
Hunter Quarries - Karuah Quarry Independent Environmental Audit 2019

September 2019

Prepared for Hunter Quarries
October 2019

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Hunter Quarries - Karuah Quarry Independent Environmental Audit 2019

September 2019

Report Number

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Hunter Quarries

Date

16 October 2019

Version

v1.0 Final

Prepared by**Approved by**

16 October 2019



16 October 2019

This report has been prepared in accordance with the brief provided by the client and has relied upon the information collected at the time and under the conditions specified in the report. All findings, conclusions or recommendations contained in the report are based on the aforementioned circumstances. The report is for the use of the client and no responsibility will be taken for its use by other parties. The client may, at its discretion, use the report to inform regulators and the public.

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Independent Audit Declaration Form

Project name	Karuah Quarry
Consent number	DA 265-10-2004
Description of project	Karuah Quarry- Hunter Quarries
Project address	Corner of Andersite Road and Tarean Road, Karuah, New South Wales, 2324
Proponent	Hunter Quarries Pty Ltd
Title of audit	Karuah Quarry 2019 Independent Environmental Audit
Date	16/10/2019
I declare that I have undertaken the Independent Audit and prepared the contents of the attached Independent Audit Report and to the best of my knowledge: - the audit has been undertaken in accordance with relevant approval condition(s) of consent and in accordance with the <i>Independent Audit Post Approval Requirements</i> (Department 2018); - the findings of the audit are reported truthfully, accurately and completely; - I have exercised due diligence and professional judgement in conducting the audit; - I have acted professionally, objectively and in an unbiased manner; - I am not related to any proponent, owner or operator of the project neither as employer, business partner, employee, or by sharing a common employer, having a contractual arrangement outside the audit, or by relationship as spouse, partner, sibling, parent or child; - I do not have any pecuniary interest in the audited project, including where there is a reasonable likelihood or expectation of financial gain or loss to me or spouse, partner, sibling, parent or child; - neither I nor my employer have provided consultancy services for the audited development that were subject to this audit except as otherwise declared to the Department prior to the audit; and - I have not accepted, nor intend to accept any inducement, commission, gift or any other benefit (apart from fair payment for auditing services) from any proponent, owner or operator of the project, their employees or any interested party. I have not knowingly allowed, nor intend to allow my colleagues to do so. Note: a) Under section 10.6 of the <i>Environmental Planning and Assessment Act 1979</i> a person must not include false or misleading information (or provide information for inclusion in) in a report of monitoring data or an audit report produced to the Minister in connection with an audit if the person knows that the information is false or misleading in a material respect. The proponent of an approved project must not fail to include information in (or provide information for inclusion in) a report of monitoring data or an audit report produced to the Minister in connection with an audit if the person knows that the information is materially relevant to the monitoring or audit. The maximum penalty is, in the case of a corporation, \$1 million and for an individual, \$250,000; and b) The <i>Crimes Act 1900</i> contains other offences relating to false and misleading information: section 307B (giving false or misleading information – maximum penalty 2 years imprisonment or 200 penalty units, or both).	
Name of auditor	Brendan Rice
Signature	
Qualification	Bachelor of Science (Hons), University of Newcastle, 2005; Exemplar Global Associate Environmental Auditor (No. 113920)
Company	EMM Consulting Pty Limited
Company address	Level 3, 175 Scott Street, Newcastle, NSW 2300

Executive Summary

The Karuah Quarry is located approximately four kilometres north of the township of Karuah within the MidCoast Local Government Area (LGA). The applicant, Hunter Quarries, is required to conduct an Independent Environmental Audit (IEA) of the Karuah Quarry every five years. This IEA was conducted by EMM Consulting Pty Ltd (EMM) on 31 July 2019. The audit has been completed in accordance with the Development Consent DA 265-10-2004 and the DPIE document *Independent Audit Post Approval Requirements (2018)*.

The objective of the audit was to assess compliance with the development consent, including the environmental management plans, as well as the overall effectiveness of environmental management at the site.

Of the 64 conditions from the development consent for the quarry, a total of 11 non-compliances were identified, representing approximately 17% of the conditions. Therefore, the findings of this audit are that Hunter Quarries were compliant with 83% of the conditions for the site and that the site generally complies with the development consent and management plan conditions.

The quarry Environmental Management Strategy (EMS) and associated environmental management plans were found to be generally adequate in scope for the activities being undertaken at the site and were being applied in practice by Hunter Quarries.

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D.11

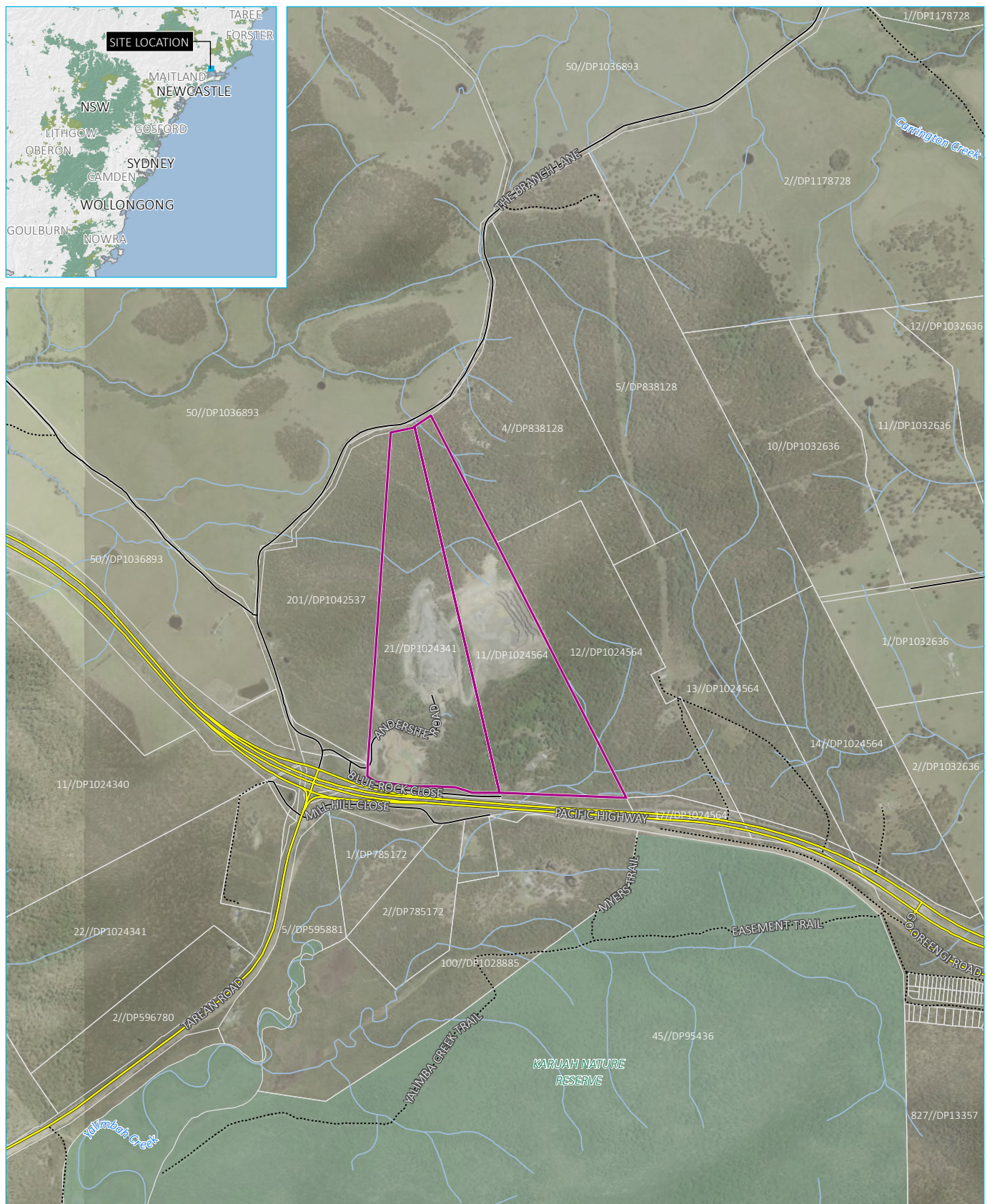
1 Introduction

1.1 Background

The Karuah Quarry is located approximately four kilometres north of the township of Karuah and is within the MidCoast LGA. (see Figure 1.1).

Hunter Quarries has operated a hard rock quarry at Karuah since 2002. The subject land encompasses Lot 21 DP 1024341, Lot 11 DP 1024564 and part of Lot 12 DP 1024564. The quarrying activities take place on Lot 11 and Lot 12 (Stage 2 workings). A conservation (offset) area is also established on the southern portion of Lot 12. The site comprises of an area of 78.5 hectares with the extension into the Stage 2 area (the active quarrying area) encompassing approximately 10.8 hectares, in addition to the originally approved Karuah Red Quarry area (see Figure 1.2).

The development consent outlines Karuah Quarry is required to conduct an Independent Environmental Audit (IEA) every five years. This report details the findings of the IEA conducted in July 2019 by EMM.



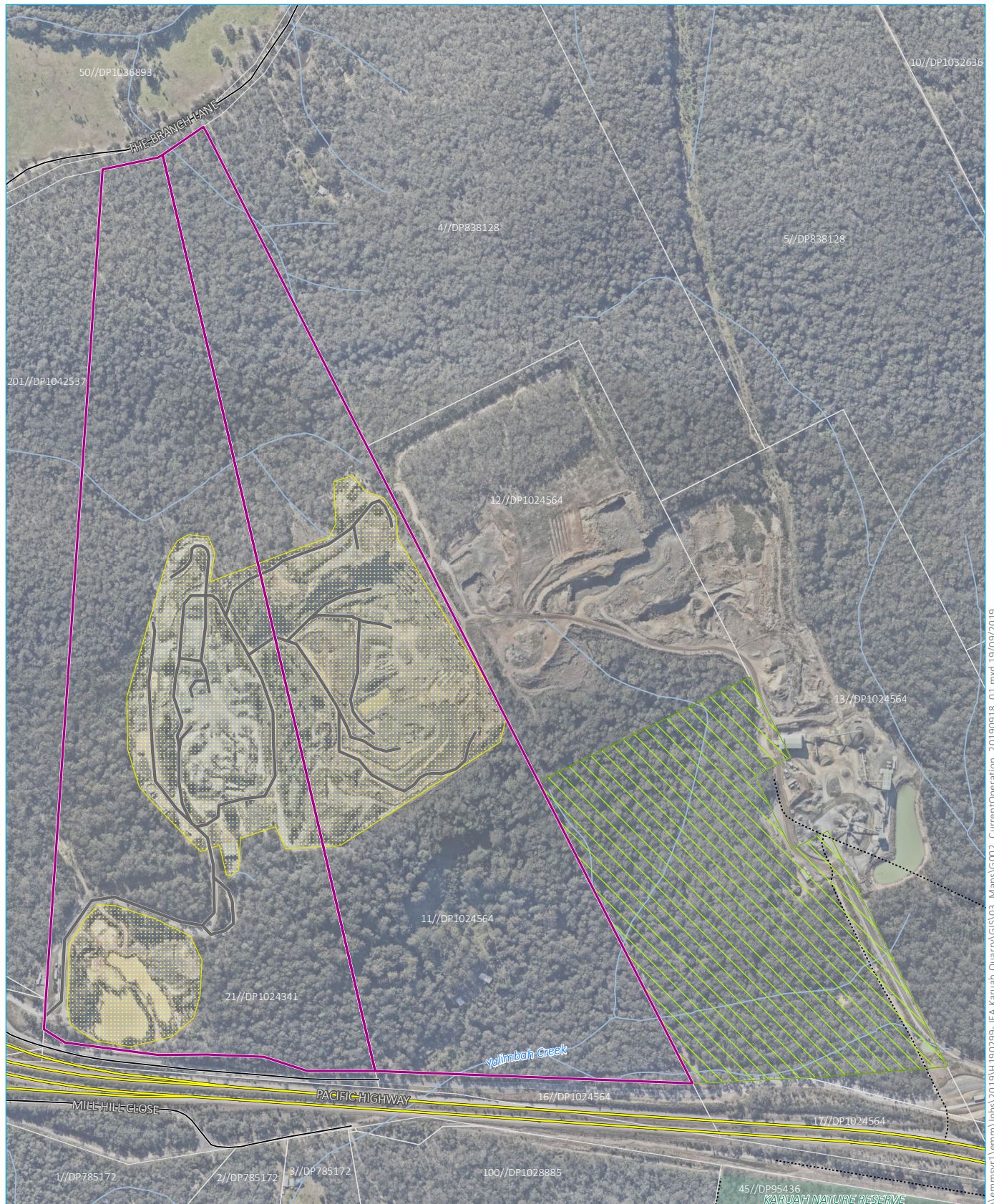
Source: EMM (2019); DFSI (2017); GA (2011)

KEY

- Site boundary
- Main road
- Local road
- Vehicular track
- Watercourse/drainage line
- Cadastral boundary
- NPWS reserve
- State forest (refer to inset)

Locality

Hunter Quarries Pty Ltd
Karuah Quarry audit
Figure 1.1



Source: EMM (2019); DFSI (2017); GA (2011); Nearmap (2019)

KEY

- Site boundary
- Existing quarry area
- Conservation offset area
- Quarry road
- Main road
- Local road
- Vehicular track
- Watercourse/drainage line
- Cadastral boundary
- NPWS reserve

Current operations

Hunter Quarries Pty Ltd
Karuah Quarry audit
Figure 1.2

1.2 Overview of Karuah Quarry

1.2.1 Operations at Karuah

Hunter Quarries Pty Limited (Hunter Quarries) has operated a hard rock quarry at Karuah since 2002. Hunter Quarries is a leading quarry operator and supplier of quality quarry products specifically for the building, construction and landscaping industries. Products at the Karuah Quarry include asphalt aggregates, concrete aggregates, manufactured sand, crusher dust, road bases, gabion rock and rhyolite.

Hunter Quarries received an approval to expand the quarry into Stage 2 area on 3 June 2005 (DA 265-10-2004) with the approved development including:

- implementing the remainder of the approved Stage 1 quarry operation;
- extending the quarry operations into the Stage 2 area;
- upgrading and using existing infrastructure on site;
- rehabilitating the site by re-contouring and revegetating exposed surfaces; and
- producing up to 500,000 tonnes of product a year over the consent period.

Hunter Quarries holds and maintains an Environment Protection Licence 11569 (EPL 11569) which covers its activities at the Karuah Quarry. The licensed fee-based activities comprise:

- crushing, grinding or separating works (>100,000- 500,000 t processed); and
- hard-rock gravel quarrying (>100,000-500,000 t obtained).

Compliance with the conditions of EPL 11569 has not been assessed, in accordance with the *Independent Audit: Post Approval Requirements June 2018* (DPIE 2018). It is discussed only to satisfy Schedule 3, Conditions 24 and 25 as outlined in DA-265-10-2004.

The neighbouring Hunter Quarries owned Karuah East Quarry has a separate project approval which was approved by DPE on 17 June 2014. This project is separate from Karuah Quarry and will not be assessed within this audit.

1.2.2 Site environmental management

An Environmental Management Strategy (EMS) has been prepared and approved to satisfy the requirements of the Development Consent and to demonstrate environmental due diligence.

The Environmental Management Strategy and other plans required by the conditions of consent, provide guidance to the Quarry Manager, employees and contractors on the current environmental requirements of the quarry operations for the site. Implementation of the EMS onsite is the responsibility of Greg Dressler, the quarry manager.

The EMS is to be reviewed:

- every three years;
- within three months following the completion of an Independent Environmental Audit (IEA) in accordance with Schedule 4, Condition 4 of the DA 265-10-2004;

- as required by a significant change in the operation; and
- the status of proposed actions is reported in the AEMR.

Hunter Quarries has established and implemented formal roles and responsibilities with standards and protocols that identify, manage and monitor environmental aspects and impacts associated with operations.

A Community Consultation Committee (CCC) has not been established specific to Karuah Quarry. As outlined in the Environmental Management Strategy 2014, Schedule 4, Condition 10 states that where at least two expressions of interest to serve on the CCC are not received, then in lieu of a CCC, HQPL shall develop a Communication Strategy for consulting with Council and the residents within two kilometres (km) of the quarry. Further information regarding the implementation of the Communications Strategy is discussed in Sections 3.3 and 4.1.

1.3 Audit objectives

The objective of the 2019 IEA is to obtain an independent and objective assessment of the environmental performance and compliance status of the Karuah Quarry during the required audit period.

Schedule 4, Condition 6 of development consent DA 265-10-2004 requires an independent environmental audit of the development. As outlined, the audit is to be conducted within two years of the date of the consent, and every five years thereafter unless directed otherwise by the Director-General DPIE.

1.4 Audit scope

The 2019 IEA was undertaken in accordance with the Department of Planning and Environment (DPE) *Independent Audit Post Approval Requirements* (DPE 2018).

Specifically, the audit must meet the consent conditions detailed in Table 1.1 below.

Table 1.1 Relevant Conditions of Independent Environmental Audit

Condition Number	Condition Requirement	Section of Document
Schedule 4 6.	<i>Within 2 years of the date of this consent, and every 5 years thereafter, unless the Director-General directs otherwise, the Applicant shall commission and pay the full cost of an Independent Environmental Audit of the development. This audit must:</i>	This document
a)	<i>be conducted by a suitably qualified, experienced, and independent person whose appointment has been endorsed by the Director-General</i>	Section 2.1
b)	<i>be consistent with ISO 19011:2002 - Guidelines for Quality and/or Environmental Systems Auditing, or updated versions of this guideline;</i>	This document
c)	<i>assess the environmental performance of the development, and its effects on the surrounding environment;</i>	Section 3
d)	<i>assess whether the development is complying with the relevant standards, performance measures, and statutory requirements;</i>	Section 3 and 4
e)	<i>review the adequacy of the Applicant's Environmental Management Strategy and Environmental Monitoring Program; and</i>	Section 3.10.1 and 3.10.2
f)	<i>if necessary, recommend measures or actions to improve the environmental performance of the development, and/or the environmental management and monitoring systems</i>	Section 4

Table 1.1 Relevant Conditions of Independent Environmental Audit

Condition Number	Condition Requirement	Section of Document
7.	<i>Within 3 months of commissioning this audit, or as otherwise agreed by the Director-General, the Applicant shall submit a copy of the audit report to the Director-General, with a response to the recommendations contained in the audit report.</i>	To be undertaken by the Proponent

The 2019 IEA was also carried out generally in accordance with *ISO 19011:2002- Guidelines for Quality and/or Environmental Systems Auditing* to meet the requirements outlined in Schedule 4, Condition 6 of the development consent.

The audit team consulted with the DPIE, Environment Protection Authority (EPA) and MidCoast Council to obtain their input into the scope of the IEA.

Specifically, the scope of the IEA considered compliance with:

1. Conditions within the development consent:
 - a) Schedule 2: Administrative Conditions (1-13);
 - b) Schedule 3: Specific Environmental Conditions (1-44);
 - c) Schedule 4: Environmental Management, Monitoring, Auditing and Reporting (1-10);
2. Assessment of operational performance against the predictions and conclusions in:
 - Environmental Impact Statement (EIS) titled *Environmental Impact Statement (Volume 1 of 3) Proposed Hard Rock Quarry Extension* (Asquith & deWitt Pty Ltd, 2004);
3. Review of effectiveness of environmental management against management measures outlined in Hunter Quarries' site management plans, including:
 - *Environmental Monitoring Program, Hunter Quarries, Hard Rock Quarry, Karuah;*
 - *Flora and Fauna Management Plan, Hunter Quarries, Hard Rock Quarry Karuah;*
 - *Rehabilitation Management Plan, Hunter Quarries, Hard Rock Quarry Karuah;*
 - *Environmental Management Strategy Hunter Quarries, Hard Rock Quarry Karuah;* and
 - *Site Water Management Plan, Hunter Quarries, Hard Rock Quarry Karuah.*

1.5 Audit period

The 2019 IEA assessed the environmental performance and compliance status of the Hunter Quarries Karuah Quarry operations from 25 July 2014 to 31 July 2019.

