Karuah East Quarry

Independent Environmental Audit

Prepared for Karuah East Quarry Pty Ltd | 11 July 2017

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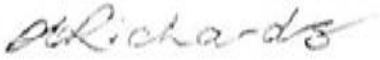
Karuah East Quarry

Final

Report J17085RP1 | Prepared for Karuah East Quarry Pty Ltd | 11 July 2017

Prepared by	**David Richards**	Approved by	**Dr Philip Towler**
Position	Environmental Scientist	Position	Associate Director
Signature		Signature	
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Version	Date	Prepared by	Reviewed by
V1	23/06/2017	P Towler/D Richards	P Towler
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Independent Audit Certification Form

Development Name	**Karuah East Quarry**
Development Consent No.	Project Approval 09_0175 (17 June 2014)
Description of Development	The project involves the establishment of a hard rock quarry to extract, process and transport up to 1.5 million tonnes of hard rock (andesite) material a year, for a period of 20 years.
Development Address	Lots 12, 13, 16 and 17/DP1024564; Lot 202/DP 1042537; and Lots 26 and 27/ DP 1024341.
Operator	Karuah East Quarry Pty Ltd
Operator Address	5893 Pacific Highway, Karuah NSW 2324

Independent Audit

Title of Audit	Karuah East Quarry Independent Environmental Audit

I certify 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) and in accordance with the auditing standard AS/NZS ISO 19011:2014 and Post Approval Guidelines – Independent Audits;
- 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, in an unbiased manner and did not allow undue influence to limit or over-ride objectivity in conducting the audit;
- I am not related to any owner or operator of the development as an employer, business partner, employee, sharing a common employer, having a contractual arrangement outside the audit, spouse, partner, sibling, parent, or child;
- I do not have any pecuniary interest in the audited development, including where there is a reasonable likelihood or expectation of financial gain or loss to me or to a person to whom I am closely related (i.e. immediate family);
- 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 lead regulator 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) from any owner or operator of the development, their employees or any interested party. I have not knowingly allowed, nor intend to allow my colleagues to do so.

Note:

a) The Independent Audit is an 'environmental audit' for the purposes of section 122B(2) of the Environmental Planning and Assessment Act 1979. Section 122E provides that a person must not include false or misleading information (or provide information for inclusion in) an audit report produced to the Minister in connection with an environmental audit if the person knows that the information is false or misleading in a material respect. The maximum penalty is, in the case of a corporation, $1 million and for an individual, $250,000.

b) The Crimes Act 1900 contains other offences relating to false and misleading information: section 192G (Intention to defraud by false or misleading statement—maximum penalty 5 years imprisonment); sections 307A, 307B and 307C (False or misleading applications/information/documents—maximum penalty 2 years imprisonment or $22,000, or both).

Signature	
Name of Lead/Principal Auditor	Philip Towler
Address	Ground Floor, Suite 01, 20 Chandos Street, St Leonards NSW 2065
Email Address	ptowler@emmconsulting.com.au
Auditor Certification (if relevant)	
Date	11 July 2017

1 Introduction

EMM Consulting Pty Limited (EMM) was commissioned by Karuah East Quarry Pty Ltd to undertake an independent environmental audit of the Karuah East Quarry (the quarry), Karuah, in the Hunter region of New South Wales (NSW).

1.1 Overview of the quarry

The quarry was approved by the Planning Assessment Commission as delegate of the Minister for Planning and Environment on 17 June 2014 (Project Approval (PA) 09_0175).

The legal property description for the site is given in Table 1.1.

Table 1.1 Legal description of the site

Deposited plan (DP)	Lot number
1024564	12, 13, 16 and 17
1042537	202
1024341	26 and 27

The key elements of the approved quarry are as follows:

- staged extraction of approximately 29 million tonnes of "andesite" over a 20 year timeframe;
- extraction of up to 1.5 million tonnes of andesite material per year;
- removal and stockpiling of an estimated 380,000 cubic metres (m^3) of overburden (approximately 750,000 tonnes) from the quarry extraction area (removal of overburden is not included in the proposed annual extraction rate of 1.5 million tonnes of andesite);
- haulage of up to 1.5 million tonnes of andesite per year from the site to market by 25–30 tonne haul trucks via the Pacific Highway;
- up to 216 truckloads per day (at maximum production);
- implementation of erosion and sediment and water management control works to ensure no loss of sediment, minimise dust generation and control discharges from the site to ensure that all discharges are within acceptable volumetric and water quality criteria;
- roadworks to secure access to the site including upgrade and extension of Blue Rock Lane;
- realignment of Andesite Road and Blue Rock Lane intersection, and adjust road markings at Branch Lane and Andesite Road intersection;
- employment of up to 28 onsite staff;
- construction of a new haul road and access through adjoining NSW Roads and Maritime Services (RMS) land;
- staged clearing;

- drilling and blasting activities;
- loading and hauling of extracted material;
- crushing and screening of extracted material;
- stockpiling of material onsite; and
- location of plant on Lot 13 comprised of office buildings, workshops, parking areas, crushing plant, wash plant, weigh bridge and product storage areas.

1.2 Quarry activities during the audit period

The project is currently in the construction phase and quarrying operations have not commenced.

Construction and clearing associated with the quarry during the audit period (see Section 1.5) included the following:

- the first stage of clearing of the approved disturbance area was completed on 21 November 2016. Vegetation remains in the upper parts of the extraction area and will be cleared in future years as the quarry progresses;
- drilling and blasting. The first blast was conducted on 14 December 2016. Five blasts have been conducted. Blasting was used for excavating the area for the new crushing plant. Blasted material was crushed and used on site;
- extracted material crushing commenced in the first week of January 2017 using a mobile crusher. The crushed material was used for capping of internal roads, stockpile areas and as fill;
- internal access and haul roads were under construction;
- dams 1 and 3 have been completed;
- after Dam 2 was constructed, it was considered by Karuah East Quarry that the dam was not adequate to catch dirty water from the haul road as per the Water Management Plan. Dam 2 was being reconstructed; and
- work commenced on the Blue Rock Close road extension on 24 January 2017. This is underway.

It is likely that operations will commence in mid to late 2017, dependent on the completion of construction activities.

No saleable material was produced and no material was hauled offsite during the audit period.

1.3 Audit objectives

This independent environmental audit is required under Condition 9 of Schedule 5 of Project Approval (PA) 09_0175 issued on 17 June 2014.

The objectives of this audit are to meet the requirements of Condition 9:

> Within 12 months of the commencement of development on the site, and every 3 years thereafter, unless the Secretary directs otherwise, the Proponent shall commission and pay the full cost of an Independent Environmental Audit of the project. This audit must:
>
> (a) be conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Secretary;
>
> (b) include consultation with the relevant agencies;
>
> (c) assess the environmental performance of the project and whether it is complying with the relevant requirements in this approval and any relevant EPL [Environment Protection Licence] and/or Water Licence (including any assessment, plan or program required under these approvals);
>
> (d) review the adequacy of any approved strategy, plan or program required under the these approvals; and
>
> (e) recommend measures or actions to improve the environmental performance of the project, and/or any assessment, plan or program required under these approvals.
>
> Note: This audit team must be led by a suitably qualified auditor and include experts in any fields specified by the Secretary.

This audit has been prepared in accordance with:

- the NSW Government's (2015) Independent Audit Guideline; and
- AS/NZS ISO 19011:2014 Guidelines for Auditing Management Systems.

1.4 Audit criteria

Audit criteria are the policies, procedures or requirements against which an action will be compared. In this case, the audit criteria are the conditions, requirements and commitments in:

- PA 09_0175;
- the environmental assessment report (EA) prepared by ADW Johnson Pty Limited (dated 31 January 2013);
- the response to submissions (RTS) prepared by ADW Johnson Pty Limited (dated 31 May 2013);
- the preferred project report (PPR) prepared by ADW Johnson Pty Limited (dated 30 July 2013);
- Environment Protection Licence (EPL) 20611 – Karuah East Quarry; and
- environmental management plans.

1.5 Audit scope

As noted in the NSW Government's (2015) *Independent Audit Guidelines*, the audit scope should detail:

- the physical boundaries of the audit;
- the time period covered by the audit; and
- the organisational units, activities and processes that will be covered.

The scope of this independent environmental audit is:

- all relevant conditions specified in PA 09_0175 (including the attached Statement of Commitments) and EPL 20611;
- the audit period being 17 June 2014 (the date on which the project approval commenced) to 27 April 2017 (audit site inspection); and
- the spatial extent limited to the land defined in Schedule 1 of PA 09_0175.

This independent environmental audit covers the activities undertaken by Karuah East Quarry and its contractors, relating to the quarry that are referred to in the regulatory approvals listed above.

This is the first independent environmental audit for the quarry.

2 Methodology

2.1 Audit team

The audit team was made up of representatives of Karuah East Quarry and EMM.

2.1.1 Karuah East Quarry audit team

Mr T. Grugeon, Karuah East Quarry's Environmental Officer, is responsible for providing assistance on the implementation of management plans and compliance with the conditions listed within PA 09_0175 and EPL 20611. T. Grugeon was primarily responsible for assisting the auditors.

Mr G. Bowen is the Karuah East Quarry Quarry Manager. In this role, he is responsible for the implementation of management plans and compliance with the conditions listed within PA 09_0175 and EPL 20611. He assisted the auditors during the site inspection.

2.1.2 EMM audit team

The lead auditor and audit report author was Dr P. Towler, EMM Associate Director. He has 20 years experience in managing environmental programs. He has expertise in the preparation of environmental and social impact assessments; conducting environmental audits and due diligence reviews; and preparing environmental management plans for resources projects around Australia and internationally.

Mr D. Richards, EMM Environmental Scientist, provided support to the lead auditor.

Ms K. Diver, EMM Associate, Ecology Services Manager, and Ms L. Webb, Director, Groundwater Services Manager, provided specialist advice within their respective fields.

The EMM audit team was endorsed by the Department of Planning and Environment (DPE) to undertake the audit (Appendix A).

2.1.3 Independence of the audit team

P.Towler, D. Richards, K. Diver and L. Webb are independent of Karuah East Quarry as defined by the criteria listed in Section 3.3 of the NSW Government's (2015) *Independent Audit Guideline*.

2.2 Approvals and documents audited

The approvals and documents audited include:

- PA 09_0175;
- the EA prepared by ADW Johnson Pty Limited (31 January 2013);
- the RTS prepared by ADW Johnson Pty Limited (31 May 2013);
- the PPR prepared by ADW Johnson Pty Limited (30 July 2013);
- EPL 20611;

- environmental management plans for the quarry, including:
    - Environmental Management Strategy;
    - Air Quality and Greenhouse Gas Management Plan;
    - Biodiversity Offset Area Management Plan;
    - Blast Management Plan;
    - Heritage Management Plan;
    - Landscape and Rehabilitation Management Plan;
    - Noise Management Plan;
    - Water Management Plan;
    - *Tetratheca juncea* Translocation Management Plan;
    - Pollution Incident Response Management Plan; and
    - Transport Management Plan and Driver's Code of Conduct.
- the *Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW* – review period: 1 January 2016 – 31 December 2016; and
- environmental monitoring reports, including:
    - *Baseline ecological surveys and monitoring – Karuah East Quarry Biodiversity Offset Area and Lot 12* (Kleinfelder Australia 2016);
    - *2016 Annual Monitoring Report – Karuah East Quarry Biodiversity Offset Area and Lot 12* (Kleinfelder Australia 2016);
    - Tetratheca juncea *monitoring report for the Karuah East Quarry site* (Firebird ecoSultants 2017);
    - *Karuah East Quarry Monthly Environmental Monitoring Report – May 2016* (Karuah East Quarry 2016);
    - *Karuah East Quarry Monthly Environmental Monitoring Report – October 2016* (Karuah East Quarry 2016);
    - *Karuah East Quarry Monthly Environmental Monitoring Report – January 2017* (Karuah East Quarry 2017);
    - *Karuah East Quarry Monthly Environmental Monitoring Report – February 2017* (Karuah East Quarry 2017);
    - *Karuah East Quarry Monthly Environmental Monitoring Report – March 2017* (Karuah East Quarry 2017); and

- *Vegetation Clearing Completion Report for Stage 1 of the Karuah East Quarry Project* (Kleinfelder Australia 2016).

- community complaints registers; and

- the Company Report and Overview of Activities (13 February 2017).

Ms K. Whiting (ecology specialist) completed a review of the following documents as part of an assessment of the quarry's compliance with the conditions within PA 09_0175 that relate to the management of biodiversity and ecology (namely Schedule 3, Conditions 27, 28, 29 and 33):

- Biodiversity Offset Area Management Plan;

- *Tetratheca juncea* Translocation Management Plan;

- the *Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW* – review period: 1 January 2016 – 31 December 2016; and

- environmental monitoring reports, including:

  - *Baseline ecological surveys and monitoring – Karuah East Quarry Biodiversity Offset Area and Lot 12* (Kleinfelder Australia 2016);

  - *2016 Annual Monitoring Report – Karuah East Quarry Biodiversity Offset Area and Lot 12* (Kleinfelder Australia 2016);

  - *Tetratheca juncea monitoring report for the Karuah East Quarry site* (Firebird ecoSultants 2017); and

  - *Vegetation Clearing Completion Report for Stage 1 of the Karuah East Quarry Project* (Kleinfelder Australia 2016).

Ms L. Webb (surface and groundwater specialist) completed a review of the following documents as part of an assessment of the quarry's compliance with the conditions within PA 09_0175 and EPL 20611 that relate to the management of surface water and groundwater:

- Water Management Plan;

- the Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW – review period: 1 January 2016 – 31 December 2016; and

- environmental monitoring reports, including:

  - *Karuah East Quarry Monthly Environmental Monitoring Report – May 2016* (Karuah East Quarry 2016); and

  - *Karuah East Quarry Monthly Environmental Monitoring Report – October 2016* (Karuah East Quarry 2016).

2.3 Audit activities

2.3.1 Inception teleconference

An inception teleconference was held on Monday 10 April 2017 at 2:30 pm. The meeting was attended by:

- Mr T. Grugeon, Karuah East Quarry , Environmental Officer;
- Dr P. Towler, EMM, lead auditor; and
- Mr D. Richards, EMM, assistant auditor.

During the inception meeting, the audit scope was confirmed, the audit activities and schedule were discussed and site inspection arrangements were made.

2.3.2 Agency consultation

PA 09_0175 requires that the audit, "include consultation with the relevant agencies". Accordingly, letters were sent by email to government agencies between 13 and 18 April 2017 requesting their comment on the compliance of the quarry with approval and licence conditions. A follow-up email was distributed to those agencies which had not responded on 5 May 2017 requesting a reply. Letters were sent to the following agencies:

- NSW Department of Planning and Environment (DPE);
- NSW Environment Protection Authority (EPA);
- NSW Roads and Maritime Services (RMS);
- NSW Department of Primary Industries (DPI) – Water (DPI Water);
- NSW Office of Environment and Heritage (OEH);
- DPE - Division of Resources and Energy (DRE); and
- MidCoast Council.

2.3.3 Site inspection

A full day site inspection was undertaken by the lead auditor and assistant auditor on 27 April 2017. They were escorted by T. Grugeon and G. Bowen. The site inspection included interviews with T. Grugeon and G. Bowen; a review of environmental files (electronic and hardcopies); requests for further documentation held on site and an inspection of the site (as defined in Table 1.1).

2.3.4 Interviews

During the interviews with T. Grugeon and G. Bowen, the following items were discussed:

- their role;
- their environmental responsibilities;
- their environmental reporting responsibilities; and
- their understanding of environmental issues at the site.

2.3.5 Draft report

The results of the audit were documented in a draft audit report. The draft audit report was provided to Karuah East Quarry on 23 June 2017 for review and comments prior to finalisation.

2.3.6 Report finalisation

The report was finalised with consideration of the comments received from Karuah East Quarry on 6 July 2017. Some compliance ratings were amended based on additional information provided by the quarry, in particular monitoring results for discharges from Dam 3 in March/April 2017, the quarry complaints form and comments on construction practices.

2.3.7 Closing teleconference

A closing teleconference was held with Karuah East Quarry on 11 July 2017. The meeting was attended by T. Grugeon and P. Towler. The draft audit report findings and recommendations were discussed.

2.4 Assessment criteria and method of reporting

The compliance assessment criteria adopted for this independent environmental audit is in accordance with the criteria provided within the NSW Government's (2015) *Independent Audit Guidelines*. The compliance assessment criteria is summarised in Table 2.1 below.

Table 2.1 Compliance assessment criteria

Assessment	Criteria
Compliant	Where the auditor has collected sufficient verifiable evidence to demonstrate that the intent and all elements of the requirement of the regulatory approval have been complied with within the scope of the audit.
Not verified	Where the auditor has not been able to collect sufficient verifiable evidence to demonstrate that the intent and all elements of the requirement of the regulatory approval have been complied with within the scope of the audit. In the absence of sufficient verification the auditor may in some instances be able to verify by other means (visual inspection, personal communication, etc) that a requirement has been met. In such a situation, the requirement should still be assessed as not verified. However, the auditor could note in the report that they have no reasons to believe that the operation is non-compliant with that requirement.
Non-compliant	Where the auditor has collected sufficient verifiable evidence to demonstrate that the intent of one or more specific elements of the regulatory approval have not been complied with within the scope of the audit.
Administrative non-	A technical non-compliance with a regulatory approval that would not impact on performance and

Table 2.1 Compliance assessment criteria

Assessment	Criteria
compliance	that is considered minor in nature (e.g. report submitted but not on the due date, failed monitor or late monitoring session). This would not apply to performance-related aspects (eg exceedance of a noise limit) or where a requirement had not been met at all (e.g. noise management plan not prepared and submitted for approval).
Not triggered	A regulatory approval requirement has an activation or timing trigger that had not been met at the time of the audit inspection, therefore a determination of compliance could not be made.
Observation	Observations are recorded where the audit identified issues of concern which do not strictly relate to the scope of the audit or assessment of compliance. Further observations are considered to be indicators of potential non-compliances or areas where performance may be improved.
Note	A statement or fact, where no assessment of compliance is required.

Source: NSW Government 2015, *Independent Audit Guideline.*

Where non-compliances are identified, a risk level has been identified in accordance with the descriptions provided in Table 2.2.

Table 2.2 Risk levels for non-compliances

Risk level	Colour code	Description
High		Non-compliance with potential for significant environmental consequences, regardless of the likelihood of occurrence.
Medium		Non-compliance with: • potential for serious environmental consequences, but is unlikely to occur; or • potential for moderate environmental consequences, but is likely to occur.
Low		Non-compliance with: • potential for moderate environmental consequences, but is unlikely to occur; or • potential for low environmental consequences, but is likely to occur.
Administrative non-compliance		Only to be applied where the non-compliance does not result in any risk of environmental harm (e.g. submitting a report to government later than required under approval conditions).

Source: NSW Government 2015, *Independent Audit Guideline.*

The content of this audit report and the method of reporting is consistent with the NSW Government's (2015), *Independent Audit Guideline.*

3 Audit context

3.1 Site management

As noted in Section 1.1, the quarry is currently in the construction phase with operations yet to commence. G. Bowen, Quarry Manager, has overall responsibility for on-site environmental management.

The following environmental management plans for the site have been approved by the Secretary of DPE:

- Environmental Management Strategy;
- Air Quality and Greenhouse Gas Management Plan;
- Biodiversity Offset Area Management Plan;
- Blast Management Plan;
- Heritage Management Plan;
- Landscape and Rehabilitation Management Plan;
- Noise Management Plan;
- Traffic Management Plan;
- Water Management Plan; and
- Tetratheca juncea Translocation Management Plan.

In addition to the suite of environmental management plans listed above, the quarry has a Pollution Incident Response Management Plan, Transport Management Plan[1] and Driver's Code of Conduct.

3.2 Land use

The site is located within a predominantly rural environment, and is surrounded by forested areas. To the north of the site, beyond the edges of this forested area, agricultural operations and grazing are the dominant land use. The Pacific Highway is immediately to the south of the site, beyond which lies an extensive forested area. The Karuah Nature Reserve, Port Stephens – Great Lakes Marine Park, Yalimbah and Bulga Creeks are all located downstream of the site. The Karuah Quarry and processing area is immediately west of the site.

The closest urban areas (Karuah, Carrington, Tahlee and North Arm Cove) are approximately 4 km south of the site.

[1] DPE's letter approving the quarry's management plans (14 December 2015) refers to the 'Traffic Management Plan'. It is assumed that these are one-in-the-same.

3.3 Environmental

The site is located in the Karuah River Basin. Regional topography is irregular being defined by isolated mountains and ridges up to 170 m Australian Height Datum (AHD) falling steeply to tidal mudflats adjacent to the Karuah River and rolling hills and ridges. Elevation within the site ranges from 40–150 m AHD.

The extraction area for the quarry is characterised by a mostly steep, heavily forested landscape, where it has not been cleared as part of quarry development. The majority of this area lies within the Yalimbah Creek catchment, draining to the south-west, with a small portion of the extraction area draining to the east into the Bulga Creek catchment.

The rock that will be quarried is part of the Myall Block in the Tamworth Belt of the New England Orogen. The Karuah East Quarry area forms part of the Nerong Volcanics, which are carboniferous siliceous volcanic flows of the rhyolitic and dacitic ignimbrites with occasional flows of tuffaceous sandstone and conglomerate.

3.4 Social

The quarry is approximately 4 km north of the suburbs of Karuah, Carrington Tahlee and North Arm Cove. The suburb of Karuah is the largest of these, with a population of 1,327 (ABS 2013). The population was 857 in 2006, which reflects an increase of 470 or 54.8% since 2007 (ABS 2007).

4 Audit results

4.1 Overview

The quarry's compliance with the conditions listed in Section 1.3 is detailed in the audit table in Appendix C. The audit table provides:

- the approval or license name;
- the schedule and condition number for each item;
- the requirement being assessed (ie the condition description);
- the evidence used to assess compliance;
- the compliance status based on the criteria provided in Table 2.1;
- the risk level of non-compliances as provided in Table 2.2; and
- comments and recommendations from the lead auditor based on the outcomes of the audit.

4.2 Audit results

A summary of the conditions where a non-compliance or an administrative non-compliance was recorded is provided in Table 4.1. A summary of recommendations that were not associated with a non-compliance is provided in Table 4.2. Photographs illustrating the condition of the site during the site inspection are provided following the tables.

Table 4.1 Non-compliance summary

Schedule / Condition number	Condition	Compliance status	Comments and recommendations
PA 09_0175			
3 / 19	The Proponent shall comply with the discharge limits in any EPL, or with Section 120 of the POEO Act	Non-compliant	The Water Management Plan (Section 6.1.5-6.1.7) describes the use of captured water for dust control on roads and in the processing plant. These requirements have been minimal during the construction phase. This has increased the potential for discharges from sedimentation dams. No exceedances of criteria have been reported in monthly monitoring reports or to agencies. However, in March and April 2017, water overflowed from Dam 3 (a licensed discharge point in the south-east corner of the site). This discharged water would have flowed into a tributary of Bulga Creek, east of the site. The Dam 3 catchment consists of the eastern portion of the south-western products stockpiles area which was cleared but not capped at the time. This overflow is consistent with the minimal free-board on all of the water management system dams at the time of the site inspection (Photographs 4.1 and 4.2). We understand that the first water discharge from Dam 3 was recorded on 6 March 2017 following 157 millimetres (mm) of rainfall over a seven day period. We understand that no prior discharges from Dam 3 had been observed. We understand that this discharge event continued until 10 March 2017. Following this initial discharge event, we understand that 0.5 megalitres (ML) of water was pumped from Dam 3 to Dam 1, to minimise the chance of further discharge from Dam 3. Two doses of flocculent were added to Dam 3. Following further heavy rainfall, Dam 3 filled to capacity and began discharging again on 20 March 2017. We understand that Dam 3 continued to discharge until 3 April 2017. We were informed that water quality was monitored during both discharge events from Dam 3 both at the licensed discharge point (EPA Identification Number 3) and at a surface water monitoring point approximately 300 m downstream of Dam 3 (SW5). **The following measurements were made during the initial discharge period (6–10 March):** <u>Dam1, four measurements:</u> pH: 4.35–5.83 TSS: 1,773–1,995 mg/L Oil and grease: 9–20 mg/L <u>SW5, Bulga Creek 300 m downstream of Dam 3, 2 measurements:</u> pH: 4.88–5.40 TSS: 19–300 mg/L

Table 4.1 Non-compliance summary

Schedule / Condition number	Condition	Compliance status	Comments and recommendations
			Oil and grease: 5–16 mg/L **The following measurements were made during the second discharge period (20 March–3 April):** Dam1, two measurements: pH: 4.78–6.34 TSS: 1,420–1,665 mg/L Oil and grease: 16–84 mg/L SW5, 2 measurements: pH: 4.67–5.72 TSS: 57–108 mg/L Oil and grease: 5–223 mg/L SW2, upstream of Dam 3 2 measurements: pH: 4.76–5.70 TSS: 12–86 mg/L Oil and grease: 5–34 mg/L Major ions, nutrient and metal concentrations were not measured during these discharges. **Compliance** The results of the water quality monitoring for pH, TSS and oil and grease during the discharge events exceeded the concentration limits defined by Condition L2.4 of the quarry's EPL (pH: 6.5–8.5, TSS: 40 mg/L, and oil and grease: 5 mg/L and none visible). The discharges were therefore non-complaint with the EPL. **pH** During these discharges, the pH was in a similar range in Dam 3 and SW2 (upstream) and SW5 (downstream). It is noted that the baseline pH of the area was 5.58–6.20 (Water Management Plan Table 4) while the EPL specifies a discharge range of pH 6.5–8.5. So any discharge is expected to be out of compliance unless it is treated to increase the pH above the natural range. The environmental benefit of such treatment is questionable given that it may result in a perturbation from the natural conditions of the receiving waters. The non-compliance risk for pH has been rated as 'low'. **TSS** The discharges resulted in water with high TSS concentrations, up to about 2 g/L, being

