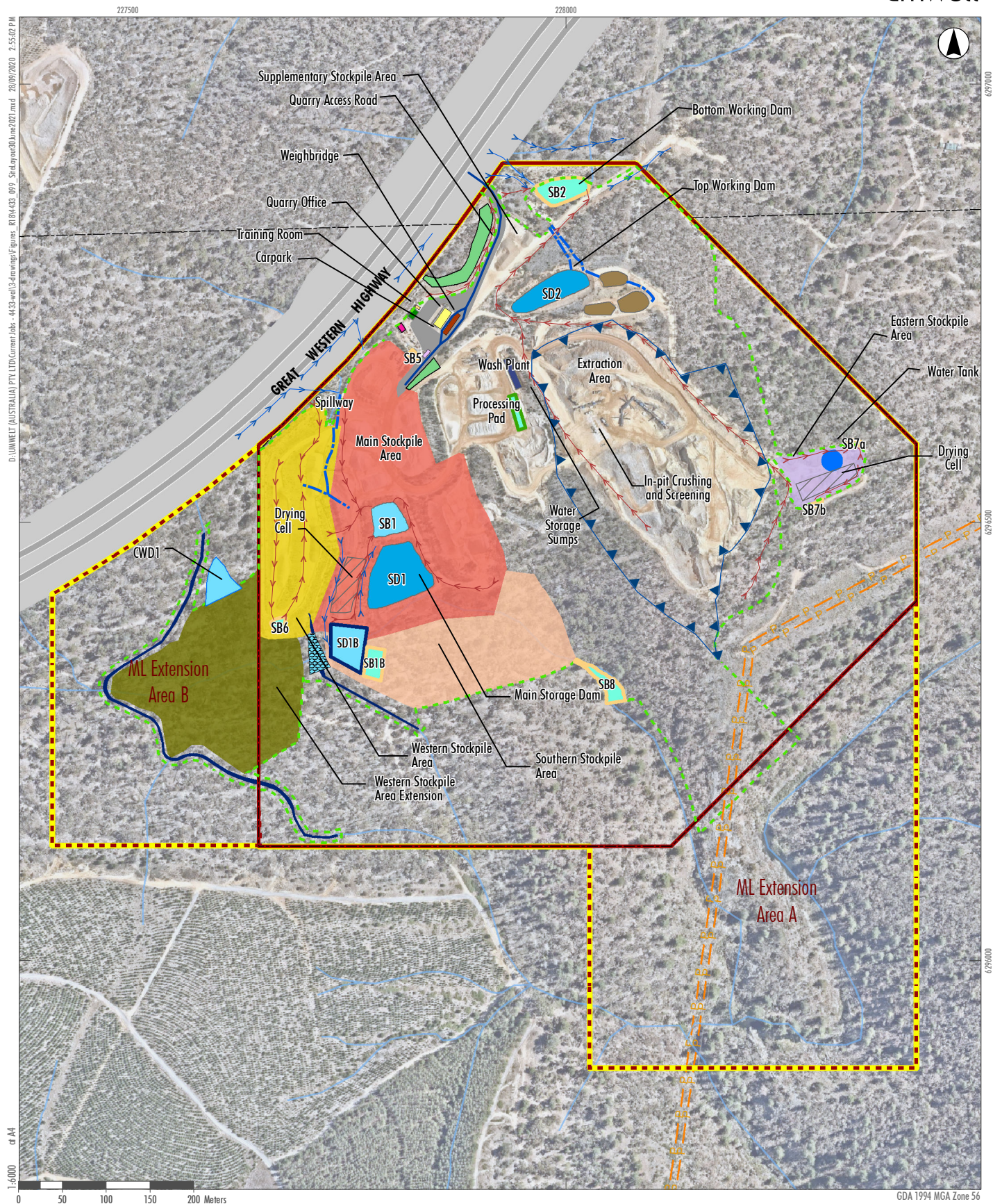
During the next reporting period Walker Quarries will align the 6 monthly reporting periods with the Annual Review reporting period i.e. 1 July – 31 December and 1 January to 30 June.

4.3.5 Exploration Activities

During the reporting period an Annual Exploration Progress Report for Exploration Licence 4473 was prepared by Rangott Mineral Exploration Pty Ltd and submitted to DPIE, in accordance with the requirements of ML 1633 (Rangott, 2020). The report covered activities for the period 13 January 2019 to 12 January 2020. Exploration activities undertaken during this period were focussed on administrative requirements and stakeholder liaison. No exploration boreholes were drilled during this period.

4.4 Next Reporting Period

The only changes to the layout expected during the next reporting period will be an increase in the disturbance footprint of the Extraction Area (in accordance with the mining and rehabilitation plans presented in the MOP. A westerly extension of the extraction area, reflecting the Stage 1 Area identified in the Statement of Environmental Effects supporting MOD 3 (Umwelt, 2019), will be undertaken. An extension of the eastern perimeter of the extraction area may also be undertaken depending on production and sales requirements. Both areas are identified on Plan 3A of the MOP (Umwelt, 2020) and identified on **Figure 4.2**.



Legend

- Quarry Site Boundary
- Quarry Site (ML1633)
- Quarry Site ML Extension
- EL 4473
- Approved Area of Disturbance
- ▶ Approved Extraction Area
- Main Stockpile Area (935m AHD)
- Southern Stockpile Area (935m AHD)
- Western Stockpile Area
- Western Stockpile Extension (940m AHD)
- Eastern Stockpile Area
- Clean Water Diversion
- Sediment Basins
- Settlement Ponds
- Storage Dam
- Water Tank
- Rock-lined Drain
- Clean Water Dam
- Silt Cells
- P — Electricity Transmission Lines
- ▶— Clean Water Drain
- ▶— Dirty water drain
- ▶— Water Pipeline
- Ecosystem Establishment

Image Source: Nearmap (2020) Data source: Walker Quarries (2019); Umwelt (2019); NSW LPI DTDB (2019); CEH Survey (November 2016)

FIGURE 4.2

Site Layout
30 June 2021

Blasting will continue to be required to fracture the quartzite and other rock for extraction during the next reporting period. Between five and 10 blasts will be undertaken with Walker Quarries anticipating production to increase during the next reporting period to approximately 275,000t (**Table 4.1**).

Processing activities using the mobile plant are proposed to continue during the next reporting period, with the amount of material to be processed dependant on the demand for the Quarry's products. It is expected that the aggregate crushing circuit, currently located in an elevated position on the northern perimeter of the extraction area will be relocated to the operating floor of the extraction area during the next reporting period.

Proposed exploration activities during the next reporting period include further geological reconnaissance/mapping to the south of ML 1633. Some shallow percussion drilling, logging and assessment may also be undertaken.



PLATE 1
View across Quarry Site from Western Stockpile Area



PLATE 2
Blast Area – 30 June 2020



PLATE 3
In-pit Crushing infrastructure



PLATE 4
Sand Washing Plant on Main Stockpile Area



PLATE 5
Main Stockpile Area Aggregate Stockpiles



PLATE 6
Western Stockpile Area – Upper tier



PLATE 7
Western Stockpile Area – Lower tier



PLATE 8
Western Stockpile Area – Upper Tier Spillage



PLATE 9
Hoskins Quarry Stockpile Area — McCloskey Sand Stockpile



PLATE 10
Hoskins Quarry Stockpile Area — Spillage



PLATE 11
Tree Fall within AHIMS Site #45-1-2802



PLATE 12
Tree Fall within AHIMS Site #45-1-2802 (Remediated)



PLATE 13
Vegetated Amenity Bund



PLATE 14
Views towards Quarry Site – Lidsdale State Forest



PLATE 15
Views towards Quarry Site – Rocky Waterhole Drive



PLATE 16
Views towards Quarry Site – Barton Avenue



PLATE 17
Silt Removal Operation



PLATE 18
Western Stockpile Area – Upper Tier Bund



PLATE 19
Hay Bale Protection (for removal)



PLATE 20
Sediment Fencing (for removal)

5.0 Actions Required from Previous Annual Review

Correspondence from the Department of Planning, Industry and Environment regarding the *Annual Review 2019* was provided on 10 October 2019. No actions were identified in this correspondence.

Table 5.1 describes the actions outlined in Section 12.0 of the 2019 Annual Review.

Table 5.1 Actions from the Previous Annual Review

Action Required from Previous Annual Review	Requested By	Action Taken	Refer to
Sediment basins (SB5, SB7a and SB7b) require desilting and enlarging to ensure design storage capacity	Walker Quarries/ Operator	Desilting is undertaken every 1 to 2 months. Sediment basin enlargement was postponed whilst the Quarry Erosion and Sediment Control Plan was reviewed by DPIE (submitted May 2020).	Section 7.2.3
Additional erosion and sediment control works are to be installed along the perimeter of the road to the east of the silt cells.	Walker Quarries/ Operator	Runoff now prevented from discharging to the north and is directed back to the Main Stockpile Area and SB1.	Section 7.2.3
The environmental management and monitoring commitments of the Quarry's environmental management plans will be implemented and adhered to. Key changes to environmental monitoring and management to be implemented during the next reporting period are as follows. <ul style="list-style-type: none"> Surface water monitoring in the Coks River to be increased to monthly Groundwater level monitoring data to be downloaded quarterly. 	Walker Quarries/ Operator	Environmental management plans implemented. Monthly surface water monitoring now undertaken at SD3 and SD4. Groundwater level monitoring data at GW1, GW2 and GW3 now downloaded quarterly.	Section 7.2 Section 7.3
An updated Landscape Planting Plan will be prepared to enable the more visible areas of the Quarry Site to be better screened or obstructed from external vantage points	Walker Quarries/ Operator	Not completed. This action was delayed initially whilst awaiting determination of MOD 3 and subsequently the approval of environmental management plans. This action will be completed during the next reporting period.	Section 12.0
Environmental management plans will be reviewed and updated as required.	Walker Quarries/ Operator	Environmental management plans have been to be reviewed and submitted to DPIE. Approval for these has been provided, or is expected, during the next reporting period.	Section 3.0

Action Required from Previous Annual Review	Requested By	Action Taken	Refer to
Inspection checklists, including Environmental Inspection Checklist, Haul Road Inspection Checklist and Wallerawang Site SHE Schedule will be updated	Walker Quarries/ Operator	An environmental management register was prepared during the reporting period. Additional checklists will be prepared during the next reporting period.	Section 6.1

6.0 Environmental Performance

6.1 Introduction

Environmental monitoring is undertaken to determine the degree of impact the Quarry is having on the environment. Assessment of these results can establish if environmental management systems are being successfully applied in the short term and if the management systems need to be amended.

Appropriate environmental monitoring, apart from satisfying necessary statutory requirements, demonstrates to the local community and relevant authorities Walker Quarries commitment to the protection of the environment. **Figure 6.1** provides the monitoring locations referred to in this section.

During the reporting period, Walker Quarries established an Environmental Management Register, where all environmental management commitments are compiled and can be viewed by date required, person responsible, environmental parameter. The register is regularly reviewed and updated as required.

The following sub-sections present the results of the various monitoring programs undertaken throughout the reporting period. Where appropriate, results of the previous years' monitoring are also presented for comparative purposes.

6.2 Meteorological Monitoring

A meteorological monitoring station has been operating at the Quarry, in its current location, since July 2016. Data is downloaded at 15 minute intervals and Quarry management can download meteorological files in real time should interrogation of data be required, e.g. in response to a noise complaint or air quality monitoring results.

Table 6.1 presents key data outputs from the meteorological station for each month. Separate data files can be supplied as required for data validation.

Table 6.1 Meteorological Monitoring Results

Year		Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Annual
Average Temperature (°C)														
2018/19	Max	10.5	10.4	14.5	18.2	21.1	25.5	27.2	22.8	21.7	17.4	14.4	10.8	17.9
	Min	-0.1	2.4	4.8	6.3	8.2	13.2	15.5	13.8	7.3	8.7	1.8	0.8	6.9
2019/20	Max	12.2	12.4	16.6	21.5	24.8	28.5	28.7	23.2	20.1	18.0	13.3	12.0	19.3
	Min	1.4	-0.3	2.0	5.2	8.6	11.1	15.2	14.0	10.9	7.3	3.1	2.6	6.8
Rainfall (mm)														
2018/19	Total	7.4	52.2	53.8	83.6	141.8	82.8	115.2	16.4	91.0	15.6	47.0	28.4	735.2
	No. of Rain Days	10.0	13.0	11.0	15.0	14.0	11.0	14.0	8.0	13.0	6.0	16.0	14.0	145.0
	Max. Daily Rainfall	2.4	13.4	16.2	27.2	88.6	36.6	21.6	5.0	27.2	13.8	32.0	8.2	292.2
2019/20	Total	18.1	27.1	51.5	9.9	21.1	1.1	69.8	189.6	102.9	79.6	47.1	34.6	652.4
	No. of Rain Days	13.0	11.0	10.0	8.0	7.0	2.0	16.0	17.0	20.0	10.0	21.0	17.0	152.0
	Max. Daily Rainfall	8.2	12.0	20.6	5.8	13.6	0.7	21.8	51.0	30.0	29.2	15.4	13.4	221.7

Source: Walkers Quarry Pty Ltd

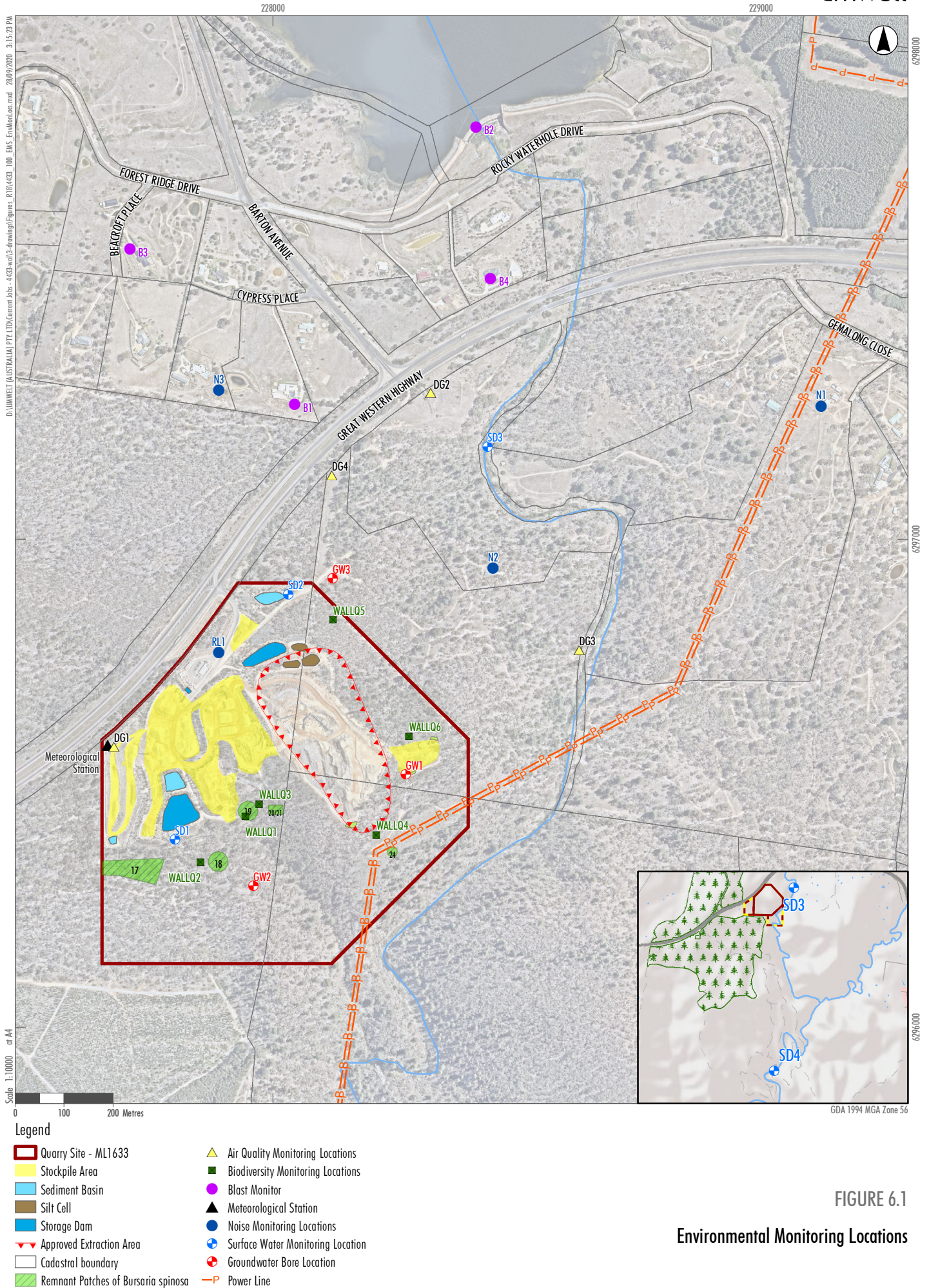


FIGURE 6.1

Environmental Monitoring Locations

The meteorological monitoring station does not currently monitor Sigma Theta as is required by EPL 13172. Walker Quarries will upgrade the station during the next reporting period to allow for collection of Sigma Theta, or seek a variation to EPL 13172 to exclude this as a monitoring requirement.

6.3 Noise

6.3.1 Performance Criteria and Predicted Impacts

Table 6.2 identifies the relevant noise-related performance criteria for residences surrounding the Quarry Site identified by *Condition 3(3)* of DA 344-11-2001.

Table 6.2 Noise-related Performance Criteria

Receiver	Day dB(A) ¹	Evening dB(A) ¹	Night dB(A) ¹
Any residence on privately owned land ²	43	39	35

Note ¹ Units = LAeq 15 minutes

Note ² The criteria do not apply where an agreement is negotiated with a landowner to exceed the noise criteria, and the DPIE has been advised in writing of the terms of this agreement.

Walker Quarries does not currently hold any agreements with residents for noise levels exceeding the noise criteria of Condition 3(3) (Table 2) of DA 344-11-2001.

The noise criteria presented in **Table 6.2** are based on the results of a Noise and Vibration Impact Assessment (NVIA) to quantify potential noise emissions associated with the proposed extension to the Quarry as part of the Mod 3 application (MAC, 2019a). As such compliance with the criteria is expected subject to implementation of the noise management measures nominated in the Quarry Noise Management Plan.

It is noted that the noise criteria of DA 344-11-2001-MOD 3 vary from the noise limits of Condition L4 of EPL 13172 (which allow for noise up to 43 dB(A) during the evening and 39 dB(A) at night). These limits reflect the noise criteria of DA 344-11-2001-MOD 2 and an application to vary these will be made during the next reporting period.

MAC (2019a) also included sound power levels and relevant criteria for individual pieces of equipment operating at the Quarry as part of the NVIA. This criteria is included in the monitoring results tables in **Section 6.3.3**.

6.3.2 Measured Performance

Section 7.3 of the *Noise Management Plan* (NMP) identifies that attended noise monitoring will be undertaken at least every six months at the following three off-site monitoring locations as shown on **Figure 6.1**, which represent the closest residential receivers to the Quarry.

- N1: "Gemalong" property residence.
- N2: "Cockatoo Pines" property boundary adjacent to residence.
- N3: Cypress Place, Wallerawang.

In addition, a fourth monitoring point, RL1, is located adjacent to the Quarry office.

Attended noise monitoring programs were undertaken on 11 and 12 September 2019, and 13 March 2020 by Muller Acoustic Consulting Pty Ltd. The resulting reports (MAC, 2019b and MAC, 2020) are presented as **Appendix 3**.

All noise monitoring was undertaken under the following operational conditions.

- Extraction of quartzite using standard drill, blast, load and haul techniques.
- Processing of extracted quartzite and stockpiling.
- Transportation of quarry products.

Noise monitoring was undertaken at monitoring locations N1, N2, N3 and RL1 (see **Figure 6.1**) during each monitoring campaign. The noise monitoring results are summarised in **Table 6.3** and **Table 6.4**.

Section 7.4 of the Noise Management Plan (NMP) identifies that the Sound Power Level (SPL) of active mobile and fixed plant operating at the quarry will be measured on an annual basis and reported in the Annual Review. SPL monitoring was undertaken during the September 2019 and March 2020 monitoring rounds. Results for this monitoring is summarised in **Table 6.5** and **Table 6.6**.

6.3.3 Discussion and Analysis

Monitoring during the reporting period at locations N1, N2 and N3 confirmed compliance with the assessment criteria in all instances during the reporting period. The attended monitoring program found that the Quarry was audible at these locations (over background noise levels) during several offsite measurements however the quarry's contribution during the measurements was calculated to be well below the daytime assessment criteria of 43 dB(A). As such, there are no identifiable trends in noise levels, except the continued compliance of the operation.

The sound power level (SWL) testing of operational quarry equipment undertaken in September 2019 and March 2020 identified that whilst the SWL of a number of individual pieces of plant exceeded the SWL criteria/target during the March 2020 testing, the overall sound power of items of plant used at the Quarry are below target sound power levels outlined in MAC (2019a).

The monitoring results which indicate the Quarry as generally inaudible from residential receivers is supported by the fact that no complaints relating to operational noise were received during the reporting period. It is noted a complaint was received with respect to traffic noise level, however, as is discussed in **Section 9.2** the results of an investigation found the noise to be generated by trucks not associated with the Quarry.

Table 6.3 Noise Monitoring Results – 11 and 12 September 2019

Location	Date and Time (hrs)	Attended Noise Monitoring Results (dB(A))				Criteria dB(A)	Met Conditions ¹		Comments
		Total Measured			Site Contribution Leq		Wind Speed (m/s)	Wind Direction	
		L _{max}	L _{eq}	L ₉₀					
N1	11/9, 15:23	61	45	39	<35	43	2.4	SE	Traffic 40-56; Birds 40-49; Quarry hum <35.
	12/9, 09:35	65	51	46	Quarry Inaudible	43	2.5	NE	Wind 40-51; Traffic 46-63.
N2	11/9, 14:19	75	58	40	<43	43	0.3	SE	Traffic 38-48; Birds 30-49; Aircraft 63-75; Screening Plant 35-45.
	12/9, 08:35	55	46	42	<43	43	0.3	SE	Traffic 40-51; Birds 43-46; Quarry hum 35-40.
N3	11/9, 15:00	62	46	41	<39	43	1.5	SE	Traffic 40-50; Birds 41-62; Screening Plant 40-43.
	12/9, 08:57	59	47	43	<39	43	2.0	NW	Wind 40-51; Traffic 40-54; Birds <42; Quarry hum 36; Quarry impact noise to 45 (<10 secs).
RL1	11/9, 14:41	74	67	62	70	N/A	1.6	SE	Onsite Truck 60-66; Screening Plant 60-72.
	12/9, 08:13	79	70	68	70	N/A	0.5	SE	Screening Plant 63-70; Highway Truck 63-72.

Note ¹: Meteorological data was recorded with a hand-held anemometer.

N/A: Not applicable.

Source: Muller Acoustic Consulting (2019a) – Tables 4-7.

Table 6.4 Noise Monitoring Results – 13 March 2020

Location	Date and Time (hrs)	Attended Noise Monitoring Results (dB(A))				Criteria dB(A)	Met Conditions ¹		Comments
		Total Measured			Site Contribution L _{eq}		Wind Speed (m/s)	Wind Direction	
		L _{max}	L _{eq}	L ₉₀					
N1	13/3, 08:33	59	48	43	37	43	0.2	NNW	Traffic 45-50; Quarry Hum 40-43 (5 min); Aircraft 50-59.
	13/3, 13:09	68	50	38	37	43	1.5	W	Traffic 42-49; Farm Machinery 50-54; Quarry Crusher 35-40; Residential Noise 57-68.
N2	13/3, 09:22	67	44	38	35	43	0.5	W	Traffic 35-47; Birds 38-67; Quarry Hum 30-38.
	13/3, 12:21	68	42	37	37	43	1.2	W	Traffic 44-50; Birds 38-46; Quarry 34-37; Quarry Crusher 39 (10 sec).
N3	13/3, 05:58	75	53	38	<33	43	0.5	W	Birds 50-75; Traffic 45-55; Quarry Hum 30-35.
	13/3, 12:21	69	45	36	<35	43	1.2	W	Traffic 42-52; Quarry Hum 33-36; Residential Noise 32-37.
RL1	13/3, 07:58	89	67	64	67	N/A	0.1	NW	Road Truck 78-89; Sand Plant 65-69; Reverse Alarm 60-65.
	13/3, 12:02	82	67	64	67	N/A	1.2	W	Sand Plant 66-69; Road Truck 75-82.

Note ¹: Meteorological data was recorded with a hand-held anemometer.

N/A: Not applicable.

Source: Muller Acoustic Consulting (2020) – Tables 5-8.

Table 6.5 Sound Power Level Monitoring Results – September 2019

Plant	Sound Power dB(A) Lw	Criteria/Target ¹
Komatsu Loader WA480 #251	99	115
Komatsu Loader WA480 #252	104	115
Komatsu HM400 Haul Truck	105	106
Sand Plant and Screens	112	115
Komatsu Loader WA500	103	115
Komatsu Excavator PC450LC	106	115
Cat D400E HT	108	115
Main Crushers and Plant	115	115

Source: Muller Acoustic Consulting (2019a) – Table 8.

Note ¹: Criteria based on original EIS predictions (Pacrim, 2001) which re-date the NVIA for the MOD 3 application (MAC, 2019a)

Table 6.6 Sound Power Level Monitoring Results – March 2020

Plant	Sound Power dB(A) Lw	Criteria/Target
Komatsu Loader WA480 #251	99	100
Komatsu Loader WA480 #252	102	100
Komatsu HM400 Haul Truck	105	106
Sand Plant and Screens	113	110
Komatsu PC450LC Ex 201	105	109
Komatsu PC450LC Ex 202	104	109
Crusher Train	117	111
Total Site Sound Power	119	121 ¹

Source: Muller Acoustic Consulting (2020) – Table 9.

Note ¹: Total logarithmic sum of the overall site criteria (as reported in MAC, 2020)

6.4 Blasting

6.4.1 Performance Criteria, Public Notices and Predicted Performance

Condition 3(9) of DA 344-11-2001 requires Walker Quarries during blasting operations to:

- Implement best practice management to:
 - protect the safety of people and livestock
 - protect public or private infrastructure and property from damage
 - minimise the dust and fume emissions.
- Operate a suitable system to enable the local community to get up-to-date information on the proposed blasting schedule on site.

- Carry out regular monitoring to determine whether the development is complying with the relevant conditions of this consent.

A blast notification board, detailing the date and time of the next blast is maintained at the Quarry entrance on the Great Western Highway and updated at least 24 hours before each blast. In addition, Walker Quarries provides specific notification of individual blasts to any landowner, within 2 km of the Quarry who has registered an interest in being notified about the blasting schedule at the Quarry.

Table 6.7 presents the airblast overpressure and ground vibration performance criteria identified in *Condition 3(6)* of DA 344-11-2001.

Table 6.7 Blasting-related Performance Criteria

Receiver	Airblast Overpressure (dB Linear Peak)	Ground Vibration (mm/s)	Allowable Exceedance
Any residence on privately-owned land	120	10	0%
	115	5	5% of the total number of blasts over a period of 12 months
All public infrastructure	-	50	0%

The Blast Management and Explosives Control Plan identifies that blast monitoring will be undertaken at three locations, B1, B2 and B3, for each blast event, as shown in **Figure 6.1**. During the previous reporting period, a new blast monitor (B4) was installed at a residence of 42 Rocky Waterhole Drive at the request of the resident. Monitoring at this location commenced during the 1 April 2019 monitoring event and continued during this reporting period. Results are included in **Table 6.8**.

In addition to the above criteria, *Condition 3(1)* of DA 344-11-2001-MOD 3 permits blasting between 9:00am and 5:00pm, Monday to Friday, and between 9:00am and 1:00pm on Saturdays. No blasting is permitted on Sundays or Public Holidays.

The NVIA prepared to quantify potential noise and vibration emissions associated with the proposed extension to the Quarry as part of the Mod 3 application (MAC, 2019a) predicts compliance with relevant criteria would be achieved.

6.4.2 Measured Performance

Table 6.8 presents the results of blast monitoring during the reporting period.

Table 6.8 Blast Monitoring Results

Date		B1 (Intersection)		B2 (Dam Wall)		B3 (Residence)		B4 (Residence)	
		Ground Vibration (mm/s)	Air Blast (dB)	Ground Vibration (mm/s)	Air Blast (dB)	Ground Vibration (mm/s)	Air Blast (dB)	Ground Vibration (mm/s)	Air Blast (dB)
Criterion	95%/yr	5	115	5	115	5	115	5	115
	100%	10	120	10	120	10	120	10	120
15/08/2019		0.60	105.5	N/T	N/T	0.73	101.2	0.69	102.8
20/09/2019		0.79	96.9	0.74	97.5	0.70	93.4	0.74	97.5

Date	B1 (Intersection)		B2 (Dam Wall)		B3 (Residence)		B4 (Residence)	
	Ground Vibration (mm/s)	Air Blast (dB)	Ground Vibration (mm/s)	Air Blast (dB)	Ground Vibration (mm/s)	Air Blast (dB)	Ground Vibration (mm/s)	Air Blast (dB)
21/01/2020	N/T	N/T	0.97	97.5	N/T	N/T	0.60	100.0
12/05/2020	0.57	108.2	0.07	101.0	1.66	104.4	0.08	101.0
30/06/2020	0.55	108.7	0.07	103.5	0.58	100.0	0.08	106.0

N/T No Trigger. Blast was not sufficient to 'trigger' the monitors, which were set to trigger at 95dB (air blast) and 0.05mm/sec (ground vibration).

Source: Walker Quarries Pty Ltd

6.4.3 Discussion and Analysis

The criteria of 5 mm/s for ground vibration and 115 dB for air blast overpressure were not exceeded during the reporting period. Blasting results therefore satisfied the criteria presented in **Table 6.8**. During the five blast monitoring events, B1, B2 and B3 were triggered on four occasions and B4 was triggered on all five occasions.

During the reporting period and over the course of the Quarry's operation, all blasts have remained below the performance criteria.

In previous reporting periods (2014 to 2019), ground vibration levels recorded at B1 have ranged between 0.57 mm/s and 1.4 mm/s, while air blast overpressure levels have ranged between 97.5 dB and 110.6 dB. During the previous reporting period, B1 was triggered on three occasions from five blasts.

Ground vibration levels at B2 have ranged between 0.07 mm/s and 1.3 mm/s in previous reporting periods, while recordings of air blast overpressure have ranged from 95.9 dB to 111.8 dB. During the previous reporting period, B2 was triggered on four occasions from five blasts.

Prior to the reporting period, B3 has only triggered twice. Once in November 2014, when it registered ground vibration at 0.6 mm/s and air blast overpressure at 104.5 dB and once during December 2018, when it registered ground vibration at 0.7 mm/s and air blast overpressure at 106 dB.

Blast monitoring point B4, installed in April 2019, triggered on both occasions during the previous reporting period. Ground vibration recorded 0.74 mm/s and 0.61 mm/s and air blast overpressure recorded 109.2 dB and 106.0 dB.

During the reporting period, the results for ground vibration and air overpressure is consistent with the previous reporting period. While the number of triggering blasts has increased, overall there is no identifiable trend in monitored ground vibration and air blast overpressure levels since the commencement of blasting operations at the Quarry.

6.5 Air Quality

6.5.1 Performance Criteria and Predicted Impacts

Table 6.9 presents the air quality performance criteria presented in Condition 3(11) of DA 344-11-2001.

Table 6.9 Air Quality-related Performance Criteria

Pollutant	Averaging Period	Criterion
Particulate matter < 10 µm (PM ₁₀)	Annual	25 µg/m ³
Particulate matter < 10 µm (PM ₁₀)	24 hour	50 µg/m ³
Particulate matter < 2.5 µm (PM _{2.5})	Annual	8 µg/m ³
Particulate matter < 2.5 µm (PM _{2.5})	24 hour	25 µg/m ³
Total suspended particulates (TSP)	Annual	90 µg/m ³
Deposited dust	Annual Incremental Increase	2 g/m ² /month
Deposited dust	Annual Average Total Deposited Dust	4 g/m ² /month

An Air Quality Impact Assessment undertaken by Ramboll Australia Pty Ltd (Ramboll) in 2019 to assess potential air quality impacts from the proposed modification to Quarry operations (Ramboll, 2019) identified baseline concentrations of key air emissions as follows.

- Annual average PM₁₀ concentration – 18.8 micrograms per cubic metre (µg/m³)
- Annual average PM_{2.5} concentration – 7.0 µg/m³
- Annual average total suspended particulate (TSP) concentration – 47.1 µg/m³
- Annual average dust deposition – 1.5 grams per square metre per month (g/m²/month).

The AQIA (Ramboll, 2019) predicted no receptors would experience exceedances of the air quality impact assessment criteria as a result of the project.

6.5.2 Measured Performance

6.5.2.1 Particulate Matter

The Quarry operated in accordance with an Air Quality Management Plan (AQMP) was approved by the Department of Planning and Environment on 3 April 2019. In accordance with the AQMP, monitoring of particulate matter will be implemented should the rolling average of monthly deposited dust monitoring results reach a trigger level of 4.0 g/m²/month. During the reporting period, this trigger level was not reached (**Section 6.5.2.2**).

It is not possible to report on compliance with the airborne particulate matter criteria of *Condition 3(11)* and while the AQMP does not require this monitoring to be completed, a non-compliance (low consequence) has been assessed to have occurred. Monitoring of airborne particulate matter is to be commenced during the reporting period.

6.5.2.2 Deposited Dust

Locations of the deposited dust monitoring locations are shown on **Figure 6.1**. **Table 6.10** presents the results of the deposited dust monitoring program for 2019/20 and the 2018/19 average for comparison, while **Figure 6.2** presents these results graphically.

Table 6.10 Deposited Dust Monitoring Results

Start Date	End Date	Monitoring Location				Criterion
		DG1	DG2	DG3	DG4	
2018/19 Annual Average		1.4	1.5	2.7	1.5	4.0
1/7/2019	1/8/2019	0.6	0.2	0.3	0.6	4.0
1/8/2019	2/9/2019	1.2	0.4	1.3	1.3	4.0
2/9/2019	30/9/2019	1.5	0.8	2.4	1.5	4.0
30/9/2019	30/10/2019	1.9	2.3	2.7	2.7	4.0
30/10/2019	2/12/2019*	1	3	3.2	3.3	4.0
2/12/2019	6/1/2020*	0.8	3.7	1.3	0.7	4.0
6/1/2020	3/2/2020^	8.8	8.6	9.6	11.0	4.0
3/2/2020	27/2/2020*	1	3.2	1.1	1.6	4.0
27/2/2020	31/3/2020*	0.6	0.2	0.3	0.6	4.0
31/3/2020	29/4/2020	0.6	0.6	0.8	0.4	4.0
29/4/2020	29/5/2020	0.4	0.6	0.7	0.6	4.0
29/5/2020	30/6/2020	0.3	0.2	0.1	0.2	4.0
Annual Average^		0.9	1.4	1.3	1.2	4.0

Note 1: Units – g/m²/month

* Sampling period not compliant with Australian Standard (refer **Section 6.5.3** for discussion)

^ January 2020 results excluded from annual average due to influence from regional dust storms.

Source: Walker Quarries Pty Ltd

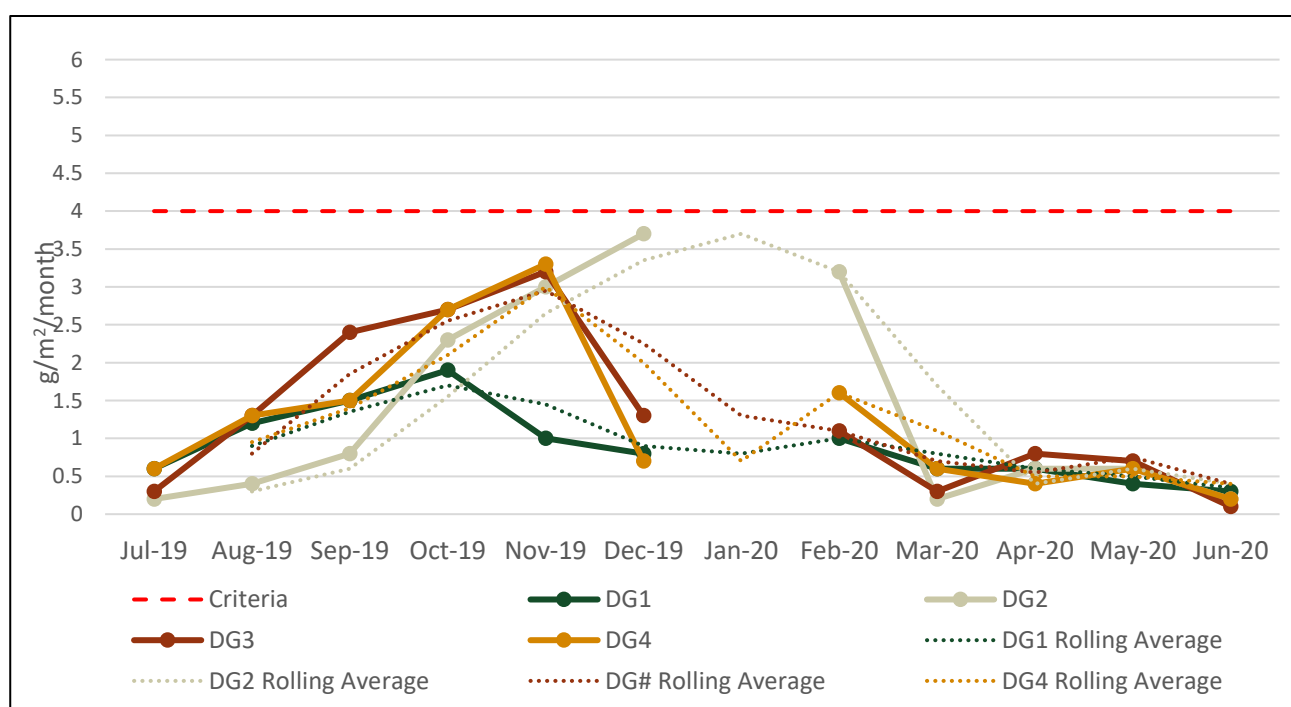


Figure 6.2 Deposited Dust 2019/20

6.5.3 Discussion and Analysis

Several large dust storms deposited large volumes of dust over the central west region during January 2020. The region was also subject to bush fire activity between December 2019 and February 2020. These environmental factors resulted in elevated results being recorded during this period. The January monitoring period was especially affected and these results have been considered a result on non-Quarry factors and have been excluded from the annual average.

With the exception of January 2020, all non-excluded samples recorded in the reporting period were below 4g/m²/month (between 0.1 g/m²/month and 3.7 g/m²/month).

Annual averages were between 0.9 g/m²/month and 1.4 g/m²/month at the four dust gauges, indicating that the deposited dust impacts as a result of the Quarry's operations are generally well below the assessment criterion.

On four occasions during the reporting period Walker Quarries did not collect the dust deposition gauges within the sample period described in AS/NZS 3580.10.1:2016 i.e. 30 +/- 2 days. This resulted in four non-compliances with Condition 3 (14) of DA 344-11-2001 (Air Quality Management Plan). Further detail is provided in **Section 11.3**.

It is noted that in accordance with a revised AQMP (approved on 16 September 2020), the monitoring of airborne particulate matter will be commenced during the next reporting period.

6.6 Biodiversity

6.6.1 Consent Conditions

In accordance with *Condition 2.38* of the original development consent, and the approved Flora and Fauna Management Plan, Walker Quarries has undertaken monitoring of flora and fauna on the Quarry Site. The Flora and Fauna Management Plan also states that these areas will be monitored annually for evidence of Purple Copper Butterfly and the health and distribution of Blackthorn.

When DA 344-11-2001 was modified on 25 August 2017, *Condition 2.38* was replaced by *Condition 3(26)*, which requires monitoring of biodiversity to be undertaken in accordance with a Biodiversity Management Plan. This condition includes a requirement that the Biodiversity Management Plan describe the procedures to be implemented for ensuring minimal environmental consequences for threatened species, populations and habitats, including the Purple Copper Butterfly. The Biodiversity Management Plan was approved by the DPE on 8 April 2019.

Following the approval of DA 344-11-2001-MOD 3, *Condition 3(28)* was modified, with Condition 3(28A) added to identify biodiversity credits to be retired prior to commencement of additional disturbance at the Quarry. **Table 6.11** presents the credit obligation of DA 344-11-2001-MOD 3 identifying both the original disturbance stages assessed by the BDAR (Ecoplanning, 2019) and consolidated Tranches nominated by *Condition 3(28A)*.

Table 6.11 Biodiversity Credit Obligations

Tranche ¹	Stage ²	Vegetation (PCT)	Area (ha)	Credit Requirement	
				PCT 1093	PCT 732
<u>1</u>	1	PCT 1093	1.15	39	
	3	PCT 1093	1.75	61	
		PCT 732	0.92		36
<u>2</u>	2A	PCT 1093	0.15	5	
		PCT 732	0.25		10
	2B	PCT 1093	0.63	20	
		PCT 732	2.42		93
	4	PCT 1093	1.2	39	
<u>3</u>	5	PCT 1093	1.61	52	
		PCT 732	1.95		75
<u>4</u>	6	PCT 1093	1.76	57	
Total			14.05	273	214

Notes: ¹ As identified by Table 5A of DA 344-11-2001,

² As nominated by BDAR (Ecoplanning, 2019)

An updated Biodiversity Management Plan has been prepared and was originally submitted to the DPIE in May 2020. Following additional requested for information by the Biodiversity & Conservation Division (BCD) (of DPIE), the plan remains to be approved.

6.6.2 Measured Performance

Annual Biodiversity Monitoring

Biodiversity monitoring was undertaken by Ecoplanning Pty Ltd (Ecoplanning) on 18 and 30 October 2019 when the six 10 m x 10 m vegetation monitoring plots established in September 2016 were re-surveyed (**Figure 6.1**). The resulting report (Ecoplanning, 2020) is presented as **Appendix 4**.

Ecoplanning (2020) confirmed a decrease in native species richness at the monitoring locations compared to 2018, although it was above or broadly similar to that recorded in 2016 and 2017. Ecoplanning (2020) suggested that this may be a result of natural fluctuations in species richness due to changes in climatic conditions including decreased rainfall. As the decline in species richness was only observed in comparison to a single season (2018), with results in 2019 similar to that recorded in 2016 and 2017, the observed change does not indicate that the retained woodland within monitoring sites is being impacted by the Quarry operations in a manner which is impacting native species richness. Ecoplanning (2020) suggested that continued monitoring is required to establish whether the observed decline is part of any ongoing long-term trend.

No flora species listed in the NSW *Biodiversity Conservation Act 1995* (BC Act) or Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) were detected. Based on the results of vegetation plot monitoring, Ecoplanning (2020) report the Quarry is not impacting on woodland within the monitoring sites and therefore native species richness is not being impacted.

Fauna species observed or heard during the field survey included two native mammals, 16 birds and one reptile. No threatened fauna species listed under the BC Act were observed during the survey and Ecoplaning (2020)² confirmed that habitat for native fauna species continues to be available at the quarry.

Purple Copper Butterfly

Monitoring surveys for the Purple Copper Butterfly were undertaken on 18 and 30 October 2019 at five Blackthorn (*Bursaria spinosa* subsp. *lasiophylla*) monitoring sites, in accordance with the BMP (Figure 6.1). Monitoring was also undertaken at the control site at Cheetham Flats TSR, Hampton Road, Rydal, consistent with the 2018 surveys. The Coxs River, Wallerawang control site and the Eusdale Road, Yetholme control site were not surveyed.

A report of the investigation is included in the Biodiversity Monitoring Report (Ecoplaning, 2020) in **Appendix 4**, and the results are summarised as follows.

- A single Purple Copper Butterfly was observed at the Cheetham Flats TSR control site on 30 October 2019, with no individuals observed during the targeted searches on 18 October 2019.
- No Purple Copper Butterflies were observed within any of the monitoring sites.
- No *Anonychomyrma itinerans* ants were present within any of the monitoring sites.
- Species of butterfly, ants and other insects were present within the Quarry Site.
- All of the monitoring sites within the Quarry included healthy populations of Blackthorn with mature fruiting individuals and seedlings present. All sites exhibited grazing of the Blackthorn leaves and new growth.
- These monitoring results are consistent with monitoring results from 2016-2018. Based on these results, it is likely that the population(s) of Purple Copper Butterfly that once existed in the Quarry has become locally extinct.