1.6 Report structure

Chapter 1 provides an introduction, including an overview of the Karuah Quarry and the activities that have occurred during the audit period. This section also outlines the audit objectives, scope and auditing period.

Chapter 2 provides information on the audit methodology, audit team, the approval and documents that have been audited, the audit activities that have occurred and the assessment criteria.

Chapter 3 provides the findings of the audit with regards to site management, environmental systems and compliance with the development consent.

Chapter 4 summarises the recommendations of the audit in response to identified non-compliances and potential areas for improved performance.

Appendix A Independent Audit Compliance Table.

Appendix B Planning Secretary Endorsement.

Appendix C Consultation.

Appendix D Photographs.

2 Audit methodology

2.1 Selection and endorsement of audit team

This is an 'independent' audit, meaning that the auditor must be endorsed by the Secretary of DPIE prior to conduct of the audit. As such, the lead auditor's qualifications and a statement on their independence from the site were submitted to DPIE and approval was obtained on 4 June 2019 (refer Appendix A).

2.2 Independent audit scope development and compliance evaluation

The 2019 IEA of the Karuah Quarry has been carried out in accordance with the *Independent Audit Post Approval Requirements June 2018* (DPIE 2018) and in reference to *AS/NZS ISO 19011.2014- Guidelines for Auditing Management Systems*.

The audit scope was developed by the auditing team, Brendan Rice, Jessica Bowditch and David Bone and included the development consent and all management plans relevant to the operation of Karuah Quarry. The key objective of the audit was to assess compliance with conditions of the development consent relevant to ongoing operations at Karuah Quarry.

2.3 Site Inspection

The audit team undertook a site inspection on Wednesday, 31 July 2019, during which the audit team were escorted at all times by Greg Dressler (Quarry Manager) and Joel Fleming (Environmental Officer). The site inspection was restricted to areas accessible within the approved operational areas. Appendix D includes photographs that were taken during the site inspection.

The following areas were inspected during the site inspection:

- the grade separated interchange at Branch Lane;
- site depot (includes administration office, amenities, weighbridge and carpark);
- maintenance workshop (including designated refuelling area);
- current extraction area (Stage 2);
- drilling and blasting pad area (south-eastern portion of extraction area);
- crushing, grinding and stockpile area;
- sedimentation dams and sediment dam 2 discharge point; and
- accessible areas around the perimeter of the conservation offset area.

2.4 Site interviews

Interviews were conducted by the audit team during the site inspection with the following site personnel:

- Greg Dressler- Quarry Manager; and
- Joel Fleming- Environmental Officer. Joel was recently employed in the role as Environmental Officer commencing July 2019.

2.5 Consultation

Consultation with DPIE, EPA and MidCoast Council was undertaken as part of the audit process, which included formal request for feedback on environmental performance at the facility. The outcomes of this consultation are provided in Section 3.7 while consultation documentation is contained in Appendix C.

2.6 Compliance status descriptors

The audit has been undertaken in consideration of the following compliance status descriptors, which is consistent with the Independent Audit Post Approval Requirements (DPIE 2018):

- **Compliant** - the auditor has collected sufficient verifiable evidence to demonstrate that all elements of the requirement have been complied with within the scope of the audit;
- **Non-compliant** - the auditor has determined that one or more specific elements of the conditions or requirements have not been complied with within the scope of the audit; and
- **Not triggered** - a requirement has an activation or timing trigger that has not been met at the time when the audit is undertaken, therefore an assessment of compliance is not relevant.

In addition to the compliance status descriptors, the auditor may make such observations and notes, including identifying any opportunities for improvement, as they see fit in relation to any compliance requirement or any other aspect of the development.

3 Audit findings

3.1 Approvals and documents audited

The following documents have been reviewed in undertaking the audit and in assessing compliance against relevant development consent conditions and the operational performance and effectiveness of environmental management measures implemented during the audit period:

- Development Consent DA-265-10-2004, issued under Section 80 of the EP&A Act;
- Environmental Impact Statement, Proposed Hard Rock Quarry Extension (Asquith & deWITT 2004);
- Annual Environmental Management Reports for Karuah Quarry:
 - 2018 Annual Environmental Management Report (Hunter Quarries Pty Ltd);
 - 2017 Annual Environmental Management Report (Hunter Quarries Pty Ltd);
 - 2016 Annual Environmental Management Report (Hunter Quarries Pty Ltd);
 - 2015 Annual Environmental Management Report (Hunter Quarries Pty Ltd); and
 - 2014 Annual Environmental Management Report (Hunter Quarries Pty Ltd).
- Environmental management systems and plans:
 - Hunter Quarries Bushfire Management Plan (2014);
 - Hunter Quarries Environmental Management Strategy, (2016);
 - Hunter Quarries Environmental Monitoring Program, (2014);
 - Hunter Quarries Flora and Fauna Management Plan (2014);
 - Hunter Quarries Rehabilitation Management Plan, (2014 and 2016); and
 - Hunter Quarries Site Water Management Plan, Hard Rock Quarry, Karuah (2016 and previous versions).
- EMM note that, at the time of the audit, a draft Conceptual Rehabilitation and Closure Plan, was in preparation by Hunter Quarries, in consultation with DPIE. Prior to 2019 (i.e. during the audit period) the site had not triggered the requirement to develop a Quarry Closure Plan, due to the timeframe requirement for the plan (i.e. 3 years prior to cessation of quarrying);
- Independent audits:
 - 2014 Karuah Hard Rock Quarry (MCW Environmental 2014).

- Statutory correspondence:
 - DPE letter to Hunter Quarries dated 31/7/2006 *Karuah Hard Rock Quarry (DA 265-10-2004) Compliance with Development Consent*;
 - DPE letter to Hunter Quarries dated 1/4/2016 *Updated Environmental Management Strategy and Management Plans March 2016*;
 - DPE letter to Hunter Quarries dated 3/5/2017 *Annual Environmental Management Report 2016*;
 - DPE letter to Hunter Quarries dated 9/6/2017 *Annual Environmental Management Report 2016 (Revised)*;
 - DPE letter to Hunter Quarries dated 4/5/2018 *DA 265-10-2004-Karuah Hard Rock Quarry- 2017 Annual Review*;
 - DPE letter to Hunter Quarries dated 9/5/2019 *Karuah Hard Rock Quarry 2018 Annual Review*;
 - DPE letter to Hunter Quarries dated 4/6/2019 *Karuah Hard Rock Quarry (DA 265-10-2004) 2019 Independent Environmental Audit*;
 - DPE Show Cause Notice to Hunter Quarries dated June 2016; and
 - Hunter Quarries Response to DPE dated 15 June 2016.
- Maintenance and service records:
 - Hunter Quarries, *Coast & Valley Oil Recyclers Receipt*, dated 2/4/2019;
 - Hunter Quarries, *General Site Induction Karuah Quarry*, Version 15 dated 22 October 2018;
 - Hunter Quarries, *HQ Familiarisation Record Form, Driver Induction*, dated 15/4/2019;
 - Hunter Quarries, *Liberty Recycling- NSW*, Dated 8/5/2019;
 - Hunter Quarries, *Royalty Section 94 Contributions, Excluding RTA Road (Pacific Hwy)* dated 2018/2019 FY; and
 - Hunter Quarries *Service and Maintenance Records Spreadsheet 2019*.
- Surveys/boundary evidence:
 - Hunter Quarries *Proposed Extension of Quarry Boundary Survey Stage 1 & 2, Mine Extension Marks* dated 28/7/2006 (Asquith & deWitt 2006) (Ref: 11683-5a-A3PLAN);
 - Hunter Quarries *Proposed Extension of Quarry Boundary Survey Stage 1 & 2, Add Points Nos & Co-ords* dated 7/8/2006 (Asquith & deWitt 2006) (Ref: 11683-5b-A3PLAN).

- Complaints and Incident Documentation:
 - Hunter Quarries, *Complaints Feedback Register* dated 2017- 2019; and
 - No incidents information was provided by Hunter Quarries, as no incidents were reported during the audit period.
- Other reports:
 - Hunter Quarries, *Biannual Noise Monitoring Assessment* attached to each AEMR;
 - Hunter Quarries *Product Summary 2019*; and
 - Hunter Quarries *Water Cart Records 2014 to 2019 Summaries*.

3.2 Compliance performance

This 2019 IEA has found that the quarry is operating generally in compliance with the development consent, however several areas were noted to be non-compliant.

3.3 Non-compliances

Table 3.1 Non-compliances recorded during 2019 IEA

Condition	Audit finding	Recommendation
Condition 6 of Schedule 3	As reported in the 2018 AEMR, a blasting event occurred on Monday 8 October 2018 at 3:05pm. As outlined in this condition, blasting is to occur between 9am and 3pm (Monday to Friday) inclusive. No evidence was provided during the audit to suggest that approval had been received by EPA or DPIE to allow blasting to be undertaken outside of standard hours. Based on the above Hunter Quarries are deemed non-compliant with this condition. In addition, it is reported in AEMRs that two blasting events occurred on the same day, up to 10 minutes apart on: - 30/1/2018. - 3/2/2017 - 8/4/2016 - 8/7/2016 - 14/11/2014 and - 1/12/2014 Only 1 blast is allowed per week in accordance with this consent condition.	Sub-condition b) of this condition outlines blasting events may only take once per week. Hunter Quarries should seek advice from DPIE as to whether these events are the same blasting 'event' due to the small amount of time between blasts. Careful monitoring of the time blasts are initiated should also be undertaken to ensure blasting occurs within the required timeframes.
Condition 13 of Schedule 3 AND Condition 14 of Schedule 3	These conditions require the monitoring of PM₁₀ and TSP in order to show compliance. No TSP or PM₁₀ monitoring has been undertaken during the audit period at Karuah Quarry.	EMM recommends the following: Hunter Quarries enter formal discussions regarding the requirement for PM₁₀ / TSP monitoring with DPIE, and following agreement with DPIE, amend the EMP as required. Furthermore, following DPIE agreement, Hunter Quarries to revise EMP to include HVAS, PM₁₀ and TSP monitoring for Karuah Quarry based on the HVAS utilised for the Karuah East Quarry and report data in future AEMRs, in accordance with development consent.
Condition 18 of Schedule 3	No formalised evidence or correspondence was provided to show that a Binding Covenant (e.g. Conservation Deed or Agreement) had been prepared and approved for the Offset Area as required by this condition.	It is recommended Hunter Quarries follow up with DPIE and OEH in regard to an arrangement (e.g. deed or agreement) which details long term security for the conservation offset area.
Condition 19 of Schedule 3	The Flora and Fauna Management Plan (2014) was sighted as part of the audit. No evidence of correspondence with DPIE for the approval of the 2014 version of the management plan was able to be provided.	It is recommended that Hunter Quarries reviews and updates the Flora and Fauna Management Plan (including sub-plans) and submit the plan to DPIE for approval.

Table 3.1 Non-compliances recorded during 2019 IEA

Condition	Audit finding	Recommendation
Condition 21 of Schedule 3	Hunter Quarries has prepared and implemented a Remnant Vegetation Conservation Plan which adequately addressed measures for conservation, maintenance and enhancement of the vegetation on site and includes performance measures over time as required by this consent condition. However, it is noted that monitoring efforts for remnant vegetation areas ceased in 2011. The last audit (MCW 2014) recommended that Environmental Monitoring be conducted biannually to ensure all ecological values are monitored to determine any changes within communities. No monitoring has been conducted during the audit period.	It is recommended that Environmental Monitoring be conducted biannually to ensure all ecological values are monitored to determine any changes within communities.
Condition 26 of Schedule 3	Site Management Plan 2016 approved by DPIE in letter dated 1 April 2016, sighted and meets conditions of consent. Audit actions from the previous audit, while addressed in Table 1 of the current Site Water Management Plan (2016), do not appear to be fully implemented at the site, as evidenced by the discharge scenario identified during the site inspection (refer to Condition 24 compliance in Appendix 1). It was unclear during the site inspection if a water level sensor was installed on Dam 2 or if an alarm was set for high water levels in the dam. The WMP states that these items have been installed and implemented.	EMM recommends that Hunter Quarries update the Site Water Management Plan to include a procedure for adequate management of the water discharge valve based on dam water levels and to formalise roles and responsibilities in relation to water discharge events. Hunter Quarries should also confirm that the high-level sensor and alarm system has been implemented at site.
Condition 28 of Schedule 3	The previous audit (MCW 2014) considered part a) of this condition 'non-compliant' and part b) 'compliant'. The following recommendations were made in light of this, including: - Hunter Quarries install a gauge to monitor and record the water levels in the dam; - a level alarm is to be provided for the gauge to warn if high levels occur; - a method to measure the volume of discharge flows from the site to be installed; and - a systemised approach is applied to managing the risk of dam levels rising and overtopping, that a number of people on site are made aware of. The WMP (2016) states that the water level in Sediment Dam 2 is monitored via an electronic height sensor, however the sensor did not appear to be operating during the site inspection. The SWMP describes that the flow of water can be estimated based on the flow through the discharge pipeline. The 2018 AEMR outlines that the site has the ability to pump water back up into the pit area (unused section) to increase capacity. Based on the site inspection it is not evident that any of the audit actions from the previous audit had been addressed, as discharge was occurring during the inspection after a 10 mm rainfall event, when no discharges had previously occurred at the site according to documentation reviewed for the audit.	EMM recommends the following: Hunter Quarries to revise the Site Water Management Plan (SWMP) to formalise adequate management procedures of discharge point.

Table 3.1 Non-compliances recorded during 2019 IEA

Condition	Audit finding	Recommendation
Condition 36 of Schedule 3	The Bushfire Management Plan (BMP-GSSE dated August 2006) was updated and finalised in December 2014. No evidence of approval of the plan from council or RFS was available for observation. A copy of the plan was sighted during the audit. Plant and equipment available onsite for firefighting purposes includes: - water storage dam (Sediment Dam 2) with a permanent fill point for tankers, and a 50,000 L clean water tank; - water tanker and earth tanking equipment; fire extinguishers; warning alarm siren; and - portable radios. Hunter Quarries also employee site induction training specific to emergency response. Site Induction Training was observed and noted.	It is recommended that Hunter Quarries follow-up with Council and RFS regarding the approval of this plan so that it is approved in accordance with the condition requirement.
Condition 4 of Schedule 4	The EMP does not appear to have been updated and approved by DPIE following the previous IEA.	Hunter Quarries is to review and update EMP within specified timeframe of the completion of the IEA (2019) in accordance with this consent condition.
Condition 10 of Schedule 4	No evidence supplied of submission of reports in accordance with the communications strategy detailed in the EMS.	EMM recommend that these reports are prepared as discussed in the EMS and as required by this condition of consent. Alternatively, -a CCC for Karuah Quarry should be implemented; or -the EMS should be revised to detail an alternative communications strategy that can be met by Hunter Quarries.

3.4 Previous audit recommendations

The first independent audit was conducted by URS and covered the period 3 June 2005 to 30 November 2007. The second audit report was conducted by MCW Environmental and covered the audit period of December 2007 to the 15 July 2014.

The second independent audit found 12 non-compliances and 2 classed as 'Indeterminate' during the audit period. A summary of the non-compliances identified in the 2014 Independent audit (MCW Environmental, 2014), actions and progress against each of the recommendations is presented in Table 3.2.

Table 3.2 Summary of DA 265-10-2004 Non-Compliances for the Previous Audit Period and 2019 Progress Update

Condition	Audit finding	2014 Recommendation	Actions and Progress Update (2019)
Non-compliances			
Schedule 2, Condition 6	Based on exceedance for year 2008/2009 and subsequent prosecution, Hunter Quarries was considered to be non-compliant with this condition. Production figures are reported annually in AEMRs. Production numbers for the audit period were: 2007-2008: 494, 117 tonnes; 2008-2009: 779,006 tonnes; 2009-2010: 460,294 tonnes	MCW Environmental reported this condition as non-compliant for AEMR year 2008-2009. No recommendations were made.	No further non-compliances with production totals have been identified during the current audit period. Action closed out.
Schedule 2, Condition 18	The Lot 12 (offset area) is owned by Hunter Quarries. However, at the time it was not currently secured in 'perpetuity'. Hunter Quarries reported they were hoping to put a restriction (caveat) on the title, which would be registered with land titles office. Creating a restriction on title would mean that the land would not be able to be used for any purposes other than for conservation.	Seek Lot 12 security in perpetuity through a formal land title change through NSW Land and Property in consultation with Department of Planning.	No binding covenant in perpetuity was available for EMM review. It is understood that some progress has been made in this area, however this remains an outstanding non-compliance during this audit period. Action remains open as Non-Complaint in 2019 audit.

Schedule 3, Condition 24 (and EPL L1.1)	One Non-Compliant event recorded in 2009. Hunter Quarries reported that no water discharged from the Sediment Dam during the audit period with the exception of water seeping through the dam wall in the period 30 July 2009 to 27 August 2009. The 2009 AEMR stated <i>“The seepage from the dam was often slow and intermittent and made it difficult to effectively obtain a sample. HQPL were able to sample at the collection point, which is below the usual sampling point. HQPL wish to confirm that it is our view that the discharge was a result of water percolating through an earthen containment wall that had been discharged from the site. During this period there was a particularly wet period which resulted in the water level in Sediment Dam 2 being higher than normal operational levels. Through an increased focus on water recycling in the processing area and a campaign to utilise extra water on the road ways for dust suppression, the level was eventually reduced and the discharged ceased”.</i> The 2009 AEMR further reported the event as a Non-Conformance with the following text: <i>“During the reporting period the DECCW inspected the quarry on the 30th July 2009. Whilst inspecting the licensed discharge point at Sediment Dam 2, it was noted the dam wall had displayed signs of recent seepage. In consultation with the DECCW, HQPL provided a number of remediation strategies to address the seepage issues. The initial strategy was to immediately lower the dam water level to reduce hydraulic pressures on the dam wall. A full report of these remediation strategies will be provided in the 2009/2010 AEMR. At the time of preparing the AEMR, there had been no further correspondence with the DECCW regarding this matter. The dam wall was inspected during the site audit and no seepage was noted at the time”.</i> Other AEMR's stated <i>“no water has been discharged from Sediment Dam during this reporting period or since the purchase of the quarry site operations by Hunter Quarries”.</i>	Various recommendations regarding water management throughout the audit report.	In 2009, DECCW inspected the quarry. DECCW identified that the dam wall had displayed signs of recent seepage. In consultation with DECCW, Hunter Quarries provided strategies to remediate any further seepage issues. No formalised evidence of approval from DECCW has been provided to EMM for review. The site water management plan and all AEMRs sighted for this audit period state that no water has been discharged from Sediment Dam during this reporting period or since the purchase of the quarry site operations by Hunter Quarries. The majority of water from the quarry area is directed to Sediment Dam 2. Water is retained in the dam and is reused as process water (water carts). During the current audit site inspection (2019), no seepage issues were observed on site, however discharge water was observed as leaving the site from the EPL licenced discharge point at Sediment Dam 2 via an open valve. EMM were not provided with information to confirm how long the valve had been open or for how long discharge had occurred. The valve was closed during the inspection on 31 July and EMM have been advised that discharge water samples were taken by Hunter Quarries in accordance with EPL and WMP requirements. The results of this monitoring is outside the scope of this audit as EPL requirements are not required to be addressed in accordance with the DPIE Post Approval Independent Audit Guidelines. Any potential non-compliances with limits or requirements within the EPL should be reported to government agencies by Hunter Quarries as required. Action remains open as non-compliance with Condition 26 and 28 in 2019.
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Table 3.2 Summary of DA 265-10-2004 Non-Compliances for the Previous Audit Period and 2019 Progress Update

