

BORAL RESOURCES (NSW) PTY LTD

Peppertree Quarry

Independent Environmental Audit 2015

21 OCTOBER 2016



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BORAL RESOURCES (NSW) PTY LTD PEPPERTREE QUARRY ENVIRONMENTAL AUDIT 2015

Audit Report

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Date 21/10/2016

Revision Text C

This report has been prepared for Client in accordance with the terms and conditions of appointment for Project dated 26 August 2015 Arcadis Australia Pacific Pty Limited (ABN 76 104 485 289) cannot accept any responsibility for any use of or reliance on the contents of this report by any third party.

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EXECUTIVE SUMMARY

This audit report has been prepared in response to Schedule 5 Condition 6 of the Ministers Conditions of Approval (MCoA) for Peppertree Hard Rock Quarry owned by Boral Resources (NSW) Pty Ltd. Condition 6 – Independent Environmental Audit - sets out the requirements to assess compliance with the Project Approval and Environment Protection Licence (EPL), review the adequacy of strategies, plans and programs prepared under the consent and EPL, assess the environmental performance of development and recommend actions and measures to improve environmental performance.

This audit has been undertaken in line with the principles and process of *AS/NZS 19011:2014 Guidelines for quality and/or environmental management systems audit*.

Close-out of 2015 Audit findings

The 2015 Department of Planning and Environment (DP&E) audit findings were reviewed, and an assessment made regarding the sufficiency of actions implemented by Boral Resources (NSW) to manage the issue. Of the 13 recommendations identified in the 2015 DP&E Audit, the current status is as follows:

- Complete and Satisfactory: 10 (1.1-1.3, 1.6- 3.1)
- Incomplete/Unsatisfactory: 3 (1.4-1.5, 3.2,)
- Complete and Unsatisfactory: 0

Three of the recommendations from the 2015 DP&E Audit have not been implemented, and as a consequence non-compliances in relation to the same conditions or issues were identified in this audit.

Assessment of compliance with the Development Consent Conditions

The overall audit findings against the 76 conditions in each schedule of the consent are presented below. Of the 60 'applicable' conditions, 48 (80%) were found to be compliant, one (2%) non-compliant, 10 (16%) compliant in part and one (2%) not able to be determined.

Audit finding across the consent schedules

Schedule	Audit Finding					Total
	Compliant	Non-compliant	N/A	Compliant in part	Not able to determine	
2	8	0	3	1	0	12
3	34	1	5	6	1	47
4	0	0	7	0	0	7
5	6	0	1	3	0	10
Total	48	1	16	10	1	76

Compliance with the Environmental Protection Licence

Since 2010/2011 41 non-compliances have been recorded across a range of licence conditions. Most of the non-compliances relate to deficiencies in monitoring and reporting, and are administrative rather than exceedance of limits. However, it should be noted that in the absence of monitoring, potential exceedances may not be detected. None resulted in the issue of a penalty notice.

Opportunities for improvement

A total of 15 opportunities to promote improvement in terms of regulatory compliance and environmental performance have been presented for Boral's consideration and action.

Overall assessment of environmental performance

Despite the deficiencies noted above, the overall environmental performance based on the observed condition of the site, the low number of incidences and exceedances, and a limited number of community complaints, is considered to be **satisfactory**.

It is evident that staff commitment (particularly at a management level) to responsible environmental management is high, and a number of environmental initiatives, partnerships and actions have been implemented in recent years. However, many of these initiatives have not been strategically linked to management strategies/ plans, or included in reporting and communications. As a result Boral is missing a key opportunity to highlight and demonstrate its ongoing commitment to environmental management at the Peppertree Quarry to regulatory agencies and the broader community.

To promote ongoing improvements in environmental performance and compliance, and ensure that risks are managed effectively, it is important for Boral to commit to ensuring that a robust environmental management system is established for the quarry.

1 INTRODUCTION

1.1 Background

The Peppertree Quarry (formerly known as 'Marulan South Quarry'), owned and operated by Boral Resources (NSW) Pty Ltd is located at Marulan South Road, Marulan, approximately 10 km southeast of Marulan in the Goulburn Mulwaree local government area. The quarry extracts hard rock known as granodiorite to make a range of aggregates for the Sydney metropolitan market, all of which will be transported by train via an existing rail line servicing BC.

An Environmental Impact Statement (EIS) *Marulan South Quarry Environmental Assessment Report*, Volumes 1 and, dated October 2006, was prepared by Environmental Resources Management Australia. The Quarry operates under Ministerial consent granted on 02 February 2007 issued for the Development Application DA 06_0074. The consent allows Boral to transport up to 3.5 million tonnes of product in a year (Mtpa) from the site by rail.

Since the consent was issued, there have been three approved modifications (with conditions), as detailed below:

1. Modification 1 – March 2009
2. Modification 2 – November 2011
3. Modification 3 - October 2012.
4. Modification 4 – August 2016 (not within the scope of this audit)

Modification 4 was recently approved by the Department of Planning and Environment however approval was granted after the completion of the audit. As such the new consolidated conditions and approval were not assessed.

The most recent version of the Project Approval, prior to Modification 4 approval which includes changes made by each modification, is presented in Appendix A.

Schedule 5, Condition 5 of the original consent included a requirement to commission an Independent Environmental Audit within 3 years of the date of the commencement of construction, and every 5 years thereafter, unless the Director-General directs otherwise, the Proponent shall commission and pay the full cost of an Independent Environmental Audit of the project. An overview of how this audit addresses the applicable MCoA requirements is outlined in Table 1.

Table 1 - Independent Audit CoA Compliance Requirements

Condition of Approval	Condition Requirements	Where addressed in this document
Independent Environmental Audit		
	Within 3 years of the date of the commencement of construction, and every 5 years thereafter, unless the Director-General directs otherwise, the Proponent shall commission and pay the full cost of an Independent Environmental Audit of the project. This audit must:	Whole document
5(5)	(a) be conducted by a suitably qualified, experienced, and independent person(s) whose appointment has been approved by the Director-General;	Section 2.1.1
	(b) include consultation with the relevant agencies;	Section 1.2.1
	(c) assess the environmental performance of the project, and its effects on the surrounding environment;	Section 4, 5 and 6

Condition of Approval	Condition Requirements	Where addressed in this document
	(d) assess whether the project is complying with the relevant standards, performance measures and statutory requirements;	Section 4, 5 and 6
	(e) review the adequacy of any strategy/plan/program required under this approval; and, if necessary, (f) recommend measures or actions to improve the environmental performance of the project, and/or any strategy/plan/program required under this approval.	Section 6
	(f) recommend measures or actions to improve the environmental performance of the project, and/or any strategy/plan/program required under this approval.	Section 7

1.2 Audit Scope & Timeframe

1.2.1 Audit Scope

Schedule 5 Condition 5 of the original consent included a requirement to commission an Independent Environmental Audit within 3 years of the date of the commencement of construction, and every 5 years thereafter, unless the Director-General directs otherwise, the Proponent shall commission and pay the full cost of an Independent Environmental Audit of the project. The commencement of construction was June 2012, therefore Boral was required to commission an Independent Audit no later than June 2015. This audit constitutes the June 2015 audit and based on the conditions of consent, Boral will be required to commission the next audit by June 2020.

The audit fulfils the requirements for the Independent Environmental Audit, as defined in Schedule 5 Condition 5 of the Project Approval.

To meet these requirements the audit:

1. Consulted with relevant agencies Paul Rutherford and Margaret Kirton Department of Planning and Environment, Julian Thompson EPA
2. Assessed the environmental performance of the project, and its effects on the surrounding environment
3. Assessed whether the project is complying with the relevant standards, performance measures and statutory requirements
4. Reviewed the adequacy of any strategy/plan/program required under this approval
5. Recommended measures or actions to improve the environmental performance of the project, and/or strategy/plan/program required under this approval.

1.2.2 Audit Timeframe

The purpose of this section is to define the timeframe for this audit, based on the requirements of the consent and delivery of previous audits. Establishing the audit timeframe is important as it will clarify what needs to be considered during the audit in terms of the:

- DA modifications and subsequent changes to the content
- EPL returns and compliance
- Versions of strategies, plans and programs that require review.

Based on the audit conditions in the consent the required audit schedule for the Peppertree Quarry is presented in Table 2.

Table 2 - Audit Schedule for Peppertree Quarry

Audit number	Frequency	Date due	Date issued
First Audit	Within 3 years of commencement of construction	June 2015	This report
Second Audit	Every 5 years thereafter	June 2020	N/A

1.3 Report Structure

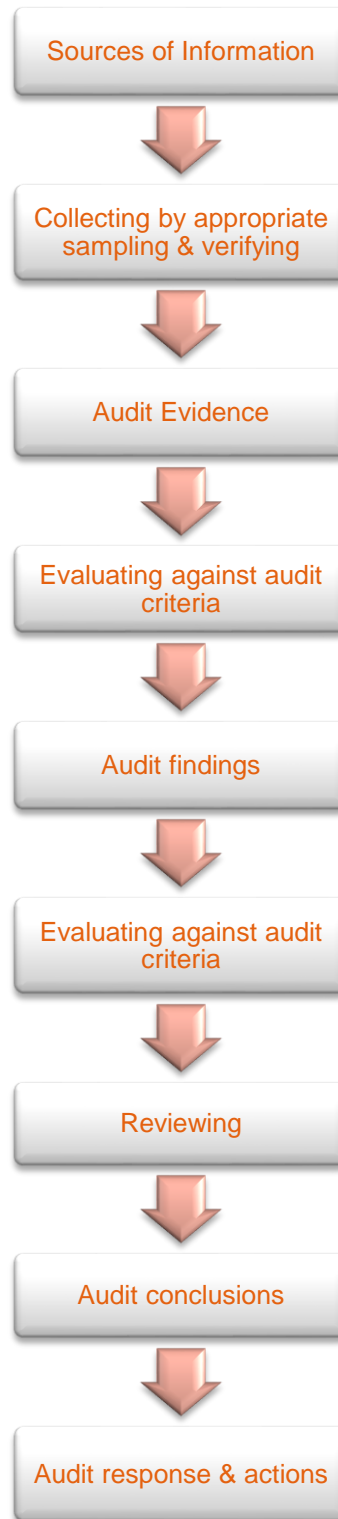
This Independent Environmental Audit report is presented as follows:

- **Executive Summary**
- **Section 1:** introduction, including the audit scope, timeframe and context.
- **Section 2:** presents the audit methodology, the activities undertaken in the delivery of the audit and the assessment terminology used in this report.
- **Section 3:** covers compliance associated with meeting the requirements of the Project Approval, and any relevant modifications.
- **Section 4:** covers compliance associated with meeting the requirements of the Environmental Protection Licence (EPL 77), and any modifications.
- **Section 5:** presents the findings of the review of the adequacy of approved strategies, plans or programs required under the consent.

2 AUDIT METHODOLOGY

This audit has been undertaken in line with the principles and process of *AS/NZS 19011:20014 Guidelines for quality and/or environmental management systems audit*. An overview of the approach to be applied in undertaking this audit is presented below.

Figure 1 - Overview of the audit process



The methods used to collect information and evidence included:

- **Document review:** this included the following documentation:
 - the project EIS
 - previous audit reports
 - strategies, plans and programs prepared for the management of Peppertree Quarry
 - annual environmental reports
 - monitoring outputs and reports
 - communications between Boral and government agencies
 - recommended and relevant best practice Standards and guidelines
- **Interviews:** these were conducted with relevant staff from Boral. Interviewees are listed below.
 - Sharon Makin (Stakeholder and Environmental Advisor)
- **Observation of activities and visual site verification:** Two site visits were conducted to undertake interviews, verification processes and on-site inspection on the following dates:

2.1 Assessment Terminology

The following terminology has been applied in assessing compliance with the requirements of the Project Approval and EPL, reviewing the actions implemented in response to the previous audit and assessing the effectiveness and adequacy of strategies, plans and programs.

Table 3 - Audit Assessment Terminology

Assessment	Definition
Compliant	Effective processes have been established and implemented that are consistent with the requirement.
Non-compliant	Failure to develop and/or implement processes to meet the requirement to an effective standard.
Partially compliant	Processes have been developed and/or implemented that enable the requirement to be met in part.
Opportunity for improvement (recommendation)	Opportunity to implement changes that may add value and/or clarity to processes.
Not applicable	Requirement not applicable (e.g. if closed out in previous audit).
Not able to determine	Compliance could not be assessed due to insufficient information being available.
Complete	Non-compliances and recommendations from the previous 2015 DP&E audit have been addressed and finalised.
Incomplete	Non-compliances and recommendations from the previous 2015 DP&E audit have not been finalised.
Satisfactory	The actions implemented in response to non-compliances and recommendations from the previous 2015 DP&E audit are sufficient to manage risks.
Unsatisfactory	The actions implemented in response to non-compliances and recommendations from the previous 2015 DP&E audit are insufficient to manage risks.

Opportunities for improvement (opportunities) have been numbered using e.g. **PQ** (recommendation number)/15.

2.1.1 Auditor Qualifications

Schedule 5, Condition 5 of the Project Approval (February 2014) specifies that the Independent Environmental Audit must:

- (a) be conducted by a suitably qualified, experienced and independent person(s) whose appointment has been approved by the Director-General;*

This Independent Environmental Audit was conducted by:

- **Brad Searle** – Principal Environmental Auditor (Certificate No: 113169), Business Lead, Environment
- **Danielle Haynes** – Environmental Consultant

A letter of endorsement of the audit team was provided by Planning and Infrastructure, dated 17 August 2015. None of the team engaged for this audit have had any previous involvement with the Peppertree Quarry.

2.2 Audit Response and Close-out

To promote a timely and appropriate response to the ‘opportunities for improvement’ (recommendations) identified through the audit, Boral was provided with the option of providing a response and evidence of implementation of actions prior to close-out. These audit responses are also presented in the compliance assessment tables, along with evidence or statements of commitment for implementing the response. Where the response is deemed sufficient to close-out the audit finding an assessment of satisfactory and complete has been provided in parentheses.

3 2015 DP&E COMPLIANCE AUDIT CLOSE-OUT

This section presents the historic non-compliance and recommendations identified previously in *Boral Peppertree Quarry Compliance Audit August 2015* (NSW Department of Planning & Environment, 2015) and the response implemented or actions taken by Boral Resources (NSW) thus far to address the issue. An assessment of the appropriateness and adequacy of the response is also presented, along with recommendations for further improvement, where applicable

3.1 Findings from 2015 DP&E Audit Close-out

The 13 recommendations arising from the August 2015 are presented in Table 4. The August 2015 DP&E Audit identified that a substantial portion of the non-compliances related to the failure to submit documentation to government agencies within the timeframes, as well as failure to implement the Ground Water Monitoring Program.

Following the audit Boral responded by identifying the actions to be undertaken to address the recommendations.

The current status of the 13 recommendations associated with the non-compliance issues identified in the August 2015 DP&E Audit are as follows:

- Complete and Satisfactory: 10 (1.1-1.3, 1.6- 3.1)
- Incomplete/Unsatisfactory: 3 (1.4-1.5, 3.2,)
- Complete and Unsatisfactory: 0

Table 4 - Findings from 2015 DP&E Audit

August 2015 DP&E Findings	Response/Action	Evidence sources/questions	Conclusion
<p>1.1 The groundwater monitoring is to commence as soon as the bores are installed in accordance with <i>Schedule 3, 26</i>.</p> <p><i>The groundwater monitoring bores required under this condition had not been installed at the time of audit and hence groundwater monitoring had not been implemented in the period under audit.</i></p> <p><i>The proponent indicated in interview that installation of bores was delayed due to concern that they would be damaged during construction, and that the quarry depth had not intersected groundwater level. It was noted that the Proponent has contracted Statewide Drilling Pty Ltd and drilling of bores was due to commence on 19 August 2015.</i></p>	<p>Boral completed the installation of groundwater monitoring bores in December 2016 and has since commenced groundwater monitoring</p>	<p>Installation report of groundwater monitoring bores (RPS 2015)</p> <p>Groundwater monitoring data</p>	<p>Complete and Satisfactory</p> <p>Boral is now in compliance with this condition.</p>
<p>1.2 Proponent to engage a consultant to assess compliance etc as per <i>Schedule 3, 37</i>. No complaints have been received with respect to obtrusive effects of external lighting.</p> <p><i>Proponent unable to demonstrate external lighting certified as compliant with Australian Standard AS4282 (INT) 1995 – Control of Obtrusive Effects of Outdoor Lighting.</i></p>	<p>Boral engaged EMM as an independent auditor to undertake an external lighting audit. EMM concluded that Boral is generally meeting the requirements of AS4282 and therefore this condition. Boral have commenced undertaking the actions as per the recommendations by EMM.</p>	<p>Compliant Lighting Audit (9 November 2015) conducted by EMM</p>	<p>Complete and Satisfactory</p> <p>Boral is now in compliance with this condition.</p>
<p>1.3 AEMRs for 2013 and 2014 years to be submitted within one month as per <i>Schedule 3, 9</i>. Consultant already engaged and preparing the reports.</p>	<p>The 2013 and 2014 Annual Environmental Monitoring Review have been reviewed and were issued in October 2015</p>	<p>Copy of 2013 and 2014 AEMRs</p>	<p>Complete and Satisfactory</p>

August 2015 DP&E Findings	Response/Action	Evidence sources/questions	Conclusion
<p><i>The noise requirements require the proponent to investigate ways to minimise noise and report on this in the Annual Review. No AEMRs submitted at time of audit.</i></p>			<p>Boral issued the AEMRs for 2013 and 2014 in October 2015.</p>
<p>1.4 Advise proponent that failure of monitoring and/or recording of exceedances should be treated as incidents and reported to DP&E in future as per <i>Schedule 5, 3</i>.</p> <p><i>Failure of depositional dust gauges (TSP / PM10) over the period November 2014 to January 2015 was not reported to DP&E. Was not reported to DP&E as an incident.</i></p>	<p>Failure was due to PM10 motherboard failure. Regular calibration is conducted by Thomson Environmental is in place. Machines are calibrated every 2 months and a report issued. This has been in place since 2012.</p>	<p>No evidence that the incident has been reported to the DP&E.</p>	<p>Incomplete and Unsatisfactory</p> <p>Boral has failed to report incidents and exceedances to DP&E on a number of occasions.</p>
<p>1.5 Advise proponent that failure of monitoring and/or recording of exceedances should be treated as incidents and reported to DP&E in future, as per <i>Schedule 5, 3</i>.</p> <p><i>Depositional dust gauge for monitoring point 1 showed exceedance of the 12 month annual average (reading of 5.1 against limit of 4.0). Was not reported to DP&E as an incident.</i></p>	<p>EP Licence limit not specified but NSW State guideline of 4 g/m² presented as 12-month rolling average</p>	<p>No evidence that the incident has been reported to the DP&E</p>	<p>Incomplete and Unsatisfactory</p> <p>Depositional dust gauge for monitoring point 1 showed exceedance of the 12 month annual average (reading of 4.77 against limit of 4.0) in 2014/2015. Boral has failed to report this exceedance to DP&E.</p>
<p>1.6 Advise proponent that failure of monitoring and/or recording of exceedances should be treated as incidents and reported to DP&E in future, as per <i>Schedule 5, 3</i>.</p> <p><i>Monitoring of downstream flow from Dam 1 to Tangarang Creek impacted by silt and data found to be unreliable for the period July to December 2014. Problem rectified. Environmental flow was met - dam design allows</i></p>	<p>Problems with flow meter due to silt have been rectified and monitoring data for period of January to July 2015 viewed and in compliance. Dam design allows constant environmental flow equivalent to 10 % of average daily flow.</p>	<p>Flow monitoring data for January to July 2015</p>	<p>Complete and Satisfactory</p> <p>Boral has taken actions to rectify the situation and has made improvements to the dam to ensure release is equivalent to 10% of average daily flow. Furthermore, the dam wall treatment allows for a</p>

August 2015 DP&E Findings	Response/Action	Evidence sources/questions	Conclusion
<p><i>constant environmental release equivalent to 10% of average daily flow.</i></p>	<p>Boral is also looking into updating the Water Management Plan and Flood Management Plan.</p>		<p>continual flow which will result in supporting environmental flows to creek.</p>
<p>1.7 AEMRs for 2013 and 2014 years to be submitted within one month, and submit the 2015 AEMR on time.</p> <p><i>Proponent is required to prepare and submit by the end of March each year an Annual Environmental Management Review. No AEMR had been submitted at the time of the audit.</i></p> <p><i>Consultant already engaged and preparing the 2013 and 2014 reports.</i></p>	<p>The 2013 and 2014 final Annual Environmental Monitoring Reviews were issued in October 2015</p>	<p>Copies of 2013 and 2014 AEMRs</p>	<p>Compete and Satisfactory</p> <p>Boral issued the AEMRs for 2013 and 2014 in October 2015 and issued the 2015 AEMR in July 2016. Plans are already in place to ensure 2016 will be on time.</p>
<p>1.8 IEA to be submitted to DP&E by proponent within 1 month of completion.</p> <p><i>Proponent required to commission an Independent Environmental Audit within 3 years of the date of commencement of construction.</i></p> <p><i>Construction commenced 15 June 2012, and IEA commissioned on 16 July 2015 – i.e. not within 3 years (1 month late). A minor non-compliance.</i></p> <p><i>The Proponent's nominated auditor was approved by DP&E on 17 August 2015.</i></p>	<p>Construction at the site commenced June 2012 therefore Boral was required to commission an Independent Audit no later than June 2015. This audit constitutes the June 2015 audit and based on the conditions of consent, Boral will be required to commission the next audit by June 2020.</p>	<p>Commissioning of Arcadis to undertake IEA and letter from DP&E on August approving the auditor.</p>	<p>Complete and Satisfactory</p> <p>While Boral was one month late commissioning the IEA, this constitutes only a minor non-compliance and the audit is currently underway.</p>
<p>2.1 This is a consequence of the non-compliance noted at ID No 1.2 at Table 1 (above), as per Section 5.2.3 of the Water Management Plan.</p>	<p>Boral completed the installation of groundwater monitoring bores in December 2016 and has since commenced groundwater monitoring.</p>	<p>Installation report of groundwater monitoring bores (RPS 2015)</p>	<p>Complete and Satisfactory</p> <p>Groundwater monitoring has commenced since the installation of the groundwater monitoring</p>

August 2015 DP&E Findings	Response/Action	Evidence sources/questions	Conclusion
<p>Monitoring to commence as soon as the bores are installed.</p> <p><i>Groundwater elevation and quality monitoring as set out in Table 5.1 was not carried out in the audit period.</i></p>		<p>Groundwater monitoring data</p>	<p>bores therefore Boral is now in compliance with this condition.</p>
<p>2.2 This is a consequence of the non-compliance noted at ID No 1.2 at Table 1 (above), as per Section 5.3.1 of the Water Management Plan.</p> <p>Monitoring to commence as soon as the bores are installed.</p> <p><i>As no groundwater monitoring occurred, it was not possible for the Proponent to compare groundwater quality monitoring data against baseline data, and to assess against the threshold criteria as set out in Table 5.2 to determine whether there was a potentially adverse impact on bores on surrounding properties registered for domestic use.</i></p>	<p>As above, Boral completed the installation of groundwater monitoring bores in December 2016 and has since commenced groundwater monitoring.</p>	<p>Installation report of groundwater monitoring bores (RPS 2015)</p> <p>Groundwater monitoring data</p>	<p>Complete and Satisfactory</p> <p>Groundwater monitoring bores have been installed and groundwater monitoring commenced therefore Boral is now in compliance with this condition.</p>
<p>2.3 This is a consequence of the non-compliance noted at ID No 1.2 at Table 1 (above), as per Section 5.3.2 of the Water Management Plan.</p> <p>Monitoring to commence as soon as the bores are installed.</p> <p><i>As no groundwater monitoring occurred, it was not possible for the Proponent to compare groundwater elevation monitoring data against baseline data, and to assess against the criteria for groundwater elevation</i></p>	<p>As above, Boral completed the installation of groundwater monitoring bores in December 2016 and has since commenced groundwater monitoring.</p>	<p>Installation report of groundwater monitoring bores (RPS 2015)</p> <p>Groundwater monitoring data</p>	<p>Complete and Satisfactory</p> <p>Groundwater monitoring bores have been installed and groundwater monitoring commenced therefore Boral is now in compliance with this condition.</p>

August 2015 DP&E Findings	Response/Action	Evidence sources/questions	Conclusion
<p><i>including potentially adverse drawdown of more than 5 m.</i></p>			
<p>3.1 Sedimentation and erosion control at the back of the overburden emplacement should be regularly monitored, as per Section 2.5 of the Landscape and Rehabilitation Management Plan.</p> <p><i>It was observed at the time of the first site visit that sediment retention fencing along the access road at the rear of the overburden emplacement was almost completely buried by sediment in places, with evidence of some minor sediment transport onto the adjoining native forest habitat. The level of sediment in the retention dam was very high.</i></p> <p><i>On the second visit to follow up on additional information request, an inspection noted that new sediment fencing was in place and the retention dam was being emptied of deposited sediment.</i></p>	<p>Rectified by time of follow-up inspection.</p>	<p>New sediment fencing was observed at time of site visit.</p>	<p>Complete and Satisfactory</p> <p>Boral had taken actions to rectify the non-compliance prior to the DP&E follow up inspection and is therefore now in compliance with this condition.</p>
<p>3.2 LRMP should be amended on review to remove this reporting requirement as it is duplication with the AEMR (LRMP Section 6.7).</p> <p><i>The LRMP calls for an annual audit to be undertaken of implementation actions within the Plan and reporting to EPA (now OEH). An annual audit is undertaken internally and recorded, but not reported to OEH.</i></p>	<p>Ongoing</p>	<p>Review document management system, version control</p>	<p>Incomplete and Unsatisfactory</p> <p>The lead auditor agrees with this recommendation and notes that the LRMP is yet to be updated. Boral advises that a biodiversity and rehabilitation plan will be completed in March 2017.</p>

4 COMPLIANCE WITH THE PROJECT APPROVAL

The environmental conditions for the Peppertree Quarry are described in Schedules 3 and 5 of the Project Approval, covering environmental performance conditions and the environmental management, monitoring, auditing and reporting conditions, respectively. Table 6 lists these conditions, along with the evidence sources considered in conducting the audit and assessment of compliance. Opportunities for improvement have also been presented, as necessary.