Table 4.1 Non-compliance summary

Schedule / Condition number	Condition	Compliance status	Comments and recommendations
			discharged to Bulga Creek. This was fairly rapidly diluted, with a maximum TSS concentration of 300 mg/L recorded at SW5 (300 m downstream). A maximum TSS concentration of 86 mg/L was recorded at SW2 (upstream) indicating that TSS concentrations were naturally elevated during the heavy rain but that the downstream water quality in the creek was impacted when the dam was discharging. The catchment area for Dam 3 was cleared during the discharges but has subsequently been capped with aggregate. While no results are available, there is low risk that other contaminants, eg dissolved metals, would have impacted water quality given the nature of activities (vegetation clearing and earthworks) in the catchment. Given the management action and that TSS concentrations were rapidly diluted, the non-compliance risk for TSS is has been rated as 'low'. **Oil and grease** There were high oil and grease concentrations in Dam 3 (up to 84 mg/L), SW2 (up to 34 mg/L) and SW5 (up to 223 mg/L) during the discharges. A high concentration has also been recorded at SW4, a tributary of Yalimbah Creek (31 March 2017). Low oil and grease concentrations (<5 mg/L) were measured during baseline measurements. Further investigation of oil and grease concentrations downstream and upstream of the quarry (and potentially in adjacent catchments) is warranted to determine the source of these elevated concentrations. Given the uncertainty regarding oil and grease concentrations, the non-compliance risk for TSS is has been rated as 'medium'. We understand that Karuah East Quarry has commenced investigations, including whether the "oil and grease" measured may be from a natural source. However, it is beyond the scope of this audit to review the preliminary results in detail. **It is recommended that monitoring at SW5 is included in the routine monitoring program.** **It is recommend that oil and grease concentrations downstream and upstream of the quarry (and potentially in adjacent catchments) are investigated to determine the source of elevated oil and grease concentrations, and whether the quarry is contributing to downstream concentrations.** **It is recommended that any exceedances of water quality criteria during dam water discharges are reported, in accordance with the project approval conditions and the quarry's EPL.**

Table 4.1 Non-compliance summary

Schedule / Condition number	Condition	Compliance status	Comments and recommendations
3 / 21	The Proponent shall prepare and implement a Water Management Plan for the project to the satisfaction of the Secretary. This plan must: ... (c) include: ... (iii) a Groundwater Monitoring Program that includes: • baseline data of groundwater levels surrounding the site; • groundwater impact assessment criteria, to be developed following analysis of baseline data, including trigger levels for investigating any potentially adverse groundwater impacts; and • a program to monitor and/or validate the impacts of the project on groundwater resources. ...	Administrative non-compliance	Section 8.2.2 of the WMP states that groundwater levels will be monitored on a quarterly basis. The monthly monitoring reports indicates that only two water level monitoring events have taken place (on 30 March 2016 and 3 October 2016), ie at a 6-monthly frequency rather than quarterly. **It is recommended that groundwater levels are monitored quarterly or that the monitoring frequency is modified in the WMP.**
3 / 27	The Proponent shall develop and implement a translocation program for *Tetratheca juncea* to the satisfaction of the Secretary. This program must: ... (e) include short and long-term goals and performance criteria to measure the effectiveness of the program. ...	Administrative non-compliance	The translocation plan is compliant with conditions (a) through (d) and (f). However, it is not compliant with (e) as it does not include performance criteria to measure the success of the program. Earlier in the plan, it states that other translocation programs have had a survival rate of approximately 27% of translocated plants. **It is recommended that the plan is updated to include performance criteria to ensure the effectiveness of the program can be reviewed and to identify ways to improve the success of future translocation programs.**
3 / 29	The Proponent shall, within 12 months of the finalisation of the Biodiversity Offset Strategy, make suitable arrangements to provide appropriate long-term security for the offset area, in consultation with OEH and Council, and to the satisfaction of the Secretary. ...	Administrative non-compliance	The conservation agreement had not been finalised within the audit period. **It is recommended that the conservation agreement is finalised in consultation with OEH and DPE.**

Table 4.1 Non-compliance summary

Schedule / Condition number	Condition	Compliance status	Comments and recommendations
3 / 32	The Proponent shall prepare and implement a Landscape and Rehabilitation Management Plan for the project to the satisfaction of the Secretary. This Plan would relate to the area of the quarry and all perimeter lands. This plan must: ... d. describe the short, medium and long-term measures that would be implemented to: • manage remnant vegetation and habitat on the site; and • ensure compliance with the rehabilitation objectives and progressive rehabilitation obligations of this approval. ...	Non-compliant	The vast majority of the measures in the Water Management Plan and Landscape and Rehabilitation Management Plan and have been implemented. Section 9.3 of the Landscape and Rehabilitation Management Plan states that, "A maximum stockpile height of 3 m will be maintained to preserve viability and reduce soil deterioration." The majority of stripped soil has been stockpiled in stockpiles around the edge of the cleared area. These stockpiles are less than 3 m high. However, some soil appears to be stored within the cleared area (refer to Photograph 4.3). The depth of soil in these areas could not be verified. **It is recommended that soil is not stockpiled within the quarrying area or that it is stored within discrete stockpiles as opposed to forming parts of benches. This would allow the soil thickness to be verified to be less than 3 m and to ensure that it is easily recovered for use in rehabilitation.**
3 / 34	The Proponent shall lodge a Conservation and Rehabilitation Bond with P&I within 6 months of the approval of the Landscape and Rehabilitation Management Plan, to ensure that the Biodiversity Offset Strategy and the rehabilitation of the site is implemented in accordance with the performance and completion criteria set out in the Landscape and Rehabilitation Management Plan. ...	Administrative non-compliance	The Conservation and Rehabilitation Bond was lodged outside of 6 months of the approval of the Landscape and Rehabilitation Management Plan (14 December 2015).
5 / 7	The Proponent shall immediately notify the Secretary and any other relevant agencies of any incident that has caused, or threatens to cause, material harm to the environment. For any other incident associated with the project, the Proponent shall notify the Secretary and any other relevant agencies as soon as practicable after the Proponent becomes aware of the incident. Within 7 days of the date of the incident, the Proponent shall provide the Secretary any relevant agencies with a detailed report on the incident, and such further reports as may be requested.	Non-compliant	No exceedances of criteria have been reported. As described above (refer to Schedule 3, Condition 19 of PA 09_0175), the results of the water quality monitoring for pH, TSS and oil and grease during the discharge events from Dam 3 in March and April 2017 exceeded the concentration limits defined by Condition L2.4 of the quarry's EPL. These discharge events should have been reported due to the degraded water quality. **It is recommended that any exceedances of water quality criteria during dam water discharges are reported, in accordance with the project approval conditions and the quarry's EPL.**

Table 4.1 Non-compliance summary

Schedule / Condition number	Condition	Compliance status	Comments and recommendations
EPL 20611 – Karuah East Quarry			
3 / L1.1	Except as may be expressly provided in any other condition of this licence, the licensee must comply with Section 120 of the *Protection of the Environment Operations Act 1997*.	Non-compliant	No exceedances of criteria have been reported. As described above (refer to Schedule 3, Condition 19 of PA 09_0175), the results of the water quality monitoring for pH, TSS and oil and grease during the discharge events from Dam 3 in March and April 2017 exceeded the concentration limits defined by Condition L2.4 of the quarry's EPL. These discharge events should have been reported due to the degraded water quality. **It is recommended that any exceedances of water quality criteria during dam water discharges are reported, in accordance with the project approval conditions and the quarry's EPL.**
3 / L2.1	For each monitoring/discharge point or utilisation area specified in the table/s below (by a point number), the concentration of a pollutant discharged at that point, or applied to that area, must not exceed the concentration limits specified for that pollutant in the table.	Non-compliant	No exceedances of criteria have been reported. As described above (refer to Schedule 3, Condition 19 of PA 09_0175), the results of the water quality monitoring for pH, TSS and oil and grease during the discharge events from Dam 3 in March and April 2017 exceeded the concentration limits defined by Condition L2.4 of the quarry's EPL.
3 / L2.2	Where a pH quality limit is specified in the table, the specified percentage of samples must be within the specified ranges.	Non-compliant	No exceedances of criteria have been reported. The results of the water quality monitoring for pH during the discharge events from Dam 3 in March and April 2017 were outside the specified pH range defined by Condition L2.4 of the quarry's EPL (ie 6.5–8.5). It is noted that the baseline pH of the area was 5.58–6.20 (refer to Table 4 in the Water Management Plan), while the EPL specifies a discharge range of pH 6.5–8.5. So any discharge is expected to be out of compliance unless it is treated to increase the pH above the natural range. The environmental benefit of such treatment is questionable given that it may result in a perturbation from the natural conditions of the receiving waters.
5 / M6.1	The licensee must operate during its operating hours a telephone complaints line for the purpose of receiving any complaints from members of the public in relation to activities conducted at the premises or by the vehicle or mobile plant, unless otherwise specified in the licence.	Administrative non-compliance	A complaints line is not clearly identified on the Hunter Quarries website. **It is recommended that the Hunter Quarries website is updated to specify a number to call with complaints - this may be the same number as the general number provided.**
5 / M6.2	The licensee must notify the public of the complaints line telephone number and the fact that it is a complaints line so that the impacted community knows how to make a complaint.	Administrative non-compliance	A complaints line is not clearly identified on the Hunter Quarries website. **It is recommended that the Hunter Quarries website is updated to specify a number to call with complaints - this may be the same number as the general number provided.**

Table 4.1 Non-compliance summary

Schedule / Condition number	Condition	Compliance status	Comments and recommendations
Statement of commitments			
2.0 SUMMARY OF MANAGEMENT PLANS	The following management plans will be prepared prior to commencement of construction works: - Waste Management Plan.	Administrative non-compliance	The quarry's EMS and management plans have been approved by DPE. However, a waste management plan has not been prepared to meet this commitment. **It is recommended that a waste management plan is prepared, in accordance with the summary of environmental monitoring provided in Table 6 of the EMS.**
3.0 SOIL AND WATER / 3.2 Groundwater Management	Refuelling will be undertaken in a designated non-permeable (compacted clay or concrete) area.	Administrative non-compliance	The site is under construction and re-fuelling areas have not been constructed. Refuelling in the quarry and infrastructure area is currently performed by a mobile tanker. These are temporary arrangements during the project's construction period and will be addressed prior to the commencement of quarrying operations. Obviously, some earthworks need to be completed before a non-permeable refuelling area can be established. It would have been better to recognise this when writing this commitment. **It is recommended that a non-permeable refuelling area (or areas) is constructed as soon as practicable.**
3.0 SOIL AND WATER / 3.2 Groundwater Management	Groundwater samples will be collected for laboratory analysis on a 6-monthly basis. The groundwater quality results will be laboratory analysed for the parameters below and compared to background water quality results. The groundwater sampling will be carried out by an experienced groundwater professional or environmental scientist in accordance with Australian sampling standards. The basic analyte and parameter suite applies to all samples. The additional extended analytic suite should apply annually together with the basic suite.	Administrative non-compliance	There is no evidence that the groundwater sampling was carried out by an experienced professional or environmental scientist in accordance with the Australian sampling standards. **It is recommended that the qualifications and experience of the professional undertaking groundwater sampling are provided in monitoring reports.** The laboratory results for March 2016 and April 2017 confirmed that the suite of analytes listed as part of this commitment were assessed (with the exception of total iron, which was not assessed as part of the April 2017 monitoring event). **It is recommended that total iron concentrations be assessed as part of the 12 monthly suite of analytes or that the Water Management Plan is amended to remove this requirement.**
3.0 SOIL AND WATER / 3.2 Groundwater Management	Additional Analysis – 12 monthly (every second sample only): Nutrient suite: total nitrogen, nitrate, total Kjeldahl nitrogen, total phosphorus, phosphate; Metals (arsenic, cadmium, chromium, copper, lead, zinc, nickel, manganese, mercury, total iron, filterable iron); Polycyclic Aromatic Hydrocarbon (PAH); and Organophosphorus pesticides, phenoxy acid herbicides.	Administrative non-compliance	The laboratory results for March 2016 and April 2017 confirmed that the suite of analytes listed as part of this commitment were assessed (with the exception of total iron, which was not assessed as part of the April 2017 monitoring event). **It is recommended that total iron concentrations be assessed as part of the 12 monthly suite of analytes or that the Water Management Plan is amended to remove this requirement.**

Table 4.1 Non-compliance summary

Schedule / Condition number	Condition	Compliance status	Comments and recommendations
3.0 SOIL AND WATER / 3.3 Surface Water – Proposed Water Management System	In the event that water is required to be discharged offsite, the water will be tested prior to discharge to ensure appropriate discharge criteria are met, such as Total Suspended Solids (TSS) below a concentration of 50 mg/L. Where this is not the case, water will be treated, for example through the use of chemical flocculation, to achieve a suitable water quality.	Non-compliant	As described above (refer to Schedule 3, Condition 19 of PA 09_0175), the results of the TSS monitoring during the discharge events from Dam 3 in March and April 2017 exceeded the concentration limits (40 mg/L) defined by Condition L2.4 of the quarry's EPL and 50 mg/L. **It is recommended that water be treated during all future dam water discharges to achieve a suitable water quality.**
3.0 SOIL AND WATER / 3.3 Surface Water – Proposed Water Management System	In the event that an exceedance in surface water quality criteria is identified, the exceedance will need to be reported to the relevant agencies in accordance with the requirements of the EPL.	Non-compliant	As described above (refer to Schedule 3, Condition 19 of PA 09_0175), the results of the water quality monitoring for pH, TSS and oil and grease during the discharge events from Dam 3 in March and April 2017 exceeded the concentration limits defined by Condition L2.4 of the quarry's EPL. These discharge events should have been reported due to the degraded water quality recorded. **It is recommended that any exceedances of water quality criteria during dam water discharges are reported, in accordance with the project approval conditions and the quarry's EPL.**
4. BIODIVERSITY & CONSERVATION OFFSET / 4.1 Flora and Fauna	A report detailing the methods and results of the pre-clearing surveys will be prepared and submitted to OEH immediately prior to the commencement of the clearing operations.	Administrative non-compliance	Correspondence with T. Grugeon on 30 May 2017 confirmed that the pre-clearing surveys were undertaken as per Section 6.2 of the landscape and rehabilitation management plan, which was approved by DPE in accordance with Condition 32 of Schedule 3 of PA 09_0175. However, specific correspondence with OEH to address this commitment did not occur. **It is recommended that the report detailing the methods and results of the pre-clearing surveys is submitted to OEH.**
11.0 QUARRY CLOSURE & REHABILITATION / 11.1 Rehabilitation Management Plan	A maximum stockpile height of 3 m will be maintained to preserve viability and reduce soil deterioration.	Non-compliant	Refer to Schedule 3, Condition 32 of PA 09_0175.
11.0 QUARRY CLOSURE & REHABILITATION / 11.1 Rehabilitation Management Plan	Stockpiles will be protected with sediment fencing and planted with a sterile cover crop (annual species) to ensure stabilisation. Surface drainage in the vicinity of the stockpiles will be configured so as to direct any runoff around the stockpile.	Non-compliant	Stockpiles are generally protected by sediment fences. A sterile cover crop has not been planted. **It is recommended that a sterile cover crop is planted on soil stockpiles in accordance with the Landscape and Rehabilitation Management Plan.**

Table 4.2 Additional recommendations

Schedule / Condition number	Condition	Compliance status	Comments and recommendations
PA 09_0175			
5 / 3	The Proponent shall ensure that the Management Plans required under this approval are prepared in accordance with any relevant guidelines, and include: ... (f) a program to investigate and implement ways to improve the environmental performance of the project over time; (g) a protocol for managing and reporting any: • incidents; • complaints; • non-compliances with statutory requirements; and • exceedances of the impact assessment criteria and/or performance criteria; and • a protocol for periodic review of the plan.	Compliant	As noted within the EMS, the quarry's management team will discuss and review the status of all management plans on an annual basis, but unless required, all site environmental management plans (including the Environmental Management Strategy) will be reviewed and updated every three years. The EMS does not include a adequately detail the program to improve the environmental performance of the project, the reporting protocol or review protocol. **It is recommended that a copy of the quarry's Environmental Incident Reporting Form be appended to each of the quarry's management plans and the protocol for managing and reporting all environmental incidents be referenced in the text.**
EPL 20611 – Karuah East Quarry			
2 / P1.3	The following points referred to in the table (refer to Appendix C) are identified in this licence for the purposes of the monitoring and/or the setting of limits for discharges of pollutants to water from the point.	Compliant	As noted within the Annual Review and the January/–March environmental monitoring reports, there were no discharge events at Karuah East Quarry during the reporting period for these documents. The discharge points listed in the Water Management Plan are consistent with the licensed discharge points listed as part of this condition (refer to Figure 4 of the Water Management Plan). As noted regarding Schedule 2, Condition 2 of PA 09_0175, Dam 1 has been constructed about 100 m further south than shown on the plan. **It is recommended that the proposed surface water management layout in the Water Management Plan (Figure 4) is updated accordingly and the plan is submitted to the EPA with a request to vary the EPL.**

Table 4.2 Additional recommendations

Schedule / Condition number	Condition	Compliance status	Comments and recommendations
3 / L4.4	To determine compliance: a) with the Leq(15 minute) noise limits in the Noise Limits table, the noise measurement equipment must be located: i) approximately on the property boundary, where any dwelling is situated 30 metres or less from the property boundary closest to the premises; or ii) within 30 metres of a dwelling façade, but not closer than 3m, where any dwelling on the property is situated more than 30 metres from the property boundary closest to the premises; or, where applicable; iii) within approximately 50 metres of the boundary of a National Park or a Nature Reserve. b) with the LA1(1 minute) noise limits in the Noise Limits table, the noise measurement equipment must be located within 1 metre of a dwelling façade. c) with the noise limits in the Noise Limits table, the noise measurement equipment must be located: i) at the most affected point at a location where there is no dwelling at the location; or ii) at the most affected point within an area at a location prescribed by part (a) or part (b) of this condition. Note: A non-compliance of the Noise Limits table will still occur where noise generated from the premises in excess of the appropriate limit is measured: i) at a location other than an area prescribed in part (a) and part (b); and/or ii) at a point other than the most affected point at a location.	Compliant	The Noise Management Plan specifies that all noise measurement procedures employed throughout the monitoring programme will be guided by the requirements of AS 1055 1997 Acoustics - Description and Measurement of Environmental Noise (refer to Section 8). In addition, all acoustic instrumentation employed throughout the monitoring programme will be designed to comply with the requirements of AS IEC 61672.1 - 2004 Electroacoustics - Sound level meters - Specifications. As noted within the Noise Management Plan and the Annual Review, the noise monitoring locations are consistent with the locations listed as part of this EPL. The monitoring requirements specified as part of this condition are not explicitly addressed within the Noise Management Plan. **It is recommended that the Noise Management Plan be revised to include reference to the specific measures listed in this condition.**

Table 4.2 Additional recommendations

Schedule / Condition number	Condition	Compliance status	Comments and recommendations
5	The Protection of the Environment Operations (Clean Air) Regulation 2010 requires testing for certain purposes to be conducted in accordance with test methods contained in the publication "*Approved Methods for the Sampling and Analysis of Air Pollutants in NSW*".	Compliant	The general requirements of the air quality monitoring program are established in Section 8.1.1 of the Air Quality and Greenhouse Gas Management Plan. As noted within Section 8.1.1, all monitoring must be conducted in accordance with the Approved Methods for the Sampling and Analysis of Air Pollutants in NSW. **It is recommended that a statement be included within the quarry's monthly environmental monitoring reports and future annual reviews that monitoring has been conducted in accordance with the *Approved Methods for the Sampling and Analysis of Air Pollutants in NSW*.**
Statement of commitments			
3.0 SOIL AND WATER / 3.3 Surface Water – Proposed Water Management System	That controlled discharge of treated (e.g. flocculated) water be undertaken when total site storage levels are above 4.3 ML, which would provide the capacity to contain more rainfall events and reduce wet weather discharges (this assumes the dams are built to the capacities presented in Table 2 – refer to Appendix C).	Not verified	It is noted that there was little free-board on Dam 1 and 3 during the site inspection. No water level gauges were observed. **It is recommended that water level gauges are installed in the dams and the relationship between water levels and total volume stored is established.**
4. BIODIVERSITY & CONSERVATION OFFSET / 4.1 Flora and Fauna	<u>Site Survey and Exclusion Fencing</u> The extraction area/forest interface will be delineated to protect retained bushland areas on Lot 12 and 13. To achieve this, the quarry footprint boundary will be surveyed and pegged by a Registered Surveyor prior to the conduct of clearing operations. Plastic mesh fencing or star pickets and flagging tape will be installed along the extraction boundary for use as exclusion fencing. The fencing will function as a clearly marked 'exclusion' boundary for the machinery operations.	Compliant	During the site inspection, evidence of appropriate signage delineating the conservation offset areas from the extraction area/project area was observed. In addition, it was noted that boundary tape and plastic mesh fencing was used during the clearing process. Fencing has not yet been erected to the extent identified in this commitment, which is unclear as to whether it applies to construction as well as to operations. It was noted that long-term exclusion fencing cannot be erected until after construction has been completed. **It is recommended that exclusion fencing be installed as soon as practicable after the completion of construction to meet this commitment.**

Table 4.2 Additional recommendations

Schedule / Condition number	Condition	Compliance status	Comments and recommendations
4. BIODIVERSITY & CONSERVATION OFFSET / 4.1 Flora and Fauna	Where possible, vegetation clearing activity will be timed so as to avoid the following breeding periods for hollow dependent fauna: i) October – February (microbats); and ii) June – August (large forest owls and microbats in torpor).	Compliant	Vegetation clearing for the project commenced in April 2016 and the majority of the project area was cleared between April and June 2016, with some clearing also occurring in July and November 2016. However, it is noted that the commitment is to avoid these periods "where possible" and that there will be ongoing clearing as part of the project. **It is recommended that future clearing is scheduled well in advance to avoid breeding periods for hollow-dependent fauna.**
4. BIODIVERSITY & CONSERVATION OFFSET / 4.2 Biodiversity Offset Strategy	Seasonal flora and fauna survey of the offset site will be undertaken in accordance with relevant OEH guidelines. In particular, seasonal survey for *Tetratheca juncea* and *Grevillea parviflora* ssp parviflora will be undertaken and reported to the NSW OEH.	Not verified	No reduction in threatened flora populations was recorded at the monitoring sites in 2016. **It is recommended that the results of all future seasonal surveys for *Tetratheca juncea* and *Grevillea parviflora* ssp parviflora be reported to OEH in accordance with this condition.**

Photograph 4.1 **Dam 1 water level on Thursday 27 April 2017**

Photograph 4.2 **Dam 3 water level on Thursday 27 April 2017**

Photograph 4.3 **Example of soil stockpiling within cleared areas where stockpile may exceed 3 m depth**

Photograph 4.4 **Erosion and sediment control measures east of the quarry extraction area**

Photograph 4.5 Evidence of fallen logs and hollow logs salvaged during clearing operations

4.3 Interviews

It was apparent during the interviews with G. Bowen and T. Grugeon that they generally have a good understanding of their environmental responsibilities, environmental issues at the quarry during construction and the management of these issues.

It was evident environmental management has been considered during construction activities. Particular attention has been given to water management structures and vegetation clearing. For example:

- Water management measures have been adjusted from the proposed locations with good justification. In particular, Dam 1, in the east of the infrastructure area, has been constructed about 100 m further south than shown in the Project Layout. However, it remains within the proposed disturbance footprint of the infrastructure area and has been relocated to provide improved performance. It is therefore considered to be "generally in accordance with the EA".

- Clearing in the south-western section of the quarry extraction area has been truncated compared to approved limits to minimise the potential for sediment to report to the Yalimbah Creek drainage line to the south of the area.

The interviewees did not fully understand the requirements to report incidents.

As indicated by the audit results provided in Section 4.2, there is some further work required by the responsible staff to fully understand and comply with project conditions and commitments.

4.4 Agency consultation

Consultation outcomes are summarised in Table 4.3. An example of the letter requesting input to the Karuah East Quarry Independent Environmental Audit is provided in Appendix B.

Table 4.3 Summary of agency consultation

Agency and contact	Method/ correspondence date	Outcome
NSW Department of Planning and Environment (DPE) H. Watters	Email, 2 May2017 Phone call, P. Towler and H. Watters, 9 June 2017	DPE's email response on 2 May 2017 noted five complaints from one complainant were received by DPE. Two related to biodiversity and three related to the construction of Blue Rock Close. Where required, DPE liaised with the quarry regarding these matters. DPE officers inspected the quarry in October 2016 and noted that a track between Lot 11 and Lot 12 was being utilised to access the adjoining quarry. The Department determined this was not authorised under Schedule 2, Condition 2 of PA 09_0175 and requested the quarry to cease utilising this track immediately. The quarry complied with this request, providing photo evidence of gates limiting access. This was further confirmed during a DPE site inspection in February 2017. No formal compliance action was undertaken in relation to this non-compliance. We understand that DPE requested that this complaint be mentioned in the AEMR. This does not appear to have occurred. DPE has not received any requests for an independent review under Schedule 4, Condition 2 of PA 09_0175.
NSW Environment Protection Authority (EPA) R. Akhurst	Letter via email, 13 April 2017 Follow-up email, 5 May 2017	EPA's email response on 5 May 2017 indicating that the EPA did not have any specific comments regarding the quarry.
NSW Roads and Maritime Services (RMS) K. White, R. Martin	Letter via email, 18 April 2017 Follow-up emails, 5 May 2017 and 9 May 2017	RMS's email response on 9 May 2017 noted that RMS had no specific comments.
NSW Department of Primary Industries (DPI) – Water (DPI Water) I. Zinger	Letter via email, 13 April 2017	DPI Water emailed letter response on 20 April 2017 requested that the audit considered compliance with the relevant water licensing requirements for the quarrying operation. The specific matters raised by DPI Water are addressed in Table 4.4.
NSW Office of Environment and Heritage (OEH) B. Walters, S. Lewer	Letter via email, 13 April 2017 Follow-up email, 5 May 2017 Phone call, P. Towler and S. Lewer, 9 June 2017	During the telephone conversation on 9 June 2017, OEH noted that remaining biodiversity offsets must be in line with the conservation agreement. OEH was yet to see biodiversity monitoring results.
DPE - Division of Resources and Energy (DRE)	Letter via email, 13 April 2017 Follow-up email, 5 May 2017	No comments received.

Table 4.3 Summary of agency consultation

Agency and contact	Method/ correspondence date	Outcome
MidCoast Council M. Bell	Letter via email, 13 April 2017 Follow-up email, 5 May 2017	No comments received.