Weeds/Exotic Species

Ecoplaning (2020) found that exotic species richness has remained relatively stable between 2016 and 2019. No new exotic species were recorded in 2019. Predominant weed and exotic species within the quarry were Blackberry (*Rubus ulmifolius*), St Johns Wort (*Hypericum perforatum*) and Radiata Pines (*Pinus radiata*). Ecoplaning (2020) recommended that these species be targeted as part of weed control works within the quarry.

Weed spraying was undertaken at the quarry during the reporting period. Weed species targeted include Blackberry, St Johns Wort and Sifted Bush.

Pre-Clearance Surveys

On 1 June 2020 Ecoplaning completed a pre-clearance survey at the quarry prior to the commencement of vegetation clearing associated with the recently approved DA 344-11-2001-MOD 3 (Ecoplaning, 2020a). The inspection report noted that the survey area was delineated with survey pegs. No threatened species were recorded within this area during the pre-clearance inspection. A copy of the pre-clearance survey report is included in **Appendix 4**.

² Varied Sittellas (*Daphoenositta chrysoptera*) and Scarlet Robins (*Petroica boodang*), both listed as Vulnerable under the BC Act, were detected during the 2016 survey, but were not observed or heard during the 2019 survey.

Rehabilitation

No significant rehabilitation had been undertaken at the Quarry Site at the time of the field survey to allow monitoring of rehabilitation to commence.

6.6.3 Discussion and Analysis

The flora and fauna monitoring undertaken in accordance with the Biodiversity Management Plan has identified no evidence that the Quarry is having any detrimental effect on the biodiversity of the Quarry Site and surrounds.

6.7 Heritage

6.7.1 Consent Conditions

Condition 3(21) of DA 344-11-2001 requires that Walker Quarries not cause any direct or indirect impact on any identified heritage item located outside the approved disturbance area, beyond those predicted in the EIS. An archaeological survey of the Quarry Site undertaken in 1999 identified a single Aboriginal site containing 22 artefacts (**Figure 2.2**). A subsequent Aboriginal Cultural Heritage Assessment Report prepared to support the application for DA 344-11-2001-MOD 3 (OzArk, 2019) confirmed this site and assessed the disturbance of it by salvage and relocation or artefacts. Disturbance of this site is approved subject to the preparation of an Aboriginal Cultural Heritage Management Plan prepared, in consultation with BCD (function now with NSW Heritage) and the Registered Aboriginal Parties (RAPs) of DA 344-11-2001-MOD 3, and in accordance with *Condition 3(23C)* of DA 344-11-2001-MOD 3.

In accordance with *Condition 3(22)* of DA 344-11-2001, if suspected human remains are discovered on site, Walker Quarries must stop work in the area surrounding the remains, secure the area and immediately notify NSW Police and the Biodiversity Conservation Division (BCD) within the NSW DPIE. Work must not recommence in the area until authorised by NSW Police and the BCD.

Conditions 3 (23, 23A and 23B) of DA 344-11-2001 relate to the discovery of previously unknown Aboriginal objects or Aboriginal Places on site. These conditions require Walker Quarries to:

- Stop all work in the immediate vicinity of the object or place immediately;
- Cordon off a 10-metre buffer area around the object or place;
- Contact BCD immediately; and
- Only recommence work in the immediate vicinity if:
 - The object or place is confirmed not to be an Aboriginal object or place;
 - The Aboriginal Cultural Heritage Management Plan (ACHMP) required by Condition 23C is revised to include the Aboriginal object or place and appropriate measures in respect of it; or
 - The Planning Secretary is satisfied as to the measures to be implemented in respect of the Aboriginal object or place and makes a written direction in that regard.
- Record the Aboriginal object or place in the AHIMS Register.

6.7.2 Aboriginal and Historic Cultural Heritage Management

An Aboriginal and Historic Cultural Heritage Assessment (AHCHAR) was undertaken by OzArk Environmental and Heritage Management Pty Ltd (OzArk) to support the application to modify DA 344-11-2001 (MOD 3) (OzArk, 2019). No new Aboriginal sites were identified during the survey works, however, one known site (AHIMS Site #45-1-2802) will be directly impacted by the works approved by DA 344-11-2001. Salvage of the artefacts contained within the impacted site will be undertaken in accordance with the Aboriginal Cultural Heritage Management Plan (ACHMP).

An ACHMP has been prepared in consultation with the (RAPs) and BCD for the purpose of managing impact on AHIMS Site #45-1-2802 and heritage generally. The ACHMP includes the agreed survey and salvage of AHIMS Site #45-1-2802, however, no disturbance to this site will be undertaken until approval of the ACHMP. After being submitted to DPIE for approval on 5 May 2020 a request for additional information was received from DPIE and the ACHMP resubmitted in July 2020 (outside the reporting period)³.

As an interim measure, **Table 6.12** summarises the Aboriginal and historic cultural heritage commitments made by Walker Quarries as part of the application for DA 344-11-2001-MOD 3 (Umwelt, 2019) and performance against these commitments during the reporting period.

Table 6.12 Performance against EIS Heritage Commitments

Commitment	Performance during Reporting Period
Aboriginal Cultural Heritage	
A Cultural Heritage Management Plan will be prepared in consultation with the RAPs, BCD and DPIE.	An ACHMP has been prepared by OzArk in consultation with RAPs, BCD and DPIE.
Artefacts from AHIMS Site #45-1-2802 will be salvaged (by a qualified archaeologist and RAPs) and relocated to a safe location.	Salvage not yet completed.
ACHMP to detail how salvaged artefacts will be managed.	An ACHMP has been prepared by OzArk in consultation with RAPs, BCD and DPIE.
An Aboriginal Site Impact Recording Form will be completed (by a qualified archaeologist) and submitted to AHIMS within 4 months of completion of salvage.	Not applicable - Salvage not yet completed.
Inductions for Quarry staff and contractors to include awareness of legislative protection requirements for Aboriginal sites and objects in NSW and relevant fines for non-compliance.	Walker Quarries include heritage requirements and obligations as part of Quarry induction and training materials.
If Aboriginal objects or skeletal material are found during on site works, all work will cease and the procedures in the <i>Aboriginal Heritage: Unanticipated Finds Protocol</i> will be followed.	No Aboriginal objects or skeletal material were found during on site works.
Historic Heritage	
Inductions for Quarry staff and contractors to include awareness of legislative protection requirements for historic sites and objects in NSW and relevant fines for non-compliance.	Walker Quarries include heritage requirements and obligations as part of Quarry induction and training materials.
If objects are found during on site works that are suspected of being historic heritage, all work will cease and the procedures in the <i>Historic Heritage: Unanticipated Finds Protocol</i> will be followed.	No historic objects were found during on site works.

³ The ACHMP was approved by DPI on 19 August 2020.

During the reporting period, a tree contained within the fenced AHIMS Site #45-1-2802 site fell across the fence and internal Quarry roads (to the HQSA) (**Plate 11**, p. 20). Prior to undertaking any works, the consulting archaeologist (of OzArk) was consulted. It was concluded that on the basis that the tree fell away from the site, it could be removed and the fence repaired without likely harm to the site. Notification was subsequently deemed unnecessary. **Plate 12** (p. 20) shows the current status of the area where the tree fall occurred.

6.8 Traffic and Transport

Transportation activities during the reporting period occurred during the approved hours of operation (**Section 2.3.2**).

The number of laden trucks leaving the Quarry were reported as required during the reporting period. It is recommended that the reporting of laden trucks (which is currently collected August to January and February to July) is modified to coincide with the reporting period (July to December and January to June)

6.9 Visual/Landscape Management

Operations with the potential to adversely impact visual amenity during the reporting period include the development of the Extraction Area and stockpiling of extracted material and products.

Walker Quarries maintained a visual amenity bund located to the north of the Western Stockpile Area during the reporting period to minimise visual amenity impacts associated with its operations, as shown in **Figure 4.1** and **Plate 13** (p. 21). The establishment of vegetation on this bund wall continued during the reporting period and eventually views of the Quarry Site will be largely obscured from east bound traffic on the Great Western Highway. As the Extraction Area is developed below the current floor level of 945 m AHD, the visibility of these activities will reduce as natural screens formed by the retained hill slope and vegetation take effect.

During the reporting period, development of the extraction area progressed towards the northern and eastern limit of the Quarry. As a result, limited views of these activities were afforded at vantage points on Rocky Waterhole Drive and Barton Avenue to the northeast. **Plates 14 to 16** (p. 21) illustrate the obscured and distant views available from these locations which are expected to be mitigated as the extraction area is developed at greater depths and is screened by the vegetation to the immediate east and north of the extraction area.

6.10 Waste Management

Waste generation during the reporting period was negligible, with general waste placed within skip bins that are serviced monthly by a licenced waste contractor. Liquid wastes, principally waste hydrocarbons generated during equipment servicing, are removed by a licenced oil waste contractor when their storage container reaches capacity. As a consequence of the limitations to on-site disposal, all wastewater generated via the effluent and ablutions system is collected and disposed of off-site by a licenced contractor.

6.11 Emergency and Hazards

Diesel delivered to the Quarry Site was delivered in bulk by a diesel supplier and stored in a self-bunded diesel tank. Refuelling of equipment was undertaken either within a secured, sealed and bunded area where any spillage or leakage can be contained, or by a mobile fuel truck away from natural or artificial drainage lines. The mobile fuel truck, as well as the plant or vehicle being refuelled, maintain hydrocarbon spill kits for use in the event of leakage or spillage. No significant hydrocarbon spills occurred during the reporting period. Oils and lubricants are stored under shelter on a catchment pallet where spillage or leakage can be contained.

Explosives used during the reporting period were transported to Site by the blasting contractor on the day of the blast.

No significant safety hazards occurred during the reporting period.

6.12 Bushfire

Management of bushfire hazards is provided through the Bushfire Management Plan (BMP). The plan outlines procedures to be implemented in the event of a bushfire within or surrounding the Site.

During the reporting period, Walker Quarries maintained fire extinguishers at the Fuel and Lube Bay, within the offices and workshops, and on all earthmoving machinery, mobile plant and light vehicles. In addition, Walker Quarries maintains a water truck with fire-fighting capability within the Quarry.

While bush fires were present in the Lithgow region, no fires occurred within the Site during the reporting period.

7.0 Water Management

7.1 Water Use

Water is required at the Quarry for four principal purposes:

1. Dust suppression of active and exposed areas, e.g. internal roads, hardstand surface and stockpile areas.
2. Dust suppression of crushing operations.
3. Sand and cobble washing.

The following provides information on the anticipated water use for each of these activities.

Dust Suppression – General

Exposed and trafficked areas of the Quarry Site are watered as required using a 14 kL water truck to reduce the potential for wind or wheel generated dust. The volume of water used for this purpose varies significantly from day to day and month to month based on seasonal and meteorological conditions.

The following provides an indication of water use under various meteorological conditions:

- rainfall conditions: no applications
- temperature $\leq 15^{\circ}$: 1 to 2 applications
- temperature $> 15^{\circ} \leq 25^{\circ}$: 2 to 3 applications
- temperature $> 25^{\circ} \leq 30^{\circ}$: 3 to 4 applications
- temperature $> 30^{\circ}$: 5 to 6 applications.

An estimated 5 to 6 ML of water was estimated to be used for general dust suppression during the reporting period. This is less than forecast by Umwelt (2019), however reflects a lower than anticipated production level.

Dust Suppression - Crushing

Based on historic dust suppression rates to the road base and aggregate crushing trains, the Applicant applies water at the following rates:

- 20 L/t of crushed aggregate
- 7 L/t of crushed road base.

An estimated 1.2 ML of water was used for crushing during the reporting period.

Sand Washing

An estimated 1ML of water is used per day (8 hours) to wash 650 t of sand. This equates to approximately 1,500 L/t of sand washed. Based on annual production, approximately 76 ML of water was processed through the washing plant. Of this, approximately 65 ML was recovered via the silt cells with 11 ML lost by evaporation, seepage and in the sold product.

In total, approximately 18.2 ML of water was used at the Quarry. No water was required to be purchased during this time and only a single discharge required (refer to **Section 7.2.2**).

7.2 Surface Water

7.2.1 Predicted Impacts and Performance Criteria

The Soil and Water Management Plan (SWMP) indicates that surface water monitoring will be undertaken monthly during discharge at two locations, SD1 and SD2 (**Figure 6.1**). *Section 10.7* of the SWMP identifies that, in the event that water is discharged from the licensed discharge points at the Quarry, the results of water quality monitoring will be included in this Annual Review. A site water balance prepared for the Quarry (Umwelt (2019) predicts discharges from the licensed Quarry discharge points under average (50th percentile) to high rainfall conditions. As the area of disturbance of the Quarry increases, and the volume of runoff collected increases, the predicted number and volume of discharges will increase. Based on the design and operation of sediment basins on the Quarry Site in accordance with an approved Erosion and Sediment Control Plan (ESCP), occasional discharges from the Quarry sediment basins may also occur (up to 4 per year) under high rainfall conditions.

EPL 13172 specifies the water quality criteria that apply to water discharged from the Quarry, which are presented in **Table 7.1**. The limits presented do not authorise the pollution of waters by any other pollutants and the Quarry must comply with Section 120 of the *Protection of the Environment Operations Act 1997* (POEO Act).

Table 7.1 Surface Water Monitoring Criteria

Pollutant	Unit of Measure	Criteria
TSS	mg/L	30
Sulphate	mg/L	250
Grease and Oil	mg/L	10
pH	pH unit	6.5-8.5

To meet the environmental management and monitoring commitments of the Quarry's environmental management plans, surface water monitoring at the Coxs River is required to be undertaken annually at sites SD3 (Cox's Control) and SD4 (Cox's Receiving) (**Figure 6.1**). This monitoring was increased from annual monitoring to monthly monitoring in February 2020 to allow for the establishment of site-specific water quality objectives.

7.2.2 Measured Performance

There was one surface water discharge during the reporting period, from SD1 on 6 April 2020. Monitoring results for this discharge are provided in **Table 7.2**.

Table 7.2 Surface Water Monitoring Results – Discharge Monitoring

Site	Sample Date	TSS (mg/L)	EC (µS/cm)	Sulphate (mg/L)	Grease and Oil (mg/L)	pH
SD1	6 April 2020	20	120	24	-	6.6

Source: Walker Quarries

Monthly monitoring of Coxs River sites SD3 and SD4 was undertaken from February 2020. Results of this monitoring are provided in **Table 7.3**.

Table 7.3 Surface Water Monitoring Results – Monthly Monitoring

Site	Sample Date	TSS (mg/L)	EC (µS/cm)	Sulphate (mg/L)	Grease and Oil (mg/L)	pH
SD3	Feb 2020	6	930	180	-	8.2
SD4	Feb 2020	11	960	180	-	8.2
SD3	31 March 2020	<5	1000	190	-	8.9
SD4	31 March 2020	<5	1000	190	-	8.7
SD3	29 April 2020	<5	980	210	-	8.2
SD4	29 April 2020	<5	340	69	-	8.2
SD3	2 June 2020	<5	1000	220	-	8.3
SD4	2 June 2020	<5	630	130	-	8.6
SD3	30 June 2020	10	1100	240	<5	8.3
SD4	30 June 2020	<5	640	140	<5	8.1

Source: Walker Quarries

Quarterly monitoring of Coxs River sites SD3 and SD4 for metals commenced in June 2020. This was commenced to establish baseline levels within the Coxs River and future establishment of Site Specific Performance Criteria should future modifications of the development consent allow for extraction below the groundwater table and dewatering. Results of this monitoring are provided in **Table 7.4**.

Table 7.4 Surface Water Monitoring Results – Quarterly Metals Monitoring

Site	Sample Date	As	Ca	Cr	Cu	Pb	Hg	Ni	Zn
SD3	2 June 2020	2	<0.1	<1	<1	<1	<0.05	11	<1
SD4	2 June 2020	1	<0.1	<1	<1	<1	<0.05	7	<1
SD3	30 June 2020	<0.05	<0.01	<0.01	<0.01	<0.03	<0.0005	<0.02	<0.02
SD4	30 June 2020	<0.05	<0.01	<0.01	<0.01	<0.03	<0.0005	<0.02	<0.02

Source: Walker Quarries

7.2.3 Discussion and Analysis

7.2.3.1 Monitoring Results

Results from discharge monitoring undertaken at SD1 on 6 April 2020 indicate water quality was within the limits specified in EPL 13172 for all parameters.

Monthly monitoring of water quality in Cox's River was undertaken from February 2020, at sites SD3 and SD4. Results from this monitoring indicate the water in Cox's River is generally more alkaline than water discharged from site, with recorded pH values of 8.2 to 8.9 at SD3 and 8.1 to 8.7 at SD4. These results are significantly higher than the pH recorded during discharge monitoring at SD1 in April 2020 (6.6). The recorded pH was above the upper ANZECC guideline for pH (8.5) at both SD3 and SD4 during March 2020 and again at SD4 during the June 2020 sampling round.

Electrical conductivity results also indicate that the water in Cox's River is more saline than the discharge water, with EC ranging from 930 – 1100 $\mu\text{S}/\text{cm}$ at SD3 and 340 – 1000 $\mu\text{S}/\text{cm}$ at SD4 (compared to 120 $\mu\text{S}/\text{cm}$ recorded at SD1 during the April 2020 discharge event).

Sulphate concentrations were also higher in Cox's River, with results ranging from 180 – 240 mg/L at SD3 and 69 – 190 mg/L at SD4 (compared to 24mg/L recorded at SD1 during the April 2020 discharge event).

Monitoring results were generally consistent at both Cox's River sites in February and March 2020, however, from April 2020 onwards the electrical conductivity and sulphate concentrations were generally higher at SD3 compared to SD4. SD3 is located in closer proximity to the Lithgow coal mines and power stations which typically have discharged water with higher sulphate and EC concentrations. The higher levels recorded at SD3 may be influenced from increased runoff from such sites or increased release from lake Wallace (which collects much of the runoff from these sites) during these months.

The results of the metals monitoring do not at this stage provide any significant guidance on local baseline levels although it is noted that they are generally similar (between SD3 and SD4) each time.

7.2.3.2 Water Management System/Erosion and Sediment Control

The dams, sediment basins, catchment drains and other erosion and sediment control structures of the Quarry Site were observed to be generally well maintained and managed in accordance with the Quarry Soil and Water Management Plan (SWMP).

During the inspection of 30 June 2020, it was confirmed that the flow of dirty water is in accordance with the SWMP. The Clean Water Drainage Line which takes water from the Great Western Highway and transfers this to a tributary of the Coxs River to the south showed no signs of pollution and retained excellent vegetation growth. Quarry management confirmed that sediment dams and silt cells are regularly excavated of consolidated silt which is transferred to drying cells and eventual use in rehabilitation.

Plate 17 (p. 22) presents images of this being undertaken from the Silt Detention Basins on the MSA on 30 June 2020.

Also noted during the site inspection of 30 June 2020, an historic runoff / discharge point from the upper tier of the WSA has been blocked by construction of a low bund to direct water to SB6 (**Plate 18**, p. 22). It is recommended that the hay bale protection located at the historic discharge point be removed once vegetation is established in the washout zone (**Plate 19**, p. 22).

Similarly, sediment fencing located downstream of the vegetated wall of SD1 (see **Plate 20**, p. 22) is now no longer required and it is recommended it be removed during the next reporting period.

The generally good practice notwithstanding, the capacity of sediment basins 5, 7a and 7b appeared below that required to effectively store and settle runoff from the respective. A recommendation to increase the capacity requirements for these catchments contained in the 2019 Annual Review is repeated. It is noted that works on these sediment basins was postponed in 2019-2020, firstly while determination of DA 344-11-2001-MOD 3 was confirmed and subsequently while the updated SWMP and ESCP was reviewed.

7.3 Groundwater

7.3.1 Predicted Impacts and Performance Criteria

A Groundwater Impact Assessment was undertaken by Jacobs Pty Ltd to support the application for DA 344-11-2001-MOD 3 (Jacobs 2019). This assessment assumed extraction to an elevation of 860 mAHD and predicted impacts to surrounding bores, groundwater dependent ecosystems and the Cocks River to be minor. Extraction below the groundwater table has not been approved by DA 344-11-2001-MOD 3 and as a result no impact on local groundwater levels, bores or ecosystems is likely.

There are no prescribed groundwater monitoring criteria in DA 344-11-2001 or EPL 13172. Rather, the elevation of the local water table is to be monitored to prevent unanticipated intersection by extraction operations at the Quarry, which is considered unlikely above an elevation of 900 m AHD.

7.3.2 Measured Performance

No groundwater was encountered within the extraction and the elevation of the extraction area remained above 945 m AHD.

To meet the environmental management and monitoring commitments of the Quarry's environmental management plans, groundwater monitoring at three bores continued during the reporting period (Figure 6.1). Continuous monitoring of these bores is undertaken by down-hole data loggers which monitor groundwater levels at a 6-hourly frequency. Monitoring commenced on 22 June 2018 at GW1, 12 July 2018 at GW2, and 3 August 2018 at GW3. The data loggers are owned by the Quarry and downloaded quarterly.

The data period covered by this report extends from 1 July 2019 to 30 June 2020. Groundwater levels (and changes in groundwater level) are summarised in **Table 7.5** and shown in **Figure 7.1**.

Table 7.5 Summarised Quarry Groundwater Monitoring Bore Groundwater Level Data

Bore ID	Data logger groundwater level – commencement of monitoring ¹ (m AHD)	Data logger groundwater level – commencement of reporting period (m AHD)	Data logger groundwater level – end of reporting period (m AHD)	Change in groundwater level during reporting period (m)	Change in groundwater level since commencement of monitoring (m)
GW1	874.33	874.45	873.07	-1.38	-1.26
GW2	899.75	899.69	899.05	-0.64	-0.70
GW3	895.01	893.22	891.52	-1.71	-3.49

Source: Walker Quarries

Note ¹: Stabilised data start date i.e. GW1 (1/9/2018), GW2 (20/7/2018), GW3 (5/8/2018)

Samples were collected from all three groundwater bores (GW1, GW2 and GW3) on 9 December 2019 for metals analysis. Results are provided in **Table 7.6**.

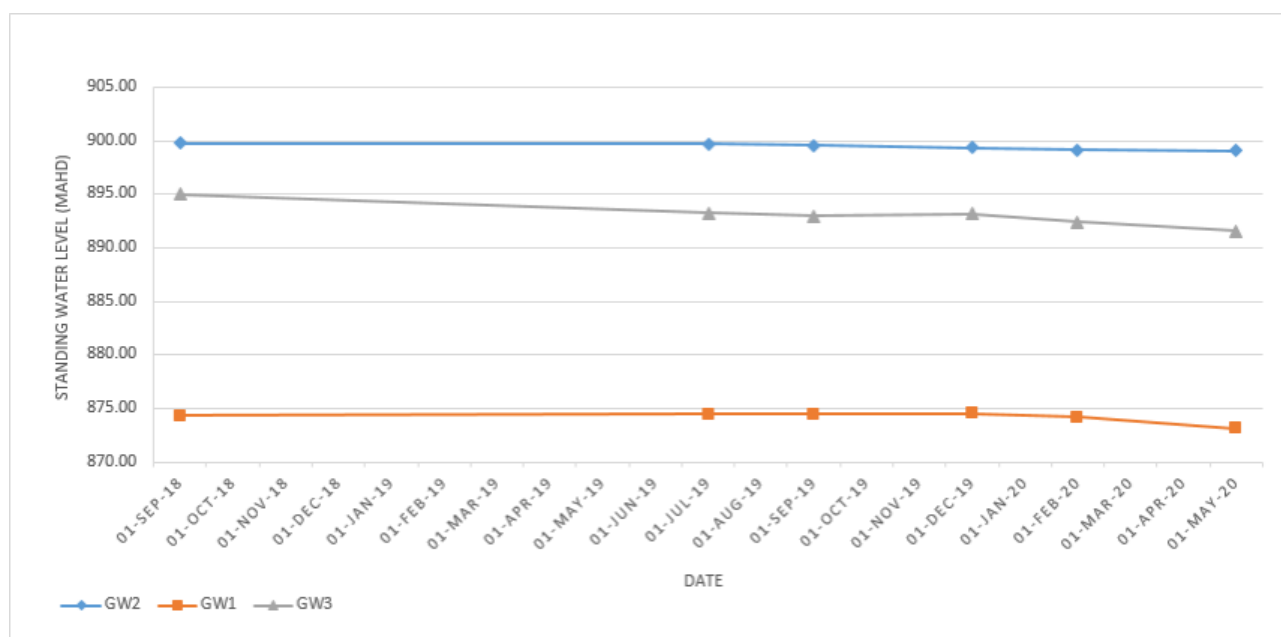


Figure 7.1 Groundwater Levels (2018 – 2020)

Table 7.6 Summarised Quarry Groundwater Monitoring Bore Groundwater Metals Data

Bore ID	GW1	GW2	GW3	Criteria
Sample Date	9 December 2019	9 December 2019	9 December 2019	
Arsenic	0.007	-	-	24
Nickel	0.002	-	0.013	11
Zinc	0.019	0.023	0.016	8

Source: Walker Quarries

Note 1: All units are µg/L

7.3.3 Discussion and Analysis

As expected, groundwater was not encountered within the extraction area during the reporting period.

An analysis of the groundwater monitoring data indicate a decline in groundwater levels over the reporting period and over the period of operation more generally. This period has coincidence with a period of below average rainfall and as such any trends in groundwater level should be reviewed following periods of rainfall reflecting average or above average conditions.

Limited sampling and analysis has been undertaken for metals in water samples collected from groundwater bores GW1, GW2 and GW3. Monitoring results for the samples collected in December 2019 indicate concentrations of arsenic, nickel and zinc are well below the ANZECC 2000 criteria (95th percentile).

8.0 Rehabilitation

8.1 Rehabilitation Performance during the Reporting Period

Limited areas of the Quarry Site were available for rehabilitation during the reporting period and as a result no additional rehabilitation was undertaken during the reporting period. Rehabilitation activities were limited to the following.

- Vegetation established on the Visual Amenity Bund, located to the north of the Western Stockpile Area was maintained (**Plates 6 and 13**, pp. 19 & 21).
- Natural revegetation of the batters to the south of the weighbridge (along the haul road), east of the MSA and on the batter slopes of the silt cells and storage dams continued.
- Rehabilitation areas along the Great Western Highway on either side of the Quarry entrance were maintained.

Table 8.1 provides a summary of the disturbance and rehabilitation areas (as nominated in the Quarry MOP, Umwelt, 2020).

Table 8.1 Rehabilitation Status

Mine Area Type	Previous Reporting Period (Actual) (ha)	This Reporting Period (Actual) (ha)	Next Reporting Period (Forecast) (ha)
A. Total mine footprint	18.6	18.6	20.25
B. Total active disturbance	16.0	16.0	17.35
C. Land being prepared for rehabilitation	0	0	0.3
D. Land under active rehabilitation	2.6	2.6	2.9
E. Completed rehabilitation	0	0	0

8.2 Actions for the Next Reporting Period

As all areas of disturbance will be required for Quarry operations, no major rehabilitation activities are proposed for the next reporting period.

A small area of the batter slope opposite the Quarry weighbridge will be hydromulched to promote vegetation establishment. Growth medium may also be applied to the batter slope to the north of the Site Access Road (east of the Quarry weighbridge).

9.0 Community

9.1 Consultation and Community Engagement

9.1.1 Community Consultative Committee

One meeting of the Wallerawang Quarry Community Consultative Committee (CCC) was held during the reporting period, on the 13 November 2019. A second meeting was scheduled to be held in June 2020 however this meeting was postponed until August 2020 due to Covid-19.

Appendix 5 presents the minutes from the November 2019 meeting. The Quarry staff present at the meeting provided information about Quarry operations, planning and compliance matters, and answered questions.

9.1.2 Other Consultation

Walker Quarries maintains an open door policy and has offered to provide local community members with 'tours' of the Quarry if requested. Both the Quarry Manager and Operations manager have indicated they are happy to field queries and respond to issue of concern.

9.2 Complaints

One complaint was received during the reporting period (**Appendix 6**). The complaint was from a private resident and was reported via email to Walker Quarries on 20 November 2019. The complaint related to the number of trucks travelling between the Quarry and Mt Piper Power Station and the subsequent noise. An investigation into the complaint found that non-quarry trucks were responsible for the noise, however, Walker Quarries implemented the following actions to minimise the potential for impacts from quarry trucks:

- Discussed the transport arrangements with Energy Australia, Walker Quarries transport contractors
- Tool boxed all transport companies and drivers with respect to their driver behaviours, and
- Changed the hours of delivery to minimise truck movements over potentially sensitive times of the day.

10.0 Independent Audit

10.1 Requirement

In accordance with the requirements of *Condition 5(13)* of DA 344-11-2001-MOD 3, an Independent Environmental Audit (IEA) of the Quarry is to be completed prior to the end of June 2021, and every three years thereafter.

10.2 Independent Environment Audit

The next IEA is due to be completed by the end of June 2021.

10.2.1 Action Plan

The next IEA is due to be completed by the end of June 2021.

11.0 Incidents and Non-Compliances during the Reporting Period

11.1 Incidents

There were no Incidents recorded during the reporting period.

11.2 Warnings, Notices and Additional Regulatory Authority Advice

No warnings or notices were issued by the Department of Planning, Industry and Environment (DPIE) during the reporting period.

11.3 Non-Compliant Conditions

Please refer to **Table 1.2** in **Section 1.0**, which summarises the Quarry's non-compliances with conditions of DA 344-11-2001, ML 1633, and EPL 13172 during the reporting period.

During the reporting period, the following Non-Compliances occurred:

- Condition L1.5 of EPL13172 requires Walker Quarries to submit an Annual Return to the EPA no later than 60 days after the end of the reporting period. The Annual Return for 2018/2019 was received by the EPA on 7 January 2020. This is more than 60 days after the end of the reporting period (20 October 2019).
- Condition 3(11) of DA 344-11-2001-MOD 3: This condition requires compliance with airborne particulate matter criteria. While monitoring was undertaken in accordance with an approved Air Quality Monitoring Program during the reporting period, compliance with these criteria cannot be confirmed.
- Condition 3(14) of DA 344-11-2001: The condition requires Walker Quarries to implement the approved Air Quality Management Plan. This includes monitoring of dust deposition to be undertaken in accordance with AS/NZS 3580.10.1:2003. The monitoring period prescribed in this standard is 30 +/- 2 days. On 4 occasions the monitoring period was outside this standard, as shown in
- **Table 11.1.**

Table 11.1 Deposited Dust Non-compliances

Sampling period	Required Sample Period	Actual Sample Period
November 2019	30+/- 2 days	33
December 2019	30+/- 2 days	35
February 2020	30+/- 2 days	27
March 2020	30+/- 2 days	33

- Condition M4.1 of EPL 13172: The condition requires that the Meteorological Monitoring Station collects data on Sigma Theta. The Quarry Meteorological Monitoring Station does not collect this data.

11.4 General Compliance

During the reporting period, the only non-compliances have been administrative in nature.

It is considered that during the reporting period, the improvements to overall environmental performance and adherence to administrative environmental requirements observed during the last reporting period have been maintained.

During the reporting period, four dust monitoring events were performed outside the recommended 30 days ± 2 days (in accordance with AS/NZS 3580.10.1:2003 Methods for Sampling and Analysis of Ambient Air – Determination of Particulate Matter – Deposited Matter – Gravimetric Method).

All environmental monitoring has been undertaken with results confirming compliance with relevant criteria and generally good environmental performance. Some minor non-compliance with the period of monitoring occurred, however, this is unlikely to have influence results to an extent where exceedances of criteria could have occurred (but for non-compliant period of monitoring).

Continued excellent environmental performance is expected over the course of the next reporting period as operations progress to the MOD 3 extension.

12.0 Activities to be Completed in the Next Reporting Period

Key activities to be completed during the next reporting period are summarised as follows.

- Finalise and implement of updated environmental management plans following approval of MOD 3.
- Commission an Independent Environmental Audit of the quarry in accordance with Schedule 5 Condition 13 of DA 344-11-2001.
- Apply for a variation to EPL 13172 to update noise limits to reflect the updated noise criteria of DA 344-11-2001-MOD 3.
- Update the Environmental Management Register to reflect updated and approved management plans. Include Environmental Inspection Checklist, Haul Road Inspection Checklist and Wallerawang Site SHE Schedule will be updated.
- Sediment basins (SB5, SB7a and SB7b) (refer to **Figure 4.1**) require desilting and enlarging to ensure design storage capacity.
- Remove redundant hay bale protection and sediment fencing.
- Prepare an updated Landscape Planting Plan to enable the more visible areas of the Quarry Site to be better screened or obstructed from external vantage points (including the Great Western Highway).
- Quarry operations will continue generally as completed during the reporting period and in accordance with the Quarry MOP. Should any deviations from this be required, these will only be undertaken subject to approval by the DPIE and (if required) approval of an updated MOP.
- Rehabilitation activities will be restricted to the maintenance of areas already rehabilitated and ad hoc stabilisation and revegetation works as required.

13.0 References

Ecoplanning Pty Ltd (Ecoplanning) (2019). Biodiversity Monitoring 2019 Walker Quarry, Wallerawang, NSW. Prepared for: Walker Quarries Pty Limited, 26 February 2020 Version: Final.

Ecoplanning Pty Ltd (Ecoplanning) (2020a). Pre-Clearance Surveys, Wallerawang Quarry. 2 June 2020.

Jacobs Australia Pty Limited (Jacobs) (2019). Wallerawang Quarry – Groundwater Impact Assessment. Wallerawang Quarry Extension. Prepared for Walker Quarries, 2 July 2019 Version 001: Final

Muller Acoustic Consulting Pty Ltd (MAC) (2019a). Noise and Vibration Impact Assessment, Wallerawang Quarry, Wallerawang NSW. Prepared for Umwelt (Australia) Pty Ltd, May 2019 Version: Final.

Muller Acoustic Consulting Pty Ltd (MAC) (2019b). Noise Monitoring Assessment Wallerawang Quarry, September 2019. Prepared for Walker Quarries, 17 October 2019 Version: Final.

Muller Acoustic Consulting Pty Ltd (MAC) (2020). Noise Monitoring Assessment Wallerawang Quarry, March 2020. Prepared for Walker Quarries, 9 April 2020 Version: Final

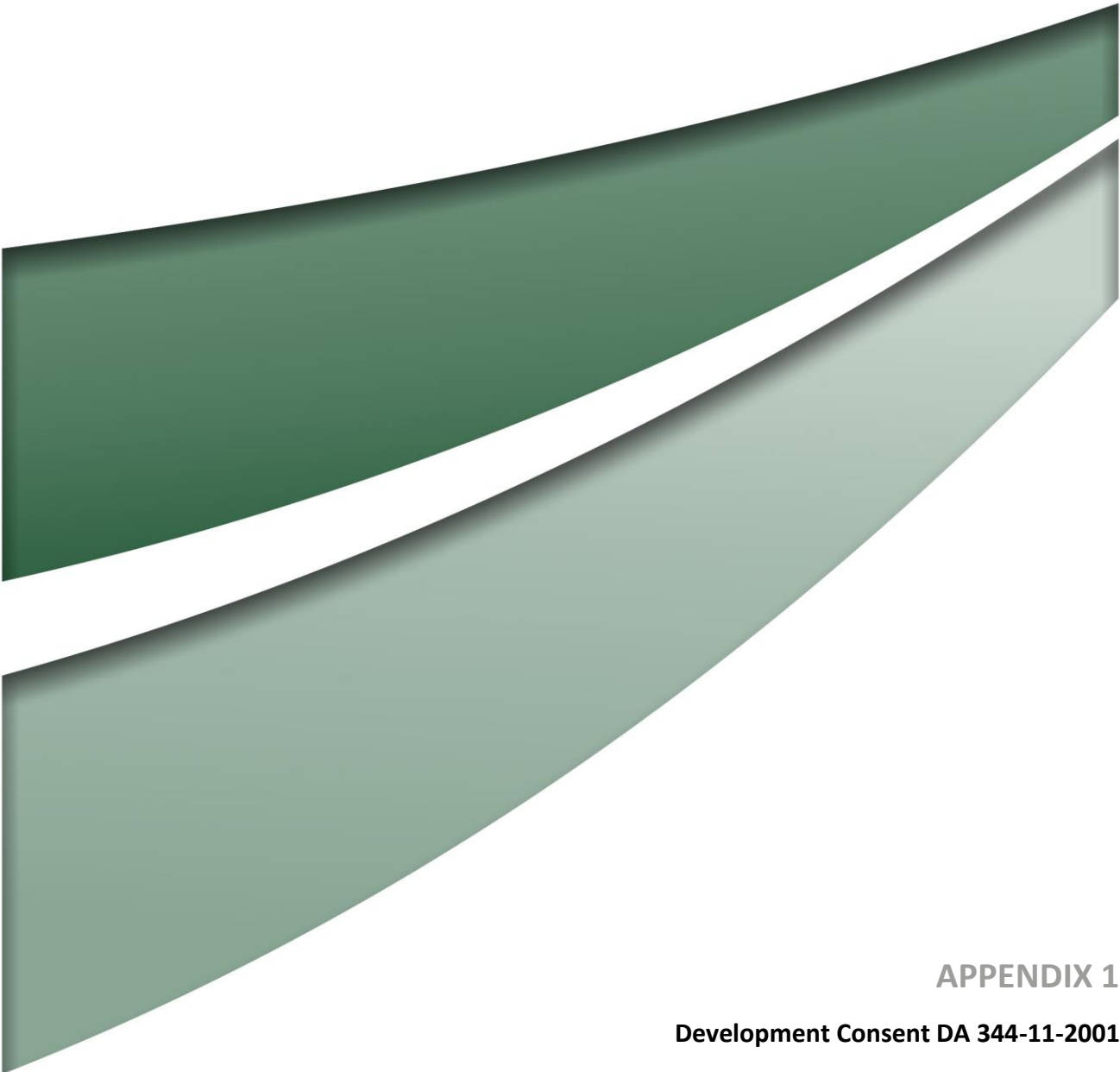
OzArk Environmental and Heritage Management Pty Ltd (OzArk) (2018). Aboriginal and Cultural Heritage Assessment Report. Prepared for Umwelt (Australia) Pty Limited on behalf of Walker Quarries Pty Limited, June 2019 Version: Final V3.

Pacrim Environmental (Pacrim) (2001). Environmental Impact Statement Proposed Wallerawang Quarry. Prepared for Sitegoal Pty. Limited, November 2001 (report 01/206.1).

Ramboll Australia Pty Ltd (Ramboll) (2019). Wallerawang Quarry Modification Air Quality Assessment. Intended for Walker Quarries Pty Ltd. May 2019. Final V1.

Rangott Mineral Exploration Pty Ltd (Rangott) (2020). Annual Exploration Progress Report for the period 13 January 2019 to 12 January 2020. January 2020.

RW Corkery & Co Pty Limited (RWC) (2018). Mining Operations Plan (incorporating Rehabilitation Management Plan) for the Wallerawang Quarry, March 2018.



APPENDIX 1

Development Consent DA 344-11-2001

SCHEDULE 5
ENVIRONMENTAL MANAGEMENT, REPORTING AND AUDITING

ENVIRONMENTAL MANAGEMENT

Environmental Management Strategy

1. The Applicant must prepare an Environmental Management Strategy for the development to the satisfaction of the Secretary. This strategy must:
 - (a) be submitted to the Secretary for approval within 6 months of the Secretary requiring preparation of the strategy by notice to the Applicant;
 - (b) provide the strategic framework for environmental management of the development;
 - (c) identify the statutory approvals that apply to the development;
 - (d) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the development;
 - (e) describe the procedures to be implemented to:
 - keep the local community and relevant agencies informed about the operation and environmental performance of the development;
 - receive, record, handle and respond to complaints;
 - resolve any disputes that may arise during the course of the development;
 - respond to any non-compliance;
 - respond to emergencies; and
 - (f) include:
 - copies of any strategies, plans and programs approved under the conditions of this consent; and
 - a clear plan depicting all the monitoring to be carried out under the conditions of this consent.

The Applicant must implement any Environmental Management Strategy as approved from time to time by the Secretary.

Evidence of Consultation

2. Where consultation with any public authority is required by the conditions of this consent, the Applicant must:
 - (a) consult with the relevant public authority prior to submitting the required document ~~to the Secretary for approval;~~
 - (b) submit evidence of this consultation as part of the relevant document;
 - (c) describe how matters raised by the authority have been addressed and any matters not resolved; and
 - (d) include details of any outstanding issues raised by the authority and an explanation of disagreement between any public authority and the Applicant.

Management Plan Requirements

3. The Applicant must ensure that the management plans required under this consent are prepared in accordance with any relevant guidelines, and include:
 - (a) detailed baseline data;
 - (b) a description of:
 - the relevant statutory requirements (including any relevant approval, licence or lease conditions);
 - any relevant limits or performance measures/criteria; and
 - the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures;
 - (c) a description of the measures that to be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria;
 - (d) a program to monitor and report on the:
 - impacts and environmental performance of the development; and
 - effectiveness of any management measures (see (c) above);
 - (e) a contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible;
 - (f) a program to investigate and implement ways to improve the environmental performance of the development over time;
 - (g) a protocol for managing and reporting any:
 - incidents;
 - complaints;
 - non-compliances with statutory requirements; and
 - exceedances of the impact assessment criteria and/or performance criteria; and

- (h) a protocol for periodic review of the plan.

Note: The Secretary may waive some of these requirements if they are unnecessary or unwarranted for particular management plans.

Application of Existing Management Plans

4. The Applicant must continue to apply existing approved management plans, strategies or monitoring programs that have most recently been approved under this consent, until the approval of a similar plan, strategy or program under this consent.

Revision of Strategies, Plans & Programs

5. Within 3 months of the submission of an:
- (a) incident report under condition 9 below;
 - (b) Annual Review under condition 11 below;
 - (c) audit report under condition 12 below; and
 - (d) any modifications to this consent,
- the Applicant must review the strategies, plans and programs required under this consent, to the satisfaction of the Secretary. The applicant must notify the Department in writing of any such review being undertaken. Where this review leads to revisions in any such document, then within 6 weeks of the review the revised document must be submitted for the approval of the Secretary.

Note: The purpose of this condition is to ensure that strategies, plans and programs are regularly updated to incorporate any measures recommended to improve environmental performance of the development.

Updating and Staging of Strategies, Plans or Programs

6. To ensure that strategies, plans or programs required under this consent are updated on a regular basis, and that they incorporate any appropriate additional measures to improve the environmental performance of the development, the Applicant may at any time submit revised strategies, plans or programs for the approval of the Secretary. With the agreement of the Secretary, the Applicant may also submit any strategy, plan or program required by this consent on a staged basis.

The Secretary may approve a revised strategy, plan or program required under this consent, or the staged submission of any of these documents, at any time. With the agreement of the Secretary, the Applicant may prepare the revised or staged strategy, plan or program without undertaking consultation with all parties nominated under the applicable condition in this consent.

While any strategy, plan or program may be submitted on a staged basis, the applicant will need to ensure that the operations associated with the development are covered by suitable strategies, plans or programs at all times.

If the submission of any strategy, plan or program is to be staged; then the relevant strategy, plan or program must clearly describe the specific stage/s of the development to which the strategy, plan or program applies; the relationship of this stage/s to any future stages; and the trigger for updating the strategy, plan or program.

Adaptive Management

7. The Applicant must assess and manage development-related risks to ensure that there are no exceedances of the criteria and/or performance measures in Schedule 3. Any exceedance of these criteria and/or performance measures constitutes a breach of this consent and may be subject to penalty or offence provisions under the EP&A Act or EP&A Regulation.

Where any exceedance of these criteria and/or performance measures has occurred, the Applicant must as soon as becoming aware of any exceedance:

- (a) take all reasonable and feasible steps to ensure that the exceedance ceases and does not reoccur;
 - (b) consider all reasonable and feasible options for remediation (where relevant);
 - (c) within 14 days of the exceedance occurring, submit a report to the Secretary describing these remediation options and any preferred remediation measures or other course of action; and
 - (d) implement remediation measures as directed by the Secretary;
- to the satisfaction of the Secretary.

COMMUNITY CONSULTATIVE COMMITTEE

8. The Applicant must establish and operate a Community Consultative Committee (CCC) for the development to the satisfaction of the Secretary. The CCC must be operated in general accordance with the Department's *Community Consultative Committee Guidelines, November 2016* (or later version).

Notes:

- *The CCC is an advisory committee. The Department and other relevant agencies are responsible for ensuring that the Applicant complies with this consent.*
- *In accordance with the guidelines, the Committee should comprise an independent chair and appropriate representation from the Applicant, Council and the local community.*

REPORTING

Incident Reporting

9. The Applicant must immediately notify the Secretary (using the contact name, email address and phone number provided by the Department from time to time) and any other relevant agencies of any incident.
10. Within 7 days of the date of the incident, the Applicant must provide the Secretary and any relevant agencies with a detailed report on the incident, and such further reports as may be requested. This report must include the time and date of the incident, details of the incident, measures implemented to prevent re-occurrence and must identify and non-compliance with this consent.