Modifications to the Project Approval since it was issued in 2007 have been included in Table 5. Changes are either identified as separate line items with relevant modification identified, or the changes have been noted in coloured highlight as follows:

- **Modification 1 – Red**
- **Modification 2 – Blue**
- **Modification 3 – Green**

4.1 Summary of Findings

The overall audit findings against the 76 conditions in each schedule of the consent are presented in Table 5. Of the 60 'applicable' conditions, 48 were found to be compliant, one non-compliant, 10 compliant in part and one not able to be determined.

Table 5 - Audit finding across the consent schedules.

Schedule	Audit Finding					Total
	Compliant	Non-compliant	N/A	Compliant in part	Not able to determine	
2	8	0	3	1	0	12
3	34	1	5	6	1	47
4	0	0	7	0	0	7
5	6	0	1	3	0	10
Total	48	1	16	10	1	76

The consent conditions assessed as being 'partially compliant' generally relate to:

- The adequacy of plans, strategies and programs based on the requirements stated in the condition; e.g. Water Management Plan
- The implementation of plans, strategies and programs, in particular monitoring programs: e.g. water quality and quantity monitoring, surface and groundwater monitoring and site rehabilitation.
- Equipment failure
- Provision of the required information on the website
- Review, auditing and reporting requirements e.g. Annual Reports

The non-compliances relate to the following issues:

- Provision of the required information on the website e.g. current management plans.

Table 6 - Compliance Development Consent conditions

Issue	Condition Number	Condition	Evidence sources / questions	Audit finding
Schedule 2: Administrative Conditions				
Obligation to Minimise Harm to the Environment				
	1	The Proponent shall implement all practicable measures to prevent or minimise any harm to the environment that may result from the construction, operation, or rehabilitation of the project.	Environmental controls Environmental Management Plans	Compliant
Terms of Approval				
	2	The Proponent shall carry out the project generally in accordance with the: (a) EA; (b) submissions report; and (c) modification application 06_0074 – MOD 1 and accompanying Statement of Environmental Effects entitled Marulan South Quarry Statement of Environmental Effects for a Pre-commencement Exploratory Test Pit dated 13 November 2008, and letter from The Proponent Resources Pty Ltd to the Department dated 13 February 2009; (d) modification application 06_0074 – MOD 2 and the accompanying EA titled The Proponent Peppertree Quarry Section 75W Modification Report, dated June 2011, prepared by ERM Australia, and the responses to issues raised in submissions, including those titled Peppertree Quarry Submissions Report, dated 24 August 2011, Response to OEH Submission, dated 12 October 2011, and Response to Armit Submission, dated 25 October 2011; (e) modification application 06_0074 – MOD 3 and the accompanying EA titled Peppertree Quarry Modification 3 Environmental Assessment, dated August 2012, prepared by EMGA Mitchell McLennan Pty Limited, and the responses to issues raised in submissions titled Response to Submissions Peppertree Quarry Modification 3, dated 3 October 2012; and (f) conditions of this approval.	This audit report	Compliant
	3	If there is any inconsistency between the above, either the most recent document or the conditions of this approval shall prevail to the extent of the inconsistency.		N/A
	4	The Proponent shall comply with any reasonable requirement/s of the Director-General arising from the Department's assessment of: (a) any reports, plans, programs or correspondence that are submitted in accordance with this approval; and (b) the implementation of any actions or measures contained in these reports, plans, programs or correspondence.	Communications with DP&E and the Director-General	Compliant Boral has complied with the requirements of the DG when they have been provided. However, it should be noted that most often acknowledgement of receipt, feedback and/or approval from the DG is not provided.

Issue	Condition Number	Condition	Evidence sources / questions	Audit finding
Limits on Approval				
	5	This approval shall lapse at the end of 2038.		N/A
	6	The Proponent shall not transport more than 3.5 million tonnes of product from the site in a year.	Train loadout manifest - tonnage records (QRS)	Compliant In 2014/15 Boral transported 2297 tonnes of product. Only provided data for this period however Boral confirms that all previous years have been well below the limit.
	7	All extractive materials and products shall be transported from the site by rail. However, The Proponent may transport some product by road in an emergency with the written approval of the Director-General.	Transport reporting	Compliant Loading of trains manifest viewed. There was no requirement for road transport in 2015 so all materials and products were transported by rail.
Structural Adequacy				
	8	The Proponent shall ensure that all new buildings and structures on the site are constructed in accordance with the relevant requirements of the BCA.	Occupation Certificate	Compliant
Demolition				
	9	The Proponent shall ensure that all demolition work on site is carried out in accordance with AS 2601-2001: The Demolition of Structures, or its latest version.		N/A - No demolition has been undertaken thus far
Protection of Public Infrastructure				
	10	The Proponent shall: (a) repair, or pay all reasonable costs associated with repairing any public infrastructure that is damaged by the project; and (b) relocate, or pay all reasonable costs associated with relocating any public infrastructure that needs to be relocated as a result of the project.	Evidence of funding Letter to Council regarding intention of funding - supplied materials for road base	Compliant In 2014 Boral partnered with Goulburn Mulwaree Council to rebuild the most damaged sections of Marulan South Road. Boral contributed an additional \$188,000 to Council to complete road repairs in addition to the funds raised from the road maintenance levies already paid by Boral (\$59,000).
Operations of Plant and Equipment				
	11	The Proponent shall ensure that all plant and equipment used at the site is: (a) maintained in a proper and efficient condition; and (b) operated in a proper and efficient condition.	Environmental Action Plan	Compliant All plant equipment is maintained by Boral's electronic asset management (EAM) system, a Boral wide system (asset management software) and a number of upgrades have been performed. All plant and equipment has been maintained and a number of upgrades have occurred. All

Issue	Condition Number	Condition	Evidence sources / questions	Audit finding
				operators are appropriately licensed and inducted prior to commencing operation of equipment on the site.
	12	With the approval of the Director-General, The Proponent may prepare and submit any management plan or monitoring program required by this approval on a progressive basis.	Viewed correspondence re revised plans	<p>Partially Compliant Management plans/monitoring programs have been prepared and reviewed. The documents were issues to the DP&E (formerly DoP) however Boral never received formal approval.</p> <p>Opportunity for Improvement PQ 1/15 When management plans or monitoring programs are due for renewal/review, ensure formal approval from DP&E is received.</p>

Schedule 3: Environmental Performance Conditions

General Extraction and Processing Provisions

	1	<p>Prior to the commencement of construction, or as otherwise agreed by the Director-General, the Proponent shall:</p> <p>(a) engage an independent registered surveyor to survey the boundaries of the approved limit of extraction;</p> <p>(b) submit a survey plan of these boundaries to the Director-General; and</p> <p>(c) ensure that these boundaries are clearly marked at all times in a permanent manner that allows operating staff and inspecting officers to clearly identify those limits.</p>	<p>Name and contact details of the surveyor(s) engaged.</p> <p>Copy of survey plan submitted by email by Rod Wallace of Boral to Kane Winwood DP&E, dated 17/12/10. Copy sighted</p> <p>Viewed pegs on ground denoting boundaries as well as aerial photos with boundaries clearly marked</p>	<p>Compliant A plan of the extraction area was prepared by Construction Surveys Pty Ltd and approved by registered surveyor Craig Stratton. The extraction boundaries are clearly marked with orange pegs. Extraction was well within these approved boundaries.</p>
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Noise

	2	<p>In carrying out the construction of the noise bunds, the Proponent shall:</p> <p>(a) comply with the construction noise criteria in the Environmental Noise Control Manual 1994 for the first three months of the construction work; and</p> <p>(b) thereafter, comply with the daytime operational noise criteria in condition 4.</p>	Noise Monitoring Results/Data	<p>Compliant The noise compliance monitoring reports are prepared quarterly by Environmental Resources Management Australia Pty Ltd on behalf of Boral. All of the monitoring reports were provided from the first three months of the construction work commencing until the most recent report, for the August 2016 monitoring period.</p>
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Boral Resources (NSW) Pty Ltd

Issue	Condition Number	Condition	Evidence sources / questions	Audit finding
	3	<p>The Proponent shall prepare and implement a Construction Noise Management Plan for the project to the satisfaction of the Director-General. This plan must be submitted to the Director-General for approval prior to the commencement of construction, and include:</p> <p>(a) a detailed description of the measures that would be implemented to achieve the construction noise limits in the Environmental Noise Control Manual 1994 and the operational noise criteria in condition 4;</p> <p>(b) a community notification protocol for the proposed construction activities;</p> <p>(c) a description of the measures that would be implemented where the construction noise limits and/or operational noise limits are unlikely to be achieved or are not being achieved; and</p> <p>(d) details of who would be responsible for monitoring, reviewing and implementing the plan.</p>	<p>Construction Noise Management Plan</p> <p>Evidence of on-going implementation</p> <p>Sign-off from DG</p>	<p>Compliant</p> <p>This Plan has been developed in compliance with the condition.</p>
	4	<p>The Proponent shall ensure that the noise generated by the project does not exceed the noise impact assessment criteria in Table 1.</p> <p>Table 1 Residential Receiver/DayLAeq(15min)/EveLAeq(15min)/NighLtAeq(15min)/NightA1(1 min)</p> <p>2/39/35/35/45 5/35/35/35/45 6/35/35/35/45 16/41/35/35/45 Any other noise sensitive location/35/35/35/45</p>	<p>Noise monitoring data on Boral website</p> <p>EPL returns (Limit Conditions L3: Noise Limits, Monitoring and Recording Conditions M8. 1: Noise Monitoring)</p>	<p>Compliant</p> <p>Noise monitoring data is posted to the Boral website monthly. There have not been any recorded exceedances. In addition, Boral has engaged ERM to prepare quarterly noise compliance monitoring reports from October 2011 to the present day. The reports conclude that Boral complies with the criteria requirements of this condition.</p>
	5	<p>If the noise generated by the project exceeds the criteria in Table 2, the Proponent shall, upon receiving a written request for acquisition from the landowner, acquire the land in accordance with the procedures in conditions 6-8 of Schedule 4.</p> <p>Table 2 Residential Receiver/DayLAeq(15 min)/Evening/NightLAeq(15 min)</p> <p>2/44/44 5/40/40 6/40/40 16/44/44</p>	<p>Noise monitoring data/reports</p> <p>Community complaints database</p>	<p>N/A</p> <p>No requests for land acquisition received by landholders. Noted that Boral has acquired three properties (residential receivers 1, 3 and 4) since the original environmental assessment was completed.</p>

Issue	Condition Number	Condition	Evidence sources / questions	Audit finding
	6	<p>The Proponent shall take all reasonable and feasible measures to ensure that the noise generated by the project combined with the noise generated by other extractive industries does not exceed the following amenity criteria on any privately owned land, to the satisfaction of the Director-General:</p> <ul style="list-style-type: none"> • LAeq(11 hour) 50 dB(A) – Day; • LAeq(4 hour) 45 dB(A) – Evening; and • LAeq(9 hour) 40 dB(A) – Night. 	Noise monitoring data	<p>Compliant Boral has engaged ERM to prepare quarterly noise compliance monitoring reports from October 2011 to the present day. The reports conclude that Boral complies with the criteria requirements of this condition and continues to manage noise emissions generated by the plant and equipment.</p>
	7	<p>Upon receiving a written request from the owner of residential receiver 3 (except where a negotiated noise agreement is in place) the Proponent shall implement additional noise mitigation measures such as double glazing, insulation, and/or air conditioning at any residence on the land in consultation with the owner. These additional mitigation measures must be reasonable and feasible. If within 3 months of receiving this request from the landowner, the Proponent and the owner cannot agree on the measures to be implemented, or there is a dispute about the implementation of these measures, then either party may refer the matter to the Director-General for resolution.</p>	Complaints database Noise Report 97 Long Point Rd (Wilkinson Murray, Nov 2015)	<p>Compliant All incidents are recorded internally with SIMS (Safety Incident Management System).</p> <p>A low frequency noise complaint from resident at 97 Long Point Road, Tallong was received on 20/11/2013. A noise report was written however it was not sufficient (according to DP&E). Resident complained directly to the EPA that resulted in Boral commissioning Wilkinson Murray to undertake noise monitoring to understand the nature of the cause and whether this could be attributable to Peppertree Operations. The noise investigation concluded the source of the low frequency noise is unlikely to be attributable to Peppertree operations.</p>
	8	<p>Within 3 months of this approval, the Proponent shall notify the owner of residential receiver 3 that he/she is eligible for additional noise mitigation measures.</p>	Community correspondence	<p>Compliant Correspondence to owner of residential receiver dated 18 May 2007. Note - Boral has since acquired residential receiver 3.</p>

Issue	Condition Number	Condition	Evidence sources / questions	Audit finding
	9	<p>The Proponent shall:</p> <ul style="list-style-type: none"> (a) implement best practice noise management, including all reasonable and feasible noise mitigation measures to minimise the noise generated by the project; (b) investigate ways to minimise the noise generated by the project; (c) operate a comprehensive noise management system that uses a combination of predictive meteorological forecasting and noise monitoring data to guide the day to day planning of quarrying operations and the implementation of both proactive and reactive noise mitigation measures to ensure compliance with the relevant conditions of this approval; (d) minimise noise impacts during adverse weather conditions; and (e) report on these investigations and the implementation and effectiveness of these measures in the Annual Review, to the satisfaction of the Director-General. 	<p>Evidence of noise management system - Mining (weatherzone.com.au) track weather conditions (applicable for noise as well)</p> <p>Annual Review report to DG and approval</p>	<p>Compliant</p> <p>Boral has established a noise and vibration monitoring program (NBMP) that has been incorporated into the overall Environmental Monitoring Program. The NBMP provides procedures for monitoring and assessing noise impacts from the quarry. Boral has engaged ERM to conduct quarterly noise compliance monitoring. Boral has adopted recommendations provided by ERM into their daily operations to ensure best practice noise management. Boral also has a site weather monitoring system to track weather conditions so operations can be adjusted accordingly to ensure compliance.</p> <p>Effective noise management mitigation measures implemented by Boral have been reported, most recently, in the 2015 AEMR.</p>

Issue	Condition Number	Condition	Evidence sources / questions	Audit finding
	10	<p>The Proponent shall prepare and implement a Noise Management Plan for the project to the satisfaction of the Director-General. This plan must be prepared in consultation with EPA and submitted to the Director-General for approval by the end of March 2012, and must:</p> <p>(a) describe the measures that would be implemented to ensure compliance with the relevant conditions of this approval;</p> <p>(b) describe the noise management system;</p> <p>(c) include a noise monitoring program that:</p> <ul style="list-style-type: none"> · supports the noise management system; · provides information to evaluate the performance of the project; · includes a protocol for determining exceedances of relevant conditions of this approval; and · provides for the use of real-time and/or supplementary attended monitoring measures, if directed by the Director-General; <p>(d) include a community notification protocol for the proposed construction activities; and</p> <p>(e) detail who would be responsible for monitoring, reviewing and implementing the plan.</p>	<p>Correspondence on submission of NMP and that DoP are satisfied with the Program</p> <p>Noise monitoring data</p>	<p>Compliant</p> <p>The initial NBMP was prepared in April of 2012 by ERM and revised in line with the November 2011 Modification. The NBMP has been developed in compliance with the condition.</p>
	11	<p>The Proponent shall comply with the hours of operation in Table 3.</p> <p>Activity/Day/Time</p> <p>Construction Works/M-F/7am-6pm</p> <p>Construction Works/Sat/8am-1pm</p> <p>Construction works/S&PH/none</p> <p>Topsoil/overburden removal/emplacement/any day/7am-7pm</p> <p>Blasting/M-F/9am-5pm</p> <p>Blasting/S&PH/None</p> <p>In-pit activities/any day/7am-7pm</p> <p>Out-of pit activities/any day/24 hours</p>	<p>Operating log/register</p> <p>Complaints database</p>	<p>Compliant</p> <p>The quarry operates within the required hours of operations.</p>
Blasting and Vibration				
	12	<p>The Proponent shall ensure that the airblast overpressure level from blasting at the project does not exceed the criteria in Table 4 at any residence on privately-owned land.</p> <p>Airblast overpressure level (dB(Lin Peak))/Allowable exceedance</p> <p>115/5% of the total number of blasts over a period of 12 months</p> <p>120/0%</p>	<p>Airblast monitoring results</p> <p>Airblast overpressure level at sensitive receivers</p>	<p>Compliant</p> <p>Boral has acquired all sensitive receivers except 683 Marulan South Road. Blast monitoring results of overpressure levels from 06/10/2011 to 13/11/2015 were reviewed. There were no exceedances at the above mentioned sensitive receiver.</p>

Issue	Condition Number	Condition	Evidence sources / questions	Audit finding
	13	<p>The Proponent shall ensure that the ground vibration level from blasting at the project does not exceed the criteria in Table 5 at any residence or sensitive receiver on privately-owned land.</p> <p>Peak particle velocity (mm/s)/Allowable exceedance 5/5% of the total number of blasts over a period of 12 months 10-0%</p>	Peak particle velocity at sensitive receivers	<p>Compliant Blast monitoring results of ground vibration level from 06/10/11 to 13/11/2015 were reviewed. During this period there were no exceedances.</p>
	14	<p>The Proponent shall implement best blasting practice to:</p> <p>(a) ensure that no flyrock leaves the site; (b) protect the safety of people, property, and livestock; and (c) minimise the dust and fume emissions from blasting on the site, to the satisfaction of the Director-General.</p>	<p>Blast monitoring locations Noise and Blast MP</p>	<p>Compliant Blast monitoring locations are identified in the Noise and Management Plan. The Plan outlines best management practice at the Quarry including ongoing studies and reviews to identify areas of improvement in noise, dust and fume emissions from blasting.</p>
	15	<p>The Proponent shall:</p> <p>(a) notify the landowner/occupier of any residence within 2 kilometres of the quarry pit who registers an interest in being notified about the blasting schedule on site; (b) operate a blasting hotline, or alternative system agreed to by the Director-General, to enable the public to get up-to-date information on blasting operations at the project; and (c) keep the public informed about this hotline (or any alternative system), to the satisfaction of the Director-General.</p>	<p>Hotline or web-based information? Evidence of how residents were informed</p>	<p>Compliant A regular community newsletter is published and posted on website included details of upcoming blasting. A blasting 'hotline' has been established for community members who wish to register and be notified ahead of blasting events. Community members can register using a 'contact us' link on the website.</p>
	16	<p>The Proponent shall prepare and implement a Blast Monitoring Program for the project to the satisfaction of the Director-General. This program must:</p> <p>(a) be submitted to the Director-General for approval prior to the commencement of construction; (b) be prepared in consultation with the EPA; and (c) monitor the performance of the project against the relevant blasting criteria.</p>	<p>Copy of Blast Monitoring Program Blasting data</p>	<p>Compliant The BMP is included in section 4 of the NBMP and has been developed in compliance with the condition. Boral regularly publishes blasting data on website.</p>

Air Quality

Issue	Condition Number	Condition	Evidence sources / questions	Audit finding
	17	<p>The Proponent shall ensure that all reasonable and feasible avoidance and mitigation measures are employed so that particulate matter emissions generated by the project do not exceed the criteria listed in Tables 6, 7 and 8 at any residence on privately owned land, or on more than 25 percent of any privately owned land.</p> <p>Table 6: Long Term Impact Assessment Criteria for PM Pollutant/Averaging period/Criterion Total suspended (TSP) matter/Annual/90ug/m3 Particulate Matter < 10um (PM10)/Annual/30ug/m3</p> <p>Table 7: Short Term Impact Assessment for Criteria of PM Pollutant/Averaging period/Criterion Particulate Matter < 10um (PM10)/24 hour/50 ug/m3</p> <p>Table 8: Long Term Impact Assessment for Criteria of Deposited Dust Pollutant/Averaging period/Max increase in deposited dust level/Max total deposited dust level Deposited dust/Annual/2g/m2/month/4g/m2/month</p>	<p>Particulate matter emissions monitoring data (regularly posted on website)</p> <p>Compliance with thresholds-reported in AEMRs.</p> <p>Mitigation/avoidance measures in place.</p>	<p>Compliant As evident from S4-C23 below, a number of measures have been implemented to minimise particulate matter from the operation. During the site visits these were observed to be actively implemented e.g. Regular calibration of machines is performed by Thomson Environmental. The machines are calibrated every 2 months and a report issued.</p> <p>PM10 had motherboard failure from Nov 2014 - Jan 2015. EPL identified 4 non-compliances due to machine error. Note: EP Licence limit not specified but NSW State guideline of 4 g/presented as 12-month rolling average adopted as an internal indicator of site performance.</p>
	18	<p>If particulate matter emissions generated by the project exceed the criteria in Tables 9, 10, and 11 at any residence on privately-owned land, or on more than 25 percent of any privately owned land, then upon written request for acquisition from the landowner, the Proponent shall acquire the land in accordance with the procedures in conditions 6-7 of schedule 4.</p> <p>Table 9: Long Term Land Acquisition Criteria for PM Pollutant/Averaging Period/Criterion TSP matter/Annual/90 ug/m3 PM10/Annual/30ug/m3</p> <p>Table 10: Short Term Land Acquisition Criteria for PM Pollutant/Averaging Period/Criterion PM10/24 hour/150ug/m3 PM10/24 hour/50ug/m3</p> <p>Table 11: Long Term Land Acquisition Criteria for Deposited Dust Pollutant/Averaging period/Max increase in deposited dust level/Max total deposited dust level Deposited Dust/Annual/2 g/m2/month/4 g/m3/month</p>	<p>Review air quality data</p> <p>Correspondence with landholder</p>	<p>N/A No past or current requests from landowner.</p>

Issue	Condition Number	Condition	Evidence sources / questions	Audit finding
	19	<p>The Proponent shall:</p> <ul style="list-style-type: none"> (a) implement best management practice on site, including all reasonable and feasible measures to minimise the off-site odour, fume and dust emissions generated by the project; (b) minimise any visible air pollution generated by the project; (c) minimise the surface disturbance of the site generated by the project; and (d) operate a comprehensive air quality management system that uses a combination of predictive meteorological forecasting and air quality monitoring data to guide the day to day planning of quarrying operations and the implementation of both proactive and reactive air quality mitigation measures to ensure compliance with the relevant conditions of this approval; to the satisfaction of the Director-General. 	<p>Air Quality Monitoring Program Pollutant monitoring data</p> <p>Proposal from Weatherzone</p>	<p>Compliant</p> <p>(a), (b) and (c) Boral began using Polo Citrus i+A47n October 2015 to mitigate dust emissions. Since using this product, no complaints have been received. The previous complaints were all internal and pertained to dust on their cars. There have not been any complaints from sensitive receivers.</p> <p>(d) Boral installed a Weatherzone weather monitoring system that provides the operational staff with predictive meteorological forecasting allowing them to plan and control operations to minimize surface disturbance, air pollution.</p>
	20	<p>The Proponent shall prepare and implement a detailed Air Quality Management Plan for the project to the satisfaction of the Director-General. This plan must:</p> <ul style="list-style-type: none"> (a) be prepared in consultation with EPA and submitted to the Director-General by the end of March 2012; (b) describe the measures that would need to be implemented to ensure compliance with the relevant conditions of this approval; (c) include a program for the implementation of the measures referred to in (b) above; and (d) include an air quality monitoring program that: <ul style="list-style-type: none"> · uses a combination of high volume samplers and dust deposition gauges to evaluate the performance of the project; · supports the air quality management system; · provides information to evaluate the performance of the project; · includes a protocol for determining exceedances of relevant conditions of this approval; and · provides for the use of real-time monitoring measures, if directed by the Director-General. 	<p>Air Quality Monitoring Program Correspondence with EPA and Planning</p>	<p>Compliant</p> <p>This Plan has been developed in compliance with the condition. The initial Air Quality Management Plan was created in November 2011 by ERM. A revision was made in August 2012 and posted on the Boral website.</p>

Meteorological Monitoring

Issue	Condition Number	Condition	Evidence sources / questions	Audit finding
	21	For the life of the project, the Proponent shall ensure that there is a meteorological station in the vicinity of the site that: (a) complies with the requirements in the Approved Methods for Sampling of Air Pollutants in New South Wales guideline; and (b) is capable of continuous real-time measurement of temperature lapse rate in accordance with the NSW Industrial Noise Policy.	Meteorological data from on-site weather station Quote from HCS for installation of weather station	Compliant Weather station was installed in 2012 and has been routinely calibrated approximately every two months from March 2012. The weather station provides continuous real time measurement of temperature lapse rate in accordance with the NSW INP.
Surface and Ground Water				
	22	Prior to the commencement of construction, the Proponent shall obtain the necessary approvals for the project under the Water Act 1912.	Copy of Water Licenses (2) viewed	Compliant Licenses for surface water and groundwater extraction are in place. Water license No: 10SL056926 under Section 12 of the Water Act, 1912 is valid from 31 March 2011 until 31 March 2016. Bore License No: 10BL159860 under Section 115 of the Water Act, 1912 is valid from 19 Feb 2011 until 18 Feb 2016.
	23	Except as may be expressly provided for by an EPL, the Proponent shall not discharge any dirty water from the quarry or ancillary operational areas.	EPL Annual Returns	Non-compliant Three uncontrolled discharges from the quarry have occurred since 2012. According to the EPL 2012 Annual Return, compacted engineering fill and sediment was discharged to a tributary of Tangarang Creek due to high rainfall and failure of of the rail culverts and dam wall during construction. The construction works were completed in March 2012 with the dam wall and overflow in place. A rehabilitation plan for the creek was prepared and implemented. A previous failure of a sediment dam wall occurred in august 2011 again due to a large in flow of water from a high rainfall event. This event pushed a hole in the wall. The wall was repaired the following week. During the interview on 4/11/15, Boral revealed that an uncontrolled discharge event to tributary of Tangarang Creek occurred in August 2015 due to high rainfall and the partial failure of a stockpile. During the interview, Boral indicated the EPA was notified. Review of BOM records indicate that discharge coincided with a 90th percentile rainfall