Table 4.4 Consideration of DPI Water comments

DPI Water comments	Response
Assess as to whether the Project holds the required water entitlements and licences under the Water Management Act 2000 or Water Act 1912 (as applicable). Does the proponent have enough licensed water entitlement to cater for passive and active take of water?	All Project groundwater monitoring bores are completed to less than 40 metres below ground level. Therefore the bores do not require monitoring bore licenses. Groundwater monitoring indicates that the groundwater level at the site is below the planned base level of the pit therefore no groundwater is currently taken (or is planned to be intercepted) by the quarry and therefore no groundwater abstraction licence is held for the quarry. Water storages for the quarry are within the Maximum Harvestable Right Dam Capacity (MHRDC) of the Project Approval Area, and therefore no surface water licences are required.
Compliance with the conditions of any water licences/approvals held. Quantification of both active and passive take by the Project from each relevant water source and a comparison against previous predictions. Are adequate records kept to enable determination of the volume and source or surface and groundwater taken?	No water licences are required for the quarry. Project Approval and EPL conditions relating to water have been audited. Assessment of compliance against the approved Water Management Plan for the quarry was completed as part of the audit. There is no active water take for the quarry. The quarry water balance (detailed in the Water Management Plan) will be reviewed after 12 months of operation.
Identification of all water storages for the Project and identification of their licensing status being either exempt, subject to harvestable rights or regulated via a Water Access Licence. Do any exemptions under the Water Management (General) Regulation 2001 or Harvestable Rights Order (gazetted 31 March 2006) apply to the capture of water?	The dams on the licence are within the MHRDC for the project approval area and therefore no licences are required.
Details of work undertaken on waterfront land during the audit period and how such works adhered to SPI Water Guidelines for Controlled Activities on Waterfront land.	The Water Management Plan specifies that a 20 m core riparian zone, as well as a 10 m vegetated buffer, is to be maintained along the closet surface water course (to the east of the site). This appears to generally have occurred but these zones should be fenced in line with Commitment 4.1.

A letter was sent to Mr M. Ulph, the independent chair of the Karuah East Quarry Community Consultative Committee (CCC) on 20 April 2017 to inform him that EMM had been engaged to perform the independent environmental audit and request his comment on the compliance of the quarry with approval and licence conditions. A follow-up email was sent on 5 May 2017 and an email reply was received on the same day. In this email M. Ulph clarified that he had been the CCC chair since the August 2016 CCC meeting and stated:

> During that time, while the CCC has certainly had questions about the environmental management of the site, I do not believe there have been any real concerns or questions that the proponent has failed to answer adequately.

The minutes of the quarry's CCC meetings are available on the Hunter Quarries website.

5 Audit summary

An independent environmental audit of the Karuah East Quarry was undertaken to meet the requirements of Schedule 5 Condition 9 of PA 09_0175 issued on 17 June 2014.

Audit evidence was collected during a site inspection on 27 April 2017 and documents provided by the quarry before and after the inspection. The audit period was 17 June 2014 to 27 April 2017.

The quarry is currently in the construction phase and operations have not commenced. As a result of the ongoing construction of the quarry during the audit period, certain measures described within the statement of commitments are yet to be implemented. For example, permanent exclusion fencing to delineate the approved disturbance areas from the conservation offset areas has not been erected.

A water management system has been constructed generally in accordance with the EIS. The system is being refined, in particular the exact location of Dam 2 to ensure that it operates effectively. This demonstrates an ongoing commitment to the long-term protection of the downstream environment rather than building these structures exactly as proposed in the EIS purely to comply with Project Approval Schedule 2 Condition 2.

Water levels in the dams were high, with minimal freeboard, during the site inspection. It is understood that during construction the site water demand has been lower than calculated by the operations water balance period as less water is needed for dust suppression and none is needed for processing. Therefore, additional active water management measures may need to be implemented to maintain a free-board on the dams during the construction period to minimise the occurrence of further uncontrolled discharges. These levels are expected to be lower once the quarry is operational and the water is used for quarry activities.

The quarry site is generally well managed with appropriate environmental controls in place. However, PA 09_0175 (including the attached commitments) and EPL 20611 require a wide range of measures to be implemented and further work is required to ensure that all measures are in place and that there are mechanisms to ensure that monitoring and reporting is completed and reported where required.

The non-compliances with a ‘medium’ risk level all relate to discharge events from Dam 3 in March and April 2017 (and a number of ‘low’ risk level non-compliances). The results of the water quality monitoring for pH, TSS and oil and grease during these events exceeded the concentration limits defined by EPL Condition L2.4 . A ‘medium’ risk level was assigned because the degraded water quality discharging from Dam 3 degraded the water quality in a section of Bulga Creek and the potential for an impact to occur is not fully understood. These discharge events should have been reported.

The following non-compliances with a ‘low’ risk level were recorded:

- The majority of stripped soil has been stockpiled in stockpiles less than 3 m high around the edge of the cleared area. However, some soil appears to be stored within the cleared area and the depth of soil in these areas could not be verified. A ‘low’ risk level was assigned as it is only a small portion of the stripped soil.

- The statement of commitments state that soil stockpiles will be protected with sediment fencing and planted with a sterile cover crop. While these stockpiles are generally protected by sediment fences, a sterile cover crop has not been planted. A ‘low’ risk level was assigned as there does not appear to be excessive erosion occurring from the stockpiles.

A number of administrative non-compliances were recorded where there is no risk to the environment but report preparation, consultation or other administrative requirements have not been met. For example, the *Tetratheca juncea* Translocation Management Plan does not include performance criteria to measure the success of the program. Development of performance criteria would allow the success of the program to be better quantified.

Overall, quarry construction is generally being undertaken in a responsible manner and, with the exceptions noted above, in accordance with PA 09_0175 (including the attached Statement of Commitments) and EPL 20611. The quarry personnel interviewed generally have a good appreciation of the quarry's PA and EPL conditions, and the quarry's EMS. The requirements of these documents are being applied in a manner that considers protection of the environment within the context of the site. Ongoing water management and the reporting of non-compliances should be a focus for the remaining construction phase.

Recommendations have been provided to address all non-compliances and a number of recommendations have been provided based on observations that were not related to non-compliances.

References

Australian Bureau of Statistics (ABS) 2007, 2006 Census QuickStats – Karuah, viewed 18 April 2017, http://www.censusdata.abs.gov.au/census_services/getproduct/census/2006/quickstat/SSC17649?opendocument&navpos=220.

2013, 2011 Census QuickStats – Karuah, viewed 18 April 2017, http://www.censusdata.abs.gov.au/census_services/getproduct/census/2011/quickstat/SSC11212?opendocument&navpos=220.

Karuah East Quarry Pty Ltd and SLR Consulting Australia Pty Ltd 2017, *Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW – Review Period: 1 January 2016 – 31 December 2016.*

Appendix A

DPE endorsement letter

NSW GOVERNMENT | Planning & Environment

Contact: Heidi Watters
Phone: (02) 6570 3401
Fax:(02) 6575 3415
Email: heidi.watters@planning.nsw.gov.au
MP 09_0175

Mr Tim Grugeon
Environmental Officer
Hunter Quarries Pty Ltd/Karuah East Quarry Pty Ltd
PO Box 23
KARUAH NSW 2324

Dear Mr Grugeon,

Karuah East Quarry (MP 09_0175) – Independent Environmental Audit

I refer to your email dated 31 March 2017 seeking the endorsement of the Secretary of the Department of Planning and Environment (the Department) of a suitably qualified, experienced and independent team to undertake an independent environmental audit (IEA) for the Karuah East Quarry, required by Project Approval 09_0175 (the Approval).

In accordance with Schedule 5, Condition 9 of the Approval, the Secretary has approved the following audit team to conduct the 2017 IEA of the Karuah East Quarry:

- Dr Philip Towler – Lead Auditor
- David Richards – Audit support
- Katie Whiting – Ecology Specialist
- Liz Webb – Surface and Groundwater Specialist

In preparing the IEA, the audit team must ensure the IEA is conducted in accordance with Schedule 5, Condition 9 of the Approval, and the Department's *Post-approval requirements for State Significant Developments – Independent Audit Guideline* (October 2015).

In accordance with Schedule 5, Condition 10 of the Approval, a copy of the IEA report must be submitted to the Secretary, together with responses to any recommendations (RAR) contained in the IEA report within three months of commissioning of this audit (i.e. **4 July 2017**). Please submit the IEA report and RAR to compliance@planning.nsw.gov.au

Should you wish to discuss the above please contact Heidi Watters on 02 6575 3401 or by email at Heidi.watters@planning.nsw.gov.au

Yours sincerely,

HWatters 4/4/17

Heidi Watters
A/Team Leader – Compliance Northern Region
As nominee for the Secretary

Appendix B

Example consultation letter

13 April 2017

Ground Floor, Suite 01, 20 Chandos Street
St Leonards, NSW, 2065
PO Box 21
St Leonards, NSW, 1590

T +61 2 9493 9500
F +61 2 9493 9599
E info@emmconsulting.com.au

www.emmconsulting.com.au

Rebecca Ackhurst
Operations Officer
NSW Environment Protection Authority

Re: Karuah East Quarry - Independent Environmental Audit

Dear Rebecca,

EMM Consulting Pty Limited (EMM) has been engaged by Karuah East Quarry Pty Ltd to undertake an independent environmental audit of Karuah East Quarry, Karuah, NSW (the quarry). The appointment of the EMM audit team has been approved by the NSW Department of Planning and Environment (DPE).

The quarry is currently in the construction phase with operations yet to commence.

The independent environmental audit is a requirement under Condition 9 of Schedule 5 of the project approval (PA) 09_0175 (17 June 2014). The audit will consider the quarry's compliance with:

- PA 09_0175;
- the project as described in the environmental assessment report (EA) prepared by ADW Johnson Pty Limited in January 2013, including the response to submissions (dated 31 May 2013) and the preferred project report (dated 30 July 2013) and the commitments made in these reports;
- Environment Protection Licence (EPL) 20611 – Karuah East Quarry; and
- key environmental management plans for the quarry.

Condition 9 (b) of PA 09_0175 states that the audit must include consultation with the relevant agencies, which we believe are:

- DPE;
- NSW Environment Protection Authority (EPA);
- NSW Roads and Maritime Services (RMS);
- NSW Department of Primary Industries (DPI) – Water (DPI Water);
- NSW Office of Environment and Heritage (OEH);
- DPE - Division of Resources and Energy (DRE); and
- MidCoast Council.

We seek your comment on the involvement that your agency has had with the quarry since June 2014, the compliance of the quarry with conditions relevant to your agency and any general comments you have on the quarry's general environmental performance.

We would appreciate any written comments by Friday 28 April 2017. I am also available to discuss any matters that you believe are relevant to this audit. My contact details are provided below.

Should you have any questions, please do not hesitate to contact me.

Yours sincerely

Dr Philip Towler
Associate Director
ptowler@emmconsulting.com.au
T: 02 9493 9500
D: 02 9493 9518
M: 0409 702 050

Appendix C

Audit results

<table>
<tr><th>Schedule</th><th>Condition</th><th>Condition Number</th><th>Condition Description</th><th>Evidence Verified</th><th>Compliance</th><th>Comments/Recommendations</th></tr>
<tr><td>2</td><td>Obligation to the environment</td><td>1</td><td>In addition to meeting the specific performance criteria established under this approval, the Proponent shall implement all reasonable and feasible measures to prevent and/or minimise any material harm to the environment that may result from the construction, operation, or rehabilitation of the project.</td><td>-</td><td>Note</td><td>-</td></tr>
<tr><td>2</td><td>Terms of Approval</td><td>2</td><td>The Proponent shall carry out the project generally in accordance with the:
(a) EA;
(b) statement of commitments; and
(c) conditions of this approval.

Notes:
• The general layout of the project is shown in Appendix 1.
• The statement of commitments is reproduced in Appendix 6.</td><td>Sighted a copy of the 'Environmental Assessment Report - Proposed Karuah East Hard Rock Quarry' prepared by ADW Johnson Pty Limited (dated 31 January 2013).
Site inspection
Google Earth images</td><td>Compliant</td><td>On the date of the site inspection, the quarry layout was generally in accordance with the project layout in Project Approval Appendix 1 and as described in the EA.

Dam 1, in the east of the infrastructure area, has been constructed about 100 m further south than shown in the Project Layout. However, it remains within the proposed disturbance footprint of the infrastructure area and has been relocated to provide improved performance. It is therefore considered to be "generally in accordance with the EA".</td></tr>
<tr><td>2</td><td>Terms of Approval</td><td>3</td><td>If there is any inconsistency between the above documents, the most recent document shall prevail to the extent of the inconsistency. However, the conditions of this approval shall prevail to the extent of any inconsistency.</td><td>-</td><td>Note</td><td>-</td></tr>
<tr><td>2</td><td>Terms of Approval</td><td>4</td><td>The Proponent shall comply with any reasonable requirement/s of the Secretary arising from the Department’s assessment of:
(a) any reports, strategies, plans, programs, reviews, audits or correspondence that are submitted in accordance with this approval; and
(b) the implementation of any actions or measures contained in these documents.</td><td>-</td><td>Not triggered</td><td>-</td></tr>
<tr><td>2</td><td>Limits on Approval - Quarrying Operations</td><td>5</td><td>The Proponent may carry out quarrying operations on the site until 31 December 2034.

Note: Under this approval, the Proponent is required to rehabilitate the site and carry out additional undertakings to the satisfaction of the Secretary. Consequently, this approval will continue to apply in all other respects other than the right to conduct quarrying operations until the rehabilitation of the site and those undertakings have been carried out to a satisfactory standard.</td><td>-</td><td>Not triggered</td><td>-</td></tr>
<tr><td>2</td><td>Limits on Approval - Production Limit</td><td>6</td><td>The Proponent shall not extract, process and transport more than 1.5 million tonnes of quarry products from the site in any calendar year.</td><td>Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.</td><td>Not triggered</td><td>No quarrying operations were undertaken during the audit period although small amounts of material was extracted and crushed as part of construction activities. Operations will likely commence in mid to late 2017, but will be dependent on the completion of construction activities.</td></tr>
<tr><td>2</td><td>Limits on Approval - Hours of Operation</td><td>7</td><td>The Proponent shall comply with the operating hours in Table 1.

Table 1: Operating hours
<table><tr><th>Activity</th><th>Operating Hours</th></tr><tr><td>Quarrying Operations</td><td>7.00 am to 6.00 pm, Monday to Friday; and
7.00 am to 1.00 pm, Saturdays.
No quarrying operations on Sundays or Public Holidays.</td></tr><tr><td>Construction activities</td><td>7.00 am to 6.00 pm, Monday to Friday; and
8.00 am to 1.00 pm, Saturdays,
unless noise from these activities does not exceed 35dB(A)LAeq(15 min) at any privately-owned residence.</td></tr><tr><td>Maintenance activities</td><td>24 hours a day, 7 days per week, providing maintenance activities are inaudible at any privately-owned residence</td></tr></table>Note: This condition does not apply in the event of a direction from police or other relevant authority for safety or emergency reasons regarding works which may need to be undertaken to avoid loss of life, property loss and/or to prevent environmental harm.</td><td>Sighted a copy of the 'Karuah East Quarry Community Complaints Register 2016' and 'Karuah East Quarry Community Complaints Register 2017'.</td><td>Quarrying Operations - Not triggered

Construction - Not verified</td><td>No complaints have been received regarding the operating hours for construction activities at the site within the audit period.

There is no reason to believe that there have been construction activities outside of these hours.</td></tr>
</table>

Schedule	Condition	Condition Number	Condition Description	Evidence Verified	Compliance	Comments/Recommendations
2	Limits on Approval - Structural Adequacy	8	The Proponent 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 Part 4A of the EP&A Act, the Proponent is required to obtain construction and occupation certificates for proposed building works.* *• Part 8 of the EP&A Regulation sets out the requirements for the certification of the project.*	The site office is a previously erected, unoccupied dwelling within the site boundary. A copy of the construction certificate was requested during the site inspection. Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.	Not triggered	No new buildings or structures have been constructed on site within the audit period. The ground is still being cut and filled to allow for the construction of plant and site buildings.
2	Limits on Approval - Demolition	9	The Proponent shall ensure that all demolition work on site is carried out in accordance with AS 2601-2001: The Demolition of Structures, or its latest version.	During the site inspection, it was noted that minor demolition works have been conducted, namely limited to the removal of some temporary structures.	Compliant	No significant demolition work was required on site within the audit period.
2	Limits on Approval - Protection of Public Infrastructure	10	The Proponent shall: (a) repair, or pay the full costs associated with repairing, any public infrastructure that is damaged by the project; and (b) relocate, or pay the full costs associated with relocating, any public infrastructure that needs to be relocated as a result of the project.	During the site inspection and interview with T. Grugeon, it was noted that: i) Essential Energy's power lines were disconnected; and ii) Telstra's telephone line has been partially relocated.	Not verified	During correspondence on 23 June 2017, T. Grugeon noted that he has been unable to locate written evidence that the works associated with changes to public infrastructure as a result of the project's construction were approved. However, T. Grugeon indicated that these works were approved by the relevant utility providers.
2	Limits on Approval - Developer Contributions	11	The Proponent shall pay Council, in accordance with Council's Great Lakes Wide Development Contributions Plan (November 2007) – Amended: (a) a one-off Headquarters Building contribution of $1.00 per $1,000.00 of capital value of the project; and (b) annual road maintenance contributions of $.037 per tonne per km, for every tonne of quarry products transported from the site on local roads in accordance with Council's Great Lakes Wide Development Contributions Plan (November 2007) – Amended. Each payment must be: (i) paid to Council at the end of each calendar year; (ii) based on weighbridge records of the quantity of quarry products transported from the site; and (iii) increased annually over the life of the project in accordance with the CPI. *Note: If the parties are not able to agree on any aspect of the road maintenance contributions, either party may refer the matter to the Secretary for resolution.*	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.	a) Not triggered b) Not triggered	a) The timing of the payment is not specified. The Quarry indicated that it will be paid on the completion of construction activities, which is anticipated to be in December 2017. b) No quarrying operations were undertaken during the audit period. Operations will likely commence in mid to late 2017, but will be dependent on the completion of construction activities.
2	Limits on Approval - Operation of Plant and Equipment	12	The Proponent shall ensure that all plant and equipment used at the site is: (a) maintained in a proper and efficient condition; and (b) operated in a proper and efficient manner.	The service maintenance records were viewed during the site inspection. The individual records for randomly selected equipment (a front-end loader and an excavator) were requested. The records for were sighted and the procedures for plant and equipment maintenance were discussed.	Compliant	-

Schedule	Condition	Condition Number	Condition Description	Evidence Verified	Compliance	Comments/Recommendations
2	Limits on Approval - Staged Submission of any Strategy, Plan or Program	13	With the approval of the Secretary, the Proponent may submit any strategy, plan or program required by this approval on a progressive basis. *Notes:* *• While any strategy, plan or program may be submitted on a progressive basis, the Proponent will need to ensure that the existing operations on site are covered by suitable strategies, plans or programs at all times; and* *• If the submission of any strategy, plan or program is to be staged, then the relevant strategy, plan or program must clearly describe the specific stage to which the strategy, plan or program applies, the relationship of this stage to any future stages, and the trigger for updating the strategy, plan or program.*	-	Note	-
2	Limits on Approval - Production Data	14	The Proponent shall: (a) provide annual quarry production data to DRE using the standard form for that purpose; and (b) report this data in the Annual Review (see condition 4 of Schedule 5).	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.	Not triggered	No quarrying operations were undertaken during the audit period. Operations will likely commence in mid to late 2017, but will be dependent on the completion of construction activities.
3	Identification of Approved Limits of Extraction	1	The Proponent shall, prior to carrying out quarrying operations on the site: (a) engage a registered surveyor to mark out the boundaries of the approved limits of extraction within the Extraction Area; and (b) submit a survey plan of the extraction boundaries, to the satisfaction of the Secretary.	(a) Confirmed during site interview with T. Grugeon. (b) Sighted a copy of the 'Boundary and Levels Survey: Karuah East Quarry' (dated 29 February 2016). Sighted a copy of correspondence between H. Reed (DPE) and T. Grugeon (Hunter Quarries Pty Ltd), titled, 'Karuah East Quarry (09-0175), Survey Plan of Extraction Area', which confirmed the Secretary has approved the survey plan.	(a) Compliant (b) Compliant	
3	Identification of Approved Limits of Extraction	2	The Proponent shall ensure that the extraction boundaries are clearly marked at all times while quarrying operations are being carried out, in a manner that allows the limits of extraction to be clearly identified.	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.	Not triggered	No quarrying operations were undertaken during the audit period. Operations will likely commence in mid to late 2017, but will be dependent on the completion of construction activities. During the site inspection, a number of pegs were observed indicating the proposed location of the extraction boundary. However, signage is yet to be installed.

<table>
<tr><th>Schedule</th><th>Condition</th><th>Condition Number</th><th>Condition Description</th><th>Evidence Verified</th><th>Compliance</th><th>Comments/Recommendations</th></tr>
<tr><td>3</td><td>Noise - Operational Noise Criteria</td><td>3</td><td>The Proponent shall ensure that the operational noise generated by the project does not exceed the criteria in Table 2.

Table 2 Operational noise criteria (dB(A) LAeq(15 min))

<table><tr><th>Location</th><th>Criteria (day)</th></tr><tr><td>Residence on Lot 11 DP 1024564</td><td>43</td></tr><tr><td>A</td><td>40</td></tr><tr><td>B</td><td>37</td></tr><tr><td>G</td><td>38</td></tr><tr><td>All other residences</td><td>35</td></tr></table>
Notes:
• Receiver locations are shown in Appendix 2.
• Noise generated by the project is to be measured in accordance with the relevant requirements, and exemptions (including certain meteorological conditions), of the NSW Industrial Noise Policy.
• Appendix 4 sets out the meteorological conditions under which these criteria apply, and the requirements for evaluating compliance with these criteria.

However, the noise criteria in Table 2 do not apply if the Proponent has an agreement with the relevant landowner to generate higher noise levels, and the Proponent has advised the Department in writing of the terms of the agreement.</td><td>Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.</td><td>Not triggered</td><td>This criteria applies to operational noise only. The operational criteria was not applicable during the audit period as the site was in the construction phase.</td></tr>
<tr><td>3</td><td>Noise - Road Traffic Noise Criteria</td><td>4</td><td>The Proponent shall take all reasonable and feasible measures to ensure that the traffic noise generated by the project does not cause additional exceedances of the criteria in Table 3 at any residence on privately-owned land.

Table 3: Road traffic noise criteria (dB(A) LAeq(period))

<table><tr><th>Road</th><th>Criteria (day)</th></tr><tr><td>Pacific Highway</td><td>60</td></tr><tr><td>Local roads</td><td>55</td></tr></table></td><td>Sighted a copy of the 'Karuah East Quarry Community Complaints Register 2016' and 'Karuah East Quarry Community Complaints Register 2017'.

Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.

Sighted a copy of SLR Consulting, 'Construction Noise Compliance Monitoring - Karuah East Project - September 2016' (dated 20 March 2017).

Sighted a copy of the Karuah East Quarry, 'Monthly Environmental Monitoring Report - February 2017'.

Sighted a copy of the Karuah East Quarry, 'Monthly Environmental Monitoring Report - January 2017'.</td><td>Compliant</td><td>No complaints have been received regarding the traffic noise generated by the quarry during the audit period.

There is no reason to believe that traffic noise generated by the quarry has caused additional exceedances of the criteria in Table 3 at any residence on privately-owned land.</td></tr>
</table>

<table>
<tr><th>Schedule</th><th>Condition</th><th>Condition Number</th><th>Condition Description</th><th>Evidence Verified</th><th>Compliance</th><th>Comments/Recommendations</th></tr>
<tr><td>3</td><td>Noise - Road Cumulative Noise Criteria</td><td>5</td><td>The Proponent shall implement all reasonable and feasible measures to ensure that the noise generated by the project combined with the noise generated by adjacent quarrying operations does not cause any exceedances of the criteria in Table 4.

Table 4: Cumulative noise criteria (dB(A) LAeq(period))

<table><tr><th>Location</th><th>Criteria (day)</th></tr><tr><td>F</td><td>50</td></tr><tr><td>G</td><td>50</td></tr><tr><td>All other privately-owned residences, except the residence on Lot 11</td><td>55</td></tr></table>
Notes:
• Receiver locations are shown in Appendix 2.
• The structure used as a residence on Lot 11 is excluded from Table 4 because the other major contributor to cumulative noise totals is quarrying operations conducted on this Lot, under agreement with the Lot owner.
• Cumulative noise is to be measured in accordance with the relevant requirements, and exemptions (including certain meteorological conditions) of the NSW Industrial Noise Policy.
• Appendix 4 sets out the meteorological conditions under which these criteria apply, and the requirements for evaluating compliance with these criteria.</td><td>Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.

Sighted a copy of SLR Consulting, 'Construction Noise Compliance Monitoring - Karuah East Project - September 2016' (dated 20 March 2017).

Sighted a copy of the Karuah East Quarry, 'Monthly Environmental Monitoring Report - February 2017'.

Sighted a copy of the Karuah East Quarry, 'Monthly Environmental Monitoring Report - January 2017'.</td><td>Compliant</td><td>Compliance with the relevant consent conditions was achieved at all noise monitoring locations for construction noise assessments conducted in May and September 2016. As noted within the Annual Review, during these construction noise assessments, construction activities were found to be inaudible and therefore noise contributions from the quarry were found to be within the relevant consent conditions criteria at all monitoring locations.

Operator attended noise monitoring conducted in February 2017 estimated that noise contribution from the quarry was not audible above background noise at Location F. Contributed noise relating to the quarry's construction activities were estimated to be 36 dBA LAeq (15-minute) at Location G, which is below the EPL criteria for this location.</td></tr>
<tr><td>3</td><td>Noise - Operating Conditions</td><td>6</td><td>The Proponent shall:
(a) implement best management practice, to minimise the construction, operational and traffic noise of the project;
(b) minimise the noise impacts of the project during meteorological conditions when the noise limits in this approval do not apply; and
(c) regularly assess noise monitoring data and relocate, modify, and/or stop operations on site to ensure compliance with the relevant conditions of this approval;
(d) apply and enforce a speed limit of 40 km/hour for all project-related vehicles on site;
(e) ensure that project-related trucks slowing to use the intersection of Branch Lane and Andesite Road do not use engine or compression braking systems,
to the satisfaction of the Secretary.</td><td>Sighted a copy of the 'Noise Management Plan' prepared by SLR Consulting (dated 27 October 2015).

Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.