Regular Reporting

11. The Applicant must provide regular reporting on the environmental performance of the development on its website, in accordance with the reporting arrangements in any plans or programs approved under the conditions of this consent.

Annual Review

12. By the end of September each year, or other timing as may be agreed by the Secretary, the Applicant must submit a review to the Department reviewing the environmental performance of the development to the satisfaction of the Secretary. This review must:
- (a) describe the development (including any progressive rehabilitation) that was carried out in the previous financial year, and the development that is proposed to be carried out over the current financial year;
 - (b) include a comprehensive review of the monitoring results and complaints records of the development over the previous financial year, which includes a comparison of these results against the:
 - relevant statutory requirements, limits or performance measures/criteria;
 - requirements of any plan or program required under this consent;
 - monitoring results of previous years; and
 - relevant predictions in the documents listed in condition 2(a) of Schedule 2;
 - (c) identify any non-compliance over the past financial year, and describe what actions were (or are being) taken to ensure compliance;
 - (d) identify any trends in the monitoring data over the life of the development;
 - (e) identify any discrepancies between the predicted and actual impacts of the development, and analyse the potential cause of any significant discrepancies; and
 - (f) describe what measures will be implemented over the current [financial/calendar] year to improve the environmental performance of the development.

The Applicant must ensure that copies of the Annual Review are submitted to Council and are available to the Community Consultative Committee (see condition 7 of Schedule 5) and any interested person upon request.

INDEPENDENT ENVIRONMENTAL AUDIT

13. Within a year of the date of this consent, and every 3 years thereafter, unless the Secretary directs otherwise, the Applicant must commission, commence and pay the full cost of an Independent Environmental Audit of the development. This audit must:
- (a) be led and conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Secretary;
 - (b) include consultation with the relevant agencies and the CCC;
 - (c) assess the environmental performance of the development and whether it is complying with the relevant requirements in this consent and any relevant EPL or necessary water licences for the development (including any assessment, strategy, plan or program required under these approvals);
 - (d) review the adequacy of strategies, plans or programs required under the abovementioned approvals;

- (e) recommend appropriate measures or actions to improve the environmental performance of the development, and/or any assessment, strategy, plan or program required under the abovementioned approvals; and
 - (f) be conducted and reported to the satisfaction of the Secretary.
14. Within 12 weeks of commencing this audit, or as otherwise agreed by the Secretary, the Applicant must submit a copy of the audit report to the Secretary and any other NSW agency that requests it, together with its response to any recommendations contained in the audit report, and a timetable for the implementation of these recommendations as required. The Applicant must implement these recommendations, to the satisfaction of the Secretary.

ACCESS TO INFORMATION

15. Within 6 months of the date of this consent, until the completion of all works, including rehabilitation and remediation the Applicant must:
- (a) make the following information publicly available on its website:¹
 - the documents listed in condition 2(a) of Schedule 2;
 - current statutory approvals for the development;
 - all approved strategies, plans and programs required under the conditions of this consent;
 - a comprehensive summary of the monitoring results of the development, reported in accordance with the specifications in any conditions of this consent, or any approved plans and programs;
 - a complaints register, updated monthly;
 - the annual reviews of the development;
 - any independent environmental audit as described in condition 12 above, and the Applicant's response to the recommendations in any audit; and
 - any other matter required by the Secretary; and
 - (b) keep this information up-to-date, to the satisfaction of the Secretary.

SCHEDULE 5
ENVIRONMENTAL MANAGEMENT, REPORTING AND AUDITING

ENVIRONMENTAL MANAGEMENT

Environmental Management Strategy

1. The Applicant must prepare an Environmental Management Strategy for the development to the satisfaction of the Secretary. This strategy must:
 - (a) be submitted to the Secretary for approval within 6 months of the Secretary requiring preparation of the strategy by notice to the Applicant;
 - (b) provide the strategic framework for environmental management of the development;
 - (c) identify the statutory approvals that apply to the development;
 - (d) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the development;
 - (e) describe the procedures to be implemented to:
 - keep the local community and relevant agencies informed about the operation and environmental performance of the development;
 - receive, record, handle and respond to complaints;
 - resolve any disputes that may arise during the course of the development;
 - respond to any non-compliance and any incident;
 - respond to emergencies; and
 - (f) include:
 - copies of any strategies, plans and programs approved under the conditions of this consent; and
 - a clear plan depicting all the monitoring to be carried out under the conditions of this consent.

The Applicant must implement any Environmental Management Strategy as approved from time to time by the Secretary.

Evidence of Consultation

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

Management Plan Requirements

3. Management plans required under this consent must be prepared in accordance with relevant guidelines, and include:
 - (a) a summary of relevant background or baseline data;
 - (b) details of:
 - (i) the relevant statutory requirements (including any relevant approval, licence or lease conditions);
 - (ii) any relevant limits or performance measures and criteria; and
 - (iii) the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures;
 - (c) any relevant commitments or recommendations identified in the document/s listed in condition 2(c) of Schedule 2;
 - (d) a description of the measures to be implemented to comply with the relevant statutory requirements, limits, or performance measures and criteria;
 - (e) a program to monitor and report on the:
 - (i) impacts and environmental performance of the development; and
 - (ii) effectiveness of the management measures set out pursuant to condition 2(c) of Schedule 2;
 - (f) contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible;
 - (g) a program to investigate and implement ways to improve the environmental performance of the development over time;
 - (h) a protocol for managing and reporting any:
 - (i) incident, non-compliance or exceedance of the impact assessment criteria or performance criteria;
 - (ii) complaint; or

- (iii) failure to comply with statutory requirements;
- (i) public sources of information and data to assist stakeholders in understanding environmental impacts of the development; and
- (j) a protocol for periodic review of the plan.

Note: The Secretary may waive some of these requirements if they are unnecessary or unwarranted for particular management plans.

- 3A. The Applicant must ensure that management plans prepared for the development are consistent with the conditions of this consent and any EPL issued for the site.

Application of Existing Management Plans

4. The Applicant must continue to apply existing approved management plans, strategies or monitoring programs that have most recently been approved under this consent, until the approval of a similar plan, strategy or program under this consent.

Revision of Strategies, Plans & Programs

5. Within 3 months of the submission of an:
- (a) incident report under condition 9 below;
 - (b) Annual Review under condition 11 below;
 - (c) audit report under [condition 14](#) below; and
 - (d) any modifications to this consent,
- the Applicant must review the strategies, plans and programs required under this consent, to the satisfaction of the Secretary. The applicant must notify the Department in writing of any such review being undertaken. Where this review leads to revisions in any such document, then within 6 weeks of the review the revised document must be submitted for the approval of the Secretary.

Note: The purpose of this condition is to ensure that strategies, plans and programs are regularly updated to incorporate any measures recommended to improve environmental performance of the development.

Updating and Staging of Strategies, Plans or Programs

6. With the approval of the Secretary, the Applicant may:
- (a) prepare and submit any strategy, plan or program required by this consent on a staged basis (if a clear description is provided as to the specific stage and scope of the development to which the strategy, plan or program applies, the relationship of the stage to any future stages and the trigger for updating the strategy, plan or program);
 - (b) combine any strategy, plan or program required by this consent (if a clear relationship is demonstrated between the strategies, plans or programs that are proposed to be combined); and
 - (c) update any strategy, plan or program required by this consent (to ensure the strategies, plans and programs required under the consent are updated on a regular basis and incorporate additional measures or amendments to improve the environmental performance of the development).
- 6A. If the Secretary agrees, a strategy, plan or program may be staged without addressing particular requirements of the relevant condition of this consent if those requirements are not applicable to a particular stage.
- 6B. If the Secretary agrees, a strategy, plan or program may be staged or updated without consultation being undertaken with all parties required to be consulted in the relevant condition in this consent.

Adaptive Management

7. The Applicant must assess and manage development-related risks to ensure that there are no exceedances of the criteria and/or performance measures in Schedule 3. Any exceedance of these criteria and/or performance measures constitutes a breach of this consent and may be subject to penalty or offence provisions under the EP&A Act or EP&A Regulation.

Where any exceedance of these criteria and/or performance measures has occurred, the Applicant must as soon as becoming aware of any exceedance:

- (a) take all reasonable and feasible steps to ensure that the exceedance ceases and does not reoccur;
 - (b) consider all reasonable and feasible options for remediation (where relevant);
 - (c) within 14 days of the exceedance occurring, submit a report to the Secretary describing these remediation options and any preferred remediation measures or other course of action; and
 - (d) implement remediation measures as directed by the Secretary;
- to the satisfaction of the Secretary.

COMMUNITY CONSULTATIVE COMMITTEE

8. The Applicant must establish and operate a Community Consultative Committee (CCC) for the development to the satisfaction of the Secretary. The CCC must be operated in general accordance with the Department's *Community Consultative Committee Guidelines, 2019* (or later version).

Notes:

- *The CCC is an advisory committee. The Department and other relevant agencies are responsible for ensuring that the Applicant complies with this consent.*
- *In accordance with the guidelines, the Committee should comprise an independent chair and appropriate representation from the Applicant, Council and the local community.*

REPORTING

Incident Reporting

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

Non-Compliance Notification

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

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

Annual Review

11. By the end of September in each year after the commencement of development, or other timeframe agreed by the Secretary, a report must be submitted to the Department reviewing the environmental performance of the development, to the satisfaction of the Secretary. This review must:
- describe the development (including any progressive rehabilitation) that was carried out in the previous financial year, and the development that is proposed to be carried out over the current financial year;
 - include a comprehensive review of the monitoring results and complaints records of the development over the previous financial year, including a comparison of these results against the:
 - relevant statutory requirements, limits or performance measures/criteria;
 - requirements of any plan or program required under this consent;
 - monitoring results of previous years; and
 - relevant predictions in the documents listed in condition 2(c) of Schedule 2;
 - identify any non-compliance or incident which occurred in the previous financial year, and describe what actions were (or are being) taken to rectify the non-compliance and avoid reoccurrence;
 - evaluate and report on:
 - the effectiveness of the noise and air quality management systems; and
 - compliance with the performance measures, criteria and operating conditions of this consent;
 - identify any trends in the monitoring data over the life of the development;
 - identify any discrepancies between the predicted and actual impacts of the development, and analyse the potential cause of any significant discrepancies; and
 - describe what measures will be implemented over the next financial year to improve the environmental performance of the development.
12. Copies of the Annual Review must be submitted to Council and made available to the CCC and any interested person upon request.

INDEPENDENT ENVIRONMENTAL AUDIT

13. Prior to the end of June 2021, and every three years after, unless the Secretary directs otherwise, the Applicant must commission and pay the full cost of an Independent Environmental Audit of the development. This audit must:
- be led by a suitably qualified, experienced and independent auditor whose appointment has been endorsed by the Secretary
 - be conducted by a suitably qualified, experienced and independent team of experts (including any expert in field/s specified by the Secretary) whose appointment has been endorsed by the Secretary;

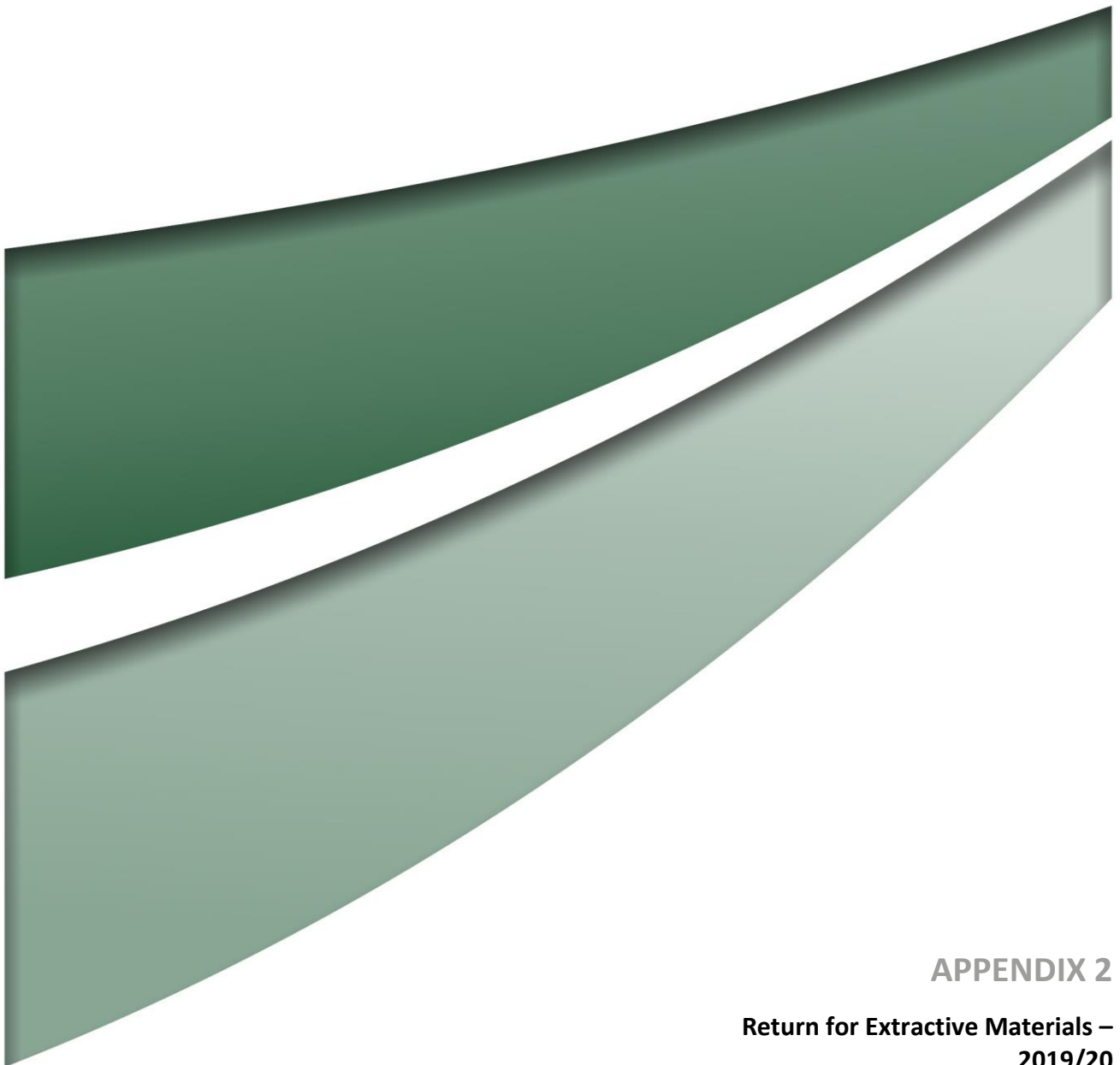
- (c) be carried out in consultation with the relevant agencies and CCC;
 - (d) assess the environmental performance of the development and whether it is complying with the relevant requirements in this consent, water licences and mining leases for the development (including any assessment, strategy, plan or program required under these approvals);
 - (e) review the adequacy of any approved strategy, plan or program required under the abovementioned approvals and this consent;
 - (f) recommend appropriate measures or actions to improve the environmental performance of the development and any assessment, strategy, plan or program required under the abovementioned approvals and this consent; and
 - (g) be conducted and reported to the satisfaction of the Secretary.
14. Within 12 weeks of commencing this audit, or as otherwise agreed by the Secretary, the Applicant must submit a copy of the audit report to the Secretary and any other NSW agency that requests it, together with its response to any recommendations contained in the audit report, and a timetable for the implementation of these recommendations as required. The Applicant must implement these recommendations, to the satisfaction of the Secretary.

Monitoring and Environmental Audits

15. Any condition of this consent that requires the carrying out of monitoring or an environmental audit, whether directly or by way of a plan, strategy or program, is taken to be a condition requiring monitoring or an environmental audit under Division 9.4 of the EP&A Act. This includes conditions in respect of incident notification, reporting and response, non-compliance notification, compliance report and independent audit.
- For the purposes of this condition, as set out in the EP&A Act, “monitoring” is monitoring of the development to provide data on compliance with the consent or on the environmental impact of the development, and an “environmental audit” is a periodic or particular documented evaluation of the development to provide information on compliance with the consent or the environmental management or impact of the development.
16. Noise, blast and/or air quality monitoring under this consent may be undertaken at suitable representative monitoring locations instead of at privately-owned residences or other locations listed in Schedule 3, providing that these representative monitoring locations are set out in the respective management plan/s.

ACCESS TO INFORMATION

17. Within 6 months of the date of this consent until the completion of all rehabilitation required under this consent, the Applicant must:
- (a) make the following information and documents (as they are obtained, approved or as otherwise stipulated within the conditions of this consent) publicly available on its website:
 - (i) the document/s listed in condition 2(c) of Schedule 2;
 - (ii) all current statutory approvals for the development;
 - (iii) all approved strategies, plans and programs required under the conditions of this consent;
 - (iv) the proposed staging plans for the development if the construction, operation or decommissioning of the development if it is to be staged;
 - (v) minutes of CCC meetings;
 - (vi) regular reporting on the environmental performance of the development in accordance with the reporting requirements in any plans or programs approved under the conditions of this consent;
 - (vii) a comprehensive summary of the monitoring results of the development, reported in accordance with the specifications in any conditions of this consent, or any approved plans and programs;
 - (viii) a summary of the current progress of the development;
 - (ix) contact details to enquire about the development or to make a complaint;
 - (x) a complaints register, updated monthly;
 - (xi) the Annual Reviews of the development;
 - (xii) audit reports prepared as part of any Independent Environmental Audit of the development and the Applicant’s response to the recommendations in any audit report;
 - (xiii) any other matters required by the Secretary; and
 - (b) keep such information up to date, to the satisfaction of the Secretary.



APPENDIX 2

**Return for Extractive Materials –
2019/20**

Extractive Materials Return 2019-2020



Regional
NSW

Form S1 – Period Ending 30 June 2020

Quote RIMS ID in all correspondence

Quarry Id: <u>13399 1110</u> Rims ID: <u>401163</u>	Inquiries please telephone: (02) 4063 6713 Completed or Nil Returns Email – mineral.royalty@planning.nsw.gov.au Postal Address (see below)
Operators Name: <u>Walker Quarries Pty Ltd</u> Address: <u>PO Box 115</u> <u>Wallerawang NSW 2845</u> Email: <u>accounts@walkerquarries.com.au</u>	Please amend name, postal address and location of mine or quarry if incorrect or incomplete.
Quarry Name: <u>Wallerawang Quarry</u> Quarry Address: <u>Lot 6 Great Western Hwy</u> <u>Wallerawang NSW 2845</u>	

The return should be completed and forwarded to **Senior Advisory Officer, RESOURCE ECONOMICS, RESOURCE PLANNING & PROJECTS, DEPARTMENT OF REGIONAL NSW, PO BOX 344 HUNTER REGION MAIL CENTRE NSW 2310** on or before **31 October 2020**. If completion of the return is unavoidably delayed, an application for extension of time should be requested **before** the due date. If no work was done during the year, a **NIL** return must be forwarded.

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

Director, Resource Planning & Projects

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

Typical Geology Quartzite (Mineral Group 2)
Nearest Town to Quarry Wallerawang
Local Council Name Lithgow City Council
Deposited Plan and Lot Number/s of Quarry Sitegoal P/L (Lot 7/DP 872230), Crown Land (Lot 7322/DP 1149335), State Forest (Lot 7011/DP 1201221)
Email Address of Operator accounts@walkerquarries.com.au
Name of Owner or Licensee Walker Quarries Pty Ltd
Postal Address of Licensee PO Box 115 Wallerawang NSW 2845
Licence/Lease Number/s (if any)
From Mining, Exploration & Geoscience (NSW Mineral Resources) ML 1633
From Crown Lands or other NSW Department NA

If any output was obtained from land NOT held under licence from the above Departments, state the Name/s and Address/es of the Owners of the land Sitegoal Pty Ltd

To the best of my knowledge, information entered in this return is correct and no blank spaces left where figures should have been inserted.

- SIGNATURE of PROPRIETOR or MANAGER [Signature] DATE 17-9-2020
- CONTACT PERSON for this return Accounts
- NAME (Block letters) Emily Moneysett Telephone 02 63244066

Extractive Materials Return

2019-2020



Regional
NSW

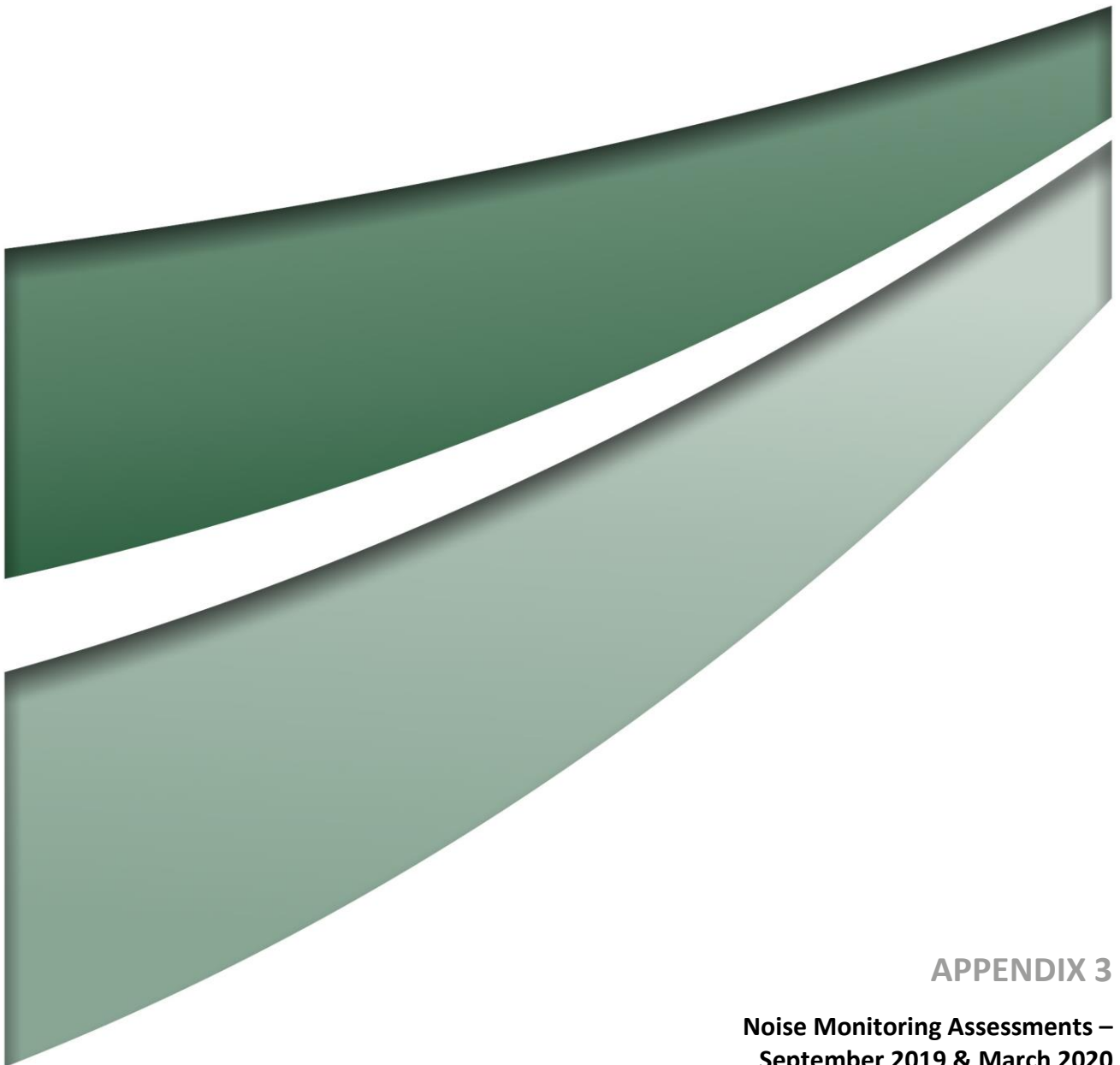
Form S1 – Period Ending 30 June 2020

Sales During 2019-2020

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

Product	Description	Quantity Tonnes
Virgin Materials		
Crushed Coarse Aggregates		
Over 75mm	Armour Rock & Gabion	2791.2
Over 30mm to 75mm	Ballast & 40/20 mm Agg	1381.96
5mm to 30mm	5, 7, 10, 14, 20, 10/7 & 20/14 Agg	47373.18
Under 5mm		
Natural Sand		
Manufactured Sand	Coarse & Fine washed Sand	51200.66
Prepared Road Base & Sub Base	DGB20, DGS 40 & Road base	19373.00
Other Unprocessed Materials		
Recycled Materials		
Crushed Coarse Aggregates		
Over 75mm		
Over 30mm to 75mm		
5mm to 30mm		
Under 5mm		
Natural Sand		
Manufactured Sand		
Prepared Road Base & Sub Base		
Other Unprocessed Materials		
River Gravel		
Over 30mm	Pebbles	816.0
5mm to 30mm		
Under 5mm		
Construction Sand	Excluding Industrial	
Industrial Sand		
Foundry, Moulding		
Glass		
Other (Specify)		
Dimension Stone	Building, Ornamental, Monumental	
Quarried in Blocks		
Quarried in Slabs		
Decorative Aggregate	Including Terrazzo	
Loam	Soil for Topdressing, Garden soil, Horticultural purposes)	
TOTAL SITE PRODUCTION		
Gross Value (\$) of all Sales	\$2873 017.59	
Type of Material	Virgin Material	
Number of Full-Time Equivalent (FTE) Employees	Employees 15	Contractors NA

Please Note: A return for clay-based products can be obtained by contacting the inquiry number.



APPENDIX 3

**Noise Monitoring Assessments –
September 2019 & March 2020**

Noise Monitoring Assessment

Wallerawang Quarry
September 2019



Document Information

Noise Monitoring Assessment

Wallerawang Quarry, September 2019

Prepared for: Walker Quarries Pty Ltd

Prepared by: Muller Acoustic Consulting Pty Ltd

PO Box 262, Newcastle NSW 2300

ABN: 36 602 225 132

P: +61 2 4920 1833

www.mulleracoustic.com

Document ID	Status	Date	Prepared By	Signed	Reviewed By	Signed
MAC160392RP6	Final	17 October 2019	Robin Heaton	<i>Robin Heaton</i>	Oliver Muller	<i>OM</i>

DISCLAIMER

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1 Introduction

Muller Acoustic Consulting Pty Ltd (MAC) has been commissioned by Walker Quarries Pty Ltd to complete a bi-annual Noise Monitoring Assessment (NMA) for Wallerawang Quarry ('the quarry').

The NMA involved quantifying the noise contribution of the quarry by direct attended measurements to compare quarry emissions against relevant criteria. Monitoring has been conducted at three representative receiver locations in accordance with the Walker Quarry Noise Management Plan (NMP) and the quarry's Environmental Protection License (ref: 13172). An additional measurement at a nearfield reference location was also conducted to verify the operation of quarry plant and to quantify the noise contribution from site.

The assessment has been conducted in accordance or with reference to the following documents:

- NSW Environment Protection Authority (EPA), Noise Policy for Industry (NPI), 2017;
- Environment Protection Licence EPL 13172 (EPL);
- Australian Standard AS 1055:2018 - Acoustics - Description and measurement of environmental noise - General Procedures;
- Atkins Acoustics and Associates Pty Ltd, Noise and Blast Impact Assessment, 2001; and
- Umwelt, Wallerawang Quarry Noise Management Plan (NMP), 2019.

A glossary of terms, definitions and abbreviations used in this report is provided in **Appendix A**.

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2 Noise Criteria

2.1 Environmental Protection License Noise Limits

Table 1 reproduces the noise criteria for the quarry as per Condition L4.1 of EPL 13172.

Table 1 Noise Limits, dBA			
Location	Day	Evening	Night
	L _{Aeq} (15min)	L _{Aeq} (15min)	L _{Aeq} (15min)
All privately owned residences	43	43	39

Note: Day Period is 7am to 6pm, Evening Period is 6pm to 10pm, Night Period is 10pm to 7am.

It is noted that Condition L4.3 of EPL 13172 identifies conditions under which the noise criteria do not apply and include:

- a) Wind speeds greater than 3m/s at 10m above ground level;
- b) Temperature inversion conditions greater than 3 degrees Celsius / 100m; or
- c) Under “non-significant weather conditions”.

2.2 Quarry Plant Sound Power Noise Limits

Table 6 of the Noise and Blast Impact Assessment (Atkins Acoustics and Associates Pty Ltd, 2001) prepared for the Environmental Impact Statement (EIS) (Pacrim Environmental, 2001) sets out the noise targets for mobile plant operating at the quarry. The noise criteria are reproduced in **Table 2**.

Table 2 Quarry Plant Sound Power Levels, dBA (re 10-12 Watts)	
Mobile Plant	Sound Power Level
Hydraulic Hammer Drill	116
Excavator	115
Rock Breaker	116
Mobile Crusher	115
Permanent Crusher	117
Front End Loader	115
Traxcavator	115
Truck	106

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3 Methodology

3.1 Locality

Wallerawang is located approximately 10km to the north west of Lithgow, NSW. Receivers in the locality surrounding the quarry are primarily rural/residential and for consistency the naming conventions for each receiver has been retained from the NMP. The monitoring locations with respect to the quarry are presented in **Table 3** and graphically in the locality plan shown in **Figure 1**.

Table 3 Receiver Locations

ID	Address	Distance to Quarry Boundary
RL1	Reference Location (adjacent to site office)	N/A
N1	139 Gemalong, Marrangaroo, NSW	1000m
N2	987 Great Western Highway, Marrangaroo, NSW	160m
N3	2 Cypress Close, Wallerawang, NSW	480m

3.2 Environmental Noise Assessment Methodology

The attended noise surveys were conducted in general accordance with the procedures described in Australian Standard AS 1055:2018, "Acoustics - Description and Measurement of Environmental Noise", the EPL and NMP. The measurements were carried out using a Svantek Type 1, 971 noise analyser on Wednesday 12 September 2019 and Thursday 13 September 2019. The acoustic instrumentation used carries current NATA calibration and complies with AS IEC 61672-2019-Electroacoustics - Sound level meters - Specifications. Calibration of all instrumentation was checked prior to and following measurements. Drift in calibration did not exceed ± 0.5 dBA.

Two daytime measurements of 15-minutes in duration were completed at each monitoring location during standard onsite operations. Where possible, throughout each survey the operator quantified the contribution of each significant noise source. Extraneous noise sources were excluded from the analysis to calculate the $L_{Aeq}(15min)$ quarry noise contribution for comparison against the relevant EPL limits.



FIGURE 1

LOCALITY PLAN

REF: MAC160392



KEY

●N1 RECEIVER / MONITORING LOCATION

●RL1 REFERENCE LOCATION

▭ PROJECT SITE

4 Results

The monitoring and assessment results are presented in individual tables for each assessment location.

4.1 Assessment Results – Reference Location (RL1)

Operational attended noise monitoring was completed at RL1 on Wednesday 11 September 2019 and Thursday 12 September 2019. **Table 4** presents the monitored noise level contributions and observed meteorological conditions for each measurement.

Table 4 Operator-Attended Noise Survey Results – Reference Location 1 (RL1)							
Date	Time (hrs)	Descriptor (dBA re 20 µPa)			EPL Limit ¹	Meteorology	Comments
		L _A max	L _A eq	L _A 90			
11/09/2019	14:41	74	67	62	N/A	WS: 1.6m/s	Screening plant 60-72 Haul truck 60-66
						WD: SE	
						Rain: Nil	
						Quarry Site L _A eq(15min) Contribution	
12/09/2019	08:13	79	70	68	N/A	WS: 0.5m/s	Screening plant 63-70 Road train 63-72
						WD: SE	
						Rain: Nil	
						Quarry Site L _A eq(15min) Contribution	

Note 1: EPL not applicable for this onsite reference location.

4.2 Assessment Results - Location N1

Operational attended noise monitoring was completed at N1 on Wednesday 11 September 2019 and Thursday 12 September 2019. **Table 5** presents the monitored noise level contributions and observed meteorological conditions for each measurement.

Table 5 Operator-Attended Noise Survey Results – Location N1							
Date	Time (hrs)	Descriptor (dBA re 20 µPa)			EPL Limit	Meteorology	Comments
		L _A max	L _A eq	L _A 90			
11/09/2019	15:23	61	45	39	43	WS: 2.4m/s	Traffic 40-56
						WD: SE	Birds 40-49
						Rain: Nil	Quarry hum <35
						Quarry Site L _A eq(15min) Contribution	
12/09/2019	09:37	65	51	46	43	WS: 2.5m/s	Wind 40-51
						WD: NE	Traffic 46-63
						Rain: Nil	Quarry Inaudible
						Quarry Site L _A eq(15min) Contribution	

Note 1: Quarry Site L_{Aeq}(15min) calculated based on nearfield measurements.

4.3 Assessment Results - Location N2

Operational attended noise monitoring was completed at N2 on Wednesday 11 September 2019 and Thursday 12 September 2019. **Table 6** presents the monitored noise level contributions and observed meteorological conditions for each measurement.

Table 6 Operator-Attended Noise Survey Results – Location N2							
Date	Time (hrs)	Descriptor (dBA re 20 µPa)			EPL Limit	Meteorology	Comments
		L _A max	L _A eq	L _A 90			
11/09/2019	14:19	75	58	40	43		Wind in trees 40-42
						WS: 2.2m/s	Traffic 38-48
						WD: SE	Birds 30-49
						Rain: Nil	Aircraft 63-75
							Screening plant 35-45
Quarry Site L _A eq(15min) Contribution							<43 ¹
12/09/2019	08:35	55	46	42	43	WS: 0.3m/s	Traffic 40-51
						WD: SE	Birds 43-46
						Rain: Nil	Quarry hum 35-40
Quarry Site L _A eq(15min) Contribution							<43 ¹

Note 1: Quarry Site L_{Aeq}(15min) calculated based on nearfield measurements.

4.4 Assessment Results - Location N3

Operational attended noise monitoring was completed at N3 on Wednesday 11 September 2019 and Thursday 12 September 2019. **Table 7** presents the monitored noise level contributions and observed meteorological conditions for each measurement.

Table 7 Operator-Attended Noise Survey Results – Location N3							
Date	Time (hrs)	Descriptor (dBA re 20 µPa)			EPL Limit	Meteorology	Comments
		L _A max	L _A eq	L _A 90			
11/09/2019	15:00	62	46	41	43	WS: 1.5m/s	Traffic 40-50
						WD: SE	Birds 41-62
						Rain: Nil	Screening plant 40-43
Quarry Site L _A eq(15min) Contribution							<39 ¹
12/09/2019	08:57	59	47	43	43		Wind 40-51
							Birds <42
						WS: 2.0m/s	Traffic 40-54
						WD: NW	Quarry hum 36
						Rain: Nil	Quarry impact noise to 45 (<10 secs)
Quarry Site L _A eq(15min) Contribution							<39 ¹

Note 1: Quarry Site L_{Aeq}(15min) calculated based on nearfield measurements.

4.5 Sound Power Audit Results

Octave band centre frequency analysis of sound power data for measured on-site plant is presented in **Table 8**. Results of the analysis identify that the overall sound power of items of plant used at the project site are below target sound power levels outlined in the EIS and NMP.

Table 8 Sound Power Levels												
Plant	Octave Band Centre Frequency, Lw Spectrum									Sound Power dBA Lw	Criteria	
	32	63	125	250	500	1k	2k	4k	8k			
Komatsu Loader WA480 #251	65	74	83	88	93	95	92	89	81	99	115	
Komatsu Loader WA480 #252	68	76	85	91	97	100	97	96	84	104	115	
Komatsu HM400 Haul Truck	70	79	96	94	99	100	98	73	84	105	106	
Sand Plant and Screens	83	91	96	100	104	107	106	101	93	112	115	
Komatsu WA500 Loader	69	79	90	91	97	98	97	94	83	103	115	
Komatsu PC450LC (old Digger)	73	80	93	91	100	103	99	96	82	106	115	
Cat D400E HT	71	94	86	94	100	104	103	96	86	108	115	
Main Crushers and Plant	85	92	97	101	106	110	111	107	96	115	115	

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5 Discussion

5.1 Discussion of Results – Reference Location (RL1)

Noise measurements on Wednesday 11 September 2019 and Thursday 12 September 2019 were conducted when Wallerawang Quarry was operating at normal production levels, which included use of mobile crushers, several mobile screens, excavator, road trucks, water cart, and mobile sand plant. The noise contribution from the quarry at the reference location was 70dBA LAeq(15min) for both measurements. The noise environment at the reference location was primarily dominated by the sand plant and road trucks.

From the attended reference measurements, the sound power (Lw) for the three acoustically significant items of plant was calculated to be 115dBA LAeq(15min) for both measurements.

To verify the offsite noise levels, calculations were undertaken to estimate the attenuation from the site to each monitoring location. The attenuation calculations incorporated loss due to distance, and conservative topography (ie barrier attenuation) and air absorption losses. The results of the attenuation calculations identified received noise level and the results of the attended surveys are discussed for each monitoring location in **Section 5.2 to 5.4**.

5.2 Discussion of Results – Location N1

Measurements conducted on Wednesday 11 September 2019 and Thursday 12 September 2019, identified that Wallerawang Quarry noise was audible during the first measurement conducted on 11 September 2019, however satisfied the relevant noise limits of 43dBA LAeq(15min). The quarry was inaudible during the second measurement, conducted on 12 September 2019, which also satisfies the criteria at this location. Extraneous non-quarry related sources included highway traffic, birds and wind that were significant contributors to the ambient noise environment.

The calculated attenuation between the quarry site and N1, taking into account distance loss, the surrounding topography and air absorption, was 82dB. Based on the site Lw established from the near field measurements, the resulting received quarry contribution at N1 is <33dBA. This level is significantly lower than the ambient dominant sources and generally masks site noise and confirms the quarry was inaudible at this location for the second measurement.

5.3 Discussion of Results – Location N2

Measurement results for N2 were dominated by highway traffic and bird noise that was constantly audible during all measurements on Wednesday 11 September 2019 and Thursday 12 September 2019. Quarry emissions were audible during both measurements conducted at this location however remained below the relevant noise limit of 43dBA LAeq(15min) on both occasions.

The attenuation between the quarry site and N2 taking into account distance between the locations, the loss due to surrounding topography (ie ground attenuation) and air absorption is 72dB. Based on the current site Lw established from the near field measurements, the resulting received quarry contribution at N2 is <43dBA. This estimated noise level are consistent with the measured noise contribution from the attended monitoring.

5.4 Discussion of Results – Location N3

Measurements conducted on Wednesday 11 September 2019 and Thursday 12 September 2019 for N3 were dominated by local and highway traffic however quarry operation, in particular the screens and crusher were audible throughout both measurements. Notwithstanding, quarry contributions remained below the relevant criteria of 43dBA LAeq(15min) for both measurements conducted at the location. The current operational position of the crusher is considered worst case for this location and as the pit progresses, the crusher will be shielded by the quarry walls which is expected to reduce the noise contribution at this location.

The total attenuation due to distance, air absorption and surrounding topography for N3 was estimated to be 76dB. This resulted in an estimated site noise contribution of <39dBA which is consistent with the measured noise contribution from the attended monitoring.

5.5 Discussion of Results – Sound Power Audit

The results of the sound power audit demonstrate that current plant used onsite comply with the relevant mobile and static sound power criteria as outlined in the NMP.

6 Conclusion

Muller Acoustic Consulting Pty Ltd (MAC) has completed a Noise Monitoring Assessment on behalf of Walker Quarries Pty Ltd. The assessment was completed to assess Wallerawang Quarry noise emissions against relevant criteria presented in EPL 13172.

Attended measurements for Wednesday 11 September 2019 and Thursday 12 September 2019 identified that noise emissions generated by Wallerawang Quarry satisfy relevant noise limits specified in the Noise Management Plan and Environmental Protection Licence at all assessed locations. In summary, quarry noise was audible during several offsite measurements, however monitoring locations were dominated by extraneous sources that often masked quarry operations.

All plant were found to comply with their respective noise limits outlined in the NMP.

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Appendix A – Glossary of Terms

Several technical terms have been used in this report and are explained in **Table A1**.

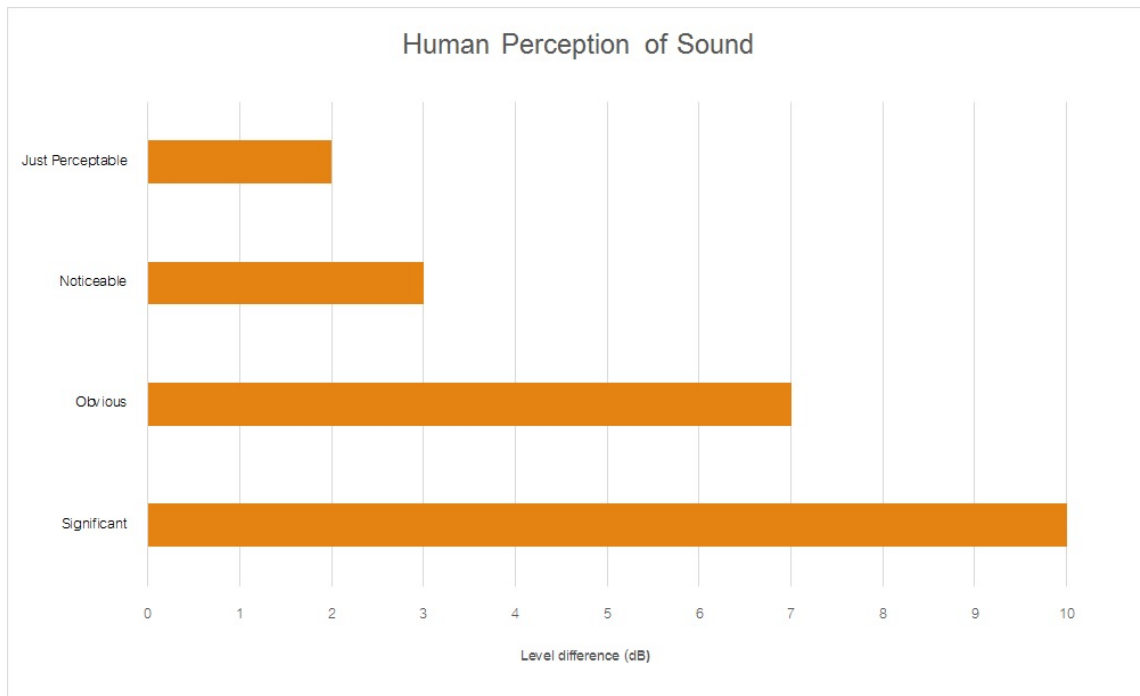
Table A1 Glossary of Terms	
Term	Description
1/3 Octave	Single octave bands divided into three parts
Octave	A division of the frequency range into bands, the upper frequency limit of each band being twice the lower frequency limit.
ABL	Assessment Background Level (ABL) is defined in the NPI as a single figure background level for each assessment period (day, evening and night). It is the tenth percentile of the measured L90 statistical noise levels.
Ambient Noise	The noise associated with a given environment. Typically a composite of sounds from many sources located both near and far where no particular sound is dominant.
A Weighting	A standard weighting of the audible frequencies designed to reflect the response of the human ear to noise.
dBA	Noise is measured in units called decibels (dB). There are several scales for describing noise, the most common being the 'A-weighted' scale. This attempts to closely approximate the frequency response of the human ear.
dB(Z)	Decibels Linear or decibels Z-weighted.
Hertz (Hz)	The measure of frequency of sound wave oscillations per second - 1 oscillation per second equals 1 hertz.
LA10	A noise level which is exceeded 10 % of the time. It is approximately equivalent to the average of maximum noise levels.
LA90	Commonly referred to as the background noise, this is the level exceeded 90 % of the time.
LAeq	The summation of noise over a selected period of time. It is the energy average noise from a source, and is the equivalent continuous sound pressure level over a given period.
LAmx	The maximum root mean squared (rms) sound pressure level received at the microphone during a measuring interval.
RBL	The Rating Background Level (RBL) is an overall single figure background level representing each assessment period over the whole monitoring period. The RBL is used to determine the intrusiveness criteria for noise assessment purposes and is the median of the ABL's.
Sound power level (SWL)	<p>This is a measure of the total power radiated by a source. The sound power of a source is a fundamental location of the source and is independent of the surrounding environment. Or a measure of the energy emitted from a source as sound and is given by :</p> $= 10 \cdot \log_{10} (W/W_0)$ <p>Where : W is the sound power in watts and W₀ is the sound reference power at 10-12 watts.</p>

Table A2 provides a list of common noise sources and their typical sound level.