Issue	Condition Number	Condition	Evidence sources / questions	Audit finding
				<p>event of approximately 100mm. No subsequent environmental incidents have occurred.</p> <p>During the site visit, it was noted there were issues with sedimentation from train load out facility washdown bay along the drainage path flowing into the main dam. Proposals have been received by Boral to resolve this issue. The most appropriate solution is being determined and will be implemented by the end of December 2016.</p> <p>Opportunity for improvement PQ 2/15 Review adequacy of design and determine any feasible improvement opportunities, for minimising future impacts of stormwater flows.</p>
	23A	<p>The Proponent shall prepare an onsite wastewater report for the proposed effluent management system consistent with the requirements of Sydney Catchment Authority – “Developments in Sydney’s Drinking Water Catchment” – Water Quality Information Requirements, 2011. The effluent management system must be designed and constructed to be in accordance with this onsite wastewater report and its design must be approved by Council prior to construction.</p>	Copy of onsite wastewater report	<p>Not able to determine Onsite wastewater report prepared by Harris Environmental Consulting on 10 Dec 2012.</p> <p>Boral has advised that a copy of the Council report cannot be located therefore a new inspection will be arranged with Council.</p>
	24	<p>The Proponent shall provide an environmental flow to Tangarang Creek equivalent to 10% of average daily flows. Details of the management of these environmental flows shall be included in the Site Water Balance for the project (see below).</p>	Environmental flow monitoring data	<p>Compliant Environmental flow monitoring data viewed from January 2015 to May 2015 for Tangarang Creek satisfy this requirement. The water management approach for the environmental flows are detailed in the Site Water Balance for the project (included in the Water Management Plan).</p>

Issue	Condition Number	Condition	Evidence sources / questions	Audit finding
	25	<p>The Proponent shall ensure that:</p> <p>(a) critical structures such as “dirty water” dams are designed, constructed and maintained to accommodate a 1 in 100 year ARI 24-hour event; and</p> <p>(b) other dams and water management structures are designed, constructed and maintained to accommodate a 1 in 20 year ARI 24-hour event.</p>	Sediment basin as built drawings	<p>Compliant</p> <p>As-built drawings have been provided. An inspection checklist is completed daily and safe operating procedures in place for rain events</p>
	26	<p>The Proponent shall prepare and implement a Water Management Plan for the project to the satisfaction of the Director-General. This plan must:</p> <p>(a) be submitted to the Director-General for approval prior to the commencement of construction;</p> <p>(b) be prepared in consultation with the NOW, EPA and Sydney Catchment Authority; and</p> <p>(c) include a:</p> <ul style="list-style-type: none"> • Site Water Balance; • Erosion and Sediment Control Plan; • Surface Water Monitoring Program; • Ground Water Monitoring Program; and • Surface and Ground Water Response Plan to address any potential adverse impacts associated with the project. 	Sediment basin as built drawings Groundwater Installation Report (RPS, Dec 2015)	<p>Partially Compliant</p> <p>A detailed review of WMP explaining the finding is provided in section</p> <p>Opportunity for improvement PQ 3/15</p> <p>It is recommended that Boral provide a copy of the Water Management Plan to NOW, EPA and Sydney Catchment Authority for review and comment.</p>
	27	<p>The Site Water Balance shall</p> <p>(a) include details of all water extracted (including make-up water), dewatered, transferred, used and/or discharged by the project; and</p> <p>(b) describe measures to minimise water use by the project.</p>	Review of annual water balances (Annual Review) Discharge monitoring data	<p>Compliant</p> <p>The site water balance is discussed in section 3 of the WMP and includes all requirements of this condition. It is understood that Boral is currently revising the site water balance.</p>
	28	<p>The Erosion and Sediment Control Plan shall:</p> <p>(a) be consistent with the requirements of <i>Managing Urban Stormwater: Soils and Construction, Volume 1, 4th Edition, 2004 (Landcom)</i>;</p> <p>(b) identify activities that could cause soil erosion and generate sediment;</p> <p>(c) describe measures to minimise soil erosion and the potential for the transport of sediment to downstream waters;</p> <p>(d) describe the location, function, and capacity of erosion and sediment control structures; and</p> <p>(e) describe what measures would be implemented to maintain (and if necessary decommission) the structures over time.</p>	Erosion Sediment Control Plan	<p>Partially Compliant</p> <p>A detailed review of the ESCP explaining the finding is provided in section</p> <p>Opportunity for improvement PQ 4/15</p> <p>The ESCP should be revised to address the requirements of the Blue Book.</p>

Issue	Condition Number	Condition	Evidence sources / questions	Audit finding
	29	<p>The Surface Water Monitoring Program shall include:</p> <p>(a) detailed baseline data on surface water flows and quality in Tangarang Creek and Barbers Creek;</p> <p>(b) surface water impact assessment criteria;</p> <p>(c) a program to monitor surface water flows and quality;</p> <p>(d) a protocol for the investigation of identified exceedances of the surface water impact assessment criteria; and</p> <p>(e) a program to monitor the effectiveness of the Erosion and Sediment Control Plan.</p>	<p>Surface Water Management Plan</p> <p>Evidence of implementation of the monitoring program (monitoring equipment data)</p>	<p>Partially Compliant A detailed review of the SWMP explaining the finding is provided in section 6.2</p> <p>Opportunity for improvement PQ 5/15 When the SWMP is due for revision, baseline data on surface water flows and quality in Tangarang Creek and Barkers Creek will need to be included.</p>
	30	<p>The Ground Water Monitoring Program shall include:</p> <p>(a) detailed baseline data on ground water levels, flows, and quality, based on statistical analysis;</p> <p>(b) groundwater impact assessment criteria for monitoring bores;</p> <p>(c) a program to monitor regional ground water levels and quality; and</p> <p>(d) a protocol for the investigation of identified exceedances of the ground water impact assessment criteria.</p>	<p>Ground Water Management Plan</p> <p>Evidence of implementation of the monitoring program (monitoring equipment data)</p>	<p>Compliant This Plan has been developed in compliance with the condition and is included in Section 6 of the WMP. The Plan was developed in January 2011. Ground water monitoring results are collected on a quarterly basis.</p>
Traffic and Transport				
	31	<p>The Proponent shall prepare and implement a construction traffic management plan for the project to the satisfaction of the RMS and Council.</p>	<p>Traffic Management Plan</p>	<p>Compliant The Traffic Management Plan has been created and satisfies the requirements of this condition.</p>

Issue	Condition Number	Condition	Evidence sources / questions	Audit finding
Aboriginal Heritage				
	32	<p>The Proponent shall prepare and implement an Aboriginal Heritage Management Plan for the project to the satisfaction of the Director-General. This plan must:</p> <p>(a) be submitted to the Director-General for approval prior to the commencement of construction;</p> <p>(b) be prepared in consultation with the OEH and relevant Aboriginal communities; and</p> <p>(c) include a:</p> <ul style="list-style-type: none"> • description of the measures that would be implemented for the mapping, and salvage or relocation of the archaeological relics in the Tangarang Creek Dam 1 area; • description of the measures that would be implemented if any new Aboriginal objects or relics are discovered during the project; and • protocol for the ongoing consultation and involvement of the Aboriginal communities in the conservation and management of Aboriginal cultural heritage on the site. 	<p>Aboriginal Heritage Management Plan</p> <p>Letter of advice from EMM regarding preliminary review of glass artefacts</p>	<p>Compliant Boral commissioned ERM to create a detailed Aboriginal heritage management plan (completed January 2011). The AHMP was reviewed and updated by ERM in October 2013. The Peppertree AHMP Ref: 0118026RP04 dated January 2011 is on the Boral website however it is not the latest version.</p> <p>Ongoing indigenous artefact salvage has been occurring since 2012 across areas of the quarry as topsoil is stripped. Boral engaged archaeologists from EMGA Mitchell McLennan Pty Ltd (EMM) to provide advice for Aboriginal heritage matters at the quarry. EMM is brought to site when required for significant finds.</p> <p>Opportunity for improvement PQ 6/15 Ensure Peppertree Quarry website is updated and easily accessible</p>
	32A	<p>If historical archaeological relics are unexpectedly discovered during works, all works must cease and a suitably qualified and experienced historical archaeologist be brought in to assess the find. Depending on the nature of the discovery, additional assessment and recording may be required prior to the recommencement of excavation in the affected area. The Heritage Council (or its Delegate) must be notified of this discovery in writing in accordance with section 146 of the Heritage Act,1977.</p>	<p>Documentation of unexpected discovery of archaeological relics</p> <p>Correspondence with archaeologist from EMM including their assessment</p>	<p>Compliant During interview, Boral informed Arcadis archaeological relics were discovered in 2015 on the site. They contacted appropriate parties and followed/are following the appropriate measures as detailed in the AHIMS. Documentation and Aboriginal artefact handling procedures were viewed during site inspection.</p>

Issue	Condition Number	Condition	Evidence sources / questions	Audit finding
Flora and Fauna				
	33	<p>The Proponent shall:</p> <p>(a) rehabilitate the site in a manner that is generally consistent with the conceptual rehabilitation principles in Chapter 2.8 of the EA; and</p> <p>(b) implement the Habitat Management Area in a manner that is generally consistent with the documents listed in condition 2 of schedule 3 (and shown conceptually in Appendix 3), including the establishment, conservation and maintenance of at least 13.5 hectares of vegetation species characteristic of Box Gum Woodland, to the satisfaction of the Director-General.</p>	<p>Rehabilitation Management Plan Field Maintenance Worksheets Field Maintenance Invoices Progress Maps Peppertree species list</p>	<p>Compliant Boral commissioned ERM to create detailed landscape management plans (completed August 2012). The Landscape and Rehabilitation Management Plan outlines the requirements for rehabilitation following quarry operations. No broad scale rehabilitation has been undertaken yet. The rehabilitation of the site, primarily within the Habitat Management Area, is in compliance with the requirements of this condition. (b)Boral has been documenting the progress of the Habitat Management Area.</p>
	33A	<p>The Proponent shall:</p> <p>(a) prior to clearing of vegetation and site preparation on the site of the Western Overburden Emplacement and extension, clearly and securely mark out the proposed boundary of the emplacement and extension;</p> <p>(b) avoid disturbance of Box Gum Woodland Endangered Ecological Community and other native vegetation adjacent to the site of the Western Overburden Emplacement and extension;</p> <p>(c) only undertake clearing of vegetation on the site of the Western Overburden Emplacement and extension following a recent fauna survey undertaken by a suitably qualified expert who has been approved by the Director-General; and</p> <p>(d) seek to avoid clearing of native vegetation on the site of the Western Overburden Emplacement and extension during the period August to November of any year.</p>	<p>Vegetation Management Plan</p> <p>Pre Clearance Surveys</p>	<p>Compliant (a) The boundary of the overburden emplacement was viewed during the visit and is clearly marked. (b) The <i>Box Gum Woodland</i> Endangered Ecological Community (the most vulnerable of which is included in the Heritage Management Area) and other native vegetation adjacent to the site of the Western Overburden Emplacement and Extension is clearly identified in figures in the LRMP. The Landscape and Rehabilitation reviews, completely bi-annually in December 2014 and June 2015, identify these areas in the management actions and prioritizing avoiding disturbance as High. (c) and (d) Pre Clearance surveys were completed 10 February 2012 and found that no native vegetation or fauna were harmed and all pre-clearance protocols were followed during the process of clearance works.</p>

Issue	Condition Number	Condition	Evidence sources / questions	Audit finding
	34	<p>The Proponent shall prepare and implement a Landscape and Rehabilitation Management Plan for the project to the satisfaction of the Director-General. This plan must:</p> <p>(a) be submitted to the Director-General for approval prior to the commencement of construction;</p> <p>(b) be prepared in consultation with the OEH and Council;</p> <p>(c) describe in general the short, medium, and long-term measures that would be implemented to:</p> <ul style="list-style-type: none"> • rehabilitate the site; • implement the Habitat Management Area; • manage the remnant vegetation and habitat on the site; and • landscape the site (including the bunds and overburden emplacement areas) to mitigate any visual impacts of the project; <p>(d) describe in detail the measures that would be implemented over the next 5 years to rehabilitate and manage the landscape on the site;</p> <p>(e) describe how the performance of these measures would be monitored over time; and</p> <p>(f) set completion criteria for the rehabilitation of the site.</p>	<p>Rehabilitation and Landscape Management Plan</p> <p>Evidence of implementation and results of performance monitoring over time e.g. annual reviews, preclearance surveys, maintenance records, etc.</p>	<p>Partially Compliant A detailed review of the LRMP explaining the finding is provided in section 6.2.</p> <p>Opportunity for improvement PQ 7/15 When the LRMP is due for revision, it will need to provide greater clarity on the short, medium and long term rehabilitation measures. The monitoring performance of these measures will need to be defined as well as the completion criteria.</p>
	35	<p>Within 3 months of the first Independent Environmental Audit the Proponent shall lodge a rehabilitation bond for the project with the Director-General. The sum of the bond shall be calculated at \$2.50/m² for the total area to be disturbed in each 5 year period, or as otherwise directed by the Director-General.</p>		<p>N/A - Not yet triggered</p>
	36	<p>Within 3 months of subsequent audits, the Proponent shall review, and if necessary revise, the sum of the bond to the satisfaction of the Director-General. This review must consider:</p> <p>(a) the effects of inflation;</p> <p>(b) any changes to the total area of disturbance; and</p> <p>(c) the performance of the rehabilitation against the completion criteria of the Rehabilitation and Landscape Management Plan.</p>		<p>N/A - Not yet triggered</p>

Issue	Condition Number	Condition	Evidence sources / questions	Audit finding
Visual Impact				
	37	<p>The Proponent shall:</p> <p>(a) minimise the visual impacts, and particularly the off-site lighting impacts, of the project;</p> <p>(b) revegetate overburden emplacements, emplacement extensions and bunds as soon as practicable;</p> <p>(c) take all practicable measures to further mitigate off-site lighting impacts from the project; and</p> <p>(d) ensure that all external lighting associated with the project complies with Australian Standard AS4282 (INT) 1995 - Control of Obtrusive Effects of Outdoor Lighting, to the satisfaction of the Director-General.</p>	Compliant Lighting Audit (9 November 2015) conducted by EMM	<p>Compliant Boral engaged EMM Consulting Pty Ltd to undertake the lighting audit due to their expertise in the field. EMM concluded that Boral is generally meeting the requirements of AS4282 and therefore this condition.</p> <p>Opportunity for improvement: PQ8/15 Implement recommendations of Compliance Lighting Audit including: "• adjust lighting fixers on the side of buildings to ensure the main beam angle is kept below 70 degrees as recommended in AS 4282 • review the type of permanent night lighting used. HPS lamps emit a softer orange light than the intense white light of the metal halide. • reduce height of fixed lighting structures on buildings as much as possible to reduce light spill and skyglow • consider formalising a protocol for use of lighting at the Quarry that is considered appropriate for safety and occurs routinely • investigate options to turn off lighting sources in areas of low use • if complaints are received in relation to the Quarry these recommendations should be revisited."</p>
	38	<i>(Deleted)</i>		
	39	<i>(Deleted)</i>		
	40	The Proponent shall not erect or display any advertising structure(s) or signs on the site without the written approval of the Director-General.	Visual assessment during site visit	<p>Compliant Boral has not erected or displayed any advertising structures or signs.</p>

Issue	Condition Number	Condition	Evidence sources / questions	Audit finding
Waste Management				
	41	<p>The Proponent shall:</p> <p>(a) monitor the amount of waste generated by the project;</p> <p>(b) investigate ways to minimise waste generated by the project;</p> <p>(c) implement reasonable and feasible measures to minimise waste generated by the project; and</p> <p>(d) report on waste management and minimisation in the Annual Review. to the satisfaction of the Director-General.</p>	<p>Correspondence Remondis monthly invoice showing waste volumes and frequency</p> <p>Invoice for recycling of waste oil</p> <p>Review of waste management in Annual Review</p>	<p>Partially Compliant</p> <p>(a) There is no evidence that Boral is monitoring the amount of waste generation.</p> <p>(b) Boral has a service agreement with Remondis and has installed bins for the separation of waste in the office and workshop. Initial actions of investigating ways to minimise waste generation have been undertaken by Boral.</p> <p>(c) Boral recycles waste oil, scrap steel, conveyor belts and timber. Bins for these materials are situated around the site</p> <p>(d) A Waste Management Plan is proposed for 2016 (AEMR 2015) however there is no mention of the amount of waste generated by the project.</p> <p>Opportunity for Improvement PQ 9/15</p> <p>It is recommended Boral implement and monitor waste minimisation strategies to determine further areas of improvement. The monthly invoices provided by Remondis could be used to track the amount of waste produced by Boral. The identified areas of improvement should be discussed in the Annual Review. It is also suggested that more detail be included in the waste management review in the Annual Review including assessment of waste management and minimisation actions undertaken by Boral.</p>
	42	<p>The Proponent shall ensure that all waste generated or stored on site is assessed, classified and managed in accordance with the EPA's Environmental Guidelines: Assessment Classification and Management of Liquid and Non-Liquid Wastes.</p>	<p>Waste management documentation</p> <p>Waste monitoring data including classification, source, location and method of disposal</p>	<p>Compliant</p> <p>Waste management is discussed in the AEMRs. Liquid and non-liquid wastes have been classified in accordance with the Guidelines.</p>

Issue	Condition Number	Condition	Evidence sources / questions	Audit finding
Emergency and Hazards Management				
	43	The Proponent shall ensure that the storage, handling, and transport of dangerous goods are conducted in accordance with the relevant Australian Standards, particularly AS1940 and AS1596, and the Dangerous Goods Code.	<p>Review of dangerous good documentation (monthly checklist/other regular inspections of chemical storage)</p> <p>Transport of dangerous goods -- collection docket from Australian Waste Oil Refineries</p>	<p>Partially Compliant Boral maintains a register detailing that the storage of dangerous goods, conducted in accordance with the relevant Australian Standards.</p> <p>During site visit, storage issues relating to bunding were noted including: - bunding around the perimeter of the fuel/oil storage shed was lacking - a fuel storage tank within the shed was not appropriately bunded - waste oil/lubricant drums in and around the "shed" were stacked on pallets or directly on the ground and not appropriately bunded.</p> <p>Opportunity for improvement PQ 10/15 Ensure all oil/lubricant products are stored appropriately with self-contained bunding.</p>
	44	The Proponent shall secure the project to ensure public safety to the satisfaction of the Director-General.	<p>Public safety assessment/documentation</p> <p>Measures implemented to protect public safety</p>	<p>Compliant The site is well fenced and controlled. There have been no security breaches or public safety issues associated with the development.</p>
	45	The Proponent shall: (a) ensure that the project is suitably equipped to respond to any fires on-site; and (b) assist the rural fire service and emergency services as much as possible if there is a fire on-site.	<p>Bushfire Response Plan Emergency Response Plan Correspondence with NSW RFS re site inspection Bushfire management recommendations from NSW RFS</p>	<p>Compliant A draft Emergency Response Plan was prepared by Boral in 2015. The Plan includes a fire and smoke action plan. A Bushfire Response Plan was created for Marulan South in 2013 and will be created for Peppertree (the aim was May 2015). A site inspection was conducted on 25 March 2015 by the NSW Rural Fire Services to assess Boral's preparedness in fire mitigation and suppression. It appears that Boral is suitably equipped to respond to and assist the rural fire service and emergency services with any on-site fires.</p> <p>As per, NSW Rural Fire Services' recommendation, Boral uses a computerised maintenance management system (eAM) for</p>

Issue	Condition Number	Condition	Evidence sources / questions	Audit finding
				maintenance and review of firefighting systems.
Production Data				
	46	The Proponent shall: (a) provide annual production data to the DPI using the standard form for that purpose; and (b) include a copy of this data in the Annual Review.	Form S-1 (Return for Extractive Materials) for 2014	Compliant The standard form has been provided to DPI and a copy forwarded for inclusion in the 2015 AEMR.
Quarry Exit Strategy				
	47	The Proponent shall prepare and implement a Quarry Exit Strategy for the project to the satisfaction of the Director-General. This strategy must: (a) be submitted to the Director-General for approval at least 5 years prior to the cessation of the project; (b) be prepared in consultation with the relevant agencies; (c) define the objectives and criteria for quarry closure; (d) investigate options for the future use of the site, including any final void/s; (e) describe the measures that would be implemented to minimise or manage the ongoing environmental effects of the project; and (f) describe how the performance of these measures would be monitored over time.		N/A - Not yet triggered
Schedule 4 - Additional Procedures				
Notification of Landowners				
	1	If the results of monitoring required in Schedule 3 identify that impacts generated by the project are greater than the relevant impact assessment criteria, then the Proponent shall notify the Director-General and the affected landowners and/or existing or future tenants (including tenants of quarry owned properties) accordingly, and provide quarterly monitoring results to each of these parties until the results show that the project is complying with the relevant criteria.		N/A - Not yet triggered

Issue	Condition Number	Condition	Evidence sources / questions	Audit finding
Independent Review				
	2	<p>If a landowner (excluding quarry owned properties) considers that the operations of the quarry are exceeding the impact assessment criteria in Schedule 3, then he/she may ask the Proponent in writing for an independent review of the impacts of the project on his/her land. If the Director-General is satisfied that an independent review is warranted, then within 2 months of the Director-General's decision, the Proponent shall:</p> <p>(a) commission a suitably qualified, experienced and independent expert, whose appointment has been approved by the Director-General, to:</p> <ul style="list-style-type: none"> · consult with the landowner to determine his/her concerns; · conduct monitoring to determine whether the project is complying with the relevant impact assessment criteria in schedule 3; and · if the project is not complying with these criteria then: <ul style="list-style-type: none"> o determine if the more than one quarry/mine is responsible for the exceedance, and if so the relative share of each quarry/mine regarding the impact on the land; o identify the measures that could be implemented to ensure compliance with the relevant criteria; and <p>(b) give the Director-General and landowner a copy of the independent review.</p>		N/A - Not yet triggered
	3	<p>If the independent review determines that the quarrying operations are complying with the relevant criteria in Schedule 3, then the Proponent may discontinue the independent review with the approval of the Director-General.</p>		N/A - Not yet triggered

Issue	Condition Number	Condition	Evidence sources / questions	Audit finding
	4	<p>If the independent review determines that the quarrying operations are not complying with the relevant criteria in Schedule 3, and that the quarry is primarily responsible for this non-compliance, then the Proponent shall:</p> <p>(a) implement all reasonable and feasible mitigation measures, in consultation with the landowner and appointed independent expert, and conduct further monitoring until the project complies with the relevant criteria; or</p> <p>(b) secure a written agreement with the landowner to allow exceedances of the relevant impact assessment criteria, to the satisfaction of the Director-General.</p> <p>If the independent review determines that the project is not complying with the relevant acquisition criteria, and that the project is primarily responsible for this non-compliance, then upon receiving a written request from the landowner, the Proponent shall acquire all or part of the landowner's land in accordance with the procedures in condition 6-7 below.</p>	Evidence of implementation and copy of written agreement with landowner, if applicable	N/A - Not yet triggered
	5	<p>If the independent review determines that the relevant criteria are being exceeded, but that more than one quarry/mine is responsible for this exceedance, then together with the relevant quarry/mine/s, the Proponent shall:</p> <p>(a) implement all reasonable and feasible mitigation measures, in consultation with the landowner and appointed independent expert, and conduct further monitoring until there is compliance with the relevant criteria; or</p> <p>(b) secure a written agreement with the landowner and other relevant mine/s to allow exceedances of the relevant impact assessment criteria, to the satisfaction of the Director-General.</p> <p>If the independent review determines that the project is not complying with the relevant acquisition criteria in schedule 3, but that more than one mine is responsible for this non-compliance, then upon receiving a written request from the landowner, Proponent shall acquire all or part of the landowner's land on as equitable a basis as possible with the relevant quarries/mine/s, in accordance with the procedures in conditions 6-7 below.</p>		N/A - Not yet triggered

Issue	Condition Number	Condition	Evidence sources / questions	Audit finding
Land Acquisition				
	6	<p>Within 3 months of receiving a written request from a landowner with acquisition rights, the Proponent shall make a binding written offer to the landowner based on:</p> <p>(a) the current market value of the landowner's interest in the land at the date of this written request, as if the land was unaffected by the project the subject of the project application, having regard to the:</p> <ul style="list-style-type: none"> • existing and permissible use of the land, in accordance with the applicable planning instruments at the date of the written request; and • presence of improvements on the land and/or any approved building or structure which has been physically commenced at the date of the landowner's written request, and is due to be completed subsequent to that date, but excluding any improvements that have resulted from the implementation of the 'additional noise mitigation measures' in condition 7 of Schedule 3; <p>(b) the reasonable costs associated with:</p> <ul style="list-style-type: none"> • relocating within the Goulburn Mulwaree local government area, or to any other local government area determined by the Director-General; and • obtaining legal advice and expert advice for determining the acquisition price of the land, and the terms upon which it is required; and <p>(c) reasonable compensation for any disturbance caused by the land acquisition process.</p> <p>However, if at the end of this period, the Proponent and landowner cannot agree on the acquisition price of the land, and/or the terms upon which the land is to be acquired, then either party may refer the matter to the Director-General for resolution. Upon receiving such a request, the Director-General will request the President of the NSW Division of the Australian Property Institute to appoint a qualified independent valuer to:</p> <ul style="list-style-type: none"> • consider submissions from both parties; • determine a fair and reasonable acquisition price for the land and/or the terms upon which the land is to be acquired, having regard to the matters referred to in paragraphs (a)-(c) above; • prepare a detailed report setting out the reasons for any determination; and • provide a copy of the report to both parties. <p>Within 14 days of receiving the independent valuer's report, the Proponent shall make a binding written offer to the landowner to purchase the land at a price not less than the independent valuer's determination.</p> <p>However, if either party disputes the independent valuer's determination, then within 14 days of receiving the independent valuer's report, they may refer the matter to the Director-General for review. Any request for a review must be accompanied by a detailed report setting out the reasons why the party disputes the independent valuer's determination. Following consultation with the independent valuer and both parties, the Director-General will determine a fair and reasonable acquisition price for the land, having regard to the matters referred to in paragraphs (a)-(c) above, the independent valuer's report, the detailed report of the party that disputes the independent valuer's</p>	Copy of written offers, if applicable	N/A - Not yet triggered

Issue	Condition Number	Condition	Evidence sources / questions	Audit finding
		<p>determination and any other relevant submissions. Within 14 days of this determination, the Proponent shall make a binding written offer to the landowner to purchase the land at a price not less than the Director-General's determination. If the landowner refuses to accept the Proponent's binding written offer under this condition within 6 months of the offer being made, then the Proponent's obligations to acquire the land shall cease, unless the Director-General determines otherwise.</p>		
	7	<p>The Proponent shall pay all reasonable costs associated with the land acquisition process described in condition 6 above, including the costs associated with obtaining Council approval for any plan of subdivision (where permissible), and registration of this plan at the Office of the Registrar-General.</p>		N/A - Not yet triggered
	8	<i>(Deleted)</i>		