Sighted a copy of SLR Consulting, 'Construction Noise Compliance Monitoring - Karuah East Project - September 2016' (dated 20 March 2017).</td><td>Compliant</td><td>The noise management plan describes the noise mitigation and management measures that will be implemented during construction activities. During the site inspection, evidence of compliance with the mitigation and management measures described in the noise management plan was observed.</td></tr>
</table>

<table>
<tr><th>Schedule</th><th>Condition</th><th>Condition Number</th><th>Condition Description</th><th>Evidence Verified</th><th>Compliance</th><th>Comments/Recommendations</th></tr>
<tr><td>3</td><td>Noise - Noise Management Plan</td><td>7</td><td>The Proponent shall prepare and implement a Noise Management Plan for the project to the satisfaction of the Secretary. This plan must:
(a) be prepared by a suitably qualified expert whose appointment has been approved by the Secretary;
(b) be prepared in consultation with EPA, and submitted to the Secretary for approval prior to the commencement of construction activities;
(c) describe the measures that would be implemented to ensure compliance with the noise criteria and operating conditions in this approval;
(d) describe the proposed noise management system in detail; and
(e) include a monitoring program that:
• uses attended and unattended monitoring to evaluate the compliance of the project against the noise criteria in this approval;
• evaluates and reports on:
- the effectiveness of the on-site noise management system; and
- compliance against the noise operating conditions; and
• defines what constitutes a noise incident, and includes a protocol for identifying and notifying the Department and relevant stakeholders of any noise incidents.</td><td>Sighted a copy of a letter from DPE (dated 14 December 2015) noting approval of the Noise Management Plan prepared by SLR Consulting (dated 27 October 2015).

Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.

Sighted a copy of SLR Consulting, 'Construction Noise Compliance Monitoring - Karuah East Quarry Project - September 2016' (dated 20 March 2017).</td><td>Compliant</td><td></td></tr>
<tr><td>3</td><td>Blasting - Blasting Criteria</td><td>8</td><td>The Proponent shall ensure that blasting on the site does not cause exceedances of the criteria in Table 5.

Table 5: Blasting criteria
<table><tr><th>Location</th><th>Airblast overpressure (dB (Lin Peak))</th><th>Ground Vibrations (mm/s)</th><th>Allowable exceedance</th></tr><tr><td rowspan="2">Any residence on privately-owned land, or any public infrastructure</td><td>120</td><td>10</td><td>0%</td></tr><tr><td>115</td><td>5</td><td>5% of the total number of blast over a period of 12 months</td></tr></table>However, these criteria do not apply if the Proponent has a written agreement with the relevant landowner or infrastructure provider/owner, and the Proponent has advised the Department in writing of the terms of this agreement.</td><td>Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.

Sighted a copy of the Karuah East Quarry, 'Monthly Environmental Monitoring Report - February 2017'.

Sighted a copy of the Karuah East Quarry, 'Monthly Environmental Monitoring Report - January 2017'.

Sighted a copy of the 'Karuah East Quarry Community Complaints Register 2016' and 'Karuah East Quarry Community Complaints Register 2017'.

Sighted a copy of the blast reports for the six blasts completed within the audit period.</td><td>Compliant</td><td>Blasting activities within the audit period did not cause exceedances of the relevant blasting criteria.

No complaints have been received regarding the blasting activities at the site.</td></tr>
</table>

Schedule	Condition	Condition Number	Condition Description	Evidence Verified	Compliance	Comments/Recommendations
3	Blasting - Blasting Hours	9	The Proponent shall ensure that blasting on site is only carried out during the hours in Table 6. *Table 6: Blasting hours* **Day** / **Blasting hours** Monday – Friday: 9.00 am to 4.00 pm Saturdays, Sundays and Public Holidays: No blasting	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'. Sighted a copy of the Karuah East Quarry, 'Monthly Environmental Monitoring Report - February 2017'. Sighted a copy of the Karuah East Quarry, 'Monthly Environmental Monitoring Report - January 2017'. Sighted a copy of the 'Karuah East Quarry Community Complaints Register 2016' and 'Karuah East Quarry Community Complaints Register 2017'. Sighted blast reports for the six blasts completed within the audit period.	Compliant	Blasting activities within the audit period were carried out during the blasting hours specified in Table 6. No complaints have been received regarding the blasting activities at the site.
3	Blasting - Blasting Frequency	10	The Proponent shall not carry out more than 2 blasts a week on the site, unless an additional blast is required following a blast misfire. *Note: A blast may involve a number of explosions within a short period, typically less than two minutes.*	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'. Sighted a copy of the Karuah East Quarry, 'Monthly Environmental Monitoring Report - February 2017'. Sighted blast reports for the six blasts completed within the audit period.	Compliant	No more than 2 blasts a week occurred on site during the audit period. It was noted within the Annual Review that there will be a large increase in blasting activities during 2017 as construction is finalised and quarry operations commence.

Schedule	Condition	Condition Number	Condition Description	Evidence Verified	Compliance	Comments/Recommendations
3	Blasting - Operating Conditions	11	The Proponent shall: (a) implement best blast management practice to: • protect the safety of people and livestock in the surrounding area; • protect public or private infrastructure/property in the surrounding area from any damage; and • minimise the dust and fume emissions of any blast; (b) schedule blasts to avoid the blasting schedule of any nearby quarrying operation; (c) operate a suitable system to enable the public to get up-to-date information on the proposed blasting schedule on the site, and (d) not undertake blasting within 500 metres of: (i) any public road without the approval of the relevant road authority; or (ii) any land outside the site not owned by the Proponent, unless: • the Proponent has a written agreement with the relevant landowner to allow blasting to be carried out closer to the land, and the Proponent has advised the Department in writing of the terms of this agreement, or • the Proponent has: – demonstrated to the satisfaction of the Secretary that the blasting can be carried out closer to the land without compromising the safety of the people or livestock on the land, or damaging the buildings and/or structures on the land; and – updated the Blast Management Plan to include the specific measures that would be implemented while blasting is being carried out within 500 metres of the land, to the satisfaction of the Secretary.	Sighted a copy of SLR Consulting, 'Blast Management Plan - Karuah East Quarry Project - October 2015' (dated 29 October 2015). Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'. Sighted a copy of the 'Karuah East Quarry Community Complaints Register 2016' and 'Karuah East Quarry Community Complaints Register 2017'. Sighted blast reports for the six blasts completed within the audit period.	Not verified	The blast management plan describes the mitigation and management measures that will be implemented during blasting activities. There is no reason to believe that these measures are not being implemented on site. No complaints have been received regarding the blasting activities at the site within the audit period.
3	Blasting - Blast Management Plan	12	The Proponent shall prepare and implement a Blast Management Plan for the project to the satisfaction of the Secretary. This plan must: (a) be prepared by a suitably qualified expert whose appointment has been approved by the Secretary; (b) be prepared in consultation with Council and EPA, and submitted to the Secretary for approval prior to the commencement of construction activities; (c) describe the measures that would be implemented to ensure: • best management practice is being employed; and • compliance with the relevant conditions of this approval; (d) include a road closure protocol if blasting occurs within 500 metres of a public road; (e) include a specific blast fume management protocol, to demonstrate how emissions will be minimised including risk management strategies if blast fumes are generated; and (f) include a monitoring program for evaluating the performance of the project including: • compliance with the applicable criteria; and • minimising fume emissions from the site.	Sighted a copy of a letter from DPE (dated 14 December 2015) noting approval of the Blast Management Plan prepared by SLR Consulting (dated 27 October 2015). Sighted a copy of SLR Consulting, 'Blast Management Plan - Karuah East Quarry Project - October 2015' (dated 29 October 2015). Sighted blast reports for the six blasts completed within the audit period.	Compliant	

<table>
<tr><th>Schedule</th><th>Condition</th><th>Condition Number</th><th>Condition Description</th><th>Evidence Verified</th><th>Compliance</th><th>Comments/Recommendations</th></tr>
<tr><td>3</td><td>Air Quality - Air Quality Criteria</td><td>13</td><td>The Proponent shall ensure that all reasonable and feasible avoidance and mitigation measures are employed so that particulate matter emissions generated by the project do not exceed the criteria in Tables 7 to 9 at any residence on privately-owned land.

Table 7: Long-term impact assessment criteria for particulate matter
<table><tr><th>Pollutant</th><th>Averaging period</th><th>[d] Criterion</th></tr><tr><td>Total suspended particulates (TSP)</td><td>Annual</td><td>[a] 90 µg/m^3</td></tr><tr><td>Particulate matter < 10 µm (PM_{10})</td><td>Annual</td><td>[a] 30 µg/m^3</td></tr></table>Table 8: Short-term impact assessment criteria for particulate matter
<table><tr><th>Pollutant</th><th>Averaging period</th><th>[d] Criterion</th></tr><tr><td>Particulate matter < 10 µm (PM_{10})</td><td>24 hour</td><td>[a] 50 µg/m^3</td></tr></table>Table 9: Long-term Impact Assessment Criteria for Deposited Dust
<table><tr><th>Pollutant</th><th>Averaging period</th><th>Maximum increase in deposited dust level</th><th>Maximum total deposited dust level</th></tr><tr><td>[c] Deposited dust</td><td>Annual</td><td>[b] 2 g/m^2/month</td><td>[a] 4 g/m^2/month</td></tr></table>• a) Total impact (ie incremental increase in concentrations due to the project plus background concentrations due to all other sources);
• b) Incremental impact (ie incremental increase in concentrations due to the project on its own);
• c) Deposited dust is to be assessed as insoluble solids as defined by Standards Australia, AS/NZS 3580.10.1:2003: Methods for Sampling and Analysis of Ambient Air - Determination of Particulate Matter - Deposited Matter - Gravimetric Method.
• d) Excludes extraordinary events such as bushfires, prescribed burning, dust storms, sea fog, fire incidents, illegal activities or any other activity agreed by the Secretary in consultation with EPA.</td><td>Sighted a copy of SLR Consulting, 'Air Quality and Greenhouse Gas Management Plan - Karuah East Quarry Project' (dated 27 November 2015).

Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.

Sighted a copy of the Karuah East Quarry, 'Monthly Environmental Monitoring Report - January 2017'.

Sighted a copy of the Karuah East Quarry, 'Monthly Environmental Monitoring Report - February 2017'.</td><td>Not verified</td><td>The Air Quality and Greenhouse Gas Management Plan describes the mitigation and management measures that will be implemented to minimise particulate matter emissions from the site. There is no reason to believe that these measures are not being implemented on site.

Further all monitoring results for the audit period confirmed that air quality and dust levels are compliant with the relevant criteria for deposited dust, particulate matter and total suspended particulates, respectively.</td></tr>
<tr><td>3</td><td>Air Quality - Greenhouse Gas Emissions</td><td>14</td><td>The Proponent shall implement all reasonable and feasible measures to minimise the release of greenhouse gas emissions from the site.</td><td>Sighted a copy of SLR Consulting, 'Air Quality and Greenhouse Gas Management Plan - Karuah East Quarry Project' (dated 27 November 2015).</td><td>Not verified</td><td>During the site inspection, it was confirmed that the measures implemented on site are generally in accordance with the Air Quality and Greenhouse Gas Management Plan, although there is no documentary evidence.</td></tr>
<tr><td>3</td><td>Air Quality - Operating Conditions</td><td>15</td><td>The Proponent shall:
(a) implement best management practice to minimise dust emissions by the project;
(b) regularly assess air quality monitoring data and relocate, modify, and/or stop operations on site as may be required to ensure compliance with the air quality criteria in this approval;
(c) minimise the air quality impacts of the project during adverse meteorological conditions and extraordinary events (see note d under Tables 7-9); and
(d) minimise surface disturbance of the site, other than as permitted under this approval.</td><td>Sighted a copy of a letter from DPE (dated 14 December 2015) noting approval of the Air Quality and Greenhouse Gas Management Plan prepared by SLR Consulting (dated 27 November 2015).

Sighted a copy of SLR Consulting, 'Air Quality and Greenhouse Gas Management Plan - Karuah East Quarry Project' (dated 27 November 2015).

Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.</td><td>Compliant</td><td>No exceedances are identified in the air quality monitoring.

During the site inspection, a water truck operated by Daracon was observed on site. This truck is used as a dust mitigation measure on the haul road within the powerline easement.</td></tr>
</table>

Schedule	Condition	Condition Number	Condition Description	Evidence Verified	Compliance	Comments/Recommendations
3	Air Quality - Air Quality Management Plan	16	The Proponent shall prepare and implement an Air Quality Management Plan for the project to the satisfaction of the Secretary. This plan must: (a) be prepared by a suitably qualified expert whose appointment has been approved by the Secretary; (b) be prepared in consultation with Council and EPA, and submitted for approval to the Secretary prior to the commencement of construction activities; (c) describe the measures that would be implemented to ensure: • compliance with the relevant air quality conditions of this approval; • best management practice is employed; and • the air quality impacts of the project are minimised during adverse meteorological conditions and extraordinary events; (d) describe the proposed air quality management system; and (e) include a monitoring program that: • is capable of evaluating the performance of the project; • includes a protocol for determining any exceedances of the relevant conditions of approval; • effectively supports the air quality management system; and • evaluates and reports on the adequacy of the air quality management system.	Sighted a copy of a letter from DPE (dated 14 December 2015) noting approval of the Air Quality and Greenhouse Gas Management Plan prepared by SLR Consulting (dated 27 November 2015). Sighted a copy of SLR Consulting, 'Air Quality and Greenhouse Gas Management Plan - Karuah East Quarry Project' (dated 27 November 2015).	Compliant	-
3	Meteorological Monitoring	17	For the life of the project, the Proponent shall ensure that there is a suitable meteorological station operating in the vicinity of the site that complies with the requirements in the Approved Methods for Sampling of Air Pollutants in New South Wales guideline.	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'. Sighted a copy of correspondence between Peter Jamieson (EPA) and T. Grugeon (Karuah East Quarry Pty Ltd) noting appropriate location of the weather station (dated 4 May 2016).	Compliant	As noted within the Annual Review, a new meteorological station was installed to replace the long term monitoring station at the adjacent Karuah Quarry in August 2016. The location of the meteorological station was approved by the EPA.
3	Soil & Water	-	The Proponent is required to obtain the necessary water licences for the project under the Water Act 1912 and/or the Water Management Act 2000.	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.	Not triggered	As noted within the Annual Review, there is no water take at the quarry, with the site having no groundwater extraction licences.
3	Soil & Water - Water Supply	18	The Proponent shall ensure it has sufficient water during all stages of the project, and if necessary, adjust the scale of quarrying operations on site to match its available supply.	During the site inspection it was evident that there is sufficient water available to support the construction stage of the project (Photograph 4.1 and Photograph 4.2).	Compliant	-

Schedule	Condition	Condition Number	Condition Description	Evidence Verified	Compliance	Comments/Recommendations
3	Soil & Water - Surface Water Discharges	19	The Proponent shall comply with the discharge limits in any EPL, or with Section 120 of the POEO Act	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'. Sighted a copy of the Karuah East Quarry, 'Monthly Environmental Monitoring Report - January 2017'. Sighted a copy of the Karuah East Quarry, 'Monthly Environmental Monitoring Report - February 2017'.	Non-compliant	The Water Management Plan (Section 6.1.5-6.1.7) describes the use of captured water for dust control on roads and in the processing plant. These requirements have been minimal during the construction phase. This has increased the potential for discharges from sedimentation dams. No exceedances of criteria have been reported in monthly monitoring reports or to agencies. However, in March and April 2017, water overflowed from Dam 3 (a licensed discharge point in the south-east corner of the site). This discharged water would have flowed into a tributary of Bulga Creek, east of the site. The Dam 3 catchment consists of the eastern portion of the south-western products stockpiles area which was cleared but not capped at the time. This overflow is consistent with the minimal free-board on all of the water management system dams at the time of the site inspection (Photographs 4.1 and 4.2). We understand that the first water discharge from Dam 3 was recorded on 6 March 2017 following 157 millimetres (mm) of rainfall over a seven day period. We understand that no prior discharges from Dam 3 had been observed. We understand that this discharge event continued until 10 March 2017. Following this initial discharge event, we understand that 0.5 megalitres (ML) of water was pumped from Dam 3 to Dam 1, to minimise the chance of further discharge from Dam 3. Two doses of flocculent were added to Dam 3. Following further heavy rainfall, Dam 3 filled to capacity and began discharging again on 20 March 2017. We understand that Dam 3 continued to discharge until 3 April 2017. We were informed that water quality was monitored during both discharge events from Dam 3 both at the licensed discharge point (EPA Identification Number 3) and at a surface water monitoring point approximately 300 m downstream of Dam 3 (SW5). **The following measurements were made during the initial discharge period (6–10 March):** <u>Dam1, four measurements:</u> pH: 4.35–5.83 TSS: 1,773–1,995 mg/L Oil and grease: 9–20 mg/L <u>SW5, Bulga Creek 300 m downstream of Dam 3, 2 measurements:</u> pH: 4.88–5.40 TSS: 19–300 mg/L Oil and grease: 5–16 mg/L **The following measurements were made during the second discharge period (20 March–3 April):** <u>Dam1, two measurements:</u> pH: 4.78–6.34 TSS: 1,420–1,665 mg/L Oil and grease: 16–84 mg/L SW5, 2 measurements: pH: 4.67–5.72 TSS: 57–108 mg/L Oil and grease: 5–223 mg/L

Schedule	Condition	Condition Number	Condition Description	Evidence Verified	Compliance	Comments/Recommendations
						SW5, 2 measurements: pH: 4.67–5.72 TSS: 57–108 mg/L Oil and grease: 5–223 mg/L SW2, upstream of Dam 3 2 measurements: pH: 4.76–5.70 TSS: 12–86 mg/L Oil and grease: 5–34 mg/L Major ions, nutrient and metal concentrations were not measured during these discharges. **Compliance** The results of the water quality monitoring for pH, TSS and oil and grease during the discharge events exceeded the concentration limits defined by Condition L2.4 of the quarry's EPL (pH: 6.5–8.5, TSS: 40 mg/L, and oil and grease: 5 mg/L and none visible). The discharges were therefore non-complaint with the EPL. **pH** During these discharges, the pH was in a similar range in Dam 3 and SW2 (upstream) and SW5 (downstream). It is noted that the baseline pH of the area was 5.58–6.20 (Water Management Plan Table 4) while the EPL specifies a discharge range of pH 6.5–8.5. So any discharge is expected to be out of compliance unless it is treated to increase the pH above the natural range. The environmental benefit of such treatment is questionable given that it may result in a perturbation from the natural conditions of the receiving waters. The non-compliance risk for pH has been rated as 'low'. **TSS** The discharges resulted in water with high TSS concentrations, up to about 2 g/L, being discharged to Bulga Creek. This was fairly rapidly diluted, with a maximum TSS concentration of 300 mg/L recorded at SW5 (300 m downstream). A maximum TSS concentration of 86 mg/L was recorded at SW2 (upstream) indicating that TSS concentrations were naturally elevated during the heavy rain but that the downstream water quality in the creek was impacted when the dam was discharging. The catchment area for Dam 3 was cleared during the discharges but has subsequently been capped with aggregate. While no results are available, there is low risk that other contaminants, eg dissolved metals, would have impacted water quality given the nature of activities (vegetation clearing and earthworks) in the catchment. Given the management action and that TSS concentrations were rapidly diluted, the non-compliance risk for TSS is has been rated as 'low'.

Schedule	Condition	Condition Number	Condition Description	Evidence Verified	Compliance	Comments/Recommendations
						Oil and grease There were high oil and grease concentrations in Dam 3 (up to 84 mg/L), SW2 (up to 34 mg/L) and SW5 (up to 223 mg/L) during the discharges. A high concentration has also been recorded at SW4, a tributary of Yalimbah Creek (31 March 2017). Low oil and grease concentrations (<5 mg/L) were measured during baseline measurements. Further investigation of oil and grease concentrations downstream and upstream of the quarry (and potentially in adjacent catchments) is warranted to determine the source of these elevated concentrations. Given the uncertainty regarding oil and grease concentrations, the non-compliance risk for TSS is has been rated as 'medium'. We understand that Karuah East Quarry has commenced investigations, including whether the "oil and grease" measured may be from a natural source. However, it is beyond the scope of this audit to review the preliminary results in detail. It is recommend that monitoring at SW5 is included in the routine monitoring program. **It is recommend that oil and grease concentrations downstream and upstream of the quarry (and potentially in adjacent catchments) are investigated to determine the source of elevated oil and grease concentrations, and whether the quarry is contributing to downstream concentrations.** **It is recommended that any exceedances of water quality criteria during dam water discharges are reported, in accordance with the project approval conditions and the quarry's EPL.**
3	Soil & Water - Effluent Management	20	The Proponent shall: (a) not irrigate, discharge or dispose of sewage or bathroom effluent from the site; and (b) operate and maintain a suitable effluent storage facility, to the satisfaction of Council and EPA.	During the site inspection, there was a portaloo observed on site. During the interview, T. Grugeon confirmed that the existing dwelling that has been converted into the site office has a Council approved septic system. There is also a self-bunded, septic pumpout system currently operating within the Daracon compound. All waste from this system and the onsite portaloo is being pumped out and disposed offsite.	Compliant	

Schedule	Condition	Condition Number	Condition Description	Evidence Verified	Compliance	Comments/Recommendations
3	Soil & Water - Water Management Plan	21	The Proponent shall prepare and implement a Water Management Plan for the project to the satisfaction of the Secretary. This plan must: (a) be prepared in consultation with the EPA and NOW by suitably qualified and experienced person/s whose appointment has been approved by the Secretary; (b) be submitted to the Secretary for approval prior to the commencement of construction activities; (c) include: (i) a Site Water Balance that includes details of: • sources and security of water supply, including contingency planning; • water use on site; and • measures that would be implemented to minimise use of clean water and maximise recycling of dirty water on the site; (ii) a Surface Water Management Plan, that includes: • baseline data on surface water flows and quality in the watercourses that could be affected by the project; • a detailed description of the surface water management system on the site, including the design objectives and performance criteria for the: – clean water diversions; – erosion and sediment controls; – water storages (including Maximum Harvestable Rights requirements); and – control of water pollution from areas of the site that have been rehabilitated; • surface water impact assessment criteria, to be developed following analysis of baseline data, including trigger levels for investigating any potentially adverse surface water quality impacts; • a program to monitor: – any surface water discharges; – the effectiveness of the water management system; – surface water flows and quality in local watercourses; and – ecosystem health of local watercourses; and • an assessment of appropriate options to improve storage and retention times in accordance with Managing Urban Stormwater: Soils and Construction (Landcom); (iii) a Groundwater Monitoring Program that includes: • baseline data of groundwater levels surrounding the site; • groundwater impact assessment criteria, to be developed following analysis of baseline data, including trigger levels for investigating any potentially adverse groundwater impacts; and • a program to monitor and/or validate the impacts of the project on groundwater resources; and (iv) a Surface and Ground Water Response Plan that describes the measures and/or procedures that would be implemented to: • respond to any exceedances of the surface water impact assessment criteria and groundwater impact assessment criteria; and • mitigate and/or offset any adverse impacts on surface water and groundwater resources located within and adjacent to the site.	Sighted a copy of a letter from DPE (dated 14 December 2015) noting approval of the Water Management Plan prepared by SLR Consulting (dated 1 December 2015). Sighted a copy of SLR Consulting, 'Water Management Plan - Karuah East Quarry Project' (dated 1 December 2015).	Administrative non-compliance	Section 8.2.2 of the WMP states that groundwater levels will be monitored on a quarterly basis. The monthly monitoring reports indicates that only two water level monitoring events have taken place (on 30 March 2016 and 3 October 2016), ie at a 6-monthly frequency rather than quarterly. **It is recommended that groundwater levels are monitored quarterly or that the monitoring frequency is modified in the WMP.**
3	Transport - Roadworks	22	The Proponent shall, at its own cost, complete the following roadworks shown conceptually in Figure 2 of Appendix 1, prior to transporting quarry products from the site: (a) extending Blue Rock Close, with tar seal and appropriate pavement, road markings and advance warning signage, to the satisfaction of Council and RMS; (b) realigning and upgrading the Blue Rock Close/Andersite Road intersection with appropriate road markings, pavement thickening and advance warning signage, to the satisfaction of Council; (c) upgrading the Branch Lane/Andersite Road intersection with appropriate road markings and advance warning signage, to the satisfaction of Council; (d) constructing the site access road on Lots 12 and 13 DP 1024564 with appropriate pavement and advance warning signage, to the satisfaction of Council; and (e) installing a wheel-wash facility on the site.	-	Not triggered	No quarrying operations were undertaken during the audit period. Operations will likely commence in mid to late 2017, but will be dependent on the completion of construction activities.
3	Transport - Monitoring of Product Transport	23	The Proponent shall: (a) keep accurate records of: • the amount of quarry products transported from the site (per calendar month and year); and • the number of laden truck movements from the site (per hour, day, week, calendar month and year); and (b) publish these records on its website quarterly.	-	Not triggered	No quarrying operations were undertaken during the audit period. Operations will likely commence in mid to late 2017, but will be dependent on the completion of construction activities.
3	Transport - Parking	24	The Proponent shall provide sufficient parking on-site for all project-related traffic, in accordance with Council's parking codes, to the satisfaction of the Secretary.	-	Not triggered	Parking areas have not yet been constructed. Vehicles associated with construction were parked in an orderly manner.

<table>
<tr><th>Schedule</th><th>Condition</th><th>Condition Number</th><th>Condition Description</th><th>Evidence Verified</th><th>Compliance</th><th>Comments/Recommendations</th></tr>
<tr><td>3</td><td>Transport - Operating Conditions</td><td>25</td><td>The Proponent shall ensure that all project-related heavy vehicles:
(a) enter and exit the site in a forward direction; and
(b) exit the site with loads covered.</td><td>-</td><td>Not triggered</td><td>No quarrying operations were undertaken during the audit period. Operations will likely commence in mid to late 2017, but will be dependent on the completion of construction activities.</td></tr>
<tr><td>3</td><td>Transport - Transport Management Plan</td><td>26</td><td>The Proponent shall prepare and implement a Transport Management Plan for the project to the satisfaction of the Secretary. This plan must:
(a) be prepared by a suitably qualified traffic consultant whose appointment has been approved by the Secretary;
(b) be prepared in consultation with RMS and Council, and submitted to the Secretary for approval prior to the commencement of construction activities;
(c) include a Driver Code of Conduct;
(d) describe the measures that would be implemented to ensure:
• compliance with the relevant conditions of this approval;
• that drivers of project-related heavy vehicles are aware of potential safety issues along the haulage routes; and
• that drivers of project-related heavy vehicles comply with the Driver Code of Conduct; and
(e) include a program to monitor the effectiveness of these measures.</td><td>Sighted a copy of a letter from DPE (dated 14 December 2015) noting approval of the Traffic Management Plan prepared by StreetWise Road Safety and Traffic Services (dated 4 December 2015).