Table A2 Common Noise Sources and Their Typical Sound Pressure Levels (SPL), dBA

Source	Typical Sound Level
Threshold of pain	140
Jet engine	130
Hydraulic hammer	120
Chainsaw	110
Industrial workshop	100
Lawn-mower (operator position)	90
Heavy traffic (footpath)	80
Elevated speech	70
Typical conversation	60
Ambient suburban environment	40
Ambient rural environment	30
Bedroom (night with windows closed)	20
Threshold of hearing	0

Figure A1 – Human Perception of Sound



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Appendix B – Correspondence Register

Table B1 Correspondence Register

Date	Contact Between	Phone/Email	Comment
Monday 19 August 2019	R Heaton & A Irwin	Phone	Initial contact to schedule environmental compliance survey and sound power audit in September 2019.
Tuesday 20 August 2019	R Heaton & A Irwin	Email	Email to postpone the survey as adverse winds and heavy rain were forecast for the first week of September.
Wednesday 4 September 2019	A Irwin & R Heaton	Email	Johann Van Der Merwe and Trevor Hoffman details provided by A Irwin.
Wednesday 4 September 2019	J Van Der Merwe & R Heaton	Phone	Call to outline survey details and scheduled survey for Monday 9 September 2019 and Tuesday 10 September 2019.
Monday 9 September 2019	J Van Der Merwe & R Heaton	Phone	Call to reschedule survey due to crusher breakdown following belt failure, survey tentatively reschedule to Thursday 12 September 2019 and Friday 13 September 2019.
Monday 9 September 2019	R Heaton & A Irwin	Phone	A Irwin updated on break down and rescheduled survey details.

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Noise Monitoring Assessment

Wallerawang Quarry
March 2020



Document Information

Noise Monitoring Assessment

Wallerawang Quarry, March 2020

Prepared for: Walker Quarries Pty Ltd

Prepared by: Muller Acoustic Consulting Pty Ltd

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Document ID	Status	Date	Prepared By	Signed	Reviewed By	Signed
MAC160392RP7V1	Final	9 April 2020	Robin Heaton	<i>Robin Heaton</i>	Oliver Muller	<i>Oliver Muller</i>

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1 Introduction

Muller Acoustic Consulting Pty Ltd (MAC) has been commissioned by Walker Quarries Pty Ltd to complete a bi-annual Noise Monitoring Assessment (NMA) for Wallerawang Quarry ('the quarry').

The NMA involved quantifying the noise contribution of the quarry by direct attended measurements to compare quarry emissions against relevant criteria. Monitoring has been conducted at three representative receiver locations in accordance with the Walker Quarry Noise Management Plan (NMP) and the quarry's Environmental Protection License (ref: 13172). An additional measurement at a nearfield reference location was also conducted to verify the operation of quarry plant and to quantify the noise contribution from site.

The assessment has been conducted in accordance or with reference to the following documents:

- NSW Environment Protection Authority (EPA), Noise Policy for Industry (NPI), 2017;
- Environment Protection Licence EPL 13172 (EPL);
- Development Consent 344-1-2001 (Mod 3), February 2020;
- Australian Standard AS 1055:2018 - Acoustics - Description and measurement of environmental noise - General Procedures;
- Muller Acoustic Consulting Pty Ltd, Noise and Vibration Impact Assessment, 2019; and
- Umwelt, Wallerawang Quarry Noise Management Plan (NMP), 2019.

A glossary of terms, definitions and abbreviations used in this report is provided in **Appendix A**.

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2 Noise Criteria

2.1 Environmental Protection License Noise Limits

Table 1 reproduces the noise criteria for the quarry as per Condition L4.1 of EPL 13172.

Table 1 EPL Noise Limits, dBA			
Location	Day	Evening	Night
	LAeq(15min)	LAeq(15min)	LAeq(15min)
All privately owned residences	43	43	39

Note: Day Period is 7am to 6pm, Evening Period is 6pm to 10pm, Night Period is 10pm to 7am.

It is noted that Condition L4.3 of EPL 13172 identifies conditions under which the noise criteria do not apply and include:

- a) Wind speeds greater than 3m/s at 10m above ground level;
- b) Temperature inversion conditions greater than 3 degrees Celsius / 100m; or
- c) Under “non-significant weather conditions”.

2.2 Development Consent Noise Limits

Schedule 3 of the site’s Development Consent (DA344-11-2001) outlines applicable noise criteria for the operation of the quarry. **Table 2** reproduces the criteria as outlined in the development consent.

Table 2 Development Consent Noise Limits, dBA			
Location	Day	Evening	Night
	LAeq(15min)	LAeq(15min)	LAeq(15min)
All privately owned residences	43	43	35

2.3 Variance in noise limits

It is noted that the night-time criteria presented in the Development Consent differs from that outlined in the EPL. This is due to the consent being updated to reflect the recent modification for site. Hence, the more conservative criteria outlined in the consent have been adopted for this assessment.

Notwithstanding, as the quarry is not operational during the night period, the variance in the applicable noise criteria is inconsequential.

2.4 Quarry Plant Sound Power Noise Limits

Table 15 of the Noise and Vibration Impact Assessment (NVIA) (Muller Acoustic Consulting, April 2019) prepared for the Environmental Impact Statement (EIS) (Umwelt (Australia)) sets out the noise targets for mobile plant operating at the quarry. The noise criteria are reproduced in Error! Reference source not found. along with the logarithmic site total sound power.

Table 3 Quarry Plant Sound Power Levels, dBA (re 10-12 Watts)

Noise Source/Item	Total dBA
Sandvik Crusher	111
Pugmill	108
Service Vehicle ¹	82
Wirtgen Kleeman Secondary/Tertiary Crusher	111
Wirtgen MR130Z Track Mounted Impact Crusher	113
Wirtgen Kleeman Cone/Sand Plant	110
Wirtgen Kleeman Screen	111
Drill	115
Cat D8 Dozer	111
Komatsu PC450 Excavator	109
Komatsu Loader ¹	99
Komatsu WA500 Loader ¹	105
Komatsu WA480 Wheel Loader ¹	100
Komatsu HM400 Articulated Dump Truck (x3)	106
Volvo 6 Wheeled Water Cart ¹	101
Manitou ¹	96
Standard Road Truck (x3) ¹	102
Total Site Sound Power	121

3 Methodology

3.1 Locality

Wallerawang is located approximately 10km to the north west of Lithgow, NSW. Receivers in the locality surrounding the quarry are primarily rural/residential and for consistency the naming conventions for each receiver has been retained from the NMP. The monitoring locations with respect to the quarry are presented in **Table 4** and graphically in the locality plan shown in **Figure 1**.

Table 4 Receiver Locations

ID	Address	Distance to Quarry Boundary
RL1	Reference Location (adjacent to site office)	N/A
N1	139 Gemalong, Marrangaroo, NSW	1000m
N2	987 Great Western Highway, Marrangaroo, NSW	160m
N3	2 Cypress Close, Wallerawang, NSW	480m

3.2 Environmental Noise Assessment Methodology

The attended noise surveys were conducted in general accordance with the procedures described in Australian Standard AS 1055:2018, "Acoustics - Description and Measurement of Environmental Noise", the EPL and NMP. The measurements were carried out using a Svantek Type 1, 971 noise analyser on Friday 13 March 2020. The acoustic instrumentation used carries current NATA calibration and complies with AS IEC 61672-2019-Electroacoustics - Sound level meters - Specifications. Calibration of all instrumentation was checked prior to and following measurements. Drift in calibration did not exceed $\pm 0.5\text{dBA}$.

Two daytime measurements of 15-minutes in duration were completed at each monitoring location during standard onsite operations. Where possible, throughout each survey the operator quantified the contribution of each significant noise source. Extraneous noise sources were excluded from the analysis to calculate the $L_{Aeq}(15\text{min})$ quarry noise contribution for comparison against the relevant EPL limits.



FIGURE 1

LOCALITY PLAN

REF: MAC160392



KEY

●N1 RECEIVER / MONITORING LOCATION

●RL1 REFERENCE LOCATION

▭ PROJECT SITE

4 Results

The monitoring and assessment results are presented in individual tables for each assessment location.

4.1 Assessment Results – Reference Location (RL1)

Operational attended noise monitoring was completed at RL1 on Friday 13 March 2020. **Table 5** presents the monitored noise level contributions and observed meteorological conditions for each measurement.

Table 5 Operator-Attended Noise Survey Results – Reference Location 1 (RL1)							
Date	Time (hrs)	Descriptor (dBA re 20 µPa)			EPL Limit ¹	Meteorology	Comments
		L _{Amax}	L _{Aeq}	L _{A90}			
13/03/2020	07:58	89	67	64	N/A	WS: 0.1m/s	Road Truck 78-89
						WD: NNW	Sand Plant 65-69
						Rain: Nil	Reverse Alarm 60-65
Quarry Site L _{Aeq} (15min) Contribution							67
13/03/2020	12:02	82	67	64	N/A	WS: 1.2m/s	Sand Plant 66-69
						WD: W	Road Truck 75-82
						Rain: Nil	
Quarry Site L _{Aeq} (15min) Contribution							67

Note 1: EPL not applicable for this onsite reference location.

4.2 Assessment Results – Location N1

Operational attended noise monitoring was completed at N1 on Friday 13 March 2020. **Table 6** presents the monitored noise level contributions and observed meteorological conditions for each measurement.

Table 6 Operator-Attended Noise Survey Results – Location N1							
Date	Time (hrs)	Descriptor (dBA re 20 µPa)			EPL Limit	Meteorology	Comments
		L _{Amax}	L _{Aeq}	L _{A90}			
13/03/2020	08:33	59	48	43	43	WS: 0.2m/s	Traffic 45-50
						WD: NNW	Quarry Hum 40-43 (5 min)
						Rain: Nil	Aircraft 50-59
Quarry Site L _{Aeq} (15min) Contribution							37
13/03/2020	13:09	68	50	38	43	WS: 1.5m/s	Traffic 42- 49
						WD: W	Farm Machinery 50-54
						Rain: Nil	Quarry Crusher 35-40
							Residential Noise 57-68
Quarry Site L _{Aeq} (15min) Contribution							37

Note 1: Quarry Site L_{Aeq}(15min) calculated based on nearfield measurements.

4.3 Assessment Results – Location N2

Operational attended noise monitoring was completed at N2 on Friday 13 March 2020. **Table 7** presents the monitored noise level contributions and observed meteorological conditions for each measurement.

Table 7 Operator-Attended Noise Survey Results – Location N2

Date	Time (hrs)	Descriptor (dBA re 20 µPa)			EPL Limit	Meteorology	Comments
		L _A max	L _A eq	L _A 90			
13/03/2020	09:22	67	44	38	43	WS: 0.5m/s	Birds 38-67
						WD: W	Traffic 35-47
						Rain: Nil	Quarry Hum 30-38
Quarry Site L _A eq(15min) Contribution							35
13/03/2020	12:21	68	42	37	43		Traffic 44-50
						WS: 1.2m/s	Operator Noise 68
						WD: W	Birds 38-46
						Rain: Nil	Quarry 34-37
							Quarry Crusher 39 (10 Secs)
Quarry Site L _A eq(15min) Contribution							37

Note 1: Quarry Site L_{Aeq}(15min) calculated based on nearfield measurements.

4.4 Assessment Results – Location N3

Operational attended noise monitoring was completed at N3 on Friday 13 March 2020. **Table 8** presents the monitored noise level contributions and observed meteorological conditions for each measurement.

Table 8 Operator-Attended Noise Survey Results – Location N3

Date	Time (hrs)	Descriptor (dBA re 20 µPa)			EPL	Meteorology	Comments
		L _A max	L _A eq	L _A 90	Limit		
13/03/2020	08:58	75	53	38	43	WS: 0.1m/s	Birds 50-75
						WD: W	Traffic 45-55
						Rain: Nil	Quarry Hum 30-35
Quarry Site L _A eq(15min) Contribution							<33
13/03/2020	12:43	69	45	36	43	WS: 1.2m/s	Traffic 42-52
						WD: W	Operator Noise 65-69
						Rain: Nil	Quarry Hum 33-36
							Residential Noise 32-37
Quarry Site L _A eq(15min) Contribution							<35

Note 1: Quarry Site L_{Aeq}(15min) calculated based on nearfield measurements.

4.5 Sound Power Audit Results

Sound power calculations for measured on-site plant are presented in **Table 9**. Results of the analysis identify that the overall sound power of items of plant used at the project site are below target sound power levels outlined in the EIS and NVIA.

Table 9 Sound Power Levels, dBA											
Plant	Octave Band Centre Frequency, Lw Spectrum									Sound Power Lw	Criteria
	32	63	125	250	500	1k	2k	4k	8k		
Komatsu WA480 FEL #251	62	76	86	89	91	95	92	89	80	99	100
Komatsu WA480 FEL #252	62	74	84	90	94	98	95	94	81	102	100
Komatsu MH400	74	79	99	94	100	100	98	94	86	106	106
Sand Plant and Screens	78	88	96	99	108	107	106	102	95	113	110
Komatsu PC450 LC Ex 201	75	83	100	94	98	98	95	91	80	105	109
Komatsu PC450 LC Ex 202	60	79	100	94	94	97	92	88	79	104	109
Crusher Train	85	92	100	105	111	112	110	105	97	117	111
Total Site Sound Power										119	121

It is noted that several items of plant are above the individual sound power level for each items of plant.

Notwithstanding, the total emissions from all onsite plant are lower than the total logarithmic sum of the overall site criteria as shown in **Table 9** Hence, the total target sound power levels are satisfied for site.

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5 Discussion

5.1 Discussion of Results – Reference Location (RL1)

Noise measurements conducted on Friday 13 March 2020 were conducted when Wallerawang Quarry was operating at normal production levels, which included use of crusher train, several mobile screens, excavator, road trucks, water cart, and mobile sand plant. During the morning round of noise monitoring, the road base crusher train was operating and during the afternoon round of noise monitoring the main crusher train was operating.

The noise contribution from the quarry at the reference location was 67dBA LAeq(15min) for both measurements. This is 3dBA lower than the last biannual survey conducted in September 2019. This is primarily due to the crusher trains now being located behind an earth mound which reduces the impact on the surrounding environment. The noise environment at the reference location was primarily dominated by the nearby sand plant and export road trucks using the weighbridge.

At the attended reference location, the sound power (Lw) for the acoustically significant items of plant was calculated to be 111dB LAeq(15min) for both measurements.

To verify the offsite noise levels, calculations were undertaken to estimate the attenuation from the site to each monitoring location. The attenuation calculations incorporated loss due to distance, and conservative topography (ie barrier attenuation) and air absorption losses. The results of the attenuation calculations identified received noise level and the results of the attended surveys are discussed for each monitoring location in **Section 5.2** to **Section 5.4**.

5.2 Discussion of Results – Location N1

Measurements conducted on Friday 13 March 2020, identified that Wallerawang Quarry noise was audible during the both measurements conducted, however satisfied the relevant noise limits of 43dB LAeq(15min). Audible site sources were the crushing trains operating in the pit of the quarry. Extraneous non-quarry related sources included highway traffic, birds and farm noise that were significant contributors to the ambient noise environment.

The calculated attenuation between the quarry site and N1, taking into account distance loss, the surrounding topography and air absorption, was 75dB. Based on the site Lw established from the near field measurements, the resulting received quarry contribution at N1 is <36dBA. This level is significantly lower than the ambient dominant sources which generally masks site noise and confirms the quarry was audible as a background noise source at this location for both measurements conducted.

5.3 Discussion of Results – Location N2

Measurement results for N2 were dominated by highway traffic and bird noise that was constantly audible during all measurements on Friday 13 March 2020. Quarry emissions were audible during both measurements conducted at this location however remained below the relevant noise limit of 43dB LAeq(15min) on both occasions. Audible site sources included mobile and fixed plant engines.

The attenuation between the quarry site and N2 taking into account distance between the locations, the loss due to surrounding topography (ie ground attenuation) and air absorption is 72dB. Based on the current site Lw established from the near field measurements, the resulting received quarry contribution at N2 is <39dBA. This estimated noise level is generally consistent with the measured noise contribution from the attended monitoring.

5.4 Discussion of Results – Location N3

Measurements conducted on Friday 13 March 2020 for N3 were dominated by local and highway traffic however quarry operations were audible intermittently during the second noise measurement at this location. Notwithstanding, quarry contributions remained below the relevant criteria of 43dB LAeq(15min) for both measurements conducted at the location. The current operational position of the crusher is shielded by the quarry walls and mounds which reduces the noise contribution at this location.

The total attenuation due to distance, air absorption and surrounding topography for N3 was estimated to be 76dB. This resulted in an estimated site noise contribution of <35dBA which is consistent with the measured noise contribution from the attended monitoring.

5.5 Discussion of Results – Sound Power Audit

The results of the sound power audit demonstrate that current plant used onsite comply with the relevant mobile and static sound power criteria as outlined in the NVIA, with the exception of the sand plant, loader #252 and the crusher train. This is as the sand plant consists of two items of plant and the crusher train consists of five items of plant with the criterion outlined in the NVIA for a single item of plant. Notwithstanding, the overall emissions from combined plant on site remain below the combined site sound power criteria.

6 Conclusion

Muller Acoustic Consulting Pty Ltd (MAC) has completed a Noise Monitoring Assessment on behalf of Walker Quarries Pty Ltd. The assessment was completed to assess Wallerawang Quarry noise emissions against relevant criteria presented in EPL 13172 and DA 344-11-2001.

Attended measurements for Friday 13 March 2020 identified that noise emissions generated by Wallerawang Quarry satisfy relevant noise limits specified in the Noise Management Plan and Environmental Protection Licence at all assessed locations. In summary, quarry noise was audible during several offsite measurements, however monitoring locations were dominated by extraneous sources that predominantly masked quarry operations.

The results of the sound power audit demonstrate that current plant used onsite comply with the relevant mobile and static sound power criteria as outlined in the NVIA, with the exception of the sand plant, loader #252 and the crusher train. Notwithstanding, the overall emissions from combined plant on site remain below the combined site sound power criteria

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Appendix A – Glossary of Terms

Several technical terms have been used in this report and are explained in **Table A1**.

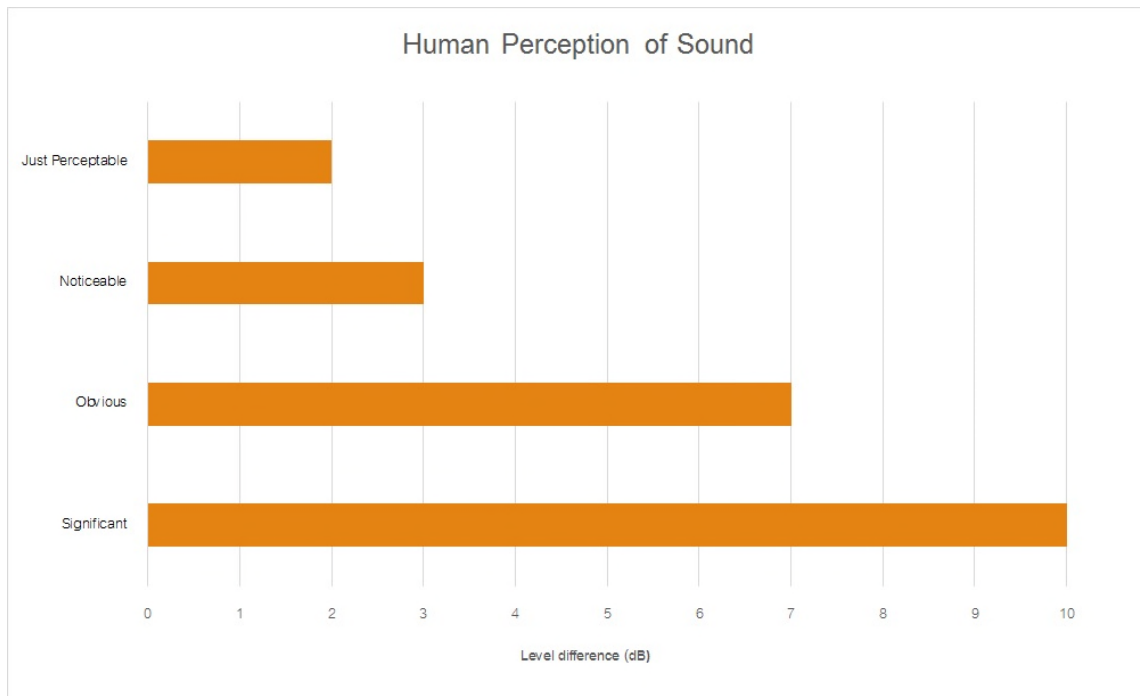
Table A1 Glossary of Terms	
Term	Description
1/3 Octave	Single octave bands divided into three parts
Octave	A division of the frequency range into bands, the upper frequency limit of each band being twice the lower frequency limit.
ABL	Assessment Background Level (ABL) is defined in the NPI as a single figure background level for each assessment period (day, evening and night). It is the tenth percentile of the measured L90 statistical noise levels.
Ambient Noise	The noise associated with a given environment. Typically, a composite of sounds from many sources located both near and far where no particular sound is dominant.
A Weighting	A standard weighting of the audible frequencies designed to reflect the response of the human ear to noise.
dBA	Noise is measured in units called decibels (dB). There are several scales for describing noise, the most common being the 'A-weighted' scale. This attempts to closely approximate the frequency response of the human ear.
dB(Z)	Decibels Linear or decibels Z-weighted.
Hertz (Hz)	The measure of frequency of sound wave oscillations per second - 1 oscillation per second equals 1 hertz.
LA10	A noise level which is exceeded 10 % of the time. It is approximately equivalent to the average of maximum noise levels.
LA90	Commonly referred to as the background noise, this is the level exceeded 90 % of the time.
LAeq	The summation of noise over a selected period of time. It is the energy average noise from a source, and is the equivalent continuous sound pressure level over a given period.
LAmx	The maximum root mean squared (rms) sound pressure level received at the microphone during a measuring interval.
RBL	The Rating Background Level (RBL) is an overall single figure background level representing each assessment period over the whole monitoring period. The RBL is used to determine the intrusiveness criteria for noise assessment purposes and is the median of the ABL's.
Sound power level (SWL)	<p>This is a measure of the total power radiated by a source. The sound power of a source is a fundamental location of the source and is independent of the surrounding environment. Or a measure of the energy emitted from a source as sound and is given by :</p> $= 10 \cdot \log_{10} (W/W_0)$ <p>Where : W is the sound power in watts and W₀ is the sound reference power at 10-12 watts.</p>

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Source	Typical Sound Level
Threshold of pain	140
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Lawn-mower (operator position)	90
Heavy traffic (footpath)	80
Elevated speech	70
Typical conversation	60
Ambient suburban environment	40
Ambient rural environment	30
Bedroom (night with windows closed)	20
Threshold of hearing	0

Figure A1 – Human Perception of Sound



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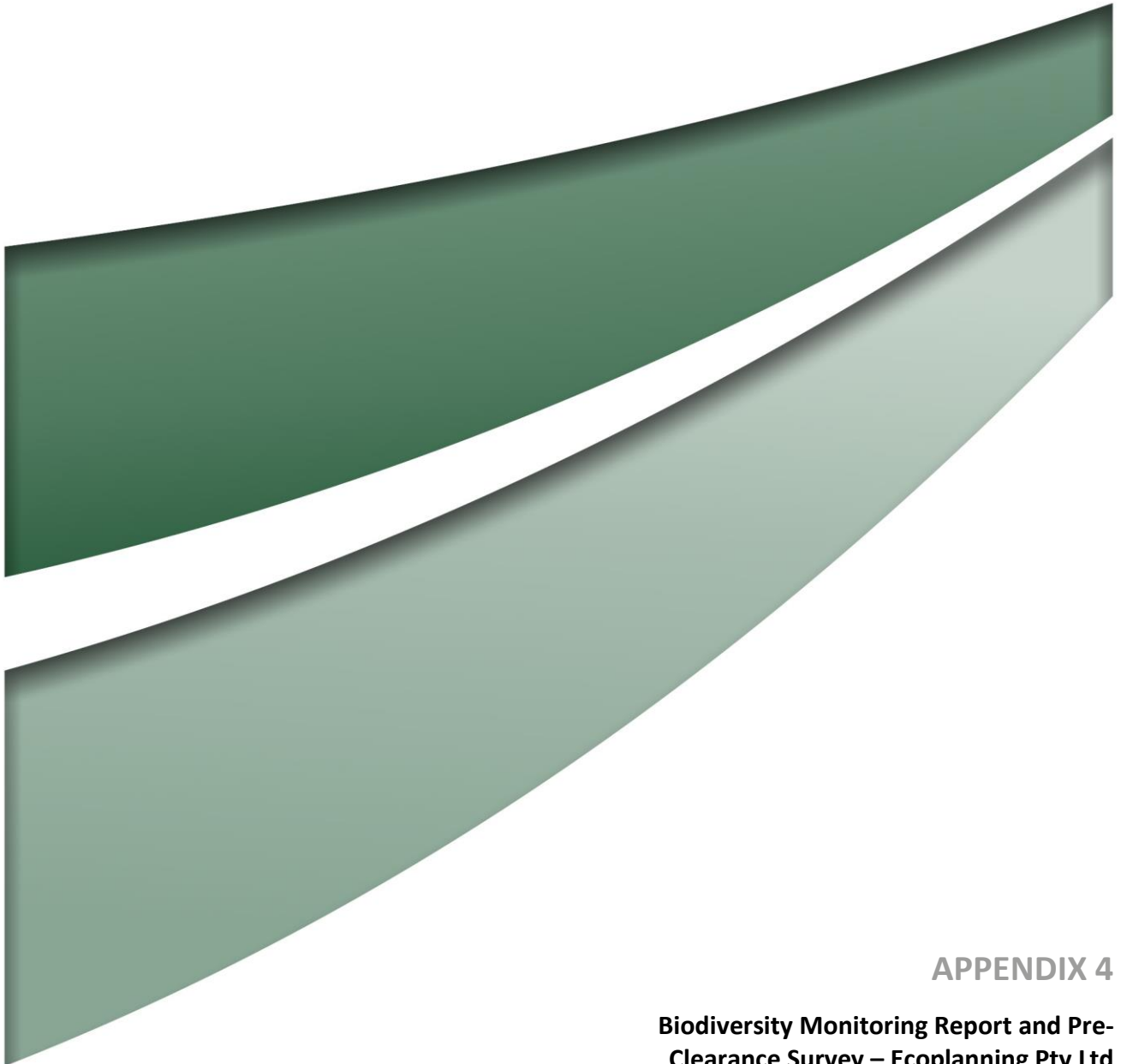
Appendix B – Correspondence Register

Table B1 Correspondence Register

Date	Contact Between	Phone/Email	Comment
Wednesday 12 February 2020	J Van Der Merwe, R Heaton & A Irwin	Email	Initial contact to schedule environmental compliance survey and sound power audit in March 2020.
Wednesday 12 February 2020	J Van Der Merwe, R Heaton & A Irwin	Email	Email requesting updated 2020 fee proposal to be issued.
Tuesday 3 March 2020	J Van Der Merwe, R Heaton & A Irwin	Email	2020 Quote sent to J Van Der Merwe & A Irwin.
Wednesday 4 March 2020	J Van Der Merwe & R Heaton	Email	J Van Der Merwe accepting the quote and providing authority to proceed.
Wednesday 11 March 2020	J Van Der Merwe, R Heaton & A Irwin	Email	Email to schedule survey due on Friday 13 March 2020.
Friday 13 March 2020	R Heaton & J Van Der Merwe	Onsite meeting	Meeting prior to survey to confirm operations for the day, survey completed.

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APPENDIX 4

Biodiversity Monitoring Report and Pre-Clearance Survey – Ecoplaning Pty Ltd



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Biodiversity monitoring 2019



Walker Quarry, Wallerawang, NSW

Prepared for: Walker Quarries

26 February 2020 Version: Final 1.0

PROJECT NUMBER	2019-180		
PROJECT NAME	Biodiversity monitoring 2019		
PROJECT ADDRESS	Walker Quarry, Wallerawang, NSW		
PREPARED FOR	Walker Quarries		
AUTHOR/S	Brian Towle		
REVIEW	Technical	QA	Version
	Bruce Mullins	Bruce Mullins	1.0
VERSION	Version	Date to client	
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1 Introduction

Walker Quarries Pty Ltd (Walker Quarries) currently operates Wallerawang Quarry (the Quarry), located on land adjoining the Great Western Highway to the south of Wallerawang, approximately 8 km northwest of Lithgow (**Figure 1.1**). Original approval (DA 344-11-2001) was granted to Sitegoal Pty Ltd (parent company of Walker Quarries Pty Ltd) in 2004, however, activities were not commenced until late 2014. DA 344-11-2001 was modified on 25 August 2017 and required the preparation of a Biodiversity Management Plan (Condition 3(26)).

Section 5 of the Biodiversity Management Plan (BMP) for the Quarry outlines the ecological and rehabilitation monitoring program for the Quarry. The monitoring is designed to assess the adequacy of the ecological management strategies to be undertaken as part of the BMP.

The specific objectives of the monitoring program are to:

- evaluate the success of flora and fauna management strategies;
- facilitate continuous improvement in rehabilitation and revegetation practices;
- record and document changes in retained vegetation within the Quarry, and allow for comparison with previous records;
- record and document fauna population changes and identify any breeding and critical habitat; and
- ensure the ecological significance of the remnant vegetation or rehabilitated areas are maintained or improved as a result of ongoing management practices.

The BMP includes specific monitoring procedures in relation to the Purple Copper Butterfly (*Paralucia spinifera*; PCB) and local flora and fauna which represent a continuation of monitoring techniques undertaken at the Quarry in 2016 (Lesryk Environmental 2016a; 2016b), 2017 (Lesryk Environmental 2017a; 2017b) and 2018 (Ecoplanning 2019).

This report presents the method and results of monitoring for the PCB and local flora and fauna undertaken in spring 2019 and in accordance with the BMP. A brief comparison with the results of previous vegetation monitoring from 2016 to 2018 is included to assess changes in quality, integrity and habitat value of retained vegetation.

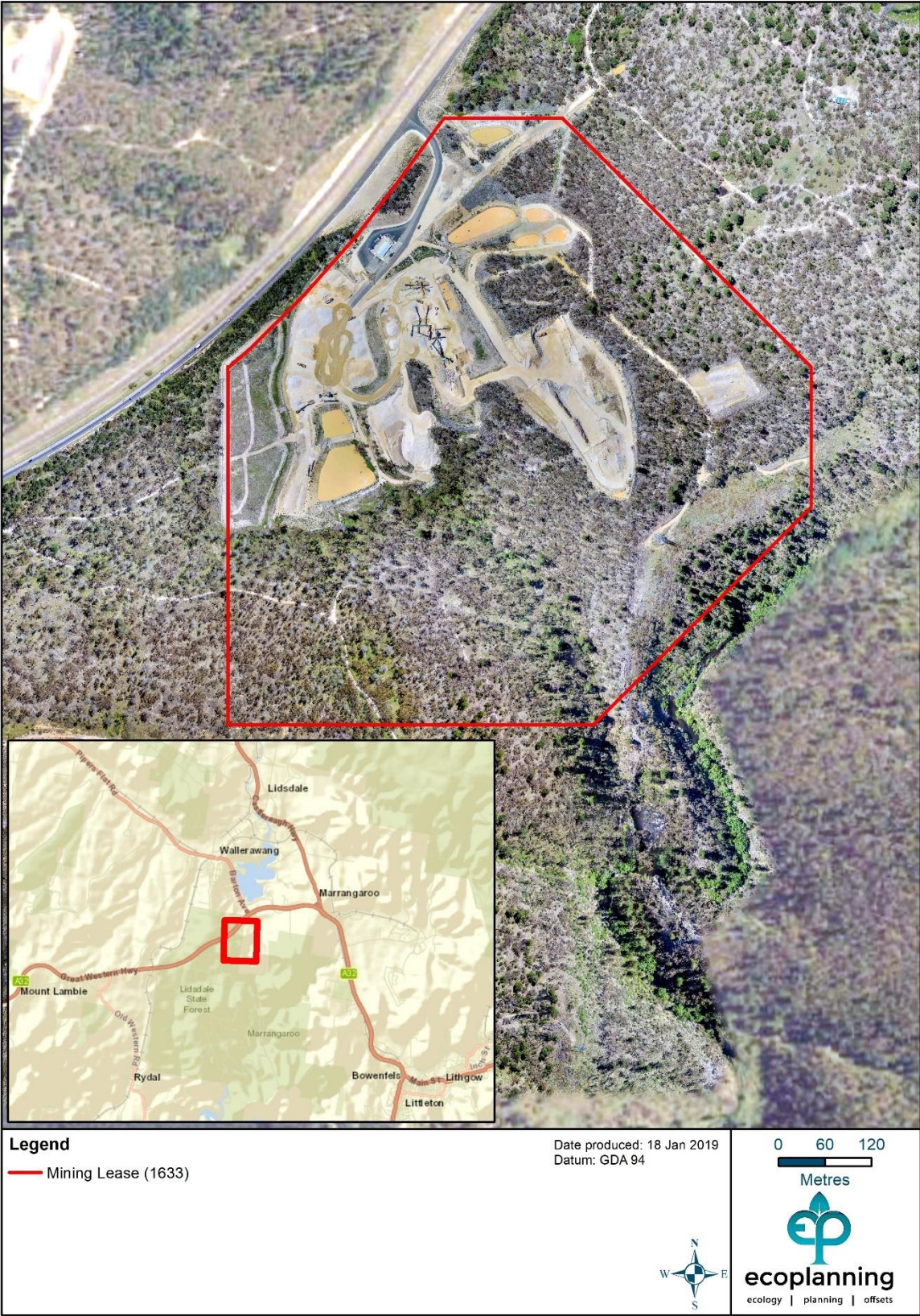


Figure 1.1: Site location

2 Methods

2.1 Local flora and fauna

Monitoring surveys for local flora and fauna were undertaken by Brian Towle (Senior Ecologist) on the 18 and 30 October 2019.

In accordance with the requirements of the BMP, monitoring of local flora involves annual monitoring of vegetation within six monitoring plots (10 m x 10 m). As rehabilitation of the Quarry is completed, additional quadrats are to be established to allow for comparison of the vegetation of rehabilitated landform to the surrounding landforms.

The locations of the six monitoring plots are shown in **Figure 2.1** with site details summarised in **Table 2.1**. Each plot is marked with a star picket in its north-western corner (where GPS coordinates for the plot have been recorded) and a photo of each plot was taken from this location.

The monitoring within the six monitoring plots follows the methods of previous monitoring surveys (Lesryk Environmental 2016a; 2017a) and the methods outlined within the BMP. Within each plot the abundance of all vascular plants present was recorded using the following modified Braun-Blanquet scale:

1. <5% cover & 3 or less individuals
2. <5% cover & More than 3 individuals sparsely scattered
3. <5% cover common and consistent
- 4a. <5% cover & very abundant many individuals
- 4b. 5 – 25% cover
5. 25 – 50% cover
6. 50 – 75% cover
7. 75% - 100% cover

The dominant species and foliage cover for each stratum (e.g. canopy, shrub, groundcover) was also recorded for each monitoring plot.

Two Levy Pole transects were also conducted for each monitoring plot. Each Levy Pole transect involves a 5 m transect extending into the quadrat at 90 degrees to the quadrat perimeter tape. The starting points for each transect were determined by a random number generator excluding the sides of the quadrat (0, 10, 20, 30 and 40 metres). This meant that numbers from the following number sets were selected (1-9, 11-19, 21-29, 31-39). If the two transect locations determined by the random number generator intersected each other, the second transect was moved based upon another randomly generated number (provided the second number was 1 m or more apart from the first transect).

At 0.5 m increments along the Levy Pole transect (starting at 0.5 m and finishing at 5.0 m) all vegetation that made contact with a pole (approximately 18 mm diameter) held vertically was recorded. Vegetation which made contact with the pole was identified to species level and the height of the vegetation was assigned to one of the following height categories:

- 0 - 0.1 m

- >0.1 - 0.5 m
- >0.5 - 1 m
- >1.0 – 2.0 m
- >2.0 – 4.0 m.

Observations of local fauna, including species identified from call recognition, indirect observations (including scats, tracks, chewed cones etc.) or observed visually were recorded concurrently with surveys for the PCB and the vegetation monitoring plots. These fauna observations were not confined to any specific plot and included areas of retained bushland within the Quarry which were traversed to access monitoring plots.

Table 2.1: Floristic monitoring plot details

Monitoring plot	GPS co-ords (GDA94)		Aspect (°)	Slope (°)	Location
	Easting	Northing			
WALLQ1	227942	6296438	140	20	East of the supplementary stockpile area
WALLQ2	227859	6296349	310	5	South of creek below main storage dam
WALLQ3	227992	6296455	225	30	South of extraction area
WALLQ4	228201	6296456	80	10	East of extraction area
WALLQ5	228117	6296843	10	8	North-east of the top working dam
WALLQ6	228269	6296610	320	15	NE of the extraction area

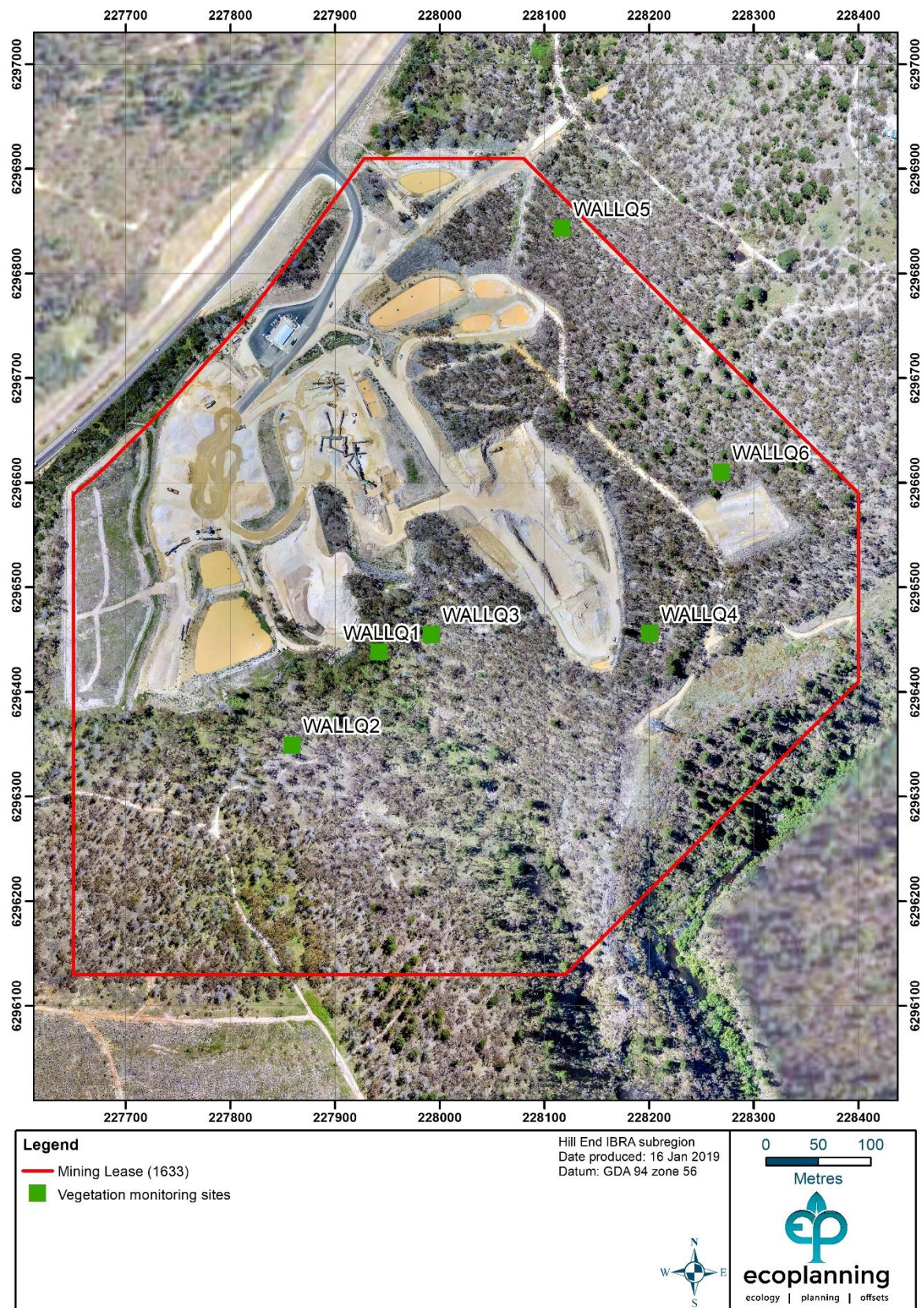


Figure 2.1: Vegetation monitoring locations

2.2 Purple Copper Butterfly

Monitoring surveys for the PCB at the Quarry and control site were undertaken on the 18 and 30 October 2019 by Brian Towle. In accordance with the BMP, five patches of *Bursaria spinosa* subsp. *lasiophylla* (Blackthorn) within the Quarry were monitored. The locations of the five monitoring sites are shown in **Figure 2.2** with site details summarised in **Table 2.2**. At each of the monitoring sites the following methods were employed:

- Surveyor positioned themselves to survey the site and conduct visual inspections to observe any butterfly activity for at least 10 minutes per site.
- Random plants were searched for PCB caterpillars.
- Random plants were selected and searched for the ant species *Anonychomyrma itinerans*, as this ant has a mutualistic relationship with PCB.
- Selected *Bursaria spinosa* subsp. *lasiophylla* plants were gently shaken to trigger a flight response from any butterflies present.
- Any butterflies observed were captured using a butterfly net and identified using Braby (2016). All animals captured were released at their point of capture.
- The age of plants (large plants and seedlings present), health (any new shoots present) and evidence of grazing (chewed leaves) were recorded.

The BMP identifies that this survey methodology is also to be undertaken at two control sites, with control sites located at Cox's Creek, Wallerawang, and Eusdale Road, Yetholme surveyed in previous seasons (2016 and 2017). Consultation with the NSW Department of Planning, Industry and Environment prior to the 2018 surveys identified an alternative control site at the Cheetham Flats TSR (Hampton Road, Rydal) located approximately 13 km south-west of the Quarry. As in 2018, the 2019 surveys for PCB at control sites were limited to the single site at Cheetham Flat TSR.

Weather conditions during the survey period (18 and 30 October 2019), as recorded onsite, were warm with maximum temperatures between 21-28°C and with very low cloud cover. Winds were generally light although increased in the late afternoon (after surveys were completed). Weather conditions as recorded at the nearest meteorological station at Marrangaroo (station 063308), located approximately 5 km east of the Quarry, are presented in **Table 2.3**. Monthly rainfall totals for 2016 to 2019, as recorded at the Lidsdale (Maddox Lane) Meteorological Station, is presented in **Table 2.3**.

Table 2.2: PCB monitoring site details

Monitoring plot	GPS co-ords (GDA94)		Elevation (m ASL), aspect & slope (°)	Approx. stand size
	Easting	Northing		
17	227716	6295941	~922 m ASL. North facing slope, ~10°	100 x 30 m
18	227887	6295945	~917 m ASL. North facing slope, ~5°	20 x 20 m
19	227948	6296046	~915 m ASL. East facing slope, ~30°	20 x 20 m
20/21	228005	6296045	~910 m ASL. South facing slope, ~30°	30 x 20 m
24	228244	6295945	~955 m ASL. North-east facing slope, ~20°	20 x 20 m

ASL – Above Sea Level

Table 2.3: Weather conditions during Purple Copper Butterfly surveys, as recorded at Marrangaroo meteorological station

Date	Temperature (°C)		Rainfall (mm)	Wind - 9 am		Wind – 3 pm	
	Min	Max		Direction	Speed (km/hr)	Direction	Speed (km/hr)
18/10/2019	1.8	19.6	0	WSW	11	WNW	7
30/10/2019	6.0	27.0	0	Calm	N/A	W	6

Table 2.4: Total monthly rainfall (mm) from 2016 to 2019, as recorded at the Lidsdale (Maddox Lane) Meteorological Station

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2016	142	28.8	69.6	6.2	26	173.4	91.4	52.2	118.6	71.4	58.4	86.4
2017	37.2	12.2	141.4	21.2	32.6	19.6	6.6	41.8	4.2	106	28.8	75.2
2018	49	65.2	56.6	13.6	12.6	34.6	5.4	38	67.6	79.8	124.6	80.6
2019	154.6	21.4	84.2	1	37.2	16.2	10.8	18	52	9.4	35.8	2.8
Mean	85.8	75.9	66.6	42.4	47.9	49.8	49.3	62.4	53.0	67.1	71.8	72.8



Figure 2.2: Purple Copper Butterfly monitoring locations

3 Results and Discussion

3.1 Local flora and fauna

The photos and floristic data recorded within each monitoring plot and the Levy Pole transect results are presented within **Appendix A**.