Condition	Audit finding	2014 Recommendation	Actions and Progress Update (2019)
Schedule 3, Condition 26	MCW Environmental commented: <i>Generally, the Site Water Management Plan has been implemented, however some areas that did not appear to be implemented were observed:</i> <i>Smaller sediment basins SB1, SB2 and SB3 are defined in the plan as controls for small catchments outside of the main site catchment. Only the site of SB2 was observed during the inspection. It was observed not to represent a sediment basin as it had no capacity. The main inflows to this location were flows down the access road above the high wall. Some erosion (gullying) was evident in the edge of the road. While other dams were not sighted, based on discussions the same situation is considered most likely at these locations.</i> <i>The Surface Water Monitoring Program requires 6 monthly sampling of the Sediment Dam for nutrients, TSS, pH and EC. In 2013 no sampling results were reported in the AEMR hence this requirement did not appear to be implemented for 2013, however data showing one sample event was completed on 20 August 2013. Hunter Quarries reported this was the only sample collected for 2013. The 2012 AEMR report provided regular monitoring data for the dam for TSS and pH during 2011.</i> <i>Some water from the pit drains to an area at the far western end of the production bench to a flat area made from gravel. It was not determined how water from this area drains to Sediment Basin 2.</i>	MCW Environmental commented: <i>That the drainage lines and catchment for Sediment Dam 2 directed to SB1-SB4 are inspected by a suitable expert and controls judged to be effective for the flows and water quality reporting to these locations.</i> <i>That further investigations are completed to assess the cause of the dieback below the western end of the production bench. Address any findings of such investigations</i> <i>That surfaces in the vicinity of the weighbridge and site access be stabilised (e.g. with gravel) to minimise dirt tracking on roads and turbid generation</i> <i>That more permanent controls are considered in place of sediment fences. Alternatives to sediment fences include: the use of mulch; and stabilisation of road and swale surfaces. Additional controls, where installed should be reflected in the SWMP.</i>	Table 1 of the most recently approved site Water Management Plan (2016) identifies the audit recommendations relating to Condition 26 from the previous audit report and addresses them within the document. Audit actions from the previous audit, while addressed in Table 1 of the current Site Water Management Plan (2016), do not appear to be fully implemented at the site, as evidenced by the discharge scenario identified during the site inspection (refer to Condition 24 above). EMM recommends that Hunter Quarries is to update the Site Water Management Plan to include a procedure for adequate management of the water discharge valve based on dam water levels (e.g. pad lock or similar device that can only be opened by authorised personnel) and to formalise roles and responsibilities in relation to water discharge events. It was unclear during the site inspection if a water level sensor was installed on Sediment Dam 2 or if an alarm was set for high water levels in the dam. Action remains open as non-compliant

Table 3.2 **Summary of DA 265-10-2004 Non-Compliances for the Previous Audit Period and 2019 Progress Update**

Condition	Audit finding	2014 Recommendation	Actions and Progress Update (2019)
Schedule 3, Condition 28	Hunter Quarries noted that no discharge from the Sediment Dam (other than seepage for a small period of time in 2009) has occurred, hence no measuring of discharge has taken place. Hunter Quarries reported that in the past they had measured water use using flow meters on the pipe that is directed to the plant. Hunter Quarries stated the following: <i>If levels rose, they would pump up into the pit to avoid discharges;</i> <i>The Quarry Manager reviews water height daily during his site inspection. This is not formally documented;</i> <i>Water use on site is monitored by a pump and levels of water used was reported to be documented, however were not provided;</i> <i>Hunter Quarries is committed to installing a height monitoring gauge for the dam.</i> The AEMR states <i>"In the event of a discharge, surface water parameters and volume are monitored in accordance with the conditions in the EPL. This includes monitoring water quality daily during discharge and sampling for nitrogen, pH, phosphorus and TSS".</i> No data was able to be provide, as outlined by MCW Environmental, on the pumping of water and records of dam levels being monitored, compliance with condition 28 a) was not able to be demonstrated.	MCW Environmental recommended: <i>Hunter Quarries installs a gauge to monitor and record the water levels in the dam.</i> <i>That a level alarm is provided for the gauge to warn of high levels;</i> <i>That a means by which to measure the volume of discharge flows from the site is installed;</i> <i>That a systemised approach is applied to managing the risk of dam levels rising and overtopping , that a number of people on site are aware of.</i>	As per Condition 26. Action remains open as non-compliant in 2019.

Table 3.2 Summary of DA 265-10-2004 Non-Compliances for the Previous Audit Period and 2019 Progress Update

Condition	Audit finding	2014 Recommendation	Actions and Progress Update (2019)
Schedule 3, Condition 33	Hunter Quarries reported that they commission a street sweeper to sweep the road on regular intervals. Dockets for the contractor doing this work were sighted. MCW commented: <i>In the early morning prior to the inspection the site had some rain and internal dirt access roads were muddy. During the inspection some dirt and mud was observed to have been tracked onto the road from the quarry site (Andesite Road).</i> <i>Mud did not appear to be tracked beyond the intersection of Andesite Road with The Branch Lane;</i> Hunter Quarries commented: <i>Hunter Quarries stated they were in the process of developing in house capability to sweep the road.</i> <i>Once this capability is developed, they will be able to be more responsive in sweeping any dirt onto the road.</i>	MCW Environmental commented: <i>That Hunter Quarries stabilise the site entrance works so as to prevent trucking of dirt onto public roads; or alternatively have some method for cleaning truck wheels such as a wheel wash;</i> <i>That the frequency of sweeping the road after rain is increased. Hunter Quarries stated (since the site inspection) that a sweeper had been purchased and sweeping of the road had commenced.</i>	Since the last audit Hunter Quarries has purchased a sweeper and sweeping of the road had commenced. During the site inspection (2019) EMM Auditors observed a stable road with no significant mud/dirt tracking at the access road entry / exit point. Action closed out.
Schedule 3, Condition 40	The 2008 Rehabilitation Management Plan was approved by the Department of Planning on 23 December 2008. The Plan was updated in January 2012 (informally and not submitted). The plan was further updated in January 2014 a re-submitted to Department of Planning and Environment in June 2014. Hence, formal approval was not received in 2013 by the Director-General and therefore the condition requirement of providing the Plan to the Director-General every 5 years was not met. On this basis, Hunter Quarries were considered non-compliant.	MCW Environmental commented: <i>Rehabilitation Management Planning and implementation to focus efforts on:</i> <i>Improving the vegetative cover of the visual bund (higher native diversity and reduction in weeds);</i> <i>Weed control of Stage 1 and 2 areas as well as increasing the Stage 1 and 2 diversity through supplementary planting</i>	Weed control activities and rehabilitation evident through AEMRs and site inspection. Approved version of the Rehabilitation Management Plan is 2016 and includes a table of where the recommendations of the previous audit have been met within the document. Further discussion regarding rehabilitation and quarry closure have been ongoing with the DPIE during the audit period. EMM have been advised that a draft of the Conceptual Rehabilitation and Quarry Closure Plan was submitted to council during August 2019. Action closed out.

Table 3.2 Summary of DA 265-10-2004 Non-Compliances for the Previous Audit Period and 2019 Progress Update

Condition	Audit finding	2014 Recommendation	Actions and Progress Update (2019)
Schedule 3, Condition 43	The rehabilitation bond estimate was not reviewed in detail as part of this audit. The rehabilitation bond had not been updated every 5 years as required by the condition. The rehabilitation bond amount of \$284,532 appeared to be less than what the auditors considered would be sufficient, however no formal review of the costs was undertaken.	MCW commented: <i>Hunter Quarries to liaise with DPE regarding approving the updated 'Rehabilitation Bond Calculation' for the site. This was provided to the DPE in June 2014.</i> <i>Rehabilitation bond reviews are conducted at a frequency by the condition i.e. 5 yearlies.</i> <i>That the security bond amount is adjusted with the development of a closure plan as required of Condition 44.</i>	A copy of the rehabilitation bond was sighted as audit evidence (2016). Action closed out.
Schedule 3, Condition 44	As outlined in the last audit report (MCW 2014), Karuah Quarry do not have a final date planned for completion of quarrying and note that the approval allows for mining until 2027. Hunter Quarries commented that current reserved of materials being mined at present will only last for approximately 2 years. MCW Environmental noted that quarrying could be completed within 3 years. Hunter Quarries stated that road-based materials may extend the life of the quarry beyond 3 years. MCW Environmental classed this condition as 'Indeterminate'.	MCW Environmental commented: <i>A Quarry Closure Plan be developed as soon as practicable (suggest by March 2015) and implemented;</i> <i>The Plan should address the requirements of the condition and be of sufficient detail to provide a detailed level of direction in respect of closure activities and closure criteria;</i> <i>The development of the Closure Plan would need to be done in consultation with relevant stakeholders.</i>	EMM have been advised that a 'draft Concept Rehabilitation and Closure Plan' was prepared by others in January 2018 and submitted to DPIE for approval on 26 August 2019. This condition has been identified as 'not triggered' by EMM in accordance with the current compliance status descriptors. The quarry did not trigger the requirement previously due to the timeframe required in the condition of consent (i.e. at least 3 years prior to cessation of quarrying). Condition not triggered.
Schedule 4, Condition 2	The previous Independent Environmental Audit was conducted by URS with the reported dated April 2008. The EMS was revised 6 months after the audit report. The 2008 AEMR stated "In a letter dated 14 July 2008, the DoP approved the Independent Audit in July 2008, subject to Hunter Quarries fully implementing the audit actions".	MCW Environmental commented: <i>Hunter Quarries ensure update of the EMS as required, by the timeframe set out in the condition</i>	The EMS was revised and submitted to DPIE for approval following the last IEA in 2014 and was approved by DPIE. The current version of the EMS is March 2016. The EMS will also require review following this audit in accordance with consent requirements. Action closed out.

Table 3.2 Summary of DA 265-10-2004 Non-Compliances for the Previous Audit Period and 2019 Progress Update

Condition	Audit finding	2014 Recommendation	Actions and Progress Update (2019)
Schedule 4, Condition 6	The first audit conducted under this condition was the URS Independent Environmental Audit. The site inspection for the audit was 6 December 2007. The report was dated April 2008. The 2007/2008 AEMR stated <i>“In a letter dated 14 July 2008, the DoP approved the Independent Audit in July 2008, subject to Hunter Quarries fully implementing audit actions. A comprehensive summary regarding the status of each action items required for completion is attached as Appendix 9”</i>. A letter of Approval of the audit was sighted 14 July 2008. The Approval was subject to addressing the recommendations made in the report. MCW Environmental were approved to conduct the 2014 audit in a letter signed by DPE 13 June 2014. The letter states <i>“the last audit was conducted in 2008. The conditions require the audit to be commissioned within five years of the previous audit, and the failure to commission this audit within the nominated timeframe has been identified as a breach of the consent”</i>.	Non-compliant (due to timing) No further recommendations were made.	Previous audit requirement. Considered compliant as of July 2019 audit.

Table 3.2 Summary of DA 265-10-2004 Non-Compliances for the Previous Audit Period and 2019 Progress Update

Condition	Audit finding	2014 Recommendation	Actions and Progress Update (2019)
Schedule 4, Condition 10	The EMS outlines a Communications Strategy for council and for local residents. (Section 5.14.2). MCW Environmental stated that no evidence of implementation of these consultation methods were generally not available. i.e. the Hunter Quarries Community Feedback form was not on the website and six-monthly reports to council were not available. Hunter Quarries stated they use the following methods to communicate with stakeholders: <i>The AEMR is provided to council which provides details of environmental monitoring, management plans, audit reports and complaints;</i> <i>Monthly Environmental Monitoring reports are uploaded to the company website. These reports include dust, noise and water and blast monitoring results;</i> <i>Advertisements are placed in the local paper for advertising purposes; and</i> <i>Residents are notified by telephone of impending blasts.</i>	MCW Environmental commented: <i>That Hunter Quarries implement the EMS Communication Strategy so as to comply with the requirements of Strategy in addition to Condition 10 (Schedule 4) of the Project Approval;</i> <i>Hunter Quarries stated they will commit to sending a six-monthly report</i>	No evidence of implementation of these consultation methods were available. Action remains open as non-compliant in 2019.
Schedule 1, Condition A1.1	Hunter Quarries reported that this condition had been met for each year within the audit period except for the AEMR period 2008/2009. During this period Hunter Quarries produced 779,006 T of material. Hunter Quarries pleaded guilty in the Land and Environment Court of exceeding the consent condition and was fined \$70,000 and ordered to pay \$23,000 in costs. The exceedance was due to a lack of tracking production rates against the consent. No environmental harm occurred during exceedance.	Since this incident Hunter Quarries has implemented a number of procedures against the consent production limit: A Consent Tracker that measures production monthly and tracks against target tonnes to provide an ongoing assessment against the production limits; Weekly production meetings that track weekly production against monthly and yearly production targets.	Evidence observed of production being maintain within production limits during the audit period. Action closed out.

Table 3.2 **Summary of DA 265-10-2004 Non-Compliances for the Previous Audit Period and 2019 Progress Update**

Condition	Audit finding	2014 Recommendation	Actions and Progress Update (2019)
Schedule 1, Condition A3.1	The licence application was not available for review. The compliance with this condition was not able to be assessed at the time. Hunter Quarries stated at the time that activities were not modified.	MCW Environmental classed compliance with this condition as ‘Indeterminate’.	EPL compliance not assessed. As stated in the <i>DPIE Post Approval Independent Audit Guidelines (2018)</i>, EPL compliance is not to be addressed as part of the IEA. Action closed out.

The following table (Table 3.3) outlines the other findings and recommendations found in the last audit (2014) prepared by MCW Environmental and the actions and progress since, to align with this auditing period.

Table 3.3 Recommendations and Findings (MCW Environmental 2014 Audit)

Management Plan/Report	Recommendations	Actions and Progress against recommendations
Environmental Monitoring Plan	MCW Environmental commented: <i>Hunter Quarries ensure all monitoring as per the Monitoring Plan is conducted and adequately recorded to demonstrate compliance with the Monitoring Plan;</i> <i>Hunter Quarries review the Environmental Monitoring Plan to ensure that triggers for water monitoring are clear so that personnel responsible for monitoring have a high understanding of when monitoring is required. The review of the Plan may also include a re-assessment of monitoring to be conducted, i.e. if some monitoring does not provide value in terms of data or reduced risks, these could be revaluated and where appropriate removed;</i> <i>The water monitoring section with the Environmental Monitoring Plan to be expanded to include regular (suggested quarterly) inspection of the integrity of drainage lines and structures that are outside of the Sediment Dam No.2 drainage lines.</i>	The EMP was last updated in 2014 by Hunter Quarries, prior to the 2014 IEA. It is also a recommendation of this audit that the EMP is updated as a result of non-compliances raised.
Incident Management	<i>Hunter Quarries develop reporting processes that encourage hazard and near miss environmental reporting. This should also include reporting of minor spills etc. to capture the nature of all incidents.</i>	No evidence of near miss or environmental hazard reporting has been identified during 2019 audit. It is considered an opportunity for improvement that Hunter Quarries develop this process as per the previous audit findings.

Table 3.3 Recommendations and Findings (MCW Environmental 2014 Audit)

Management Plan/Report	Recommendations	Actions and Progress against recommendations
Environment Management Strategy	Comprehensive consideration of closure of the quarry throughout the document as coordinated with the Quarry Closure Plan. It is anticipated that the Quarry Closure Plan would include risk assessments, statutory requirements relating to closure; the development of closure criteria; management controls required for closure and monitoring of closure activities. If this is the case; reference to the closure plan would be sufficient in the EMS, however the EMS should drive the overall Strategy for Closure as well as provide sufficient overview of the other related plans; The Objectives and Targets should be updated to reflect Closure requirements; The Complaints sections should be updated to cover the requirements and sentiment of EPL condition M5.2; Consider whether current auditing is sufficient and suggest alternatives for auditing outside of the frequency defined for Independent Environmental Audits; The strategy required to adequately control and manage weeds are better developed in the document; The EMS define an environmental hazard reporting approach as a means of developing a culture of reporting all issues and providing a leading indicator for environmental management/performance; Provide an overview of measuring rehabilitation performance against closure criteria- or refer to closure plan once developed.	The EMS was last updated in 2016 and includes a table of action against the 2014 audit recommendations. Refer to Table 1 of the EMS document. Recommendation closed out
Environmental Monitoring Program	Air Quality Monitoring: <i>The Air Quality Monitoring Program as defined in the Environmental Monitoring Program be augmented to include the existing monitoring being carried out (e.g. visual monitoring by control room; monitoring of dust on public roads etc); so that the implementation of air quality management controls can be better documented and assessed</i> Water Quality Monitoring: <i>The program be more specific for water monitoring as to how data will be obtained and recorded; who will be responsible for the monitoring and how will data be analysed and for what purpose;</i> <i>Visual monitoring is conducted of drainage lines that are not directed to the Sediment Dam 2 to assess erosion and confirm drainage lines are clean or are directed to the Sediment Basin;</i> <i>Monitoring of water quality controls around the site entry on a regular basis during and after rain events to ensure erosion and sediment controls are effective and preventing sediment/turbid water going off site.</i>	The EMP was last updated in 2014 by Hunter Quarries, prior to the 2014 IEA. It is a recommendation of this audit that the EMP is updated. The Site Water Management Plan was last updated in 2016 and includes a table of actions taken against the 2014 audit recommendations. Refer to Table 1 of the EMS document. Recommendation closed out

Table 3.3 Recommendations and Findings (MCW Environmental 2014 Audit)

Management Plan/Report	Recommendations	Actions and Progress against recommendations
Rehabilitation	<i>Hunter Quarries complete an annual rehabilitation inspection to assess the success or otherwise of rehabilitation; species diversity etc and to ensure ongoing health of these areas. This should be completed by a person competent in rehabilitation.</i> <i>The monitoring plan be amended to monitor all aspects of closure. This would be developed in line with the development of a Closure Plan as required of the Conditions of Consent.</i>	Evidence of rehabilitation progression is sighted in the AEMRs and statements made that annual rehabilitation inspections are undertaken. The Site RMP was last updated in 2016 and includes a table of action against the 2014 audit recommendations. Refer to Table 1.1 of the RMP document. A Conceptual Rehabilitation and Closure Management Plan is currently being prepared for Karuah Quarry which will combine the requirements of Schedule 3 Condition 39 (Rehabilitation Management Plan) and Schedule 3 Condition 44 (Quarry Closure Plan) of DA 265-10-2004 into one document. The plan was submitted to DPIE for approval in mid-2019. Recommendation closed out.
Site Water Management Plan (SWMP)	<i>The drainage lines and catchments outside of the catchment for Sediment Dam 2 directed to SB1-SB4 are inspected by a suitable expert and controls judged to be effective for the flows and water quality reporting to these locations;</i> <i>Further investigations are completed to assess the cause of the dieback below the western end of the production bench. Address any findings of such investigations;</i> <i>Surfaces in the vicinity of the weighbridge and site access be stabilised (e.g. with gravel) to minimise dirt tracking on roads and turbid water generation;</i> <i>More permanent controls are considered in place of sediment fences. Alternatives to sediment fences include: the use of mulch; and stabilisation of road and swale surfaces. Additional controls, where installed should be reflected in the SWMP.</i>	The Site Water Management Plan was last updated in 2016 and includes a table of action against the 2014 audit recommendations, which includes these items. Refer to Table 1 of the WMP document. Recommendation closed out.