Sighted a copy of StreetWise Road Safety and Traffic Services, 'Transport Management Plan and Driver's Code of Conduct' (dated 4 December 2015).</td><td>Compliant</td><td>-</td></tr>
<tr><td>3</td><td>Landscape - Tetratheca Juncea Translocation</td><td>27</td><td>The Proponent shall develop and implement a translocation program for Tetratheca juncea to the satisfaction of the Secretary. This program must:
(a) be prepared in consultation with OEH, by a suitably qualified and experienced ecologist whose appointment has been approved by the Secretary;
(b) be submitted to the Secretary for approval prior to the commencement of construction activities that involve clearing of or potential harm to Tetratheca juncea;
(c) include measures for the translocation of all Tetratheca juncea stems in the area of disturbance to nearby areas with similar physical and biological habitat features;
(d) include a monitoring program to study the Tetratheca juncea stems before and after translocation;
(e) include short and long-term goals and performance criteria to measure the effectiveness of the program; and
(f) provide for the transfer of information obtained as a result of implementing the program to OEH and P&I.</td><td>Sighted a copy of a letter from DPE (dated 14 December 2015) noting approval of the Tetratheca Juncea Translocation Program (dated August 2015).

Sighted a copy of Firebird ecoSultants, 'Tetratheca Juncea Translocation Management Plan for the Karuah East Quarry Site' (dated August 2015).</td><td>Administrative non-compliance</td><td>The translocation plan is compliant with conditions (a) through (d) and (f). However, it is not compliant with (e) as it does not include performance criteria to measure the success of the program. Earlier in the plan, it states that other translocation programs have had a survival rate of approximately 27% of translocated plants.
It is recommended that the plan is updated to include performance criteria to ensure the effectiveness of the program can be reviewed and to identify ways to improve the success of future translocation programs.</td></tr>
<tr><td>3</td><td>Landscape - Biodiversity Offset Strategy</td><td>28</td><td>The Proponent shall, prior to the commencement of vegetation clearing activities, finalise and implement the Biodiversity Offset Strategy, as described in the EA, summarised in Table 10 and shown conceptually in Figure 1 of Appendix 4, in consultation with OEH and Council, and to the satisfaction of the Secretary.

Table 10: Biodiversity Offset Strategy
<table><tr><th>Area</th><th>Offset Type</th><th>Minimum Size (ha)</th></tr><tr><td>Offset Area</td><td>Existing vegetation to be managed and enhanced</td><td>129.32 ha</td></tr></table>
Notes:
The Biodiversity Offset Strategy shall direct that the land proposed as the Biodiversity Offset shall be free of any dwelling-houses and associated sheds, bushfire asset protection zones and other related utilities or structures so as to preserve the integrity and function of that offset area. The Biodiversity Offset Strategy shall also provide details of the revegetation of any parts of the offset area that are cleared of native vegetation or are in an otherwise substantially modified state, other than required management trails and boundary fencing buffer distances.</td><td>Sighted a copy of Kleinfelder, 'Biodiversity Offset Area Management Plan - Karuah East Quarry Project' (dated 9 November 2015).

Sighted a copy of a letter from DPE (dated 14 December 2015) noting approval of the Biodiversity Offset Area Management Plan (dated 9 November 2015).

Sighted a copy of a letter to DPE (dated 1 September 2015) regarding finalisation of the Biodiversity Offset Strategy for the Karuah East Quarry Project (09_0175).</td><td>Compliant</td><td>The letter to DPE notes that the purchase of Lot 5 DP 838128 provides an offset consistent with that assessed in the Biodiversity Offset Strategy and as required in PA 09_0175.

As noted within the Biodiversity Offset Area Management Plan, the biodiversity offset area contains small areas of land that do not contribute to biodiversity conservation, including, existing dwellings, access tracks and a powerline easement. These areas, which total 6.78 ha, have been delineated from the biodiversity offset area as separate management zones and will be excised from the conservation agreement.</td></tr>
</table>

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<tr><td>3</td><td>Landscape - Long Term Security of Offsets</td><td>29</td><td>The Proponent shall, within 12 months of the finalisation of the Biodiversity Offset Strategy, make suitable arrangements to provide appropriate long-term security for the offset area, in consultation with OEH and Council, and to the satisfaction of the Secretary.

Notes:
In order of preference, mechanisms to provide appropriate long term security to the land within the Biodiversity Offset Strategy include transfer to the National Park Estate, Biobanking Agreement, Voluntary Conservation Agreement, or restrictive covenant on land titles.</td><td>During the interview with T. Grugeon, it was noted that arrangements have been made to secure the long-term security of the offset area, however, this has not yet been finalised and is yet to be submitted to OEH.

Karuah East Quarry Pty Ltd secured ownership of Lot 5 in January 2016.

Sighted a copy of the Conservation Partners Program Application Form submitted to OEH.

A copy of the draft conservation agreement for the Karuah East Quarry Biodiversity Offset Area was provided on 30 May 2017. However, as noted by T. Grugeon, this is yet to be finalised and has not been submitted to OEH.</td><td>Administrative non-compliance</td><td>The conservation agreement had not been finalised within the audit period.
It is recommended that the conservation agreement is finalised in consultation with OEH and DPE.</td></tr>
<tr><td>3</td><td>Landscape - Rehabilitation Objectives</td><td>30</td><td>The Proponent shall rehabilitate the site to the satisfaction of the Secretary. This rehabilitation must:
(a) be generally consistent with the rehabilitation strategy as described in the EA and shown conceptually in Figure 1 in Appendix 5; and
(b) comply with the objectives in Table 11.

Table 11: Rehabilitation Objectives

<table><tr><th>Feature</th><th>Objective</th></tr><tr><td>Site (as a whole)</td><td>Safe, stable & non-polluting</td></tr><tr><td>Surface Infrastructure</td><td>To be decommissioned and removed, unless the Secretary agrees otherwise</td></tr><tr><td>Quarry Wall Benches</td><td>Landscaped and revegetated utilising native tree and understorey species, ensuring that the tree canopy is restored and integrated with the surrounding tree canopy</td></tr><tr><td>Quarry Pit Floor</td><td>Landscaped and revegetated with wetland vegetation.</td></tr><tr><td>Other land affected by the project</td><td>Restore ecosystem function, including maintaining or establishing self-sustaining eco-systems comprised of:
• native endemic species; and
• a landform consistent with the surrounding environment.</td></tr><tr><td>Community</td><td>Ensure public safety.
Minimise the adverse socio-economic effects associated with quarry closure.</td></tr></table></td><td>Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.</td><td>Not triggered</td><td>No rehabilitation has occurred within the audit period as construction is still ongoing.

During the site inspection, T. Grugeon noted that quarterly weed management, namely for lantana, is conducted onsite.</td></tr>
<tr><td>3</td><td>Landscape - Progressive Rehabilitation</td><td>31</td><td>31. The Proponent shall:
(a) rehabilitate the site progressively, that is, as soon as reasonably practicable following disturbance;
(b) take all reasonable and feasible measures to minimise the total area of the site exposed at any time; and
(c) implement interim rehabilitation strategies where areas prone to dust generation cannot yet be permanently rehabilitated.</td><td>Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.</td><td>Not triggered</td><td>No rehabilitation has occurred within the audit period as construction is ongoing.</td></tr>
</table>

Schedule	Condition	Condition Number	Condition Description	Evidence Verified	Compliance	Comments/Recommendations
3	Landscape - Landscape and Rehabilitation Management Plan	32	The Proponent shall prepare and implement a Landscape and Rehabilitation Management Plan for the project to the satisfaction of the Secretary. This Plan would relate to the area of the quarry and all perimeter lands. This plan must: a. be prepared by a suitably qualified expert whose appointment has been approved by the Secretary; b. be prepared in consultation with OEH and Council, and submitted to the Secretary for approval prior to the commencement of construction activities; c. describe how the implementation of the Tetratheca juncea Translocation Program would be integrated with the overall rehabilitation of the site; d. describe the short, medium and long-term measures that would be implemented to: • manage remnant vegetation and habitat on the site; and • ensure compliance with the rehabilitation objectives and progressive rehabilitation obligations of this approval. e. include detailed performance and completion criteria for evaluating the performance of the rehabilitation of the site, including triggers for any remedial action; f. include a detailed description of the measures that would be implemented over the next 3 years (to be updated for each 3 year period following initial preparation of the plan), including the procedures to be implemented for: • ensuring compliance with the rehabilitation objectives and progressive rehabilitation obligations of this approval; • enhancing the quality of remnant vegetation and fauna habitat; • restoring native endemic vegetation and fauna habitat within the rehabilitation area, including details of the target revegetation communities of the rehabilitated landform; • coordinating the relocation of native fauna to protected habitats associated with pre-clearing fauna surveys; • maximising the salvage of environmental resources within the approved disturbance area - including tree hollows, vegetative and soil resources - for beneficial reuse in the enhancement of the rehabilitation area; • collecting and propagating seed; • ensuring minimal environmental consequences for threatened species, populations and habitats; • minimising the impacts on native fauna on site, including the details and implementation of appropriate pre-clearance surveys; • minimising the impacts on fauna movement between undisturbed areas of the site and nearby vegetation (including potential fauna crossings); • controlling weeds and feral pests; • controlling erosion; • controlling access and providing for management trails; and g. include a program to monitor the effectiveness of these measures, and progress against the performance and completion criteria; h. identify the potential risks to successful implementation of the Tetratheca juncea Translocation Program and rehabilitation of the site, and include a description of the contingency measures that would be implemented to mitigate these risks; i. include details as to how the rehabilitated land would be permanently conserved and managed as part of the broader Biodiversity Offset Area approved in these conditions; j. include details of who would be responsible for monitoring, reviewing, and implementing the plan; and k. include details as to the timing of actions set-out in the plan	Sighted a copy of a letter from DPE (dated 14 December 2015) noting approval of the Landscape and Rehabilitation Management Plan prepared by SLR Consulting (dated 12 November 2015). Sighted a copy of SLR Consulting, 'Landscape and Rehabilitation Management Plan - Karuah East Quarry Project' (dated 12 November 2015). Sighted a copy of a letter from DPE (dated 14 December 2015) noting approval of the Tetratheca Juncea Translocation Program (dated August 2015). Sighted a copy of Firebird ecoSultants, 'Tetratheca Juncea Translocation Management Plan for the Karuah East Quarry Site' (dated August 2015). Sighted a copy of Kleinfelder, 'Biodiversity Offset Area Management Plan - Karuah East Quarry Project' (dated 9 November 2015). Sighted a copy of a letter from DPE (dated 14 December 2015) noting approval of the Biodiversity Offset Area Management Plan (dated 9 November 2015).	Non-compliant	The vast majority of the measures in the Water Management Plan and Landscape and Rehabilitation Management Plan and have been implemented. Section 9.3 of the Landscape and Rehabilitation Management Plan states that, "A maximum stockpile height of 3 m will be maintained to preserve viability and reduce soil deterioration." The majority of stripped soil has been stockpiled in stockpiles around the edge of the cleared area. These stockpiles are less than 3 m high. However, some soil appears to be stored within the cleared area (refer to Photograph 4.3). The depth of soil in these areas could not be verified. **It is recommended that soil is not stockpiled within the quarrying area or that it is stored within discrete stockpiles as opposed to forming parts of benches. This would allow the soil thickness to be verified to be less than 3 m and to ensure that it is easily recovered for use in rehabilitation.**

Schedule	Condition	Condition Number	Condition Description	Evidence Verified	Compliance	Comments/Recommendations
3	Landscape - Biodiversity Offset Area Management Plan	33	The Proponent shall prepare and implement a Biodiversity Offset Area Management Plan for the project to the satisfaction of the Secretary. This Plan would relate to the area of the Biodiversity Offset Area required in these Conditions. This plan must: a. be prepared by a suitably qualified expert whose appointment has been approved by the Secretary; b. be prepared in consultation with OEH and Council, and submitted to the Secretary within 12-months of the approval of the Biodiversity Offset Strategy required in these conditions; c. describe how the implementation of the Tetratheca juncea Translocation Program would be integrated with the Biodiversity Offset Area management; d. describe the short, medium and long-term measures that would be implemented to manage remnant vegetation and habitat on the Biodiversity Offset Area; e. include detailed performance and completion criteria for evaluating the performance of the conservation, restoration and management of the Biodiversity Offset Area, including triggers for any remedial action; f. providing for the transfer of environmental resources from the approved disturbance area - including tree hollows, vegetative and soil resources - for beneficial reuse in the enhancement of the Biodiversity Offset Area; g. providing for the incorporation of the final rehabilitated landform into the Biodiversity Offset Area and its management; h. include a detailed description of the measures that would be implemented over the next 3 years (to be updated for each 3 year period following initial preparation of the plan), including the procedures to be implemented for: • enhancing the quality of remnant vegetation and fauna habitat; • restoring native endemic vegetation and fauna habitat within the parts of the Biodiversity Offset Area that are cleared or modified, including details of the target revegetation communities of the restored landform; • coordinating the relocation of native fauna to protected habitats associated with pre-clearing fauna surveys; • collecting and propagating seed; • maximising the protection and restoration of threatened species, populations and habitats in the Biodiversity Offset Area; • maximising fauna movement between the Biodiversity Offset Area and adjacent habitats; • controlling weeds and feral pests; • controlling erosion; • controlling access and providing for management trails; and • bushfire management and implementation of ecologically appropriate bushfire intervals. i. include a program to monitor the effectiveness of these measures, and progress against the performance and completion criteria; j. identify the potential risks to successful implementation of the Biodiversity Offset program, and include a description of the contingency measures that would be implemented to mitigate these risks; k. include details of who would be responsible for monitoring, reviewing, and implementing the plan; l. include details of the indicative costs of management actions; and m. include details as to the timing of actions set-out in the plan	Sighted a copy of a letter from DPE (dated 14 December 2015) noting approval of the Biodiversity Offset Area Management Plan prepared by Kleinfelder (dated 9 November 2015). Sighted a letter from DoE (dated 16 March 2016) noting approval of the Biodiversity Offset Area Management Plan prepared by Kleinfelder (dated 9 November 2015). Sighted a copy of Kleinfelder, 'Biodiversity Offset Area Management Plan - Karuah East Quarry Project' (dated 9 November 2015).	Compliant	The plan addresses each of the requirements specified as part of this condition.

Schedule	Condition	Condition Number	Condition Description	Evidence Verified	Compliance	Comments/Recommendations
3	Landscape - Conservation and Rehabilitation Bond	34	The Proponent shall lodge a Conservation and Rehabilitation Bond with P&I within 6 months of the approval of the Landscape and Rehabilitation Management Plan, to ensure that the Biodiversity Offset Strategy and the rehabilitation of the site is implemented in accordance with the performance and completion criteria set out in the Landscape and Rehabilitation Management Plan. The sum of the bond shall be determined by: (a) calculating the cost of implementing the Biodiversity Offset Strategy over the next 3 years; (b) calculating the cost of rehabilitating disturbed areas of the site, taking into account the likely surface disturbance over the next 3 years of quarrying operations; and (c) employing a suitably qualified quantity surveyor or other expert to verify the calculated costs, to the satisfaction of the Secretary. *Notes:* *• If capital and other expenditure required by the Landscape and Rehabilitation Management Plan is largely complete, the Secretary may waive the requirement for the lodgement of a bond in respect of the remaining expenditure.* *• If the Biodiversity Offset Strategy and rehabilitation of the site area are completed to the satisfaction of the Secretary, then the Secretary will release the bond. If the Biodiversity Offset Strategy and rehabilitation of the site are not completed to the satisfaction of the Secretary, then the Secretary will call in all or part of the bond, and arrange for the completion of the relevant works.* *• The component of the bond relating to the implementation of the Biodiversity Offset Strategy may be waived, if a separate arrangement is entered into between the Proponent and OEH which satisfactorily replaces that component, to the satisfaction of the Secretary.*	Sighted a copy of the CBA Bank Guarantee for the performance of obligations under a contract for 'CONSERVATION BOND FOR KARUAH EAST QUARRY IN ACCORDANCE WITH CONDITION 34 OF SCHEDULE 3 OF PROJECT APPROVAL 09_0175' (dated 7 July 2016). Sighted a copy of the CBA Bank Guarantee for the performance of obligations under a contract for 'REHABILITATION BOND FOR KARUAH EAST QUARRY IN ACCORDANCE WITH CONDITION 34 OF SCHEDULE 3 OF PROJECT APPROVAL 09_0175' (dated 7 July 2016).	Administrative non-compliance	The Conservation and Rehabilitation Bond was lodged outside of 6 months of the approval of the Landscape and Rehabilitation Management Plan (14 December 2015).
3	Landscape - Conservation and Rehabilitation Bond	35	Within 3 months of each Independent Environmental Audit (see condition 9 of schedule 5), the Proponent shall review, and if necessary revise, the sum of the Conservation and Rehabilitation Bond to the satisfaction of the Secretary. This review must: (a) consider the performance of the implementation of the Biodiversity Offset Strategy and rehabilitation of the site to date; (b) consider the effects of inflation; and (c) calculate the cost of implementing the Biodiversity Offset Strategy and rehabilitating the disturbed areas of the site (taking into account the likely surface disturbance over the next 3 years of quarrying operations); and	-	Not triggered	This is the first Independent Environmental Audit for the quarry.
3	Heritage - Heritage Management Plan	36	The Proponent shall prepare and implement a Heritage Management Plan for the project to the satisfaction of the Secretary. This plan must: (a) be prepared by a suitably qualified expert whose appointment has been approved by the Secretary; (b) be prepared in consultation with the local Aboriginal community and OEH, and submitted to the Secretary for approval prior to the commencement of construction activities; (c) describe the measures that would be implemented to: • monitor initial surface disturbance on site for Aboriginal cultural heritage sites or objects; • manage the discovery of Aboriginal cultural heritage sites, objects or human remains on site; and • ensure ongoing consultation with Aboriginal stakeholders in the conservation and management of Aboriginal cultural heritage values on site.	Sighted a copy of a letter from DPE (dated 14 December 2015) noting approval of the Heritage Management Plan prepared by RPS (dated 4 December 2015). Sighted a copy of RPS, 'Heritage Management Plan - Karuah East Quarry, Great Lakes Local Government Area' (dated 4 December 2015).	Compliant	There were no issues relating to Aboriginal cultural heritage during the audit period.
3	Visual	37	The Proponent shall: (a) ensure that clearing vegetation from any visually prominent ridgeline is undertaken in a progressive manner, to provide for a maximum of 6 months of future quarrying operations; and (b) mitigate the visual impact of the project through the progressive and early rehabilitation of the upper quarry benches in accordance with the objectives in Table 11, to the satisfaction of the Secretary.	-	Not triggered	No quarrying operations were undertaken during the audit period. Operations will likely commence in mid to late 2017, but will be dependent on the completion of construction activities.
3	Visual - Advertising Signage	38	The Proponent shall not erect or display any advertising structure or sign on the site without the written approval of the Secretary. *Note: This condition does not apply to business identification, traffic management, and/or safety or environmental signs.*	Observations during the site inspection confirmed that no relevant advertising structures or signs are erected or displayed onsite.	Compliant	-

Schedule	Condition	Condition Number	Condition Description	Evidence Verified	Compliance	Comments/Recommendations
3	Emergency and Hazards Management - Dangerous Goods and Hazardous Materials	39	The Proponent shall ensure that the storage, handling, and transport of dangerous goods and hazardous materials is conducted in accordance with the relevant Australian Standards, particularly AS1940 and AS1596, and the Dangerous Goods Code.	Sighted a copy of safe work permits, pre-blast design reports, blast reports, work-health and safety management plans and notification of blast records for blasting events at Karuah East Quarry. Licence numbers were provided on the blast reports for the shotfirer.	Compliant	-
3	Emergency and Hazards Management - Safety	40	The Proponent shall secure the site to ensure public safety at all times, to the satisfaction of the Secretary.	During the site inspection, evidence of perimeter fencing and appropriate safety signage was observed (including a sign at the main site entrance on Lot 12 requesting all visitors to report to the site office). During the interview, T. Grugeon confirmed that the gate at the site entrance is locked at all times outside of the approved construction hours and all personnel are inducted on site.	Compliant	-
3	Emergency and Hazards Management - Bushfire Management	41	The Proponent shall: (a) ensure that the project is suitably equipped to respond to any fires on site; and (b) assist the Rural Fire Service and emergency services as much as possible if there is a fire in the surrounding area.	During the site inspection, fire extinguishers were observed on a number of pieces of operational equipment on site.	a) Compliant b) Not triggered	a) - b) During the interview with T. Grugeon, it was noted that there was a bushfire event close to site in November 2015, however, their assistance was not required.
3	Waste	42	The Proponent shall: (a) minimise the waste generated by the project; and (b) ensure that the waste generated by the project is appropriately stored, handled, and disposed of, to the satisfaction of the Secretary.	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'. During the site inspection, appropriate waste management practices onsite were observed, including an onsite skip bin (supplied by contractor JR Richards and emptied weekly) and a recycling bin within close proximity of the site office. Appropriate waste storage facilities were also observed within the Daracon compound and within close proximity of the tunnel construction area.	Compliant	As noted within the Annual Review, there has been no plant or infrastructure established at the site to date which will generate waste. As construction activities increase and the site becomes operational, there will be additional waste generated from the operations.
4	Notification of Landowners	1	As soon as practicable after obtaining monitoring results showing an: (a) exceedance of any relevant criteria in Schedule 3, the Proponent shall notify affected landowners in writing of the exceedance, and provide regular monitoring results to each affected landowner until the project is again complying with the relevant criteria; and (b) an exceedance of the relevant air quality criteria in Schedule 3, the proponent shall send a copy of the NSW Health fact sheet entitled “Mine Dust and You” (as may be updated from time to time) to the affected landowners and/or existing tenants of the land.	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.	Not triggered	No exceedances of criteria have been reported. However, as noted in regard to Schedule 3, Condition 19, water quality monitoring requirements do not appear to have been met.

Schedule	Condition	Condition Number	Condition Description	Evidence Verified	Compliance	Comments/Recommendations
4	Independent Review	2	If an owner of privately-owned land considers the project to be exceeding the relevant criteria in schedule 3, then the landowner may ask the Secretary in writing for an independent review of the impacts of the project on its land. If the Secretary is satisfied that an independent review is warranted, then within 2 months of the Secretary's decision the Proponent shall: (a) commission a suitably qualified, experienced and independent expert, whose appointment has been approved by the Secretary, to: • consult with the landowner to determine its concerns; • conduct monitoring to determine whether the project is complying with the relevant criteria in Schedule 3; and • if the project is not complying with these criteria, then identify the measures that could be implemented to ensure compliance with the relevant criteria; and (b) give the Secretary and landowner a copy of the independent review.	Sighted a copy of the 'Karuah East Quarry Community Complaints Register 2016' and 'Karuah East Quarry Community Complaints Register 2017'.	Not triggered	No complaints were received during the audit period. Correspondence with DPE confirmed that no landowners had requested an independent review of the impacts of the project on their land within the audit period.
4	Independent Review	3	If the independent review determines that the project is complying with the relevant criteria in Schedule 3, then the Proponent may discontinue the independent review with the approval of the Secretary. If the independent review determines that the project is not complying with the relevant criteria in Schedule 3, then the Proponent shall: (a) implement all reasonable and feasible mitigation measures, in consultation with the landowner and appointed independent expert, and conduct further monitoring until the project complies with the relevant criteria; or (b) secure a written agreement with the landowner to allow exceedances of the relevant criteria, to the satisfaction of the Secretary.	-	Not triggered	No independent reviews have been required.
5	Environmental Management Strategy	1	The Proponent shall prepare and implement an Environmental Management Strategy for the project to the satisfaction of the Secretary. This strategy must: (a) be submitted to the Secretary for approval prior to the commencement of construction activities; (b) provide the strategic framework for environmental management of the project; (c) identify the statutory approvals that apply to the project; (d) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the project; (e) describe the procedures that would be implemented to: • keep the local community and relevant agencies informed about the operation and environmental performance of the project; • receive, handle, respond to, and record complaints; • resolve any disputes that may arise during the course of the project; • respond to any non-compliance; and • respond to emergencies; and (f) include: • copies of any strategies, plans and programs approved under the conditions of this approval; and • a clear plan depicting all the monitoring required to be carried out under the conditions of this approval.	Sighted a copy of a letter from DPE (dated 14 December 2015) noting approval of the Environmental Management Strategy prepared by SLR Consulting (dated 1 December 2015). Sighted a copy of SLR Consulting, 'Environmental Management Strategy - Karuah East Quarry Project - December 2015' (dated 1 December 2015).	Compliant	The strategy addresses each of the requirements specified as part of this condition. The suite of management plans considered during this audit also form part of the EMS.
5	Adaptive Management	2	The Proponent shall assess and manage project-related risks to ensure that there are no exceedances of the criteria and/or performance measures in schedule 3. Any exceedance of these criteria and/or performance measures constitutes a breach of this consent and may be subject to penalty or offence provisions under the EP&A Act or EP&A Regulation. Where any exceedance of these criteria and/or performance measures has occurred, the Proponent shall, at the earliest opportunity: (a) take all reasonable and feasible measures to ensure that the exceedance ceases and does not recur; (b) consider all reasonable and feasible options for remediation (where relevant) and submit a report to the Department describing those options and any preferred remediation measures or other course of action; and (c) implement remediation measures as directed by the Secretary; to the satisfaction of the Secretary.	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.	Not triggered	No exceedances of criteria have been reported. However, as noted in regard to Schedule 3, Condition 19, water quality monitoring requirements do not appear to have been met during water discharge from Dam 3. In this case, water was reported to be pumped from Dam 3 to Dam 1 to reduce the risk of further discharges and flocculent was added to Dam 3 to reduce TSS concentrations.