3.1.1 Photo-point monitoring

Photos taken from the north-west corner of each vegetation monitoring plot are included within **Appendix A**. No disturbance to vegetation or soils including vegetation clearing, widespread dieback, erosion or excavations associated with the Quarry operations were recorded within monitoring plots as shown in site photographs. Additionally, no detectable change in vegetation integrity or condition can be observed from comparison of photographs from monitoring plots across seasons.

3.1.2 Floristic monitoring

A summary of native and exotic species richness within each monitoring site is presented in **Table 3.1**. Across all monitoring locations, native species richness decreased from 2018 to 2019 although was above or broadly similar to that recorded in 2016 and 2017 (**Figure 3.1**). The observed decrease in native species richness from 2018 to 2019 is thought to represent a natural fluctuation in species richness in response to climatic conditions including decreased rainfall. Recorded rainfall in the three months preceding the 2019 surveys (July August September) was only 80.8 mm, compared to 111 mm across this period in 2018 (**Table 2.4**). The native species not recorded in 2019 compared to 2018 were generally annual short-lived species or deciduous species (including terrestrial orchids). These species would be expected to increase in cover and abundance across the Quarry site in response to rainfall.

As the decline in species richness was only observed in comparison to a single season (2018), with results in 2019 similar to that recorded in 2016 and 2017, the observed change does not indicate that the retained woodland within monitoring sites is being impacted by the Quarry operations in a manner which is impacting native species richness. Continued monitoring will be required to establish whether the observed decline is part of any ongoing long-term trend.

Exotic species richness has remained relatively stable at individual monitoring plots across seasons (**Table 3.1**). Exotic species richness within individual monitoring sites in 2019 was within the range of previous seasons for each site and no new exotic species were recorded in 2019. Two exotic species recorded within the monitoring sites, *Rubus ulmifolius** (Blackberry) and *Hypericum perforatum* (St Johns Wort), are high threat exotic weeds, as defined under the Biodiversity Assessment Method.

The percent cover of individual species and structural layers within monitoring plots was generally similar across seasons. Increases and decreases in cover of individual species at individual sites were observed, although no overall trends suggesting increases or decreases in individual species, or groups of species, were observed.

Table 3.1: Species richness within monitoring plots

Factor	WALLQ1				WALLQ2				WALLQ3				WALLQ4				WALLQ5				WALLQ6			
	2016	2017	2018	2019	2016	2017	2018	2019	2016	2017	2018	2019	2016	2017	2018	2019	2016	2017	2018	2019	2016	2017	2018	2019
No. native species	28	30	37	33	17	21	27	22	29	27	42	32	19	19	24	20	16	17	23	17	16	16	21	19
No. exotic species	5	2	5	4	2	2	2	2	2	2	2	2	1	2	1	2	1	1	1	1	0	0	0	0
Total species richness	33	32	42	37	19	23	29	24	31	29	44	34	20	21	25	22	17	18	24	18	16	16	21	19

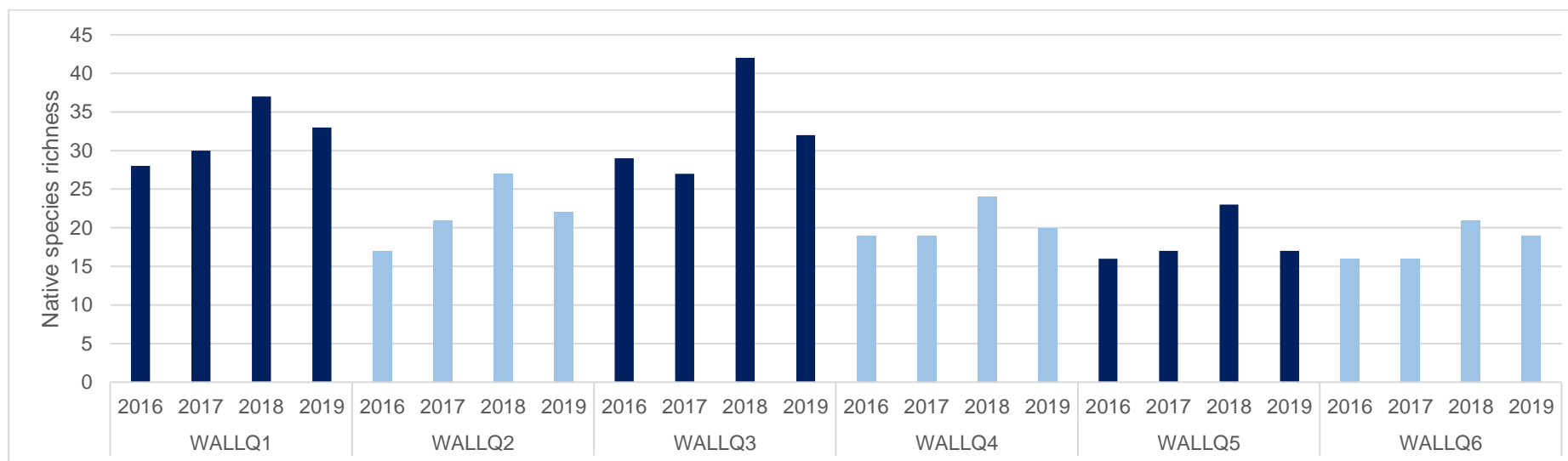


Figure 3.1: Native species richness within monitoring plots

3.1.3 Vegetation structure

The height, cover and dominant species within each structural layer at each monitoring location is presented in **Table 3.2**. Data from Levy Pole transects is presented in **Appendix A**. Across all monitoring plots, native dominated woodland and forest remain present including structural layers which are typical of the woodland and forest types present within the Quarry. The cover and composition of structural layers in 2019 was generally similar to the results from previous monitoring seasons. The generally small fluctuations observed in cover of individual structural layers are thought to be related to the subjective nature of this data, or small changes in cover in response to drier conditions preceding the 2019 surveys, rather than indicating changes in overall cover of vegetation structural layers.

Two monitoring locations (WALLQ1 and WALLQ3) included the exotic species *Anthoxanthum odoratum** (Sweet Vernal Grass) as one of the dominant species, although the cover of this species at these sites was consistent with previous monitoring seasons.

Table 3.2: Vegetation structural data

Monitoring plot	Stratum	Height (m)	Cover (%)	Dominant species
WALL-Q1	Tree	17	20	<i>Eucalyptus viminalis</i> , <i>Eucalyptus bridgesiana</i> , <i>Eucalyptus mannifera</i>
	Shrub	2	10	<i>Bursaria spinosa</i> subsp. <i>lasiophylla</i>
	Ground	0.5	60	<i>Lomandra filiformis</i> , <i>Anthoxanthum odoratum</i> *, <i>Dianella revoluta</i>
WALL-Q2	Tree	18	20	<i>Eucalyptus mannifera</i> , <i>Eucalyptus melliodora</i>
	Shrub	6	1	<i>Acacia dealbata</i>
	Ground	0.5	40	<i>Lomandra filiformis</i> , <i>Poa sieberiana</i> , <i>Lissanthe strigosa</i>
WALL-Q3	Tree	18	30	<i>Eucalyptus dives</i> , <i>Eucalyptus viminalis</i> , <i>Eucalyptus bridgesiana</i>
	Shrub	2	5	<i>Bursaria spinosa</i> subsp. <i>lasiophylla</i>
	Ground	1	60	<i>Rytidosperma pallida</i> , <i>Poa sieberiana</i> , <i>Anthoxanthum odoratum</i> *
WALL-Q4	Tree	12	10	<i>Eucalyptus dives</i> , <i>Eucalyptus mannifera</i>
	Ground	0.8	20	<i>Rytidosperma pallida</i> , <i>Patersonia sericea</i> , <i>Hibbertia obtusifolia</i>
WALL-Q5	Tree	12	10	<i>Eucalyptus mannifera</i> , <i>Eucalyptus rossii</i>

Monitoring plot	Stratum	Height (m)	Cover (%)	Dominant species
	Ground	1	20	<i>Lomandra longifolia</i> , <i>Poa sieberiana</i> , <i>Rytidosperma pallida</i>
WALL-Q6	Tree	16	25	<i>Eucalyptus mannifera</i> , <i>Eucalyptus rossii</i>
	Shrub	1.5	1	<i>Hakea laevipes</i>
	Ground	0.5	10	<i>Rytidosperma pallida</i> , <i>Lomandra longifolia</i> , <i>Lomandra gunnii</i>

* denotes an exotic species.

3.1.4 Local fauna

Two native mammals, 16 birds and one reptile species were opportunistically observed during the monitoring surveys (**Appendix B**). No threatened species listed under the NSW *Biodiversity Conservation Act 2016* (BC Act) were observed.

Observations of local fauna made during the monitoring indicate that the vegetated areas of the Quarry continue to provide habitat for an array of native fauna species.

3.2 Purple Copper Butterfly

A single PCB was observed at the control site at Cheetham Flat TSR on the 30 October 2019, with no individuals observed during the targeted searches on 18 October 2019. Consultation with DPIE identified that PCB had been recorded within the Rydal/Yetholme area as early as the 10 October, although numbers were low compared to previous seasons (M. Castles pers. comm. 2019). The observation of a PCB at the control site on the 30 October 2019 confirmed that PCB monitoring was conducted at an appropriate time and during suitable weather conditions.

No PCBs were observed within any of the monitoring sites at the Quarry. Two butterfly species, Australian Painted Lady (*Vanessa kershawi*) and Common Grass-blue (*Zizina otis*), were recorded in addition to a number of moths, beetles, bees and dragonflies (**Plate 3.1**). Data recorded from each monitoring site is included in **Appendix C**.

Ant species were observed at three monitoring sites (site 17, 18 and 19), although the ant species present was identified as a *Crematogaster* sp. and not the species *Anonychomyrma itinerans* with which PCB has mutualistic relationship.

Bursaria spinosa subsp. *lasiophylla* within each of the monitoring sites was observed to be in a healthy condition with mature fruiting individuals and seedlings present. All sites included *Bursaria spinosa* subsp. *lasiophylla* with new growth (**Plate 3.1**) and some evidence of grazing, although it was not possible to determine whether the grazing was recent.

These monitoring results are largely consistent with monitoring results from 2016-2018, where no PCB or *Anonychomyrma itinerans* were recorded within the Quarry, although *Bursaria spinosa* subsp. *lasiophylla* remained in good health with new growth evident.

As the PCB has an annual life-cycle with one generation completed annually, and the species has not been detected within the Quarry during the last four years of monitoring, it is likely that the population(s) which once occurred within the Quarry has become locally extinct. The landscapes surrounding the Quarry, including forestry plantations, cleared agricultural lands and steeply sloping land adjacent to the Cox's River do not represent habitat for the PCB and reduce the chances of habitat on site being recolonised by the species. Another factor reducing the likelihood that habitat at the Quarry may be recolonised by PCB is the weak erratic flight of this species and its extremely low dispersal capability (NPWS 2001).



Plate 3.1: Common Grass-blue observed at Site 24 (left) and *Bursaria spinosa* subsp. *lasiophylla* with new growth and herbivory

4 Conclusions and recommendations

No large-scale disturbance to vegetation or soils which were attributable to the quarry operations were detected within the areas surrounding the Quarry operations. Observations of local fauna made during the monitoring indicate that the vegetated areas of the Quarry continue to provide habitat for an array of native fauna species.

Based upon results from the 2019 monitoring period, no observable or significant trends in the occurrence of specific threatened species or quality / quantity of available habitat has been identified.

Several exotic flora species which have potential to invade native vegetation and outcompete native species were recorded within the Quarry including *Hypericum perforatum** (St Johns Wort), *Pinus radiata** (Radiata Pine) and *Rubus ulmifolius** (Blackberry). These species should be targeted as part of weed control works within the Quarry.

As no PCB or attendant ants (*Anonychomyrma itinerans*) have been recorded within the Quarry during the last four monitoring surveys (Lesryk 2016b; 2017b; Ecoplaning 2019), with PCB last detected in the Quarry in September 2002, it is likely that the population of PCB which once occurred within the Quarry is now locally extinct.

4.1 Future monitoring

It is noted that four of the vegetation monitoring sites (WALLQ1 to WALLQ4), and four of the Purple Copper Butterfly monitoring sites (17, 18, 19 and 20/21) are located within or immediately adjacent to the recently approved extension to the Quarry disturbance footprint (DA 344-11-2001 MOD3). While Walker Quarries confirms that none of these sites will be disturbed in 2020, these will be progressively cleared over the life of the Quarry. The following recommendations with respect to future monitoring at these sites are made.

In relation to the vegetation monitoring sites, these sites should continue to be monitored for as long as they remain uncleared by Quarry development. Forward planning schedules for clearing will be reviewed annually and when clearing of a site is planned within the next 12 months, an alternative site should be identified. It is recommended that new sites are surveyed using the same methods as for the current monitoring sites to establish it as a reasonable replicate of the site to be cleared. This should allow for assessment of trends to be continued.

In relation to the Purple Copper Butterfly sites, these represent the patches of available habitat on the mining lease. No other habitat is known on the mining lease and as such, replication of these monitoring sites will not be possible. It is noted that disturbance to this habitat has been assessed as part of the BDAR completed for the Quarry modification and offsetting requirements calculated. It is recommended that as biodiversity offsets are required to be retired prior to disturbance, that monitoring may be ceased.

5 References

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- Wildthing (1999) Statement of effect on threatened flora and fauna over land proposed for a hard rock quarry within EL4473 near Wallerawang, NSW. Unpublished report prepared for Pacrim Environmental Pty Ltd.

Appendix A Floristic Monitoring data

Site Photos



WALLQ1 – 30 October 2019



WALLQ2 – 18 October 2019



WALLQ3 – 18 October 2019



WALLQ4 – 18 October 2019



WALLQ5 – 18 October 2019



WALLQ6 – 18 October 2019

Vegetation monitoring plot data

Family	Species	Cover Abundance																							
		Q1-2016	Q1-2017	Q1-2018	Q1-2019	Q2-2016	Q2-2017	Q2-2018	Q2-2019	Q3-2016	Q3-2017	Q3-2018	Q3-2019	Q4-2016	Q4-2017	Q4-2018	Q4-2019	Q5-2016	Q5-2017	Q5-2018	Q5-2019	Q6-2016	Q6-2017	Q6-2018	Q6-2019
Anthericaceae	<i>Laxmannia gracilis</i>														1				2	2	2			1	
Apiaceae	<i>Platysace lanceolata</i>																								
Araliaceae	<i>Hydrocotyle laxiflora</i>	3	2	2	2	3	3	3	3	3	3	2	2		2	3								3	
Aspleniaceae	<i>Asplenium flabellifolium</i>		3	2	2																				
Asteraceae	<i>Arrhenechthites mixtus</i>	3	3							3	3														
	<i>Brachyscome spathulata</i>											3													
	<i>Cassinia aculeata</i>	1	1																						
	<i>Cassinia laevis</i>			1	1			1	1																
	<i>Chrysocephalum apiculatum</i>												3							2					
	<i>Cirsium vulgare</i> *	1		1	1																				
	<i>Conyza</i> sp.			2																					
	<i>Coronidium scorpioides</i>	2	1			2	2				1	2	1												
	<i>Cymbonotus lawsonianus</i>	2		3	3			2	2	3	2	2	1												
	<i>Euchiton</i> sp.							1																	
	<i>Gamochaeta</i> sp. *	1																							
	<i>Hypochaeris radicata</i> *	3		3	3	1	1	2	3	1	1	2	3	1	1		1								
	<i>Ozothamnus diosmifolius</i>		1											2	2										
	Asteraceae	<i>Senecio hispidulus</i>			1									1											1

Family	Species	Cover Abundance																							
		Q1-2016	Q1-2017	Q1-2018	Q1-2019	Q2-2016	Q2-2017	Q2-2018	Q2-2019	Q3-2016	Q3-2017	Q3-2018	Q3-2019	Q4-2016	Q4-2017	Q4-2018	Q4-2019	Q5-2016	Q5-2017	Q5-2018	Q5-2019	Q6-2016	Q6-2017	Q6-2018	Q6-2019
	<i>Senecio quadridentatus</i>			1	1																				
	<i>Solenogyne gunnii</i>				1																				
	<i>Xerochrysum viscosum</i>	3				3		1	3	2															
	Campanulaceae	<i>Wahlenbergia</i> sp.			2	2			2				2				2								1
Caryophyllaceae	<i>Stellaria pungens</i>	4a	4a	3	3																				
Convolvulaceae	<i>Dichondra repens</i>		3	2	2	2	2	2	2																
Cyperaceae	<i>Lepidosperma gunnii</i>											1	1			1				1	2			3	3
	<i>Lepidosperma urophorum</i>																					4a	4a		
Dilleniaceae	<i>Hibbertia ?riparia</i>																	2	1						
	<i>Hibbertia obtusifolia</i>													4a	4a	2	2								
Droseraceae	<i>Drosera hookeri</i>													4a		2		3							
Ericaceae	<i>Astroloma humifusum</i>		1							1	2					1									
	<i>Brachyloma daphnoides</i>									1	1	2				2	2							1	
	<i>Leucopogon ericoides</i>		1							1	1			3	3										
	<i>Leucopogon virgatus</i>											2	2			2	2								
	<i>Lissanthe strigosa</i>			1	2	3	3	2	3	3	3	2	2	1	2										
	<i>Monotoca scoparia</i>	1	1																						
Fabaceae - Faboideae	<i>Aotus ericoides</i>									2	2														
	<i>Bossiaea buxifolia</i>											2	2												
	<i>Bossiaea prostrata</i>						1																		
	<i>Desmodium</i> sp.							1																	
	<i>Dillwynia phylicoides</i>						1	1	2	3	3	1	2			3	3	3	3	2	2	1		1	1

Family	Species	Cover Abundance																							
		Q1-2016	Q1-2017	Q1-2018	Q1-2019	Q2-2016	Q2-2017	Q2-2018	Q2-2019	Q3-2016	Q3-2017	Q3-2018	Q3-2019	Q4-2016	Q4-2017	Q4-2018	Q4-2019	Q5-2016	Q5-2017	Q5-2018	Q5-2019	Q6-2016	Q6-2017	Q6-2018	Q6-2019
	<i>Glycine clandestina</i>	1	1	2	1					2		1	1												
	<i>Gompholobium uncinatum</i>											2													
	<i>Hardenbergia violacea</i>																			1				2	1
	<i>Hovea heterophylla</i>							1				2	2			2	2							2	2
	<i>Hovea linearis</i>													1	1										
	<i>Mirbelia platylobioides</i>																	2	2	2	2	3	3	2	2
	<i>Pultenaea subspicata</i>																		1	1					
	<i>Pultenaea tuberculata</i>																			1	1				
	<i>Vicia</i> sp.*			2																					
Fabaceae - Mimosoideae	<i>Acacia dealbata</i>	1	2	2	2	2	4b	2	2																
	<i>Acacia gunnii</i>													1	2	2	2								
Geraniaceae	<i>Geranium homeanum</i>	4a	2	2	2	3	1	2																	
Goodeniaceae	<i>Goodenia bellidifolia</i>													2	2	4a	2	3	3	3	3	2	2		
	<i>Goodenia hederacea</i>																2							2	2
Haloragaceae	<i>Gonocarpus micranthus</i>		1			3	3			3	3			3	3			3	3						
	<i>Gonocarpus tetragynus</i>			2	2			3	3			3	3			3	3			3	3				
Hypericaceae	<i>Hypericum gramineum</i>					2	2		1	2	2	1		2	1	2	2	3	3	2	1	1	1		
	<i>Hypericum perforatum</i> *			1				1																	
Iridaceae	<i>Patersonia sericea</i>													4a	4a	3	3	3	3	3	3	3	3	2	2
Juncaceae	<i>Juncus</i> sp.						1	1																	
Lamiaceae	<i>Ajuga australis</i>			2				3				2	3												
Lauraceae	<i>Cassytha glabella</i>											2	2			1	1								

Family	Species	Cover Abundance																							
		Q1-2016	Q1-2017	Q1-2018	Q1-2019	Q2-2016	Q2-2017	Q2-2018	Q2-2019	Q3-2016	Q3-2017	Q3-2018	Q3-2019	Q4-2016	Q4-2017	Q4-2018	Q4-2019	Q5-2016	Q5-2017	Q5-2018	Q5-2019	Q6-2016	Q6-2017	Q6-2018	Q6-2019
	<i>Cassytha melantha</i>									2	2														
Liliaceae	<i>Liliaceae</i> sp.																							1	
Lomandraceae	<i>Lomandra filiformis</i>	3	3	4b	4b	4b	4b	4b	4b	4b	4b	4a	4a		1	1	1	3	3	3	3	3	3	3	3
	<i>Lomandra longifolia</i>															1	1	4b	4b	4b	4b	4b	4b	3	3
	<i>Lomandra multiflora</i>	3	3	3	2							1	1												
Myrtaceae	<i>Eucalyptus bridgesiana</i>	4b	4b	1	1	4b	4b			4b	4b	1	1												
	<i>Eucalyptus dives</i>											4b	4b	4b	4b	2	2					1	1		
	<i>Eucalyptus mannifera</i>	4b	4b	1	1	4b	4b	4b	4b					4b	4b	2	2	4b	4b	4b	4b	4b	4b	4b	4b
	<i>Eucalyptus melliodora</i>							1	1																
	<i>Eucalyptus pauciflora</i>			1	1					1	1	1	1												
	<i>Eucalyptus rossii</i>																	4b	4b	4b	4b	4b	4b	4b	4b
	<i>Eucalyptus viminalis</i>	4b	4b	4b	4b					4b	4b	4b	4b												
Orchidaceae	<i>Caladenia fuscata</i>																			1					
	<i>Caladenia moschata</i>											1													
	<i>Caleana</i> sp.													2				3							
Oxalidaceae	<i>Oxalis perennans</i>											1													
Phormiaceae	<i>Dianella revoluta</i>	3	3	2	3		2	2	2	3	3	3	3												1
Phyllanthaceae	<i>Phyllanthus hirtellus</i>										1														
	<i>Poranthera ericifolia</i>									1	1														
	<i>Poranthera microphylla</i>											1		1								1	1		
Pinaceae	<i>Pinus radiata</i> *														1	2	2	1	1	1	1				
Pittosporaceae	<i>Billardiera scandens</i>			1																					
	<i>Bursaria spinosa</i>	4b	4b	4b	4b					4b	4b	2	4b												

Family	Species	Cover Abundance																							
		Q1-2016	Q1-2017	Q1-2018	Q1-2019	Q2-2016	Q2-2017	Q2-2018	Q2-2019	Q3-2016	Q3-2017	Q3-2018	Q3-2019	Q4-2016	Q4-2017	Q4-2018	Q4-2019	Q5-2016	Q5-2017	Q5-2018	Q5-2019	Q6-2016	Q6-2017	Q6-2018	Q6-2019
Plantaginaceae	<i>Plantago debilis</i>	3	3				1			4a	4a														
	<i>Plantago gaudichaudii</i>			3	3			2	2			3	3												
	<i>Plantago lanceolata</i> *			1																					
	<i>Veronica calycina</i>	3		2	2			2	1	2		2	1												
Poaceae	<i>Anthoxanthum odoratum</i> *	5	5	4b	4b	3	3		2	4b	4b	3	4b												
	<i>Aristida ramosa</i>															1								1	
	<i>Aristida vagans</i>											1							1	1	2				
	<i>Dichelachne micrantha</i>															1									
	<i>Echinopogon caespitosus</i>	3	3			3	3		1		1	1		2	1			3	3	3	1	3	3		2
	<i>Echinopogon ovatus</i>															1	1								
	<i>Elymus scaber</i>	1	1									1													
	<i>Entolasia marginata</i>							1																	
	<i>Microlaena stipoides</i>			3	3			2	1			2	1								1				
	<i>Poa sieberiana</i>	4b	4b	2	3	5	5	4a	4a	5	5	4b	4b	4b	4b		2	4b	4b	4b	4b	4b	4b	2	2
	<i>Poaceae</i> sp.															1								2	1
	<i>Rytidosperma</i> sp.																							2	
	<i>Rytidosperma ?monticola</i>						1																		
Poaceae	<i>Rytidosperma pallida</i>	3	3		3	4a	4b		3	4b	4b	4b	4b	3	3	4b	4b	3	3	3		3	3	4b	4b
Polygonaceae	<i>Rumex brownii</i>			1																					
Proteaceae	<i>Hakea dactyloides</i>																					1	1		
	<i>Hakea laevipes</i>																							3	3
	<i>Persoonia linearis</i>									1	1	1	1							1					

Family	Species	Cover Abundance																							
		Q1-2016	Q1-2017	Q1-2018	Q1-2019	Q2-2016	Q2-2017	Q2-2018	Q2-2019	Q3-2016	Q3-2017	Q3-2018	Q3-2019	Q4-2016	Q4-2017	Q4-2018	Q4-2019	Q5-2016	Q5-2017	Q5-2018	Q5-2019	Q6-2016	Q6-2017	Q6-2018	Q6-2019
Pteridaceae	<i>Cheilanthes sieberi</i>													1	1										
Ranunculaceae	<i>Clematis glycinoides</i>	3	3	2	2																				
Restionaceae	<i>Lepyrodia scariosa</i>									1															
Rosaceae	<i>Acaena ovina</i>	3	3	2	2	2	2	1	1	1	1		1												
	<i>Rubus parviflorus</i>			1	1																				
	<i>Rubus ulmifolius*</i>	1	1	1	1																				
Rubiaceae	<i>Asperula conferta</i>			1	1								1												
	<i>Galium</i> sp.	1								2		2													
	<i>Opercularia diphylla</i>																						1		
	<i>Pomax umbellata</i>											1								2					
Stackhousiaceae	<i>Stackhousia monogyna</i>											2	1												
Violaceae	<i>Melicytus dentatus</i>	1	1		1																				
Violaceae	<i>Viola betonicifolia</i>			2	1	4a		3	1			2													

* indicates an introduced species

Cover abundance:

1.	<5% cover & 3 or less individuals	5.	25 – 50% cover
2.	<5% cover & More than 3 individuals sparsely scattered	6.	50 – 75% cover
3.	<5% cover common and consistent	7.	75% - 100% cover
4a.	<5% cover & very abundant many individuals		
4b.	5 – 25% cover		

Levy Pole transect data

Levy Pole Transect data – Q1a

Height interval recorded	Distance along transect									
	0.5 m	1.0 m	1.5 m	2.0 m	2.5 m	3.0 m	3.5 m	4.0 m	4.5 m	5.0 m
0-0.1 m		<i>Anthoxanthum odoratum</i> *		<i>Anthoxanthum odoratum</i> *	<i>Poa sieberiana</i>	<i>Poa sieberiana</i> <i>Dichondra repens</i>	-		-	
0.1-0.5 m	<i>Lomandra filiformis</i>		<i>Lomandra filiformis</i>				<i>Lomandra filiformis</i>	<i>Stellaria pungens</i>		
0.5-1.0 m										
1.0-2.0 m							<i>Bursaria spinosa</i>			<i>Bursaria spinosa</i>
2.0 - 4.0 m										

Levy Pole Transect data – Q1b

Height interval recorded	Distance along transect									
	0.5 m	1.0 m	1.5 m	2.0 m	2.5 m	3.0 m	3.5 m	4.0 m	4.5 m	5.0 m
0-0.1 m		<i>Anthoxanthum odoratum</i> *					<i>Stellaria pungens</i>	<i>Stellaria pungens</i>		
0.1-0.5 m	<i>Anthoxanthum odoratum</i> *		<i>Poa sieberiana</i>	<i>Rytidosperma pallida</i>	<i>Rytidosperma pallida</i>			<i>Lomandra filiformis</i>		<i>Anthoxanthum odoratum</i> *, <i>Lomandra filiformis</i>
0.5-1.0 m		<i>Rytidosperma pallida</i>								
1.0-2.0 m	<i>Bursaria spinosa</i>									
2.0 - 4.0 m										

Levy Pole Transect data – Q2a

Height interval recorded	Distance along transect									
	0.5 m	1.0 m	1.5 m	2.0 m	2.5 m	3.0 m	3.5 m	4.0 m	4.5 m	5.0 m
0-0.1 m	<i>Lomandra filiformis</i> , <i>Lissanthe strigosa</i>	<i>Poa sieberiana</i>		<i>Poa sieberiana</i>			<i>Rytidosperma</i> <i>a sp.</i>	<i>Anthoxanthum odoratum</i> *		<i>Lomandra filiformis</i>
0.1-0.5 m										
0.5-1.0 m										
1.0-2.0 m										
2.0 - 4.0 m										

Levy Pole Transect data – Q2b

Height interval recorded	Distance along transect									
	0.5 m	1.0 m	1.5 m	2.0 m	2.5 m	3.0 m	3.5 m	4.0 m	4.5 m	5.0 m
0-0.1 m			<i>Poa sieberiana</i> ; <i>Gonocarpus tetragynus</i>	<i>Lomandra filiformis</i>			<i>Rytidosperma pallida</i>			
0.1-0.5 m	<i>Lomandra filiformis</i>	<i>Lomandra filiformis</i>			<i>Lomandra filiformis</i>				<i>Lomandra filiformis</i>	
0.5-1.0 m										
1.0-2.0 m										
2.0 - 4.0 m										

Levy Pole Transect data – Q3a

Height interval recorded	Distance along transect									
	0.5 m	1.0 m	1.5 m	2.0 m	2.5 m	3.0 m	3.5 m	4.0 m	4.5 m	5.0 m
0-0.1 m	<i>Anthoxanthum odoratum</i> *		<i>Lomandra filiformis</i>	<i>Rytidosperma pallida</i>	<i>Rytidosperma pallida</i> , <i>Lomandra filiformis</i>			<i>Lomandra filiformis</i>	<i>Lomandra filiformis</i>	<i>Lomandra filiformis</i>
0.1-0.5 m		<i>Dianella revoluta</i>								
0.5-1.0 m	<i>Bursaria spinosa</i>	<i>Bursaria spinosa</i>	<i>Bursaria spinosa</i>							
1.0-2.0 m										
2.0 - 4.0 m										

Levy Pole Transect data – Q3b

Height interval recorded	Distance along transect									
	0.5 m	1.0 m	1.5 m	2.0 m	2.5 m	3.0 m	3.5 m	4.0 m	4.5 m	5.0 m
0-0.1 m						<i>Anthoxanthum odoratum</i> *		<i>Rytidosperma</i> sp.		
0.1-0.5 m	<i>Rytidosperma pallida</i>	<i>Rytidosperma pallida</i>	<i>Lomandra filiformis</i>	<i>Lissanthe strigosa</i> , <i>Lomandra filiformis</i>		<i>Rytidosperma pallida</i>				<i>Lomandra filiformis</i>
0.5-1.0 m					<i>Rytidosperma pallida</i>					
1.0-2.0 m										
2.0 - 4.0 m										

Levy Pole Transect data – Q4a

Height interval recorded	Distance along transect									
	0.5 m	1.0 m	1.5 m	2.0 m	2.5 m	3.0 m	3.5 m	4.0 m	4.5 m	5.0 m
0-0.1 m				<i>Goodenia bellidifolia</i>						
0.1-0.5 m				<i>Rytidosperma pallida</i>						<i>Patersonia sericea</i>
0.5-1.0 m										
1.0-2.0 m										
2.0 - 4.0 m										

Levy Pole Transect data – Q4b

Height interval recorded	Distance along transect									
	0.5 m	1.0 m	1.5 m	2.0 m	2.5 m	3.0 m	3.5 m	4.0 m	4.5 m	5.0 m
0-0.1 m										
0.1-0.5 m		<i>Rytidosperma pallida</i>		<i>Rytidosperma pallida</i>	<i>Rytidosperma pallida</i>			<i>Rytidosperma pallida</i>		
0.5-1.0 m	<i>Rytidosperma pallida</i>									
1.0-2.0 m										
2.0 - 4.0 m										

Levy Pole Transect data – Q5a

Height interval recorded	Distance along transect									
	0.5 m	1.0 m	1.5 m	2.0 m	2.5 m	3.0 m	3.5 m	4.0 m	4.5 m	5.0 m
0-0.1 m										
0.1-0.5 m	<i>Lomandra longifolia</i>			<i>Lomandra longifolia</i>		<i>Poa sieberiana</i>	<i>Poa sieberiana</i>	<i>Poa sieberiana</i>		
0.5-1.0 m		<i>Lomandra longifolia</i>	<i>Lomandra longifolia</i>							
1.0-2.0 m										
2.0 - 4.0 m										

Levy Pole Transect data – Q5b

Height interval recorded	Distance along transect									
	0.5 m	1.0 m	1.5 m	2.0 m	2.5 m	3.0 m	3.5 m	4.0 m	4.5 m	5.0 m
0-0.1 m			<i>Goodenia bellidifolia</i>							
0.1-0.5 m				<i>Poa sieberiana</i>			<i>Lomandra longifolia</i>	<i>Lomandra longifolia</i>		
0.5-1.0 m					<i>Lomandra longifolia</i>	<i>Lomandra longifolia</i>				
1.0-2.0 m										
2.0 - 4.0 m										

Levy Pole Transect data – Q6a

Height interval recorded	Distance along transect									
	0.5 m	1.0 m	1.5 m	2.0 m	2.5 m	3.0 m	3.5 m	4.0 m	4.5 m	5.0 m
0-0.1 m										
0.1-0.5 m				<i>Rytidosperma pallida</i>			<i>Rytidosperma pallida</i>			
0.5-1.0 m										
1.0-2.0 m										
2.0 - 4.0 m										

Levy Pole Transect data – Q6b

Height interval recorded	Distance along transect									
	0.5 m	1.0 m	1.5 m	2.0 m	2.5 m	3.0 m	3.5 m	4.0 m	4.5 m	5.0 m
0-0.1 m										
0.1-0.5 m	<i>Rytidosperma pallida</i>	<i>Lomandra filiformis</i>			<i>Rytidosperma pallida</i>	<i>Rytidosperma pallida</i>				<i>Lepidosperma gunnii</i>
0.5-1.0 m										
1.0-2.0 m										
2.0 - 4.0 m										

Appendix B Fauna species list

Common name	Scientific name	Status (BC Act)	2019 monitoring	Previously recorded [#]
MAMMALS				
Common Wombat	<i>Vombatus ursinus</i>			X
Common Ringtail Possum	<i>Pseudocheirus peregrinus</i>			X
Eastern Grey Kangaroo	<i>Macropus giganteus</i>		X	X
Common Wallaroo	<i>Macropus robustus</i>		X	X
Swamp Wallaby	<i>Wallabia bicolor</i>			X
Yellow-bellied Sheath-tail-bat	<i>Saccolaimus flaviventris</i>	V		X
Large Forest Bat	<i>Vespadelus darlingtoni</i>			X
* Fox	<i>Vulpes vulpes</i>			X
* Feral Cat	<i>Felis catus</i>			X
* Rabbit	<i>Oryctolagus cuniculus</i>			X
AVES (BIRDS)				
Yellow-rumped Thornbill	<i>Acanthiza chrysorrhoa</i>			X
Striated Thornbill	<i>Acanthiza lineata</i>			X
Brown Thornbill	<i>Acanthiza pusilla</i>			X
Buff-rumped Thornbill	<i>Acanthiza reguloides</i>			X
Eastern Spinebill	<i>Acanthorhynchus tenuirostris</i>		X	X
Grey Goshawk	<i>Accipiter novaehollandiae</i>			X
Australian King Parrot	<i>Alisterus scapularis</i>		X	X
Pacific Black Duck	<i>Anas superciliosa</i>			X
Red Wattlebird	<i>Anthochaera carunculata</i>		X	X
Brush Wattlebird	<i>Anthochaera chrysoptera</i>			X
Wedge-tailed Eagle	<i>Aquila audax</i>			X
Fan-tailed Cuckoo	<i>Cacomantis flabelliformis</i>			X
Pallid Cuckoo	<i>Cacomantis pallidus</i>			X
Gang-gang Cockatoo	<i>Callocephalon fimbriatum</i>	V		X
Yellow-tailed Black Cockatoo	<i>Calyptorhynchus funereus</i>		X	X
Australian Wood Duck	<i>Chenonetta jubata</i>			X
Spotted Quail-thrush	<i>Cinclosoma punctatum</i>			X
Red-browed Treecreeper	<i>Climacteris erythrops</i>			X
Grey Shrike-thrush	<i>Colluricincla harmonica</i>			X
Black-faced Cuckoo-shrike	<i>Coracina novaehollandiae</i>			X
White-winged Cough	<i>Corcorax melanorhamphos</i>		X	X
White-throated Treecreeper	<i>Cormobates leucophaea</i>			X
Australian Raven	<i>Corvus coronoides</i>		X	X
Australian Magpie	<i>Cracticus tibicen</i>			X
Grey Butcherbird	<i>Cracticus torquatus</i>			X
Laughing Kookaburra	<i>Dacelo novaeguineae</i>		X	X
Varied Sittella	<i>Daphoenositta chrysoptera</i>	V		X

Common name	Scientific name	Status (BC Act)	2019 monitoring	Previously recorded [#]
Eastern Yellow Robin	<i>Eopsaltria australis</i>			X
Dollarbird	<i>Eurystomus orientalis</i>			X
White-throated Gerygone	<i>Gerygone albogularis</i>			X
Welcome Swallow	<i>Hirundo neoxena</i>			X
Yellow-faced Honeyeater	<i>Lichenostomus chrysops</i>		X	X
White-eared Honeyeater	<i>Lichenostomus leucotis</i>			X
Superb Fairy-wren	<i>Malurus cyaneus</i>		X	X
Brown-headed Honeyeater	<i>Melithreptus brevirostris</i>			X
White-naped Honeyeater	<i>Melithreptus lunatus</i>			X
Restless Flycatcher	<i>Myiagra inquieta</i>			X
Leaden Flycatcher	<i>Myiagra rubecula</i>			X
Red-browed Finch	<i>Neochmia temporalis</i>			X
Rufous Whistler	<i>Pachycephala rufiventris</i>			X
Spotted Pardalote	<i>Pardalotus punctatus</i>		X	X
Striated Pardalote	<i>Pardalotus striatus</i>		X	X
Scarlet Robin	<i>Petroica boodang</i>	V		X
Red-capped Robin	<i>Petroica goodenovii</i>			X
Rose Robin	<i>Petroica rosea</i>			X
Noisy Friarbird	<i>Philemon corniculatus</i>		X	X
New Holland Honeyeater	<i>Phylidonyis novaehollandiae</i>			X
Crimson Rosella	<i>Platycercus elegans</i>		X	X
Eastern Rosella	<i>Platycercus eximius</i>		X	X
Tawny Frogmouth	<i>Podargus strigoides</i>			X
Grey Fantail	<i>Rhipidura albiscapa</i>		X	X
Willie Wagtail	<i>Rhipidura leucophrys</i>			X
White-browed Scrubwren	<i>Sericornis frontalis</i>			X
Pied Currawong	<i>Strepera graculina</i>		X	X
Grey Currawong	<i>Strepera versicolor</i>			X
Sacred Kingfisher	<i>Todiramphus sanctus</i>			X
Silvereye	<i>Zosterops lateralis</i>			X
AMPHIBIANS				
Common Eastern Froglet	<i>Crinia signifera</i>			X
Bleating Tree Frog	<i>Litoria dentata</i>			X
REPTILES				
Copper-tailed Skink	<i>Ctenotus taeniolatus</i>		X	X
Pale-flecked Garden Sun-skink	<i>Lampropholis guichenoti</i>			X
Jacky Lizard	<i>Amphibolurus muricatus</i>			X

* denotes an introduced species; V – listed as 'Vulnerable' under the NSW *Biodiversity Conservation Act 2016* (BC Act); # Wildthing Consultants (1999) and Lesryk Environmental (2016; 2017).

Appendix C Purple Copper Butterfly monitoring data

Site	PCB observed	<i>Anonychomyrma itinerans</i> (Ants)	<i>Bursaria spinosa</i> subsp. <i>lasiophylla</i> (Blackthorn)						Other observations
			Number individuals	Height range (m)	Mature individuals	Seedlings	New growth	Grazing	
17	No	No	>200	0-2	Y	Y	Y	Y	Ant species (<i>Crematogaster</i> sp.) European Honey Bees (<i>Apis mellifera</i>) Moth (species unknown)
18	No	No	~30	0.2-1.4	Y	Y	Y	Y	Ant species (<i>Crematogaster</i> sp.) European Honey Bees (<i>Apis mellifera</i>) Moths & Grasshoppers (Species unknown)
19	No	No	~60	0.2-1	Y	Y	Y	Y	Ant species (<i>Crematogaster</i> sp.) Australian Painted Lady (<i>Vanessa kershawi</i>) Jewel Beetle (unknown species)
20/21	No	No	~30	0.2-2	Y	Y	Y	Not recent	Moth and Dragonfly (species unknown)
24	No	No	~40	0.5-2.5	Y	Y	Y	Not recent	Moth and Dragonfly (species unknown) Common Grass-blue (<i>Zizina otis</i>)

Alex Irwin
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Umwelt (Australia) Pty Limited
Office 1, 3 Hampden Avenue
Orange, NSW 2800
Supplied by email

02 June 2020

Re: Pre-clearance surveys, Wallerawang Quarry

Dear Alex

This letter has been prepared to document the results of recent preclearance surveys undertaken at the Wallerawang Quarry ('the quarry'). In accordance with the approved Biodiversity Management Plan (BMP) for the quarry, the following pre-clearance inspections are required prior to commencement of vegetation clearing:

- Prior to commencement, a qualified ecologist will be engaged to review the proposed area of clearing and determine whether threatened species and/or potential habitat trees are present.
- If potential habitat trees are identified, these will be inspected (unless impractical) for the presence of threatened arboreal species.
- If threatened species are identified, and cannot be relocated, clearing will not commence until the animal can be relocated or relocates naturally.
- Relocation will only be undertaken under the guidance of a qualified and licensed ecologist.

Pre-clearance inspections in accordance with the requirements of the BMP (as outlined above) were undertaken on the 1st June 2020 by Brian Towle (Senior Ecologist) over approximately 3.5 hours. At the time of inspection the area in which vegetation clearing was to be undertaken was delineated with survey markers. No threatened species were recorded within this area during the pre-clearance inspections.

In accordance with the quarry BMP, specific clearing protocols are required for "*...large trees and those in which species have previously been identified...*". In order to assist with these clearing protocols all hollow-bearing trees within the area to be cleared were flagged during the pre-clearance surveys with pink flagging tape (**Figure 1**). Clearing protocols established for these trees within the BMP include:

- Check for the presence of nesting or roosting fauna before felling or pushing then start tree removal immediately after visual inspection.

- If hollows are identified, the tree is to be gradually nudged at intermittent intervals so that any animal occupying a habitat tree has the chance of vacating the area after the initial disturbance period.
- If native arboreal species are detected, a 10m buffer will be established around the tree and it will be left overnight to allow to animal to vacate the tree.

It is noted that the BMP requires that post clearing surveys are conducted to check if further species require relocating and to inspect hollows. It is recommended that post clearing surveys are undertaken by an ecologist immediately following felling of any trees, so that these surveys are undertaken as part of supervision of clearing works.

If you have any questions or queries please don't hesitate to contact me.