Table 3.3 Recommendations and Findings (MCW Environmental 2014 Audit)

Management Plan/Report	Recommendations	Actions and Progress against recommendations
Ecology and Rehabilitation	<i>The ecological monitoring to begin again bi-annually so that ecological values such as the offset in general and threatened species, Tetratheca juncea are monitored to determine changes in condition. The prior annual ecological monitoring effort could be scaled back in terms of rigour and undertaken bi-annually and tailored to suit a long-term assessment with brief bi-annual reports to feed into the AEMR;</i> <i>Slashing and clearance of the transmission line easement has recently occurred, and it is recommended that a native grass seed mix be applied and established as a long-term solution to avoid the need for shrub and canopy removal for the power line easement;</i> <i>Stage 1 and 2 rehabilitation to be supplemented with native species to help increase species diversity and to improve structural integrity such that rehabilitated areas are representative of the adjoining vegetation communities;</i> <i>Quarterly weed control to be undertaken throughout and along edge areas (road boundaries), especially the high wall stockpile area and edges of the offset area;</i> <i>New rehabilitation areas to be shaped to include depressions for water capture to encourage fauna usage;</i> <i>Fencing of the offset area may be required at a later date depending on the adjoining landuse patterns;</i> <i>Future AEMRs to show before, during and after rehabilitation photographs to aid the demonstration of progressive rehabilitation;</i> <i>Further detail regarding factors affecting rehabilitation to be included in future AEMRs such as extent of weeds and controls on weeds in the rehabilitation areas;</i> <i>Repair the visual bund landslip area and revegetate with Appendix 1 species;</i> <i>Lantana to be removed from under the large remnant Fig tree within the main compound area and replaced with shrub plantings (Appendix 1);</i> <i>Targeted surveys for Grevillea parviflora subsp. Parviflora to be considered to determine possible presence within Hunter Quarries, which may facilitate further offset requirements or enhance value from a threatened flora habitat sense of the offset area;</i> <i>Include in the Rehabilitation Management Plan an assessment of the volume of topsoil available compared to that required and define strategies to manage any shortfall in topsoil.</i>	Rehabilitation actions are tracked through the AEMRs. The Rehabilitation Management Plan (RMP) was last updated in 2016 and includes a table of action against the 2014 audit recommendations. Refer to Table 1.1 of the RMP document. Further, the update of the RMP is currently in preparation as a draft Conceptual Rehabilitation and Closure Plan for the quarry. The Flora and Fauna Management Plan and the EMP were both last updated prior to the 2014 Audit and therefore some of these recommendations relating to ecological surveys are not formally documented or completed. Based on evidence available it does not appear that ecological monitoring is undertaken bi-annually as Hunter Quarries have requested to decrease the monitoring frequency in AEMRs and management plans since 2011. No approval of the request to discontinue monitoring was provided, therefore, this action remains open as non-compliant during 2019 audit.

3.5 Environmental performance

The 2019 IEA found that the operation of the Karuah Quarry is being undertaken generally in accordance with the development consent. The Quarry Manager and Environmental Officer demonstrated an appreciation and commitment to the site's statutory obligations and to the implementation of environmental management controls.

3.6 Consultation outcomes

Consultation outcomes are summarised in Table 3.4. Copies of the letters requesting input to the Karuah Quarry, 2019 Audit and agency response are provided in Appendix C.

Table 3.4 Consultation outcomes

Agency	Comment	Response/ reference
DPE	Consultation with DPIE compliance officer Joel Curran was undertaken via phone and email on 13 August 2019. A copy of the email to DPIE is included in Appendix C. DPIE recommended that EMM focus attention on the following for the IEA – Air Quality, including performance and network adequacy.	Refer to Section 3.10.1
	Closure / Rehabilitation, in particular closure planning (Condition 44 of Schedule 3).	Refer to Section 3.10.3
	Implementation of and findings from the Community Consultative Committee.	Refer to Section 3.10.7
Mid Coast Council	Consultation was undertaken with Mathew Bell of Mid Coast Council. Mathew circulated correspondence internally to the Environmental Health, Transport Assets, Compliance / Regulatory Services and Natural Systems branches of Council.	
	Issues raised by Mid Coast Council included:	Refer to Section 3.3
	CONSERVATION OFFSET AREA 'We are interested in whether the commitments in relation to Conservation Offset Areas (Conditions 17 and 18; ie. establishment and long-term security of the conservation offset area) have been satisfactorily and demonstrably achieved. We believe that permanently conserved offset areas for major projects should be appropriately recognised in the zoning scheme (Great Lakes Local Environmental Plan 2014) and we suggest that spatial data of the offset location should be provided to Council for our records'	
	FLORA AND FAUNA MANAGEMENT PLAN We are interested in whether and how the Flora and Fauna Management Plan conditions (Conditions 19 – 23) have been achieved, including the Remnant Vegetation Conservation Plan and the Conservation Offset Management Plan required in those conditions.	Refer to Section 3.10.5
	REHABILITATION AND CLOSURE We are interested in the performance of environmental rehabilitation and restoration of finished landforms across the approved quarry.	Refer to Section 3.10.4

	SURFACE WATER Council is particularly interested in whether the development has achieved its surface water quality protection responsibilities. We note that the surface run-off from the site eventually enters the significant Port Stephens estuary. An attention within the auditing process to whether the water quality performance of the development is adequate is encouraged	Refer to Section 3.10.6
	VISUAL AMENITY Finally, we note in Condition 29a) that “the Applicant shall implement all practicable measures to minimise the visual impacts of the development”. We understand that the original approval relating to the visual performance of the development did not account for the opening of the Karuah Bypass upgrade of the Pacific Highway (officially opened on the 19 September 2004). As such, the visual impact of the quarry is different and arguably more substantial to Highway users than that which was considered in the approval. We ask that the audit, in relation to visual amenity to highway users, whether Condition 29 a) has been adequately satisfied and / or whether more actions (screening, revegetation, etc) could and should be undertaken to improve the visual performance of the current Karuah Quarry.	Refer to Section 3.10.7
EPA	The Regional Operations Officer for the Hunter (Rebecca Ackhurst) provided the following commentary – The EPA encourages the undertaking of independent audits as a useful tool for industry to ensure it is meeting its environmental objectives and EPL requirements. The EPA understands that independent environmental audits are generally a requirement of development consent. The EPA does not provide specific input to independent audits and I thank you for your request. With regard to your request about the Karuah Quarry’s environmental compliance with EPA requirements, you are able to view the compliance history of all licensed premises, including Karuah Quarry on the EPA’s Public Register available at https://www.epa.nsw.gov.au/licensing-and-regulation/public-registers	A brief review of the public register did not identify any notices or Penalty Infringement Notices relating to the site for the Audit Period, other than an EPL variation completed in August 2016.

3.7 Complaints

Hunter Quarries stated that when a complaint is received, it is logged electronically and investigated by the Quarry Manager and provided to relevant agencies where required.

The Karuah Quarry complaints register was sighted by the audit team, with relevant details of complaints provided below. During this audit period there were four complaints logged in the complaints register for the quarry.

The complaints and action taken are described in Table 3.5 below.

Table 3.5 Community Complaints During the Audit Period

Date	Complaint	Result
15 May 2017	Complaint was made by a local resident in relation to noise. It was stated by the resident that the noise was increasing for days/weeks and that the Quarry was not allowed to crush on weekends.	Hunter Quarries investigated by assessing the weather station and noise monitoring results. The results indicated that the noise was within the development consent and EPL limits. Hunter Quarries informed the complainant that quarrying activities are permitted between the hours of 7am and 1pm on Saturday as per DA 265-10-2004.

Table 3.5 Community Complaints During the Audit Period

Date	Complaint	Result
27 July 2017	EPA Complaint of visible dust from the highway at approximately 9.30am.	At approximately 9.15am Karuah Quarry experienced a momentary black out (loss of electricity) At approx. 9.30am once electricity was restored, the crushing plant restarted and there is an initial amount of dust generated prior to the dust suppression system (water sprays & polo citrus system) starting
12 December 2018	Complaint received from EPA. A complaint was made to the EPA directly from a member of the public on 7/12/18. The complainant raised a concern to the EPA that 9:30am excessive dust during windy conditions was coming from the Karuah Quarry. The complainant observed the dust as they were driving past.	Karuah Quarry used water sprays on the crusher and water trucks to reduce dust omitted after the complaint was made. A series of controls are implemented on a standard operational basis to reduce dust from the site and these are detailed within the AEMRs. Hunter Quarries detailed in email correspondence dated 12 December 2018 that visual monitoring of airborne dust occurs continually and dust suppression of the roads and crushing plant is a priority.
10 March 2019	A complaint was made to the EPA directly from a member of the public on 11/03/2019. The complainant raised a concern to the EPA that excessive dust was coming from Karuah Quarry.	Karuah Quarry used water sprays on the crusher and water trucks to reduce dust omitted after the complaint was made. A series of controls are implemented on a standard operational basis to reduce dust from the site and these are detailed within the AEMRs.

3.8 Incidents

3.8.1 Notifiable incidents

No incidents were reported during the audit period. There was a record of a small oil spill of approximately 20 litres in the oil shed on 19 June 2017. This spill was classed as minor and was contained within the area. Hunter Quarries did not activate the Pollution Incident Response Management Plan (PIRMP) or notify the EPA due to the low risk associated with the spill and clean up.

3.8.2 Other incidents

No other incidents were reported during the audit period.

A Show Cause Notice from DPIE was received by the site in May 2016. The Show Cause was provided following DPIE's review of the 2015 AEMR and site inspection on 14 April 2016. Based on the 2015 AEMR and site inspection, the DPIE formed the view that Karuah Quarry had failed to comply with Condition 19 of Schedule 3 and Condition 2 of Schedule 2 of DA 265-10-2004. The DPIE identified that there had been failure to:

- adequately implement the approved Flora and Fauna Management Plan through inadequate control of Lantana; and
- carry out the development generally in accordance with DA 265-10-2004 and the EIS through accessing Lot 12 DP 1024564 without a legal right of way across Lot 11 DP 1024564

In response, Hunter Quarries provided a letter of response to DPIE relating to the Show Cause. In relation to the two points raised above, Hunter Quarries provided a response to DPIE on 15 June 2016. The key points raised in the letter are summarised below.

Lantana

Prior to the receipt of the Show Cause Notice and the site inspection, Hunter Quarries had engaged a contractor to conduct lantana management activities at the site, including poisoning, removal and disposal of lantana as per site instructions, and stated that ongoing weed management would be undertaken on a biannual basis.

Subsequent Annual Reviews reviewed for this audit show detail on weed spraying and removal works post the receipt of the Show Cause Notice.

Legal Right of Access between Lot 12 and Lot 11

Hunter Quarries advised that the proposed development is approved for Lot 11 and Lot 12 DP1024564, and that these lots are shown on the schedule of lands. In addition, Hunter Quarries has an agreement with the landowner of Lot 11 DP 1024564 to operate a quarry on and within the land.

Hunter Quarries indicated that the reference to the legal right of way across Lot 11 was taken from the Environmental Assessment Report – Proposed Karuah East Hard Rock Quarry dated January 2013 prepared by ADW Johnson Pty Ltd. This is a separate project approval to the existing Karuah Quarry and in no way related to Karuah Quarry operations. Since Karuah East is a stand-alone project and is not approved to operate through Lot 11, alternative access is required. This was obtained through road extension works to Blue Rock Lane. The Karuah East Quarry project does not require and has no intention to seek or use access through Lot 11.

Following the provision of the letter Show Cause Response, EMM understand that no further correspondence regarding the matter has been received by Hunter Quarries and therefore is considered to be closed out based on available evidence.

3.9 Actual versus predicted environmental impacts

The documentation sighted by the audit team indicate the impacts of the quarry operation are generally consistent with the predicted environmental impacts identified in the environmental assessment documentation. The primary documentation reviewed which supports this finding includes:

- Environmental Monitoring Program 2014;
- Environmental Management Strategy 2016;
- Rehabilitation Management Plan 2016 (and previous version 2014);
- Flora and Fauna Management Plan 2014;
- Bushfire Management Plan 2014; and
- Site Water Management Plan 2016 (and previous versions dated 2014 and 2015).

3.10 Management Plans

3.10.1 Environmental Monitoring Program

The Environmental Monitoring Program (EMP) dated June 2014 was prepared in accordance with Schedule 4 Condition 3 of the Development Consent (DA 265-10-2004). The purpose of the plan is to address key environmental monitoring aspects of quarry operations. These include:

- Noise Monitoring; (*Schedule 3, Condition 1-3*);
- Blast Monitoring; (*Schedule 3, Condition 4-12*);
- Air Quality (*Schedule 3, Condition 13-15*);
 - Depositional Dust; and
 - Total Suspended Solids and PM₁₀ monitoring (as required).
- Meteorological Conditions; (*Schedule 3, Condition 16*);
- Flora & Fauna Surveys (*Schedule 3, Condition 17-23*); and
- Water Quality (*Schedule 3, Condition 24-28*);
 - Surface Water Quality (Sediment Dam No.2); and
 - Land Integrity & Stability (Erosion & Sediment Controls).

The 2014 EMP has been reviewed in consideration of the requirements of Schedule 4, Condition 3 of the Development Consent. In general, Hunter Quarries is to review the EMP (2014) and follow up with DPIE as the EMP has not been reviewed for 5 years and is currently considered out of date. As a minimum, the EMP should have been reviewed and updated following the previous IEA in 2014 due to findings of this audit. Further review of the technical information in the EMP and its implementation is provided below.

Noise:

Hunter Quarries has undertaken Biannual Noise Monitoring during the audit period. The six-monthly monitoring reports show that Karuah Quarry has maintained compliance with the noise criteria for the operation during the audit period.

Hunter Quarries has prepared and implemented a Noise Monitoring Program, which is included within the EMP (2014).

Blast:

The EMP (2014) (see section 5.4.2) outlines blast monitoring is required to be undertaken at the nearest affected resident from the quarry and at the front gate of the quarry. Monitoring location 2 is located at the nearest residence and monitoring location 1 is positioned at the front gate of the quarry. The blast monitoring is undertaken by the quarry's licenced blast contractor. The licence contract was observed as evidence during audit.

The quarry implements a Blast Monitoring Procedure. Hunter Quarries records all blast events in a register. Blast monitoring records have been reported in each AEMR during the audit period. Blasting results shown in the AEMRs have been within the criteria and EIS predictions.

As reported in the 2018 AEMR, a blasting event occurred on 8 October 2018 at 3:05pm. As outlined in condition 6 of Schedule 3, blasting is to occur between 9am and 3pm (Monday to Friday) inclusive. No evidence was provided to suggest that approval had been received by EPA or DPE to allow blasting to be undertaken outside of standard hours. Based on the above information, Hunter Quarries are deemed non-compliant with this condition.

In addition, it has been reported in the AEMRs that two blasting events occurred on the same day, up to 10 minutes apart on the following dates:

- 30/1/2018;
- 3/2/2017;
- 8/4/2016;
- 8/7/2016;
- 14/11/2014; and
- 1/12/2014.

Sub-condition b) of this condition outlines blasting events may only take once per week. Hunter Quarries should seek advice from DPIE as to whether these events are considered to be the same blasting 'event'.

Air Quality:

A High-Volume Air Sampler (HVAS) had been operational at the site until March 2007, monitoring for PM₁₀ and Total Suspended Particulates (TSP) at a residential property located directly opposite the quarry. In April 2008, a review of the air quality monitoring program was undertaken in consultation with EPA and DPIE after 12 months of HVAS monitoring. Heggies Pty Ltd completed an air quality monitoring report in April 2008, which demonstrated consistent compliance with the air quality criteria over the period from April 2007 to March 2008. The PM₁₀ and TSP concentrations did not exceed the air quality criteria in Condition 13 of Schedule 3.

A letter was received by Hunter Quarries from EPA dated 17 July 2008, stating the annual ambient dust level averages were below the National Environmental Protection Council (NPEC) Standards for PM₁₀ and TSP for the reporting period and were supportive of the removal of routine HVAS monitoring. However, no official documentation from DPIE in relation to this item was available for EMM review. Air quality monitoring for PM₁₀ and TSP monitoring is undertaken at Karuah East Quarry, however, has not been undertaken at Karuah Quarry in the audit period and therefore, compliance with Condition 13 of Schedule 3 cannot be determined. Therefore, in accordance with the DPIE *Post Approval Independent Audit Guidelines*, Karuah Quarries has been deemed non-compliant with this condition. EMM recommends that Hunter Quarries revise the existing Environmental Monitoring Program to include monitoring of the Karuah East HVAS as part of Karuah Quarry monitoring, and report the results of monitoring in the AEMRs.

Depositional dust gauge monitoring has been undertaken throughout the Audit period in accordance with the EMP and development consent requirements and based on review of AEMRs, results of depositional dust gauge monitoring have been compliant throughout the audit period.

3.10.2 Environmental Management Strategy

The Environmental Management Strategy (EMS) dated March 2016 was prepared in accordance with Schedule 4, Condition 1 of the Development Consent (DA-265-10-2004), which requires the following:

Within 6 months of the date of this consent, the Applicant shall prepare, and subsequently implement an Environmental Management Strategy for the development to the satisfaction of the Director-General. This strategy must:

- c) provide the strategic context for environmental management of the development;
- d) identify the statutory requirements that apply to the development;
- e) describe in general how the environmental performance of the development would be monitored and managed during the development;
- f) describe the procedures that would be implemented to:
 - keep the local community and relevant agencies informed about the operation and environmental performance of the development;
 - receive, handle, respond to, and record complaints;
 - resolve any disputes that may arise during the course of the development;
 - respond to any non-compliance;
 - manage cumulative impacts; and
 - respond to emergencies; and
- e) describe the role, responsibility, authority and accountability of all key personnel involved in environmental management of the development.

Within 3 months of the completion of the Independent Environmental Audit, the Applicant shall review, and if necessary, revise, the Environmental Management Strategy to the satisfaction of the Director-General.

As outlined in the EMS, Hunter Quarries have developed and maintain an environmental training and awareness program that is designed to provide the workforce (including subcontractors) with the knowledge and skills necessary to achieve appropriate level of environmental management on site.

The Quarry Manager is responsible for:

- ensuring that the processes and resources exist to adequately train all employees and contractors in the relevant environmental policy and environmental procedures for the quarry;
- participating and running toolbox talks and other such forums where environmental training and awareness can be undertaken; and
- maintaining records of all environmental training and awareness sessions, including but not limited to, attendees and topic of discussion.

Induction and training presentations and registers were sighted as part of the audit. A register for complaints was sighted, maintenance and other records and production reports were also sighted as part of the audit.

3.10.3 Rehabilitation Management Plan

EMM sighted the Rehabilitation Management Plan (RMP) January 2014 and updated approved RMP (March, 2016). EMM has sighted evidence of formalised correspondence from DPIE regarding the approval of the 2016 version of the RMP. The plan was prepared in accordance with the requirements of the Development Consent and included information regarding the site rehabilitation and final landform domains and updated rehabilitation mitigation measures. The RMP also briefly discusses quarry closure and the proposed decommissioning strategy that would be prepared at least three years prior to cessation of quarrying (refer to Section 3.10.4).

Table 1.1 of the RMP includes recommendations from the previous audit and where these items have been addressed within the updated RMP.

In accordance with the Development Consent (Schedule 3, Condition 39 and 40) the plan shall:

39. Within 6 months of the date of this consent, the Applicant shall prepare, and subsequently implement a Rehabilitation Management Plan for the site, which integrates rehabilitation works for both Stage 1 and Stage 2 areas, to the satisfaction of the Director-General. This plan must:

- a) identify the disturbed area at the site (both Stage 1 and Stage 2);
- b) describe in general the short, medium, and long-term measures that would be implemented to rehabilitate the site;
- c) describe in detail the measures that would be implemented over the next 5 years to rehabilitate the site; and
- d) describe in detail how rehabilitation measures will be integrated with:
 - erosion and sediment control work on site;
 - remnant vegetation and habitat enhancement and conservation work; and
 - visual screening works;
- e) describe how the performance of these measures would be monitored over time.

40. Within 5 years of providing the Rehabilitation Management Plan to the Director-General, and every 5 years thereafter, the Applicant shall review and update the plan to the satisfaction of the Director-General.