Issue	Condition Number	Condition	Evidence sources / questions	Audit finding
Schedule 5 - Environmental Management and Monitoring Conditions				
Environmental Management Strategy				
	1	<p>The Proponent shall prepare and implement an Environmental Management Strategy for the project to the satisfaction of the Director-General. This strategy must be submitted to the Director-General for approval prior to the commencement of construction, and:</p> <p>(a) provide the strategic context for environmental management of the project;</p> <p>(b) identify the statutory requirements that apply to the project;</p> <p>(c) describe in general how the environmental performance of the project would be monitored and managed;</p> <p>(d) describe the procedures that would be implemented to:</p> <ul style="list-style-type: none"> • keep the local community and relevant agencies informed about the construction, operation and environmental performance of the project; • receive, handle, respond to, and record complaints; • resolve any disputes that may arise during the life of the project; • respond to any non-compliance; • manage cumulative impacts; and • respond to emergencies; and <p>(e) describe the role, responsibility, authority, and accountability of the key personnel involved in the environmental management of the project.</p>	Environmental Management Strategy	<p>Partially Compliant A detailed review of the EMS explaining the finding is provided in section 6.2.</p> <p>Opportunity for improvement PQ 11/15 Update document to acknowledge EPL and all applicable requirements including the protocol for reporting exceedances.</p> <p>When EMS is due for renewal/review, ensure formal approval from Director-General is received.</p>
Environmental Monitoring Program				
	2	<p>The Proponent shall prepare an Environmental Monitoring Program for the project to the satisfaction of the Director-General. This program must be submitted to the Director-General prior to the commencement of construction, and consolidate the various monitoring requirements in Schedule 3 of this approval into a single document.</p>	Environmental Monitoring Program Correspondence with DG	<p>Compliant - A detailed review of the EMP explaining the finding is provided in section 6.2</p>

Issue	Condition Number	Condition	Evidence sources / questions	Audit finding
Incident Reporting				
	3	<p>Within 7 days of detecting an exceedance of the goals/limits/performance criteria in this approval or an incident causing (or threatening to cause) material harm to the environment, the Proponent shall report the exceedance/incident to the Department and any relevant agencies. This report must:</p> <p>(a) describe the date, time, and nature of the exceedance/incident;</p> <p>(b) identify the cause (or likely cause) of the exceedance/incident;</p> <p>(c) describe what action has been taken to date; and</p> <p>(d) describe the proposed measures to address the exceedance/incident.</p>	<p>Incident Reporting</p> <p>Correspondence with Dept</p>	<p>Partially Compliant</p> <p>Boral has successfully reported the majority of exceedances to the Department. Of the exceedances successfully reported, Boral was repeatedly unable to meet the 7-day deadline for reporting the exceedance/incident. The 19 January 2012 and 6 February 2012 PM10 exceedance was not reported until 21 February 2012; the 1 March 2012 environmental discharge was not reported until 9 March 2012; and the 13 March 2012 PM10 exceedance was not reported until 18 June 2012.</p> <p>Opportunity for improvement PQ 12/15</p> <p>It is recommended that Boral ensures the deadline of reporting an exceedance/incident to the Department and relevant agencies is met.</p>
Annual Review				
	4	<p>By the end of March each year, the Proponent shall prepare and submit a review of the environmental performance of the project to the satisfaction of the Director-General. This review must:</p> <p>(a) describe the development that was carried out in the previous calendar year, and the development that is proposed to be carried out over the next year;</p> <p>(b) include a comprehensive review of the monitoring results and complaints records of the project over the previous calendar year, which includes a comparison of these results against the</p> <ul style="list-style-type: none"> · the relevant statutory requirements, limits or performance measures/criteria; · the monitoring results of previous years; and · the relevant predictions in the EA; <p>(c) identify any non-compliance over the last 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 project;</p> <p>(e) identify any discrepancies between the predicted and actual impacts of the project, and analyse the potential cause of any significant discrepancies; and</p> <p>(f) describe what measures will be implemented over the next year to improve the environmental performance of the project.</p>	<p>2013-2015 AEMRs</p>	<p>Compliant</p> <p>While the 2013 and 2014 AEMRs were overdue, Boral issued the AEMRs for 2013 and 2014 in October 2016. Boral issued the 2015 AEMR in July 2016 and plans are already in place to ensure 2016 will be on time.</p> <p>Opportunity for improvement PQ 13/15</p> <p>It is suggested Boral create a schedule with an internal deadline at least one month prior to the deadline to the Director-General to ensure all future Annual Review deadlines are met.</p>

Issue	Condition Number	Condition	Evidence sources / questions	Audit finding
Independent Environmental Audit				
	5	<p>Within 3 years of the date of the commencement of construction, and every 5 years thereafter, unless the Director-General directs otherwise, the Proponent shall commission and pay the full cost of an Independent Environmental Audit of the project. This audit must:</p> <ul style="list-style-type: none"> (a) be conducted by a suitably qualified, experienced, and independent person(s) whose appointment has been approved by the Director-General; (b) include consultation with the relevant agencies; (c) assess the environmental performance of the project, and its effects on the surrounding environment; (d) assess whether the project is complying with the relevant standards, performance measures and statutory requirements; (e) review the adequacy of any strategy/plan/program required under this approval; and, if necessary, (f) recommend measures or actions to improve the environmental performance of the project, and/or any strategy/plan/program required under this approval. 	Copies of audit reports	<p>Compliant</p> <p>Construction at the site commenced June 2012 therefore Boral was required to commission an Independent Audit no later than June 2015. This audit constitutes the June 2015 audit and based on the conditions of consent, Boral will be required to commission the next audit by June 2020.</p> <p>Boral advises a schedule has been created highlighting all future audit deadlines in the Boral eAM system</p>
	6	<p>Within 1 month of completion of each Independent Environmental Audit, the Proponent shall submit a copy of the audit report to the Director-General and relevant agencies, with a response to any of the recommendations in the audit report.</p>	<p>Status of implementation of recommendations</p> <p>Correspondence with DoP</p>	<p>N/A - Not yet triggered</p>
Revision of Strategies, Plans and Programs				
	7	<p>Within 3 months of:</p> <ul style="list-style-type: none"> • the submission of an incident report under condition 3 above; • the submission of an annual review under condition 4 above; • the submission of an audit report under condition 5 above; or • any modification to the conditions of this approval, (unless the conditions require otherwise), the Proponent shall review, and if necessary revise, the strategies, plans, and programs required under this approval to the satisfaction of the Director-General. 	Reviews of strategies, plans and programs	<p>Partially Compliant</p> <p>Boral reviewed and revised the project's AQMP, LRMP, NBMP and CTMP in response to modification 3 of the conditions of approval. Reviews and any necessary revisions were not completed subsequent to the submission of the incident reports under condition 3.</p> <p>Opportunity for improvement PQ 14/15</p> <p>It is recommended Boral completes the reviews and any necessary revisions of the incident reports completed in 2015 and maintain this documentation in the future.</p>

Issue	Condition Number	Condition	Evidence sources / questions	Audit finding
Community Consultative Committee				
	8	<p>Prior to the commencement of construction, the Proponent shall establish a Community Consultative Committee (CCC) for the project. The CCC shall:</p> <ul style="list-style-type: none"> (a) be comprised of: <ul style="list-style-type: none"> • 2 representatives from the Proponent, including the person responsible for environmental management at the quarry; • 1 representative from Council (if available); and • at least 3 representatives from the local community, whose appointment has been approved by the Director-General; (b) be chaired by an independent chairperson, whose appointment has been approved by the Director-General; (c) meet at least twice a year; (d) review the Proponent's performance with respect to environmental management and community relations; (e) undertake regular inspections of the quarry operations; (f) review community concerns or complaints about the quarry operations, and the Proponent's complaints handling procedures; and (g) provide advice to: <ul style="list-style-type: none"> • the Proponent on improved environmental management and community relations, including the provision of information to the community and the identification of community initiatives to which the Proponent could contribute; • the Department regarding the conditions of this approval; and • the general community on the performance of the quarry with respect to environmental management and community relations. 	<p>Function, memberships, meeting frequency of the CCC DG approval of local community representatives Presentations from meetings Copy of minutes</p>	<p>Compliant - The composition of the CCC is in accordance with this condition and has been approved by the DG. The meetings are held at least twice a year and chaired by an independent chairperson. The meetings are run in accordance with the requirements of this condition.</p>
	9	<p>At its own expense, the Proponent shall:</p> <ul style="list-style-type: none"> (a) ensure that 2 of its representatives attend CCC meetings; (b) provide the CCC with regular information on the environmental performance and management of the project; (c) provide meeting facilities for the CCC; (d) arrange site inspections for the CCC, if necessary; (e) take minutes of the CCC meetings; (f) make these minutes available to the public; (g) respond to any advice or recommendations the CCC may have in relation to the environmental management or community relations; and (h) forward a copy of the minutes of each CCC meeting, including a response to any recommendations from the CCC, to the Director-General within a month of the CCC meeting. 	<p>Copy of minutes Presentations from meetings Responses to advice/recommendations if applicable Email to DG containing copy of minutes from CCC meeting</p>	<p>Compliant (Compliance will be updated if evidence that CCC meeting minutes have been forwarded to DG is provided) The CCC are provided with regular information on the environmental performance and management of the project in presentations shown at every meeting. The CCC minutes are made available regularly on the Peppertree website.</p>

Issue	Condition Number	Condition	Evidence sources / questions	Audit finding
	10	<p>By 31 January 2012, the Proponent shall:</p> <p>(a) make copies of the following publicly available on its website:</p> <ul style="list-style-type: none"> · the documents referred to in condition 2 of schedule 2; · all current statutory approvals for the project; · all approved strategies, plans and programs required under the conditions of this approval; · the monitoring results of the project, reported in accordance with the specifications in any conditions of this approval, or any approved plans and programs; · a complaints register, updated on a monthly basis; · minutes of CCC meetings; · the annual reviews of the project; · any independent environmental audit of the project, and the Proponent's response to the recommendations in any audit; · any other matter required by the Director-General; and <p>(b) keep this information up-to-date, to the satisfaction of the Director-General.</p>	Evidence on website	<p>Partially Compliant Boral has made publicly available all documents detailed in this condition however not all documents on the website are up to date including:</p> <ul style="list-style-type: none"> - CCC meeting minutes - most recent on website are from November 2014 - The Aboriginal Heritage Management Plan - a more recent version exists than is provided on the website - The complaints register -- it is required to be updated monthly, however the most recent version is October 2013. <p>Opportunity for improvement PQ 15/15 Boral could make documents available on the website more regularly and ensure the documents on the website are up to date with the latest version. (Boral advises current update documents have been provided to update the website)</p>
	13	<i>(Deleted)</i>		

5 COMPLIANCE WITH THE ENVIRONMENTAL PROTECTION LICENCE

The purpose of this section is to assess compliance with the relevant requirements of the Environment Protection Licence (EPL). Environment Protection Licence information was sourced from the NSW Environment Protection (EPA) website (<http://www.epa.nsw.gov.au/prpoeoapp/Detail.aspx?instid=13088&id=13088&option=licence&searchrange=licence&range=POEO licence&prp=no&status=Issued> accessed 10 October 2015). Boral Peppertree Quarry operates under Environment Protection Licence (EPL) No.13088, which was created following a POEO Licence transfer application received on the 14/02/2011. Since its issue the EPL has been subject to one variation, with the current licence presented in Appendix D. For the purpose of this audit, EPL compliance was assessed for the period 23 July 2010/2011 to 23 July 2014 – 22 July 2015 (six annual return periods).

5.1 Environmental Protection Licence Compliance

Non-compliances associated with EPL annual returns for the Peppertree Quarry are presented in Table 7. Since 2010/2011 41 non-compliances have been recorded across a range of licence conditions. None resulted in the issue of a penalty notice. Most of the non-compliances relate to deficiencies in monitoring and reporting, rather than exceedance of limits. However, it should be noted that in the absence of monitoring, potential exceedances may not be detected.

In all instances, Boral has taken appropriate action to mitigate non-compliance issues, as requested by EPA.

Table 7 - Non-compliances associated with EPL annual returns

Annual return start and end dates	Date received	Licence Condition number	Type of non-compliance	EPA actions	No. of times
23 Jul 2014 – 22 Jul 2015	23 Sep 2015	M2.1	12 samples not obtained as per required sampling. Failure of mother board of the HVAS unit. No adverse effects. Regular Maintenance of unit to be undertaken. Monitoring point 2 - HVAS for PM10.	Appropriate Action taken by licensee	12
		M2.1	1 sample not obtained as required sampling frequency for TSP Monitoring Point 1. Error in operation of machine. No adverse effects. Regular calibration undertaken by Thomson Environmental.	Appropriate Action taken by licensee	1
23 Jul 2013-22 Jul 2014	18 Sep 2014	M2.1	Five PM10 (of required 60) and three TSP (of required 60) samples not obtained due to: errors in setup and operation of machine, data loss during calibration and	Appropriate Action taken by licensee	8

Annual return start and end dates	Date received	Licence Condition number	Type of non-compliance	EPA actions	No. of times
			failure to operate for 24 hrs.		
23 Jul 2012-22 Jul 2013	18 Sep 2013	M2.1	Not all samples collected due to equipment failure. Regular calibration undertaken.	Appropriate Action taken by licensee	1
		P1.1	Administrative non-compliance as current management plans are dated August 2012 due to an oversight in change of management plans and notification to vary licence. Notification paragraph included in management plan documents as reminder.	Appropriate Action taken by licensee	1
		P1.1	Dust Deposition Gauge D2 not located as per 'Air Monitoring Equipment locations' due to resident refusing to have monitoring equipment on premises. Gauge is located on adjacent Boral owned property.	Appropriate Action taken by licensee	1
23 Jul 2011-22 Jul 2012	19 Sep 2012	L1.1	Compacted engineering fill and sediment discharged to tributary of Tangyrang Creek due to high rainfall and failure of dam wall. Dam wall rebuilt/overflow completed. Additional basin constructed. Rehabilitation plan prepared.	Appropriate Action taken by licensee	3
		M2.1	Not all sampling undertaken due to machine malfunction from incorrect calibration, power outage, failure of blower and smashed sample bottle. No adverse effects. Regular calibration undertaken. Deposition gauge weighted to prevent tipping.	Appropriate Action taken by licensee	11
23 Jul 2010-22 Jul 2011	21 Sep 2011	M2	Sampling required once a month, totalling 12 over the licence period. Eleven samples obtained. Results not available for the month	Appropriate Action taken by licensee	1

Annual return start and end dates	Date received	Licence Condition number	Type of non-compliance	EPA actions	No. of times
			of April 2011 as bottle knocked over by cattle. Area now fenced. Quarry was not operational until July 2011.		
23 Jul 2009-22 Jul 2010	21 Sep 2010	L6.1	The loading of trucks with blasted rock during adverse wind conditions is believed to have enhanced the noise levels at received 1, noise limit was exceeded. Procedures implemented to prevent a recurrence.	Appropriate Action taken by licensee	1
		R2.2	The noise exceedance was not reported within 7 days due to the noise consultant failing to report the event to Boral. Boral notified DECCW in a written report within 4 days of becoming aware. Actions in incident report been implemented.	Administrative non-compliance - licensee advised of required action	1

6 ADEQUACY OF STRATEGIES, PLANS AND PROGRAMS

The purpose of this section is to review the adequacy of strategies, plans and programs prepared under the development consent and approvals, and recommend measures or actions to improve the quality of these operational documents, with the overall aim of improving environmental performance and outcomes.

6.1 Criteria for Assessing Adequacy

The criteria below were considered in assessing the adequacy of strategies, plans and programs.

- Compliance with consent requirements: how the document has met the requirements specified in the consent condition.
- Clear objectives, defined actions and performance criteria: it is necessary to have a clear picture of what a plan aims to achieve (outcomes), the actions required to achieve the outcome and how progress towards objectives is measured.
- Allocation of responsibilities and accountabilities: the effectiveness of plans and strategies often hinges on defining clear responsibilities and accountabilities for their implementation.
- Alignment and integration between plans: as the management of many environmental parameters are linked it is essential that these be referenced between plans to enable identification of the broader strategic environmental management processes on-site.

6.2 Strategy, Plan and Program Review and Revision

Schedule 5, condition 7 states: Within 3 months of:

- the submission of an incident report under condition 3 above;
- the submission of an annual review under condition 4 above;
- the submission of an audit report under condition 5 above; or
- any modification to the conditions of this approval, (unless the conditions require otherwise), the Proponent shall review, and if necessary revise, the strategies, plans, and programs required under this approval to the satisfaction of the Director-General.

Overall, the level of compliance with the required review schedule of plans and strategies is fairly low however Boral's environmental performance and implementation of the strategies, plans and programs is considered to be high.

Strategy, Plans and Programs	Condition	Review of Findings	Recommendation
Noise and Blast Management Plan	<p>3(10) The Proponent shall prepare and implement a Noise Management Plan for the project to the satisfaction of the Director-General. This plan must be prepared in consultation with EPA and submitted to the Director-General for approval by the end of March 2012, and must:</p> <p>(a) describe the measures that would be implemented to ensure compliance with the relevant conditions of this approval;</p> <p>(b) describe the noise management system;</p> <p>(c) include a noise monitoring program that:</p> <ul style="list-style-type: none"> · supports the noise management system; · provides information to evaluate the performance of the project; · includes a protocol for determining exceedances of relevant conditions of this approval; and · provides for the use of real-time and/or supplementary attended monitoring measures, if directed by the Director-General; <p>(d) include a community notification protocol for the proposed construction activities; and</p> <p>(e) detail who would be responsible for monitoring, reviewing and implementing the plan.</p> <p>3(16) The Proponent shall prepare and implement a Blast Monitoring Program for the project to the satisfaction of the Director-General. This program must:</p> <p>(a) be submitted to the Director-General for approval prior to the commencement of construction;</p> <p>(b) be prepared in consultation with the EPA; and</p> <p>(c) monitor the performance of the project against the relevant blasting criteria.</p>	<p>Compliant</p> <p>The initial NBMP was prepared in April of 2012 by ERM and revised in line with the November 2011 Modification. The NBMP has been developed in compliance with the condition and adequately addresses all assessment criteria.</p>	<p>nil</p>

Strategy, Plans and Programs	Condition	Review of Findings	Recommendation
Air Quality Management Plan	<p>3(20) The Proponent shall prepare and implement a detailed Air Quality Management Plan for the project to the satisfaction of the Director-General. This plan must:</p> <p>(a) be prepared in consultation with EPA and submitted to the Director-General by the end of March 2012;</p> <p>(b) describe the measures that would need to be implemented to ensure compliance with the relevant conditions of this approval;</p> <p>(c) include a program for the implementation of the measures referred to in (b) above; and</p> <p>(d) include an air quality monitoring program that:</p> <ul style="list-style-type: none"> · uses a combination of high volume samplers and dust deposition gauges to evaluate the performance of the project; · supports the air quality management system; · provides information to evaluate the performance of the project; · includes a protocol for determining exceedances of relevant conditions of this approval; and · provides for the use of real-time monitoring measures, if directed by the Director-General. 	<p>Compliant</p> <p>The initial AQMP was created in November 2011 by ERM. A revision was made in August 2012 and posted on the Boral website. Boral has taken proactive measures in improving air quality onsite. The AQMP has been developed in compliance with the condition and adequately addresses all assessment criteria.</p>	<p>nil</p>
Water Management Plan	<p>3 (26) The Proponent shall prepare and implement a Water Management Plan for the project to the satisfaction of the Director-General. This plan must:</p> <p>(a) be submitted to the Director-General for approval prior to the commencement of construction;</p> <p>(b) be prepared in consultation with the NOW, EPA and Sydney Catchment Authority; and</p> <p>(c) include a:</p> <ul style="list-style-type: none"> • Site Water Balance; 	<p>Partially Compliant</p> <p>No evidence there has been consultation with NOW, EPA and Sydney Catchment Authority</p> <p>All necessary documents are included in the Water Management Plan. Drilling and monitoring bore construction was undertaken by Statewide Drilling</p>	<p>A copy of the WMP should be submitted to NOW, EPA and Sydney Catchment Authority for review and comment.</p>

Strategy, Plans and Programs	Condition	Review of Findings	Recommendation
	<ul style="list-style-type: none"> • Erosion and Sediment Control Plan; • Surface Water Monitoring Program; • Ground Water Monitoring Program; and • Surface and Ground Water Response Plan to address any potential adverse impacts associated with the project. 	<p>between 19 August and 8 October 2015). An RPS hydrogeoloist was present during the drilling. 12 monitoring bores were successfully installed.</p>	
<p>Erosions and Sediment Control Plan</p>	<p>3(28) The Erosion and Sediment Control Plan shall:</p> <p>(a) be consistent with the requirements of Managing Urban Stormwater: Soils and Construction, Volume 1, 4th Edition, 2004 (Landcom);</p> <p>(b) identify activities that could cause soil erosion and generate sediment;</p> <p>(c) describe measures to minimise soil erosion and the potential for the transport of sediment to downstream waters;</p> <p>(d) describe the location, function, and capacity of erosion and sediment control structures; and</p> <p>(e) describe what measures would be implemented to maintain (and if necessary decommission) the structures over time.</p>	<p>Partially Compliant</p> <p>The Plan was developed in January 2011 and is included in Section 4 of the WMP.</p> <p>The ESCP is broadly in compliance with this condition although it does not address the following requirements identified in the blue book including:</p> <ul style="list-style-type: none"> – a site layout map detailing the location of the best management practices (BMPs) for erosion and sediment control, as well as other aspects of the site including drainage patterns, vegetation, etc. – Site rehabilitation proposals, including schedules – Information on how the various soil conservation 	<p>The ESCP should be revised to address the requirements of the Blue Book.</p>

Strategy, Plans and Programs	Condition	Review of Findings	Recommendation
		measures will be carried out including timing	
Surface Water Monitoring Program	<p>3(29) The Surface Water Monitoring Program shall include:</p> <p>(a) detailed baseline data on surface water flows and quality in Tangarang Creek and Barbers Creek;</p> <p>(b) surface water impact assessment criteria;</p> <p>(c) a program to monitor surface water flows and quality;</p> <p>(d) a protocol for the investigation of identified exceedances of the surface water impact assessment criteria; and</p> <p>(e) a program to monitor the effectiveness of the Erosion and Sediment Control Plan.</p>	<p>Partially Compliant</p> <p>The SWMP was developed in January 2011 and is included in section 6 of the WMP. As per the SWMP, surface water monitoring results are collected on a quarterly basis. As the SWMP was developed prior to the operation of the site it does not include any baseline data.</p>	<p>When the SWMP is due for revision, baseline data on surface water flows and quality in Tangarang Creek and Barkers Creek will need to be included.</p>
Ground Water Monitoring Program	<p>3(30) The Ground Water Monitoring Program shall include:</p> <p>(a) detailed baseline data on ground water levels, flows, and quality, based on statistical analysis;</p> <p>(b) groundwater impact assessment criteria for monitoring bores;</p> <p>(c) a program to monitor regional ground water levels and quality; and</p> <p>(d) a protocol for the investigation of identified exceedances of the ground water impact assessment criteria.</p>	<p>Compliant</p> <p>The GWMP was developed in January 2011 and is included in Section 6 of the WMP. Ground water monitoring results are collected on a quarterly basis. It has been developed in compliance with the condition and adequately addresses all assessment criteria.</p>	<p>nil</p>
Aboriginal Heritage Management Plan	<p>3(32) The Proponent shall prepare and implement an Aboriginal Heritage Management Plan for the project to the satisfaction of the Director-General. This plan must:</p>	<p>Compliant</p> <p>Boral commissioned ERM to create a detailed AHMP</p>	<p>Ensure website is updated and easily accessible e.g. current version of AHMP</p>

Strategy, Plans and Programs	Condition	Review of Findings	Recommendation
	<p>(a) be submitted to the Director-General for approval prior to the commencement of construction;</p> <p>(b) be prepared in consultation with the OEH and relevant Aboriginal communities; and</p> <p>(c) include a:</p> <ul style="list-style-type: none"> • description of the measures that would be implemented for the mapping, and salvage or relocation of the archaeological relics in the Tangarang Creek Dam 1 area; • description of the measures that would be implemented if any new Aboriginal objects or relics are discovered during the project; and • protocol for the ongoing consultation and involvement of the Aboriginal communities in the conservation and management of Aboriginal cultural heritage on the site. 	<p>(completed January 2011). The AHMP was reviewed and updated by ERM in October 2013. The Peppertree AHMP Ref: 0118026RP04 dated January 2011 is on the Boral website however it is not the latest version.</p> <p>Ongoing indigenous artefact salvage has been occurring since 2012 across areas of the quarry as topsoil is stripped. Boral engaged archeologists from EMGA Mitchell McLennan Pty Ltd (EMM) to provide advice for Aboriginal heritage matters at the quarry. EMM is brought to site when required for significant finds.</p>	
Landscape and Rehabilitation Management Plan	<p>3(34) The Proponent shall prepare and implement a Landscape and Rehabilitation Management Plan for the project to the satisfaction of the Director-General. This plan must:</p> <p>(a) be submitted to the Director-General for approval prior to the commencement of construction;</p> <p>(b) be prepared in consultation with the OEH and Council;</p> <p>(c) describe in general the short, medium, and long-term measures that would be implemented to:</p> <ul style="list-style-type: none"> • rehabilitate the site; 	<p>Partially Compliant</p> <p>Boral commissioned ERM to prepare a Landscape and LRMP (completed August 2012). Preclearance surveys have been undertaken by ERM. Boral successfully implements the LRMP and undertakes annual reviews of the rehabilitation management actions however</p>	<p>When the LRMP is due for revision, it will need to provide greater clarity on the short, medium and long term rehabilitation measures. The monitoring performance of these measures will need to be defined as well as the completion criteria.</p>

Strategy, Plans and Programs	Condition	Review of Findings	Recommendation
	<ul style="list-style-type: none"> • implement the Habitat Management Area; • manage the remnant vegetation and habitat on the site; and • landscape the site (including the bunds and overburden emplacement areas) to mitigate any visual impacts of the project; <p>(d) describe in detail the measures that would be implemented over the next 5 years to rehabilitate and manage the landscape on the site;</p> <p>(e) describe how the performance of these measures would be monitored over time; and</p> <p>(f) set completion criteria for the rehabilitation of the site.</p>	<p>certain requirements of this condition have not been met. The LRMP includes management actions but does not clearly describe the general short, medium and long-term rehabilitation measures for the site, how these measures will be monitoring over time or the completion criteria for the site.</p>	
Environmental Management Strategy	<p>5(1) The Proponent shall prepare and implement an Environmental Management Strategy for the project to the satisfaction of the Director-General. This strategy must be submitted to the Director-General for approval prior to the commencement of construction, and:</p> <p>(a) provide the strategic context for environmental management of the project;</p> <p>(b) identify the statutory requirements that apply to the project;</p> <p>(c) describe in general how the environmental performance of the project would be monitored and managed;</p> <p>(d) describe the procedures that would be implemented to:</p> <ul style="list-style-type: none"> • • keep the local community and relevant agencies informed about the construction, operation and environmental performance of the project; • • receive, handle, respond to, and record complaints; • • resolve any disputes that may arise during the life of the project; • • respond to any non-compliance; 	<p>Partially Compliant</p> <p>An Environmental Management Strategy was prepared in Dec 2010. This document broadly fulfils most requirements of this condition. The document was sent to members of the CCC for review and was issued to the Director-General for approval. However, no evidence of Director-General approval could be provided. The document does not make reference to the EPL or any requirements arising from it.</p>	<p>Update document to acknowledge EPL and all applicable requirements including the protocol for reporting exceedances.</p> <p>When document is due for renewal/review, ensure formal approval from Director-General is received.</p>

Strategy, Plans and Programs	Condition	Review of Findings	Recommendation
	<ul style="list-style-type: none"> • • manage cumulative impacts; and • • respond to emergencies; and <p>(e) describe the role, responsibility, authority, and accountability of the key personnel involved in the environmental management of the project."</p>		
Environmental Monitoring Program	5(2) The Proponent shall prepare an Environmental Monitoring Program for the project to the satisfaction of the DG. This program must be submitted to the DG prior to the commencement of construction, and consolidate the various monitoring requirements in Sch 3 of this approval into a single document.	<p>Compliant</p> <p>The Environmental Monitoring Program was prepared in January 2011. All the monitoring requirements are addressed and they are referenced in the EMP (2011).</p>	nil

7 AUDIT CONCLUSIONS

7.1 Compliance Assessment

7.1.1 Conditions of Consent

A total of the 11 of the 60 applicable conditions of the consent were found to be non-compliant (1) or compliant in part (10). The root cause of a number of deficiencies relate to inadequacies in record keeping and management of correspondence, document control and equipment failure. A number of the non-compliant/partial compliant conditions were also found to be non-compliant in the 2015 DP&E Audit, and would have been mitigated if the recommendations from the previous audit had been implemented in full.