Yours sincerely,



Brian Towle

Senior Ecologist | Accredited Biobanking (#229) and BAM Assessor (#17057)

BEnvSc (Hons I)

M: 0477 888 251

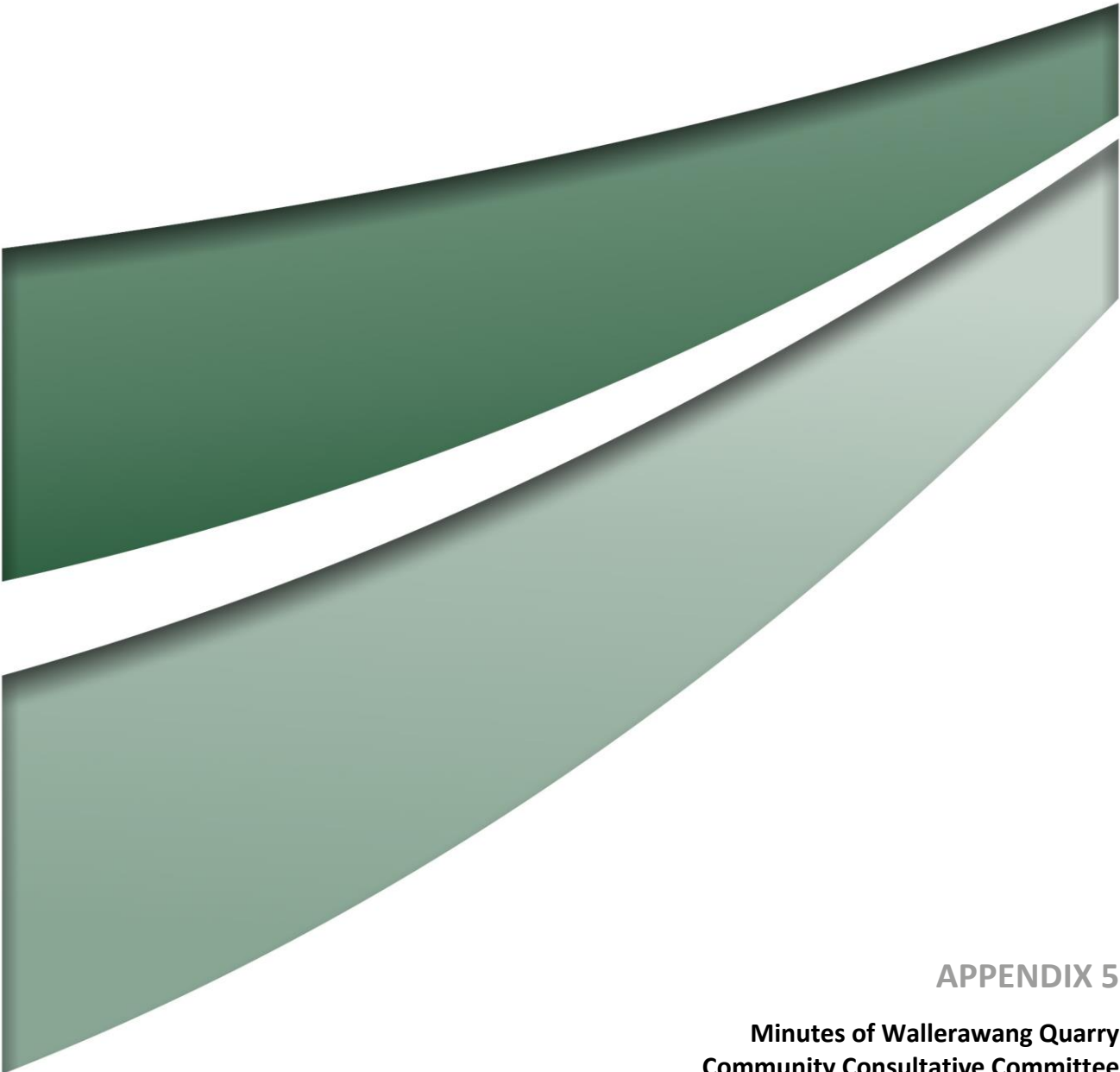
E: brian.towle@ecoplanning.com.au



Figure 1: Vegetation within the area to be cleared, including hollow-bearing trees marked with pink flagging tape.



ecoplanning



APPENDIX 5

Minutes of Wallerawang Quarry Community Consultative Committee

**MINUTES OF WALLERAWANG QUARRY COMMUNITY CONSULTATIVE COMMITTEE
HELD AT THE QUARRY, GREAT WESTERN HIGHWAY WALLERAWANG ON 13th
NOVEMBER 2019**

PRESENT: Sue Graves (Chairman), John McAuley, Trevor Hoffmann, Johann van der Merwe, Emily Honeysett, Lance Gillespie, Paul Curran and Lauren Stevens (Lithgow Council).

**MINUTES OF
PREVIOUS
MEETING:** Minutes of the previous meeting held 5th June 2019 were approved as a true and correct record by John McAuley and seconded by Lauren Stevens.

**BUSINESS
ARISING FROM
LAST MINUTES:** MOD 3 – Is in progress, looking into requirements from Lithgow City Council.
Lauren Stevens explained the development Section 94a Community Contribution Plan. Negotiations will take place between Lithgow Council and Walker Quarries on this matter.

Response to submissions are in progress.

**QUARRY
OPERATIONS:** No hazards, incidents, injuries or complaints have been received since the last meeting.

Walker Quarries had visits from EPA, DPE AND DPI, no issues of concern were raised.

Completed respirable dust monitoring on personnel, no exceedances were reported.

ENVIRONMENTAL: No environmental incidents were reported.

Completed noise survey on last blast, all results within specifications

Completed annual Noise survey for site – all results were in spec with the Highway contributing the most noise.

Awaiting visit from landscaping team to assess current re-seeding exercise. Have seed prepared for us.

Trevor Hoffmann explained the water flow system on site and future development plans within the quarry.

EPA were very pleased when they visited site.

Johann van der Merwe mentioned that Walker Quarries had carried out their Environmental Control Plan and annual report.

**DEVELOPMENT
APPROVAL
MODIFICATION:** MOD 3 – application is in progress

MINING LEASE
ML 1633:

Mining Lease extension was approved for a further 25 years – 2044.

COMPLAINTS
REGISTER:

No complaints have been received since last meeting.

GENERAL
BUSINESS:

Site inspections can be arranged for anyone to have a look.

Currently transporting move Select Fill to Mt Piper Power station

NEXT MEETING:

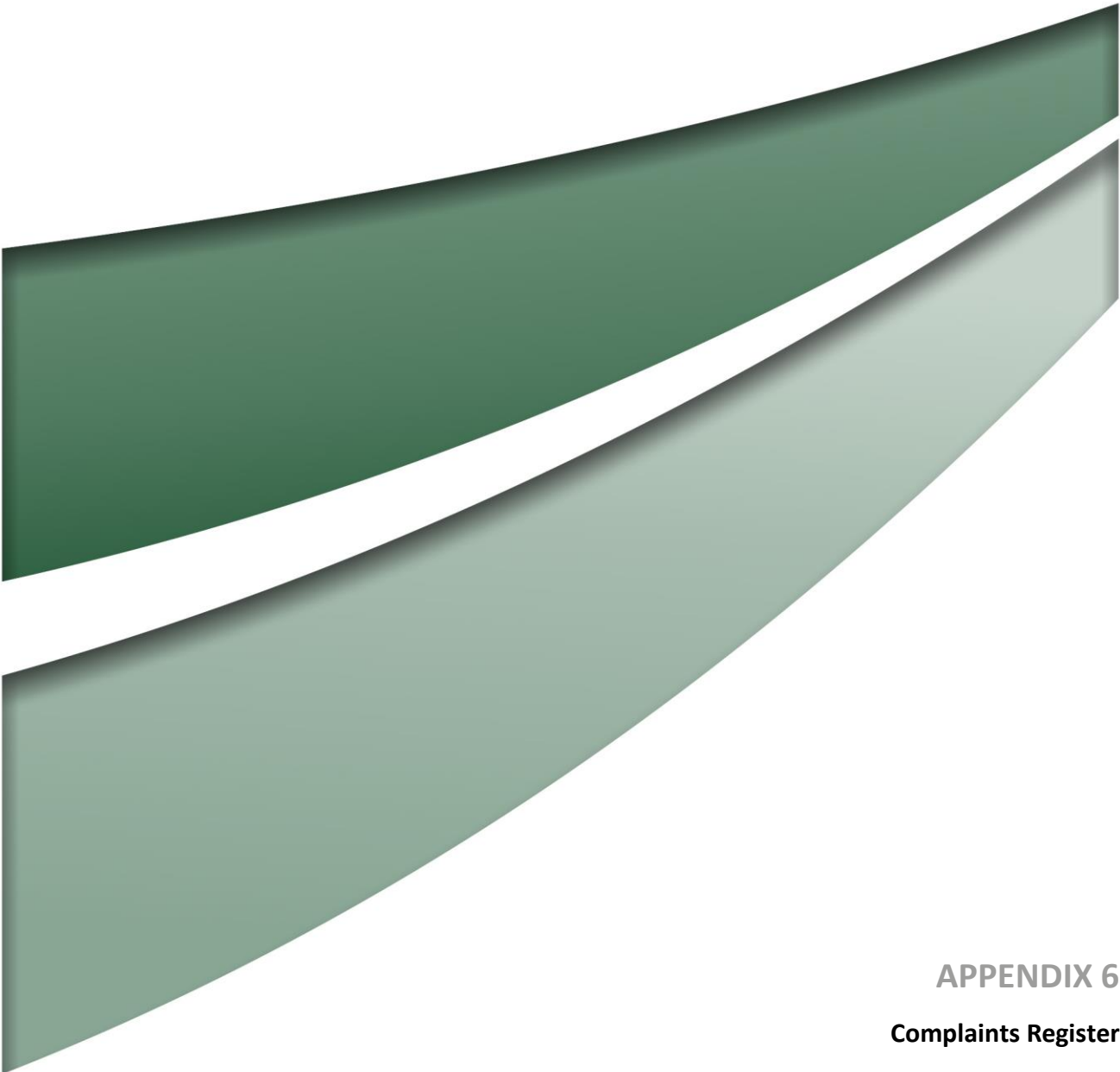
Proposed that the next meeting be held in May 2020.

CLOSE:

There being no further business the meeting was closed at 1746.

Signed as a true and correct record

CHAIRPERSON

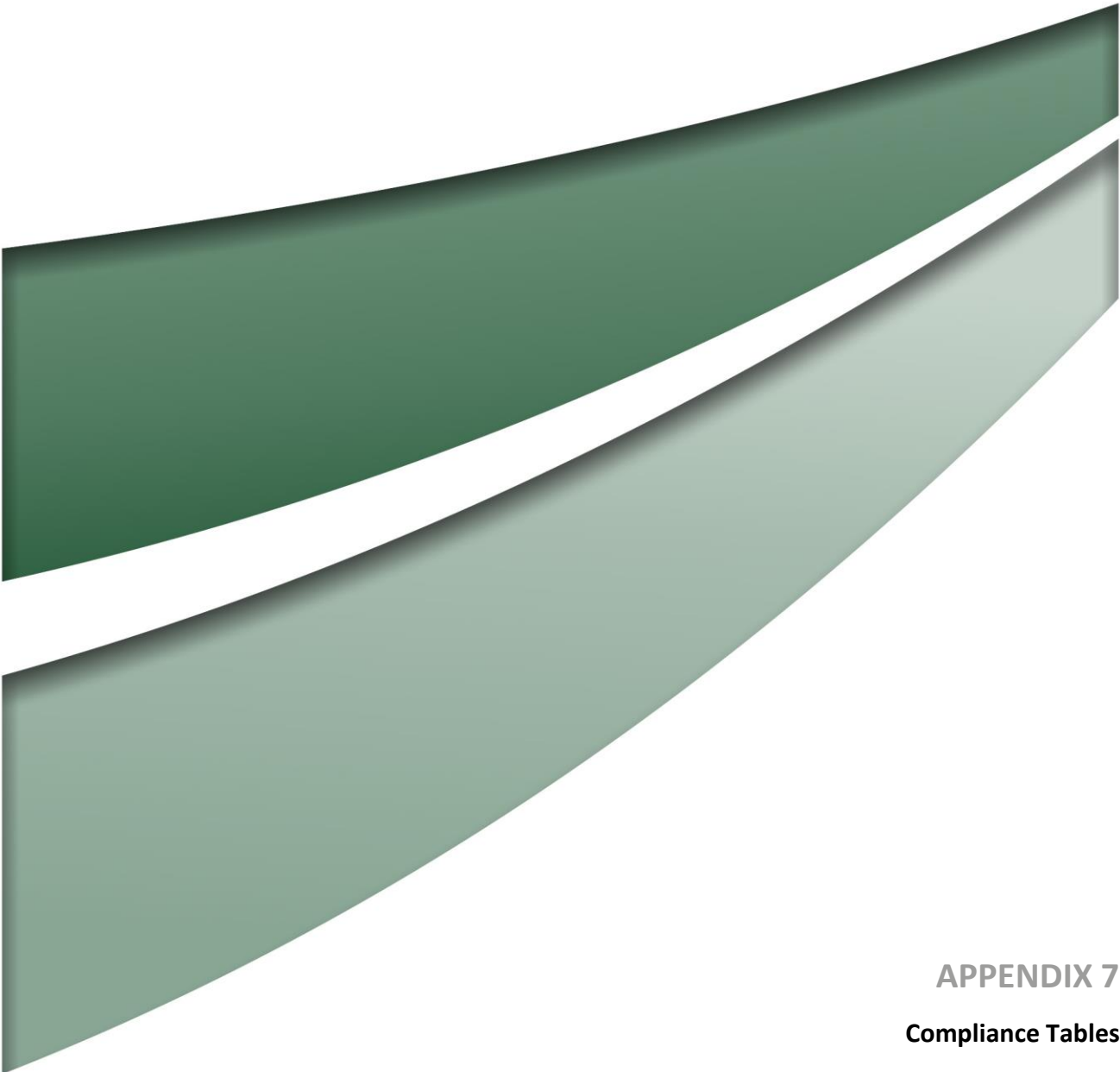


APPENDIX 6
Complaints Register

June	No complaint received
July	No complaint received
August	No complaint received
September	No complaint received
October	No complaint received
November	1 complaint recieved Noisy Trucks travelling along Great Western Highway
December	No complaint received

2020

January	No complaint received
February	No complaint received
March	No complaint received
April	No complaint received
May	No complaint received
June	No complaint received



APPENDIX 7
Compliance Tables

Table C1
Internal Compliance Audit of Relevant Conditions of Development Consent DA 344–11–2001
for Wallerawang Quarry from Start Date to End Date

Condition No.	Paraphrased Requirement	Compliance	Comment	Basis*
SCHEDULE 2 – ADMINISTRATIVE CONDITIONS				
OBLIGATION TO MINIMISE HARM TO THE ENVIRONMENT				
1.	In addition to meeting the specific performance measures and criteria established under this consent, the Applicant must implement all reasonable and feasible measures to prevent and/or minimise any material harm to the environment that may result from the construction, operation or rehabilitation of the development.	Y	An inspection completed on 30 June 2020, as well as observations from previous site visits (13/7/19, 30/8/19, 14/11/19, 16/1/20, 24/3/20, 20/5/20 & 30/6/20), confirms the Quarry to be operating in a manner which presents a low risk of environmental harm. Only one compliant (relating to transport operations) and no incidents were reported during the Annual Review period. Monitoring results also confirm compliance with air, noise and water quality criteria and no adverse impacts on the surrounding vegetation.	O/D
TERMS OF CONSENT				
2.	The Applicant must carry out the development: a) generally in accordance with the EIS and Environmental Assessment (Mod1); and b) in accordance with the conditions of this consent and Development Layout Plan.	Y	On the basis of a site inspection undertaken on Tuesday 30 June 2020, and the general compliance noted in this table, it is assessed that the Quarry has been operated in accordance with the referenced documents over the Annual Review period	O/D/C
2.	The development may only be carried out: (a) in compliance with the conditions of this consent; (b) in accordance with all written directions of the Secretary; (c) generally in accordance with the EIS, EA (Mod 1), SEE (Mod 2) and SEE (Mod 3); and (d) generally in accordance with the Development Layout in Appendix 1.	Y		O/D/C
3.	If there is any inconsistency between the documents in condition 2(c), the most recent document shall prevail to the extent of the inconsistency. However, the conditions of this consent shall prevail to the extent of any inconsistency.	Noted		

Condition No.	Paraphrased Requirement	Compliance	Comment	Basis*
4.	<p>The Applicant must comply with any written requirement/s of the Secretary arising from the Department's assessment of:</p> <ul style="list-style-type: none"> a) any strategies, plans, programs, reviews, audits, reports or correspondence that are submitted in accordance with this consent (including any stages of these documents); b) any reviews, reports or audits undertaken or commissioned by the Department regarding compliance with this consent; and c) the implementation of any actions or measures contained in these documents. 	Y	<p>No inspections of the Quarry were completed by DPIE personnel during the Annual Review period.</p> <p>No notices or requests for action or information were issued to the Quarry during the Annual review period.</p> <p>Modified management plans were submitted to the DPIE in May 2020. Requests provide additional information in these updated management plans has been complied with (noting final submission has been completed outside the Annual Review period)</p>	O
LIMITS ON CONSENT				
Quarrying Operations				
5.	The Applicant may carry out quarrying operations on the site until 15 July 2040.	Y		O
6.	The Applicant must not undertake quarrying operations below a level of 930 m AHD.	Y	Field survey data confirms the depth of the Quarry remained at approximately 945 mAHD prior to the issue of MOD 3	D
Extraction Depth				
6	The Applicant must not conduct quarrying operations within one metre of the maximum groundwater level, with the exception of areas where the Applicant has received the written approval of the Secretary for the construction and use of drainage sumps, groundwater monitoring bores, exploration boreholes or other similar activity agreed by the Secretary.	Y	Field survey data confirms the depth of the Quarry was measured at approximately 940 mAHD on 30 June 2020	D – Survey Data
6A.	<p>Prior to the commencement of quarrying operations below 901 mAHD (unless approved under condition 6 of this Schedule), the Applicant must:</p> <ul style="list-style-type: none"> (a) determine the maximum groundwater level within and adjacent to the proposed extraction area, in consultation with DPIE - Water, using all available groundwater and rainfall monitoring data collected from the site or in the vicinity of the site and appropriate modelling software and parameters; (b) establish the proposed maximum extraction depth to comply with condition 6; and 	Not triggered		O/D

Condition No.	Paraphrased Requirement	Compliance	Comment	Basis*
	(c) prepare a contour map or similar, showing the proposed maximum extraction depth; for the approval of the Secretary.			
Limits on Extraction and Transport				
7.	The Applicant must not extract and/or transport more than 500,000 tonnes of quarry products from the site in any calendar year.	Y	Walkers Quarry transported 122,936 tonnes from the site.	D - Form S1
STRUCTURAL ADEQUACY				
8.	<p>The Applicant must ensure that all new buildings and structures, and any alterations or additions to existing buildings and structures, are constructed in accordance with the relevant requirements of the BCA.</p> <p>Notes:</p> <ul style="list-style-type: none"> Under Part 6 of the EP&A Act, the Applicant is required to obtain construction and occupation certificates for the proposed building works. Part 8 of the EP&A Regulation sets out the requirements for the certification of the development 	Y	Construction and Occupation Certificates issued and received.	O
DEMOLITION				
9.	The Applicant must ensure that all demolition work is carried out in accordance with AS 2601-2001: <i>The Demolition of Structures</i> , or its latest version.	Not Triggered		
PROTECTION OF PUBLIC INFRASTRUCTURE				
10.	<p>Unless the Applicant and the applicable authority agree otherwise the Applicant must:</p> <p>(a) repair, or pay the full costs associated with repairing, any public infrastructure that is damaged by the development; and</p> <p>(b) relocate, or pay the full costs associated with relocating, any public infrastructure that needs to be relocated as a result of the development.</p> <p>Note: This condition does not apply to damage to roads caused as a result of general road usage.</p>	Not Triggered		
OPERATION OF PLANT AND EQUIPMENT				
11.	<p>The Applicant must ensure that all plant and equipment at the site, or to monitor the performance of the development is:</p> <p>(a) maintained in a proper and efficient condition; and</p> <p>(b) operated in a proper and efficient manner.</p>	Y	Plant and equipment serviced every 250 hours. No new plant and equipment purchased during the reporting period.	C
PRODUCTION DATA				
12.	<p>The Applicant must:</p> <p>(a) from the commencement of quarrying operations provide calendar year annual quarry production data to RR using the standard form for that purpose; and</p> <p>(b) include a copy of this data in the Annual Review.</p>	Y	Annual quarry production data provided in Section 4.2 of the Annual Review.	D – Form S1
COMPLIANCE				
13.	The Applicant must ensure that all employees, contractors and sub-contractors are aware of, are instructed to and comply with, the conditions of this consent relevant to their respective activities.	Y	Site induction required for all employees, contractors and sub-contractors.	C

Condition No.	Paraphrased Requirement	Compliance	Comment	Basis*										
CONTRIBUTIONS TO COUNCIL														
14.	Within 6 months of the date of approval of Modification 3, the Applicant must make contributions to Council for the provision of public facilities and to enhance amenity and services within the Lithgow LGA, in accordance with the Section 94A Development Contributions Plan for Lithgow City Council October 2015, or its most recent version. Note: See also section 7.11 of the EP&A Act.	Not Triggered	Payment not due until 26 August 2020. An enquiry to Council regarding the issue of an invoice for this payment was made on 29 June 2020.	D – Evidence of Contribution										
APPLICABILITY OF GUIDELINES														
15.	References in the conditions of this consent to any guideline, protocol, Australia Standard or policy are to such guidelines, protocols, Standards or policies in the form they are in as the date of inclusion (or later update) in the condition	Noted												
16.	However, consistent with the conditions of this consent and without altering any limits or criteria in this consent, the Secretary may, in respect of ongoing monitoring and management obligations, agree to or require compliance with an updated or revised version of such a guideline, protocol, Standard or policy, or a replacement of them.	Noted												
CROWN LAND														
17.	The Applicant must consult with DPIE - Crown Lands prior to undertaking any development on Crown land or Crown roads. Notes: (a) Under Section 265 of the Mining Act 1992, the Applicant is required to enter into a compensation agreement with DPIE - Crown Lands prior to undertaking any mining operations or related activities on Crown land or Crown roads within a mining lease. (b) Under Section 141 of the Mining Act 1992, the Applicant is required to enter into an access arrangement with DPIE - Crown Lands prior to undertaking any prospecting operations on Crown land or Crown roads within an exploration licence.	Not Triggered												
SCHEDULE 3 – SPECIFIC ENVIRONMENTAL CONDITIONS														
NOISE														
Hours of Operation														
1.	The Applicant must comply with the operating hours set out in Table 1. <table><tr><th>Activity</th><th>Permissible Hours</th></tr><tr><td>Quarrying operations</td><td><ul style="list-style-type: none">7 am to 6 pm Monday to Friday8 am to 1 pm SaturdayAt no time on Sundays or public holidays</td></tr><tr><td>Loading and dispatch of trucks</td><td><ul style="list-style-type: none">May be conducted at any time, provided these activities comply with the noise criteria in Table 2</td></tr><tr><td>Blasting</td><td><ul style="list-style-type: none">9 am to 5 pm Monday to Friday9 am to 1 pm on SaturdaysAt no time on Sundays or public holidays</td></tr><tr><td>Maintenance</td><td><ul style="list-style-type: none">May be conducted at any time, provided that these activities are not audible at any privately-owned residence</td></tr></table>	Activity	Permissible Hours	Quarrying operations	<ul style="list-style-type: none">7 am to 6 pm Monday to Friday8 am to 1 pm SaturdayAt no time on Sundays or public holidays	Loading and dispatch of trucks	<ul style="list-style-type: none">May be conducted at any time, provided these activities comply with the noise criteria in Table 2	Blasting	<ul style="list-style-type: none">9 am to 5 pm Monday to Friday9 am to 1 pm on SaturdaysAt no time on Sundays or public holidays	Maintenance	<ul style="list-style-type: none">May be conducted at any time, provided that these activities are not audible at any privately-owned residence	Y	Operating hours complied with during the reporting period. Daily Toolbox meeting at 7.00 am undertaken prior to operations commencing. General maintenance activities occasionally undertaken on Saturdays.	C
Activity	Permissible Hours													
Quarrying operations	<ul style="list-style-type: none">7 am to 6 pm Monday to Friday8 am to 1 pm SaturdayAt no time on Sundays or public holidays													
Loading and dispatch of trucks	<ul style="list-style-type: none">May be conducted at any time, provided these activities comply with the noise criteria in Table 2													
Blasting	<ul style="list-style-type: none">9 am to 5 pm Monday to Friday9 am to 1 pm on SaturdaysAt no time on Sundays or public holidays													
Maintenance	<ul style="list-style-type: none">May be conducted at any time, provided that these activities are not audible at any privately-owned residence													
2.	The following activities may be carried out outside the hours specified in Condition 1 above: (a) delivery or dispatch of materials as requested by Police or other public authorities; and	Not Triggered												

Condition No.	Paraphrased Requirement	Compliance	Comment	Basis*												
	(b) emergency work to avoid the loss of lives, property or to prevent environmental harm. In such circumstances, the Applicant must notify the Secretary and affected residents prior to undertaking the activities, or as soon as is practical thereafter.															
Operational Noise Criteria																
3.	The Applicant must ensure that the noise generated by the development does not exceed the criteria in Table 2 at any residence on privately-owned land. <table><tr><td colspan="4">Table 2: Operational noise criteria dB(A)</td></tr><tr><td>Noise Assessment Location</td><td>Day <i>L_{Aeq}</i> (15 min)</td><td>Evening <i>L_{Aeq}</i> (15 min)</td><td>Night <i>L_{Aeq}</i> (15 min)</td></tr><tr><td>All privately-owned residences</td><td>43</td><td>39</td><td>35</td></tr></table>	Table 2: Operational noise criteria dB(A)				Noise Assessment Location	Day <i>L_{Aeq}</i> (15 min)	Evening <i>L_{Aeq}</i> (15 min)	Night <i>L_{Aeq}</i> (15 min)	All privately-owned residences	43	39	35	Y	Noise monitoring results indicate Walker Quarry complied with noise criteria.	D – Noise Monitoring
Table 2: Operational noise criteria dB(A)																
Noise Assessment Location	Day <i>L_{Aeq}</i> (15 min)	Evening <i>L_{Aeq}</i> (15 min)	Night <i>L_{Aeq}</i> (15 min)													
All privately-owned residences	43	39	35													
3A.	Noise generated by the development must be monitored and measured in accordance with the relevant procedures and exemptions (including certain meteorological conditions) of the NSW Noise Policy for Industry (EPA, 2017).	Y	Noise monitoring undertaken in accordance with NSW Noise Policy for Industry (EPA, 2017).	D – Noise Monitoring												
3B.	The noise criteria in Table 2 do not apply if the Applicant has an agreement with the owner/s of the relevant residence or land to exceed the noise criteria, and the Applicant has advised the Department in writing of the terms of this agreement.	Noted														
Operating Conditions																
4.	The Applicant must: (a) implement best practice management to minimise the construction, operational and road transportation noise of the development; (b) minimise the noise impacts of the development during meteorological conditions when the noise criteria in this consent do not apply (see Appendix 3); (c) carry out noise monitoring (at least every 3 months or as otherwise agreed with the Secretary) to determine whether the development is complying with the relevant conditions of this consent; and (d) regularly assess noise monitoring data and modify and/or stop operations on site to ensure compliance with the relevant conditions of this consent, to the satisfaction of the Secretary.	Y	Operations were generally undertaken in accordance with the consent. The Noise Management Plan (NMP), approved by the Secretary, requires noise monitoring every six months. Monitoring was undertaken in Sept 2019 and March 2020. Noise monitoring results provided in Section 6.3 and Appendix 3 of the Annual Review.	D - Noise monitoring												
Noise Management Plan																
5.	The Applicant must prepare a Noise Management Plan for the development to the satisfaction of the Secretary. This plan must: (a) be prepared in consultation with the EPA; (b) be submitted to the Secretary within three months of the determination of Modification 1, unless otherwise agreed by the Secretary; (c) describe the measures to be implemented to ensure: <ul style="list-style-type: none">compliance with the noise criteria and operating conditions of this consent;best practice management is being employed; and	Y	The Quarry operated in accordance with an approved Noise Management Plan (dated April 2019) over the Annual Review period. This was maintained on the Walker Quarries website.	D - NMP / Approval letter												

Condition No.	Paraphrased Requirement	Compliance	Comment	Basis*																
	<ul style="list-style-type: none">the noise impacts of the development are minimised during meteorological conditions under which the noise criteria in this consent do not apply (see NPfi); <p>(d) describe the proposed noise management system; and</p> <p>(e) include a monitoring program to be implemented to measure noise from the development against the noise criteria in Table 2, and which evaluates and reports on the effectiveness of the noise management system on site.</p> <p>The Applicant must implement the Noise Management Plan as approved from time to time by the Secretary.</p>		An updated Noise Management Plan was submitted to the DPIE in May 2020 reflecting changes following the issue of MOD 3. As at 30 June 2020 this version had yet to be approved.																	
Blasting																				
Blasting Impact Assessment Criteria																				
6.	<p>The Applicant must ensure that blasting on site does not cause any exceedance of the criteria in Table 3.</p> <p><i>Table 3: Blasting Criteria</i></p> <table><tr><th>Receiver</th><th>Airblast overpressure (dB(Lin Peak))</th><th>Ground vibration (mm/s)</th><th>Allowable exceedance</th></tr><tr><td></td><td>120</td><td>10</td><td>0%</td></tr><tr><td>Any residence on privately-owned land</td><td>115</td><td>5</td><td>5% of the total number of blasts over a period of 12 months</td></tr><tr><td>All public infrastructure</td><td>-</td><td>50</td><td>0%</td></tr></table> <p>However, these criteria do not apply if the Applicant has a written agreement with the relevant landowner or infrastructure owner to exceed the limits in Table 3, and the Applicant has advised the Department in writing of the terms of this agreement.</p>	Receiver	Airblast overpressure (dB(Lin Peak))	Ground vibration (mm/s)	Allowable exceedance		120	10	0%	Any residence on privately-owned land	115	5	5% of the total number of blasts over a period of 12 months	All public infrastructure	-	50	0%	Y	<p>Blast monitoring undertaken during the reporting period complied with criteria. Results are provided in Section 6.4 of the Annual Review.</p> <p>Monitoring results are maintained on the Walker Quarries website.</p>	D - Monitoring Results
Receiver	Airblast overpressure (dB(Lin Peak))	Ground vibration (mm/s)	Allowable exceedance																	
	120	10	0%																	
Any residence on privately-owned land	115	5	5% of the total number of blasts over a period of 12 months																	
All public infrastructure	-	50	0%																	
Property Inspections																				
7.	<p>If the Applicant receives a written request from the owner of any privately-owned land within 2 kilometres of the site for a property inspection to establish the baseline condition of any buildings and structures on their land, or to have a previous property inspection updated, then within 2 months of receiving this request the Applicant must:</p> <p>(a) commission a suitably qualified, experienced and independent person, whose appointment is acceptable to both parties to:</p> <ul style="list-style-type: none">establish the baseline condition of any buildings and other structures on the land, or update the previous property inspection report; andidentify measures that should be implemented to minimise the potential blasting impacts of the development on these buildings and structures; and <p>(b) give the landowner a copy of the new or updated property inspection report.</p> <p>If there is a dispute over the selection of the suitably qualified, experienced and independent person, or the Applicant or the landowner disagrees with the findings of the property inspection report, either party may refer the matter to the Secretary for resolution.</p>	Not Triggered	<p>No written requests received during the reporting period.</p> <p>Recommendation</p> <p>Review local land ownership and issue notifications (confirming their right to a property inspection and blast notification) following any change in ownership by 30 September each year.</p>	C																

Condition No.	Paraphrased Requirement	Compliance	Comment	Basis*
Property Investigations				
8.	<p>If the owner of any privately-owned land within 2 kilometres of the site or any other landowner where the Secretary is satisfied an investigation is warranted, or claims in writing that buildings or structures on their land have been damaged as a result of blasting on the site, then within 2 months of receiving this written claim the Applicant must:</p> <p>(a) commission a suitably qualified, experienced and independent person, whose appointment is acceptable to both parties to investigate the claim; and</p> <p>(b) give the landowner a copy of the property investigation report.</p> <p>If this independent property investigation confirms the landowner's claim, and both parties agree with these findings, then the Applicant must repair the damage to the satisfaction of the Secretary.</p> <p>If there is a dispute over the selection of the suitably qualified, experienced and independent person, or the Applicant or the landowner disagrees with the findings of the independent property investigation, then either party may refer the matter to the Secretary for resolution.</p>	Not Triggered		C
Operating Conditions				
9.	<p>During blasting operations, the Applicant must:</p> <p>(a) implement best practice management to:</p> <ul style="list-style-type: none"> • protect the safety of people and livestock; • protect public or private infrastructure and property from damage; and • minimise the dust and fume emissions; <p>(b) operate a suitable system to enable the local community to get up-to-date information on the proposed blasting schedule on site; and</p> <p>(c) carry out regular monitoring to determine whether the development is complying with the relevant conditions of this consent, to the satisfaction of the Secretary.</p>	Y	Blasting operations undertaken in accordance with the Blast Management and Explosives Control Plan (BMP) during the reporting period.	C/O
Blast Management Plan				
10.	<p>The Applicant must prepare a Blast Management Plan for the development to the satisfaction of the Secretary. This plan must:</p> <p>(a) be submitted to the Secretary for approval within three months of the determination of Modification 1, unless otherwise agreed by the Secretary;</p> <p>(b) describe the measures to be implemented to ensure compliance with the blast criteria and operating conditions of this consent;</p> <p>(c) include measures to manage flyrock to ensure the safety of people and livestock and to protect properties;</p> <p>(d) include a monitoring program for evaluating and reporting on compliance with the blasting criteria in this consent;</p>	Y	<p>The Quarry operated in accordance with an approved Blast Management and Explosives Control Plan (dated April 2019) over the Annual Review period.</p> <p>This was maintained on the Walker Quarries website.</p>	D - BMP

Condition No.	Paraphrased Requirement	Compliance	Comment	Basis*																			
	<p>(e) include local community notification procedures for the blasting schedule, in particular to nearby residences; and</p> <p>(f) include a protocol for investigating and responding to complaints related to blasting operations.</p> <p>The Applicant must implement the Blast Management Plan as approved from time to time by the Secretary.</p>		An updated Blast Management and Explosives Control Plan was submitted to the DPIE in May 2020 reflecting changes following the issue of MOD 3. As at 30 June 2020 this version had yet to be approved.																				
AIR QUALITY																							
Air Quality Impact Assessment Criteria																							
11.	The Applicant must ensure that all reasonable and feasible avoidance and mitigation measures are employed so that particulate matter emissions generated by the development do not cause exceedances of the criteria in Table 4 at any residence on privately-owned land.	Y	Mitigation measures employed during the reporting period include spray carts and water sprays on plant and equipment.	O / D - Monitoring Results																			
11.	<p>The Applicant must ensure that particulate matter emissions generated by the development do not cause exceedances of the criteria in Table 4 at any residence on privately-owned land.</p> <p><i>Table 4: Air quality criteria</i></p> <table><tr><th>Pollutant</th><th>Averaging period</th><th>Criterion</th></tr><tr><td rowspan="2">Particulate matter < 10 µm (PM₁₀)</td><td>Annual</td><td>^{a, c} 25 µg/m³</td></tr><tr><td>24 hour</td><td>^b 50 µg/m³</td></tr><tr><td rowspan="2">Particulate matter < 2.5 µm (PM_{2.5})</td><td>Annual</td><td>^{a, c} 8 µg/m³</td></tr><tr><td>24 hour</td><td>^b 25 µg/m³</td></tr><tr><td>Total suspended particulate (TSP) matter</td><td>Annual</td><td>^{a, c} 90 µg/m³</td></tr><tr><td>^d Deposited dust</td><td>Annual</td><td>^b 2 g/m²/month ^{a, d} 4 g/m²/month</td></tr></table> <p>Notes:</p> <p>^a Total impact (i.e. incremental increase in concentrations due to the development plus background concentrations due to all other sources).</p> <p>^b Incremental impact (i.e. incremental increase in concentrations due to the development on its own).</p> <p>^c Excludes extraordinary events such as bushfires, prescribed burning, dust storms, fire incidents or any other activity agreed by the Planning Secretary.</p> <p>^d Deposited dust is to be assessed as insoluble solids as defined by Standards Australia, AS/NZS 3580.10.1:2003: Methods for Sampling and Analysis of Ambient Air - Determination of Particulate Matter - Deposited Matter - Gravimetric Method.</p>	Pollutant	Averaging period	Criterion	Particulate matter < 10 µm (PM ₁₀)	Annual	^{a, c} 25 µg/m ³	24 hour	^b 50 µg/m ³	Particulate matter < 2.5 µm (PM _{2.5})	Annual	^{a, c} 8 µg/m ³	24 hour	^b 25 µg/m ³	Total suspended particulate (TSP) matter	Annual	^{a, c} 90 µg/m ³	^d Deposited dust	Annual	^b 2 g/m ² /month ^{a, d} 4 g/m ² /month	ANC	<p>The Air Quality Management Plan (AQMP), approved by the Secretary, only provides for monitoring of deposited dust in accordance with Australian Standards and Approved Methods (DEC, 2005) with monitoring of PM₁₀ and TSP to be undertaken should dust deposition results indicate the rolling annual average >4g/m²/month.</p> <p>Dust deposition monitoring results provided in Section 6.5 and Appendix 3 of the Annual Review.</p> <p>An updated AQMP, providing for the installation of equipment able to monitor PM₁₀ and TSP has subsequently been submitted to the DPIE and approved (outside the Annual Review period)</p>	D – AQMP and Monitoring Results
Pollutant	Averaging period	Criterion																					
Particulate matter < 10 µm (PM ₁₀)	Annual	^{a, c} 25 µg/m ³																					
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Condition No.	Paraphrased Requirement	Compliance	Comment	Basis*
12.	The air quality criteria in Table 4 do not apply if the Applicant has an agreement with the owner/s of the relevant residence or infrastructure to exceed the air quality criteria, and the Applicant has advised the Department in writing of the terms of this agreement.	Noted		
Operating Conditions				
13.	<p>The Applicant must:</p> <ul style="list-style-type: none"> (a) implement best practice management to minimise the dust emissions of the development; (b) regularly assess meteorological and air quality monitoring data and relocate, modify and/or stop operations on site to ensure compliance with the air quality criteria in this consent; (c) minimise the air quality impacts of the development during adverse meteorological conditions and extraordinary events (see note d under Table 4); (d) monitor and report on compliance with the relevant air quality conditions in this consent; and (e) minimise the area of surface disturbance and undertake progressive rehabilitation of the site, to the satisfaction of the Secretary. 	Y	On the seven visits to the Quarry by Umwelt (13/7/19, 30/8/19, 14/11/19, 16/1/20, 24/3/20, 20/5/20 & 30/6/20), no signs of excessive dust generation have been observed.	O / D - Monitoring Results
Air Quality Management Plan				
14.	<p>The Applicant must prepare an Air Quality Management Plan for the development to the satisfaction of the Secretary. This plan must:</p> <ul style="list-style-type: none"> (a) be submitted to the Secretary for approval within three months of the determination of Modification 1, unless otherwise agree by the Secretary; (b) describe the measures to be implemented to ensure: <ul style="list-style-type: none"> • compliance with the air quality criteria and operating conditions of this consent; • best practice management is being employed; and • the air quality impacts of the development are minimised during adverse meteorological conditions and extraordinary events; (c) describe the proposed air quality management system; (d) include an air quality monitoring program that: <ul style="list-style-type: none"> • is capable of evaluating the performance of the development; • includes a protocol for determining any exceedances of the relevant conditions of consent; • effectively supports the air quality management system; and • evaluates and reports on the adequacy of the air quality management system. <p>The Applicant must implement the approved Air Quality Management Plan as approved from time to time by the Secretary.</p>	ANC	<p>The Quarry operated in accordance with an approved Air Quality Management Plan (dated April 2019) over the Annual Review period.</p> <p>A copy of the plan was maintained on the Walker Quarries website.</p> <p>An updated Air Quality Management Plan was submitted to the DPIE in May 2020 reflecting changes following the issue of MOD 3. As at 30 June 2020 this version had yet to be approved.</p> <p>The Air Quality Management Plan requires dust deposition monitoring to be undertaken in accordance with AS/NZS 3580.10.1:2003. The monitoring period prescribed in this standard is 30 +/- 2 days. On four occasions the monitoring period was outside this standard.</p>	D - AQMP

Condition No.	Paraphrased Requirement	Compliance	Comment	Basis*
Meteorological Monitoring				
15.	For the life of the development, the Applicant must ensure that there is a suitable meteorological station operating in the vicinity of the site that complies with the requirements in the Approved Methods for Sampling and Analysis of Air Pollutants in New South Wales guideline.	Y	A meteorological station was operating onsite during the reporting period. Results are provided in Section 6.2 of the Annual Review.	O / D – Station output download
15.	For the life of the development, the Applicant must ensure that there is a suitable meteorological station operating in close proximity to the site that: <ul style="list-style-type: none"> (a) complies with the requirements in the Approved Methods for Sampling and Analysis of Air Pollutants in New South Wales (DEC, 2007); and (b) is capable of measuring meteorological conditions in accordance with the NSW Noise Policy for Industry (EPA, 2017), unless a suitable alternative is approved by the Secretary following consultation with EPA.	Y	A meteorological station was operating onsite during the reporting period. Results are provided in Section 6.2 of the Annual Review.	O / D – Station output download
SOIL AND WATER				
Water Supply				
16.	The Applicant must ensure that it has sufficient water for all stages of the development, and if necessary, adjust the scale of operations under the consent to match its available water supply, to the satisfaction of the Secretary.	Y	No water purchased for operations during the reporting period.	C
Water Discharges				
17.	The Applicant must comply with the discharge limits in any EPL, or with section 120 of the POEO Act.	Y	One discharge was reported during the reporting period - at SD1 on 6 April 2020. Water quality results indicate the discharge water quality was within discharge limits (refer Section 7.2 of the Annual Review).	D – Monitoring Results
Soil and Water Management Plan				
18.	The Applicant must prepare a Soil and Water Management Plan for the development to the satisfaction of the Secretary. This plan must: <ul style="list-style-type: none"> (a) be prepared by suitably qualified and experienced person/s approved by the Secretary; (b) be prepared in consultation with the EPA, DPIE - Water and WaterNSW; (c) be submitted to the Secretary for approval within three months of the determination of Modification 1 and Modification 3, unless otherwise agreed by the Secretary; and (d) include a: <ul style="list-style-type: none"> • Site Water Balance that includes: • details of: <ul style="list-style-type: none"> ○ sources and security of water supply; ○ water use and management on site; ○ any off-site water transfers; and 	Y	The Quarry operated in accordance with an approved Soil and Water Management Plan (dated April 2019) over the Annual Review period. A copy was maintained on the Walker Quarries website. An updated Soil and Water Management Plan was submitted to the DPIE in May 2020 reflecting changes following the issue of MOD 3. As at 30 June 2020 this version had yet to be approved.	D - SWMP

Condition No.	Paraphrased Requirement	Compliance	Comment	Basis*
	<ul style="list-style-type: none"> ○ reporting procedures; and ○ measures to be implemented to minimise clean water use on site 			
	<ul style="list-style-type: none"> ● Surface Water Management Plan, that includes: <ul style="list-style-type: none"> ○ a program for obtaining detailed baseline data on surface water flows and quality in water bodies that could potentially be affected by the development; ○ a detailed description of the surface water management system on site including the: <ul style="list-style-type: none"> – clean water diversion system; – erosion and sediment controls; – dirty water management system; and – water storages; and ○ a program to monitor and report on: <ul style="list-style-type: none"> – any surface water discharges; – the effectiveness of the water management system, – the quality of water discharged from the site to the environment; – surface water flows and quality in local watercourses; 	Y	<p>Surface Water Management Plan included as part of the Soil and Water Management Plan.</p> <p>Monitoring of Coks River and discharge point SD1 was undertaken during the reporting period. Results are provided in Section 7.2 of the Annual Review.</p>	<p>D – SWMP and Monitoring results</p> <p>O</p>
	<ul style="list-style-type: none"> ● Groundwater Management Plan that includes: <ul style="list-style-type: none"> ○ a provision that requires the Applicant to obtain appropriate water licence(s) to cover the volume of any unforeseen groundwater inflows into the quarry from the quarry face or floor; and ○ a monitoring program to manage potential impacts, if any, on any alluvium and associated surface water source near the proposed extraction area that includes: <ul style="list-style-type: none"> – identification of a methodology for determining threshold water level criteria; – contingency measures in the event of a breach of thresholds; and – a program to regularly report on monitoring. <p>The Applicant must implement the approved Soil and Water Management Plan as approved from time to time by the Secretary.</p>	Y	<p>A Groundwater Management Plan is included as part of the Soil and Water Management Plan.</p> <p>Monitoring of three groundwater bores was undertaken during the reporting period. Results are provided in Section 7.3 of the Annual Review.</p>	D – SWMP and Monitoring results