Rehabilitation of the disturbed areas involve Stage 1 and Stage 2. As outlined in the RMP the proposed rehabilitation techniques for vegetative stabilisation on site will include, but not limited to:

1. re-spreading of available topsoil in rehabilitation areas (all disturbance has been completed);
2. re-shaping of post-quarry land surface to ensure suitable drainage and surface stability;
3. scarification of the topsoiled batter surface or disturbed area;
4. hydromulching using hybrid pasture species, and native tree species in areas of steep slopes;
5. the use of bio-engineering solutions such as straw mulching and direct seeding; and
6. targeted tube stock planting to increase diversity and address any gaps as necessary.

The completion of the abovementioned activities is tracked in the AEMR's. Review and assessment of the Rehabilitation Management Plan and AEMRs for the audit period has concluded that Hunter Quarries has demonstrated general compliance with Schedule 3, Condition 39 and 40. The RMP includes the identification of the disturbed areas of the site, short, medium- and long-term measures and how they would be implemented and monitored.

3.10.4 Concept Rehabilitation and Closure Plan

The last audit (2014) prepared by MCW Environmental states that Hunter Quarries did not have a final date planned for completion of quarrying. At the time, it was unable to be determined when quarrying operations would cease and hence when this condition would be triggered.

The last audit (2014) prepared by MCW Environmental outlines recommendations for the preparation of a concept closure plan. The recommendations were:

- *It is considered appropriate and within the intent of the condition that a Quarry Closure Plan is developed as required by the condition;*
- *A Quarry Closure Plan be developed as soon as practicable (suggest by March 2015) and implemented;*
- *The Plan should address the requirements of the condition and be of sufficient detail to provide a detailed level of direction in respect closure activities and closure criteria; and*
- *The development of the Closure Plan would need to be done in consultation with relevant stakeholders.*

Hunter Quarries met with DPIE on 12 December 2017 to discuss the Quarry Closure Plan as a requirement of the development consent. Subsequently, the draft Conceptual Rehabilitation and Closure Plan was submitted to the DPIE on 7 June 2018. It is understood that further feedback from DPIE was made in December 2017 and July 2018. Following this feedback from DPIE, Hunter Quarries have updated the document based on the recommendations made. It is understood that this draft Conceptual Rehabilitation and Closure Plan was submitted to DPIE 26 August 2019.

It should be noted that Hunter Quarries propose that the one document for the site will meet all the relevant conditions for the Rehabilitation Management Plan (Schedule 3, Condition 39) and Quarry Closure Plan (Schedule 3, Condition 44), once approved. Hunter Quarries propose that the previously approved RMP will become redundant at this time.

The key objectives of the Conceptual Rehabilitation and Closure Plan are to:

- provide an overall framework for Conceptual Quarry closure- including rehabilitation and decommissioning strategies;
- reducing or eliminating adverse environmental effects once the site ceases operations;
- ensuring rehabilitation and closure is completed to the satisfaction of the DPIE;
- ensuring that the site, and any nominated infrastructure, can be put to a suitable beneficial use post closure;
- ensuring that the needs of employees and the local community are appropriately considered and addressed in the closure planning process, with an emphasis on generating minimal negative impacts;
- re-establish a similar native forest vegetation cover at final rehabilitation, including native shrubs and ground cover, to that which currently exists over most of the Stage 2 area;

- rehabilitation of the final void;
- establish stable drainage lines on the rehabilitated areas and implement appropriate erosion controls to ensure the potential for erosion is limited, particularly during the establishment of vegetation;
- ensure disturbed areas are rehabilitated progressively and as soon as practical after they are disturbed, and quarrying operations cease. This is to reduce the potential for erosion, and to ensure vegetation is re-established as soon as possible;
- creating a stable post-disturbance area for long-term beneficial uses, as well as for native vegetation propagation. Ensuring surface water dams to be retained will be safe, self-sustaining and acceptable for the post-quarrying land uses; and
- preserving downstream water quality- the quality of surface and ground water that leaves the site will be adequate to maintain, or improve, environmental values and beneficial uses downstream of the Development Consent Area.

The Concept Rehabilitation and Closure Plan prepared by SLR January 2018 is yet to be approved by DPIE. EMM considers Schedule 3, Condition 44 (Quarry Closure Plan) as 'not triggered'. At the time of writing this report, the plan had not been approved by the DPIE. EMM have not had the opportunity to review the final plan and the implementation of the plan is outside the timeframe of this audit period. Compliance with the progression of activities within the draft Conceptual Rehabilitation and Quarry Closure Plan should be assessed in the next IEA and tracked through the completion of future AEMRs for the quarry.

3.10.5 Flora and Fauna Management Plan

EMM sighted a copy of the 2014 version of the Karuah Quarry Flora and Fauna Management Plan (*Schedule 3, Condition 19*). The management plan aims to address conditions 20 (*Vegetation Clearing Protocol*), 21 (*Remnant Vegetation Conservation Plan*) and 22 (*Conservation Offset Management Plan*) of the Development Consent DA 265-10-2004.

Ecological monitoring has not taken place in years 2017 and 2018. However, in 2015 and 2016, ecological monitoring was completed within the 16 hectares of conservation area in Lot 12. Results from this ecological monitoring indicate the vegetation was in good condition with no foliage die-back, with mid-storey regeneration present. Additionally, threatened flora species were identified within the conservation area (Black-eyed Susan and Trailing Woodruff).

It is noted that monitoring efforts for remnant vegetation areas ceased in 2011. In the AEMR which covered the period of 1 August 2010 to 15 January 2012, the cover letter and the report outlined Hunter Quarries' proposal to reduce ecological monitoring frequency so that monitoring is undertaken less than annually. However, Hunter Quarries received no feedback regarding this proposed approach from DPIE. The last audit (MCW 2014) recommended that Environmental Monitoring be conducted at least biannually to ensure all ecological values can be monitored to determine any changes within communities.

As outlined in the Flora and Fauna Management Plan (2014), monitoring results in the past have shown that the site is having minimal impacts on surrounding ecological community. The biodiversity monitoring and site inspections in previous reporting periods have identified *Lantana camara* (Lantana) as being the most widespread and abundant weed species across the site, including the conservation area. An intensive weed spraying regime across the Karuah Quarry and the adjacent Karuah East Quarry targeting the areas of Lantana was undertaken in 2018. Spraying at Karuah Quarry was undertaken on two occasions (autumn and spring) during the reporting period. Spraying was successful at reducing Lantana and will be continued in 2019.

Hunter Quarries have advised that no vegetation clearance activities (other than weed removal) were undertaken during the Audit period and this is evidenced by review of the AEMRs for the audit period which state that the maximum disturbance limit has been reached and that no further vegetation clearance is required

3.10.6 Site Water Management Plan

Due to site location and topography, areas of potential impeded drainage are insignificant. There are no permanent or ephemeral streams upstream of the quarry site, as the site is located on a ridgeline. The site is located within a catchment that drains towards the south west and into Yalimbah Creek and designated SEPP 14 Wetlands (No 777).

The water discharged from the site would flow under the Pacific Highway into the SEPP 14 Wetlands (No 777). As outlined in the Site Water Management Plan (2016) and the EIS (2004), no groundwater will be intercepted by the operations of Stage 2. Site has confirmed that no groundwater has been intercepted during exploration drilling, blast drilling and operational excavations.

The following control measures are employed at the existing quarry in order to ensure an appropriate level of protection to surface water on and around the quarry site:

- source separation in order to separate water of differing quality (clean water diversions);
- in-pit sump with de-watering capabilities;
- use of sediment control fencing; and
- collection and containment of quarry water for dust suppression.

The current active quarry area located in the Stage 2 Area involves blasting and quarrying of existing benches in pit up to a ridgeline; therefore, there is minimal catchment above the site. Clean water diversion drains or bunding has been used on the north eastern and south eastern section of the Stage 2 Area to minimise any clean water running into the site.

The site water management plan and all AEMR's sighted for this audit period state that no water has been discharged from Sediment Dam 2 during this reporting period or since the purchase of the quarry site operations by Hunter Quarries. The majority of water from the quarry area of operation is directed to Sediment Dam 2. Water is retained in the dam and is reused as process water and dust suppression (water carts).

During the EMM Auditors site inspection on 31 July 2019, water was being discharged from LDP001 (Sediment Dam 2 outlet) via a valve installed through the dam wall on site. It was unknown how long the valve had been open for or how long discharge had been occurring. The valve was closed on the inspection day (31 July 2019) when it was identified and EMM understand that monitoring samples were taken by Hunter Quarries in accordance with EPL and WMP requirements later that day. The results of this monitoring are outside the scope of this audit as EPL requirements are not required to be addressed in accordance with the DPIE *Independent Audit Post Approval Requirements*.

It is recommended that Hunter Quarries adopt an alarm system (or similar system) as recommended in the previous audit, and that Hunter Quarries update the Site Water Management Plan to include a procedure for adequate management of water discharge valve and to formalise the roles and responsibilities in relation to water discharge events. It was unclear during the site inspection if a water level sensor was installed in Sediment Dam 2 or if an automated alarm device was set to alert operators of high-water levels in the dam.

3.10.7 Other matters

VISUAL IMPACT:

In accordance with the Development Consent (Schedule 3, Condition 29) the plan shall:

29. The Applicant shall:

- a) implement all practicable measures to minimise the visual impacts of the development;
- b) retain, re-vegetate and subsequently maintain a visual bund within the Stage 1 works area (in accordance with Figures 13 and 14 of the EIS) to minimise the visual impacts of development;
- c) include a progress report on the re-vegetation and maintenance of the visual bund in the AEMR, to the satisfaction of the Director-General.

The AEMR's lodged during the audit period and EIS (2004) have been sighted. The AEMR's illustrate photographic evidence of revegetation and maintenance of the visual bund. The AEMR's report revegetation efforts and maintenance over time. The last audit (MCW 2014) outlined that the visual bund was to be further rehabilitated and that Stage 1 and 2 rehabilitation areas are to be supplemented with Eucalyptus, shrubs, vines and grasses. Progressive rehabilitation has occurred on the Stage 1 and Stage 2 rehabilitation areas during the audit period. During the site inspection, it was observed that the implementation of plantings were progressing.

The EIS (Asquith and De Witt, 2004) identified potential impacts for users of the Karuah Bypass (M1 Pacific Motorway) and discussed mitigation measures within the text. The EIS states:

'Views from the Karuah Bypass

The six (6) viewing points taken along the Karuah bypass road (refer Photomontages in Appendix G) clearly illustrate the view towards the proposed quarry. The view from VP9 would be the most significant but will occur such a distance that it would be tempered. The views moving towards the site will diminish and will become a roadside view appearing and disappearing as the roadside environment changes with roadside planting and mounding. The computer-generated model showing a continuous view along the bypass provides an additional graphic representation of the views to the site along the bypass. It must be noted that both the photomontages and the 3D model have been prepared without showing the future roadside mounding or vegetation. These views will be further screened.

Mitigation measures proposed - Rehabilitation

The progressive program of rehabilitation and replanting works is to be implemented during the remainder of the Stage One works and through the Stage Two operation to ensure that indigenous vegetation is of sufficient maturity to screen new work in critical views.

Orientation of the quarry face

The quarry face will be completely screened from view in sight lines from the Pacific Highway and any settlement to the east. From the west the quarry face will be orientated directly towards the Pacific Highway, the Karuah By-pass and residences in the valley. These impacts however will be mitigated by the relatively dark tones of the quarry face and the retention and revegetation of the bund.'

In relation to the visual impact of the quarry, based on available documentation and the site inspection, visual impacts of the quarry appear to be managed appropriately in accordance with consent and EIS requirements. Some community and EPA complaints have been noted, however these complaints relate to visible dust from the site and not specifically visual impact of the quarry.

SITE HYDROCARBON AND WASTE MANAGEMENT:

Hunter Quarries use licensed contractors for waste removal at Karuah Quarry. As outlined in the AEMR's, waste at the site generally consists of non-hazardous and general wastes, as well as oily wastes. These wastes are placed in a skip bin and removed from site. Oily water is accumulated in the workshop bunded area and is removed when the sump is full. Scrap metals and tyres are separated and stockpiled and are removed as required for recycling. Licenced contractors used at the site during the audit period are recorded in the Compliance Matrix in Appendix A.

During the site inspection some minor areas for improvement relating to hydrocarbon management were identified:

- clean out of the bunded oils storage area adjacent to the workshop; and
- consider potential for the installation of a self-bunded area at the refuelling area and oil water separation to minimise risks of potentially contaminated water flowing from the concrete paved area.

COMMUNITY:

In attempting to establish a Community Consultative Committee (CCC) prior to the audit period, Hunter Quarries sent flyers to nearby neighbours and advertised for expressions of interest and did not receive any expressions of interest. As a result, the CCC has not been formed for Karuah Quarry. In accordance with Condition 10 of Schedule 4 of the Development Consent –

If the Applicant does not receive at least two expressions of interest to serve on the CCC the Applicant shall instead develop a communications strategy for consulting with Council and residents within 2 km of the development, to the satisfaction of the Director-General. This strategy should outline how the Applicant will advise Council and nearby residents on its environmental management plans, monitoring results, audit reports or complaints. This communication should occur twice a year.

Hunter Quarries have developed a consultation strategy for nearby residents and council in the EMS, which involves provision of reports on a 6-monthly basis to Council and nearby residents. However, no evidence of the provision of these reports was available for review during the audit. EMM recommend that these reports are prepared as discussed in the EMS and as required by this condition of consent. Alternatively:

- a CCC for Karuah Quarry should be implemented; or
- the text of the EMS should be revised to detail an alternative communications strategy that can be met by Hunter Quarries.

4 Recommendations

4.1 Non-compliances

The following recommendations are made as a result of non-compliances identified (refer to Section 3.3) as part of this audit:

- Blasting events may only take once per week. Blasting has occurred twice on the same day, on six occasions during the audit period. Hunter Quarries should seek advice from DPIE as to whether events less than 10 minutes apart are the same blasting 'event' due to the small amount of time between blasts.
- Hunter Quarries enter formal discussions regarding the requirement for PM₁₀ / TSP air monitoring with DPIE and amend the EMP as required. EMM recommends that Hunter Quarries revise existing Environmental Monitoring Program to include monitoring of the Karuah East HVAS as part of Karuah Quarry monitoring, and report results in the AEMRs.
- The EMP is updated within the specified timeframe of the completion of the IEA (2019) in accordance with condition 4 of Schedule 4.
- Hunter Quarries follow up with DPIE and OEH in regard to a binding covenant (e.g. conservation deed or agreement) which details long term security for the conservation offset area.
- As the Flora and Fauna Management Plan was last updated in 2014, review and update the Flora and Fauna Management Plan (including sub-plans) and submit the plan to DPIE for approval. This will also resolve the monitoring frequency requirements for the Offset Area and Remnant Vegetation areas.
 - In the interim, ecological monitoring should be conducted biannually in remnant vegetation areas to determine if activities are causing any changes within communities or weed species prevalence.
- Hunter Quarries update the Site Water Management Plan to include a procedure for adequate management of the water discharge valve on Sediment Dam 2.
 - Revise and update SWMP to formalise adequate management procedures for discharge point, including the review of the monitoring and notification of high-water levels at Sediment dam 2.
 - Formalise roles and responsibilities in relation to water discharge events.
- Hunter Quarries follow-up with Council and RFS regarding the approval of the Bushfire Management Plan so that it is approved in accordance with the condition requirement.
- Six monthly reports to MidCoast Council and the Community are prepared and submitted as detailed in the Communications Strategy in the EMS and as required by Condition 10 of Schedule 4 of the consent. Alternatively:
 - a CCC for Karuah Quarry should be established; or
 - the text of the EMS should be revised to detail an alternative communications strategy that can be met by Hunter Quarries. The revised EMS would then be submitted to DPIE for approval.

4.2 Opportunities for improvement

A number of opportunities have been identified, for items that were considered compliant during the audit, including the following:

- No evidence of near miss or environmental hazard reporting has been identified during 2019 audit. Hunter Quarries should consider development of a process to record and review this reporting as per the previous audit findings;
- Some community and EPA complaints have been noted relating to visible dust from the site during the audit period. No air quality issues were noted during the site inspection, however recent rainfall had occurred and was occurring during the site inspection which assisted in dust mitigation. In addition to the recommendation regarding TSP / PM₁₀ monitoring in **Section 4.1**, an opportunity for improvement exists for increased operational control to manage dust emissions during times of high wind and/or prolonged periods dry weather. This may be achieved via a number of measures, potentially including:
 - increased water usage in the processing plant area;
 - installation of additional sprays;
 - minimising heavy machinery movement;
 - the use of polymer binders on stockpiles and haul roads to reduce wind erosion; and
 - additional toolbox training with operators.
- During the site inspection some minor areas for improvement of hydrocarbon management were identified and included:
 - clean out of the bunded oils storage area adjacent to the workshop; and
 - consider potential for the installation of a self-bunded area at the refuelling area and oil water separation to minimise risks of potentially contaminated water flowing from the concrete paved area.

5 Conclusion

The 2019 IEA of the Karuah Quarry was carried out to meet all the requirements of Schedule 4, Condition 6 of the development consent granted 3 June 2005 by the Minister for DPIE.

The audit evidence was collected before, during and following the site inspection conducted on 31 July 2019 and documents provided by the Quarry Manager, Greg Dressler, and Environmental Officer, Joel Fleming, who demonstrated an appreciation and commitment to the site's statutory obligations.

Of the 64 conditions from the development consent for the quarry, a total of 11 non-compliances were identified, representing approximately 17% of the conditions. Therefore, the findings of this audit are that Hunter Quarries were compliant with 83% of the conditions for the site and that the site generally complies with the development consent and management plan conditions.