In general, the non-compliances posing the greatest risk are those relating to monitoring, as the key purpose of monitoring is to promote early detection of problems and subsequently implement mitigation and management strategies.

7.2 Environmental Performance Licence

Since 2010/2011, there have been 41 non-compliances recorded across a range of EPL conditions. Most of the non-compliances relate to deficiencies in monitoring and reporting and are administrative by nature, rather than exceedances of limits. However, it should be noted that in the absence of monitoring, potential exceedances may not be identified.

7.3 Adequacies of Strategies, Plans and Programs

Half of the plans, strategies and programs developed in response to the conditions of consent were found to be lacking, either in terms of meeting the requirements of the relevant condition. This is primarily due to the plans and strategies being developed prior to operation and not reflecting current operation of the site. In general, operational strategies, plans and programs should apply the following format:

- Document control – amendments and authorisation
- Introduction - background, purpose and objectives, relationship to other documents
- Environmental and legal requirements – CoA including section references to where they are addressed in the document, legislation and standards
- Roles and responsibilities – induction and training
- Implementation – environmental aspects and impacts, controls, targets, actions
- Monitoring – inspection and surveillance, non-conformance and corrective action, review and improvement, record keeping
- Reporting – internal and external.

The overall structure of the environmental management documentation is not logical or consistent, and as a result the purpose of documentation unclear. Inclusion of a section with the CoA and where they are addressed in the document will ensure that the plans, strategies and programs meet the requirements.

7.4 Opportunities for Improvement

The following table summarises the opportunities for improvement (recommendations), in terms of performance and compliance, arising from this audit.

Table 8 - Summary of Opportunities for Improvement

No.	Consent condition/ issue	Recommendation
PQ 1/15	Sched 2, C 12 Operations of Plant and Equipment	When management plans or monitoring programs are due for renewal/review, ensure formal approval from DP&E is received.
PQ 2/15	Sched 3, C 23 Surface and Groundwater	Review design of dam to determine if additional retention basin is required.
PQ 3/15	Sched 3, C 26 Surface and Groundwater	A copy of the WMP should be submitted to NOW, EPA and Sydney Catchment Authority for review and comment.
PQ 4/15	Sched 3, 28 Surface and Groundwater	The ESCP should be revised to address the requirements of the Blue Book.
PQ 5/15	Sched 3, 29 Surface and Groundwater	When the SWMP is due for revision, baseline data on surface water flows and quality in Tangarang Creek and Barkers Creek will need to be included.
PQ 6/15	Sched 3, C 32 Aboriginal Heritage	Ensure Peppertree Quarry website is updated and easily accessible
PQ 7/15	Sched 3, C 34	When the LRMP is due for revision, it will need to provide greater clarity on the short, medium and long term rehabilitation measures. The monitoring performance of these measures will need to be defined as well as the completion criteria.
PQ 8/15	Sched 3, C 37 Visual Impact	Implement recommendations of Compliance Lighting Audit including: <ul style="list-style-type: none"> • adjust lighting fixers on the side of buildings to ensure the main beam angle is kept below 70 degrees as recommended in AS 4282; • review the type of permanent night lighting used. HPS lamps emit a softer orange light than the intense white light of the metal halide. • reduce height of fixed lighting structures on buildings as much as possible to reduce light spill and skyglow; • consider formalising a protocol for use of lighting at the Quarry that is considered appropriate for safety and occurs routinely; • investigate options to turn off lighting sources in areas of low use; and

No.	Consent condition/ issue	Recommendation
		<ul style="list-style-type: none"> if complaints are received in relation to the Quarry these recommendations should be revisited."
PQ 9/15	Sched 3, C 41 Waste Management	It is recommended Boral implement and monitor waste minimisation strategies to determine further areas of improvement. The monthly invoices provided by Remondis could be used to track the amount of waste produced by Boral. The identified areas of improvement should be discussed in the Annual Review. It is also suggested that more detail be included in the waste management review in the Annual Review including assessment of waste management and minimisation actions undertaken by Boral.
PQ 10/15	Sched 3, C 43 Emergency and Hazards Management	Ensure all oil/lubricant products are stored appropriately with self-contained bunding.
PQ 11/15	Sched 5, C 1 Environmental Management Strategy	<p>Update document to acknowledge EPL and all applicable requirements including the protocol for reporting exceedances.</p> <p>When EMS is due for renewal/review, ensure formal approval from Director-General is received.</p>
PQ 12/15	Sched 5, C 3 Incident Reporting	It is recommended that Boral ensures the deadline of reporting an exceedance/incident to the Department and relevant agencies is met.
PQ 13/15	Sched 5, C 4 Annual Reviews	It is recommended that Boral complete and submit all outstanding Annual Reviews. As per the requirements of the condition, all future Annual Reviews will need to be completed by March of the following year. It is suggested Boral create a schedule with an internal deadline at least one month prior to the deadline to the Director-General to ensure all future Annual Review deadlines are met.
PQ 14/15	Sched 5, C 7 Revision of Strategies, Plans and Programs	It is recommended Boral completes the reviews and any necessary revisions of the incident reports completed in 2015 and maintain this documentation in the future.
PQ 15/15	Sched 5, C 10 Community Consultative Committee	Boral could make documents available on the website more regularly and ensure the documents on the website are up to date with the latest version.

APPENDIX A

Development Consent (Modification 3)

Project Approval

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

I, the Minister for Planning approve the project referred to in schedule 1, subject to the conditions set out in schedules 2 to 5.

The reason for these conditions is to:

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

Frank Sartor MP
Minister for Planning

Sydney

2007

File No. 9040608

SCHEDULE 1

Project Application:	06_0074
Proponent:	Boral Resources (NSW) Pty Ltd
Approval Authority:	Minister for Planning
Land:	See Appendix 1
Project:	Marulan South hard rock quarry and associated infrastructure

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Red type represents March 2009 Modification
Blue type represents November 2011 Modification
Green type represents October 2012 Modification

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DEFINITIONS

Annual Review	The review required by condition 4 of schedule 5
BCA	Building Code of Australia
CCC	Community Consultative Committee
Council	Goulburn Mulwaree Council
Day	Day is defined as the period from 7.00am to 6.00pm, Monday to Saturday and 8.00am to 6.00pm Sundays and Public Holidays
Department	Department of Planning and Infrastructure
Director-General	Director-General of the Department (or nominee)
DPI	Department of Primary Industries
EA	Environmental Assessment for the project titled <i>Marulan South Quarry Environmental Assessment Report</i> Volumes 1 and 2 dated October 2006 prepared by ERM
EPA	NSW Environment Protection Authority
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EP&A Regulation	<i>Environmental Planning and Assessment Regulation 2000</i>
EPL	Environment Protection Licence under the <i>Protection of the Environment Operations Act 1997</i>
Evening	Evening is defined as the period from 6.00pm to 10.00pm
Land	Land means the whole of a lot, or contiguous lots owned by the same landowner, in a current plan registered at the Land Titles Office at the date of this approval
Night	Night is defined as the period from 10.00pm to 7.00am Monday to Saturday and 10.00pm to 8.00am Sundays and Public Holidays
Noise Bund	Bunds built for noise and visual mitigation purposes and which do not exceed 10 metres in height
NOW	NSW Office of Water, within the Department of Primary Industries
OEH	Office of Environment and Heritage
Project	Development to which the Project Approval applies
Proponent	Boral Resources (NSW) Pty Ltd
RMS	Roads and Maritime Services
Site	Land to which the Project Approval applies (see Appendix 1)
Submissions Report	<i>Marulan South Quarry Submissions Report</i> dated December 2006

SCHEDULE 2 ADMINISTRATIVE CONDITIONS

Obligation to Minimise Harm to the Environment

1. The Proponent shall implement all practicable measures to prevent or minimise any harm to the environment that may result from the construction, operation, or rehabilitation of the project.

Terms of Approval

2. The Proponent shall carry out the project generally in accordance with the:
 - (a) EA;
 - (b) submissions report;
 - (c) modification application 06_0074 – MOD 1 and accompanying Statement of Environmental Effects entitled *Marulan South Quarry Statement of Environmental Effects for a Pre-commencement Exploratory Test Pit* dated 13 November 2008, and letter from Boral Resources Pty Ltd to the Department dated 13 February 2009;
 - (d) modification application 06_0074 – MOD 2 and the accompanying EA titled *Boral Peppertree Quarry Section 75W Modification Report*, dated June 2011, prepared by ERM Australia, and the responses to issues raised in submissions, including those titled *Peppertree Quarry Submissions Report*, dated 24 August 2011, *Response to OEH Submission*, dated 12 October 2011, and *Response to Armit Submission*, dated 25 October 2011;
 - (e) modification application 06_0074 – MOD 3 and the accompanying EA titled *Peppertree Quarry Modification 3 Environmental Assessment*, dated August 2012, prepared by EMGA Mitchell McLennan Pty Limited, and the responses to issues raised in submissions titled *Response to Submissions Peppertree Quarry Modification 3*, dated 3 October 2012; and
 - (f) conditions of this approval.

Note: The general layout of the project is shown in the figure in Appendix 2.

3. If there is any inconsistency between the above, either the most recent document or the conditions of this approval shall prevail to the extent of the inconsistency.
4. The Proponent shall comply with any reasonable requirement/s of the Director-General arising from the Department's assessment of:
 - (a) any reports, plans, programs or correspondence that are submitted in accordance with this approval; and
 - (b) the implementation of any actions or measures contained in these reports, plans, programs or correspondence.
- 4A. The proponent shall be permitted to undertake pre-construction exploratory test pit activities as described in modification application 06_0074 MOD 1.

Note: The commencement of test pit activities as described in modification application 06_0074 MOD 1 is not subject to the preparation of management plans.

Limits on Approval

5. This approval shall lapse at the end of 2038.
6. The Proponent shall not transport more than 3.5 million tonnes of product from the site in a year.
7. All extractive materials and products shall be transported from the site by rail. However, the Proponent may transport some product by road in an emergency with the written approval of the Director-General.

Structural Adequacy

8. The Proponent shall ensure that all new buildings and structures on the site are constructed in accordance with the relevant requirements of the BCA.

Notes:

- *Under Part 4A of the EP&A Act, the Proponent is required to obtain construction and occupation certificates for any building works.*
- *Part 8 of the EP&A Regulation sets out the detailed requirements for the certification of development.*

Demolition

9. The Proponent shall ensure that all demolition work on site is carried out in accordance with AS 2601-2001: *The Demolition of Structures*, or its latest version.

Protection of Public Infrastructure

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

Operation of Plant and Equipment

11. The Proponent shall ensure that all plant and equipment used at the site is:
 - (a) maintained in a proper and efficient condition; and
 - (b) operated in a proper and efficient condition.
 12. With the approval of the Director-General, the Proponent may prepare and submit any management plan or monitoring program required by this approval on a progressive basis.
-

SCHEDULE 3 ENVIRONMENTAL PERFORMANCE CONDITIONS

GENERAL EXTRACTION AND PROCESSING PROVISIONS

Identification of Boundaries

1. Prior to the commencement of construction, or as otherwise agreed by the Director-General, the Proponent shall:
 - (a) engage an independent registered surveyor to survey the boundaries of the approved limit of extraction;
 - (b) submit a survey plan of these boundaries to the Director-General; and
 - (c) ensure that these boundaries are clearly marked at all times in a permanent manner that allows operating staff and inspecting officers to clearly identify those limits.

Note: The limit of extraction is shown conceptually on the plan in Appendix 2.

NOISE

Construction of Bunds

2. In carrying out the construction of the noise bunds, the Proponent shall:
 - (a) comply with the construction noise criteria in the *Environmental Noise Control Manual 1994* for the first three months of the construction work; and
 - (b) thereafter, comply with the daytime operational noise criteria in condition 4.

Construction Noise Management Plan

3. The Proponent shall prepare and implement a Construction Noise Management Plan for the project to the satisfaction of the Director-General. This plan must be submitted to the Director-General for approval prior to the commencement of construction, and include:
 - (a) a detailed description of the measures that would be implemented to achieve the construction noise limits in the *Environmental Noise Control Manual 1994* and the operational noise criteria in condition 4;
 - (b) a community notification protocol for the proposed construction activities;
 - (c) a description of the measures that would be implemented where the construction noise limits and/or operational noise limits are unlikely to be achieved or are not being achieved; and
 - (d) details of who would be responsible for monitoring, reviewing and implementing the plan.

Operational Noise Impact Assessment Criteria

4. The Proponent shall ensure that the noise generated by the project does not exceed the noise impact assessment criteria in Table 1.

Residential Receiver	Day Shift		Night Shift	
	Day <i>L_{Aeq}(15 minute)</i>	Evening <i>L_{Aeq}(15 minute)</i>	Night	
			<i>L_{Aeq}(15 minute)</i>	<i>L_{A1}(1 minute)</i>
2	39	35	35	45
5	35	35	35	45
6	35	35	35	45
16	41	35	35	45
Any other noise sensitive location	35	35	35	45

Table 1: Noise Impact Assessment Criteria

Notes:

- The identified "Day" noise criteria apply throughout the period of the site's Day Shift (ie 7.00am to 7.00pm) on all days, despite the general definitions of Evening and Night otherwise applying to the approval. The identified "Evening" and "Night" criteria apply only during the period of the site's Night Shift (ie 7.00pm to 7.00am).
- Noise generated by the project is to be measured in accordance with the relevant procedures and exemptions (including certain meteorological conditions) of the NSW Industrial Noise Policy.
- Residential receiver locations are shown in Appendix 2A.

Land Acquisition Criteria

5. If the noise generated by the project exceeds the criteria in Table 2, the Proponent shall, upon receiving a written request for acquisition from the landowner, acquire the land in accordance with the procedures in conditions 6-8 of Schedule 4.

Residential Receiver	Day <i>L_{Aeq}(15 minute)</i>	Evening / Night <i>L_{Aeq}(15 minute)</i>
2	44	44
5	40	40
6	40	40
16	44	44

Table 2: Land Acquisition Criteria

Note: The notes under Table 1 apply equally to Table 2.

Cumulative Noise Criteria

6. The Proponent shall take all reasonable and feasible measures to ensure that the noise generated by the project combined with the noise generated by other extractive industries does not exceed the following amenity criteria on any privately owned land, to the satisfaction of the Director-General:
- *L_{Aeq}(11 hour)* 50 dB(A) – Day;
 - *L_{Aeq}(4 hour)* 45 dB(A) – Evening; and
 - *L_{Aeq}(9 hour)* 40 dB(A) – Night.

Additional Noise Mitigation Measures

7. Upon receiving a written request from the owner of residential receiver 3 (except where a negotiated noise agreement is in place) the Proponent shall implement additional noise mitigation measures such as double glazing, insulation, and/or air conditioning at any residence on the land in consultation with the owner. These additional mitigation measures must be reasonable and feasible. If within 3 months of receiving this request from the landowner, the Proponent and the owner cannot agree on the measures to be implemented, or there is a dispute about the implementation of these measures, then either party may refer the matter to the Director-General for resolution.
8. Within 3 months of this approval, the Proponent shall notify the owner of residential receiver 3 that he/she is eligible for additional noise mitigation measures.

Operating Conditions

9. The Proponent shall:
- (a) implement best practice noise management, including all reasonable and feasible noise mitigation measures to minimise the noise generated by the project;
 - (b) investigate ways to minimise the noise generated by the project;
 - (c) operate a comprehensive noise management system that uses a combination of predictive meteorological forecasting and noise monitoring data to guide the day to day planning of quarrying operations and the implementation of both proactive and reactive noise mitigation measures to ensure compliance with the relevant conditions of this approval;
 - (d) minimise noise impacts during adverse weather conditions; and
 - (e) report on these investigations and the implementation and effectiveness of these measures in the Annual Review,
- to the satisfaction of the Director-General.

Noise Management Plan

10. The Proponent shall prepare and implement a Noise Management Plan for the project to the satisfaction of the Director-General. This plan must be prepared in consultation with EPA and submitted to the Director-General for approval by the end of March 2012, and must:
- (a) describe the measures that would be implemented to ensure compliance with the relevant conditions of this approval;
 - (b) describe the noise management system;
 - (c) include a noise monitoring program that:
 - supports the noise management system;
 - provides information to evaluate the performance of the project;
 - includes a protocol for determining exceedances of relevant conditions of this approval; and
 - provides for the use of real-time and/or supplementary attended monitoring measures, if directed by the Director-General;
 - (d) include a community notification protocol for the proposed construction activities; and

- (e) detail who would be responsible for monitoring, reviewing and implementing the plan.

Hours of Operation

11. The Proponent shall comply with the hours of operation in Table 3.

Activity	Day	Time
Construction works	Monday-Friday	7.00am to 6.00pm
	Saturday	8.00am to 1.00pm
	Sunday and public holidays	None
Topsoil/overburden removal/emplacement	Any day	7.00am to 7.00pm
Blasting	Monday-Saturday	9.00am to 5.00pm
	Sunday and public holidays	None
In-pit activities (including drilling, extraction, processing, and transfer of material out of the pit)	Any day	7.00am to 7.00pm
Out-of-pit activities (including processing, stockpiling, train loading and distribution, and maintenance)	Any day	24 hours

Table 3 – Hours of Operation

BLASTING AND VIBRATION

Airblast Overpressure Criteria

12. The Proponent shall ensure that the airblast overpressure level from blasting at the project does not exceed the criteria in Table 4 at any residence on privately-owned land.

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

Table 4: Airblast Overpressure Impact Assessment Criteria

Ground Vibration Criteria

13. The Proponent shall ensure that the ground vibration level from blasting at the project does not exceed the criteria in Table 5 at any residence or sensitive receiver on privately-owned land.

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

Table 5: Ground Vibration Impact Assessment Criteria for Residences on Privately-owned Land

Operating Conditions

14. The Proponent shall implement best blasting practice to:
- ensure that no flyrock leaves the site;
 - protect the safety of people, property, and livestock; and
 - minimise the dust and fume emissions from blasting on the site, to the satisfaction of the Director-General.

Public Notice

15. The Proponent shall:
- notify the landowner/occupier of any residence within 2 kilometres of the quarry pit who registers an interest in being notified about the blasting schedule on site;
 - operate a blasting hotline, or alternative system agreed to by the Director-General, to enable the public to get up-to-date information on blasting operations at the project; and
 - keep the public informed about this hotline (or any alternative system), to the satisfaction of the Director-General.

Monitoring

16. The Proponent shall prepare and implement a Blast Monitoring Program for the project to the satisfaction of the Director-General. This program must:
- be submitted to the Director-General for approval prior to the commencement of construction;
 - be prepared in consultation with the EPA; and
 - monitor the performance of the project against the relevant blasting criteria.

AIR QUALITY

Air Quality Impact Assessment Criteria

17. The Proponent shall ensure that all reasonable and feasible avoidance and mitigation measures are employed so that particulate matter emissions generated by the project do not exceed the criteria listed in Tables 6, 7 and 8 at any residence on privately owned land, or on more than 25 percent of any privately owned land.

Table 6: Long term impact assessment criteria for particulate matter

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

Table 7: Short term impact assessment criterion for particulate matter

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

Table 8: Long term impact assessment criteria for deposited dust

Pollutant	Averaging period	Maximum increase ² in deposited dust level	Maximum total ¹ deposited dust level
^c Deposited dust	Annual	^b 2 g/m ² /month	^a 4 g/m ² /month

Notes to Tables 6-8

^a Total impact (i.e. incremental increase in concentrations due to the project plus background concentrations due to all other sources);

^b Incremental impact (i.e. incremental increase in concentrations due to the project on its own);

^c 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; and

^d Excludes extraordinary events such as bushfires, prescribed burning, dust storms, sea fog, fire incidents or any other activity agreed by the Director-General.

Land Acquisition Criteria

18. If particulate matter emissions generated by the project exceed the criteria in Tables 9, 10, and 11 at any residence on privately-owned land, or on more than 25 percent of any privately owned land, then upon written request for acquisition from the landowner, the Proponent shall acquire the land in accordance with the procedures in conditions 6-7 of schedule 4.

Table 9: Long term land acquisition criteria for particulate matter

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

Table 10: Short term land acquisition criteria for particulate matter

Pollutant	Averaging period	^{da} Criterion
Particulate matter < 10 µm (PM ₁₀)	24 hour	^a 150 µg/m ³
Particulate matter < 10 µm (PM ₁₀)	24 hour	^b 50 µg/m ³

Table 11: Long term land acquisition criteria for deposited dust

Pollutant	Averaging period	Maximum increase² in deposited dust level	Maximum total¹ deposited dust level
^c Deposited dust	Annual	^b 2 g/m ² /month	^a 4 g/m ² /month

Notes to Tables 9-11

^a Total impact (i.e. incremental increase in concentrations due to the project plus background concentrations due to all other sources);

^b Incremental impact (i.e. incremental increase in concentrations due to the project on its own);

^c 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; and

^d Excludes extraordinary events such as bushfires, prescribed burning, dust storms, sea fog, fire incidents or any other activity agreed by the Director-General.

Operating Conditions

19. The Proponent shall:
- implement best management practice on site, including all reasonable and feasible measures to minimise the off-site odour, fume and dust emissions generated by the project;
 - minimise any visible air pollution generated by the project;
 - minimise the surface disturbance of the site generated by the project; and
 - operate a comprehensive air quality management system that uses a combination of predictive meteorological forecasting and air quality monitoring data to guide the day to day planning of quarrying operations and the implementation of both proactive and reactive air quality mitigation measures to ensure compliance with the relevant conditions of this approval;
- to the satisfaction of the Director-General.

Air Quality Management Plan

20. The Proponent shall prepare and implement a detailed Air Quality Management Plan for the project to the satisfaction of the Director-General. This plan must:
- be prepared in consultation with EPA and submitted to the Director-General by the end of March 2012;
 - describe the measures that would need to be implemented to ensure compliance with the relevant conditions of this approval;
 - include a program for the implementation of the measures referred to in (b) above; and
 - include an air quality monitoring program that:
 - uses a combination of high volume samplers and dust deposition gauges to evaluate the performance of the project;
 - supports the air quality management system;
 - provides information to evaluate the performance of the project;
 - includes a protocol for determining exceedances of relevant conditions of this approval; and
 - provides for the use of real-time monitoring measures, if directed by the Director-General.

METEOROLOGICAL MONITORING

21. For the life of the project, the Proponent shall ensure that there is a meteorological station in the vicinity of the site that:
- complies with the requirements in the *Approved Methods for Sampling of Air Pollutants in New South Wales* guideline; and
 - is capable of continuous real-time measurement of temperature lapse rate in accordance with the *NSW Industrial Noise Policy*.

SURFACE AND GROUND WATER

Water Supply

22. Prior to the commencement of construction, the Proponent shall obtain the necessary approvals for the project under the *Water Act 1912*.

Note: The Water Management Act 2000 may apply to the project. The Proponent shall consult with the [NOW](#) on the relevant approvals at the time the application is made.

Discharges

23. Except as may be expressly provided for by an EPL, the Proponent shall not discharge any dirty water from the quarry or ancillary operational areas.
- 23A. The Proponent shall prepare an onsite wastewater report for the proposed effluent management system consistent with the requirements of *Sydney Catchment Authority – “Developments in Sydney’s Drinking Water Catchment” – Water Quality Information Requirements, 2011*. The effluent management system must be designed and constructed to be in accordance with this onsite wastewater report and its design must be approved by Council prior to construction.

Tangarang Creek Environmental Flow

24. The proponent shall provide an environmental flow to Tangarang Creek equivalent to 10% of average daily flows. Details of the management of these environmental flows shall be included in the Site Water Balance for the project (see below).

Sediment Dams

25. The Proponent shall ensure that:
- (d) critical structures such as “dirty water” dams are designed, constructed and maintained to accommodate a 1 in 100 year ARI 24-hour event; and
 - (e) other dams and water management structures are designed, constructed and maintained to accommodate a 1 in 20 year ARI 24-hour event.

Management and Monitoring

26. The Proponent shall prepare and implement a Water Management Plan for the project to the satisfaction of the Director-General. This plan must:
- (a) be submitted to the Director-General for approval prior to the commencement of construction;
 - (b) be prepared in consultation with the [NOW](#), [EPA](#) and Sydney Catchment Authority; and
 - (c) include a:
 - Site Water Balance;
 - Erosion and Sediment Control Plan;
 - Surface Water Monitoring Program;
 - Ground Water Monitoring Program; and
 - Surface and Ground Water Response Plan to address any potential adverse impacts associated with the project.