Condition No.	Paraphrased Requirement	Compliance	Comment	Basis*
TRANSPORT				
Monitoring of Product Transport				
19	The Applicant must keep accurate records of all laden truck movements to and from the site and publish a summary of records on its website every 6 months.	Y		D - Website
Operating Conditions				
20.	The Applicant must: (a) ensure that all laden trucks entering or exiting the site have their loads covered, with the exception of loads consisting solely of boulders greater than one tonne in weight; (b) ensure that all laden trucks exiting the site are cleaned of material that may fall from vehicles, before leaving the site; and (c) use its best endeavours to ensure that appropriate signage is displayed on all trucks used to transport product from the development so they can be easily identified by road users.	Y	All loads were covered and trucks cleaned via wheel wash on exit. No observations of uncovered trucks observed during the seven visits to the Quarry Site by Umwelt personnel.	O / C
PROTECTION OF ABORIGINAL HERITAGE				
21.	The Applicant must not disturb the area marked "Aboriginal Heritage Site" on the Development Layout Plan in Appendix 1 .	Y	The Aboriginal Heritage Site remained undisturbed during the reporting period.	O / C
21.	The Applicant must ensure that the development does not cause any direct or indirect impact on any identified heritage item located outside the approved disturbance area, beyond those predicted in the document/s listed in condition 2(c) of Schedule 2.	Y	A tree located within the fenced heritage site fell over the fence during the reporting period.	O
22.	Throughout the life of the development, the Applicant must protect and conserve the area subject to condition 21, in consultation with the Bathurst Local Aboriginal Land Council, and to the satisfaction of the Secretary.	Y	Consultant archaeologists OzArk EHM were contacted and advised that on the basis that no excavation or remedial work was required no further harm is likely and no further notification required. The Quarry Manager retains a record of the reinstatement of the damaged fencing.	D – SEE for MOD 3
22.	If suspected human remains are discovered on site, then all work surrounding the area must cease, and the area must be secured. The Applicant must immediately notify NSW Police and BCD, and work must not recommence in the area until authorised by NSW Police and BCD.	Not triggered	Procedures for management Aboriginal heritage are documented in an Aboriginal Cultural Heritage Management Plan (ACHMP) prepared during the Annual Review period.	O
23.	If any item or object of Aboriginal heritage significance is identified on site, the Applicant must ensure that: (a) all work in the immediate vicinity of the suspected Aboriginal item or object ceases immediately; (b) a 10 m buffer area around the suspected item or object is cordoned off; and (c) the OEHL is contacted immediately.	Not Triggered		O

Condition No.	Paraphrased Requirement	Compliance	Comment	Basis*
	Work in the immediate vicinity of the Aboriginal item or object may only recommence in accordance with the provisions of Part 6, <i>National Parks and Wildlife Act 1974</i> .		Heritage training is also included in Quarry induction materials (and referenced in the ACHMP prepared during the Annual Review period.	
23.	If any previously unknown Aboriginal object or Aboriginal place is discovered on the site: (a) all work in the immediate vicinity of the object or place must cease immediately; (b) a 10 metre buffer area around the object or place must be cordoned off; and (c) BCD must be contacted immediately.	Not triggered		O
23A.	Work in the immediate vicinity may only recommence if: (a) the potential Aboriginal object or Aboriginal place is confirmed by BCD upon consultation with the Registered Aboriginal Parties not to be an Aboriginal object or Aboriginal Place; or (b) the Aboriginal Cultural Heritage Management Plan required by condition 23C is revised to include the Aboriginal object or Aboriginal place and appropriate measures in respect of it, to the satisfaction of the Secretary; or (c) the Secretary is satisfied as to the measures to be implemented in respect of the Aboriginal object or Aboriginal place and makes a written direction in that regard.	Noted		
23B	The Applicant must ensure that all known Aboriginal objects or Aboriginal places on the site and within any offset areas are properly recorded, and those records are kept up to date, in the AHIMS Register.	Y	One known Aboriginal Site recorded in AHIMS - Site #45-1-2802.	D – AHIMS
Aboriginal Cultural Heritage Management Plan				
23C.	The Applicant must prepare an Aboriginal Cultural Heritage Management Plan for the development to the satisfaction of the Secretary. This plan must: (a) be prepared by suitably qualified and experienced person/s whose appointment has been endorsed by the Secretary; (b) be prepared in consultation with BCD and Registered Aboriginal Parties; (c) describe the measures to be implemented on the site or within any offset area to: i. comply with the heritage-related operating conditions of this consent; ii. ensure all workers receive suitable Aboriginal cultural heritage inductions prior to carrying out any activities which may cause impacts to Aboriginal objects or Aboriginal places, and that suitable records are kept of these inductions; iii. protect, monitor and manage identified Aboriginal objects and Aboriginal places (including any proposed archaeological investigations of potential subsurface objects and salvage of objects within the approved disturbance area) in accordance with the commitments made in the document/s listed in condition 2(c) of Schedule 2;	Y	An ACHMP has been prepared by OzArk in consultation with RAPs, BCD and DPIE. This ACHMP was submitted to DPIE during the Annual Review period (and subsequently approved in July 2020).	D – ACHMP

Condition No.	Paraphrased Requirement	Compliance	Comment	Basis*												
	<div><div><div>iv. protect Aboriginal objects and Aboriginal places located outside the approved disturbance area from impacts of the development;</div><div>v. manage the discovery of suspected human remains and any new Aboriginal objects or Aboriginal places, including provisions for burials, over the life of the development;</div><div>vi. maintain and manage reasonable access for relevant Aboriginal stakeholders to Aboriginal objects and Aboriginal places (outside of the approved disturbance area); and</div><div>vii. facilitate ongoing consultation and involvement of Registered Aboriginal Parties in the conservation and management of Aboriginal cultural heritage on the site;</div></div><div>(d) include a strategy for the care, control and storage of Aboriginal objects salvaged on site, in particular AHIMS Site #45-1-2802, both during the life of the development and in the long-term.</div></div>															
23D.	The Applicant must not commence any ground disturbance associated with Modification 3 until the Aboriginal Cultural Heritage Management Plan is approved by the Secretary.	Y		O												
23E.	The Applicant must implement the Aboriginal Cultural Heritage Management Plan approved by the Secretary.	Not triggered	The ACHMP will be finalised in the next reporting period.													
BIODIVERSITY AND REHABILITATION																
Biodiversity Offset Strategy (BOS)																
24.	<div>By 28 February 2018, the Applicant must provide a Biodiversity Offset Strategy (BOS) in accordance with the Framework for Biodiversity Assessment - NSW Biodiversity Offsets Policy for Major Projects, for the retirement of ecosystem and species credits as set out in Table 5, to the satisfaction of the Secretary and BCD.</div> <div>Table 5: Biodiversity credits to be retired</div> <table><tr><th>Credit type</th><th>No. Credits</th></tr><tr><td colspan="2">Ecosystem Credits</td></tr><tr><td>PCT 732 – Broad-leaved Peppermint - Ribbon Gum grassy open forest in the north east of the South Eastern Highlands Bioregion</td><td>120</td></tr><tr><td>PCT 1093 – Red Stringybark – Brittle Gum – Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion</td><td>34</td></tr><tr><td colspan="2">Species Credits</td></tr><tr><td>Purple Copper Butterfly</td><td>184</td></tr></table>	Credit type	No. Credits	Ecosystem Credits		PCT 732 – Broad-leaved Peppermint - Ribbon Gum grassy open forest in the north east of the South Eastern Highlands Bioregion	120	PCT 1093 – Red Stringybark – Brittle Gum – Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion	34	Species Credits		Purple Copper Butterfly	184	Y		D – BOS and associated invoice
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Ecosystem Credits																
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Species Credits																
Purple Copper Butterfly	184															
Security of Offsets																
25.	By 31 December 2018, unless otherwise agreed with the Secretary, the Applicant must make suitable arrangements to provide appropriate long-term security for the Biodiversity Offset Strategy, to the satisfaction of the Secretary. Any mechanism must remain in force in perpetuity.	Y	Biodiversity Offset arrangements finalised prior to 31 December 2018.	D - BOS												

Condition No.	Paraphrased Requirement	Compliance	Comment	Basis*
Biodiversity Management Plan				
26.	<p>The Applicant must prepare a Biodiversity Management Plan for the development to the satisfaction of the Secretary. This plan must:</p> <ul style="list-style-type: none"> (a) be prepared by suitably qualified and experienced persons whose appointment has been endorsed by the Secretary; (b) be prepared in consultation with OEH; (c) be submitted to the Secretary within three months of providing a satisfactory BOS or by 31 March 2018, whichever is earlier; (d) describe the short, medium, and long term measures to be undertaken to manage the remnant vegetation and fauna habitat on the site, including within any biodiversity offset areas; 	Y	<p>A Biodiversity Management Plan (BDMP) has been prepared and approved.</p> <p>A copy is maintained on the Walker Quarries website.</p>	D - BDMP
26.	<ul style="list-style-type: none"> (e) include a detailed description of the measures described in paragraph (d) to be implemented over the next 3 years (to be updated for each 3 year period following initial approval of the plan) including the procedures to be implemented for: <ul style="list-style-type: none"> • maximising the salvage of environmental resources within the approved disturbance area, including tree hollows, vegetative and soil resources, for beneficial reuse in the enhancement of any biodiversity offset areas or site rehabilitation; • restoring and enhancing the quality of native vegetation and fauna habitat in any biodiversity offset and rehabilitation areas through assisted natural regeneration, targeted vegetation establishment and the introduction of fauna habitat features; • protecting vegetation and fauna habitat outside the approved disturbance area on-site; • minimising the impacts on native fauna, including undertaking pre-clearance surveys; • ensuring minimal environmental consequences for threatened species, populations and habitats, including the Purple Copper Butterfly; • collecting and propagating seed; • controlling weeds and feral pests; • controlling erosion; and • managing bushfire risk; (f) include a program to monitor and report on the effectiveness of these measures, and progress against the performance and completion criteria; (g) identify the potential risks to the successful implementation of the BOS, and include a description of the contingency measures to be implemented to mitigate these risks; and (h) include details of who is responsible for monitoring, reviewing, and implementing the plan. <p>The Applicant must implement the Biodiversity Management Plan as approved from time to time by the Secretary.</p>	Y	<p>The approved BDMP includes:</p> <ul style="list-style-type: none"> • management measures (Section 4) • monitoring program (Section 5) • risks to successful implementation (Section 6) • roles and responsibilities (Section 9). <p>Weed spraying undertaken during the reporting period by Bill Grabham.</p> <p>Biodiversity Monitoring undertaken in October 2019. Results reported in Section 6.6 and Appendix 4 of the Annual Review.</p>	D – BDMP / Email from Bill Grabham re weed spraying / Biodiversity Monitoring Report

Condition No.	Paraphrased Requirement	Compliance	Comment	Basis*												
Conservation Bond																
27.	<p>Within 6 months of the approval of the BOS, unless otherwise agreed by the Secretary, the Applicant must lodge a Conservation Bond with the Department to ensure that the BOS is implemented in accordance with the performance and completion criteria in the Biodiversity Management Plan. The sum of the bond must be determined by:</p> <p>(a) calculating the full cost of implementing the BOS at third party rates (other than land acquisition costs); and</p> <p>(b) employing a suitably qualified, independent and experienced person to verify the calculated costs.</p> <p>The calculation of the Conservation Bond must be submitted to the Department for approval at least 1 month prior to the lodgement of the bond.</p>	NR	Biodiversity obligations retired through payment into the Biodiversity Conservation Fund.	D												
28.	<p>The Conservation Bond must be reviewed and if required, an updated bond must be lodged with the Department within 3 months following:</p> <p>(a) an update or revision to the Biodiversity Management Plan;</p> <p>(b) the completion of an Independent Environmental Audit in which recommendations relating to the implementation of the BOS have been made; or</p> <p>(c) in response to a request by the Secretary.</p> <p>If the BOS is completed generally in accordance with the completion criteria in the Biodiversity Management Plan to the satisfaction of the Secretary, the Secretary will release the bond.</p> <p>If the BOS is not completed generally in accordance with the completion criteria in the Biodiversity Management Plan, the Secretary will call in all, or part of, the conservation bond, and arrange for the completion of the relevant works.</p>	Not Triggered	See above	D												
Biodiversity Credits Required for Modification 3																
28A	<p>The Applicant must retire biodiversity credits for Stages A to D of the development approved under Modification 3 (see Figure 2 in Appendix 1) as specified in Table 5A below, prior to commencing vegetation clearing in that Stage. The retirement of credits must be carried out in consultation with BCD and in accordance with the Biodiversity Offsets Scheme of the BC Act, to the satisfaction of the BCT.</p> <table><caption>Table 5A: Biodiversity credit requirements</caption><thead><tr><th>Credit Type</th><th>Credits Required</th></tr></thead><tbody><tr><td colspan="2">Ecosystem Credits</td></tr><tr><td>Tranche 1 - Credits to be retired for Stage A PCT 1093 – 100 credits PCT 732 – 36 credits</td><td>136</td></tr><tr><td>Tranche 2 - Credits to be retired for Stage B PCT 1093 – 64 credits PCT 732 – 103 credits</td><td>167</td></tr><tr><td>Tranche 3 - Credits to be retired for Stage C PCT 1093 – 52 credits PCT 732 – 75 credits</td><td>127</td></tr><tr><td>Tranche 4 - Credits to be retired for Stage D PCT 1093 – 57 credits</td><td>57</td></tr></tbody></table> <p><small>Note: The stages referenced in Table 5A are shown in Figure 2 in Appendix 1.</small></p>	Credit Type	Credits Required	Ecosystem Credits		Tranche 1 - Credits to be retired for Stage A PCT 1093 – 100 credits PCT 732 – 36 credits	136	Tranche 2 - Credits to be retired for Stage B PCT 1093 – 64 credits PCT 732 – 103 credits	167	Tranche 3 - Credits to be retired for Stage C PCT 1093 – 52 credits PCT 732 – 75 credits	127	Tranche 4 - Credits to be retired for Stage D PCT 1093 – 57 credits	57	Not Triggered		
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Condition No.	Paraphrased Requirement	Compliance	Comment	Basis*												
Rehabilitation Objectives																
29.	<p>The Applicant must rehabilitate the site to the satisfaction of RR and the Secretary. This rehabilitation must be generally consistent with the proposed rehabilitation activities described in the documents listed in condition 2 of Schedule 2 (and shown conceptually in the Rehabilitation Plan in Appendix 2), and comply with the objectives in Table 6.</p> <p><i>Table 6: Rehabilitation Objectives</i></p> <table><tr><th>Feature</th><th>Objective</th></tr><tr><td>All areas of the site affected by the development</td><td><ul style="list-style-type: none">• Safe• Hydraulically and geotechnically stable• Non-polluting</td></tr><tr><td></td><td><ul style="list-style-type: none">• Fit for the intended post-development land use(s)• Final landform integrated with surrounding natural landforms as far as is reasonable and feasible, and minimising visual impacts when viewed from surrounding land</td></tr><tr><td>Surface Infrastructure</td><td><ul style="list-style-type: none">• Decommissioned and removed, unless otherwise agreed by the Secretary</td></tr><tr><td>Quarry benches and pit floor</td><td><ul style="list-style-type: none">• Landscaped and vegetated using native tree and understorey species</td></tr><tr><td>Final Void</td><td><ul style="list-style-type: none">• Minimise the size, depth and slope of the batters of the final void• Minimise the drainage catchment of the final void</td></tr></table>	Feature	Objective	All areas of the site affected by the development	<ul style="list-style-type: none">• Safe• Hydraulically and geotechnically stable• Non-polluting		<ul style="list-style-type: none">• Fit for the intended post-development land use(s)• Final landform integrated with surrounding natural landforms as far as is reasonable and feasible, and minimising visual impacts when viewed from surrounding land	Surface Infrastructure	<ul style="list-style-type: none">• Decommissioned and removed, unless otherwise agreed by the Secretary	Quarry benches and pit floor	<ul style="list-style-type: none">• Landscaped and vegetated using native tree and understorey species	Final Void	<ul style="list-style-type: none">• Minimise the size, depth and slope of the batters of the final void• Minimise the drainage catchment of the final void	Y	<p>Quarry operations complied with the rehabilitation objectives of the Mining Operations Plan (MOP) during the reporting period.</p> <p>The MOP includes the final land use plan.</p> <p>Rehabilitation under maintenance occurred throughout the site during the reporting period.</p>	D – MOP O
Feature	Objective															
All areas of the site affected by the development	<ul style="list-style-type: none">• Safe• Hydraulically and geotechnically stable• Non-polluting															
	<ul style="list-style-type: none">• Fit for the intended post-development land use(s)• Final landform integrated with surrounding natural landforms as far as is reasonable and feasible, and minimising visual impacts when viewed from surrounding land															
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Final Void	<ul style="list-style-type: none">• Minimise the size, depth and slope of the batters of the final void• Minimise the drainage catchment of the final void															
Progressive Rehabilitation																
30.	<p>The Applicant must rehabilitate the site progressively, that is, as soon as reasonably practicable following disturbance. All reasonable and feasible measures must be taken to minimise the total area exposed for dust generation at any time. Interim stabilisation measures must be implemented where reasonable and feasible to control dust emissions in disturbed areas that are not active and which are not ready for final rehabilitation.</p>	Y	<p>No new areas of the Quarry Site became available for rehabilitation during the Annual Review period.</p> <p>Reasonable establishment of tree and shrub species observed on previously hydro mulched batters of the Western Stockpile Area.</p> <p>Stable batters observed throughout the site.</p>	O												
Rehabilitation Management Plan																
31.	<p>The Applicant must prepare a Rehabilitation Management Plan for the project to the satisfaction of RR. This plan must:</p> <p>(a) be prepared by suitably qualified and experienced persons whose appointment has been endorsed by the Secretary;</p> <p>(b) be prepared in consultation with the Department, DPIE - Water, FCNSW, BCD, WaterNSW and Council;</p> <p>(c) be submitted to RR and the Secretary for approval within three months of the determination of Modification 1, unless the Secretary agrees otherwise; and Modification 3, unless the RR agrees otherwise;</p> <p>(d) be prepared in accordance with any relevant RR Guideline;</p> <p>(e) describe how the rehabilitation of the site would achieve the objectives identified in Table 6 and be integrated with the BOS described in condition 24;</p> <p>(f) include a detailed soil and growing medium balance for the development;</p>	Y	<p>An updated Rehabilitation Management Plan, prepared as part of the Mining Operations Plan, was submitted to the RR on 29 May 2020. This includes endorsement of the author and record of consultation.</p> <p>It is noted that a request for an extension to the submission date, based on a delay on advisement of MOD 3, was made to DPIE on 26 May 2020. This was subsequently rejected .</p> <p>A copy of the plan is maintained on the Walker Quarries website.</p>	D - Approved MOP												

Condition No.	Paraphrased Requirement	Compliance	Comment	Basis*
	<p>(g) include a detailed plan for the reinstatement and review of the proposed rehabilitated woodland areas and fauna habitat, including a protocol for periodic trials to demonstrate that the target vegetation community is being achieved;</p> <p>(h) include detailed performance and completion criteria for evaluating the performance of the rehabilitation of the site, and for triggering remedial action (if necessary);</p> <p>(i) describe the measures to be implemented to ensure compliance with the relevant conditions of this consent, and address all aspects of rehabilitation including closure of the development, final landform (including final voids), final land uses;</p> <p>(j) include procedures for the use of interim stabilisation and temporary vegetation strategies, where reasonable to minimise the area exposed for dust generation;</p> <p>(k) include a program to monitor, independently audit and report on the effectiveness of the measures in paragraph (h) above, and progress against the detailed performance and completion criteria in paragraph (g) above; and</p> <p>(l) build on to the maximum extent practicable and integrate with the other Management Plans required under this consent.</p>			
VISUAL				
32.	The Applicant must implement all reasonable and feasible measures to minimise the visual and off-site lighting impacts of the development to the satisfaction of the Secretary.	Y	<p>The quarry is visible from Great Western Highway. During the Annual review period, the movement of trucks along the northern perimeter of the extraction area was visible as select fill was extracted from this area. The norther and eastern walls of the extraction area have now been established such that operations are no longer visible.</p> <p>Tubestock establishment and vegetation establishment on the amenity bund has started to reduce visual impacts.</p> <p>The site is maintained in a neat and tidy manner with no dust observed.</p>	O
33.	Prior to utilising the WSEA, the Applicant must construct a visual bund between the north-western boundary of the WSEA and the Great Western Highway, as described in EA (Mod 1). The visual bund must be maintained to the satisfaction of the Secretary.	Y	Visual bund installed and maintained (see above).	O

Condition No.	Paraphrased Requirement	Compliance	Comment	Basis*
34.	The Applicant must install bunds at strategic locations around the site and plant additional trees along the boundary of the development site to screen, so far as is reasonable and feasible, the development from external viewers, to the satisfaction of the Secretary	Y	During the Annual Review period, the movement of trucks along the northern perimeter of the extraction area was visible as select fill was extracted from this area. The norther and eastern walls of the extraction area have now been established such that operations are no longer visible.	O
WASTE				
35.	The Applicant must: (a) manage on-site sewage treatment and disposal in accordance with the requirements of its EPL, and to the satisfaction of the EPA and Council; (b) minimise the waste generated by the development; (c) ensure that the waste generated by the development is appropriately stored, handled, and disposed of; and (d) report on waste management and minimisation in the Annual Review, to the satisfaction of the Secretary.	Y	On site waste managed in accordance with requirements. Waste management and minimisation reported in Section 6.10 of the Annual Review. Recommendation: Implement recycling program to include material such as paper, cardboard, aluminium cans, glass jars and bottles, plastic containers, steel and tin.	O
36.	Except as expressly permitted in an EPL, the Applicant must not receive waste at the site for storage, treatment, processing, reprocessing or disposal.	Not Triggered		
36.	Except as expressly permitted in an EPL, specific resource recovery order or exemption under the Protection of the Environment Operations (Waste) Regulation 2014 , the Applicant must not receive waste at the site for storage, treatment, processing, reprocessing or disposal.			
LIQUID STORAGE				
37.	The Applicant must ensure that all tanks and similar storage facilities (other than for water) are protected by appropriate bunding or other containment, in accordance with the relevant Australian Standards.	Y	Tanks and storage facilities bunded.	O
DANGEROUS GOODS				
38.	The Applicant must ensure that the storage, handling, and transport of dangerous goods is done in accordance with the relevant Australian Standards, particularly AS1940 and AS1596, and the Dangerous Goods Code.	Y		O
38.	The Applicant must ensure that the storage, handling and transport of: (a) dangerous goods are done in accordance with the relevant Australian Standards, particularly AS1940 and AS1596, and the Dangerous Goods Code; and (b) explosives are managed in accordance with the requirements of the RR.	Y	Explosives are imported to the Quarry Site on the day of the blast by the blasting contractor.	O / C

Condition No.	Paraphrased Requirement	Compliance	Comment	Basis*
BUSHFIRE				
39.	The Applicant must: (a) ensure that the development is suitably equipped to respond to any fires on site; and (b) assist the Rural Fire Service and emergency services to the extent practicable if there is a fire in the vicinity of the site.	Y	Water cart, dams and pumps provided on site.	O
40.	The Applicant must prepare a Bushfire Management Plan for the site, in consultation with FCNSW, to the satisfaction of the Rural Fire Service.	Y	The Quarry operated in accordance with an approved Bushfire Management Plan (BFMP) (dated April 2019) over the Annual Review period. A copy of the plan is maintained on the Walker Quarries website. An updated BFMP was submitted to the DPIE in May 2020 reflecting changes following the issue of MOD 3. As at 30 June 2020 this version had yet to be approved.	D - BFMP
SCHEDULE 4 – ADDITIONAL PROCEDURES				
NOTIFICATION OF LANDOWNERS				
1.	As soon as practicable, and no longer than 7 days, after obtaining monitoring results showing: (a) an exceedance of any criteria in Schedule 3, the Applicant must notify the affected landowners in writing of the exceedance, and provide regular monitoring results, at least every 3 months, to each affected landowner until the development is again complying with the relevant criteria; and (b) an exceedance of any air quality criteria in Schedule 3, the Applicant must send a copy of the NSW Health fact sheet entitled “Mine Dust and You” (as may be updated from time to time) to the affected landowners and current tenants of the land (including the tenants of land which is not privately owned).	Y	No exceedances occurred during the reporting period.	D – Monitoring results
INDEPENDENT REVIEW				
2	If an owner of privately-owned land considers the development to be exceeding the relevant criteria in Schedule 3, then he/she may ask the Secretary in writing for an independent review of the impacts of the development on his/her land.	Not Triggered	No requests or complaints were received during the reporting period.	C / D – Complaints register
	If the Secretary is satisfied that an independent review is warranted, then within 2 months of the Secretary’s decision, the Applicant must: (a) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the Secretary, to: • consult with the landowner to determine his/her concerns;	Not Triggered		C

Condition No.	Paraphrased Requirement	Compliance	Comment	Basis*
	<ul style="list-style-type: none"> conduct monitoring to determine whether the development is complying with the relevant criteria in Schedule 3; and if the development is not complying with these criteria, then identify measures that could be implemented to ensure compliance with the relevant criteria; and <p>(b) give the Secretary and landowner a copy of the independent review; and</p> <p>(c) comply with any written requests made by the Secretary to implement any findings of the review.</p>			
VISUAL IMPACT MITIGATION				
3.	<p>If an owner of privately-owned land located to the west or north-west of the site, considers that the visual impacts of the development at his/her land could be minimised, then he/she may ask the Secretary in writing for a review of the visual impacts of the development on his/her land.</p> <p>If the Secretary is satisfied that a review is warranted, then within 2 months of the Secretary's decision, the Applicant must:</p> <p>(a) commission a suitably qualified and experienced person, whose appointment has been approved by the Secretary, to:</p> <ul style="list-style-type: none"> consult with the landowner to determine his/her concerns; investigate ways to minimise the visual impacts of the development on land; and prepare a visual mitigation report detailing the outcomes of the investigation and the proposed mitigation measures. <p>(b) give the Secretary and landowner a copy of the review; and</p> <p>(c) comply with any written requests made by the Secretary to implement any findings of the review.</p>	Not Triggered	No requests or complaints were received during the reporting period.	D – Complaints register
SCHEDULE 5 – ENVIRONMENTAL MANAGEMENT, REPORTING AND AUDITING				
ENVIRONMENTAL MANAGEMENT				
Environmental Management Strategy (EMS)				
1.	<p>The Applicant must prepare an Environmental Management Strategy (EMS) for the development to the satisfaction of the Secretary. This strategy must:</p> <p>(a) be submitted to the Secretary for approval within 6 months of the Secretary requiring preparation of the strategy by notice to the Applicant;</p> <p>(b) provide the strategic framework for environmental management of the development;</p> <p>(c) identify the statutory approvals that apply to the development;</p> <p>(d) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the development;</p> <p>(e) describe the procedures to be implemented to:</p> <ul style="list-style-type: none"> keep the local community and relevant agencies informed about the operation and environmental performance of the development; 	Y	<p>The Quarry operated in accordance with an approved Environmental Management Strategy (EMS) (dated April 2019) over the Annual Review period.</p> <p>A copy is maintained on the Walker Quarries website.</p> <p>An updated EMS was submitted to the DPIE in May 2020 reflecting changes following the issue of MOD 3. As at 30 June 2020 this version had yet to be approved.</p>	D - EMS

Condition No.	Paraphrased Requirement	Compliance	Comment	Basis*
	<ul style="list-style-type: none"> receive, record, handle and respond to complaints; resolve any disputes that may arise during the course of the development; respond to any non-compliance and any incident; respond to emergencies; and (f) include: <ul style="list-style-type: none"> copies of any strategies, plans and programs approved under the conditions of this consent; and a clear plan depicting all the monitoring to be carried out under the conditions of this consent. The Applicant must implement any EMS as approved from time to time by the Secretary. 			
Evidence of Consultation				
2.	Where consultation with any public authority is required by the conditions of this consent, the Applicant must: <ul style="list-style-type: none"> (a) consult with the relevant public authority prior to submitting the required document; (b) submit evidence of this consultation as part of the relevant document; (c) describe how matters raised by the authority have been addressed and any matters not resolved; and (d) include details of any outstanding issues raised by the authority and an explanation of disagreement between any public authority and the Applicant. 	Y	Consultation undertaken during Modification Proposal process and during review and update of site management plans.	D – SEE for MOD 3
2.	Where conditions of this consent require consultation with an identified party, the Applicant must: <ul style="list-style-type: none"> (a) consult with the relevant party prior to submitting the subject document; and (b) provide details of the consultation undertaken including: <ul style="list-style-type: none"> i. the outcome of that consultation, matters resolved and unresolved; and ii. details of any disagreement remaining between the party consulted and the Applicant and how the Applicant has addressed the matters not resolved. 	Y	Evidence of consultation for updated environmental management plans is included within the individual plans.	D – Updated Management Plans

Condition No.	Paraphrased Requirement	Compliance	Comment	Basis*
Management Plan Requirements				
3.	<ul style="list-style-type: none"> Management plans required under this consent must be prepared in accordance with relevant guidelines, and include: <ul style="list-style-type: none"> (a) a summary of relevant background or baseline data; (b) details of: <ul style="list-style-type: none"> (i) the relevant statutory requirements (including any relevant approval, licence or lease conditions); (ii) any relevant limits or performance measures and criteria; and (iii) the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures; (c) any relevant commitments or recommendations identified in the document/s listed in condition 2(c) of Schedule 2; (d) a description of the measures to be implemented to comply with the relevant statutory requirements, limits, or performance measures and criteria; (e) a program to monitor and report on the: <ul style="list-style-type: none"> (i) impacts and environmental performance of the development; and (ii) effectiveness of the management measures set out pursuant to condition 2(c) of Schedule 2; (e) contingency plan to manage any unpredicted impacts and their consequences and to ensure that (f) ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible; (g) a program to investigate and implement ways to improve the environmental performance of the development over time; (h) a protocol for managing and reporting any: <ul style="list-style-type: none"> (i) incident, non-compliance or exceedance of the impact assessment criteria or performance criteria; (ii) complaint; or (iii) failure to comply with statutory requirements; (i) public sources of information and data to assist stakeholders in understanding environmental impacts of the development; and (j) a protocol for periodic review of the plan. <p>Note: The Secretary may waive some of these requirements if they are unnecessary or unwarranted for particular management plans.</p> 	Y		D – Updated Draft Management Plans
3A	The Applicant must ensure that management plans prepared for the development are consistent with the conditions of this consent and any EPL issued for the site.	Y	Each management plan includes the relevant conditions of the EPL and the sections where this is addressed.	D – Updated Draft Management Plans

Condition No.	Paraphrased Requirement	Compliance	Comment	Basis*
Application of Existing Management Plans				
4.	The Applicant must continue to apply existing approved management plans, strategies or monitoring programs that have most recently been approved under this consent, until the approval of a similar plan, strategy or program under this consent.	Y		O
Revision of Strategies, Plans & Programs				
5.	<p>Within 3 months of the submission of an:</p> <ul style="list-style-type: none"> (a) incident report under condition 9 below; (b) Annual Review under condition 11 below; (c) audit report under condition 14 below; and (d) any modifications to this consent, <p>the Applicant must review the strategies, plans and programs required under this consent, to the satisfaction of the Secretary. The applicant must notify the Department in writing of any such review being undertaken.</p> <p>Where this review leads to revisions in any such document, then within 6 weeks of the review the revised document must be submitted for the approval of the Secretary.</p>	Y	<p>With the exception of the Rehabilitation Management Plan (submitted 3 days late after a request for an extension was denied), all management plans and strategies were submitted within three months of MOD 3. With respect to the 3 day delay in submitting the Rehabilitation Management Plan, it is noted that Walker Quarries was only notified of the approval of MOD 3 on 6 March 2020 (9 days after the modification was granted). On this basis, it is determined that the management plan was submitted within 3 months of advisement of the modification.</p> <p>The Department was notified after the completion of the 2018-2019 Annual Review that the management plans would be reviewed and revised following determination of modification 3.</p> <p>There were no incidents or audits during the Annual Review period to trigger a review of the management plans.</p>	D – MPs
Updating and Staging of Strategies, Plans or Programs				
6.	To ensure that strategies, plans or programs required under this consent are updated on a regular basis, and that they incorporate any appropriate additional measures to improve the environmental performance of the development, the Applicant may at any time submit revised strategies, plans or programs for the approval of the Secretary. With the agreement of the Secretary, the Applicant may also submit any strategy, plan or program required by this consent on a staged basis.	Noted		

Condition No.	Paraphrased Requirement	Compliance	Comment	Basis*
	<p>The Secretary may approve a revised strategy, plan or program required under this consent, or the staged submission of any of these documents, at any time. With the agreement of the Secretary, the Applicant may prepare the revised or staged strategy, plan or program without undertaking consultation with all parties nominated under the applicable condition in this consent.</p> <p>While any strategy, plan or program may be submitted on a staged basis, the applicant will need to ensure that the operations associated with the development are covered by suitable strategies, plans or programs at all times.</p> <p>If the submission of any strategy, plan or program is to be staged; then the relevant strategy, plan or program must clearly describe the specific stage/s of the development to which the strategy, plan or program applies; the relationship of this stage/s to any future stages; and the trigger for updating the strategy, plan or program.</p>			
6.	<p>With the approval of the Secretary, the Applicant may:</p> <ul style="list-style-type: none"> (a) prepare and submit any strategy, plan or program required by this consent on a staged basis (if a clear description is provided as to the specific stage and scope of the development to which the strategy, plan or program applies, the relationship of the stage to any future stages and the trigger for updating the strategy, plan or program); (b) combine any strategy, plan or program required by this consent (if a clear relationship is demonstrated between the strategies, plans or programs that are proposed to be combined); and (c) update any strategy, plan or program required by this consent (to ensure the strategies, plans and programs required under the consent are updated on a regular basis and incorporate additional measures or amendments to improve the environmental performance of the development). 	Not triggered		
6A.	If the Secretary agrees, a strategy, plan or program may be staged without addressing particular requirements of the relevant condition of this consent if those requirements are not applicable to a particular stage.	Not triggered		
6B.	If the Secretary agrees, a strategy, plan or program may be staged or updated without consultation being undertaken with all parties required to be consulted in the relevant condition in this consent.	Not triggered		
Adaptive Management				
7.	<p>The Applicant must assess and manage development-related risks to ensure that there are no exceedances of the criteria and/or performance measures in Schedule 3. Any exceedance of these criteria and/or performance measures constitutes a breach of this consent and may be subject to penalty or offence provisions under the EP&A Act or EP&A Regulation.</p> <p>Where any exceedance of these criteria and/or performance measures has occurred, the Applicant must as soon as becoming aware of any exceedance:</p>	NA	<p>No exceedances of criteria occurred during the reporting period.</p> <p>A copy of the Pollution Incident Response Management Plan (PIRMP) is maintained on site and on the Walker Quarries website.</p>	D - PIRMP

Condition No.	Paraphrased Requirement	Compliance	Comment	Basis*
	(a) take all reasonable and feasible steps to ensure that the exceedance ceases and does not reoccur; (b) consider all reasonable and feasible options for remediation (where relevant); (c) within 14 days of the exceedance occurring, submit a report to the Secretary describing these remediation options and any preferred remediation measures or other course of action; and (d) implement remediation measures as directed by the Secretary; to the satisfaction of the Secretary.			
COMMUNITY CONSULTATIVE COMMITTEE				
8.	The Applicant must establish and operate a Community Consultative Committee (CCC) for the development to the satisfaction of the Secretary. The CCC must be operated in general accordance with the Department's Community Consultative Committee Guidelines, November 2019 (or later version).	Y	One Community Consultative Committee (CCC) Meeting undertaken in November 2019. A second meeting was scheduled to be held in June 2020 however this meeting was postponed until August 2020 due to Covid-19. Copy of the meeting minutes maintained on the Walker Quarries website.	D – CCC minutes / website.

Condition No.	Paraphrased Requirement	Compliance	Comment	Basis*
REPORTING				
Incident Reporting				
9.	The Applicant must immediately notify the Secretary (using the contact name, email address and phone number provided by the Department from time to time) and any other relevant agencies of any incident.	Not Triggered		
9.	The Applicant must immediately notify the Department and any other relevant agencies immediately after it becomes aware of an incident. The notification must be in writing to compliance@planning.nsw.gov.au and identify the development (including the development application number and name) and set out the location and nature of the incident.	Not triggered		
Non-Compliance Notification				
10.	Within 7 days of the date of the incident, the Applicant must provide the Secretary and any relevant agencies with a detailed report on the incident, and such further reports as may be requested. This report must include the time and date of the incident, details of the incident, measures implemented to prevent re-occurrence and must identify and non-compliance with this consent.	Not Triggered		
10.	Within seven days of becoming aware of a non-compliance, the Applicant must notify the Department of the non-compliance. The notification must be in writing to compliance@planning.nsw.gov.au and identify the development (including the development application number and name), set out the condition of this consent that the development is non-compliant with, why it does not comply and the reasons for the noncompliance (if known) and what actions have been, or will be, undertaken to address the non-compliance. Note: A non-compliance which has been notified as an incident does not need to also be notified as a non-compliance.	Not triggered		
Regular Reporting				
11.	The Applicant must provide regular reporting on the environmental performance of the development on its website, in accordance with the reporting arrangements in any plans or programs approved under the conditions of this consent.	Y	Monitoring results uploaded to the Walker Quarries website	D – Monitoring Results O – Website review
Annual Review				
12.	By the end of September each year, or other timing as may be agreed by the Secretary, the Applicant must submit a review to the Department reviewing the environmental performance of the development to the satisfaction of the Secretary. This review must: (a) describe the development (including any progressive rehabilitation) that was carried out in the previous financial year, and the development that is proposed to be carried out over the current financial year;	Y	This Annual Review (for the period 1 July 2019 to 30 June 2020).	D – This Annual Review

Condition No.	Paraphrased Requirement	Compliance	Comment	Basis*
	<p>(b) include a comprehensive review of the monitoring results and complaints records of the development over the previous financial year, including a comparison of these results against the:</p> <ul style="list-style-type: none"> • relevant statutory requirements, limits or performance measures/criteria; • requirements of any plan or program required under this consent; • monitoring results of previous years; and • relevant predictions in the documents listed in condition 2(c) of Schedule 2; <p>(c) identify any non-compliance over the past financial year, and describe what actions were (or are being) taken to ensure compliance;</p> <p>(d) identify any trends in the monitoring data over the life of the development;</p> <p>(e) identify any discrepancies between the predicted and actual impacts of the development, and analyse the potential cause of any significant discrepancies; and</p> <p>(f) describe what measures will be implemented over the current [financial/calendar] year to improve the environmental performance of the development.</p> <p>The Applicant must ensure that copies of the Annual Review are submitted to Council and are available to the Community Consultative Committee (see condition 7 of Schedule 5) and any interested person upon request.</p>			
11.	<p>By the end of September in each year after the commencement of development, or other timeframe agreed by the Secretary, a report must be submitted to the Department reviewing the environmental performance of the development, to the satisfaction of the Secretary. This review must:</p> <p>(g) describe the development (including any progressive rehabilitation) that was carried out in the previous financial year, and the development that is proposed to be carried out over the current financial year;</p> <p>(h) include a comprehensive review of the monitoring results and complaints records of the development over the previous financial year, including a comparison of these results against the:</p> <ul style="list-style-type: none"> (i) relevant statutory requirements, limits or performance measures/criteria; (ii) requirements of any plan or program required under this consent; (iii) monitoring results of previous years; and (iv) relevant predictions in the documents listed in condition 2(c) of Schedule 2; <p>(i) identify any non-compliance or incident which occurred in the previous financial year, and describe what actions were (or are being) taken to rectify the non-compliance and avoid reoccurrence;</p> <p>(j) evaluate and report on:</p> <ul style="list-style-type: none"> (i) the effectiveness of the noise and air quality management systems; and 	Y	This Annual Review (for the period 1 July 2019 to 30 June 2020).	D – This Annual Review

Condition No.	Paraphrased Requirement	Compliance	Comment	Basis*
	<ul style="list-style-type: none"> (ii) compliance with the performance measures, criteria and operating conditions of this consent; (k) identify any trends in the monitoring data over the life of the development; (l) identify any discrepancies between the predicted and actual impacts of the development, and analyse the potential cause of any significant discrepancies; and (m) describe what measures will be implemented over the next financial year to improve the environmental performance of the development. 			
12.	Copies of the Annual Review must be submitted to Council and made available to the CCC and any interested person upon request.	Y	<p>Copies of the 2019 Annual Review were provided to Council and the CCC.</p> <p>A copy of the 2020 Annual Review will be submitted to Council and the CCC.</p>	D – Letters to Council and CCC minutes.
INDEPENDENT ENVIRONMENTAL AUDIT				
13.	<p>Within a year of the date of this consent, and every 3 years thereafter, unless the Secretary directs otherwise, the Applicant must commission, commence and pay the full cost of an Independent Environmental Audit of the development. This audit must:</p> <ul style="list-style-type: none"> (a) be led and conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Secretary; (b) include consultation with the relevant agencies and the CCC; (c) assess the environmental performance of the development and whether it is complying with the relevant requirements in this consent and any relevant EPL or necessary water licences for the development (including any assessment, strategy, plan or program required under these approvals); (d) review the adequacy of strategies, plans or programs required under the abovementioned approvals; (e) recommend appropriate measures or actions to improve the environmental performance of the development, and/or any assessment, strategy, plan or program required under the abovementioned approvals; and (f) be conducted and reported to the satisfaction of the Secretary. 	Y	<p>Independent Environmental Audit (IEA) undertaken in the 2017/18 reporting period by SLR Consulting.</p> <p>Findings of the audit are maintained on the Walker Quarries website.</p>	D – Audit Report/ website
13	<p>Prior to the end of June 2021, and every three years after, unless the Secretary directs otherwise, the Applicant must commission and pay the full cost of an Independent Environmental Audit of the development. This audit must:</p> <ul style="list-style-type: none"> (a) be led by a suitably qualified, experienced and independent auditor whose appointment has been endorsed by the Secretary 	NA		

Condition No.	Paraphrased Requirement	Compliance	Comment	Basis*
	<p>(b) be conducted by a suitably qualified, experienced and independent team of experts (including any expert in field/s specified by the Secretary) whose appointment has been endorsed by the Secretary; NSW Government Department of Planning & Environment 22</p> <p>(c) be carried out in consultation with the relevant agencies and CCC;</p> <p>(d) assess the environmental performance of the development and whether it is complying with the relevant requirements in this consent, water licences and mining leases for the development (including any assessment, strategy, plan or program required under these approvals);</p> <p>(e) review the adequacy of any approved strategy, plan or program required under the abovementioned approvals and this consent;</p> <p>(f) recommend appropriate measures or actions to improve the environmental performance of the development and any assessment, strategy, plan or program required under the abovementioned approvals and this consent; and</p> <p>(g) be conducted and reported to the satisfaction of the Secretary.</p>			
14.	Within 12 weeks of commencing this audit, or as otherwise agreed by the Secretary, the Applicant must submit a copy of the audit report to the Secretary and any other NSW agency that requests it, together with its response to any recommendations contained in the audit report, and a timetable for the implementation of these recommendations as required. The Applicant must implement these recommendations, to the satisfaction of the Secretary.	Y		D – Letter to DPIE accompanying Audit Report
ACCESS TO INFORMATION				
15.	<p>Within 6 months of the date of this consent, until the completion of all works, including rehabilitation and remediation the Applicant must:</p> <p>(a) make the following information publicly available on its website:</p> <ul style="list-style-type: none"> the documents listed in condition 2(a) of Schedule 2; current statutory approvals for the development; all approved strategies, plans and programs required under the conditions of this consent; a comprehensive summary of the monitoring results of the development, reported in accordance with the specifications in any conditions of this consent, or any approved plans and programs; a complaints register, updated monthly; the annual reviews of the development; any independent environmental audit as described in condition 12 above, and the Applicant's response to the recommendations in any audit; and any other matter required by the Secretary; and <p>(b) keep this information up-to-date,</p>	Y	Monitoring results provided on the Walker Quarries website. This Annual Review includes a summary of the monitoring results	D - website

Condition No.	Paraphrased Requirement	Compliance	Comment	Basis*
	to the satisfaction of the Secretary.			
Monitoring and Environmental Audits				
15.	Any condition of this consent that requires the carrying out of monitoring or an environmental audit, whether directly or by way of a plan, strategy or program, is taken to be a condition requiring monitoring or an environmental audit under Division 9.4 of the EP&A Act. This includes conditions in respect of incident notification, reporting and response, non-compliance notification, compliance report and independent audit. For the purposes of this condition, as set out in the EP&A Act, "monitoring" is monitoring of the development to provide data on compliance with the consent or on the environmental impact of the development, and an "environmental audit" is a periodic or particular documented evaluation of the development to provide information on compliance with the consent or the environmental management or impact of the development.	Noted		
16.	Noise, blast and/or air quality monitoring under this consent may be undertaken at suitable representative monitoring locations instead of at privately-owned residences or other locations listed in Schedule 3, providing that these representative monitoring locations are set out in the respective management plan/s.	Noted		
ACCESS TO INFORMATION				
17	Within 6 months of the date of this consent until the completion of all rehabilitation required under this consent, the Applicant must: (a) make the following information and documents (as they are obtained, approved or as otherwise stipulated within the conditions of this consent) publicly available on its website: (i) the document/s listed in condition 2(c) of Schedule 2; (ii) all current statutory approvals for the development; (iii) all approved strategies, plans and programs required under the conditions of this consent; (iv) the proposed staging plans for the development if the construction, operation or decommissioning of the development if it is to be staged; (v) minutes of CCC meetings; (vi) regular reporting on the environmental performance of the development in accordance with the reporting requirements in any plans or programs approved under the conditions of this consent; (vii) a comprehensive summary of the monitoring results of the development, reported in accordance with the specifications in any conditions of this consent, or any approved plans and programs;	Y		D - website