6 References

Asquith & deWitt 2006, *Proposed Extension of Quarry Boundary Survey Stage 1 & 2, Mine Extension Marks* dated 28/7/2006 (Ref: 11683-5a-A3PLAN), prepared for Hunter Quarries Pty Limited

Asquith & deWitt 2006, *Proposed Extension of Quarry Boundary Survey Stage 1 & 2, Add Points Nos & Co-ords* dated 7/8/2006 (Ref: 11683-5b-A3PLAN), prepared for Hunter Quarries Pty Limited

Asquith & deWITT 2004, *Environmental Impact Statement, Proposed Hard Rock Quarry Extension Lot 21 DP 1024341 and Lot 11 DP 1024564*, prepared under the Environmental Planning and Assessment Act 1979 Section 78A(8)

DPE 2005, *Development Consent*, issued under Section 80 of the Environmental Planning & Assessment Act 1979, DA-265-10-2004

DPE 2018, *Independent Audit Post Approval Requirements*

Hunter Quarries Pty Ltd 2018, *Annual Environmental Management Report*, Hunter Quarries Pty Ltd

Hunter Quarries Pty Ltd 2017, *Annual Environmental Management Report*, Hunter Quarries Pty Ltd

Hunter Quarries Pty Ltd 2016, *Annual Environmental Management Report*, Hunter Quarries Pty Ltd

Hunter Quarries Pty Ltd 2015, *Annual Environmental Management Report*, Hunter Quarries Pty Ltd

Hunter Quarries Pty Ltd & SLR Consulting 2014, *Annual Environmental Management Report*, Hunter Quarries Pty Ltd

ISO 19011:2002- *Guidelines for Quality and/or Environmental Systems Auditing*

MCW Environmental 2014, *Environmental Independent Audit (IEA) Karuah Hard Rock Quarry*, prepared for Hunter Quarries Pty Limited

SLR Consulting Australia Pty Ltd 2016, *Environmental Management Strategy*, prepared for Hunter Quarries Pty Ltd

SLR Consulting Australia Pty Ltd 2016, *Rehabilitation Management Plan*, prepared for Hunter Quarries Pty Ltd

SLR Consulting Australia Pty Ltd 2016, *Site water Management Plan*, prepared for Hunter Quarries Pty Ltd

SLR Consulting Australia Pty Ltd 2015, *Site Water Management Plan*, prepared for Hunter Quarries Pty Ltd

SLR Consulting Australia Pty Ltd 2014, *Environmental Monitoring Program* prepared for Hunter Quarries Pty Ltd

SLR Consulting Australia Pty Ltd 2014, *Flora and Fauna Management Plan*, prepared for Hunter Quarries Pty Ltd

SLR Consulting Australia Pty Ltd 2014, *Bushfire Management Plan*, prepared for Hunter Quarries Pty Ltd

SLR Consulting Australia Pty Ltd 2014, *Rehabilitation Management Plan*, prepared for Hunter Quarries Pty Ltd

Correspondence:

- DPE letter to Hunter Quarries dated 31/7/2006 *Karuah Hard Rock Quarry (DA 265-10-2004) Compliance with Development Consent;*
- DPE letter to Hunter Quarries dated 1/4/2016 *Updated Environmental Management Strategy and Management Plans March 2016;*
- DPE letter to Hunter Quarries dated 3/5/2017 *Annual Environmental Management Report 2016;*
- DPE letter to Hunter Quarries dated 9/6/2017 *Annual Environmental Management Report 2016 (Revised);*
- DPE letter to Hunter Quarries dated 4/5/2018 *DA 265-10-2004-Karuah Hard Rock Quarry- 2017 Annual Review;*
- DPE letter to Hunter Quarries dated 9/5/2019 *Karuah Hard Rock Quarry 2018 Annual Review;*
- DPE letter to Hunter Quarries dated 4/6/2019 *Karuah Hard Rock Quarry (DA 265-10-2004) 2019 Independent Environmental Audit*
- DPE Show Cause Notice to Hunter Quarries dated June 2016
- Hunter Quarries Response to DPE dated 15 June 2016

Appendix A

Independent audit compliance table

Approval ID	Requirement	Evidence collected	Independent Audit Findings/Recommendations	Compliance Status
Schedule 2 Administrative Conditions				
Obligation to Minimise Harm to the Environment	1. The Applicant shall implement all practicable measures to prevent and/or minimise any harm to the environment that may result from the construction, operation, or rehabilitation of the development.	AEMRs; Site induction; and Hunter Quarries interview.	Environmental awareness training for all staff is conducted. Environmental management is implemented onsite in accordance with the approved environmental management system and suite of site-specific management plans. Review of AEMRs has not identified significant environmental impacts/issues.	Compliant
Terms of Approval	2. The Applicant shall carry out the development generally in accordance with the: a) Development Application: DA 265-10-2004;	DA 265-10-2004	Operations occurring as per EIS. No material inconsistencies identified. Refer to individual consent conditions regarding compliance against development consent	Compliant
	b) EIS titled <i>Environmental Impact Statement</i> to accompany a State Significant Development Application for an existing Hard Rock Quarry, Property Lot 21 DP-1024341 and Lot 11 DP-1024564, Pacific Highway, Karuah, Volumes 1, 2 & 3, dated October 2004 and prepared by Aquith and deWitt Pty Ltd; and	EIS (2004)	b) Environmental Impact Statement (Volume 1 of 3) To accompany a State Significant Development Application for an extension to an existing Hard Rock Quarry, Aquith & deWITT, dated 29 October 2004, was generally in accordance with the documents defined in Condition 2 (b).	Compliant
	c) conditions of this development consent.	DA 265-10-2004	Operations are undertaken generally in accordance with the development consent. Refer to individual consent conditions regarding compliance against development consent	Compliant
	3. If there is any inconsistency between the above documents, the conditions of this consent shall prevail to the extent of the inconsistency.	DA 265-10-2005; EIS (2004)	No material inconsistencies found	Compliant
	4. The Applicant shall comply with any reasonable requirement/s of the Director-General arising from the Department's assessment of : a) any reports, plans or correspondence that are submitted in accordance with this development consent; and	DA 265-10-2005; EIS (2004) Bushfire Management Plan 2014; Environmental Management Strategy 2016; Environmental Monitoring Program 2014; Flora and Fauna Management Plan 2014; Rehabilitation Management Plan 2016 (and 2014); Site Management Plan 2014; Site Water Management Plan 2015; Site Management Plan 2016	The last audit (MCW 2014) reported this condition as 'non-compliant'. It is noted that Hunter Quarries reported that this condition was non-compliant in 2008/2009. Hunter Quarries reported 779,006 t of material was produced. Hunter Quarries supplied AEMR approvals (2015, 2016, 2017, 2018) and Management Plans (EMS 2016, Site Water Management Plan 2016, RMP 2016) dated 1 April 2016. No further non-compliances were noted in these documents.	Compliant
	b) the implementation of any actions or measures contained in these reports, plans or correspondence.	DA 265-10-2005; EIS (2004) Bushfire Management Plan 2014; Environmental Management Strategy 2016; Environmental Monitoring Program 2014; Flora and Fauna Management Plan 2014; Rehabilitation Management Plan 2016 (and 2014); Site Management Plan 2014; Site Water Management Plan 2015; Site Management Plan 2016	Correspondence received from DPIE in relation to approvals / plans / programs has been reviewed by EMM. Any actions / requirements from DPIE in their correspondence appears to have been addressed by Hunter Quarries, based on EMMs site inspection and review of available documentation. Refer to Section 3.1 of the Audit report	Compliant
	5. This consent lapses 22 years after the date it commences.	Not Triggered - 3 June 2027 is the lapse date		Not triggered
			The DA allows for 22 years of production. Production will cease in 2027. This condition has yet to be triggered.	
Limits on Approval	6. The Applicant shall not transport more than 500,000 tonnes of material a year from the development.	AEMRs	Production figures are reported annually in AEMRs. Production numbers for the reporting period are: 2014: 442,831 t, 2015: 412,779, 2016: 497,077, 2017: 498,752 t and 2018: 459,059 t	Compliant
	7. The Applicant shall not extract more than 11.2 million tonnes of andecite from the site within the period of this consent.	Rolling total of extraction for andecite based on AEMRs.	Hunter Quarries reported in AEMR reports that the total volume of rock produced since commencement of the quarry in 2005 was 6,533,763 tonnes to 15 January 2019. The total extraction limit has not been exceeded during the audit period.	Compliant
SURRENDER OF CONSENTS	8. Within 6 months of the date of this consent, the Applicant shall surrender all existing development consents and continuing use rights associated with the site, in accordance with clause 97 of the EP&A Regulation.	DA 265-10-2004	Prior to this audit period	Compliant
STRUCTURAL ADEQUACY	9. The Applicant shall ensure that any new buildings and structures, and any alterations or additions to existing buildings and structures, are constructed in accordance with the relevant requirements of the BCA. Notes: Under Part4A of the EP&A Act, the Applicant 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.	No new buildings were constructed or alterations occurred during the audit period.	Hunter Quarries advised that No additional buildings or structures were constructed on site during the audit period	Not triggered
DEMOLITION	10. The Applicant shall ensure that all demolition work is carried out in accordance with AS 2601-2001: The Demolition of Structures, or its latest version.	No new buildings were constructed or alterations occurred during the audit period.	Hunter Quarries advised that no demolition work of structures has occurred during the audit period. During the site inspection, there was no evidence of any demolition works being undertaken.	Not triggered
OPERATION OF PLANT AND EQUIPMENT	11. The Applicant shall ensure that all plant and equipment at the site, or used in connection with the development, are: a) maintained in a proper and efficient condition; and b) operated in a proper and efficient manner.	Maintenance of all plant records	Hunter Quarries did not report any incidents within the reporting period that would demonstrate non-compliance with the condition. Based on the site inspection by EMM, plant and equipment appeared to be in proper condition.	Compliant
IDENTIFICATION OF BOUNDARIES	12. Within 6 months of the date of this consent, the Applicant shall: a) engage a registered surveyor to mark out the boundaries of the approved limits of extraction under Stage 1 and Stage 2; b) submit a survey plan of these boundaries and the proposed timing of extraction within Stage 1 and Stage 2 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 these limits.	Survey plans - Aquith & deWITT - Sa and Sb. Site inspection	Pegged out boundary markers in place. Requirements of this condition are considered to have been addressed in previous audit periods. Outside of the current audit period.	Compliant

SECTION 94 CONTRIBUTIONS	13. The Applicant shall pay a contribution of 4.7 cents per cubic meter of material per kilometre hauled to Council for the maintenance/repair of public roads in accordance with Council's Section 94 Plan for road haulage, to the satisfaction of Council. Note: The applicable contribution rate is reviewed annually by Council and new rates, if applicable become operational from 1 July each year. The contribution is to be paid at the rate that is current at the time.	Payments for contribution to Council (public roads).	EMM have reviewed a spreadsheet provided by Hunter Quarries identifying contributions to council (594)	Compliant
	Schedule 3 Specific Environmental Conditions			
NOISE Noise Impact Assessment Criteria	The Applicant shall ensure that the noise generated by the development does not exceed the criteria specified in Table 2 at any residence or noise sensitive receptor on privately owned land. Day (7am to 6pm) Monday to Friday and 7am to 1pm Saturday LAeq (15minutes) 48 Evening (6pm to 10pm) Monday to Friday 47 At all other times 46 Table 2: Noise Impact Assessment Criteria for the Development Notes: *Noise from the site is to be measured within thirty meters of any residence or other noise sensitive areas to determine compliance with the noise criteria set out in Table 2. *LAeq(15 minute) is the equivalent continuous noise level- the level of noise equivalent to the energy average of noise levels occurring over a measurement period. *For the purpose of noise measures required for this condition, the LAeq noise level must be measured or computed at the point defined in this condition over a period of 15 minutes using "FAST" response on the sound level meter. *For the purpose of the noise criteria for this condition, 5 dBA must be added to the measured level if the noise is substantially tonal or impulsive in character. The location or point of impact can be different for each development, for example, at the closest residential receiver or at the closest boundary of the development. Measurement locations can be: a) meter from the façade of the residence for night time assessment; - b)at the residential boundary; - c)30 meters from the residence (rural situations) where boundary is more than 30 meters from residence. *The noise emission limits identified in this condition apply for prevailing meteorological conditions (winds up to 3m/s), except under conditions of temperature inversions. Noise impacts that may be enhanced by temperature inversions must be addressed by: - a)documenting noise complaints received to identify any higher level of impacts or patterns of temperature inversions; - b)where levels of noise complaints indicate a higher level of impact then actions to quantify and ameliorate any enhanced impacts under temperature inversions conditions should be developed and implemented.	AEMRs (inc Noise monitoring reports) EMS (2014)	Reviewed noise monitoring reports as attached to AEMRS. Noise monitoring undertaken in accordance with the noise monitoring requirements stated in the Environmental Monitoring Program No noise exceedances in the audit period.	Compliant
Operating Hours	2. The Applicant shall comply with the operating hours in Table 1: Note: Delivery of material outside of the hours of operation permitted by condition 2 is only allowed, where that delivery is required by the police or other authorities for safety reasons; and/or where the operation or personnel or equipment are endangered. In such circumstances, prior notification should be provided to the DEC and affected residents as soon as possible, or within a reasonable period in the case of emergency.	Register of blasting for public information, AEMRs, noise reports complaints register	Based on available information, Hunter Quarries has complied with operating hours during the audit period. No complaints received regarding operating hours for the quarry.	Compliant
Noise Monitoring Program	3. Within 6 months of the date of this consent, the Applicant shall prepare and implement a Noise Monitoring Program for the development to evaluate compliance with the noise impact assessment criteria in this consent, in consultation with the DEC, and to the satisfaction of the Director-General.	EMP (2014)(Noise Monitoring Program); and Biannual Noise Monitoring Reports (2014- to current)	Hunter Quarries has prepared and implemented a Noise Monitoring Program, which is included within the EMP (2014). Hunter Quarries has also undertaken Biannual Noise Monitoring during the audit period. The six monthly monitoring reports by SLR have identified noise from Karuah Quarry as compliant during the audit period.	Compliant
BLASTING AND VIBRATION	4. The Applicant shall ensure that the airblast overpressure level from blasting at the development does not exceed the criteria in Table 3 at any residence or sensitive receiver 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%	AEMRS EMP (2014) (Air Quality)	The EMP (2014) (see section 5.4.2) outlines blast monitoring is required to be undertaken at the nearest affected resident from the quarry (Monitor 2) and at the front gate of the quarry (Monitor 1). Blasting monitoring trigger levels used at the Quarry are set at 85 dB(L) for overpressure and 0.5 mm/s for ground-vibration. Therefore, any blasts not triggering the monitoring equipment are significantly below the required overpressure and ground vibration criteria. The blast monitoring is undertaken by the quarry's licenced blast contractor. The licence contract was observed as evidence during audit. Hunter Quarries records all blast events in a control register. Blast monitoring records have been reported in each AEMR during the audit period. Blasting results have been below approved criteria and ES predictions. No overblast exceedances reported during the audit period at the nearest private residence.	Compliant
Ground Vibration Criteria	5. The Applicant shall ensure that the peak particle velocity from blasting at the development does not exceed the criteria in Table 4 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%	AEMRs EMP (2014) (Noise Monitoring Program); and Biannual Noise Monitoring Reports (2014- to current)	In all reports, the PPV measurements have been provided and recorded. PPV measurements during the audit period did not exceed the criteria of 5 mm/s.	Compliant
Blast Hours	6. Blasting at the site may only take place: a) between 7am and 3pm Monday to Friday inclusive; b) once per week, and c) at such other times as may be approved by the DEC.	AEMRs; EMP (2014); Biannual Noise Monitoring Reports (2014- to current)	As reported in the 2018 AEMR, a blasting event occurred on 8 October 2018 at 3:05pm. As outlined in this condition, blasting is to occur between 7am and 3pm (Monday to Friday) inclusive. No evidence was provided during the audit to suggest that approval had been received by EPA or DPIE to allow blasting to be undertaken outside of standard hours. Based on the above Hunter Quarries are deemed non-compliant with this condition. It is reported in AEMRs that two blasting events occurred on the same day, up to 10 minutes apart on: 30/1/2018 3/2/2017 8/4/2016 8/7/2016 14/11/2014 and 1/12/2014 Subcondition b) of this condition outlines blasting events may only take once per week. Hunter Quarries should seek advice from DPIE as to whether these events are considered to be the same blasting 'event' due to the small amount of time between blasts.	Non-Compliant
Blasting Restrictions	7. Within 6 months of this consent, the Applicant shall establish a blasting notification register of landowners and other interested persons, within 2km of the quarry.	Blast Notification Register	Hunter Quarries has prepared and implemented a blast notification register during the audit period	Compliant
Public Notice	8. Throughout the life of the development, the Applicant shall notify all registered individuals of up coming blasting operations at the development site.	Blast Notification Register	Hunter Quarries stated during the site inspection that they send a text message to residents/landowners before blasts occur. A message contact register for 1 August 2019 and 2 August 2019 was provided as evidence. The list discloses time of communication and details of message delivered and received.	Compliant
	9. Within 3 months of this consent, the Applicant shall advise all landowners within 1 kilometer of the development that they are entitled to a structural property inspection.	AEMRs Independent Environmental Audit (MCW Environmental 2014)	The last audit (MCW 2014) stated that the condition was considered as having been closed out in the previous audit period (URS 2008).	Compliant

Property Inspections	10. If the Applicant receives a written request for a structural property inspection from any landowner within 1 kilometre of the development, the Applicant shall within 3 months of receiving this request: a) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the Director-General, to inspect the condition of any building or structure on the land, and if necessary recommend measures to mitigate any potential blasting impacts; and b) give the landowner a copy of the property inspection report.	AEMRs; and Independent Environmental Audit (MCW Environmental 2014)	Hunter Quarries advised that no written requests for a structural property assessment have been received within the audit period. The last audit (MCW 2014) reported that no written requests were made during the audit period.	Not triggered
	11. If any landowner within 1 kilometre of the site claims that buildings and/or structures on his/her land have been damaged as a result of blasting at the development, the Applicant shall within 3 months of receiving this request: (a) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the Director-General, to investigate the claim; and (b) give the landowner a copy of the property investigation report. If this independent property investigation confirms the landowner's claim, and both parties agree with these findings, then the Applicant shall repair the damages to the satisfaction of the Director-General. If the Applicant or landowner disagrees with the findings of the independent property investigation, then either party may refer the matter to the Director-General for resolution. If the matter cannot be resolved within 21 days, the Director-General shall refer the matter to an Independent Dispute Resolution Process (see Appendix 3).	AEMRs	No landowner claims within the audit period	Not triggered
Property Investigations	12. The Applicant shall implement all practical measures to ensure the safety of people, and avoid and/or minimise any blasting impacts of the development on any privately owned land	Premier Drill & Blast Qualifications	No reports of public safety or property incidents relating to blasting events during the report period. Nearby residents and landowners are notified as per the EMS implemented on site. Blast safety is managed through the Blast Management Procedure and by processes used by the blast contractor. EMM have not assessed safety performance or management at the quarry.	Compliant
AIR QUALITY	AIR QUALITY			
Air Quality Impact Assessment Criteria	13. The Applicant shall ensure that the dust emissions generated by the development do not cause additional exceedances of the ambient air quality impact assessment criteria listed in Tables 6, 7, and 8 at any residence on, or on more than 25 percent of, any privately owned land. Pollutant Averaging period Criterion Total suspended particulate (TSP) matter Annual 50 µg/m³ Particulate matter < 10 µm (PM10) Annual 30 µg/m³	AEMRs; and EMP (2014)	The last audit (MCW 2014) outlines a letter from DECC dated 17 July 2008 describing that the Department no longer requires Heggies (the company monitoring at the time) to undertake regular PM10 monitoring. Therefore, the requirement for ongoing monitoring using the High Volume Air Sampler (HVAS) did not appear to be required. This condition requires the monitoring of PM10 and TSP in order to show compliance. It is recommended that Hunter Quarries enter formal discussions regarding the requirement for PM10 / TSP monitoring with DPIE following this audit, and following agreement with DPIE, amend the EMP to include HVAS, PM10 and TSP monitoring for Karuah and report data in future AEMRs, in accordance with development consent.	Non- Compliant
	Pollutant Averaging period Criterion Particulate matter < 10 µm (PM10) 24 hour 50 µg/m³	AEMRs; and EMP (2014)	The last audit (MCW 2014) outlines a letter from DECC dated 17 July 2008 describing that the Department no longer requires Heggies (the company monitoring at the time) to undertake regular PM10 monitoring. Therefore, the requirement for ongoing monitoring using the High Volume Air Sampler (HVAS) did not appear to be required. This condition requires the monitoring of PM10 and TSP in order to show compliance. It is recommended that Hunter Quarries enter formal discussions regarding the requirement for PM10 / TSP monitoring with DPIE following this audit, and following agreement with DPIE, amend the EMP to include HVAS, PM10 and TSP monitoring for Karuah and report data in future AEMRs, in accordance with development consent.	Non- Compliant
	deposited dust level Deposited dust Annual - Max increase - 2 g/m²/month Maximum total 4 g/m²/month	AEMRs; and EMP (2014)	The AEMRs were reviewed for the audit period and no exceedances were reported within the audit period. There are 4 depositional dust gauges located at the nearest residential receivers as evidenced by the EMP and the AEMRs.	Compliant
	14. The Applicant shall implement all practical measures to minimise and/or prevent the emission of dust from the site.	AEMRs; and EMP (2014)- Air Quality Monitoring Program (as part of EMP)	The 2018 AEMR states the following: The principle source of air pollution is in the form of airborne dust, which arises from activities such as quarrying, vehicle movements and crushing. The long term results indicate that there has been little change between annual averages across the depositional dust gauges between 2013 and 2018. Management measures include: - air quality monitoring; - minimising disturbance of land to only what is required by quarry activities; - minimising distance travelled by hauling rock the shortest distance possible; - utilising quarry runoff water for dust suppression on roads, stockpiles, production, plant and work areas. - A 13,000 litre water cart is used at the site to assist with firefighting capabilities and dust management. Water is regularly checked from Sediment Dam 2 and sprayed on roads throughout the quarry to minimise dust generated from vehicle movements; engaging the services of a contract road sweeper to regularly clean roadways around the entrance to the quarry; and ensuring loads are covered when leaving the site. During the site inspection, these controls and measures were observed including: - Sprays on crushers and processing equipment - water cart, partially enclosed crushers, lignit retention, sprays on stockpiles. No significant dust generation was observed during the site visit. It is noted that some rain fall had occurred early that morning.	Compliant
	15. Within 6 months of the date of this consent, the Applicant shall prepare and implement an Air Quality Monitoring Program for the development to evaluate compliance with the air quality impact assessment criteria in this consent, in consultation with the DEC, and to the satisfaction of the Director-General.	Previous Audit; and EMP (2014)	The Air Quality Monitoring Program has been incorporated into the EMP 2014. As recommended by the last audit (MCW 2014), the EMP (2014) was to be reviewed and submitted to DPIE following the audit, no evidence was observed of an updated program. The 2014 EMP requires updating. The site is compliant with this condition in that the Air Quality Monitoring Program exists, however the program is 5 years old and should be updated.	Compliant
METEOROLOGICAL MONITORING	16. Within 6 months of this consent, the Applicant shall ensure that there is a suitable meteorological station operating in the vicinity of the development in accordance with the requirements in Approved Methods for Sampling of Air Pollutants in New South Wales, and to the satisfaction of the DEC and the Director-General.	AEMRs; EMP (2014)	The meteorological station was installed at the quarry in 2004. Rainfall and temperature data from the met station has been included in AEMRs for the audit period.	Compliant