Site Water Balance

27. The Site Water Balance shall
- (a) include details of all water extracted (including make up water), dewatered, transferred, used and/or discharged by the project; and
 - (b) describe measures to minimise water use by the project.

Erosion and Sediment Control

28. The Erosion and Sediment Control Plan shall:
- (a) be consistent with the requirements of *Managing Urban Stormwater: Soils and Construction, Volume 1, 4th Edition, 2004* (Landcom);
 - (b) identify activities that could cause soil erosion and generate sediment;
 - (c) describe measures to minimise soil erosion and the potential for the transport of sediment to downstream waters;
 - (d) describe the location, function, and capacity of erosion and sediment control structures; and
 - (e) describe what measures would be implemented to maintain (and if necessary decommission) the structures over time.

Surface Water Monitoring

29. The Surface Water Monitoring Program shall include:
- (a) detailed baseline data on surface water flows and quality in Tangarang Creek and Barbers Creek;
 - (b) surface water impact assessment criteria;
 - (c) a program to monitor surface water flows and quality;
 - (d) a protocol for the investigation of identified exceedances of the surface water impact assessment criteria; and
 - (e) a program to monitor the effectiveness of the Erosion and Sediment Control Plan.

Ground Water Monitoring Program

30. The Ground Water Monitoring Program shall include:
- (a) detailed baseline data on ground water levels, flows, and quality, based on statistical analysis;
 - (b) groundwater impact assessment criteria for monitoring bores;
 - (c) a program to monitor regional ground water levels and quality; and
 - (d) a protocol for the investigation of identified exceedances of the ground water impact assessment criteria.

TRAFFIC AND TRANSPORT

31. The Proponent shall prepare and implement a construction traffic management plan for the project to the satisfaction of the RMS and Council.

ABORIGINAL HERITAGE

32. The Proponent shall prepare and implement an Aboriginal Heritage Management Plan for the project to the satisfaction of the Director-General. This plan must:
- (f) be submitted to the Director-General for approval prior to the commencement of construction;
 - (g) be prepared in consultation with the OEH and relevant Aboriginal communities; and
 - (h) include a:
 - description of the measures that would be implemented for the mapping, and salvage or relocation of the archaeological relics in the Tangarang Creek Dam 1 area;
 - description of the measures that would be implemented if any new Aboriginal objects or relics are discovered during the project; and
 - protocol for the ongoing consultation and involvement of the Aboriginal communities in the conservation and management of Aboriginal cultural heritage on the site.

32A If historical archaeological relics are unexpectedly discovered during works, all works must cease and a suitably qualified and experienced historical archaeologist be brought in to assess the find. Depending on the nature of the discovery, additional assessment and recording may be required prior to the recommencement of excavation in the affected area. The Heritage Council (or its Delegate) must be notified of this discovery in writing in accordance with section 146 of the *Heritage Act, 1977*.

FLORA AND FAUNA

33. The Proponent shall:
- (a) rehabilitate the site in a manner that is generally consistent with the conceptual rehabilitation principles in Chapter 2.8 of the EA; and
 - (b) implement the Habitat Management Area in a manner that is generally consistent with the documents listed in condition 2 of schedule 3 (and shown conceptually in Appendix 3), including the establishment, conservation and maintenance of at least 13.5 hectares of vegetation species characteristic of Box Gum Woodland, to the satisfaction of the Director-General.

Threatened Species Protection

- 33A. The Proponent shall:
- (a) prior to clearing of vegetation and site preparation on the site of the Western Overburden Emplacement and extension, clearly and securely mark out the proposed boundary of the emplacement and extension;
 - (b) avoid disturbance of *Box Gum Woodland* Endangered Ecological Community and other native vegetation adjacent to the site of the Western Overburden Emplacement and extension;
 - (c) only undertake clearing of vegetation on the site of the Western Overburden Emplacement and extension following a recent fauna survey undertaken by a suitably qualified expert who has been approved by the Director-General; and
 - (d) seek to avoid clearing of native vegetation on the site of the Western Overburden Emplacement and extension during the period August to November of any year.

Landscape and Rehabilitation Management Plan

34. The Proponent shall prepare and implement a Landscape and Rehabilitation Management Plan for the project to the satisfaction of the Director-General. This plan must:
- (e) be submitted to the Director-General for approval prior to the commencement of construction;
 - (f) be prepared in consultation with the OEH and Council;
 - (g) describe in general the short, medium, and long-term measures that would be implemented to:
 - rehabilitate the site;
 - implement the Habitat Management Area;
 - manage the remnant vegetation and habitat on the site; and
 - landscape the site (including the bunds and overburden emplacement areas) to mitigate any visual impacts of the project;

- (h) describe in detail the measures that would be implemented over the next 5 years to rehabilitate and manage the landscape on the site;
- (i) describe how the performance of these measures would be monitored over time; and
- (j) set completion criteria for the rehabilitation of the site.

Rehabilitation Bond

35. Within 3 months of the first Independent Environmental Audit the Proponent shall lodge a rehabilitation bond for the project with the Director-General. The sum of the bond shall be calculated at \$2.50/m² for the total area to be disturbed in each 5 year period, or as otherwise directed by the Director-General.

Notes:

- *If the rehabilitation is completed to the satisfaction of the Director-General, the Director-General will release the rehabilitation bond.*
- *If the rehabilitation is not completed to the satisfaction of the Director-General, the Director-General will call in all or part of the rehabilitation bond, and arrange for the satisfactory completion of the relevant works.*

36. Within 3 months of subsequent audits, the Proponent shall review, and if necessary revise, the sum of the bond to the satisfaction of the Director-General. This review must consider:
- (a) the effects of inflation;
 - (b) any changes to the total area of disturbance; and
 - (c) the performance of the rehabilitation against the completion criteria of the Rehabilitation and Landscape Management Plan.

VISUAL IMPACT

Visual Amenity and Lighting

37. The Proponent shall:
- (a) *minimise the visual impacts, and particularly the off-site lighting impacts, of the project;*
 - (b) *revegetate overburden emplacements, emplacement extensions and bunds as soon as practicable;*
 - (c) *take all practicable measures to further mitigate off-site lighting impacts from the project; and*
 - (d) *ensure that all external lighting associated with the project complies with Australian Standard AS4282 (INT) 1995 - Control of Obtrusive Effects of Outdoor Lighting, to the satisfaction of the Director-General.*
38. *(Deleted)*
39. *(Deleted)*

Advertising

40. The Proponent shall not erect or display any advertising structure(s) or signs on the site without the written approval of the Director-General.

Note – This does not include business identification, traffic management and safety or environmental signs.

WASTE MANAGEMENT

41. The Proponent shall:
- (a) monitor the amount of waste generated by the project;
 - (b) investigate ways to minimise waste generated by the project;
 - (c) implement reasonable and feasible measures to minimise waste generated by the project; and
 - (d) report on waste management and minimisation in the [Annual Review](#).
- to the satisfaction of the Director-General.
42. The Proponent shall ensure that all waste generated or stored on site is assessed, classified and managed in accordance with the EPA's *Environmental Guidelines: Assessment Classification and Management of Liquid and Non-Liquid Wastes*.

EMERGENCY AND HAZARDS MANAGEMENT

Dangerous Goods

43. The Proponent shall ensure that the storage, handling, and transport of dangerous goods are conducted in accordance with the relevant *Australian Standards*, particularly AS1940 and AS1596, and the *Dangerous Goods Code*.

Safety

44. The Proponent shall secure the project to ensure public safety to the satisfaction of the Director-General.

Bushfire Management

45. The Proponent shall:
- (a) ensure that the project is suitably equipped to respond to any fires on-site; and
 - (b) assist the rural fire service and emergency services as much as possible if there is a fire on-site.

PRODUCTION DATA

46. The Proponent shall:
- (a) provide annual production data to the DPI using the standard form for that purpose; and
 - (b) include a copy of this data in the [Annual Review](#).

QUARRY EXIT STRATEGY

47. The Proponent shall prepare and implement a Quarry Exit Strategy for the project to the satisfaction of the Director-General. This strategy must:
- (a) be submitted to the Director-General for approval at least 5 years prior to the cessation of the project;
 - (b) be prepared in consultation with the relevant agencies;
 - (c) define the objectives and criteria for quarry closure;
 - (d) investigate options for the future use of the site, including any final void/s;
 - (e) describe the measures that would be implemented to minimise or manage the ongoing environmental effects of the project; and
 - (f) describe how the performance of these measures would be monitored over time.
-

SCHEDULE 4 ADDITIONAL PROCEDURES

NOTIFICATION OF LANDOWNERS

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

INDEPENDENT REVIEW

2. If a landowner (excluding quarry owned properties) considers that the operations of the quarry are exceeding the impact assessment criteria in Schedule 3, then he/she may ask the Proponent in writing for an independent review of the impacts of the project on his/her land.

If the Director-General is satisfied that an independent review is warranted, then within 2 months of the Director-General's decision, the Proponent shall:

- (a) commission a suitably qualified, experienced and independent expert, whose appointment has been approved by the Director-General, to:
 - consult with the landowner to determine his/her concerns;
 - conduct monitoring to determine whether the project is complying with the relevant impact assessment criteria in schedule 3; and
 - if the project is not complying with these criteria then:
 - determine if the more than one quarry/mine is responsible for the exceedance, and if so the relative share of each quarry/mine regarding the impact on the land;
 - identify the measures that could be implemented to ensure compliance with the relevant criteria; and
 - (b) give the Director-General and landowner a copy of the independent review.
3. If the independent review determines that the quarrying operations are complying with the relevant criteria in Schedule 3, then the Proponent may discontinue the independent review with the approval of the Director-General.
 4. If the independent review determines that the quarrying operations are not complying with the relevant criteria in Schedule 3, and that the quarry is primarily responsible for this non-compliance, then the Proponent shall:
 - (a) implement all reasonable and feasible mitigation measures, in consultation with the landowner and appointed independent expert, and conduct further monitoring until the project complies with the relevant criteria; or
 - (b) secure a written agreement with the landowner to allow exceedances of the relevant impact assessment criteria, to the satisfaction of the Director-General.

If the independent review determines that the project is not complying with the relevant acquisition criteria, and that the project is primarily responsible for this non-compliance, then upon receiving a written request from the landowner, the Proponent shall acquire all or part of the landowner's land in accordance with the procedures in condition 6-7 below.

5. If the independent review determines that the relevant criteria are being exceeded, but that more than one quarry/mine is responsible for this exceedance, then together with the relevant quarry/mine/s, the Proponent shall:
 - (a) implement all reasonable and feasible mitigation measures, in consultation with the landowner and appointed independent expert, and conduct further monitoring until there is compliance with the relevant criteria; or
 - (b) secure a written agreement with the landowner and other relevant mine/s to allow exceedances of the relevant impact assessment criteria, to the satisfaction of the Director-General.

If the independent review determines that the project is not complying with the relevant acquisition criteria in schedule 3, but that more than one mine is responsible for this non-compliance, then upon receiving a written request from the landowner, the Proponent shall acquire all or part of the landowner's land on as equitable a basis as possible with the relevant quarries/mine/s, in accordance with the procedures in conditions 6-7 below.

LAND ACQUISITION

6. Within 3 months of receiving a written request from a landowner with acquisition rights, the Proponent shall make a binding written offer to the landowner based on:

- (i) the current market value of the landowner's interest in the property at the date of this written request, as if the land was unaffected by the project the subject of the project application, having regard to the:
 - existing and permissible use of the land, in accordance with the applicable planning instruments at the date of the written request; and
 - presence of improvements on the land and/or any approved building or structure which has been physically commenced at the date of the landowner's written request, and is due to be completed subsequent to that date, but excluding any improvements that have resulted from the implementation of the 'additional noise mitigation measures' in condition 7 of Schedule 3;
- (j) the reasonable costs associated with:
 - relocating within the Goulburn Mulwaree local government area, or to any other local government area determined by the Director-General; and
 - obtaining legal advice and expert advice for determining the acquisition price of the land, and the terms upon which it is required; and
- (k) reasonable compensation for any disturbance caused by the land acquisition process.

However, if at the end of this period, the Proponent and landowner cannot agree on the acquisition price of the land, and/or the terms upon which the land is to be acquired, then either party may refer the matter to the Director-General for resolution.

Upon receiving such a request, the Director-General will request the President of the NSW Division of the Australian Property Institute to appoint a qualified independent valuer to:

- consider submissions from both parties;
- determine a fair and reasonable acquisition price for the land and/or the terms upon which the land is to be acquired, having regard to the matters referred to in paragraphs (a)-(c) above;
- prepare a detailed report setting out the reasons for any determination; and
- provide a copy of the report to both parties.

Within 14 days of receiving the independent valuer's report, the Proponent shall make a binding written offer to the landowner to purchase the land at a price not less than the independent valuer's determination.

However, if either party disputes the independent valuer's determination, then within 14 days of receiving the independent valuer's report, they may refer the matter to the Director-General for review. Any request for a review must be accompanied by a detailed report setting out the reasons why the party disputes the independent valuer's determination. Following consultation with the independent valuer and both parties, the Director-General will determine a fair and reasonable acquisition price for the land, having regard to the matters referred to in paragraphs (a)-(c) above, the independent valuer's report, the detailed report of the party that disputes the independent valuer's determination and any other relevant submissions.

Within 14 days of this determination, the Proponent shall make a binding written offer to the landowner to purchase the land at a price not less than the Director-General's determination.

If the landowner refuses to accept the Proponent's binding written offer under this condition within 6 months of the offer being made, then the Proponent's obligations to acquire the land shall cease, unless the Director-General determines otherwise.

- 7. The Proponent shall pay all reasonable costs associated with the land acquisition process described in condition 6 above, including the costs associated with obtaining Council approval for any plan of subdivision (where permissible), and registration of this plan at the Office of the Registrar-General.
 - 8. *(deleted)*
-

**SCHEDULE 5
ENVIRONMENTAL MANAGEMENT AND MONITORING CONDITIONS**

ENVIRONMENTAL MANAGEMENT STRATEGY

1. The Proponent shall prepare and implement an Environmental Management Strategy for the project to the satisfaction of the Director-General. This strategy must be submitted to the Director-General for approval prior to the commencement of construction, and:
 - (a) provide the strategic context for environmental management of the project;
 - (b) identify the statutory requirements that apply to the project;
 - (c) describe in general how the environmental performance of the project would be monitored and managed;
 - (d) describe the procedures that would be implemented to:
 - keep the local community and relevant agencies informed about the construction, operation and environmental performance of the project;
 - receive, handle, respond to, and record complaints;
 - resolve any disputes that may arise during the life of the project;
 - respond to any non-compliance;
 - manage cumulative impacts; and
 - respond to emergencies; and
 - (e) describe the role, responsibility, authority, and accountability of the key personnel involved in the environmental management of the project.

ENVIRONMENTAL MONITORING PROGRAM

2. The Proponent shall prepare an Environmental Monitoring Program for the project to the satisfaction of the Director-General. This program must be submitted to the Director-General prior to the commencement of construction, and consolidate the various monitoring requirements in Schedule 3 of this approval into a single document.

INCIDENT REPORTING

3. Within 7 days of detecting an exceedance of the goals/limits/performance criteria in this approval or an incident causing (or threatening to cause) material harm to the environment, the Proponent shall report the exceedance/incident to the Department and any relevant agencies. This report must:
 - (a) describe the date, time, and nature of the exceedance/incident;
 - (b) identify the cause (or likely cause) of the exceedance/incident;
 - (c) describe what action has been taken to date; and
 - (d) describe the proposed measures to address the exceedance/incident.

ANNUAL REVIEW

4. By the end of March each year, the Proponent shall prepare and submit a review of the environmental performance of the project to the satisfaction of the Director-General. This review must:
 - (a) describe the development that was carried out in the previous calendar year, and the development that is proposed to be carried out over the next year;
 - (b) include a comprehensive review of the monitoring results and complaints records of the project over the previous calendar year, which includes a comparison of these results against the
 - the relevant statutory requirements, limits or performance measures/criteria;
 - the monitoring results of previous years; and
 - the relevant predictions in the EA;
 - (c) identify any non-compliance over the last 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 project;
 - (e) identify any discrepancies between the predicted and actual impacts of the project, and analyse the potential cause of any significant discrepancies; and
 - (f) describe what measures will be implemented over the next year to improve the environmental performance of the project.

INDEPENDENT ENVIRONMENTAL AUDIT

5. Within 3 years of the date of the commencement of construction, and every 5 years thereafter, unless the Director-General directs otherwise, the Proponent shall commission and pay the full cost of an Independent Environmental Audit of the project. This audit must:
 - (a) be conducted by a suitably qualified, experienced, and independent person(s) whose appointment has been approved by the Director-General;
 - (b) include consultation with the relevant agencies;
 - (c) assess the environmental performance of the project, and its effects on the surrounding environment;
 - (d) assess whether the project is complying with the relevant standards, performance measures and statutory requirements;

- (e) review the adequacy of any strategy/plan/program required under this approval; and, if necessary,
 - (f) recommend measures or actions to improve the environmental performance of the project, and/or any strategy/plan/program required under this approval.
6. Within 1 month of completion of each Independent Environmental Audit, the Proponent shall submit a copy of the audit report to the Director-General and relevant agencies, with a response to any of the recommendations in the audit report.

REVISION OF STRATEGIES, PLANS AND PROGRAMS

7. Within 3 months of:
- the submission of an incident report under condition 3 above;
 - the submission of an Annual Review under condition 4 above;
 - the submission of an audit report under condition 5 above; or
 - any modification to the conditions of this approval, (unless the conditions require otherwise), the Proponent shall review, and if necessary revise, the strategies, plans, and programs required under this approval to the satisfaction of the Director-General.

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

COMMUNITY CONSULTATIVE COMMITTEE

8. Prior to the commencement of construction, the Proponent shall establish a Community Consultative Committee (CCC) for the project. The CCC shall:
- (a) be comprised of:
 - 2 representatives from the Proponent, including the person responsible for environmental management at the quarry;
 - 1 representative from Council (if available); and
 - at least 3 representatives from the local community, whose appointment has been approved by the Director-General;
 - (b) be chaired by an independent chairperson, whose appointment has been approved by the Director-General;
 - (c) meet at least twice a year;
 - (d) review the Proponent's performance with respect to environmental management and community relations;
 - (e) undertake regular inspections of the quarry operations;
 - (f) review community concerns or complaints about the quarry operations, and the Proponent's complaints handling procedures; and
 - (g) provide advice to:
 - the Proponent on improved environmental management and community relations, including the provision of information to the community and the identification of community initiatives to which the Proponent could contribute;
 - the Department regarding the conditions of this approval; and
 - the general community on the performance of the quarry with respect to environmental management and community relations.

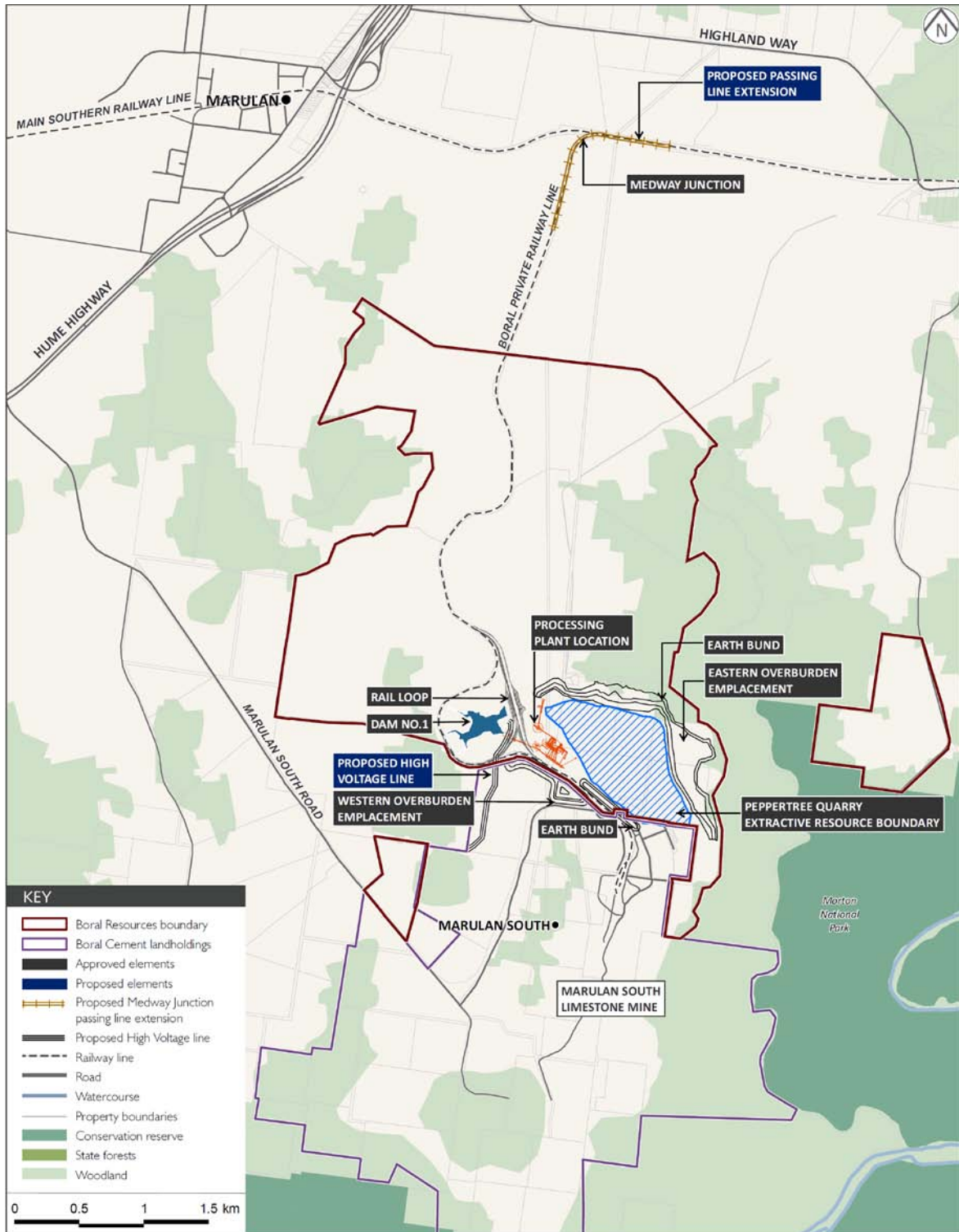
Notes

- *The CCC is an advisory committee. The Department and other relevant agencies are responsible for ensuring that the Proponent complies with this approval.*
 - *The membership of the CCC should be reviewed on a regular basis (every 3 years).*
 - *If possible, an alternate member should be appointed for each of the representatives from the local community.*
9. At its own expense, the Proponent shall,:
- (a) ensure that 2 of its representatives attend CCC meetings;
 - (b) provide the CCC with regular information on the environmental performance and management of the project;
 - (c) provide meeting facilities for the CCC;
 - (d) arrange site inspections for the CCC, if necessary;
 - (e) take minutes of the CCC meetings;
 - (f) make these minutes available to the public;
 - (g) respond to any advice or recommendations the CCC may have in relation to the environmental management or community relations; and
 - (h) forward a copy of the minutes of each CCC meeting, including a response to any recommendations from the CCC, to the Director-General within a month of the CCC meeting.