Schedule	Condition	Condition Number	Condition Description	Evidence Verified	Compliance	Comments/Recommendations
5	Management Plan Requirements	3	The Proponent shall ensure that the Management Plans required under this approval are prepared in accordance with any relevant guidelines, and include: (a) detailed baseline data; (b) a description of: • the relevant statutory requirements (including any relevant approval, licence or lease conditions); • any relevant limits or performance measures/criteria; and • the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the project or any management measures; (c) a description of the measures that would be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria; (d) a program to monitor and report on the: • impacts and environmental performance of the project; and • effectiveness of any management measures (see (c) above); (e) a contingency plan to manage any unpredicted impacts and their consequences; (f) a program to investigate and implement ways to improve the environmental performance of the project over time; (g) a protocol for managing and reporting any: • incidents; • complaints; • non-compliances with statutory requirements; and • exceedances of the impact assessment criteria and/or performance criteria; and (h) a protocol for periodic review of the plan. *Note: The Secretary may waive some of these requirements if they are unnecessary or unwarranted for particular management plans.*	Sighted a copy of a letter from DPE (dated 14 December 2015) noting approval of the management plans for the quarry. Sighted a copy of the quarry's suite of management plans. Sighted a copy of SLR Consulting, 'Environmental Management Strategy - Karuah East Quarry Project - December 2015' (dated 1 December 2015).	Compliant	As noted within the Annual Review and the January/–March environmental monitoring reports, there were no discharge events at Karuah East Quarry during the reporting period for these documents. The discharge points listed in the Water Management Plan are consistent with the licensed discharge points listed as part of this condition (refer to Figure 4 of the Water Management Plan). As noted regarding Schedule 2, Condition 2 of PA 09_0175, Dam 1 has been constructed about 100 m further south than shown on the plan. **It is recommended that the proposed surface water management layout in the Water Management Plan (Figure 4) is updated accordingly and the plan is submitted to the EPA with a request to vary the EPL.**
5	Annual Review	4	By the end of March each year, the Proponent shall review the environmental performance of the project to the satisfaction of the Secretary. This review must: (a) describe the development (including rehabilitation) that was carried out in the previous calendar year, and the development that is proposed to be carried out over the current calendar year; (b) include a comprehensive review of the monitoring results and complaints records of the project over the previous calendar year, which includes a comparison of these results against: • the relevant statutory requirements, limits or performance measures/criteria; • the monitoring results of previous years; and • the relevant predictions in the EA; (c) identify any non-compliance over the last year, and describe what actions were (or are being) taken to ensure compliance; (d) identify any trends in the monitoring data over the life of the project; (e) identify any discrepancies between the predicted and actual impacts of the project, and analyse the potential cause of any significant discrepancies; and (f) describe the measures that would be implemented over the current calendar year to improve the environmental	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'. Sighted a copy of the email submission of the Annual Review from T. Grugeon to DPE (dated 30 March 2017).	Compliant	Annual Review electronically submitted to DPE on 30 March 2017. Trends in water quality monitoring data will need to be considered in the 2017 Annual Review.
5	Revision of Strategies, Plans and Programs	5	Within 3 months of: (a) the submission of an annual review under Condition 4 above; (b) the submission of an incident report under Condition 7 below; (c) the submission of an audit report under Condition 9 below; or (d) any modification to the conditions of this approval, (unless the conditions require otherwise), the Proponent shall review the strategies, plans, and programs required under this approval, to the satisfaction of the Secretary. Where this review leads to revisions in any such document, then within 4 weeks of the review the revised document must be submitted for the approval of the Secretary. *Note: The purpose of this condition is to ensure that strategies, plans and programs are regularly updated to incorporate any measures recommended to improve environmental performance of the project.*	-	Not triggered	Audit period finished 27 April 2017.

Schedule	Condition	Condition Number	Condition Description	Evidence Verified	Compliance	Comments/Recommendations
5	Community Consultative Committee	6	The Proponent shall establish and operate a Community Consultative Committee (CCC) for the project. The CCC must: (a) be established and operated in general accordance with the Guidelines for Establishing and Operating Community Consultative Committees for Mining Projects (Department of Planning, 2007, or its latest version); and (b) be established prior to the commencement of construction activities, to the satisfaction of the Secretary. *Notes:* *• The CCC is an advisory committee. The Department and other relevant agencies are responsible for ensuring that the Proponent complies with this approval.* *• In accordance with the guideline, the Committee should comprise an independent chair and appropriate representation from the Proponent, Council, recognised environmental groups and the local community.*	Sighted copies of correspondence from DPE with regards to the CCC and its operation in general accordance with the Guideline for Establishing and Operating Community Consultative Committees for Mining Projects (dated 11 March 2016, 23 March 2016, 14 June 2016 and 20 July 2016).	Compliant	Minutes from CCC meetings are available online on the proponent's website.
5	Reporting - Incident Reporting	7	The Proponent shall immediately notify the Secretary and any other relevant agencies of any incident that has caused, or threatens to cause, material harm to the environment. For any other incident associated with the project, the Proponent shall notify the Secretary and any other relevant agencies as soon as practicable after the Proponent becomes aware of the incident. Within 7 days of the date of the incident, the Proponent shall provide the Secretary any relevant agencies with a detailed report on the incident, and such further reports as may be requested.	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.	Non-compliant	No exceedances of criteria have been reported. As described above (refer to Schedule 3, Condition 19 of PA 09_0175), the results of the water quality monitoring for pH, TSS and oil and grease during the discharge events from Dam 3 in March and April 2017 exceeded the concentration limits defined by Condition L2.4 of the quarry's EPL. These discharge events should have been reported due to the degraded water quality. It is recommended that any exceedances of water quality criteria during dam water discharges are reported, in accordance with the project approval conditions and the quarry's EPL.
5	Reporting - Regular Reporting	8	The Proponent shall regularly report on the environmental performance of the project on its website, in accordance with the reporting arrangements in any plans or programs approved under the conditions of this approval.	Monthly monitoring results from May through December 2016 and January and February 2017 are publicly available online on the proponent's website.	Compliant	-
5	Independent Environmental Audit	9	Within 12 months of the commencement of development on the site, and every 3 years thereafter, unless the Secretary directs otherwise, the Proponent shall commission and pay the full cost of an Independent Environmental Audit of the project. This audit must: (a) be conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Secretary; (b) include consultation with the relevant agencies; (c) assess the environmental performance of the project and whether it is complying with the relevant requirements in this approval and any relevant EPL and/or Water Licence (including any assessment, plan or program required under these approvals); (d) review the adequacy of any approved strategy, plan or program required under the these approvals; and (e) recommend measures or actions to improve the environmental performance of the project, and/or any assessment, plan or program required under these approvals. *Note: This audit team must be led by a suitably qualified auditor and include experts in any fields specified by the Secretary.*	Sighted a copy of a letter from DPE endorsing appointment of audit team (4 April 2017).	Compliant	Consultation with DPE, DRE, DPI-Water, EPA, OEH, RMS, MidCoast Council and the Chair of the quarry's CCC undertaken via emailed letter and follow-up calls as required.
5	Independent Environmental Audit	10	Within 3 months of commissioning this audit, or as otherwise agreed by the Secretary, the Proponent shall submit a copy of the audit report to the Secretary, together with its response to any recommendations contained in the audit report.	-	Not triggered	This is the first Independent Environmental Audit for the quarry.

Schedule	Condition	Condition Number	Condition Description	Evidence Verified	Compliance	Comments/Recommendations
5	Access to Information	11	The Proponent shall: (a) make the following information publicly available on its website: • the EA; • any statutory approvals for the project; • approved strategies, plans and/ programs; • a summary of the monitoring results of the project, which have been reported in accordance with the various plans and programs approved under the conditions of this approval; • a complaints register, updated quarterly; • minutes of CCC meetings; • annual reviews; • any independent environmental audit, and the Proponent's response to the recommendations in any audit; and • any other matter required by the Secretary; and (b) keep this information up-to-date, to the satisfaction of the Secretary.	Sighted a copy of the following and confirmed their availability online (hunterquarries.com.au/Karuah-east-documents/): - EA; - the project approval; - approved strategies, plans and programs; - monthly monitoring results from May through December 2016 and January and February 2017; - complaints registers for 2016 and 2017; and - minutes of CCC meetings.	Compliant	During the audit period, a copy of the monthly monitoring results for February 2017 was accessible online. Environmental monitoring reports for March and April 2017 have since been made available online (outside of the audit period). During the interview with T. Grugeon, it was noted that the Quarry was awaiting for DPE approval of the 2016 Annual Review before placing the report on the project website.
Appendix 3	Noise Compliance Assessment - Applicable Meteorological Conditions	1	The noise criteria in Tables 2 and 4 are to apply under all meteorological conditions except the following: (a) during periods of rain or hail; or (b) wind speeds greater than 3 m/s measured at 10 m above ground level.	-	Note	-
Appendix 3	Noise Compliance Assessment - Determination of Meteorological Conditions	2	Except for wind speed at microphone height, the data to be used for determining meteorological conditions shall be that recorded by the meteorological station in the vicinity of the site.	-	Note	-
Appendix 3	Noise Compliance Assessment - Compliance Monitoring	3	Attended monitoring is to be used to evaluate compliance with the relevant conditions of this approval.	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'. Sighted a copy of the Karuah East Quarry, 'Monthly Environmental Monitoring Report - February 2017'.	Compliant	Operator attended noise monitoring was conducted in May and September 2016 and February 2017. All results were within the respective criteria at all noise monitoring locations.
Appendix 3	Noise Compliance Assessment - Compliance Monitoring	4	Unless otherwise agreed with the Secretary, this monitoring is to be carried out in accordance with the relevant requirements for reviewing performance set out in the NSW Industrial Noise Policy (as amended from time to time), in particular the requirements relating to: (a) monitoring locations for the collection of representative noise data; (b) meteorological conditions during which collection of noise data is not appropriate; (c) equipment used to collect noise data, and conformity with Australian Standards relevant to such equipment; and (d) modifications to noise data collected, including for the exclusion of extraneous noise and/or penalties for modifying factors apart from adjustments for duration.	Sighted a copy of the Noise Management Plan prepared by SLR Consulting (dated 27 October 2015).	Not verified	The noise management plan outlines the noise monitoring methodology and noise monitoring locations that will be used throughout the life of the quarry. There is no reason to believe that this methodology is not being implemented during all attended and unattended noise monitoring for the quarry.

Schedule	Condition	Condition Number	Condition Description	Evidence Verified	Compliance	Comments/Recommendations
1	Administrative Conditions - What the licence authorises and regulates	A1.1	This licence authorises the carrying out of the scheduled development work listed below at the premises listed in A2: Works necessary to commence quarry operations (eg stormwater controls, development of roads).	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.	Note	No quarrying operations were undertaken during the audit period. Operations will likely commence in mid to late 2017, but will be dependent on the completion of construction activities.
1	Administrative Conditions - What the licence authorises and regulates	A1.2	This licence authorises the carrying out of the scheduled activities listed below at the premises specified in A2. The activities are listed according to their scheduled activity classification, fee-based activity classification and the scale of the operation. Unless otherwise further restricted by a condition of this licence, the scale at which the activity is carried out must not exceed the maximum scale specified in this condition. **Scheduled Activity** / **Fee Based Activity** / **Scale** Crushing, Grinding or separating / Crushing, grinding or separating / > 500000 - 2000000 T processed Extractive Activities / Land-based extractive activity / > 500000 - 2000000 T extracted, processed or stored	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.	Not triggered	No quarrying operations were undertaken during the audit period. Operations will likely commence in mid to late 2017, but will be dependent on the completion of construction activities. Crushing, grinding and separating undertaken as part of construction is clearly of a scale well below 1,500,000 million tonnes per annum.
1	Administrative Conditions - What the licence authorises and regulates	A1.3	Notwithstanding the condition above, the scale of the land-based extractive activity and / or scale of crushing, grinding and separating authorised under this licence must not exceed 1.5 million tonnes of quarry products per annum, being the amount equivalent to the extraction limit approved by the project approval MP09_0175 granted under the Environmental Planning and Assessment Act 1979 for the premises specified in A2.	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.	Not triggered	No quarrying operations were undertaken during the audit period. Operations will likely commence in mid to late 2017, but will be dependent on the completion of construction activities. Crushing, grinding and separating undertaken as part of construction is clearly of a scale well below 1,500,000 million tonnes per annum.
1	Administrative Conditions - Premises or plant to which this licence applies	A2.1	The licence applies to the following premises: **Premises Details** KARUAH EAST QUARRY PACIFIC HIGHWAY KARUAH NSW 2324 LOT 26 DP 1024341, LOT 27 DP 1024341, LOT 12 DP 1024564, LOT 13 DP 1024564, LOT 16 DP 1024564, LOT 17 DP 1024564, LOT 202 DP 1042537	-	Note	-
1	Administrative Conditions - Information supplied to the EPA	**A3.1**	Works and activities must be carried out in accordance with the proposal contained in the licence application, except as expressly provided by a condition of this licence. In this condition the reference to "the licence application" includes a reference to: a) the applications for any licences (including former pollution control approvals) which this licence replaces under the Protection of the Environment Operations (Savings and Transitional) Regulation 1998; and b) the licence information form provided by the licensee to the EPA to assist the EPA in connection with the issuing of this licence.	-	Note	-
2	Discharges to Air and Water and Applications to Land - Location of Monitoring/Discharge Points and Areas	**P1.1**	The following points referred to in the table below are identified in this licence for the purposes of monitoring and/or the setting of limits for the emission of pollutants to the air from the points. **EPA identification no** / **Type of Monitoring Point** / **Type of Discharge Point** / **Location Description** 4 / Air emissions monitoring / / Adjacent to Residence C at 6700 Pacific Highway, Karuah, referred to as DDG1 on Figure 2 "Sensitive Receivers & Air Quality Monitoring Locations" in draft Karuah East Quarry Project Air Quality Plan", July 2015 located within EPA document DOC15/281558. 6 / Air emissions monitoring / / Adjacent to Residence B at 6770 Pacific Hwy, Karuah, referred to as DDG2 on Figure 2 titled "Sensitive Receivers & Air Quality Monitoring Locations" in draft Karuah East Quarry Project Air Quality Plan", July 2015 located within EPA document DOC15/281558. 8 / Air emissions monitoring / / Located Lot 24 DP 1024341 Pacific, Karuah, referred to as DDG3 on Figure 2 titled "Sensitive Receivers and Air Quality Monitoring Locations" in draft Karuah East Quarry Project Air Quality Plan", July 2015 located within EPA document DOC15/281558. 7 / Air emissions monitoring / / Located at 21 Hallinan Road, North Arm Cove, referred to as DDG4 on Figure 2 titled "Sensitive Receivers and Air Quality Monitoring Locations" in draft Karuah East Quarry Project Air Quality Plan", July 2015. located within EPA document DOC15/281558. 11 / Air emissions monitoring / / Located at front gate to Lot 11 DP 1024564 Pacific Hwy, Karuah, referred to as DDG5 on Fig 2 "Sensitive Receivers & Air Quality Monitoring Locations" in draft Karuah East Quarry Project Air Quality Plan", July 2015. located within EPA document DOC15/281558. 9 / Air emissions monitoring / / Near Residence A located at 5772 Pacific Hwy, Karuah, referred to as HVAS on Fig 2 "Sensitive Receivers & Air Quality Monitoring Locations" in draft Karuah East Quarry Project Air Quality Mgt Plan, July 2015. located within EPA document DOC15/281558.	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'. Sighted a copy of SLR Consulting, 'Air Quality and Greenhouse Gas Management Plan - Karuah East Quarry Project' (dated 27 November 2015). Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'. Sighted a copy of the Karuah East Quarry, 'Monthly Environmental Monitoring Report - January 2017'. Sighted a copy of the Karuah East Quarry, 'Monthly Environmental Monitoring Report - February 2017'.	Compliant	The six monitoring locations identified as part of this condition are referenced on Figure 1 of the Annual Review and the results of monitoring at these locations are referenced in Section 6.4 of the Annual Review. Monitoring at these locations is consistent with the Air Quality and Greenhouse Gas Management Plan (refer to Figure 2) and the requirements of the quarry's EPL.
2	Discharges to Air and Water and Applications to Land - Location of Monitoring/Discharge Points and Areas	**P1.2**	The following utilisation areas referred to in the table below are identified in this licence for the purposes of the monitoring and/or the setting of limits for any application of solids or liquids to the utilisation area.	-	Note	-

Schedule	Condition	Condition Number	Condition Description	Evidence Verified	Compliance	Comments/Recommendations
2	Discharges to Air and Water and Applications to Land - Location of Monitoring/Discharge Points and Areas	P1.3	The following points referred to in the table are identified in this licence for the purposes of the monitoring and/or the setting of limits for discharges of pollutants to water from the point. EPA identification no. / Type of Monitoring Point / Type of Discharge Point / Location Description 1 / Discharge to waters / Discharge to waters / The discharge point from Dam 1 as shown on the plan titled "Proposed Surface Water Management Plan - Figure 3", which is filed as part of EPA document DOC15/253402. 2 / Discharge to waters / Discharge to waters / The discharge point from Dam 2 as shown on as shown on the plan titled "Proposed Surface Water Management Plan - Figure 3", which is filed as part of EPA document DOC15/253402. 3 / Discharge to waters / Discharge to waters / The discharge from Dam 3 as shown on the plan titled "Proposed Surface Water Management Plan - Figure 3", which is filed as part of EPA document DOC15/253402.	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'. Sighted a copy of the Karuah East Quarry, 'Monthly Environmental Monitoring Report - February 2017'. Sighted a copy of the Karuah East Quarry, 'Monthly Environmental Monitoring Report - January 2017'. Sighted a copy of SLR Consulting, 'Water Management Plan - Karuah East Quarry Project' (dated 1 December 2015).	Compliant	As noted within the Annual Review and the January/–March environmental monitoring reports, there were no discharge events at Karuah East Quarry during the reporting period for these documents. The discharge points listed in the Water Management Plan are consistent with the licensed discharge points listed as part of this condition (refer to Figure 4 of the Water Management Plan). As noted regarding Schedule 2, Condition 2 of PA 09_0175, Dam 1 has been constructed about 100 m further south than shown on the plan. **It is recommended that the proposed surface water management layout in the Water Management Plan (Figure 4) is updated accordingly and the plan is submitted to the EPA with a request to vary the EPL.**
2	Discharges to Air and Water and Applications to Land - Location of Monitoring/Discharge Points and Areas	P1.4	The following points referred to in the table below are identified in this licence for the purposes of monitoring and/or setting of limits for the emission of noise from the point. NOISE EPA identification no / Type of monitoring point / Location description 11 / Air blast overpressure & ground vibration peak particle velocity monitoring / Blast Monitor located adjacent to Residence B as identified in 'Figure 1 - Appendix 2 - Noise Receiver Locations' located in EPA document DOC15/253402	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'. Sighted a copy of the Karuah East Quarry, 'Monthly Environmental Monitoring Report - February 2017'. Sighted a copy of the Karuah East Quarry, 'Monthly Environmental Monitoring Report - January 2017'. Sighted a copy of SLR Consulting, 'Blast Management Plan - Karuah East Quarry Project - October 2015' (dated 29 October 2015).	Compliant	The blast monitoring location identified in Table 9 of the Blast Management Plan is consistent with the location listed as part of this condition.
3	Limit Conditions - Pollution of Waters	L1.1	Except as may be expressly provided in any other condition of this licence, the licensee must comply with Section 120 of the Protection of the Environment Operations Act 1997.	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'. Sighted a copy of the Karuah East Quarry, 'Monthly Environmental Monitoring Report - January 2017'. Sighted a copy of the Karuah East Quarry, 'Monthly Environmental Monitoring Report - February 2017'.	Non-compliant	No exceedances of criteria have been reported. As described above (refer to Schedule 3, Condition 19 of PA 09_0175), the results of the water quality monitoring for pH, TSS and oil and grease during the discharge events from Dam 3 in March and April 2017 exceeded the concentration limits defined by Condition L2.4 of the quarry's EPL. These discharge events should have been reported due to the degraded water quality. **It is recommended that any exceedances of water quality criteria during dam water discharges are reported, in accordance with the project approval conditions and the quarry's EPL.**
3	Limit Conditions - Concentration Limits	L2.1	For each monitoring/discharge point or utilisation area specified in the table/s below (by a point number), the concentration of a pollutant discharged at that point, or applied to that area, must not exceed the concentration limits specified for that pollutant in the table.	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'. Sighted a copy of the Karuah East Quarry, 'Monthly Environmental Monitoring Report - January 2017'. Sighted a copy of the Karuah East Quarry, 'Monthly Environmental Monitoring Report - February 2017'.	Non-compliant	No exceedances of criteria have been reported. As described above (refer to Schedule 3, Condition 19 of PA 09_0175), the results of the water quality monitoring for pH, TSS and oil and grease during the discharge events from Dam 3 in March and April 2017 exceeded the concentration limits defined by Condition L2.4 of the quarry's EPL.
3	Limit Conditions - Concentration Limits	L2.2	Where a pH quality limit is specified in the table, the specified percentage of samples must be within the specified ranges.	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'. Sighted a copy of the Karuah East Quarry, 'Monthly Environmental Monitoring Report - January 2017'. Sighted a copy of the Karuah East Quarry, 'Monthly Environmental Monitoring Report - February 2017'.	Non-compliant	No exceedances of criteria have been reported. The results of the water quality monitoring for pH during the discharge events from Dam 3 in March and April 2017 were outside the specified pH range defined by Condition L2.4 of the quarry's EPL (ie 6.5–8.5). It is noted that the baseline pH of the area was 5.58–6.20 (refer to Table 4 in the Water Management Plan), while the EPL specifies a discharge range of pH 6.5–8.5. So any discharge is expected to be out of compliance unless it is treated to increase the pH above the natural range. The environmental benefit of such treatment is questionable given that it may result in a perturbation from the natural conditions of the receiving waters.
3	Limit Conditions - Concentration Limits	L2.3	To avoid any doubt, this condition does not authorise the pollution of waters by any pollutant other than those specified in the table\s.	-	Note	Therefore it cannot be determined whether water discharged (from a licensed discharge point) could have polluted waters.

Schedule	Condition	Condition Number	Condition Description	Evidence Verified	Compliance	Comments/Recommendations
3	Limit Conditions - Concentration Limits	L2.4	Water and/or Land Concentration Limits Point 1, 2, 3 Pollutant / Units of Measure / 50 Percentile concentration limit / 90 Percentile concentration limit / 3DGM concentration limit / 100 percentile concentration limit Oil and Grease / milligrams per litre / 5 and/or none visible pH / pH / 6.5 - 8.5 Total suspended solids / milligrams per litre / 40	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'. Sighted a copy of the Karuah East Quarry, 'Monthly Environmental Monitoring Report - January 2017'. Sighted a copy of the Karuah East Quarry, 'Monthly Environmental Monitoring Report - February 2017'.	Note	Observation - There is an error in Table 25 of the 'Annual Review for the Karuah East Hard Rock Quarry' with respect to the 100 percentile concentration limit value for total suspended solids.
3	Limit Conditions - Waste	L3.1	The licensee must not cause, permit or allow any waste generated outside the premises to be received at the premises for storage, treatment, processing, reprocessing or disposal or any waste generated at the premises to be disposed of at the premises, except as expressly permitted by the licence.	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'. During the site inspection, appropriate waste management practices onsite were observed, including an on-site skip bin (supplied by contractor JR Richards and emptied weekly) and a recycling bin within close proximity of the site office. Appropriate waste storage facilities were also observed within the Daracon compound and within close proximity of the infrastructure construction area.	Compliant	As noted within the Annual Review, there has been no plant or infrastructure established at the site yet which will generate waste. There has been minimal waste generated as part of the construction process.
3	Limit Conditions - Waste	L3.2	This condition only applies to the storage, treatment, processing, reprocessing or disposal of waste at the premises if those activities require an environment protection licence.	-	Note	-
3	Limit Conditions - Noise Limits	L4.1	Noise generated at the premises must not exceed the noise limits in the table below. The locations referred to in the table below are indicated in Table 3 and Figure 10 of the document entitled Environmental Assessment Report - Proposed Karuah East Quarry (ADW Johnson Pty Limited 2013) which has been filed on EPA file LIC08/1088-03. Location / Noise Limit dB(A) / Day LAeq (15 minute) Residence A on Lot 100 DP 785172 / 40 Residence B on Lot 3 DP 785172 / 37 Residence G on Lot 1 DP 1032636 / 38 Any other residence or sensitive receiver not subject to a private negotiated agreement / 35 Any approved residence on Lot 11 DP 1024564 / 43	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016' (specifically tables 13-16). Sighted a copy of SLR Consulting, 'Construction Noise Compliance Monitoring - Karuah East Project - September 2016' (dated 20 March 2017). Sighted a copy of the Karuah East Quarry, 'Monthly Environmental Monitoring Report - February 2017'. Sighted a copy of the Karuah East Quarry, 'Monthly Environmental Monitoring Report - January 2017'.	Compliant	Compliance with the relevant consent conditions was achieved at all noise monitoring locations for construction noise assessments conducted in May and September 2016. As noted within the Annual Review, during these construction noise assessments, construction activities were found to be inaudible and, therefore, noise contributions from the quarry were found to be within the relevant consent conditions criteria at all monitoring locations. Operator attended noise monitoring was conducted in February 2017. Contributed noise relating to the quarry's construction activities was estimated to be 36 dBA LAeq (15-minute) at Location G, which is below the EPL criteria for this location.
3	Limit Conditions - Noise Limits	L4.2	For the purpose of the table above, Day is defined as the period from 7am to 6pm Monday to Saturday and 8am to 6pm Sunday and Public Holidays.	-	Note	-
3	Limit Conditions - Noise Limits	L4.3	The noise limits set out in this licence apply under all meteorological conditions except for the following: a) Wind speed greater than 3 metres/second at 10 metres above ground level; or b) Stability category F temperature inversion conditions and wind speeds greater than 2 metres/second at 10 metres above ground level; or c) Stability category G temperature inversion conditions.	-	Note	-
3	Limit Conditions - Noise Limits - Determining Compliance	L4.4	To determine compliance: a) with the Leq(15 minute) noise limits in the Noise Limits table, the noise measurement equipment must be located: i) approximately on the property boundary, where any dwelling is situated 30 metres or less from the property boundary closest to the premises; or ii) within 30 metres of a dwelling façade, but not closer than 3m, where any dwelling on the property is situated more than 30 metres from the property boundary closest to the premises; or, where applicable iii) within approximately 50 metres of the boundary of a National Park or a Nature Reserve. b) with the LA1(1 minute) noise limits in the Noise Limits table, the noise measurement equipment must be located within 1 metre of a dwelling façade. c) with the noise limits in the Noise Limits table, the noise measurement equipment must be located: i) at the most affected point at a location where there is no dwelling at the location; or ii) at the most affected point within an area at a location prescribed by part (a) or part (b) of this condition. Note: A non-compliance of the Noise Limits table will still occur where noise generated from the premises in excess of the appropriate limit is measured: i) at a location other than an area prescribed in part (a) and part (b); and/or ii) at a point other than the most affected point at a location.	Sighted a copy of the 'Noise Management Plan' prepared by SLR Consulting (dated 27 October 2015). Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'. Sighted a copy of the Karuah East Quarry, 'Monthly Environmental Monitoring Report - February 2017'. Sighted a copy of the Karuah East Quarry, 'Monthly Environmental Monitoring Report - January 2017'. Sighted a copy of SLR Consulting, 'Construction Noise Compliance Monitoring - Karuah East Project - September 2016' (dated 20 March 2017).	Compliant	The Noise Management Plan specifies that all noise measurement procedures employed throughout the monitoring programme will be guided by the requirements of AS 1055 1997 Acoustics - Description and Measurement of Environmental Noise (refer to Section 8). In addition, all acoustic instrumentation employed throughout the monitoring programme will be designed to comply with the requirements of AS IEC 61672.1 - 2004 Electroacoustics - Sound level meters - Specifications. As noted within the Noise Management Plan and the Annual Review, the noise monitoring locations are consistent with the locations listed as part of this EPL. The monitoring requirements specified as part of this condition are not explicitly addressed within the Noise Management Plan. It is recommended that the Noise Management Plan be revised to include reference to the specific measures listed in this condition.
3	Limit Conditions - Noise Limits - Determining Compliance	L4.5	For the purposes of determining the noise generated at the premises the modification factors in Section 4 of the NSW Industrial Noise Policy must be applied, as appropriate, to the noise levels measured by the noise monitoring equipment.	Sighted a copy of the 'Noise Management Plan' prepared by SLR Consulting (dated 27 October 2015).	Compliant	The Noise Management Plan specifies that for the purposes of determining the noise generated by the quarry the modifying factors detailed in Section 4 of the NSW INP will be applied as appropriate to the measured noise levels (refer to Section 8.3).