	17. The Applicant shall establish, conserve, and maintain the area of vegetation in Lot 12 DP 1024564 marked on the map in Appendix 2, to the satisfaction of the Director- General.	AEMRs; EMP (2014); and Flora and Fauna Management Plan (2014)	During the site inspection the conservation offset area was observed from the boundary of the offset area. Fencing was observed to be present and in good condition to restrict public access. The offset is in place in accordance with this condition.	Compliant
Offset Area				
	18. Within 3 years of this consent, the Applicant shall implement suitable arrangements to provide long term security for the conservation offset area, to the satisfaction of the Director-General. Note: The long term security of the offset can be achieved through a combination of the following: Deed of Agreement with the Minister, rezoning the land under the Great Lakes Local Environment Plan 1996, caveats on the title under the Conveyancing Act 191, etc....	No conservation deed supplied	The last audit (MCW 2014) outlined that the Lot 12 (offset area) is not currently secured in 'perpetuity' at the time and classed the condition as 'non-compliant'. During the previous audit, Hunter Quarries were reported as stating that 'they were hoping to put a restriction (caveat) on the title, which would be registered with land titles office'. This would mean the area would only be used for conservation. MCW 2014 recommended that Hunter Quarries seek Lot 12 security in perpetuity through a formal land title change through NSW Land and Property in consultation with the DPE. As outlined in the 2016 AEMR, on the 23 June 206, Hunter Quarries provided a submission seeking long term security for the conservation area through the implementation of a caveat on the title of Lot 12. It is stated in AEMR 2016 and AEMR 2017 that the caveat would be progressed further with the DPE during 2015. No formalised evidence or correspondence was observed during the audit period (e.g. no deed or conservation bond for offset security). It is recommended Hunter Quarries follow up with DPE and OEH in regards to arrangement (e.g. deed or agreement) which details long term security for the conservation offset area.	Non-Compliant
Conservation Offset Area				
	19. Before carrying out any clearing associated with Stage 2 of the development, the Applicant shall prepare, and subsequently implement, a Flora and Fauna Management Plan for the development to the satisfaction of the Director-General. This plan must include: a) a Vegetation Clearing Protocol; b) a Remnant Vegetation Conservation Plan; and c) a Conservation Offset Management Plan.	AEMRs; EMP (2014); EMS (2016); and Flora and Fauna Management Plan (2014)	The Flora and Fauna Management Plan (2014) was sighted as part of the audit. No evidence of correspondence with DPE for the approval of the 2014 version of the management plan was able to be provided. It is recommended that Hunter Quarries review and updates Flora and Fauna Management Plan (including sub-plans).	Non-Compliant
	20. The Vegetation Clearing Protocol shall describe the procedures that would be implemented for: a) minimising the areas of remnant vegetation to be cleared; b) delineating areas of remnant vegetation to be cleared; c) protecting areas outside of the disturbance areas; d) undertaking pre clearance surveys (including observations/surveys for threatened species); e) identification of fauna management strategies; f) conserving and reusing topsoil; g) collecting seed from the site for rehabilitation works; h) salvaging and reusing material from the site for habitat enhancement; and i) controlling weeds.	AEMRs; EMP (2014); EMS (2016) and Flora and Fauna Management Plan (2014)	Hunter Quarries advised that no vegetation clearing has occurred during the audit period other than weed removal. The vegetation clearing protocol includes the details required by this consent condition.	Compliant
	21. The Remnant Vegetation Conservation Plan shall: a) describe what measures would be implemented to conserve, maintain and enhance the vegetation on the site which will not be cleared as part of the development (in particular sub-populations of <i>Tetratheca juncea</i> (Black-eyed Susan); and b) describe how the performance of these measures would be monitored over time.	AEMRs; EMP (2014); EMS (2016); and Flora and Fauna Management Plan (2014)	Hunter Quarries has prepared and implemented a Remnant Vegetation Conservation Plan which adequately addressed measures for conservation, maintenance and enhancement of the vegetation on site and includes performance measures over time. It is noted that monitoring efforts for remnant vegetation areas ceased in 2011. The last audit (MCW 2014) recommended that Environmental Monitoring be conducted biannually to ensure all ecological values are monitored to determine any changes within communities.	Non-Compliant
Flora and Fauna Management Plan				
	22. The Conservation Offset Management Plan shall: a) describe the habitat in the conservation offset area for following threatened species: • <i>Phascogale tapoatafa</i> (Brush-tailed Phascogale); • <i>Ninox strenua</i> (Powerful Owl); • <i>Phascogaleos cinereus</i> (Koolah); and • <i>Tetratheca juncea</i> (Black-eyed Susan). b) justify why this area is suitable as a conservation offset for the species described in (a) above; c) establish baseline data for the existing habitat in the proposed conservation offset area; d) describe how the proposed conservation offset area would be managed, including long-term measures for: • feral animal control; • weed management; • stock management; and • bush fire management. e) describe how the ecological performance of the conservation offset area would be monitored over time.	AEMRs; EMP (2014); EMS (2016); and Flora and Fauna Management Plan (2014)	Hunter Quarries has prepared and implemented a Conservation Offset Management Plan which adequately addressed measures for conservation, maintenance and enhancement of the vegetation in the offset area and includes performance measures over time. The plan outlines baseline data for the existing habitat in the offset area and threatened species. (<i>Phascogale tapoatafa</i> , <i>Ninox strenua</i> , <i>Phascogaleos cinereus</i> and <i>Tetratheca juncea</i>). The plan also outlines long term measures for feral animal control, weed management, stock and bush fire management. Review of the AEMRs for the audit period has identified that monitoring in the offset area has been undertaken annually.	Compliant
	23. The Applicant shall include a progress report on the implementation and performance of the Flora and Fauna Management Plan and the Conservation Offset Strategy in the AEMR.	AEMRs; EMP (2014); EMS (2016); and Flora and Fauna Management Plan (2014)	AEMRs (2014-2018) include a progress report on the implementation and monitoring of performance of the Flora and Fauna Management Plan, which addresses the Conservation Offset area.	Compliant
SURFACE WATER	SURFACE WATERS			

	24. Except as may be expressly provided by an Environment Protection License, the Applicant shall comply with section 120 of the Protection of the Environment Operations Act 1997 during the carrying out of the development.	AEMRs; Site Water Management Plan (2014, 2015, 2016); and EPL 11569	The site water management plan and all AEMRs sighted for this audit period state that no water has been discharged from the Sediment Dam 2 during this reporting period or since the purchase of the quarry site operations by Hunter Quarries. The majority of water from the quarry area of operation is directed to Sediment Dam 2. Water is retained in the dam and is reused as process water (water carts). During the site inspection, water was being discharged from the EPL licenced discharge point via a valve installed through the Sediment Dam 2 dam wall, it was unknown how long the valve had been open or how long discharge had occurred. The valve was closed on 31/7 and EMM understand that monitoring samples were taken by Hunter Quarries in accordance with EPL and approved WMP requirements, and that the results of this monitoring are outside the scope of this audit as discharge monitoring is a requirement of the conditions of the EPL. EPL requirements are not required to be addressed in accordance with the DPIE Post Approval Independent Audit Guidelines. Any potential non-compliances with limits or requirements within the EPL should be reported to government agencies by Hunter Quarries as required, and results monitoring included in the 2019 AEMR.	Compliant
Pollution of Waters				
	25. The Applicant shall only discharge water from the development in accordance with the provisions of a DEC Environment Protection License	AEMRs; Site Water Management Plans (2014, 2015, 2016); and EPL 11569	EPL 11569 identifies Sediment Dam 2 as a licensed discharge point and sets pollution concentration limits and monitoring requirements during discharge events. As discussed above, EMM have been advised that the discharge occurring during the site inspection on 31 July 2019 was monitored at the discharge point in accordance with EPL and WMP requirements and results will be reported in accordance with EPL reporting requirements.	Compliant
Water Discharge Limit				
	26. Within 12 months of the date of this consent, the Applicant shall prepare, and subsequently implement, a Site Water Management Plan for the development, in consultation with the DEC, and to the satisfaction of the Director-General. The plan shall detail how site water management on site will be integrated with existing surface water management and erosion and sediment control systems and address surface water management and erosion and sediment control at both the construction and operation phases of the development. This plan must include: a) an Erosion and Sediment Control Plan; b) a Surface Water Monitoring Program; and c) a site water balance.	AEMRs; Site Water Management Plans (2014, 2015, 2016); and EPL 11569	Site Management Plan 2016 approved by DPIE in letter dated 1 April 2016, sighted and meets conditions of consent. Audit actions from the previous audit, while addressed in Table 1 of the current Site Water Management Plan (2016), do not appear to be fully implemented at the site, as evidenced by the discharge scenario identified during the site inspection (refer to Condition 24 above). It was unclear during the site inspection if a water level sensor was installed on Dam 2 or if an alarm was set for high water levels in the dam. The WMP states that these items have been installed and implemented. EMM recommends that Hunter Quarries update the Site Water Management Plan to formalise adequate management procedures of discharge point.	Non-Compliant
Site Water Management Plan				
	27. The Erosion and Sediment Control Plan must: a) be consistent with the requirements of the Department of Housing's Managing Urban Stormwater: Soils and Construction manual; b) identify activities that could cause soil erosion and generate sediment; c) describe what measures would be implemented to minimise soil erosion and off-site sediment transport from the following locations: • the active quarry face and pit; • product and top soil stockpile sites; • haul roads; • workshop areas; • rehabilitation areas; and • all other exposed and disturbed surfaces within the site. d) describe the location and function of erosion and sediment control structures and their capacity to contain runoff in relation to above average rainfall events; e) describe what measures would be implemented to maintain the structures over time; f) describe how the effectiveness of the Erosion and Sediment Control Plan will be measured and monitored.	Site Water Management Plans (2014 and 2015 and 2016) (Erosion and Sediment Control Plan, Surface Water Monitoring Program and site water balance)	The Site Water Management Plan (2014 and 2016 approved) appends an Erosion and Sediment Control Plan which meets the conditions of consent. The audit site inspection was undertaken following a small recent rainfall event (approx 10mm rainfall) and water flows and controls implemented at the site appeared to be in accordance with the details provided in the Erosion and Sediment Control Plan.	Compliant
Erosion and Sediment Control				
	28. The Applicant shall: a) measure: • the volume of water discharged from the site via licensed discharge points; • water use on the site; • water transfers across the site; and • dam and water structure storage levels, b) regularly monitor the quality of the surface water discharged from the licensed discharge points on the site; to the satisfaction of the DEC and the Director-General.	Site Water Management Plans (2014 and 2015) (Erosion and Sediment Control Plan, Surface Water Monitoring Program and site water balance) Water Usage Information	The last audit (MCW 2014) considered part a) of this condition 'non-compliant' and part b) 'compliant'. The following recommendations were made in light of this, including: • Revise and update SWMP to formalise adequate management procedures for discharge point, including the review of the monitoring and notification of high-water levels at Sediment dam 2; and • Formalise roles and responsibilities in relation to water discharge events. The WMP (2016) states that the water level in Sediment Dam 2 is monitored via an electronic height sensor, however the sensor did not appear to be operating during the site inspection. The SWMP describes that the flow of water can be estimated based on the flow through the discharge pipeline. The 2018 AEMR outlines that the site has the ability to pump water back up into the pit area (unused section) to increase capacity. Based on the site inspection it is not evident that any of the audit actions from the previous audit had been addressed, as discharge was occurring during the inspection after a 10 mm rainfall event, when no discharges had previously occurred at the site according to documentation reviewed for the audit. Recommendations as per response to Condition 26	Non-Compliant
Surface Water Monitoring				
VISUAL IMPACT	VISUAL IMPACT			
	29. The Applicant shall a) implement all practicable measures to minimise the visual impacts of the development; b) retain, re-vegetate and subsequently maintain a visual bund within the Stage 1 works area (in accordance with Figures 13 and 14 of the EIS) to minimise the visual impacts of development; c) include a progress report on the re-vegetation and maintenance of the visual bund in the AEMR, to the satisfaction of the Director-General.	AEMRs; and EIS (2004)	The AEMRs during the audit period and EIS (2004) have been sighted. The AEMRs illustrate photographic evidence of revegetation and maintenance of the visual bund. The AEMRs report revegetation efforts and maintenance over time. The last audit (MCW 2014) outlined that the visual bund was to be further rehabilitated and that Stage 1 and 2 rehabilitation areas are to be supplemented with Eucalyptus, shrubs, vines and grasses. progressive rehabilitation has occurred on the Stage 1 and Stage 2 rehabilitation areas. During the site inspection, it was observed the implementation of plantings were progressing. The Conceptual Rehabilitation and Closure plan (2019) had been submitted to the DPIE at the time of writing.	Compliant
VISUAL IMPACT				
	30. The Applicant shall ensure that vehicular access to and from the quarry and the Pacific Highway is via the newly constructed grade separated interchange at Branch Lane.	Site inspection	During the site inspection it was noted that the site access was via the interchange. No incidents reported of vehicles entering/exiting from quarry on alternative route.	Compliant
Pacific Highway				
	31. The Applicant shall provide sufficient parking on-site for all quarry-related traffic to the satisfaction of the Director-General.	AEMRs; and Driver Induction Forms (2018)	No parking offsite observed during site inspection. All parking for quarry employees and visitors was on-site in prescribed adequate facilities.	Compliant
Parking				
	32. The Applicant shall ensure that all loaded vehicles entering or leaving the site are covered.	AEMRs; and Driver Induction Forms (2018)	During the site inspection, it was observed that no loaded vehicles entering or exiting the quarry were uncovered. A sign on the weighbridge was observed as a reminder to quarry drivers of the importance of installing covers. This air quality control is also described in the AEMRs during the audit period.	Compliant

Road Haulage	33. The Applicant shall ensure that sediment and/or other pollutants are not tracked onto any public roads servicing the development.	AEMRs; and Driver Induction Forms (2018)	No incidents reported of pollutants or sediments. During the site inspection, there was no observed sediment/pollutants being tracked onto public roads. The morning of the site inspection, there was a small rain event (10mm), however mud was not observed beyond the intersection of Andeckie Road with The Branch Lane.	Compliant
	34. The Applicant shall: a) monitor the amount of waste generated by the development; b) investigate ways to minimise waste generated by the development; c) implement reasonable and feasible measures to minimise waste generated by the development; and d) report on waste management and minimisation in the AEMR. to the satisfaction of the Director-General.	JR Richards Waste Management Contract; Liberty Recycling NSW (Disposal Docket dated 8/5/19); Coast & Valley Oil Recyclers (Disposal Docket dated 2/4/19); AEMRs;	Evidence was obtained to show that waste is segregated into recyclables and non-recyclables and monitored. JR Richards is the quarry's waste contractor. The contractor removes waste from a 3 cubic metre waste bin at the site on a regular basis. Scrap metal is collected by Liberty Recycling NSW. Coast & Valley Oil Recyclers obtain all used waste oils and fuels and remove from site.	Compliant
WASTE MANAGEMENT	35. The Applicant must not cause, permit or allow any waste generated outside the site to be received at the site for storage, treatment, processing, reprocessing or disposal or any waste generated at the site to be disposed of at the site, except as expressly permitted by a licence under the Protection of the Environment Operations Act 1997. Note: the above condition only applies to the storage, treatment, processing, reprocessing or disposal of waste at the site if it requires an environment protection licence under the Protection of the Environment Operations Act 1997.	JR Richards Waste Management Contract; Liberty Recycling NSW (Disposal Docket dated 8/5/19); Coast & Valley Oil Recyclers (Disposal Docket dated 2/4/19); AEMRs;	JR Richards is the waste contractor for Hunter Quarries. As outlined in the AEMRs, waste is segregated. No wastes were observed during the site inspection that appeared to be received from outside the premises.	Compliant
Bushfire Management	36. The Applicant shall: a) ensure that the development is suitably equipped to respond to any fires on-site; and b) assist the Rural Fire Service and Emergency Services as much as possible if there is a fire on-site; and within 6 months of the date of this consent, the Applicant shall prepare a conservation sensitive Bushfire Management Plan for the development, to the satisfaction of Council and the Rural Fire Service.	Bushfire Management Plan 2014; AEMRs;	The Bushfire Management Plan (BMP-GSS8 dated August 2006) was updated and finalised in December 2014. No evidence of approval of the plan from council or RFS was available for observation. A copy of the plan was sighted during the audit. Plant and equipment available onsite for firefighting purposes includes: • water storage dam (Sediment Dam 2) with a permanent fill point for tankers, and a 50,000 L clean water tank; • water tanker and earth tanking equipment; fire extinguishers; warning alarm siren; and • portable radios. Hunter Quarries also employee site induction training specific to emergency response. Site Induction Training was observed and noted. It is recommended that Hunter Quarries follow-up with Council and RFS regarding the approval of this plan so that it is approved in accordance with the condition requirement.	Non-Compliant
BUSHFIRE MANAGEMENT	37. The Applicant shall: a) provide annual production data to the DPI (Minerals) using the standard form for that purpose; and b) include a copy of this data in the AEMR.	AEMRs; and Annual Production Data (2014, 2015, 2016, 2017, 2018)	A copy of annual data is provided in AEMRs across the auditing period and was sighted as part of the audit	Compliant
PRODUCTION DATA	38. The Applicant shall progressively rehabilitate the site to the satisfaction of the Director-General.	AEMRs; EIS (2004); RMP (2016);	DPIE approved RMP (2016) dated 1 April 2016, previous version 2014 also reviewed. Progression of rehabilitation discussed in AEMRs as required	Compliant
REHABILITATION	39. Within 6 months of the date of this consent, the Applicant shall prepare, and subsequently implement, a Rehabilitation Management Plan for the site, which integrates rehabilitation works for both Stage 1 and Stage 2 areas, to the satisfaction of the Director-General. This plan must: a) identify the disturbed area at the site (both Stage 1 and Stage 2); b) describe in general the short, medium, and long term measures that would be implemented to rehabilitate the site; c) describe in detail the measures that would be implemented over the next 5 years to rehabilitate the site; and d) describe in detail how rehabilitation measures will be integrated with: • erosion and sediment control works on site; • remnant vegetation and habitat enhancement and conservation works; and • visual screening works; e) describe how the performance of these measures would be monitored over time.	AEMRs; EIS (2004); RMP (2016);	SMM sighted the DPIE approved RMP (2016) dated 1 April 2016 and meets the consent conditions. The RMP (2016) addresses the rehabilitation works for both Stages 1 and 2. The plan addresses the short, medium and long term mitigation management measures which have been reported on site and future plans (AEMRs). The last audit (MCW 2014), recommended that stage 1 and 2 required weed control and supplementary plantings to increase diversity and that further rehabilitation works to include the lay down or woody debris, rock outcrops and depressions for water pooling in terms of habitat creation. these actions were tracked as being undertaken through the AEMRs during the report period.	Compliant
Rehabilitation Management Plan	40. Within 5 years of providing the Rehabilitation Management Plan to the Director-General, and every 5 years thereafter, the Applicant shall review and update the plan to the satisfaction of the Director-General.	AEMRs; EIS (2004); RMP (2016);	Sighted DPIE correspondence regarding RMP 2016 dated 1 April 2016. The Concept Rehabilitation and Closure Plan (2019), has been submitted to DPIE for approval.	Compliant
	41. The Applicant shall include a progress report on the Rehabilitation Management Plan in the AEMR.	AEMRs; EIS (2004); RMP (2016);	Progress report has been submitted in each AEMR during the audit period. Rehabilitation progression during recent years has been minimal, due to the limited availability of land to rehabilitate. The last audit (MCW 2014) recommended that further detail on factors affecting rehabilitation were included in AEMRs such as extent of weeds and controls on weeds in the rehabilitation areas, and that AEMRs include the progression of rehabilitation (photographs). AEMRs include extent and controls of weeds and photographs to demonstrate the progression of rehabilitation.	Compliant
Reporting	42. Within 6 months of the date of this consent, the Applicant shall lodge a suitable conservation and rehabilitation bond for the development with the Director-General. The sum of the bond shall be calculated at \$2.50/m2, or as otherwise agreed to with the Director-General, for the area of disturbance at the development. 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 these works.	Rehabilitation Bond	Evidence observed of Hunter Quarries Rehabilitation Bond updated in 2016.	Compliant
Rehabilitation Bond	43. Within 3 years of lodging the rehabilitation bond with the Director-General, and every 5 years thereafter, unless the Director-General directs otherwise, the Applicant shall review, and if necessary revise, the sum of the rehabilitation bond to the satisfaction of the Director-General. This review must consider: a) the effects of inflation; b) any changes to the area of disturbance; and c) the performance of any progressive rehabilitation which has been undertaken at the site.	Rehabilitation Bond	Evidence observed of Hunter Quarries Rehabilitation Bond updated in 2016.	Compliant