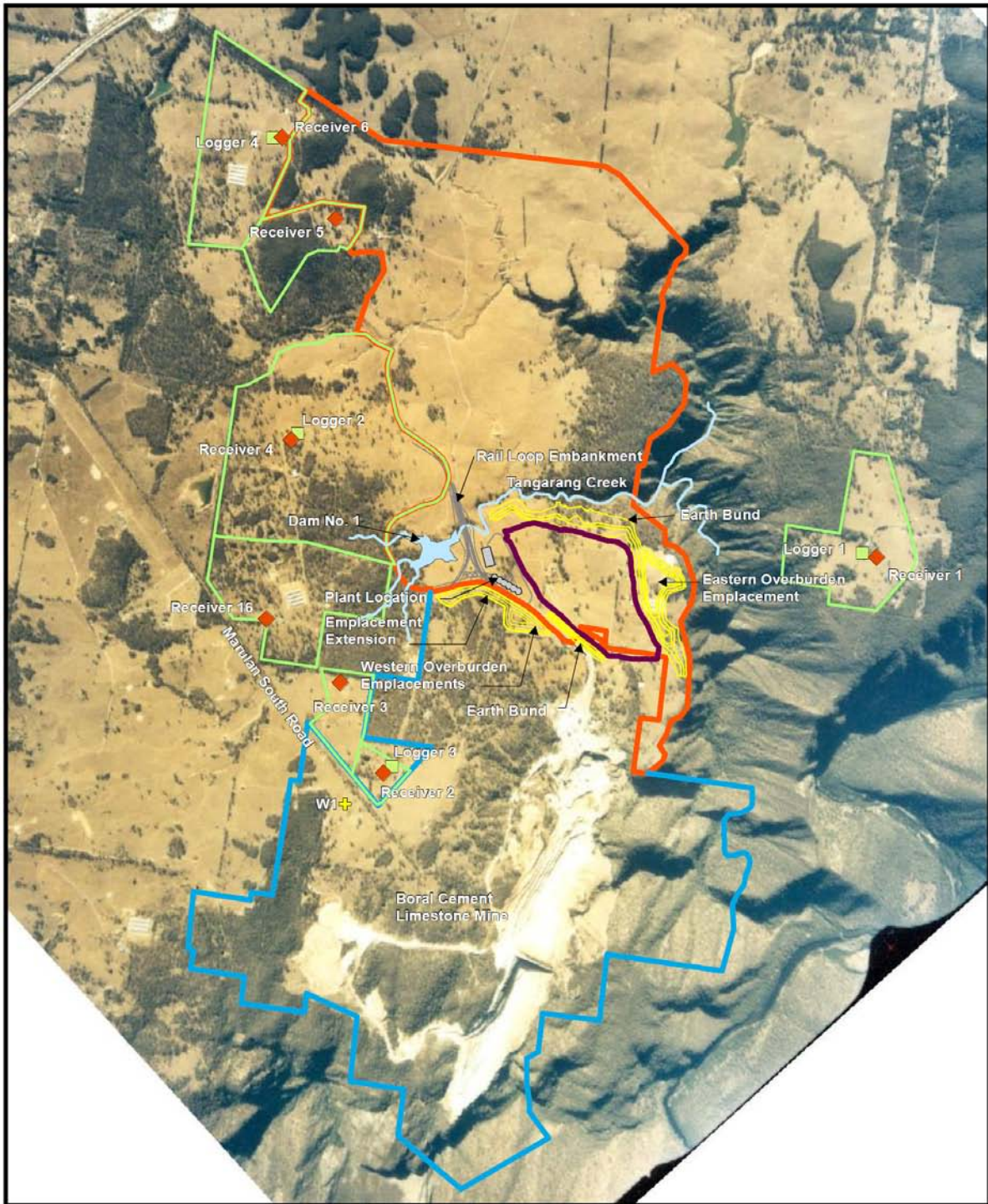
**APPENDIX 1
SCHEDULE OF LAND**

<i>Lot</i>	<i>DP</i>
23	867667
5	203290
95	750029
24	867667
109	750029
1	371167
1-6	261615
1	557562
143	750029
12	570616
2	557562
21	657523
100	1064794
4	106569
1-9	216767
11	570616
5	111641
22	867667
1	1124189
2	106569

APPENDIX 2 PROJECT SITE



APPENDIX 2A NOISE RECEIVER LOCATION PLAN



- Legend**
- ◆ Receiver Locations
 - ◆ Noise Logger Locations
 - + Weather Station
 - Quarry Location
 - Boral Cement Property Boundary
 - Boral Peppertree Property Boundary
 - Proposed Dam Location
 - Proposed Plant Location
 - Cadastre
 - Tangarang Creek

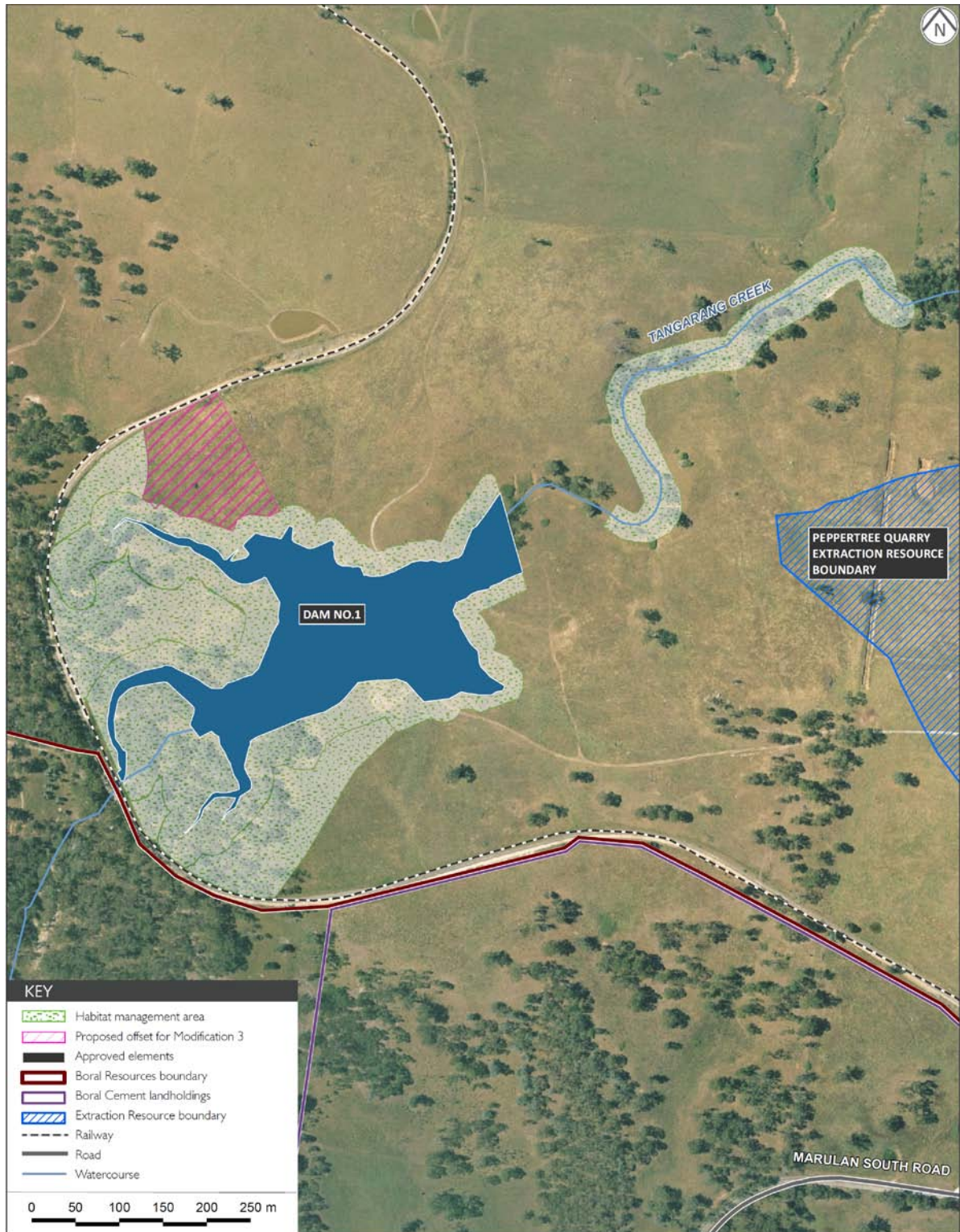
Client:	Boral
Project:	Peppertree Quarry
Drawing:	0118028s_Sect75W_G016_R0.mxd
Date:	27/10/2011
Drawn By:	SQW
Projection:	GDA 1994 MGA Zone 56
Scale:	Refer to scale bar

Figure 5.1
Location of Noise Receivers

Environmental Resources Management Australia Pty Ltd
Brisbane, Canberra, Hunter Valley, Melbourne, Perth,
Port Macquarie, Sydney



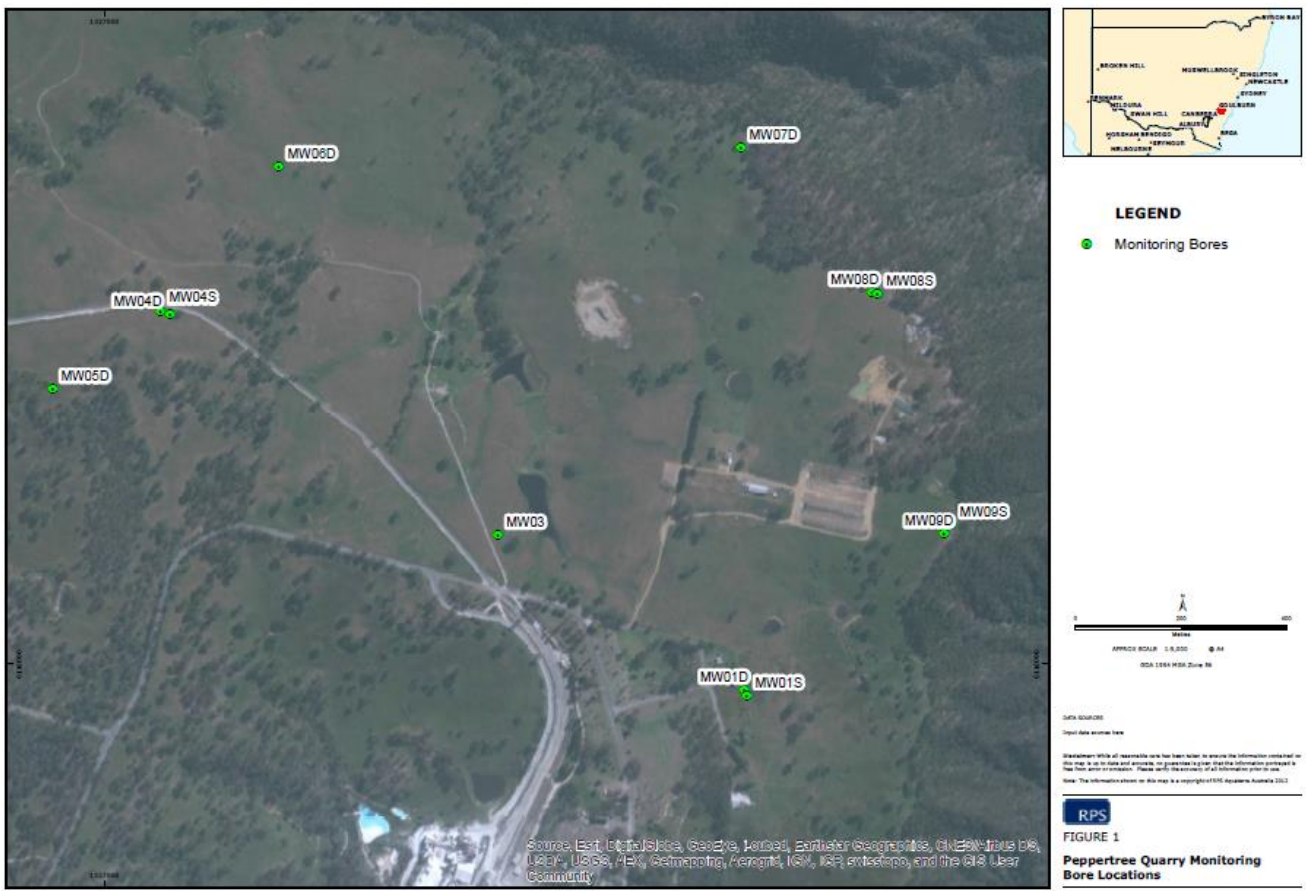
APPENDIX 3 HABITAT MANAGEMENT AREA



APPENDIX B

2015 DP&E Audit Close-out Evidence

- i. Groundwater monitoring bore locations (from *Peppertree Quarry Monitoring Bore Network Installation Completion Report*, RPS 2015)



- ii. Construction of drainage channel



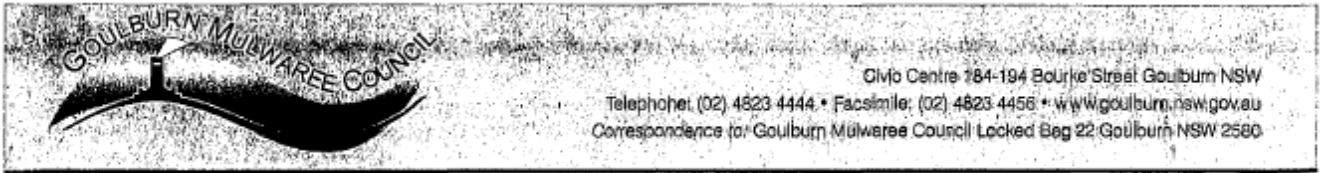
iii. Tangarang environmental flow monitoring

rain	January 2015			February 2015			March 2015			April 2015			May 2015		
	in flow to dam (megalitres)	dam increases (megalitres)	out flow to creek	in flow to dam (megalitres)	dam increases (megalitres)	out flow to creek	in flow to dam (megalitres)	dam increases (megalitres)	out flow to creek	in flow to dam (megalitres)	dam increases (megalitres)	out flow to creek	in flow to dam (megalitres)	dam increases (megalitres)	out flow to creek
1	108000		[]~	106000		0.13	105000		0.06	99600		[]~	108000	1000	1.63F
2	108000		[]~	106000		0.12	104000		0.06	99600		0.05Q	108000		1.80F
3	107000		0.49	106000		0.1	104000		0.06	99500		0.08Q	108000		1.65F
4	108000	1000	[]~	105000		0.1	103000		0.06	100000	500	0.02Q	107000		1.34F
5	108000		[]~	105000		0.1	103000		0.06	100000		0.01Q	107000		1.09F
6	107000		0.46	105000		0.09	102000		0.07	101000	1000	[]~	107000		0.84F
7	106000		0.19	105000		0.1	102000		0.07	101000		[]~	107000		0.55F
8	106000		0.19	104000		0.1	102000		0.08	103000	2000	[]~	107000		0.15F
9	108000	2000	[]~	104000		0.1	101000		0.07	104000	1000	0.38Q	107000		0.02F
10	108000		[]~	104000		0.12	101000		0.08	104000		0.40Q	107000		[]~
11	[]~		[]~	104000		0.11	100000		0.08	104000		0.43Q	107000		[]~
12	110000	2000	[]~	103000		0.1	100000		0.08	104000		0.41Q	106000		0.10F
13	109000		[]~	103000		0.11	99800		0.08	104000		0.39Q	106000		0.09F
14	108000		[]~	103000		[]~	99400		0.08	104000		0.40Q			
15	108000		0.86	104000	1000	0.14	99200		0.09	104000		0.41Q			
16	107000		0.53	104000		0.13	99100		[]~	104000		0.41Q			
17	107000		0.27	104000		0.11	98800	700	[]~	104000		0.49Q			
18	106000		0.12	104000		0.16	98700		[]~	105000	1000	0.53Q			
19	106000		0.1	103000		0.13	98700		0.04	106000	1000	0.67Q			
20	107000	1000	0.39	103000		[]~	98900	200	0.06	108000	2000	[]~			
21	107000		0.45	103000		[]~	98600		0.07	108000		[]~			
22	107000		0.31	104000	1000	[]~	98300		0.04	109000	1000	[]~			
23	107000		0.24	104000		0.01	98100		[]~	109000		[]~			
24	107000		0.32	104000		[]~	99200	100	0.24Q	109000		[]~			
25	107000		0.61	104000		[]~	101000	1800	0.38Q	108000		[]~			
26	107000		0.35	104000		0.11	101000		0.18Q	108000		[]~			
27	107000		0.3	105000	1000	0.07	101000		[]~	108000		[]~			
28	106000		0.24	105000		0.06	100000		[]~	108000		1.90F			
29	106000		0.16	NA		NA	100000		[]~	107000		1.56F			
30	107000	1000	0.25	NA		NA	99900		[]~	107000		1.39F			
31	106000		0.14	NA		NA	99800		[]~	NA		NA			
			6.97			2.3			1.29						

APPENDIX C

2015 Audit Evidence

- i. Letter to resident re rebuilding Marulan South Road (2014)



Contact: Tom Dimec

Reference: CB:AC

17 March 2014

To the Resident

Dear Sir/Madam

Subject: Marulan South Road – Reconstruction Road Pavement.

Goulburn Mulwaree Council wishes to advise that council is commencing stabilization works of road pavement.

This work is programmed to commence on Wednesday 19 March 2014 for duration of 5 Weeks, weather conditions and contractor availability may cause some alteration to this date.

While measures will be taken to minimise disruptions, it is inevitable that some disturbance to your normal routine may be experienced and you may be inconvenienced to some extent. For instance, access to your home or business may be more difficult than usual. Your cooperation would be appreciated and apologies are made in advance.

If you experience particular problems during the construction work please do not hesitate to contact Council's Design Engineer, Mr. Tom Dimec on phone 4823 4506.

Council requests that you do not park any cars on the roadway during this time.

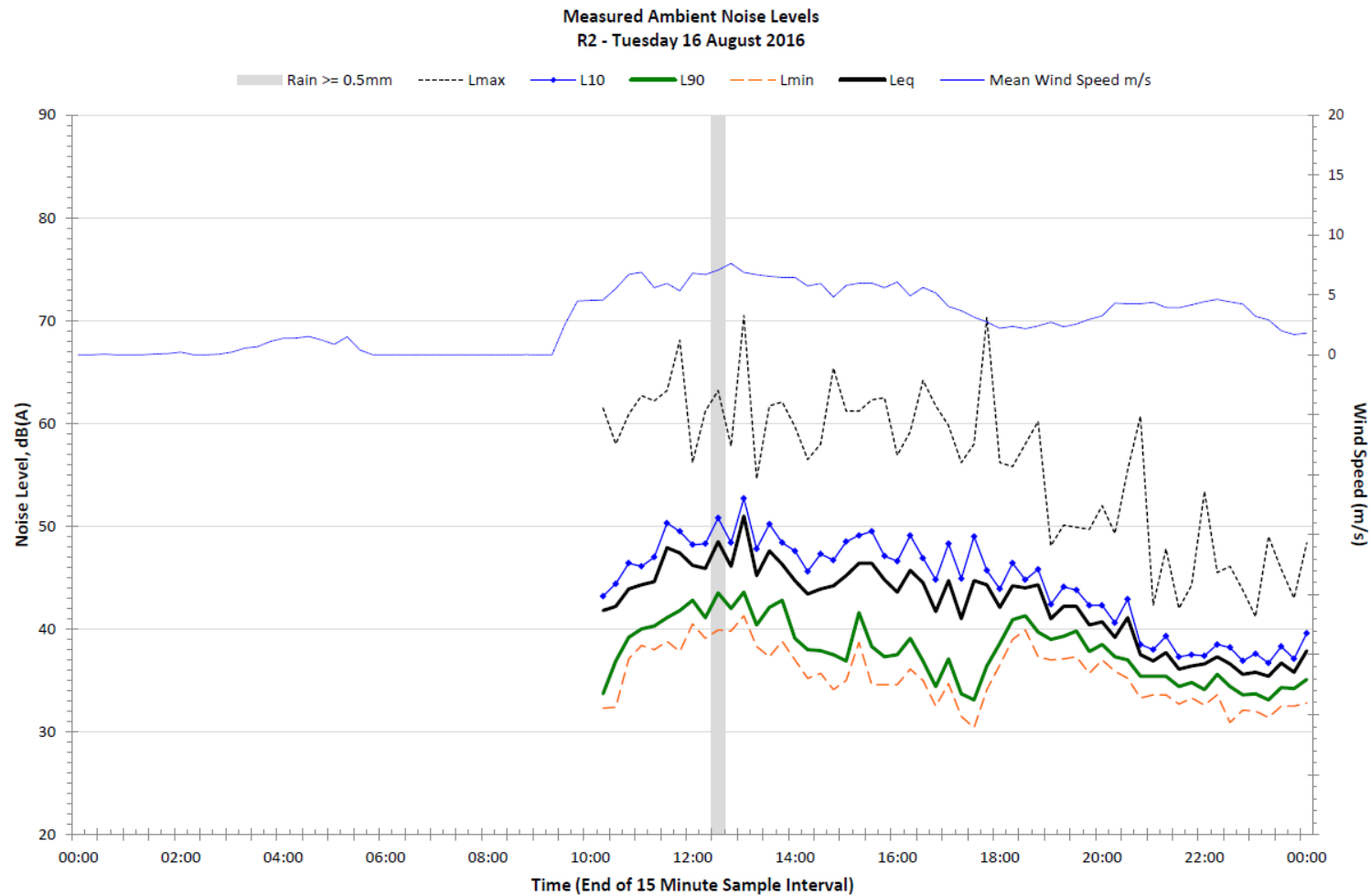
Please display this letter for all your household to see.

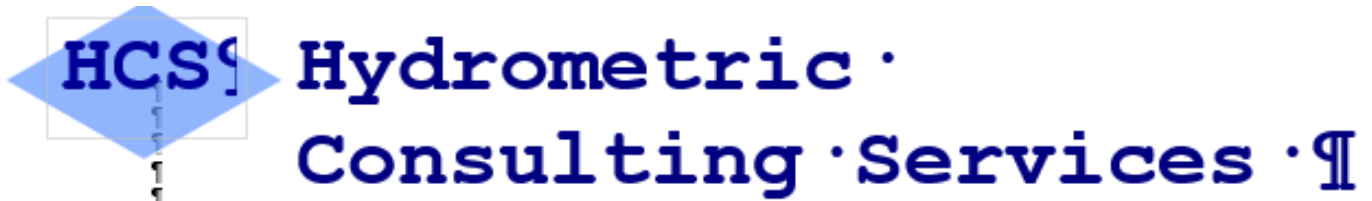
Yours faithfully



Andrew Palmer
Manager Works

iii. Unattended Noise Monitoring Chart (16 August 2016)





Specialists in water measurement and instrumentation

15th May 2015

Sharon Makin
Boral

WEATHER STATION AND FLOW/LEVEL STATIONS MAINTENANCE AND CALIBRATION FOR BORAL @ PEPPERTREE - May

This site was visited on Thursday 14th May and the following work was undertaken.

Weather Station

1. → **Maintenance**
 - The tipping bucket rain gauge was dismantled and the syphon and filter cleaned.
 - The tipping bucket mechanism was cleaned and flushed and checked for correct operation.
 - The body, cover and catch were thoroughly cleaned.
 - The gauge was re-assembled and checked for correct operation.
 - Guy-wire support re-secured and all guy-wires re-tensioned.
 - Immediate area mown.

2. → **Rain Gauge Calibration**
A calibration of the rain gauge was not undertaken only test tips were instigated.

3. → **Weather Station**
The weather station was thoroughly cleaned and checked for correct operation.

4. → **Calibration Details**

SENSOR	FIELD	LOGGER
Solar Radiation	590	570
Temperature	11.1	10.7 @ 2m 10.1 @ 10m NOTE -- sensors located inside a radiation shield.
Wind Speed	5.5 m/s (fluctuating)	6.5 m/s @ 10m
Wind Direction	270	270 deg
RH	58%	61% (in shield) -- see note
TBRG	2 tips	2 tips
Solar	20.0/13.4v	

¶
5.

→ **Special Notes**¶

- All instrumentation was sprayed with a residual insect spray.¶
- Due to the earth works adjacent to the weather station there is a greatly increased presence of dust in the TBRG and on the solar panel. This has the potential to 'clog' the TBRG and prevent it from working and/or blocking the solar panel and hence the battery voltage may drop to a level that prevents operation. As discussed on-site HCS believes that while the above problem exists that the site is visited monthly for cleaning so as to minimise the effect of the dust on the sensors. This visit will include lowering of the mast to clean the 10m sensors as well as those at the 2m level.¶

¶
¶

Dam Leakage Station¶

¶
¶

The following was undertaken¶

- Battery voltages checked¶
- Stability of the gauge and sensor support checked and tested for movement – posts are solid.¶
- Sensor cleared of silt¶
- Solar panel cleaned¶
- Cabinet sprayed with a residual insect spray¶

NOTE – the siltation of the gauging pool is still an issue and, as discussed, will require routine clearing.¶

¶
¶

Holding Dam¶

¶
¶

Routine service was undertaken which included¶

- Download data and review, comparing with gauge height¶
- Battery voltages checked¶
- Solar panel cleaned¶
- Cabinet sprayed with a residual insect spray¶
- Data uploaded to our secure data management system¶

collected.¶

¶
¶

S.Swanbury¶

Hydrometric Consulting Services Pty Ltd¶
ABN 16 091 437 071¶
17 Caley St¶
Bowral NSW 2576¶
Tele 48617389 Fax 48617197 Mob 0410564196¶
Email steves@mitmania.net.au¶
www.hydrometric.com.au¶

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v. Dust Action Plan



Peppertree Quarry Dust Action Plan

Latest update: 12th April 2016

Action	Latest Update	Key site contact responsible	Status
1. → Introduce Polo-Citrus to STQ crushers	Completed and fully automated	Dylan	Completed
2. → Re-commission coolfog in the main screenhouse	Completed with maintenance scheme in place	Troy	Completed
3. → Laundry for PPE	Completed	Angus	Completed
4. → Provision of Powered positive air respirators	Face fit training carried out and PPAR issued to all employees and regular contractors	Angus	Completed
5. → Commission Dust collectors correctly	OEM came in and set up correctly. 1 point lessons in place for correct operation	Brett	Completed
6. → Re-program pulsing of dust collectors	No longer pulse onto empty belts	Brett	Completed
7. → Re-commission coolfog at the TLO	Completed with maintenance scheme in place	Troy	Completed
8. → Purchase and install loading cone at the TLO	Complete and spare now on site for quick maintenance changeout	Duncan	Completed
9. → Purchase and install a pugmill at the filler silo	Complete and spare now on site for quick maintenance changeout	Duncan	Completed
10. → Obtain a bigger water truck	New water truck arrived on site	John Benson	Completed
11. → Install wash down water to the silos	Completed to all silos	Duncan	Completed
12. → Fit additional water sprays at the filler silo	Completed prior to pug mill install	Duncan	Completed
13. → Install wash down water and dust suppression water to Metsos	Pipework installed and will need extending with each conveyor move	Troy	Completed
14. → Purchase and install a carwash system	Installed and road now in place — fully operational	Nick	Completed

15. → Trial full over the head powered respirators	Good response — now fully available for every shift	Leisa	Completed
16. → Trial polo citrus at the primary	On site and trial underway (Dec 2015). Pod to be installed on LT160 when new starter installed	Troy	Underway
17. → Trial our own vacuum system (the BRAIN)	System initially lack suction. Since been repaired and now on trial (Jan 2016)	Brett	Completed
18. → TLO water pump — automate feed from the dam	Wireless link now installed	Ben	Completed
19. → Purchase and trial boot washers	First one installed and working. Few modifications required to complete	Luke McNeilage	Completed
20. → Purchase and install dust removal booth	Purchase made — delivery due 20 th Dec	Angus	Completed
21. → Provide additional changing room space	Temporary building installed Nov 15 with lockers for clean and dirty clothing	Angus	Completed
22. → Implement weather monitoring system to forecast hot, dry and windy days	System in place. Trigger levels being established (dec 15). Used to bring in additional water truck on high risk days already. Training completed with supervisors Feb 16	Sharon	Completed
23. → General site clean up of rubbish from construction	Over 100 housekeeping tasks completed around the site in Nov. Extra sucker trucks being brought in (Dec 15)	Ray	Completed
24. → Rectification of spillage points on screens and conveyors	Big improvement made here — will be ongoing to maintain	Troy	Ongoing
25. → Install standpipe for the water truck to reduce filling time and distance required	Standpipe installed (Dec 15). Electrical connect up completed. Pressure is low and Dylan investigating (Feb 16)	Dylan	Underway
26. → Install fixed water sprays on road near the silos	Sprays now operational on the silo conveyors.	Troy	Completed