Schedule	Condition	Condition Number	Condition Description	Evidence Verified	Compliance	Comments/Recommendations
3	Limit Conditions - Blasting	L5.1	Blasting in or on the premises must only be carried out between 0900 hours and 1600 hours, Monday to Friday. No blasting is permitted Saturdays, Sundays or public holidays. Blasting outside of the hours specified in this condition can only take place with the written approval of the EPA.	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'. Sighted a copy of the Karuah East Quarry, 'Monthly Environmental Monitoring Report - February 2017'. Sighted a copy of the Karuah East Quarry, 'Monthly Environmental Monitoring Report - January 2017'. Sighted a copy of the 'Karuah East Quarry Community Complaints Register 2016' and 'Karuah East Quarry Community Complaints Register 2017'. Sighted a copy of the blast reports for the six blasts conducted at Karuah East Quarry within the audit period.	Compliant	Blasting activities within the audit period were carried out during the blasting hours specified in Table 6. No complaints have been received regarding the blasting activities at the site.
3	Limit Conditions - Blasting	L5.2	Blasting is not permitted simultaneously with adjacent quarry(s).	Sighted a copy of the blast reports for the six blasts conducted at Karuah East Quarry within the audit period. A copy of Karuah Quarry's (adjacent to the site) blast register was provided on 30 May 2017. This register confirmed that no blasting activities at Karuah Quarry occurred simultaneously with blasting activities at Karuah East Quarry.	Compliant	-
3	Limit Conditions - Blasting	L5.3	The airblast overpressure level from blasting operations in or on the premises must not exceed: 115 dB (Lin Peak) for more than 5% of the total number of blasts during each reporting period at monitoring point 11 detailed in Condition P1.4.	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'. Sighted a copy of the Karuah East Quarry, 'Monthly Environmental Monitoring Report - February 2017'. Sighted a copy of the Karuah East Quarry, 'Monthly Environmental Monitoring Report - January 2017'. Sighted a copy of the 'Karuah East Quarry Community Complaints Register 2016' and 'Karuah East Quarry Community Complaints Register 2017'.	Compliant	Blasting activities within the audit period did not cause exceedances of the relevant blasting criteria. No complaints have been received regarding the blasting activities at the site.
3	Limit Conditions - Blasting	L5.4	The airblast overpressure level from blasting operations in or on the premises must not exceed: 120 dB (Lin Peak) at any time at monitoring point 11 detailed in Condition P1.4.	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'. Sighted a copy of the Karuah East Quarry, 'Monthly Environmental Monitoring Report - February 2017'. Sighted a copy of the Karuah East Quarry, 'Monthly Environmental Monitoring Report - January 2017'. Sighted a copy of the 'Karuah East Quarry Community Complaints Register 2016' and 'Karuah East Quarry Community Complaints Register 2017'.	Compliant	Blasting activities within the audit period did not cause exceedances of the relevant blasting criteria. No complaints have been received regarding the blasting activities at the site.
3	Limit Conditions - Blasting	L5.5	The ground vibration peak particle velocity from blasting operations carried out in or on the premises must not exceed 5 mm/second for more than 5% of the total number of blasts during each reporting period at monitoring point 11 detailed in Condition P1.4.	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'. Sighted a copy of the Karuah East Quarry, 'Monthly Environmental Monitoring Report - February 2017'. Sighted a copy of the Karuah East Quarry, 'Monthly Environmental Monitoring Report - January 2017'. Sighted a copy of the 'Karuah East Quarry Community Complaints Register 2016' and 'Karuah East Quarry Community Complaints Register 2017'.	Compliant	Blasting activities within the audit period did not cause exceedances of the relevant blasting criteria. No complaints have been received regarding the blasting activities at the site.

Schedule	Condition	Condition Number	Condition Description	Evidence Verified	Compliance	Comments/Recommendations
3	Limit Conditions - Blasting	L5.6	The ground vibration peak particle velocity from blasting operations carried out in or on the premises must not exceed 10 mm/second at any time at monitoring point 11 detailed in Condition P1.4.	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'. Sighted a copy of the Karuah East Quarry, 'Monthly Environmental Monitoring Report - February 2017'. Sighted a copy of the Karuah East Quarry, 'Monthly Environmental Monitoring Report - January 2017'. Sighted a copy of the 'Karuah East Quarry Community Complaints Register 2016' and 'Karuah East Quarry Community Complaints Register 2017'.	Compliant	Blasting activities within the audit period did not cause exceedances of the relevant blasting criteria. No complaints have been received regarding the blasting activities at the site.
3	Limit Conditions - Blasting	L5.7	Error margins associated with any monitoring equipment used to measure airblast overpressure or peak particle velocity are not to be taken into account in determining whether or not the limit has been exceeded.	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'. Sighted a copy of the Karuah East Quarry, 'Monthly Environmental Monitoring Report - February 2017'. Sighted a copy of the Karuah East Quarry, 'Monthly Environmental Monitoring Report - January 2017'. Sighted a copy of the 'Karuah East Quarry Community Complaints Register 2016' and 'Karuah East Quarry Community Complaints Register 2017'.	Not triggered	Blasting activities within the audit period did not cause exceedances of the relevant blasting criteria.
3	Limit Conditions - Blasting	L5.8	The airblast overpressure and ground vibration levels in the conditions above do not apply at noise sensitive locations that are owned by the licensee or subject to a private agreement, relating to airblast overpressure and ground vibration levels, between the licensee and land owner.	-	Note	-
3	Limit Conditions - Blasting	L5.9	Offensive blast fume must not be emitted from the premises. Definition: Offensive blast fume means post-blast gases from the detonation of explosives at the premises that by reason of their nature, duration, character or quality, or the time at which they are emitted, or any other circumstances: 1. are harmful to (or likely to be harmful to) a person that is outside the premises from which it is emitted, or 2. interferes unreasonably with (or is likely to interfere unreasonably with) the comfort or repose of a person who is outside the premises from which it is emitted.	Sighted a copy of SLR Consulting, 'Blast Management Plan - Karuah East Quarry Project - October 2015' (dated 29 October 2015). Sighted a copy of the 'Karuah East Quarry Community Complaints Register 2016' and 'Karuah East Quarry Community Complaints Register 2017'.	Not verified	Blast fume management procedures are detailed within the quarry's Blast Management Plan. There is no reason to believe that this condition has not been met. No complaints have been received regarding the blasting activities at the site.
3	Limit Conditions - Hours of Operation	L6.1	All construction work at the premises must be conducted between 7am to 6pm Monday to Friday and between 8am to 1pm Saturdays and at no time on Sundays and public holidays. This condition does not apply in the event of a direction from police or other relevant authority for safety or emergency reasons. Note: 'safety or emergency reasons' refers to emergency works which may need to be undertaken to avoid loss of life, property loss and/or prevent environmental harm.	Sighted a copy of the 'Karuah East Quarry Community Complaints Register 2016' and 'Karuah East Quarry Community Complaints Register 2017'.	Not verified	No complaints have been received regarding the operating hours for construction activities at the site. There is no reason to believe that there have been construction activities outside of these hours.
3	Limit Conditions - Hours of Operation	L6.2	Construction may occur outside these hours provided the noise (LAeq 15min) from these activities does not exceed 35 dBA at any privately owned residence.	Sighted a copy of the 'Karuah East Quarry Community Complaints Register 2016' and 'Karuah East Quarry Community Complaints Register 2017'.	Not verified	No complaints have been received regarding the operating hours for construction activities at the site. There is no reason to believe that construction activities outside the hours specified in L6.1 have exceeded 35 dBA at any privately owned residence.
3	Limit Conditions - Hours of Operation	L6.3	All quarrying operations, including extraction, processing and loadings / transport must be conducted between 7am to 6pm Monday to Friday and 7am to 1pm Saturdays and at no time on Sundays and public holidays. Maintenance activities may occur 24 hours per day, 7 days per week, provided these activities are inaudible at any privately owned residence.	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.	Not triggered	No quarrying operations were undertaken during the audit period. Operations will likely commence in mid to late 2017, but will be dependent on the completion of construction activities.
3	Limit Conditions - Potentially Offensive Odour	L7.1	No condition of this licence identifies a potentially offensive odour for the purposes of Section 129 of the Protection of the Environment Operations Act 1997. Note: Section 129 of the Protection of the Environment Operations Act 1997, provides that the licensee must not cause or permit the emission of any offensive odour from the premises but provides a defence if the emission is identified in the relevant environment protection licence as a potentially offensive odour and the odour was emitted in accordance with the conditions of a licence directed at minimising odour.	Sighted a copy of the 'Karuah East Quarry Community Complaints Register 2016' and 'Karuah East Quarry Community Complaints Register 2017'.	Not verified	No complaints have been received regarding potentially offensive odours generated by construction activities at the quarry. There is no reason to believe that this condition has not been met.
4	Operating Conditions - Activities must be carried out in a competent manner	O1.1	Licensed activities must be carried out in a competent manner. This includes: a) the processing, handling, movement and storage of materials and substances used to carry out the activity; and b) the treatment, storage, processing, reprocessing, transport and disposal of waste generated by the activity.	Site inspection.	Compliant	Observations during the site inspection confirmed that all works carried out during construction were being carried out in a competent manner. During the site inspection, appropriate waste management practices onsite were observed, including an onsite skip bin (supplied by contractor JR Richards and emptied weekly) and a recycling bin within close proximity of the site office. Appropriate waste storage facilities were also observed within the Daracon compound and within close proximity of the tunnel construction area.

Schedule	Condition	Condition Number	Condition Description	Evidence Verified	Compliance	Comments/Recommendations
4	Operating Conditions - Maintenance of Plant and Equipment	O2.1	All plant and equipment installed at the premises or used in connection with the licensed activity: a) must be maintained in a proper and efficient condition; and b) must be operated in a proper and efficient manner.	During the site inspection and interview with T. Grugeon, the service maintenance records were viewed. The individual records for randomly selected equipment (a front-end loader and an excavator) were requested. The records for were sighted and the procedures for plant and equipment maintenance were discussed.	Compliant	Work permits and an electronic register of all maintenance activities performed on plant and equipment are maintained as part of the quarry's day-to-day management and services of plant and equipment are performed as close as practicable to 250 hours service.
4	Operating Conditions - Dust	O3.1	All areas in or on the premises must be maintained in a condition that prevents or minimises the emission of dust to the air.	Sighted a copy of SLR Consulting, 'Air Quality and Greenhouse Gas Management Plan - Karuah East Quarry Project' (dated 27 November 2015). Observations during the site inspection confirmed that there is a water truck onsite and construction areas are being progressively armoured to minimise the potential emission of dust to the air.	Compliant	Parts of the site have been recently cleared so there will be an increased potential for dust emissions, although this will be lower in the coming winter months than in summer.
4	Operating Conditions - Dust	O3.2	Any activity carried out in or on the premises must be carried out by such practical means as to prevent dust or minimise the emission of dust to the air.	Sighted a copy of SLR Consulting, 'Air Quality and Greenhouse Gas Management Plan - Karuah East Quarry Project' (dated 27 November 2015). Observations during the site inspection confirmed that there is a water truck onsite and construction areas are being progressively armoured to minimise the potential emission of dust to the air.	Compliant	-
4	Operating Conditions - Dust	O3.3	Any plant operated in or on the premises must be operated by such practical means to prevent or minimise dust or other air pollutants.	Sighted a copy of SLR Consulting, 'Air Quality and Greenhouse Gas Management Plan - Karuah East Quarry Project' (dated 27 November 2015). During the site inspection and interview with T. Grugeon, the service maintenance records were viewed. The individual records for randomly selected equipment (a front-end loader and an excavator) were requested. The records for were sighted and the procedures for plant and equipment maintenance were discussed.	Compliant	-
4	Operating Conditions - Dust	O3.4	All trafficable areas and vehicle manoeuvring areas in or on the premises must be maintained, at all times, in a condition that will minimise the emission of dust to the air, or emission from the premises of wind-blown or traffic generated dust.	Sighted a copy of SLR Consulting, 'Air Quality and Greenhouse Gas Management Plan - Karuah East Quarry Project' (dated 27 November 2015). The site is currently under construction. Observations during the site inspection confirmed that there is a water truck onsite and construction areas are being progressively armoured to minimise the potential emission of dust to the air.	Compliant	-
4	Operating Conditions - Dust	O3.5	The licensee must ensure it has sufficient water during all stages of the quarry, and if necessary adjust the scale of quarrying operations on the premises to match its available supply.	Sighted a copy of SLR Consulting, 'Water Management Plan - Karuah East Quarry Project' (dated 1 December 2015). During the site inspection it was evident that there is sufficient water available to support the construction stage of the project (refer to Photograph 4.1 and Photograph 4.2).	Compliant	As noted within the Water Management Plan, the water balance has been designed to ensure sufficient water capacity for the project.
4	Operating Conditions - Dust	O3.6	Trucks entering and leaving the premises that are carrying loads of dust generating materials must have their loads covered at all times, except during loading and unloading.	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.	Not triggered	No quarrying operations were undertaken during the audit period. Operations will likely commence in mid to late 2017, but will be dependent on the completion of construction activities.
4	Operating Conditions - Emergency Response	O4.1	The licensee must maintain, and implement as necessary, a current Pollution Incident Response Management Plan (PIRMP) for the premises. The licensee must keep the incident response plan on the premises at all times. The incident response plan must document systems and procedures to deal with all types of incidents (e.g. spills, explosions or fire) that may occur at the premises or that may be associated with activities that occur at the premises and which are likely to cause harm to the environment. The PIRMP must be tested at least annually or following a pollution incident. The licensee must develop the Pollution Incident Response Management Plan in accordance with the requirements in Part 5.7A of the Protection of the Environment Operations (POEO) Act 1997 and POEO regulations.	Sighted a copy of SLR Consulting, 'Pollution Incident Response Management Plan (PIRMP) - Karuah East Quarry' (dated 31 October 2016). Sighted a copy of SLR Consulting, 'Environmental Management Strategy - Karuah East Quarry Project - December 2015' (dated 1 December 2015).	Compliant	The PIRMP forms part of the quarry's Environmental Management Strategy and satisfactorily addresses the requirements of the POEO Act and POEO Regulation.
4	Operating Conditions - Processes and Management	O5.1	All tanks and storage areas for drums containing material that have potential to cause environmental harm must be bunded or have an alternative spill containment system in-place. The bunding and/or spill containment systems must be properly designed, engineered, and constructed to be suitable for the material types and quantities stored therein in accordance with all appropriate standards, including Australian Standards (AS)1940 and AS1596.	No tanks or drums were observed during the site inspection.	Compliant	-

Schedule	Condition	Condition Number	Condition Description	Evidence Verified	Compliance	Comments/Recommendations
4	Operating Conditions - Processes and Management	O5.2	Bunds must: a) have walls and floors constructed of impervious materials; b) be of sufficient capacity to contain 110% of the volume of the tank (or 110% volume of the largest tank where a group of tanks are installed); c) have floors graded to a collection sump; and d) not have a drain valve incorporated in the bund structure, or be constructed and operated in a manner that achieves the same environmental outcome.	-	Not triggered	Bunds will need to be installed as part of the construction program.
4	Operating Conditions - Processes and Management	O5.3	All refuelling must be undertaken in a dedicated refuelling area. The refuelling area must be a hardstand and suitably bunded in accordance with EPA bunding guidance.	Site observations.	Not triggered	The site is under construction and re-fuelling areas have not been constructed. Refuelling in the quarry and infrastructure area is currently performed by a mobile tanker. These are temporary arrangements during the project's construction period and will be addressed prior to the commencement of quarrying operations. Obviously, some earthworks need to be completed before a non-permeable refuelling area can be established. **It is recommended that a non-permeable refuelling area (or areas) is constructed as soon as practicable.**
4	Operating Conditions - Processes and Management	O5.4	The licensee must, before undertaking any earthmoving or vegetation removal works, implement erosion and sediment control measures to prevent pollution of waters in accordance with Soils and Construction: Managing Urban Stormwater 2004 (Landcom, 2004).	During the site inspection, evidence of erosion and sediment control measures to prevent pollution of waters were observed (refer to Photograph 4.3 and Photograph 4.4). Bunding comprised of topsoil from within the cleared areas has been formed along the perimeter of the construction area and acts as the first line of defence. In addition, cleared trees and sediment fencing provide additional barriers to prevent the pollution of waters and inhibit the flow of surface water offsite.	Compliant	-
4	Operating Conditions - Processes and Management	O5.5	Stormwater from all areas of the premises which has the potential to mobilise sediments and other material must be controlled and diverted through the appropriate erosion and sediment control and/or pollution control measures/structures, so as not to cause, permit or allow water pollution to occur.	During the site inspection, evidence of erosion and sediment control measures to prevent pollution of waters were observed (refer to Photograph 4.3 and Photograph 4.4). Bunding comprised of topsoil from within the cleared areas has been formed along the perimeter of the construction area and acts as the first line of defence. In addition, cleared trees and sediment fencing provide additional barriers to prevent the pollution of waters and inhibit the flow of surface water offsite. During the site inspection, both T. Grugeon and Gerard Bowen confirmed the effectiveness of the surface water management system and discussed the changes that have been implemented to the location and structure of the site's dams to improve the effectiveness of this system.	Compliant	-
4	Operating Conditions - Processes and Management	O5.6	The in-pit sump must be sized at all times to prevent a discharge to waters in the event of pump failure.	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.	Not triggered	No quarrying operations were undertaken during the audit period. Operations will likely commence in mid to late 2017, but will be dependent on the completion of construction activities.
4	Operating Conditions - Waste Management	O6.1	The licensee must not irrigate, discharge or dispose of sewage effluent, on the premises.	During the site inspection, a portaloo was observed. During the interview, T. Grugeon confirmed that the existing dwelling that has been converted into the site office has a Council approved septic system. There is also a self-bunded, septic pumpout system currently operating within the Daracon compound. All waste from this system and the onsite portaloo is being pumped out and disposed offsite.	Compliant	-
4	Operating Conditions - Waste Management	O6.2	The licensee must operate and maintain a wastewater collection and storage tank/s to enable the pump out and offsite disposal of any sewage effluent.	During the site inspection, a portaloo was observed. During the interview, T. Grugeon confirmed that the existing dwelling that has been converted into the site office has a Council approved septic system. There is also a self-bunded, septic pumpout system currently operating within the Daracon compound. All waste from this system and the onsite portaloo is being pumped out and disposed offsite.	Compliant	
4	Operating Conditions - Waste Management	O6.3	The licensee must ensure that sewage effluent collected at the premises is pumped out and disposed of in a lawful manner.	During the site inspection, a portaloo was observed. During the interview, T. Grugeon confirmed that the existing dwelling that has been converted into the site office has a Council approved septic system. There is also a self-bunded, septic pumpout system currently operating within the Daracon compound. All waste from this system and the onsite portaloo is being pumped out and disposed offsite.	Compliant	
4	Operating Conditions - Other Operating Conditions - Noise and Blast Management	O7.1	All acoustic bunds necessary to achieve compliance with the noise limits specified in this licence must be constructed prior to the commencement of quarrying activities and be maintained throughout the operational life of the premises to the height and location described in the Noise Management Plan.	-	Not triggered	No quarrying operations were undertaken during the audit period. Operations will likely commence in mid to late 2017, but will be dependent on the completion of construction activities.
4	Operating Conditions - Other Operating	O7.2	The licensee must not have a bitumen pre-coat plant on the site. Project Approval MP09_0175 did not assess or approve such a plant.	-	Compliant	There is no bitumen pre-coat plant on the site.
5	Monitoring and Recording Conditions - Monitoring Records	M1.1	The results of any monitoring required to be conducted by this licence or a load calculation protocol must be recorded and retained as set out in this condition.	Copies of field sheets with results, chain of custody forms and laboratory analytical results were sighted.	Compliant	-

<table>
<tr><th>Schedule</th><th>Condition</th><th>Condition Number</th><th>Condition Description</th><th>Evidence Verified</th><th>Compliance</th><th>Comments/Recommendations</th></tr>
<tr><td>5</td><td>Monitoring and Recording Conditions - Monitoring Records</td><td>M1.2</td><td>All records required to be kept by this licence must be:

a) in a legible form, or in a form that can readily be reduced to a legible form;
b) kept for at least 4 years after the monitoring or event to which they relate took place; and
c) produced in a legible form to any authorised officer of the EPA who asks to see them.</td><td>Copies of field sheets with results, chain of custody forms and laboratory analytical results were sighted.</td><td>Compliant</td><td>-</td></tr>
<tr><td>5</td><td>Monitoring and Recording Conditions - Monitoring Records</td><td>M1.3</td><td>The following records must be kept in respect of any samples required to be collected for the purposes of this licence:
a) the date(s) on which the sample was taken;
b) the time(s) at which the sample was collected;
c) the point at which the sample was taken; and
d) the name of the person who collected the sample.</td><td>Copies of field sheets with results, chain of custody forms and laboratory analytical results were sighted.</td><td>Compliant</td><td>-</td></tr>
<tr><td>5</td><td>Monitoring and Recording Conditions - Requirement to Monitor Concentration of Pollutants Discharged</td><td>M2.1</td><td>For each monitoring/discharge point or utilisation area specified below (by a point number), the licensee must monitor (by sampling and obtaining results by analysis) the concentration of each pollutant specified in Column 1. The licensee must use the sampling method, units of measure, and sample at the frequency, specified opposite in the other columns:</td><td>Sighted a copy of SLR Consulting, 'Air Quality and Greenhouse Gas Management Plan - Karuah East Quarry Project' (dated 27 November 2015).

Sighted a copy of SLR Consulting, 'Water Management Plan - Karuah East Quarry Project' (dated 1 December 2015).

Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.

Sighted a copy of the Karuah East Quarry, 'Monthly Environmental Monitoring Report - February 2017'.

Sighted a copy of the Karuah East Quarry, 'Monthly Environmental Monitoring Report - January 2017'.</td><td>Compliant</td><td>The Air Quality and Greenhouse Gas Management Plan presents a summary of the air quality monitoring requirements for the quarry in Table 11. The units of measurement, sampling methods and sampling frequency defined in this table are consistent with the requirements specified within the conditions of the quarry's EPL.

The Water Management Plan presents a summary of the surface water monitoring requirements for the quarry in Table 17. The units of measurement, sampling methods and sampling frequency defined in this table are consistent with the requirements specified within the conditions of the quarry's EPL.</td></tr>
<tr><td>5</td><td>Monitoring and Recording Conditions - Requirement to Monitor Concentration of Pollutants Discharged</td><td>M2.2</td><td>Air Monitoring Requirements
Point 4,5,6,7,8
<table><tr><th>Pollutant</th><th>Unit of measure</th><th>Frequency</th><th>Sampling Method</th></tr><tr><td>Particulates - Deposited Matter</td><td>grams per square metre per month</td><td>Monthly</td><td>AM-19</td></tr></table></td><td>Sighted a copy of SLR Consulting, 'Air Quality and Greenhouse Gas Management Plan - Karuah East Quarry Project' (dated 27 November 2015).

Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.

Sighted a copy of the Karuah East Quarry, 'Monthly Environmental Monitoring Report - February 2017'.

Sighted a copy of the Karuah East Quarry, 'Monthly Environmental Monitoring Report - January 2017'.</td><td>Compliant</td><td>The five monitoring locations identified as part of this condition are referenced on Figure 1 of the Annual Review and the results of monitoring at these locations are referenced in Section 6.4 of the Annual Review.

Monitoring at these locations is consistent with the Air Quality and Greenhouse Gas Management Plan (refer to Figure 2) and the requirements of the quarry's EPL.</td></tr>
<tr><td>5</td><td>Monitoring and Recording Conditions - Requirement to Monitor Concentration of Pollutants Discharged</td><td>M2.2</td><td>Point 9
<table><tr><th>Pollutant</th><th>Units of measure</th><th>Frequency</th><th>Sampling Method</th></tr><tr><td>PM10</td><td>micrograms per cubic</td><td>Every 6 days</td><td>AM-18</td></tr><tr><td>Total suspended particles</td><td>micrograms per cubic metre</td><td>Every 6 days</td><td>AM-15</td></tr></table></td><td>Sighted a copy of SLR Consulting, 'Air Quality and Greenhouse Gas Management Plan - Karuah East Quarry Project' (dated 27 November 2015).

Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.

Sighted a copy of the Karuah East Quarry, 'Monthly Environmental Monitoring Report - February 2017'.

Sighted a copy of the Karuah East Quarry, 'Monthly Environmental Monitoring Report - January 2017'.</td><td>Compliant</td><td>The monitoring locations identified as part of this condition is referenced on Figure 1 of the Annual Review and the results of monitoring at this location are referenced in Section 6.4 of the Annual Review.

Monitoring at this locations is consistent with the Air Quality and Greenhouse Gas Management Plan (refer to Figure 2) and the requirements of the quarry's EPL.</td></tr>
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<tr><th>Schedule</th><th>Condition</th><th>Condition Number</th><th>Condition Description</th><th>Evidence Verified</th><th>Compliance</th><th>Comments/Recommendations</th></tr>
<tr><td>5</td><td>Monitoring and Recording Conditions - Requirement to Monitor Concentration of Pollutants Discharged</td><td>M2.3</td><td>Water and/ or Land Monitoring Requirements
Point 1,2,3
<table><tr><th>Pollutant</th><th>Units of measure</th><th>Frequency</th><th>Sampling</th></tr><tr><td>Oil and Grease</td><td>milligrams per litre</td><td>Special</td><td>Visual</td></tr><tr><td>pH</td><td>pH</td><td>Special Frequency 1</td><td>Grab sample</td></tr><tr><td>Total suspended solids</td><td>milligrams per litre</td><td>Special Frequency 1</td><td>Grab sample</td></tr><tr><td>Turbidity</td><td>nephelometric turbidity</td><td>Special Frequency 1</td><td>Grab sample</td></tr></table>Note: For the purposes of the table above 'Special Frequency 1' means:
(a) within 12 hours prior to any controlled discharge; and
(b) daily during a controlled discharge; or
(c) daily during any uncontrolled discharge.</td><td>Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.