Condition No.	Paraphrased Requirement	Compliance	Comment	Basis*
	<ul style="list-style-type: none"> (viii) a summary of the current progress of the development; (ix) contact details to enquire about the development or to make a complaint; (x) a complaints register, updated monthly; (xi) the Annual Reviews of the development; (xii) audit reports prepared as part of any Independent Environmental Audit of the development and the Applicant's response to the recommendations in any audit report; (xiii) any other matters required by the Secretary; and <p>(b) keep such information up to date, to the satisfaction of the Secretary.</p>			
APPENDIX 3 - INCIDENT NOTIFICATION AND REPORTING REQUIREMENTS				
WRITTEN INCIDENT NOTIFICATION REQUIREMENTS				
1.	<p>A written incident notification addressing the requirements set out below must be emailed to the Department at the following address: compliance@planning.nsw.gov.au within seven days after the Applicant becomes aware of an incident. Notification is required to be given under this condition even if the Applicant fails to give the notification required under condition 9 of Schedule 5 or, having given such notification, subsequently forms the view that an incident has not occurred.</p>	Not triggered		
2.	<p>Written notification of an incident must:</p> <ul style="list-style-type: none"> (a) identify the development and application number, (b) provide details of the incident (date, time, location, a brief description of what occurred and why it is classified as an incident); (c) identify how the incident was detected; (d) identify when the Applicant became aware of the incident; (e) identify any actual or potential non-compliance with the conditions of this consent; (f) describe what immediate steps were taken in relation to the incident; (g) identify further action(s) that will be taken in relation to the incident; and (h) identify a project contact for further communication regarding the incident. 	Not triggered		
3.	<p>Within 30 days of the date on which the incident occurred or as otherwise agreed to by the Secretary, the Applicant must provide the Secretary and any relevant public authorities (as determined by the Secretary) with a detailed report on the incident addressing all requirements below, and such further reports as may be requested.</p>	Not triggered		
4.	<p>The Incident Report must include:</p> <ul style="list-style-type: none"> (a) a summary of the incident; (b) outcomes of an incident investigation, including identification of the cause of the incident; 	Not triggered		

	(c) details of the corrective and preventative actions that have been, or will be, implemented to address the incident and prevent recurrence; and (d) details of any communication with other stakeholders regarding the incident.			
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	LEGEND
	Y = Complied with during YEAR N = Not complied with during YEAR ND = Not Determined NA = Not Applicable during YEAR NYA = Not Yet Applicable ANC = Administrative Non-Compliance NR = Not Required Noted = Condition Acknowledged Note * Basis for assessment of compliance O = Observation during audit D = Documentation Retained C = Confirmed by Quarry Manager
	Yes#/No# = Complied/not complied with and compliance no longer required to be assessed

**Table C2 Internal Compliance Audit of Relevant Conditions of Environment Protection
Licence 13172 for Wallerawang Quarry from Start date to End Date**

Condition No.	Paraphrased Requirement	Compliance	Comment	Basis*												
SCHEDULE 1 – ADMINISTRATIVE CONDITIONS																
What the licence authorises and regulates																
A1.1	This licence authorises the carrying out of the scheduled development work listed below at the premises listed in A2: construction of Surface facilities, surface infrastructure and water management structures.	Noted														
A1.2	<p>This licence authorises the carrying out of the scheduled activities listed below at the premises specified in A2. The activities are listed according to their scheduled activity classification, fee-based activity classification and the scale of the operation.</p> <p>Unless otherwise further restricted by a condition of this licence, the scale at which the activity is carried out must not exceed the maximum scale specified in this condition.</p> <table><tr><th>Scheduled Activity</th><th>Fee Based Activity</th><th>Scale</th></tr><tr><td>Crushing, grinding or separating</td><td>Crushing, grinding or separating</td><td>> 100000 - 500000 T annual processing capacity</td></tr><tr><td>Extractive activities</td><td>Land-based extractive activity</td><td>> 100000 - 500000 T annual capacity to extract, process or store</td></tr><tr><td>Mining for minerals</td><td>Mining for minerals</td><td>> 100000 - 500000 T annual production capacity</td></tr></table>	Scheduled Activity	Fee Based Activity	Scale	Crushing, grinding or separating	Crushing, grinding or separating	> 100000 - 500000 T annual processing capacity	Extractive activities	Land-based extractive activity	> 100000 - 500000 T annual capacity to extract, process or store	Mining for minerals	Mining for minerals	> 100000 - 500000 T annual production capacity	Y	Walkers Quarry transported 122,936 tonnes from the site.	D - Form S1
Scheduled Activity	Fee Based Activity	Scale														
Crushing, grinding or separating	Crushing, grinding or separating	> 100000 - 500000 T annual processing capacity														
Extractive activities	Land-based extractive activity	> 100000 - 500000 T annual capacity to extract, process or store														
Mining for minerals	Mining for minerals	> 100000 - 500000 T annual production capacity														
A1.3	The licensee must not carry on any scheduled activities until the scheduled development works are completed, except as elsewhere provided in this licence.	NA														
Premises or plant to which this licence applies																
A2.1	The licence applies to the following premises: WALLERAWANG QUARRY LOT 6 GREAT WESTERN HIGHWAY WALLERAWANG NSW 2785 PART LOT 6 DP 872230, LOT 7 DP 872230 PART LIDSDALE STATE FOREST (NO. 707)	Noted														
Information supplied to the EPA																
A3.1	<p>Works and activities must be carried out in accordance with the proposal contained in the licence application, except as expressly provided by a condition of this licence.</p> <p>In this condition the reference to "the licence application" includes a reference to:</p> <p>a) the applications for any licences (including former pollution control approvals) which this licence replaces under the Protection of the Environment Operations (Savings and Transitional) Regulation 1998; and</p> <p>b) the licence information form provided by the licensee to the EPA to assist the EPA in connection with the issuing of this licence.</p>	Noted														

Condition No.	Paraphrased Requirement	Compliance	Comment	Basis*												
SCHEDULE 2 – DISCHARGES TO AIR AND WATER AND APPLICATIONS TO LAND																
Location of monitoring/discharge points and areas																
P1.1	<p>The following points referred to in the table below are identified in this licence for the purposes of monitoring and/or the setting of limits for the emission of pollutants to the air from the point.</p> <table><tr><th>EPA Identification no.</th><th>Type of Monitoring Point</th><th>Type of Discharge Point</th><th>Location Description</th></tr><tr><td>4</td><td>Air Monitoring</td><td></td><td>Final location to be confirmed by Walker Quarries Pty Limited</td></tr></table>	EPA Identification no.	Type of Monitoring Point	Type of Discharge Point	Location Description	4	Air Monitoring		Final location to be confirmed by Walker Quarries Pty Limited	Y	<p>Monitoring locations have been established as part of an Air Quality Management Plan.</p> <p>Recommendation:</p> <p>Walker Quarries to notify and confirm final dust gauge locations with the EPA.</p>					
EPA Identification no.	Type of Monitoring Point	Type of Discharge Point	Location Description													
4	Air Monitoring		Final location to be confirmed by Walker Quarries Pty Limited													
P1.2	<p>The following utilisation areas referred to in the table below are identified in this licence for the purposes of the monitoring and/or the setting of limits for any application of solids or liquids to the utilisation area.</p>	NA														
P1.3	<p>The following points referred to in the table are identified in this licence for the purposes of the monitoring and/or the setting of limits for discharges of pollutants to water from the point.</p> <table><tr><th>EPA Identification no.</th><th>Type of Monitoring Point</th><th>Type of Discharge Point</th><th>Location Description</th></tr><tr><td>1</td><td>Discharge to waters; Discharge quality monitoring</td><td>Discharge to waters; Discharge quality monitoring</td><td>Overflow from final basin to unnamed tributary of Coffs River as shown by point "SD1" in Figure 4 "Surface Water Monitoring Locations" Wallerawang Quarry Soil and Water Management Plan Report No.949/02f - January 2018".</td></tr><tr><td>2</td><td>Discharge to waters; Discharge quality monitoring</td><td>Discharge to waters; Discharge quality monitoring</td><td>Overflow from sediment basin to unnamed tributary of Coffs River as shown by point "SD2" in Figure 4 "Surface Water Monitoring Locations" Wallerawang Quarry Soil and Water Management Plan Report No.949/02f - January 2018".</td></tr></table>	EPA Identification no.	Type of Monitoring Point	Type of Discharge Point	Location Description	1	Discharge to waters; Discharge quality monitoring	Discharge to waters; Discharge quality monitoring	Overflow from final basin to unnamed tributary of Coffs River as shown by point "SD1" in Figure 4 "Surface Water Monitoring Locations" Wallerawang Quarry Soil and Water Management Plan Report No.949/02f - January 2018".	2	Discharge to waters; Discharge quality monitoring	Discharge to waters; Discharge quality monitoring	Overflow from sediment basin to unnamed tributary of Coffs River as shown by point "SD2" in Figure 4 "Surface Water Monitoring Locations" Wallerawang Quarry Soil and Water Management Plan Report No.949/02f - January 2018".	Y	<p>One discharge during reporting period – from SD1 on 6 April 2020.</p>	<p>D – Discharge Monitoring Results</p>
EPA Identification no.	Type of Monitoring Point	Type of Discharge Point	Location Description													
1	Discharge to waters; Discharge quality monitoring	Discharge to waters; Discharge quality monitoring	Overflow from final basin to unnamed tributary of Coffs River as shown by point "SD1" in Figure 4 "Surface Water Monitoring Locations" Wallerawang Quarry Soil and Water Management Plan Report No.949/02f - January 2018".													
2	Discharge to waters; Discharge quality monitoring	Discharge to waters; Discharge quality monitoring	Overflow from sediment basin to unnamed tributary of Coffs River as shown by point "SD2" in Figure 4 "Surface Water Monitoring Locations" Wallerawang Quarry Soil and Water Management Plan Report No.949/02f - January 2018".													
SCHEDULE 3 – LIMIT CONDITIONS																
Pollution of waters																
L1.1	<p>Except as may be expressly provided in any other condition of this licence, the licensee must comply with section 120 of the <i>Protection of the Environment Operations Act 1997</i>.</p>	Y														
Concentration limits																
L2.1	<p>For each monitoring/discharge point or utilisation area specified in the table/s below (by a point number), the concentration of a pollutant discharged at that point, or applied to that area, must not exceed the concentration limits specified for that pollutant in the table.</p>	Y	<p>One discharge event during reporting period. Results within criteria (refer Section 7.2 of Annual Review)</p>	<p>D – Discharge Monitoring Results</p>												
L2.2	<p>Where a pH quality limit is specified in the table, the specified percentage of samples must be within the specified ranges.</p>	Y	<p>Results within criteria (refer Section 7.2 of Annual Review)</p>	<p>D – Discharge Monitoring Results</p>												
L2.3	<p>To avoid any doubt, this condition does not authorise the pollution of waters by any pollutant other than those specified in the table/s.</p>	Noted														

Condition No.	Paraphrased Requirement	Compliance	Comment	Basis*																														
L2.4	<p>Water and/or Land Concentration Limits</p> <table><tr><th>Pollutant</th><th>Units of Measure</th><th>50 percentile concentration limit</th><th>90 percentile concentration limit</th><th>30dM concentration limit</th><th>100 percentile concentration limit</th></tr><tr><td>Oil and Grease</td><td>milligrams per litre</td><td></td><td></td><td></td><td>10</td></tr><tr><td>pH</td><td>pH</td><td></td><td></td><td></td><td>6.5 - 8.5</td></tr><tr><td>Sulfate</td><td>milligrams per litre</td><td></td><td></td><td></td><td>250</td></tr><tr><td>Total suspended solids</td><td>milligrams per litre</td><td></td><td></td><td></td><td>30</td></tr></table>	Pollutant	Units of Measure	50 percentile concentration limit	90 percentile concentration limit	30dM concentration limit	100 percentile concentration limit	Oil and Grease	milligrams per litre				10	pH	pH				6.5 - 8.5	Sulfate	milligrams per litre				250	Total suspended solids	milligrams per litre				30	Noted		
Pollutant	Units of Measure	50 percentile concentration limit	90 percentile concentration limit	30dM concentration limit	100 percentile concentration limit																													
Oil and Grease	milligrams per litre				10																													
pH	pH				6.5 - 8.5																													
Sulfate	milligrams per litre				250																													
Total suspended solids	milligrams per litre				30																													
L2.5	<p>The concentration limits stipulated by condition L2.4 for EPA identification points 1 and 2 are deemed not to apply when the discharge from the stormwater control structures (sediment dams) occurs solely as a result of rainfall measured at the premises which exceeds:</p> <p>a) a total of 56 mm of rainfall over any consecutive 5 day period.</p>	Not triggered																																
L2.6	<p>The concentration limit for total suspended solids stipulated by condition L2.4 for EPA identification points 1 and 2 are deemed not to have been breached where:</p> <p>a) the water discharged is covered by condition L2.5; OR</p> <p>b) when not covered by condition L2.5, the water discharged (in accordance with conditions O4.1 and O4.2) is within pH range 6.5 - 8.5 and has a turbidity (as measured in nephelometric turbidity units (NTU) using a hand held turbidity meter) of 25 NTU or less at the time of the discharge; and</p> <p>c) the EPA is advised within 3 working days of the completion of the sample testing and analysis as required by condition M2.2 of any results above the licence discharge limits specified under condition L2.4.</p>	Not triggered																																
Waste																																		
L3.1	<p>The licensee must not cause, permit or allow any waste to be received at the premises, except the wastes expressly referred to in the column titled “Waste” and meeting the definition, if any, in the column titled “Description” in the table below.</p> <p>Any waste received at the premises must only be used for the activities referred to in relation to that waste in the column titled “Activity” in the table below.</p> <p>Any waste received at the premises is subject to those limits or conditions, if any, referred to in relation to that waste contained in the column titled “Other Limits” in the table below.</p> <p>This condition does not limit any other conditions in this licence.</p> <table><tr><th>Code</th><th>Waste</th><th>Description</th><th>Activity</th><th>Other Limits</th></tr><tr><td>NA</td><td>General or Specific exempted waste</td><td>Waste that meets all the conditions of a resource recovery exemption under Clause 51A of the Protection of the</td><td>As specified in each particular resource recovery exemption</td><td>NA</td></tr><tr><td></td><td></td><td>Environment Operations (Waste) Regulation 2005</td><td></td><td></td></tr></table>	Code	Waste	Description	Activity	Other Limits	NA	General or Specific exempted waste	Waste that meets all the conditions of a resource recovery exemption under Clause 51A of the Protection of the	As specified in each particular resource recovery exemption	NA			Environment Operations (Waste) Regulation 2005			Y	No waste received	C															
Code	Waste	Description	Activity	Other Limits																														
NA	General or Specific exempted waste	Waste that meets all the conditions of a resource recovery exemption under Clause 51A of the Protection of the	As specified in each particular resource recovery exemption	NA																														
		Environment Operations (Waste) Regulation 2005																																

Condition No.	Paraphrased Requirement	Compliance	Comment	Basis*
Noise				
L4.1	<p>Noise from the premises must not exceed:</p> <ul style="list-style-type: none"> a) 43 dB(A) $LA_{eq(15 \text{ minute})}$ during the day (7am to 6pm) Monday to Friday and 7am to 1pm Saturday; and b) 43 dB(A) $LA_{eq(15 \text{ minute})}$ during the evening (6pm to 10pm) Monday to Friday; and c) at all other times 39 dB(A) $LA_{eq(15 \text{ minute})}$, except as expressly provided by this licence. <p>Where LA_{eq} means the equivalent continuous noise level – the level of noise equivalent to the energy-average of noise levels occurring over a measurement period.</p>	Y	<p>Noise monitoring undertaken during the reporting period complied with criteria. Results are provided in Section 6.3 and Appendix 3 of the Annual Review.</p> <p>Monitoring results are maintained on the Walker Quarries website.</p> <p>Recommendation:</p> <p>The EPL Noise Limits are not consistent with those of DA 344-11-2001 (which are based on the Noise Policy for Industry). Suggest varying the EPL to match DA 344-11-2001.</p>	D – Noise Monitoring Reports
L4.2	Noise from the premises is to be measured at the nearest or most affected residence to determine compliance with this condition.	Y	<p>Completed in accordance with approved Noise Management Plan (NMP).</p> <p>Results discussed in Section 6.3 of Annual Review. Noise Assessment Reports included in Appendix 3 of Annual Review.</p>	D – Noise Monitoring Reports
L4.3	<p>The noise emission limits identified in this licence apply under all meteorological conditions except:</p> <ul style="list-style-type: none"> a) during rain and wind speeds (at 10m height) greater than 3m/s; and b) under "non-significant weather conditions". 	Y		D – NMP
Blasting				
L5.1	The airblast overpressure level from blasting operations at the premises must not exceed 120dB (Lin Peak) at any time at any noise sensitive locations. Error margins associated with any monitoring equipment used to measure this are not to be taken into account in determining whether or not the limit has been exceeded.	Y	<p>Blast monitoring undertaken during the reporting period complied with criteria. Results are provided in Section 6.4 of the Annual Review.</p> <p>Monitoring results are maintained on the Walker Quarries website.</p>	D - Monitoring results
L5.2	The airblast overpressure level from blasting operations at the premises must not exceed 115dB (Lin Peak) at any noise sensitive locations for more than five per cent of the total number of blasts over each reporting period. Error margins associated with any monitoring equipment used to measure this are not to be taken into account in determining whether or not the limit has been exceeded.	Y	Blast monitoring undertaken during the reporting period complied with criteria.	D - Monitoring results

Condition No.	Paraphrased Requirement	Compliance	Comment	Basis*
L5.3	Ground vibration peak particle velocity from the blasting operations at the premises must not exceed 10mm/sec at any time at any noise sensitive locations. Error margins associated with any monitoring equipment used to measure this are not to be taken into account in determining whether or not the limit has been exceeded.	Y	Blast monitoring undertaken during the reporting period complied with criteria. Results are provided in Section 6.4 of the Annual Review. Monitoring results are maintained on the Walker Quarries website.	D - Monitoring results
L5.4	Ground vibration peak particle velocity from the blasting operations at the premises must not exceed 5 mm/sec for more than five percent of the total number of blasts over each reporting period. Error margins associated with any monitoring equipment used to measure this are not to be taken into account in determining whether or not the limit has been exceeded.	Y	Blast monitoring undertaken during the reporting period complied with criteria.	D - Monitoring results
L5.5	Blasting in or on the premises must only be carried out between 9 am and 5 pm, Monday to Saturday. Blasting in or on the premises must not take place on Sundays or Public Holidays without the EPAs prior approval.	Y	Blasting undertaken during the reporting period was carried out between 9.00 am and 5.00 pm, Monday to Saturday.	D - Monitoring results
SCHEDULE 4 – OPERATING CONDITIONS				
Activities must be carried out in a competent manner				
O1.1	Licensed activities must be carried out in a competent manner. This includes: a) the processing, handling, movement and storage of materials and substances used to carry out the activity; and b) the treatment, storage, processing, reprocessing, transport and disposal of waste generated by the activity.	Y		O
Maintenance of plant and equipment				
O2.1	All plant and equipment installed at the premises or used in connection with the licensed activity: a) must be maintained in a proper and efficient condition; and b) must be operated in a proper and efficient manner.	Y	Plant and equipment are maintained in a proper and efficient condition and are serviced every 250 hours.	O / C
Dust				
O3.1	All operations and activities occurring at the premises must be carried out in a manner that will minimise the emission of dust from the premises.	Y	Operations carried out in accordance with the Air Quality Management Plan.	O D - Monitoring results
O3.2	Trucks entering and leaving the premises that are carrying loads must be covered at all times, except during loading and unloading.	Y	All loads entering and exiting the site were covered during the reporting period.	O

Condition No.	Paraphrased Requirement	Compliance	Comment	Basis*
Other operating conditions				
O4.1	The stormwater control structures (sediment dams) identified at condition L2.4 EPA identification point 1 and 2 must be drained or pumped out as necessary to maintain each basins design storage capacity within 5 days following rainfall.	Y	The water level in SD1 was high following recent rainfall. Recommendation Install a marker on Sediment Basins and Storage Dams identifying the minimum water storage level in accordance with the SWMP.	O – Site observation
O4.2	Water discharged to comply with condition O4.1 may only be discharged to waters from those stormwater control structures (sediment dams) identified at EPA identification point 1 and 2 where the discharged water complies with the discharge limits stipulated at condition L2.4 (and taking into consideration condition L2.6).	Y	One discharge occurred during the reporting period – from SD1 on 6 April 2020.	D – Discharge Monitoring Results
O4.3	The licensee must undertake maintenance as necessary to desilt any storage basin identified at EPA identification points 1 and 2 in order to retain each storage basins design storage capacity (the capacity to store 56mm of rainfall over any consecutive 5 day period).	Y	Desilting of dams undertaken every 1-2 months. Silt placed on the Eastern Stockpile Area for drying and stockpiling as a rehabilitation material.	O / C
SCHEDULE 5 – MONITORING AND RECORDING CONDITIONS				
Monitoring records				
M1.1	The results of any monitoring required to be conducted by this licence or a load calculation protocol must be recorded and retained as set out in this condition.	Y		D – Monitoring Results
M1.2	All records required to be kept by this licence must be: a) in a legible form, or in a form that can readily be reduced to a legible form; b) kept for at least 4 years after the monitoring or event to which they relate took place; and c) produced in a legible form to any authorised officer of the EPA who asks to see them.	Y	Monitoring results are kept on site and maintained on the Walker Quarries website.	D – Monitoring Results and website
M1.3	The following records must be kept in respect of any samples required to be collected for the purposes of this licence: a) the date(s) on which the sample was taken; b) the time(s) at which the sample was collected; c) the point at which the sample was taken; and d) the name of the person who collected the sample.	Y	Dust and water quality monitoring records include date, time, sample point and sampler name.	D - Monitoring Results

Condition No.	Paraphrased Requirement	Compliance	Comment	Basis*																																			
Requirement to monitor concentration of pollutants discharged																																							
M2.1	For each monitoring/discharge point or utilisation area specified below (by a point number), the licensee must monitor (by sampling and obtaining results by analysis) the concentration of each pollutant specified in Column 1. The licensee must use the sampling method, units of measure, and sample at the frequency, specified opposite in the other columns:	Y	One discharge reported during period – from SD1 on 6 April 2020. Sample results included in Section 7.2 of Annual Review.	D – Monitoring results																																			
M2.2	Water and/ or Land Monitoring Requirements <table><tr><th>Pollutant</th><th>Units of measure</th><th>Frequency</th><th>Sampling Method</th></tr><tr><td>Conductivity</td><td>microsiemens per centimetre</td><td>Monthly during discharge</td><td>Grab sample</td></tr><tr><td>Oil and Grease</td><td>milligrams per litre</td><td>Monthly during discharge</td><td>Grab sample</td></tr><tr><td>pH</td><td>pH</td><td>Monthly during discharge</td><td>Grab sample</td></tr><tr><td>Sulfate</td><td>milligrams per litre</td><td>Monthly during discharge</td><td>Grab sample</td></tr><tr><td>Total suspended solids</td><td>milligrams per litre</td><td>Monthly during discharge</td><td>Grab sample</td></tr></table>	Pollutant			Units of measure	Frequency	Sampling Method	Conductivity	microsiemens per centimetre	Monthly during discharge	Grab sample	Oil and Grease	milligrams per litre	Monthly during discharge	Grab sample	pH	pH	Monthly during discharge	Grab sample	Sulfate	milligrams per litre	Monthly during discharge	Grab sample	Total suspended solids	milligrams per litre	Monthly during discharge	Grab sample	Y											
Pollutant	Units of measure	Frequency	Sampling Method																																				
Conductivity	microsiemens per centimetre	Monthly during discharge	Grab sample																																				
Oil and Grease	milligrams per litre	Monthly during discharge	Grab sample																																				
pH	pH	Monthly during discharge	Grab sample																																				
Sulfate	milligrams per litre	Monthly during discharge	Grab sample																																				
Total suspended solids	milligrams per litre	Monthly during discharge	Grab sample																																				
Testing methods - concentration limits																																							
M3.1	Subject to any express provision to the contrary in this licence, monitoring for the concentration of a pollutant discharged to waters or applied to a utilisation area must be done in accordance with the Approved Methods Publication unless another method has been approved by the EPA in writing before any tests are conducted.	Y		D - Monitoring reports																																			
Weather monitoring																																							
M4.1	For each monitoring point specified in the table below the licensee must monitor (by sampling and obtaining results by analysis) the parameters specified in Column 1. The licensee must use the sampling method, units of measure, averaging period and sample at the frequency, specified opposite in the other columns. <table><tr><th>Parameter</th><th>Units of Measure</th><th>Frequency</th><th>Averaging Period</th><th>Sampling Method</th></tr><tr><td>Air temperature</td><td>°C</td><td>Continuous</td><td>1 hour</td><td>AM-4</td></tr><tr><td>Wind direction</td><td>°</td><td>Continuous</td><td>15 minute</td><td>AM-2 & AM-4</td></tr><tr><td>Wind speed</td><td>m/s</td><td>Continuous</td><td>15 minute</td><td>AM-2 & AM-4</td></tr><tr><td>Sigma theta</td><td>°</td><td>Continuous</td><td>15 minute</td><td>AM-2 & AM-4</td></tr><tr><td>Rainfall</td><td>mm</td><td>Continuous</td><td>15 minute</td><td>AM-4</td></tr><tr><td>Relative humidity</td><td>%</td><td>Continuous</td><td>1 hour</td><td>AM-4</td></tr></table>	Parameter	Units of Measure	Frequency	Averaging Period	Sampling Method	Air temperature	°C	Continuous	1 hour	AM-4	Wind direction	°	Continuous	15 minute	AM-2 & AM-4	Wind speed	m/s	Continuous	15 minute	AM-2 & AM-4	Sigma theta	°	Continuous	15 minute	AM-2 & AM-4	Rainfall	mm	Continuous	15 minute	AM-4	Relative humidity	%	Continuous	1 hour	AM-4	ANC	All parameters except Sigma Theta are measured at the meteorological station. The parameters measured are sufficient for the operations of the quarry. Recommendation Upgrade the weather station to measure Sigma Theta	O / D – Weather station download
Parameter	Units of Measure	Frequency	Averaging Period	Sampling Method																																			
Air temperature	°C	Continuous	1 hour	AM-4																																			
Wind direction	°	Continuous	15 minute	AM-2 & AM-4																																			
Wind speed	m/s	Continuous	15 minute	AM-2 & AM-4																																			
Sigma theta	°	Continuous	15 minute	AM-2 & AM-4																																			
Rainfall	mm	Continuous	15 minute	AM-4																																			
Relative humidity	%	Continuous	1 hour	AM-4																																			
Recording of pollution complaints																																							
M5.1	The licensee must keep a legible record of all complaints made to the licensee or any employee or agent of the licensee in relation to pollution arising from any activity to which this licence applies.	Y	One complaint received during the reporting period. Refer Section 9.2 and Appendix 6 of the Annual Review.	D – Complaints register																																			

Condition No.	Paraphrased Requirement	Compliance	Comment	Basis*
M5.2	The record must include details of the following: a) the date and time of the complaint; b) the method by which the complaint was made; c) any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect; d) the nature of the complaint; e) the action taken by the licensee in relation to the complaint, including any follow-up contact with the complainant; and f) if no action was taken by the licensee, the reasons why no action was taken.	Y	Details recorded on complaints register.	D – Complaints register
M5.3	The record of a complaint must be kept for at least 4 years after the complaint was made.	Y	Observed record of complaints. A copy of the Complaints Register is maintained on the Walker Quarry website.	D – Complaints register
M5.4	The record must be produced to any authorised officer of the EPA who asks to see them.	Not triggered		D – Complaints register
Telephone complaints line				
M6.1	The licensee must operate during its operating hours a telephone complaints line for the purpose of receiving any complaints from members of the public in relation to activities conducted at the premises or by the vehicle or mobile plant, unless otherwise specified in the licence.	Y	Details of the telephone complaints line is provided on the Walker Quarries website.	D - website
M6.2	The licensee must notify the public of the complaints line telephone number and the fact that it is a complaints line so that the impacted community knows how to make a complaint.	Y	Details of the telephone complaints line is provided on the Walker Quarries website.	D - website
M6.3	The preceding two conditions do not apply until 3 months after: the date of the issue of this licence.	Noted		
Blasting				
M7.1	To determine compliance with condition(s) L5.1 to L5.4 a) Air blast overpressure and ground vibration levels must be measured at the most affected residence or noise sensitive location that is not owned by the licensee or subject to a private agreement between the owner of the residence or noise sensitive location and the licensee as to an alternative blasting level – for all blasts carried out in or on the premises; and b) Instrumentation used to measure the air blast overpressure and ground vibration levels must meet requirements of Australian Standard 2187.2 of 2006.	Y	Blast monitoring undertaken in accordance with the approved Blast Management and Explosives Control Plan. Results discussed in Section 6.4 of the Annual Review. Results included on Walker Quarries Website.	D – Monitoring results and website

Condition No.	Paraphrased Requirement	Compliance	Comment	Basis*
SCHEDULE 6 – REPORTING CONDITIONS				
Annual return documents				
R1.1	<p>The licensee must complete and supply to the EPA an Annual Return in the approved form comprising:</p> <ol style="list-style-type: none"> 1. a Statement of Compliance, 2. a Monitoring and Complaints Summary, 3. a Statement of Compliance - Licence Conditions, 4. a Statement of Compliance - Load based Fee, 5. a Statement of Compliance - Requirement to Prepare Pollution Incident Response Management Plan, 6. a Statement of Compliance - Requirement to Publish Pollution Monitoring Data; and 7. a Statement of Compliance - Environmental Management Systems and Practices. <p>At the end of each reporting period, the EPA will provide to the licensee a copy of the form that must be completed and returned to the EPA.</p>	Y	Annual Return completed and submitted to the EPA.	D – Submission of Annual Return confirmed (NSW EPA website)
R1.2	An Annual Return must be prepared in respect of each reporting period, except as provided below.	Y	Annual Return completed and submitted to the EPA.	D – Submission of Annual Return confirmed (NSW EPA website)
R1.3	<p>Where this licence is transferred from the licensee to a new licensee:</p> <ol style="list-style-type: none"> a) the transferring licensee must prepare an Annual Return for the period commencing on the first day of the reporting period and ending on the date the application for the transfer of the licence to the new licensee is granted; and b) the new licensee must prepare an Annual Return for the period commencing on the date the application for the transfer of the licence is granted and ending on the last day of the reporting period. 	NA		
R1.4	<p>Where this licence is surrendered by the licensee or revoked by the EPA or Minister, the licensee must prepare an Annual Return in respect of the period commencing on the first day of the reporting period and ending on:</p> <ol style="list-style-type: none"> a) in relation to the surrender of a licence - the date when notice in writing of approval of the surrender is given; or a) in relation to the revocation of the licence - the date from which notice revoking the licence operates. 	NA		

Condition No.	Paraphrased Requirement	Compliance	Comment	Basis*
R1.5	The Annual Return for the reporting period must be supplied to the EPA via eConnect EPA or by registered post not later than 60 days after the end of each reporting period or in the case of a transferring licence not later than 60 days after the date the transfer was granted (the 'due date').	ANC	Annual Return completed and submitted to the EPA 7 January 2020 (end of reporting period 20 October 2019). This is more than 60 days after the end of the reporting period.	D – Submission of Annual Return confirmed (NSW EPA website)
R1.6	The licensee must retain a copy of the Annual Return supplied to the EPA for a period of at least 4 years after the Annual Return was due to be supplied to the EPA.	Y		
R1.7	Within the Annual Return, the Statements of Compliance must be certified and the Monitoring and Complaints Summary must be signed by: a) the licence holder; or b) by a person approved in writing by the EPA to sign on behalf of the licence holder.	Y		
Notification of environmental harm				
R2.1	Notifications must be made by telephoning the Environment Line service on 131 555.	Not Triggered		C
R2.2	The licensee must provide written details of the notification to the EPA within 7 days of the date on which the incident occurred.	Not Triggered		C
Written report				
R3.1	Where an authorised officer of the EPA suspects on reasonable grounds that: a) where this licence applies to premises, an event has occurred at the premises; or b) where this licence applies to vehicles or mobile plant, an event has occurred in connection with the carrying out of the activities authorised by this licence, and the event has caused, is causing or is likely to cause material harm to the environment (whether the harm occurs on or off premises to which the licence applies), the authorised officer may request a written report of the event.	NA		
R3.2	The licensee must make all reasonable inquiries in relation to the event and supply the report to the EPA within such time as may be specified in the request.	NA		

Condition No.	Paraphrased Requirement	Compliance	Comment	Basis*
R3.3	The request may require a report which includes any or all of the following information: a) the cause, time and duration of the event; b) the type, volume and concentration of every pollutant discharged as a result of the event; c) the name, address and business hours telephone number of employees or agents of the licensee, or a specified class of them, who witnessed the event; d) the name, address and business hours telephone number of every other person (of whom the licensee is aware) who witnessed the event, unless the licensee has been unable to obtain that information after making reasonable effort; e) action taken by the licensee in relation to the event, including any follow-up contact with any complainants; f) details of any measure taken or proposed to be taken to prevent or mitigate against a recurrence of such an event; and g) any other relevant matters.	NA		
R3.4	The EPA may make a written request for further details in relation to any of the above matters if it is not satisfied with the report provided by the licensee. The licensee must provide such further details to the EPA within the time specified in the request.	NA		
SCHEDULE 7 – GENERAL CONDITIONS				
Copy of licence kept at the premises or plant				
G1.1	A copy of this licence must be kept at the premises to which the licence applies.	Y		O
G1.2	The licence must be produced to any authorised officer of the EPA who asks to see it.	Y		C
G1.3	The licence must be available for inspection by any employee or agent of the licensee working at the premises.	Y		C
LEGEND				
Y = Complied with during YEAR NA = Not Applicable during YEAR NR = Not Required N = Not complied with during YEAR NYA = Not Yet Applicable Noted = Condition Acknowledged ND = Not Determined ANC = Administrative Non-Compliance				
Note * Basis for assessment of compliance O = Observation during audit D = Documentation Retained C = Confirmed by Quarry Manager				
Yes# / No# = Complied / not complied with and compliance no longer required to be assessed				

Table C3 Internal Compliance Audit of Relevant Conditions of Mining Lease 1633 for Wallerawang Quarry from Start date to End Date

Condition No.	Requirement	Compliance	Comment	Basis*
Notice to Landholders				
1	<p>a) Within a period of three months from the date of grant/renewal of this mining lease, the lease holder must serve on each landholder a notice in writing indicating that this mining lease has been granted/renewed and whether the lease includes the surface. A plan identifying each landholder and individual land parcel subject to the lease area, and a description of the lease area must accompany the notice.</p> <p>b) If there are ten or more landholders, the lease holder may serve the notice by publication in a newspaper circulating in the region where the lease area is situated. The notice must indicate that this mining lease has been granted/renewed; state whether the lease includes the surface and must contain a plan and description of the lease area. If a notice is made under condition 1(b), compliance with condition 1(a) is not required.</p>	NR	ML not renewed during the Annual Review period	O
Rehabilitation				
2	Any disturbance resulting from the activities carried out under this mining lease must be rehabilitated to the satisfaction of the Minister.	Y	The Mining Operations Plan includes the final land use plan.	
Mining Operations Plan and Annual Rehabilitation Report				
3	<p>(a) The lease holder must comply with an approved Mining Operations Plan (MOP) in carrying out any significant surface disturbing activities, including mining operations, mining purposes and prospecting. The lease holder must apply to the Minister for approval of a MOP. An approved MOP must be in place prior to commencing any significant surface disturbing activities, including mining operations, mining purposes and prospecting.</p> <p>(b) The MOP must identify the post mining land use and set out a detailed rehabilitation strategy which:</p> <ul style="list-style-type: none"> (i) identifies areas that will be disturbed; (ii) details the staging of specific mining operations, mining purposes and prospecting; (iii) identifies how the mine will be managed and rehabilitated to achieve the post mining land use; (iv) identifies how mining operations, mining purposes and prospecting will be carried out in order to prevent and or minimise harm to the environment; and (v) reflects the conditions of approval under: <ul style="list-style-type: none"> • the <i>Environmental Planning and Assessment Act 1979</i>; • the <i>Protection of the Environment Operations Act 1997</i>; 	Y	<p>The Mining Operations Plan was approved in 2018 and includes the Rehabilitation Management Plan. An extension to this MOP term was granted on 14 January 2019.</p> <p>A copy of the plan is maintained on the Walker Quarries website.</p> <p>The Annual Rehabilitation Report is included in this Annual Review (Section 8).</p> <p>An updated MOP was submitted to the RR on 29 May 2020 (and approved on 7 July 2020)</p>	D – MOP and this Annual Review

Condition No.	Requirement	Compliance	Comment	Basis*
	<ul style="list-style-type: none"> any other approvals relevant to the development including the conditions of this mining lease. <p>(c) The MOP must be prepared in accordance with the <i>ESG3: Mining Operations Plan (MOP) Guidelines September 2013</i> published on the Department's website at www.resourcesandenergy.nsw.gov.au/miners-and-explorers/rules-andforms/pgf/environmental-guidelines</p> <p>(d) The lease holder may apply to the Minister to amend an approved MOP at any time.</p> <p>(e) It is not a breach of this condition if:</p> <ul style="list-style-type: none"> (i) the operations which, but for this condition 3(e) would be a breach of condition 3(a), were necessary to comply with a lawful order or direction given under the <i>Environmental Planning and Assessment Act 1979</i>, the <i>Protection of the Environment Operations Act 1997</i>, the <i>Work Health and Safety (Mines and Petroleum Sites) Act 2013</i> and <i>Work Health and Safety (Mines and Petroleum Sites) Regulation 2014</i> or the <i>Work Health and Safety Act 2011</i>; and <i>Work Health and Safety Regulation 2011</i> (ii) the Minister had been notified in writing of the terms of the order or direction prior to the operations constituting the breach being carried out. <p>(f) The lease holder must prepare a Rehabilitation Report to the satisfaction of the Minister. The report must:</p> <ul style="list-style-type: none"> (i) provide a detailed review of the progress of rehabilitation against the performance measures and criteria established in the approved MOP; (ii) be submitted annually on the grant anniversary date (or at such other times as agreed by the Minister); and (iii) be prepared in accordance with any relevant annual reporting guidelines published on the Department's website at www.resourcesandenergy.nsw.gov.au/miners-and-explorers/rules-and-forms/pgf/environmental-guidelines <p><i>Note: The Rehabilitation Report replaces the Annual Environmental Management Report.</i></p>			
Non Compliance Reporting				
4	<p>a) The lease holder must notify the Department upon becoming aware of any breaches of the conditions of this mining lease or breaches of the Mining Act or Regulations;</p> <p>b) Notifications under condition 4(a) must be provided in the form specified on the Department's website within seven (7) days of the mining lease holder becoming aware of the breach.</p>	Y	No breaches of the conditions of the mining lease or breaches of the Mining Act or Regulations occurred during the reporting period.	C

Condition No.	Requirement	Compliance	Comment	Basis*
Environmental Incident Report				
5	The lease holder must provide environmental incident notifications and reports to the Secretary no later than seven (7) days after those environmental incident notifications and reports are provided to the relevant authorities under the <i>Protection of the Environment Operations Act 1997</i> .	Not Triggered		
Resource Recovery				
6	The lease holder must optimise recovery of the minerals that are the subject of this mining lease to the extent economically feasible.	Y	Operations during the reporting period were undertaken to recover maximum mineral resources.	
Security				
7	The lease holder is required to provide and maintain a security deposit to secure funding for the fulfilment of obligations of all or any kind under the mining lease, including obligations of all or any kind under the mining lease that may arise in the future. The amount of the security deposit to be provided has been assessed by the Minister at \$690,000.	ND	No change	
Cooperation Agreement				
8	The lease holder must make every reasonable attempt, and be able to demonstrate its attempts, to enter into a cooperation agreement with the holder(s) of any overlapping title(s). The cooperation agreement should address but not be limited to issues such as: <ul style="list-style-type: none"> • access arrangements • operational interaction procedures • dispute resolution • information exchange • well location • timing of drilling • potential resource extraction conflicts; and • rehabilitation issues. 	Not Triggered	No overlapping titles. Note: Walker Quarries holds agreements with FC NSW and NSW Crown lands for operations on Lidsdale State Forest and Crown Land.	D – Access Agreements
Exploration Reporting				
	<i>Note: Exploration Reports (Geological and Geophysical)</i> <i>The lease holder must lodge reports to the satisfaction of the Minister in accordance with section 163C of the Mining Act 1992 and in accordance with clause 59 of the Mining Regulation 2016.</i> <i>Reports must be prepared in accordance with Exploration Reporting: A guide for reporting on exploration and prospecting in New South Wales.</i>	Y	Annual Exploration Progress Report for the period 13 Jan 2019 to 12 Jan 2020 submitted by Rangott Mineral Exploration Pty Ltd (Rangott, 2020)	D – Rangott Exploration Report
Special Conditions – Prescribed Dam				
9	(a) Notwithstanding any Mining Operations Plan, the lease holder must not mine within any part of the lease area which is within the Wallerawang Dam Notification Area without the prior written approval of the Minister and subject to any conditions he may stipulate.	Noted		

Condition No.	Requirement	Compliance	Comment	Basis*
	<p>(b) Where the lease holder desires to mine within the notification area he must:</p> <ul style="list-style-type: none"> (i) at least twelve (12) months before mining is to commence or such lesser time as the Minister may permit, notify the Minister of the desire to do so. A plan of the mining system to be implemented must accompany the notice; and (ii) provide such information as the Minister may direct. <p>(c) The Minister must not, except in the circumstances set out in sub-paragraph (ii), grant approval unless sub-paragraph (i) of this paragraph has been complied with.</p> <ul style="list-style-type: none"> (i) This sub-paragraph is complied with if: <ul style="list-style-type: none"> a) the Dams Safety Committee as constituted by Section 7 of the <i>Dams Safety Act 1978</i> and the owner of the dam have been notified in writing of the desire to mine referred to in paragraph (b). b) the notifications referred to in clause (a) are accompanied by a description or plan of the area to be mined. c) the Director-General has complied with any reasonable request made by the Dams Safety Committee or the owner of the dam for further information in connection with the mining proposal. d) the Dams Safety Committee has made its recommendations concerning the mining proposal or has informed the Minister in writing that it does not propose to make any such recommendations; and e) where the Dams Safety Committee has made recommendations, the approval is in terms that are: <ul style="list-style-type: none"> (i) in accordance with those recommendations; or (ii) where the Minister does not accept those recommendations or any of them - in accordance with a determination under sub-paragraph (ii) of this paragraph. (ii) Where the Minister does not accept the recommendations of the Dams Safety Committee or where the Dams Safety Committee has failed to make any recommendations and has not informed the Minister in writing that it does not propose to make any recommendations, the approval shall be in terms that are, in relation to matters dealing with the safety of the dam: <ul style="list-style-type: none"> a) as determined by agreement between the Minister and the Minister administering the <i>Dams Safety Act 1978</i>; or b) in the event of failure to reach such agreement - as determined by the Premier. <p>(d) The Minister, on notice from the Dams Safety Committee, may at any time or times:</p>			

Condition No.	Requirement	Compliance	Comment	Basis*
	<i>(i)</i> cancel any approval given where a notice pursuant to Section 18 of the Dams Safety Act 1978 is given. <i>(ii)</i> suspend for a period of time, alter, omit from or add to any approval given or conditions imposed.			

LEGEND

Yes = Complied with during YEAR No = Not complied with during YEAR ND = Not Determined
 NYA = Not Yet Applicable NA = Not Applicable during YEAR ANC = Administrative Non-Compliance
 * = Basis for assessment of compliance D = Documentation Retained O = Observation during audit
 Yes# / No# = Complied / not complied with and compliance no longer required to be assessed