	44. At least 3 years prior to the cessation of quarrying, the Applicant shall prepare a Quarry Closure Plan for the development, in consultation with the Council, and to the satisfaction of the Director-General. The plan must: a) define the objectives and criteria for quarry closure; b) investigate options for the future use of the site, including any final void(s); c) describe the measures that would be implemented to minimise or manage the ongoing environmental effects of the development; and d) describe how the performance of these measures would be monitored over time.	RMP (2016)	EMM understand that the Concept and Rehabilitation Closure Plan draft has been submitted to DPIE and not yet approved at the time of writing. Therefore, it is deemed that this condition is 'not triggered'.	Not triggered
ENVIRONMENTAL MANAGEMENT, MONITORING, AUDITING AND REPORTING				
ENVIRONMENTAL MANAGEMENT STRATEGY	1. Within 6 months of the date of this consent, the Applicant shall prepare, and subsequently implement an Environmental Management Strategy for the development to the satisfaction of the Director-General. This strategy must: a) provide the strategic context for environmental management of the development; b) identify the statutory requirements that apply to the development; c) describe in general how the environmental performance of the development would be monitored and managed during the development; d) describe the procedures that would be implemented to: • keep the local community and relevant agencies informed about the operation and environmental performance of the development; • receive, handle, respond to, and record complaints; • resolve any disputes that may arise during the course of the development; • respond to any non-compliance; • manage cumulative impacts; and • respond to emergencies; and e) describe the role, responsibility, authority, and accountability of all the key personnel involved in environmental management of the development.	EMS (2016)	Correspondence DPIE (approval letter) provided approving EMS 2016 dated 1 April 2016. EMS document sighted and meets consent conditions	Compliant
Environmental Audit	2. Within 3 months of the completion of the Independent Environmental Audit (see condition 6 below), the Applicant shall review, and if necessary revise, the Environmental Management Strategy to the satisfaction of the Director-General.	EMS (March 2016)	The last audit (MCW 2014) recommended that Hunter Quarries to ensure update of the EMS as required, by the timeframe set out in the condition. Hunter Quarries revised the EMS December 2014, joint the IEA for 2014. Following DPIE's comments, EMS was re-submitted March 2016 and approved in letter dated 1 April 2016.	Compliant
	3. Within 6 months of the date of this consent, the Applicant shall prepare an Environmental Monitoring Program for the development, in consultation with the relevant agencies, and to the satisfaction of the Director-General. This program must consolidate the various monitoring requirements in Schedule 4 of this consent into a single document.	EMP (2014)	EMP (2014) sighted. No formalised correspondence from DPIE regarding Environmental Management Plan (2014). It is recommended that the EMP is updated.	Compliant
ENVIRONMENTAL MONITORING PROGRAM	4. Within 3 months of the completion of the Independent Environmental Audit (see condition 6 below), the Applicant shall review, and if necessary revise, the Environmental Monitoring Program to the satisfaction of the Director-General.	EMP (2014)	The EMP does not appear to have been updated following the previous IEA. No formalized correspondence from DPIE regarding Environmental Monitoring Plan (2014) was sighted. Hunter Quarries is to review and update EMP within specified timeframe of the completion of the IEA (2019).	Non-Compliant
	5. The Applicant shall prepare and submit an AEMR to the Director-General and the relevant agencies. This report must address: a) identify the standards and performance measures that apply to the development; b) describe the works that will be carried out in the last 12 months; c) describe the works that will be carried out in the next 12 months; d) include a summary of the complaints received during the past year, and compare this to the complaints received in previous years; e) include a summary of the monitoring results for the development during the past year; f) include an analysis of these monitoring results against the relevant: • impact assessment criteria; • monitoring results from previous years; and • predictions in the ES; g) identify any trends in the monitoring results over the life of the development; h) identify any non-compliance during the previous year; and i) describe what actions were, or are being taken to ensure compliance.	AEMRs; and ES (2004)	AEMRs (2014-2018) approved by DPIE. All components of the condition are addressed in the AEMR.	Compliant
ANNUAL REPORTING	6. Within 2 years of the date of this consent, and every 5 years thereafter, unless the Director-General directs otherwise, the Applicant shall commission and pay the full cost of an Independent Environmental Audit of the development. This audit must: a) be conducted by a suitably qualified, experienced, and independent person whose appointment has been endorsed by the Director-General; b) be consistent with ISO 19011:2002 - Guidelines for Quality and/or Environmental Systems Auditing, or updated versions of the guideline; c) assess the environmental performance of the development, and its effects on the surrounding environment; d) assess whether the development is complying with the relevant standards, performance measures, and statutory requirements; e) review the adequacy of the Applicant's Environmental Management Strategy and Environmental Monitoring Program; and f) if necessary, recommend measures or actions to improve the environmental performance of the development, and/or the environmental management and monitoring systems.	2014 Audit Report (MCW Environmental)	This IEA has been undertaken in accordance with the revised audit schedule as recommended in the 2014 IEA, and the audit schedule is now consistent with the requirements of this condition. The next audit should be conducted in 2024.	Compliant
INDEPENDENT ENVIRONMENTAL AUDIT	7. Within 3 months of commissioning this audit, or as otherwise agreed by the Director-General, the Applicant shall submit a copy of the audit report to the Director-General, with a response to the recommendations contained in the audit report.	AEMRs	This IEA has been undertaken in accordance with the revised audit schedule as recommended in the 2014 IEA, and the audit schedule is now consistent with the requirements of this condition. The next audit should be conducted in 2024.	Compliant
	8. Within 3 months of the date of this consent the Applicant shall seek expressions of interest from members of the local community to serve as a member of a Community Consultative Committee for the development.	AEMRs	No formalised CCC as no expressions of interest were received from the community in order to form the CCC. The last audit (MCW 2014) outlined that in 2011 Hunter Quarries issued a pamphlet via letterbox drop inviting people to join a CCC for the quarry. It was reported that no one responded to the invitation. Hunter Quarries stated during the 2019 site inspection that Karuah East CCC incorporates any themes/issues related to Karuah Quarry. Hunter Quarries to consult with DPIE for formalising CCC, or to formally combine the Karuah Quarry CCC with the Karuah East Quarry CCC.	Compliant

COMMUNITY CONSULTATIVE COMMITTEE	9. If at least two members of the local community express an interest to serve on the CCC the Applicant shall establish the CCC. The CCC shall: (a) be comprised of: • 2 representatives from the Applicant, including the person responsible for environmental management at the quarry; • 1 representative from Council (if available); and • at least 2 representatives from the local community, whose appointment has been approved by the Director-General in consultation with the Council; (b) be chaired by an independent chairperson, whose appointment has been endorsed by the Director-General; (c) meet at least twice a year; and (d) review and provide advice on the environmental performance of the development, including any construction or environmental management plans, monitoring results, audit reports, or complaints. In addition, the Applicant shall, at its own expense: (a) ensure that 2 of its representatives attend the Committee's meetings; (b) provide the Committee with regular information on the environmental performance and management of the development; (c) provide meeting facilities for the Committee; (d) arrange site inspections for the Committee, if necessary; (e) take minutes of the Committee's meetings; (f) make these minutes available to the public for inspection within 14 days of the Committee meeting, or as agreed to by the Committee; (g) respond to any advice or recommendations the Committee may have in relation to the environmental management or performance of the development; and (h) forward a copy of the minutes of each Committee meeting, and any responses to the Committee's recommendations to the Director-General within a month of acceptance of the minutes by the Committee.	N/A	See section above. No expressions of interest received from the community in formalising a CCC.	Compliant
	10. If the Applicant does not receive at least two expressions of interest to serve on the CCC the Applicant shall instead develop a communications strategy for consulting with Council and residents within 3 km of the development, to the satisfaction of the Director-General. This strategy should outline how the Applicant will advise Council and nearby residents on its environmental management plans, monitoring results, audit reports or complaints. This communication should occur twice a year. Notes: If during the course of the development, a Community Consultative Committee that has been established is found to be no longer effective, the Director-General may agree to its disbandment.	EMS 2016	No evidence supplied of submission of reports in accordance with the communications strategy detailed in the EMS. EMM recommend that these reports are prepared as discussed in the EMS and as required by this condition of consent. Alternatively, a CCC for Karuah Quarry should be implemented.	Non- Compliant

Appendix B

Planning secretary endorsement

Mr Greg Dressler
Karuah Hard Rock Quarry
Hunter Quarries Pty Ltd
PO Box 23
KARUAH NSW 2324

Contact: Joel Curran
Phone: 02 4904 2702
Email: compliance@planning.nsw.gov.au
joel.curran@planning.nsw.gov.au
Our Ref: DA 265-10-2004 (as modified)

Cc: Brendan Rice
brice@emmconsulting.com.au

Dear Mr Dressler

**Karuah Hard Rock Quarry (DA 265-10-2004)
2019 Independent Environmental Audit**

Reference is made to correspondence from Hunter Quarries Pty Ltd (Hunter Quarries) dated 24 May 2019 seeking endorsement of the audit team for the 2019 Independent Environmental Audit (IEA) required by Schedule 4, Condition 6 of Development Consent DA 264-10-2004 as modified (the Consent).

The Secretary has considered Hunter Quarries request and approves the following audit team for this IEA:

- Brendan Rice – lead auditor;
- David Bone – strategic advisor; and
- Jessica Bowditch – supporting auditor and author.

The IEA is to be conducted in accordance with the conditions of Consent. Further, the Secretary requests that in undertaking the IEA, the lead auditor:

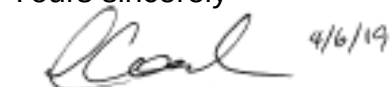
- only uses the compliance status descriptors “compliant”, “non-compliant” or “not triggered”. The terms “partial compliance”, “partial non-compliance”, “not verified” or other similar terms shall not be used; and
- recommends actions to address each non-compliance identified and any additional opportunities for improvement.

In accordance with Schedule 4, Condition 6 of the Consent, a copy of the IEA report must be submitted to the Secretary, together with a response to any auditor recommendations (RAR), within 3 months of the commissioning of the audit, or as otherwise agreed by the Secretary. Please note that the RAR must include target dates (DD/MM/YYYY) for implementation.

Please submit the IEA report and RAR to compliance@planning.nsw.gov.au.

Should you need to discuss the above, please contact Joel Curran as per the details provided above.

Yours sincerely



Leah Cook

Team Leader - Compliance

As Nominee of the Secretary

Appendix C

Consultation

Allison McAvoy

From: Rebecca Akhurst <Rebecca.Akhurst@epa.nsw.gov.au>
Sent: Tuesday, 20 August 2019 4:56 PM
To: Brendan Rice; EPA RSD Hunter Region Mailbox
Cc: Jessica Bowditch; David Bone
Subject: RE: Karuah Quarry Independent Environmental Audit (EPL 11569)

Hi Brendan,

Thank you for your letter dated 16 August 2019 seeking comment from the Environment Protection Authority (EPA) in regard to the proposed independent environmental audit of Karuah Quarry. The EPA encourages the undertaking of independent audits as a useful tool for industry to ensure it is meeting its environmental objectives and environment protection licences requirements.

The EPA understands that independent environmental audits are generally a requirement of development consent. The EPA does not provide specific input to independent audits and I thank you for your request.

With regard to your request about the Karuah Quarry's environmental compliance with EPA requirements, you are able to view the compliance history of all licensed premises, including Karuah Quarry on the EPA's Public Register available at <https://www.epa.nsw.gov.au/licensing-and-regulation/public-registers>

Regards,

Rebecca Akhurst

Regional Operations Officer - Hunter

NSW Environment Protection Authority – North Branch

+61 2 4908 6807 +61 408 611 267

rebecca.akhurst@epa.nsw.gov.au www.epa.nsw.gov.au [@EPA_NSW](https://twitter.com/EPA_NSW)

Report pollution and environmental incidents 131 555 (NSW only) or +61 2 9995 5555



Please note I work Monday, Tuesday and Wednesday

From: Brendan Rice <brice@emmconsulting.com.au>
Sent: Friday, 16 August 2019 12:32 PM
To: EPA RSD Hunter Region Mailbox <hunter.region@epa.nsw.gov.au>
Cc: Jessica Bowditch <jbowditch@emmconsulting.com.au>; David Bone <dbone@emmconsulting.com.au>
Subject: Karuah Quarry Independent Environmental Audit (EPL 11569)

To whom it may concern,

Please find attached a letter requesting EPA response for consultation purposes in regard to an Independent Environmental Audit (IEA) for Karuah Quarry (EPL 11569).

If you have any questions please call myself or David Bone on the numbers below.

Regards

Brendan Rice

Senior Environmental Scientist



T 02 4907 4800

M 0407 299 797

D 02 4907 4820

 Connect with us

NEWCASTLE | Level 3, 175 Scott Street, Newcastle NSW 2300

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Allison McAvoy

From: Joel Curran <Joel.Curran@planning.nsw.gov.au>
Sent: Tuesday, 13 August 2019 9:56 AM
To: Brendan Rice
Cc: Jessica Bowditch; David Bone
Subject: Re: Karuah Hard Rock Quarry (DA 265-10-2004) IEA

Hi Brendan

Thank you for the email. Yes that all sounds correct.

Regards

Joel

On 13 Aug 2019, at 10:17, Brendan Rice <brice@emmconsulting.com.au> wrote:

Hi Joel

I'm just emailing to formalise our discussion from yesterday.

We understand that DPIE wish for EMM to focus particular attention on the following for the IEA –

- Air Quality, including performance and network adequacy.
- Closure / Rehab, in particular closure planning (Condition 44 of Schedule 3).
- Community Consultative Committee.

In addition, DPIE have requested that EPA and Mid Coast Council are consulted in the Audit process.

If you have any questions or comments please contact David, Jess or myself.

Regards

Brendan Rice

Senior Environmental Scientist

T 02 4907 4800

M 0407 299 797

D 02 4907 4820

<image001.png> <image002.png>

<image003.png> Connect with us

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Allison McAvoy

From: Mathew Bell <Mathew.Bell@MidCoast.nsw.gov.au>
Sent: Thursday, 12 September 2019 6:00 PM
To: Brendan Rice
Subject: RE: Karuah Quarry IEA

Brendan,

Brendan,

Thanks for your recent correspondence in regards to the Independent Environmental Audit (IEA) of the Karuah Quarry (DA265-10-2004).

I have circulated your correspondence internally to the Environmental Health, Transport Assets, Compliance / Regulatory Services and Natural Systems branches of Council.

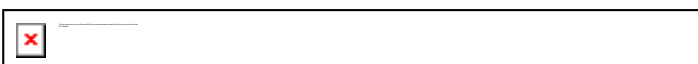
The issues raised from the internal consultation related to the following:

- We are interested in whether the commitments in relation to Conservation Offset Areas (Conditions 17 and 18; ie. establishment and long-term security of the conservation offset area) have been satisfactorily and demonstrably achieved. We believe that permanently conserved offset areas for major projects should be appropriately recognised in the zoning scheme (Great Lakes Local Environmental Plan 2014) and we suggest that spatial data of the offset location should be provided to Council for our records,
- We are interested in whether and how the Flora and Fauna Management Plan conditions (Conditions 19 – 23) have been achieved, including the Remnant Vegetation Conservation Plan and the Conservation Offset Management Plan required in those conditions, and
- We are interested in the performance of environmental rehabilitation and restoration of finished landforms across the approved quarry, and
- Council is particularly interested in whether the development has achieved its surface water quality protection responsibilities. We note that the surface run-off from the site eventually enters the significant Port Stephens estuary. An attention within the auditing process to whether the water quality performance of the development is adequate is encouraged, and
- Finally, we note in Condition 29a) that *“the Applicant shall implement all practicable measures to minimise the visual impacts of the development”*. We understand that the original approval relating to the visual performance of the development did not account for the opening of the Karuah Bypass upgrade of the Pacific Highway (officially opened on the 19 September 2004). As such, the visual impact of the quarry is different and arguably more substantial to Highway users than that which was considered in the approval. We ask that the audit, in relation to visual amenity to highway users, whether Condition 29 a) has been adequately satisfied and / or whether more actions (screening, revegetation, etc) could and should be undertaken to improve the visual performance of the current Karuah Quarry.

Thanks for allowing us the opportunity to provide this correspondence.

Regards
Mat

Mathew Bell
Senior Ecologist



[Direct](#)

Mathew.Bell@MidCoast.nsw.gov.au

www.midcoast.nsw.gov.au or follow us



From: Brendan Rice [mailto:brice@emmconsulting.com.au]
Sent: Friday, 16 August 2019 11:10 AM
To: Mathew Bell <Mathew.Bell@MidCoast.nsw.gov.au>
Cc: Jessica Bowditch <jbowditch@emmconsulting.com.au>; David Bone <dbone@emmconsulting.com.au>
Subject: Karuah Quarry IEA

Hi Mat

As discussed, please find attached a letter seeking MidCoast Council's comment regarding the Independent Environmental Audit (IEA) process for Karuah Quarry.

If you have any questions please call to discuss.

Regards

Brendan Rice

Senior Environmental Scientist



T 02 4907 4800

M 0407 299 797

D 02 4907 4820



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Appendix D

Photographs



Photograph D.1 **Overview of Karuah Quarry operations**



Photograph D.2 **Current drill and blasting area at the time of inspection**



Photograph D.3 **Sediment dam 2**



Photograph D.4 **Access to conservation offset area**



Photograph D.5 **Crush and stockpile area**



Photograph D.6 Work shop area



Photograph D.7 Bunded area outside of work shop



Photograph D.8 **Signage for dam discharge point**



Photograph D.9 **Sediment dam discharge point outlet**



Photograph D.10 Haulage of Karuah product from operations to the weigh bridge prior to dispatch



Photograph D.11 Sample of products produced at Karuah Quarry