Boral Resources (NSW) Pty Ltd

27. Run new water lines across the whole site as existing lines are low pressure only.	This is a big job and will take a few months to complete.	Shannon	Target-Dec-16
28. Install further fixed sprays across the site.	Requires action 27 to be completed first.	Shannon	Target-Dec-16
29. Enclose the Limestone intake area.	Designs being drawn up (Dec-15). Subject to Capex.	Troy	Target-Dec-16
30. Install a cone or other solution for radial stacker dust.	TLO optimisation being carried out—this may affect flow rates at this point. Once flow rates understood then optimum cone can be sized.	Dylan	Target-June-16
31. Trial installation of chimney structures to capture dust laden air at transfer points.	Initial design completed and first trial underway (Dec-15).	Tony	Underway
32. Review option of installing additional small dust collectors as already on site.	Review to be carried out post chimney trials.	Tony	Target-Sept-16
33. Review option of one large centralised baghouse.	Expensive for what benefit? Review to be carried out once other actions exhausted.	Angus	Target-Dec-17
34. Obtain a vacuum system to keep cabs of utes/loaders etc clean.	System purchased and working well. Need establishing as a permanent set up (Feb-16).	Dylan	Completed
35. Install a dedicated HME wash down point.	To be established in the pit.	Dylan	Target-July-16
36. Investigate option of water holding tanks at head of cv199 to provide gravity pressure and wash down to the primary.	Pricing to be sought.	Dylan	Target-June-16
37. Install CV120 water sprays at head to transfer onto cv199.		Dylan	Target-June-16
38. Install CV206 improved water sprays either at tail, feeders or head or combination.	This may require action 27 to be completed first as insufficient pressure currently.	Dylan	Target-June-16
39. Provide Wash-Down water—Everywhere! To stop using fire hoses and shovelling.	This will require action 27 to be completed first as insufficient pressure currently.	Shannon	Target-Dec-17
40. Change floor type in areas where wash down is carried out such as the primary—use open mesh to	To be completed throughout the year.	Luis	Target-Dec-16

allow water and fines to drain to lower levels for bobcat clean up.			
41. Install dedicated suction lines in the buildings for sucker truck to connect to.	Trial on one building initially—designs being drawn up (Feb-16).	Dylan	Target-May-16
42. Cleaning chutes in buildings to sweep/shovel larger material into.	Trial on SN301 down to CV-303—designs being drawn up (Feb-16).	Dylan	Target-May-16
43. Can procurement get a different supplier for sucker trucks?	Existing supplier is often unavailable and very slow.	Angus & Phil-Watts	Target-August-16
44. Clean up floor areas around site and re-sheet with scalps.	Use a roller and compact like main roadways.	Ray	Target-May-16
45. Trial polymer in the water truck for non-routine areas.	Need to ensure method of filling is ok.	Ray	Target-May-16
46. TLO waste—we make huge amounts—re-program so that we don't make it and instead have the option to top up the last wagon if required.	Alan Challinor now available on site to re-program as required. Cameron working this through (Feb-16).	Cameron	Target-May-16
47. Install positive pressure inside the office—in new control room area?	Requires a costing exercise.	Angus	Target-May-16
48. Source an enclosed Bobcat.	Trial underway 15 th Feb-16 with an enclosed Bobcat.	Dylan	Completed
49. Install positive pressure on EX1200 cab as a trial.	Positive pressure already fitted.	Angus	Completed
50. Install additional boot washers at TLO control room and workshop.	Additional washers purchased and awaiting delivery (Feb-16).	Luke McNeilage	Target-May-16

vi. Sedimentation from train load out facility washdown



vii. Aboriginal artefact extraction/salvage process



viii. Oil drum bunding



ix. Piling of empty oil drums



x. Train Loading Manifest

Number: 140506_2196			Status: 6						Arrival		Departure		
				20140506	244	YYYYMMDD	24Hr	Peppertree					
Filename: Manifest-Peppertree-140506_2196-6				YYYYMMDD	24Hr	YYYYMMDD	24Hr	Maldon					
				YYYYMMDD	24Hr	YYYYMMDD	24Hr	St.Peters					
				20140506	1034	YYYYMMDD	24Hr	Enfield					
Boral Peppertree Quarry Rail Service													
Email List: bulkloaddata@pacificnational.com.au, bulkrailmsvm@pacificnational.com.au, Peppertree.Quarry@boral.com.au, Max.Stanton@boral.com.au, Nelson.Soto@boral.com.au, Cameron.madeira@boral.com.au, Angus.shedden@boral.com.au													
Wagon / Locomotive / Number			Maint. Issues		Product Ordered	Product Loaded	Requested Quantity Tonnes (t)	Enable wagon loading	Actual Loaded Tonnes (t)	QA Number	Proposed Unloading Plant	Actual Unloading Plant	Wagon Load from Belt Weigher Tonnes
Sequence	Type	RFID#	Door	Issue									
1	RHK	371			GSAND	GSAND	75	Y	74.39		EA		
2	RHK	372			GSAND	GSAND	75	Y	73.78		EA		
3	RHK	391			GSAND	GSAND	75	Y	75.41		EA		
4	RHK	392			GSAND	GSAND	75	Y	75.82		EA		
5	RHK	151			GSAND	GSAND	75	Y	71.12		EA		
6	RHK	152			10P	10P	72	Y	71.23	140506_01_b1_1	EA		
7	RHK	181			10P	10P	72	Y	71.30	140506_01_b1_1	EA		
8	RHK	182			10P	10P	72	Y	71.63	140506_01_b1_1	EC		
9	RHK	61			10P	10P	72	Y	71.73	140506_01_b1_1	EC		
10	RHK	62			20C	20C	75	Y	75.12	140506_01_b2_2	EC		
11	RHK	161			20C	20C	75	Y	73.89	140506_01_b2_2	EC		
12	RHK	162			20C	20C	75	Y	74.31	140506_01_b2_2	EC		
13	RHK	241			20C	20C	75	Y	74.61	140506_01_b2_2	EC		
14	RHK	242			20A	20A	73	Y	73.03	140506_01_b3_3	EA		
15	RHK	251			20A	20A	73	Y	72.02	140506_01_b3_3	EA		
16	RHK	252			14A	14A	73	Y	72.91		EA		
17	RHK	231			14A	14A	73	Y	72.55		EA		
18	RHK	232			7A	7A	73	Y	72.06	140506_01_b5_4	EA		
19	RHK	81			7A	7A	73	Y	72.29	140506_01_b5_4	EA		
20	RHK	82			7A	7A	73	Y	72.38	140506_01_b5_4	EA		
21	RHK	91			PSAND	PSAND	65	Y	65.20	140506_02_b2_6	EC		
22	RHK	92			PSAND	PSAND	65	Y	65.61	140506_02_b2_6	EC		
23	RHK	71			PSAND	PSAND	65	Y	63.47	140506_02_b2_6	EC		
24	RHK	72			PSAND	PSAND	65	Y	57.96	140506_02_b2_6	EC		
25	RHK	221			GSAND	GSAND	65	Y	64.90		EA		
26	RHK	222			GSAND	GSAND	65	Y	64.68		EA		
27	RHK	281			GSAND	GSAND	65	Y	63.98		EA		
28	RHK	282			GSAND	GSAND	65	Y	65.10		EA		
29	RHK	31			GSAND	GSAND	65	Y	26.94		EA		
30	RHK	32			GSAND		65	Y	0.00		EA		
31	RHK	362			20C	20C	75	Y	75.02	140506_01_b6_5	StP		
32	RHK	361			20C	20C	75	Y	75.22	140506_01_b6_5	StP		
33	RHK	352			20C	20C	75	Y	73.90	140506_01_b6_5	StP		
34	RHK	351			20C	20C	75	Y	74.21	140506_01_b6_5	StP		
35		0					0	N	0.00				
36		0					0	N	0.00				
37		0					0	N	0.00				
38		0					0	N	0.00				
39		0					0	N	0.00				
40		0					0	N	0.00				
41		0					0	N	0.00				
42		0					0	N	0.00				
Total							2424.00	N	2297.77				
0										0 N		0	
Operator to sign off after inspecting bucket for contamination										Product Tonnage Summary			
Name:					Signature:					Product	Total	DSS DKT	DQ DKT
										10P	285.89		
										20A	145.05		
										14A	145.46		
										10A	0.00		
										7A	216.73		
										5A	0.00		
										20C	596.28		
										10C	0.00		
										PSAND	252.24		
										GSAND	656.12		
										LSAND	0.00		
										20D	0.00		
										10D	0.00		
										TBD1	0.00		
										TBD2	0.00		
										TBD3	0.00		
										DGB20	0.00		
										DGB40	0.00		
										SBLST	0.00		
										GBLST	0.00		
										40B	0.00		
										TBD4	0.00		
										TBD5	0.00		
										TOTAL	2297.77		
Actual Wagons unloaded at Maldon:													
Actual Wagons unloaded at Enfield:													
Actual Wagons unloaded at St.Peters:													

APPENDIX D

Environmental Protection Licence

Environment Protection Licence

Licence - 13088



Licence Details

Number:	13088
Anniversary Date:	23-July

Licensee

BORAL RESOURCES (NSW) PTY LTD

PO BOX 42

WENTWORTHVILLE NSW 2145

Premises

PEPPERTREE QUARRY

MARULAN SOUTH ROAD

MARULAN SOUTH NSW 2579

Scheduled Activity

Extractive Activities

Fee Based Activity

Scale

Land-based extractive activity

> 2000000 T extracted, processed or stored

Region

South East - Queanbeyan

11 Farrer Place

QUEANBEYAN NSW 2620

Phone: (02) 6229 7002

Fax: (02) 6229 7006

PO Box 622 QUEANBEYAN

NSW 2620

Environment Protection Licence



Licence - 13088

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Environment Protection Licence

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Information about this licence

Dictionary

A definition of terms used in the licence can be found in the dictionary at the end of this licence.

Responsibilities of licensee

Separate to the requirements of this licence, general obligations of licensees are set out in the Protection of the Environment Operations Act 1997 (“the Act”) and the Regulations made under the Act. These include obligations to:

- ensure persons associated with you comply with this licence, as set out in section 64 of the Act;
- control the pollution of waters and the pollution of air (see for example sections 120 - 132 of the Act); and
- report incidents causing or threatening material environmental harm to the environment, as set out in Part 5.7 of the Act.

Variation of licence conditions

The licence holder can apply to vary the conditions of this licence. An application form for this purpose is available from the EPA.

The EPA may also vary the conditions of the licence at any time by written notice without an application being made.

Where a licence has been granted in relation to development which was assessed under the Environmental Planning and Assessment Act 1979 in accordance with the procedures applying to integrated development, the EPA may not impose conditions which are inconsistent with the development consent conditions until the licence is first reviewed under Part 3.6 of the Act.

Duration of licence

This licence will remain in force until the licence is surrendered by the licence holder or until it is suspended or revoked by the EPA or the Minister. A licence may only be surrendered with the written approval of the EPA.

Licence review

The Act requires that the EPA review your licence at least every 5 years after the issue of the licence, as set out in Part 3.6 and Schedule 5 of the Act. You will receive advance notice of the licence review.

Fees and annual return to be sent to the EPA

For each licence fee period you must pay:

- an administrative fee; and
- a load-based fee (if applicable).

Environment Protection Licence

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The EPA publication “A Guide to Licensing” contains information about how to calculate your licence fees. The licence requires that an Annual Return, comprising a Statement of Compliance and a summary of any monitoring required by the licence (including the recording of complaints), be submitted to the EPA. The Annual Return must be submitted within 60 days after the end of each reporting period. See condition R1 regarding the Annual Return reporting requirements.

Usually the licence fee period is the same as the reporting period.

Transfer of licence

The licence holder can apply to transfer the licence to another person. An application form for this purpose is available from the EPA.

Public register and access to monitoring data

Part 9.5 of the Act requires the EPA to keep a public register of details and decisions of the EPA in relation to, for example:

- licence applications;
- licence conditions and variations;
- statements of compliance;
- load based licensing information; and
- load reduction agreements.

Under s320 of the Act application can be made to the EPA for access to monitoring data which has been submitted to the EPA by licensees.

This licence is issued to:

BORAL RESOURCES (NSW) PTY LTD

PO BOX 42

WENTWORTHVILLE NSW 2145

subject to the conditions which follow.

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1 Administrative Conditions

A1 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:

The licensee is permitted to undertake pre-construction exploratory test pit activities as described in modification application 06_0074 MOD 1 relating to the extraction and despatch of up to 9,000 tonnes of extracted material..

A1.2 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.

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.

Scheduled Activity	Fee Based Activity	Scale
Extractive Activities	Land-based extractive activity	> 2000000 T extracted, processed or stored

A2 Premises or plant to which this licence applies

A2.1 The licence applies to the following premises:

Premises Details
PEPPERTREE QUARRY
MARULAN SOUTH ROAD
MARULAN SOUTH
NSW 2579
LOT 2 DP 106569, LOT 4 DP 106569, LOT 5 DP 111641, LOT 5 DP 203290, LOT 1 DP 216767, LOT 2 DP 216767, LOT 3 DP 216767, LOT 4 DP 216767, LOT 5 DP 216767, LOT 6 DP 216767, LOT 7 DP 216767, LOT 8 DP 216767, LOT 9 DP 216767, LOT 1 DP 261615, LOT 2 DP 261615, LOT 3 DP 261615, LOT 4 DP 261615, LOT 5 DP 261615, LOT 6 DP 261615, LOT 1 DP 371167, LOT 1 DP 557562, LOT 2 DP 557562, LOT 11 DP 570616, LOT 12 DP 570616, LOT 21 DP 657523, LOT 95 DP 750029, LOT 109 DP 750029, LOT 143 DP 750029, LOT 22 DP 867667, LOT 23 DP 867667, LOT 24 DP 867667
AUTO CONSOL 14488213

A3 Information supplied to the EPA

A3.1 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.

In this condition the reference to "the licence application" includes a reference to:

Environment Protection Licence

Licence - 13088



- 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
- b) the licence information form provided by the licensee to the EPA to assist the EPA in connection with the issuing of this licence.

2 Discharges to Air and Water and Applications to Land

P1 Location of monitoring/discharge points and areas

- P1.1 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.

<i>Air</i>			
EPA identification no.	Type of Monitoring Point	Type of Discharge Point	Location Description
1	Dust Monitoring- TSP		High Volume Air Sampler labelled 'HV1' on Figure 3.1 'Air Quality Equipment Locations' in 'Peppertree Quarry Air Quality Management Plan' dated 2 August 2012
2	Dust Monitoring- PM10		High Volume Air Sampler labelled 'HV2' on Figure 3.1 'Air Quality Equipment Locations' in 'Peppertree Quarry Air Quality Management Plan' dated 2 August 2012
3	Dust Monitoring		Dust Deposition Gauge labelled 'D1' on Figure 3.1 'Air Quality Equipment Locations' in 'Peppertree Quarry Air Quality Management Plan' dated 2 August 2012
4	Dust Monitoring		Dust Deposition Gauge labelled 'D2' on Figure 3.1 'Air Quality Equipment Locations' in 'Peppertree Quarry Air Quality Management Plan' dated 2 August 2012
5	Dust Monitoring		Dust Deposition Gauge labelled 'D3' on Figure 3.1 'Air Quality Equipment Locations' in 'Peppertree Quarry Air Quality Management Plan' dated 2 August 2012

3 Limit Conditions

L1 Pollution of waters

- L1.1 Except as may be expressly provided in any other condition of this licence, the licensee must comply with section 120 of the Protection of the Environment Operations Act 1997.

L2 Noise limits

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L2.1 Noise generated at the premises must not exceed the noise limits presented in the table below:

Residential Receiver	Day Shift	Night Shift	Night Shift	Night Shift
	Day	Evening	Night	Night
	LAeq(15 minute)	LAeq(15 minute)	LAeq(15 minute)	LA1(1 minute)
2	39	35	35	45
5	35	35	35	45
6	35	35	35	45
16	41	35	35	45
Any other noise sensitive location	35	35	35	45

Note: For the purposes of the above table, the following definitions apply:

- Day - the period from 7.00am to 6.00pm Monday to Saturday; or 8.00am to 6.00pm on Sundays and public holidays.
- Evening - the period from 6.00pm to 10.00pm.
- Night - the remaining periods

The identified "Day" noise criteria apply throughout the period of the site's Day Shift (ie 7.00am to 7.00pm) on all days, despite the general definitions of Evening and Night otherwise applying to the approval. The identified "Evening" and "Night" criteria apply only during the period of the site's Night Shift (ie 7.00pm to 7.00am).

L2.2 Noise from the site is to be measured at the most affected point within the residential boundary, or at the most affected point within 30 metres of the dwelling where the dwelling is more than 30 metres from the boundary, to determine compliance with the identified noise limits, except where specified below.

Noise from the project is to be measured at 1 metre from the dwelling facade to determine compliance with the LA1(1 minute) noise level.

Where it can be demonstrated the direct measurement of noise from the project is impractical, alternative means of determining compliance may be acceptable (see Chapter 11 of the NSW Industrial Noise Policy).

The modification factors presented in Section 4 of the NSW Industrial Noise Policy shall also be applied to the measured noise level where applicable.

The identified noise emission limits apply under meteorological conditions of wind speed up to 3m/s at 10 metres above ground level, and temperature inversions.

L3 Blasting

L3.1 The licensee must ensure that the airblast overpressure level from blasting at the project does not exceed the criteria in the below table at any residence on privately owned land:

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

- L3.2 The licensee must ensure that the ground vibration level from blasting at the project does not exceed the criteria in the below table at any residence or sensitive receiver on privately owned land.

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

4 Operating Conditions

O1 Activities must be carried out in a competent manner

- O1.1 Licensed activities must be carried out in a competent manner.

This includes:

- the processing, handling, movement and storage of materials and substances used to carry out the activity; and
- the treatment, storage, processing, reprocessing, transport and disposal of waste generated by the activity.

O2 Maintenance of plant and equipment

- O2.1 All plant and equipment installed at the premises or used in connection with the licensed activity:

- must be maintained in a proper and efficient condition; and
- must be operated in a proper and efficient manner.

O3 Dust

- O3.1 The premises must be maintained in a condition which minimises or prevents the emission of dust from the premises.

5 Monitoring and Recording Conditions

M1 Monitoring records

- M1.1 The results of any monitoring required to be conducted by this licence or a load calculation protocol must

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be recorded and retained as set out in this condition.

M1.2 All records required to be kept by this licence must be:

- in a legible form, or in a form that can readily be reduced to a legible form;
- kept for at least 4 years after the monitoring or event to which they relate took place; and
- produced in a legible form to any authorised officer of the EPA who asks to see them.

M1.3 The following records must be kept in respect of any samples required to be collected for the purposes of this licence:

- the date(s) on which the sample was taken;
- the time(s) at which the sample was collected;
- the point at which the sample was taken; and
- the name of the person who collected the sample.

M2 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:

M2.2 Air Monitoring Requirements

POINT 1

Pollutant	Units of measure	Frequency	Sampling Method
Total suspended particles	micrograms per cubic metre	Special Frequency 1	AS/NZS 3580.9.3:2003

POINT 2

Pollutant	Units of measure	Frequency	Sampling Method
PM10	micrograms per cubic metre	Special Frequency 1	AS/NZS 3580.9.6:2003

POINT 3,4,5

Pollutant	Units of measure	Frequency	Sampling Method
Particulates - Deposited Matter	grams per square metre per month	Monthly	Australian Standard 3580.10.1-2003

Note: For the purpose of the above table(s), Special Frequency 1 means the collection of samples over a 24 hour period, every 6 days.

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M3 Testing methods - concentration limits

- M3.1 Monitoring for the concentration of a pollutant emitted to the air required to be conducted by this licence must be done in accordance with:
- any methodology which is required by or under the Act to be used for the testing of the concentration of the pollutant; or
 - if no such requirement is imposed by or under the Act, any methodology which a condition of this licence requires to be used for that testing; or
 - if no such requirement is imposed by or under the Act or by a condition of this licence, any methodology approved in writing by the EPA for the purposes of that testing prior to the testing taking place.

Note: The *Protection of the Environment Operations (Clean Air) Regulation 2010* requires testing for certain purposes to be conducted in accordance with test methods contained in the publication "Approved Methods for the Sampling and Analysis of Air Pollutants in NSW".

M4 Recording of pollution complaints

- M4.1 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.
- M4.2 The record must include details of the following:
- the date and time of the complaint;
 - the method by which the complaint was made;
 - any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect;
 - the nature of the complaint;
 - the action taken by the licensee in relation to the complaint, including any follow-up contact with the complainant; and
 - if no action was taken by the licensee, the reasons why no action was taken.
- M4.3 The record of a complaint must be kept for at least 4 years after the complaint was made.
- M4.4 The record must be produced to any authorised officer of the EPA who asks to see them.

M5 Telephone complaints line

- M5.1 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.
- M5.2 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.
- M5.3 The preceding two conditions do not apply until 3 months after:
- the date of the issue of this licence or
 - if this licence is a replacement licence within the meaning of the Protection of the Environment

Environment Protection Licence

Licence - 13088



Operations (Savings and Transitional) Regulation 1998, the date on which a copy of the licence was served on the licensee under clause 10 of that regulation.

6 Reporting Conditions

R1 Annual return documents

- R1.1 The licensee must complete and supply to the EPA an Annual Return in the approved form comprising:
- a) a Statement of Compliance; and
 - b) a Monitoring and Complaints Summary.
- 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.
- R1.2 An Annual Return must be prepared in respect of each reporting period, except as provided below.
- R1.3 Where this licence is transferred from the licensee to a new licensee:
- 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.
- R1.4 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:
- a) in relation to the surrender of a licence - the date when notice in writing of approval of the surrender is given; or
 - b) in relation to the revocation of the licence - the date from which notice revoking the licence operates.
- R1.5 The Annual Return for the reporting period must be supplied to the EPA 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').
- 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.
- R1.7 Within the Annual Return, the Statement 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.
- R1.8 A person who has been given written approval to certify a certificate of compliance under a licence issued under the Pollution Control Act 1970 is taken to be approved for the purpose of this condition until the date of first review of this licence.

Note: The term "reporting period" is defined in the dictionary at the end of this licence. Do not complete the Annual Return until after the end of the reporting period.

Note: An application to transfer a licence must be made in the approved form for this purpose.

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R2 Notification of environmental harm

- R2.1 Notifications must be made by telephoning the Environment Line service on 131 555.
- 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.

Note: The licensee or its employees must notify all relevant authorities of incidents causing or threatening material harm to the environment immediately after the person becomes aware of the incident in accordance with the requirements of Part 5.7 of the Act.

R3 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.
- 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.
- 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.
- 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.

7 General Conditions

Environment Protection Licence

Licence - 13088



G1 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.

G1.2 The licence must be produced to any authorised officer of the EPA who asks to see it.

G1.3 The licence must be available for inspection by any employee or agent of the licensee working at the premises.

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Dictionary

General Dictionary

3DGM [in relation to a concentration limit]	Means the three day geometric mean, which is calculated by multiplying the results of the analysis of three samples collected on consecutive days and then taking the cubed root of that amount. Where one or more of the samples is zero or below the detection limit for the analysis, then 1 or the detection limit respectively should be used in place of those samples
Act	Means the Protection of the Environment Operations Act 1997
activity	Means a scheduled or non-scheduled activity within the meaning of the Protection of the Environment Operations Act 1997
actual load	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
AM	Together with a number, means an ambient air monitoring method of that number prescribed by the <i>Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales</i> .
AMG	Australian Map Grid
anniversary date	The anniversary date is the anniversary each year of the date of issue of the licence. In the case of a licence continued in force by the Protection of the Environment Operations Act 1997, the date of issue of the licence is the first anniversary of the date of issue or last renewal of the licence following the commencement of the Act.
annual return	Is defined in R1.1
Approved Methods Publication	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
assessable pollutants	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
BOD	Means biochemical oxygen demand
CEM	Together with a number, means a continuous emission monitoring method of that number prescribed by the <i>Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales</i> .
COD	Means chemical oxygen demand
composite sample	Unless otherwise specifically approved in writing by the EPA, a sample consisting of 24 individual samples collected at hourly intervals and each having an equivalent volume.
cond.	Means conductivity
environment	Has the same meaning as in the Protection of the Environment Operations Act 1997
environment protection legislation	Has the same meaning as in the Protection of the Environment Administration Act 1991
EPA	Means Environment Protection Authority of New South Wales.
fee-based activity classification	Means the numbered short descriptions in Schedule 1 of the Protection of the Environment Operations (General) Regulation 2009.
general solid waste (non-putrescible)	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997

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flow weighted composite sample	Means a sample whose composites are sized in proportion to the flow at each composites time of collection.
general solid waste (putrescible)	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
grab sample	Means a single sample taken at a point at a single time
hazardous waste	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
licensee	Means the licence holder described at the front of this licence
load calculation protocol	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
local authority	Has the same meaning as in the Protection of the Environment Operations Act 1997
material harm	Has the same meaning as in section 147 Protection of the Environment Operations Act 1997
MBAS	Means methylene blue active substances
Minister	Means the Minister administering the Protection of the Environment Operations Act 1997
mobile plant	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
motor vehicle	Has the same meaning as in the Protection of the Environment Operations Act 1997
O&G	Means oil and grease
percentile [in relation to a concentration limit of a sample]	Means that percentage [eg.50%] of the number of samples taken that must meet the concentration limit specified in the licence for that pollutant over a specified period of time. In this licence, the specified period of time is the Reporting Period unless otherwise stated in this licence.
plant	Includes all plant within the meaning of the Protection of the Environment Operations Act 1997 as well as motor vehicles.
pollution of waters [or water pollution]	Has the same meaning as in the Protection of the Environment Operations Act 1997
premises	Means the premises described in condition A2.1
public authority	Has the same meaning as in the Protection of the Environment Operations Act 1997
regional office	Means the relevant EPA office referred to in the Contacting the EPA document accompanying this licence
reporting period	For the purposes of this licence, the reporting period means the period of 12 months after the issue of the licence, and each subsequent period of 12 months. In the case of a licence continued in force by the Protection of the Environment Operations Act 1997, the date of issue of the licence is the first anniversary of the date of issue or last renewal of the licence following the commencement of the Act.
restricted solid waste	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
scheduled activity	Means an activity listed in Schedule 1 of the Protection of the Environment Operations Act 1997
special waste	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
TM	Together with a number, means a test method of that number prescribed by the <i>Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales</i> .

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TSP	Means total suspended particles
TSS	Means total suspended solids
Type 1 substance	Means the elements antimony, arsenic, cadmium, lead or mercury or any compound containing one or more of those elements
Type 2 substance	Means the elements beryllium, chromium, cobalt, manganese, nickel, selenium, tin or vanadium or any compound containing one or more of those elements
utilisation area	Means any area shown as a utilisation area on a map submitted with the application for this licence
waste	Has the same meaning as in the Protection of the Environment Operations Act 1997
waste type	Means liquid, restricted solid waste, general solid waste (putrescible), general solid waste (non - putrescible), special waste or hazardous waste

Mr Julian Thompson

Environment Protection Authority

(By Delegation)

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End Notes

- 1 Licence varied by notice 1125628, issued on 22-Mar-2011, which came into effect on 22-Mar-2011.
- 2 Licence varied by notice 1516534 issued on 23-Sep-2013