Sighted a copy of the Karuah East Quarry, 'Monthly Environmental Monitoring Report - January 2017'.

Sighted a copy of the Karuah East Quarry, 'Monthly Environmental Monitoring Report - February 2017'.

Sighted a copy of SLR Consulting, 'Water Management Plan - Karuah East Quarry Project' (dated 1 December 2015).</td><td>Note</td><td>-</td></tr>
<tr><td>5</td><td>Monitoring and Recording Conditions - Testing Methods - Concentration Limits</td><td>M3.1</td><td>Monitoring for the concentration of a pollutant emitted to the air required to be conducted by this licence must be done in accordance with:
a) any methodology which is required by or under the Act to be used for the testing of the concentration of the pollutant; or
b) if no such requirement is imposed by or under the Act, any methodology which a condition of this licence requires to be used for that testing; or
c) if no such requirement is imposed by or under the Act or by a condition of this licence, any methodology approved in writing by the EPA for the purposes of that testing prior to the testing taking place.</td><td>Sighted a copy of SLR Consulting, 'Air Quality and Greenhouse Gas Management Plan - Karuah East Quarry Project' (dated 27 November 2015).

Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.

Sighted a copy of the Karuah East Quarry, 'Monthly Environmental Monitoring Report - February 2017'.

Sighted a copy of the Karuah East Quarry, 'Monthly Environmental Monitoring Report - January 2017'.</td><td>Compliant</td><td>The Air Quality and Greenhouse Gas Management Plan presents a summary of the air quality monitoring requirements for the quarry in Table 11. The units of measurement, sampling methods and sampling frequency defined in this table are consistent with the requirements specified within the conditions of the quarry's EPL.

The general requirements of the air quality monitoring program are established in Section 8.1.1 of the Air Quality and Greenhouse Gas Management Plan. As noted within Section 8.1.1, all monitoring must be conducted in accordance with the Approved Methods for the Sampling and Analysis of Air Pollutants in NSW.</td></tr>
<tr><td>5</td><td>Monitoring and Recording Conditions - Testing Methods - Concentration Limits</td><td>Note</td><td>The Protection of the Environment Operations (Clean Air) Regulation 2010 requires testing for certain purposes to be conducted in accordance with test methods contained in the publication "Approved Methods for the Sampling and Analysis of Air Pollutants in NSW".</td><td>Sighted a copy of SLR Consulting, 'Air Quality and Greenhouse Gas Management Plan - Karuah East Quarry Project' (dated 27 November 2015).

Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.

Sighted a copy of the Karuah East Quarry, 'Monthly Environmental Monitoring Report - February 2017'.

Sighted a copy of the Karuah East Quarry, 'Monthly Environmental Monitoring Report - January 2017'.</td><td>Compliant</td><td>The general requirements of the air quality monitoring program are established in Section 8.1.1 of the Air Quality and Greenhouse Gas Management Plan. As noted within Section 8.1.1, all monitoring must be conducted in accordance with the Approved Methods for the Sampling and Analysis of Air Pollutants in NSW.
It is recommended that a statement be included within the quarry's monthly environmental monitoring reports and future annual reviews that monitoring has been conducted in accordance with the Approved Methods for the Sampling and Analysis of Air Pollutants in NSW .</td></tr>
<tr><td>5</td><td>Monitoring and Recording Conditions - Testing Methods - Concentration Limits</td><td>M3.2</td><td>Subject to any express provision to the contrary in this licence, monitoring for the concentration of a pollutant discharged to waters or applied to a utilisation area must be done in accordance with the Approved Methods Publication unless another method has been approved by the EPA in writing before any tests are conducted.</td><td>Sighted a copy of SLR Consulting, 'Air Quality and Greenhouse Gas Management Plan - Karuah East Quarry Project' (dated 27 November 2015).

Sighted a copy of SLR Consulting, 'Water Management Plan - Karuah East Quarry Project' (dated 1 December 2015).

Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.

Sighted a copy of the Karuah East Quarry, 'Monthly Environmental Monitoring Report - February 2017'.

Sighted a copy of the Karuah East Quarry, 'Monthly Environmental Monitoring Report - January 2017'.</td><td>Compliant</td><td>-</td></tr>
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Schedule	Condition	Condition Number	Condition Description	Evidence Verified	Compliance	Comments/Recommendations
5	Monitoring and Recording Conditions - Weather Monitoring	M4.1	Prior to the commencement of operation of the development, the Proponent must establish a permanent meteorological station complying with the Approved Methods for Sampling and Analysis and the Australian Standard AS2923 - 1987, at the facility. The meteorological station must monitor the following parameters: **Parameter / Units of measure / Averaging period / Frequency / Sampling Method** Rainfall / mm/hr / 1 hour / Continuous / AM-1 Sigma Theta @ 10m / degrees / 1 hour / Continuous / AM-2 Siting / / / / AM 1 Temperature @ 10m / Kelvin / 1 hour / Continuous / AM-4 Temperature @ 2m / Kelvin / 1 hour / Continuous / Am-1 Total Solar Radiation @ 10m / W/m2 / 1 hour / Continuous / AM-4 Wind direction @ 10m / degrees / 1 hour / Continuous / AM 2 Wind speed @ 10m / m/s / 1 hour / Continuous / AM-2 Sampling methods as identified in the table above refer to those outlined in NSW EPA, 2001, Approved Methods for the Sampling and Analysis of Air Pollutants in NSW.	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'. Sighted a copy of the Noise Management Plan prepared by SLR Consulting (dated 27 October 2015). Sighted a copy of SLR Consulting, 'Air Quality and Greenhouse Gas Management Plan' (dated 27 November 2015). Sighted a copy of correspondence between Peter Jamieson (EPA) and T. Grugeon (Karuah East Quarry Pty Ltd) noting appropriate location of the weather station (dated 4 May 2016). A copy of the manufacturer's calibration certificate for the meteorological monitoring station was sighted.	Compliant	As noted within the Annual Review, a new meteorological station was installed to replace the long term monitoring station at the adjacent Karuah Quarry in August 2016. The location of the meteorological station was approved by the EPA. Details of equipment, measurement and maintenance / service procedures and schedules to be installed and maintained were submitted to the EPA and approved in writing.
5	Monitoring and Recording Conditions - Weather Monitoring	M4.2	The location of the site chosen for the station and details of equipment, measurement and maintenance / service procedures and schedules to be installed and maintained must be submitted to the EPA and approved in writing by the EPA before any sampling or analysis is carried out.	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'. Sighted a copy of correspondence between Peter Jamieson (EPA) and T. Grugeon (Karuah East Quarry Pty Ltd) noting appropriate location of the weather station (dated 4 May 2016). A copy of the manufacturer's calibration certificate for the meteorological monitoring station was sighted.	Compliant	As noted within the Annual Review, a new meteorological station was installed to replace the long term monitoring station at the adjacent Karuah Quarry in August 2016. The location of the meteorological station was approved by the EPA. Details of equipment, measurement and maintenance / service procedures and schedules to be installed and maintained were submitted to the EPA and approved in writing.
5	Monitoring and Recording Conditions - Weather Monitoring	M4.3	The meteorological monitoring station must be calibrated at least once every 12 months. The EPA is to be provided with data on request in a Microsoft Office software compatible format.	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'. During the interview with T. Grugeon, it was confirmed that the meteorological station was installed in August 2016. Consequently, the requirement for calibration will not be triggered until August 2017 (outside of the audit period).	Not triggered	The monitoring station had not been installed for 12 months during the audit period.
5	Monitoring and Recording Conditions - Recording of Pollution Complaints	M5.1	The licensee must keep a legible record of all complaints made to the licensee or any employee or agent of the licensee in relation to pollution arising from any activity to which this licence applies.	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'. Sighted a copy of the 'Karuah East Quarry Community Complaints Register 2016' and 'Karuah East Quarry Community Complaints Register 2017'. A copy of the quarry's complaints register was sighted. T. Grugeon confirmed that there were no community complaints for March 2017.	Compliant	Community complaints registers are available online. Complaints made to DPE and the Council are d**iscussed in Section 4.4.**
5	Monitoring and Recording Conditions - Recording of Pollution Complaints	M5.2	The record must include details of the following: a) the date and time of the complaint; b) the method by which the complaint was made; c) any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect; d) the nature of the complaint; e) the action taken by the licensee in relation to the complaint, including any follow-up contact with the complainant; and f) if no action was taken by the licensee, the reasons why no action was taken.	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'. Sighted a copy of the 'Karuah East Quarry Community Complaints Register 2016' and 'Karuah East Quarry Community Complaints Register 2017'. Sighted a copy of the 'Environmental Complaints Record Form'.	Compliant	The quarry's environmental complaints record form satisfies the requirements of this condition.
5	Monitoring and Recording Conditions -	M5.3	The record of a complaint must be kept for at least 4 years after the complaint was made.	-	Note	-
5	Monitoring and Recording Conditions -	M5.4	The record must be produced to any authorised officer of the EPA who asks to see them.	-	Note	-
5	Monitoring and Recording Conditions - Telephone Complaints Line	M6.1	The licensee must operate during its operating hours a telephone complaints line for the purpose of receiving any complaints from members of the public in relation to activities conducted at the premises or by the vehicle or mobile plant, unless otherwise specified in the licence.	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'. Web: http://hunterquarries.com.au/	Administrative non-compliance	A complaints line is not clearly identified on the Hunter Quarries website. **It is recommended that the Hunter Quarries website is updated to specify a number to call with complaints - this may be the same number as the general number provided.**

Schedule	Condition	Condition Number	Condition Description	Evidence Verified	Compliance	Comments/Recommendations
5	Monitoring and Recording Conditions - Telephone Complaints Line	M6.2	The licensee must notify the public of the complaints line telephone number and the fact that it is a complaints line so that the impacted community knows how to make a complaint.	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'. Web: http://hunterquarries.com.au/	Administrative non-compliance	A complaints line is not clearly identified on the Hunter Quarries website. **It is recommended that the Hunter Quarries website is updated to specify a number to call with complaints - this may be the same number as the general number provided.**
5	Monitoring and Recording Conditions -	M6.3	The preceding two conditions do not apply until 1 month after the date of the issue of this licence.	-	Note	-
5	Monitoring and Recording Conditions - Blasting		To determine compliance with Blast Limit conditions of this licence: a) Airblast overpressure and ground vibration levels must be measured and electronically recorded for monitoring point 11 for the parameters specified in Column 1 of the table below; and b) The licensee must use the units of measure, sampling method, and sample at the frequency specified opposite in the other columns. **Parameter** / **Units of Measure** / **Frequency** / **Sampling Method** Airblast Overpressure / Decibels (Linear Peak) / All blasts / Australian Standard AS 2187.2-2006 Ground Vibration Peak Particle Velocity / millimetres/second / All blasts / Australian Standard AS 2187.2-2006	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'. Sighted a copy of the Karuah East Quarry, 'Monthly Environmental Monitoring Report - February 2017'. Sighted a copy of the Karuah East Quarry, 'Monthly Environmental Monitoring Report - January 2017'. Sighted a copy of SLR Consulting, 'Blast Management Plan - Karuah East Quarry Project - October 2015' (dated 29 October 2015).	Compliant	The blast monitoring location identified in Table 9 of the Blast Management Plan is consistent with the location listed as part of this condition. The Blast Management Plan presents a summary of the blast monitoring requirements for the quarry in Table 9. The units of measurement, sampling method and monitoring frequency defined in this table are consistent with the requirements specified as part of this condition.
5	Monitoring and Recording Conditions - Noise Monitoring	M8.1	To assess compliance with the noise limits for this premises attended noise monitoring must be undertaken in accordance with all noise conditions and: a) at each one of the locations listed in the noise limits table of this licence; b) occur annually each reporting period at the time of year generally associated with maximum noise transmission (ie generally winter conditions); c) occur during each day period as defined in the NSW Industrial Noise Policy. Note: the frequency of this noise monitoring may be varied at the discretion of the EPA.	Sighted a copy of the 'Noise Management Plan' prepared by SLR Consulting (dated 27 October 2015). Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'. Sighted a copy of the Karuah East Quarry, 'Monthly Environmental Monitoring Report - February 2017'. Sighted a copy of the Karuah East Quarry, 'Monthly Environmental Monitoring Report - January 2017'. Sighted a copy of SLR Consulting, 'Construction Noise Compliance Monitoring - Karuah East Project - September 2016' (dated 20 March 2017).	Compliant	The Noise Management Plan specifies that all noise measurement procedures employed throughout the monitoring programme will be guided by the requirements of AS 1055 1997 Acoustics - Description and Measurement of Environmental Noise (refer to Section 8). In addition, all acoustic instrumentation employed throughout the monitoring programme will be designed to comply with the requirements of AS IEC 61672.1 - 2004 Electroacoustics - Sound level meters - Specifications. As noted within the Noise Management Plan and the Annual Review, the noise monitoring locations are consistent with the locations listed as part of this EPL. The requirements specified as part of this condition are not explicitly address within the Noise Management Plan. The Noise Management Plan has been prepared with referent to the NSW INP. As noted in Section 8.3, operator attended noise monitoring will continue to occur during the daytime, as defined in the INP.
6	Reporting Conditions - Annual Return Documents	R1.1	The licensee must complete and supply to the EPA an Annual Return in the approved form comprising: a) a Statement of Compliance; and b) a Monitoring and Complaints Summary. At the end of each reporting period, the EPA will provide to the licensee a copy of the form that must be completed and returned to the EPA.	Sighted the annual return under EPL 20611 - received by EPA on 24 October 2016.	Compliant	-
6	Reporting Conditions - Annual Return Documents	R1.2	An Annual Return must be prepared in respect of each reporting period, except as provided below. Note: The term "reporting period" is defined in the dictionary at the end of this licence. Do not complete the Annual Return until after the end of the reporting period.	Sighted the annual return under EPL 20611 - received by EPA on 24 October 2016.	Compliant	-
6	Reporting Conditions - Annual Return Documents	R1.3	Where this licence is transferred from the licensee to a new licensee: a) the transferring licensee must prepare an Annual Return for the period commencing on the first day of the reporting period and ending on the date the application for the transfer of the licence to the new licensee is granted; and b) the new licensee must prepare an Annual Return for the period commencing on the date the application for the transfer of the licence is granted and ending on the last day of the reporting period. Note: An application to transfer a licence must be made in the approved form for this purpose.	-	Not triggered	-
6	Reporting Conditions - Annual Return Documents	R1.4	Where this licence is surrendered by the licensee or revoked by the EPA or Minister, the licensee must prepare an Annual Return in respect of the period commencing on the first day of the reporting period and ending on: a) in relation to the surrender of a licence - the date when notice in writing of approval of the surrender is given; or b) in relation to the revocation of the licence - the date from which notice revoking the licence operates.	-	Not triggered	-
6	Reporting Conditions - Annual Return Documents	R1.5	The Annual Return for the reporting period must be supplied to the EPA by registered post not later than 60 days after the end of each reporting period or in the case of a transferring licence not later than 60 days after the date the transfer was granted (the 'due date').	Sighted the annual return under EPL 20611 - received by EPA on 24 October 2016. Sighted the receipt confirming the annual return was submitted by registered post on 20 October 2016.	Compliant	-
6	Reporting Conditions - Annual Return Documents	R1.6	The licensee must retain a copy of the Annual Return supplied to the EPA for a period of at least 4 years after the Annual Return was due to be supplied to the EPA.	Sighted the annual return under EPL 20611 - received by EPA on 24 October 2016. Sighted the receipt confirming the annual return was submitted by registered post on 20 October 2016.	Compliant	-

Schedule	Condition	Condition Number	Condition Description	Evidence Verified	Compliance	Comments/Recommendations
6	Reporting Conditions - Annual Return Documents	R1.7	Within the Annual Return, the Statement of Compliance must be certified and the Monitoring and Complaints Summary must be signed by: a) the licence holder; or b) by a person approved in writing by the EPA to sign on behalf of the licence holder.	Sighted the annual return under EPL 20611 - received by EPA on 24 October 2016. Sighted the receipt confirming the annual return was submitted by registered post on 20 October 2016.	Compliant	-
6	Reporting Conditions - Notification of Environmental Harm	R2.1	Notifications must be made by telephoning the Environment Line service on 131 555.	-	Not triggered	No notifications were made during the audit period. No incidents occurred during the audit period.
6	Reporting Conditions - Notification of Environmental Harm	R2.2	The licensee must provide written details of the notification to the EPA within 7 days of the date on which the incident occurred. Note: The licensee or its employees must notify all relevant authorities of incidents causing or threatening material harm to the environment immediately after the person becomes aware of the incident in accordance with the requirements of Part 5.7 of the Act.	-	Not triggered	No notifications were made during the audit period. No incidents occurred during the audit period.
6	Reporting Conditions - Written Report	R3.1	Where an authorised officer of the EPA suspects on reasonable grounds that: a) where this licence applies to premises, an event has occurred at the premises; or b) where this licence applies to vehicles or mobile plant, an event has occurred in connection with the carrying out of the activities authorised by this licence, and the event has caused, is causing or is likely to cause material harm to the environment (whether the harm occurs on or off premises to which the licence applies), the authorised officer may request a written report of the event.	-	Not triggered	No events occurred during the audit period.
6	Reporting Conditions - Written Report	R3.2	The licensee must make all reasonable inquiries in relation to the event and supply the report to the EPA within such time as may be specified in the request.	-	Not triggered	No events occurred during the audit period.
6	Reporting Conditions - Written Report	R3.3	The request may require a report which includes any or all of the following information: a) the cause, time and duration of the event; b) the type, volume and concentration of every pollutant discharged as a result of the event; c) the name, address and business hours telephone number of employees or agents of the licensee, or a specified class of them, who witnessed the event; d) the name, address and business hours telephone number of every other person (of whom the licensee is aware) who witnessed the event, unless the licensee has been unable to obtain that information after making reasonable effort; e) action taken by the licensee in relation to the event, including any follow-up contact with any complainants; f) details of any measure taken or proposed to be taken to prevent or mitigate against a recurrence of such an event; and g) any other relevant matters.	-	Not triggered	No events occurred during the audit period.
6	Reporting Conditions - Written Report	R3.4	The EPA may make a written request for further details in relation to any of the above matters if it is not satisfied with the report provided by the licensee. The licensee must provide such further details to the EPA within the time specified in the request.	-	Not triggered	No events occurred during the audit period.
6	Reporting Conditions - Other Reporting Conditions - Reporting Blasting Limit Exceedance	R4.1	The licensee must report any exceedance of the licence blasting limits to the regional office of the EPA as soon as practicable after the exceedance becomes known to the licensee or to one of the licensee's employees or agents.	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'. Sighted a copy of the Karuah East Quarry, 'Monthly Environmental Monitoring Report - February 2017'. Sighted a copy of the Karuah East Quarry, 'Monthly Environmental Monitoring Report - January 2017'. Sighted a copy of the 'Karuah East Quarry Community Complaints Register 2016' and 'Karuah East Quarry Community Complaints Register 2017'.	Not triggered	Blasting activities within the audit period did not cause exceedances of the relevant blasting criteria. No complaints have been received regarding the blasting activities at the site.
6	Reporting Conditions - Other Reporting Conditions - Annual Blast Monitoring Report	R4.2	The licensee must supply a Blast Monitoring Report with the EPA licence Annual Return, which must include the following information relating to each blast carried out within the premises during the respective reporting period: a) the date and time of the blast; b) the location of the blast on the premises; c) the blast monitoring results at each blast monitoring station; d) an explanation for any missing blast monitoring results.	There was no blasting on site within the reporting period for the EPA licence Annual Return. The first blast occurred on 14 December 2016.	Not triggered	
6	Reporting Conditions - Other Reporting Conditions - Noise Monitoring Report	R4.3	A noise compliance assessment report must be submitted to the EPA within 30 days of the completion of the annual monitoring. The assessment must be prepared by a suitably qualified and experienced acoustical consultant and include: a) an assessment of compliance with noise limits presented in this licence; and b) an outline of any management actions taken within the monitoring period to address any exceedances of the limits contained in this licence.	While a Noise Compliance Assessment Report was not submitted to the EPA. In its place, a copy of the quarterly noise monitoring results were provided, which indicated that the quarry was compliant with the conditions stipulated within the EPL and the project approval.	Compliant	
7	General Conditions	G1	Copy of licence kept at the premises or plant	A copy of the EPL is available in the site office.	Compliant	
7	General Conditions	G1.1	A copy of this licence must be kept at the premises to which the licence applies.	A copy of the EPL is available in the site office.	Compliant	
7	General Conditions	G1.2	The licence must be produced to any authorised officer of the EPA who asks to see it.	-	Note	-
7	General Conditions	G1.3	The licence must be available for inspection by any employee or agent of the licensee working at the premises.	-	Note	-

Commitment Aspect	Commitment Sub-aspect (i)	Commitment Sub-aspect (ii)	Commitment Description	Evidence Verified	Compliance	Comments/Recommendations
1.0 PLANS, DOCUMENTS AND APPROVALS			The proposed development will be completed in accordance with the submitted plans and descriptions of the proposed development provided in the Environmental Assessment Report (31 January 2013) and the Preferred Project Report (30 July 2013). Any changes to the proposed development will require further approval of the relevant authorities. The proposed development will be carried out in accordance with all approvals granted by relevant authorities.	Sighted a copy of the 'Environmental Assessment Report - Proposed Karuah East Hard Rock Quarry' prepared by ADW Johnson Pty Limited (dated 31 January 2013). Site inspection Google Earth images	Compliant	Refer to Schedule 2, Condition 2 of PA 09_0175.
2.0 SUMMARY OF MANAGEMENT PLANS			The following management plans will be prepared prior to commencement of construction works:	-	Note	-
2.0 SUMMARY OF MANAGEMENT PLANS			Construction Environmental Management Plan (CEMP);	Sighted	Compliant	-
2.0 SUMMARY OF MANAGEMENT PLANS			Environmental Management Plan (EMP). The EMP will ensure that the commitments made in the EA Report and Preferred Project Report and the requirements under subsequent approval and license conditions are fully implemented. The EMP will confirm who is responsible and when the commitments associated with the mitigation and monitoring strategies should be implemented/undertaken;	The Environmental Management Strategy addresses each of the matters listed in the commitment description.	Compliant	The management plans generally address this commitment with the exceptions noted below. Recommendations are provided with regards to non-compliances.
2.0 SUMMARY OF MANAGEMENT PLANS			Annual Environmental Management Report (AEMR);	Sighted	Compliant	-
2.0 SUMMARY OF MANAGEMENT PLANS			Pre clearing survey;	Sighted	Compliant	-
2.0 SUMMARY OF MANAGEMENT PLANS			Vegetation Management / Monitoring Plan;	Sighted as part of BOAMP	Compliant	-
2.0 SUMMARY OF MANAGEMENT PLANS			Conservation Management Plan;	Sighted as part of BOAMP	Compliant	-
2.0 SUMMARY OF MANAGEMENT PLANS			Soil Management Plan;	While a specific soil management plan has not been developed for Karuah East Quarry, the CEMP and WMP provide erosion and sediment control measures.	Compliant	-
2.0 SUMMARY OF MANAGEMENT PLANS			Groundwater Monitoring Plan;	Sighted as part of WMP	Compliant	-
2.0 SUMMARY OF MANAGEMENT PLANS			Surface Water Management Plan (including erosion and sediment control and monitoring);	Sighted as part of WMP	Compliant	-
2.0 SUMMARY OF MANAGEMENT PLANS			Noise Monitoring Plan;	Sighted	Compliant	-
2.0 SUMMARY OF MANAGEMENT PLANS			Blasting Management Plan;	Sighted	Compliant	-
2.0 SUMMARY OF MANAGEMENT PLANS			Air Quality Monitoring Plan;	Sighted	Compliant	-
2.0 SUMMARY OF MANAGEMENT PLANS			Construction Traffic Management Plan;	Sighted	Compliant	-
2.0 SUMMARY OF MANAGEMENT PLANS			Environmental Management Strategy;	Sighted	Compliant	-
2.0 SUMMARY OF MANAGEMENT PLANS			Quarry Closure and Rehabilitation Plan; and	Sighted	Compliant	-
2.0 SUMMARY OF MANAGEMENT PLANS			Waste Management Plan.	T. Grugeon confirmed in correspondence on 30 May 2017 that a waste management plan has not been developed for Karuah East Quarry. The CEMP lists the environmental control measures for general and hazardous waste during the construction period. However, it also references a waste management plan.	Administrative non-compliance	The quarry's EMS and management plans have been approved by DPE. However, a waste management plan has not been prepared to meet this commitment. **It is recommended that a waste management plan is prepared, in accordance with the summary of environmental monitoring provided in Table 6 of the EMS.**
3.0 SOIL AND WATER	3.1 Soil Management		The following will be undertaken: i) Topsoil will be stripped in accordance with the recommended stripping depth for each soil type, together with area of land and calculated volume which are provided in the table below; **Table 1 - Recommended Stripping Depths** Soil Type / Project Soil Name / Soil Layer / Recommended Stripping Depth (m) / Area (ha) / Volume (m³) 1 Brown Chromosols — Topsoil 0.30 8.63 25,890; Subsoil 0.90 8.63 77,670 2 Red Dermosols — Topsoil 0.10 4.55 4,550; Subsoil 1.10 4.55 50,050 3 Leptic Tenosols — Topsoil 0.0 16.4 0; Subsoil 0.0 16.4 0 **Total Volume** 158,160 **Total Volume** (10% handling loss allowance) 142,344	Site inspection	Not verified	Clearing of the quarry area will be progressive and is not complete. The depth of stripping could not be verified but topsoil and subsoil appeared to be appropriately managed with the exception of some stockpiling heights (see comments on Project Approval Schedule 3, Condition 32). T. Grugeon confirmed in correspondence on 30 May 2017 that topsoil was stripped in to stockpiles mainly around the weighbridge, plant and stockpile areas. This topsoil was stripped to approximately 300-400 mm depth. Topsoil was also stripped from the extraction area (where possible) and has been used to form water bunds to direct water towards Dam 1.
3.0 SOIL AND WATER	3.1 Soil Management		ii) Topsoil disturbance resulting from the excavation of the open cut pit will not be stripped. Areas to be disturbed within the infrastructure boundary will be stripped and stockpiled for re-use in rehabilitation for the area from where it was stripped;	Site inspection	Not verified	The source locations of stripped topsoil could not be verified.
3.0 SOIL AND WATER	3.1 Soil Management		iii) Only the sandy clay loam topsoil of Soil Type 1 will be used as the final surface topdressing in rehabilitation;	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.	Not triggered	No quarrying operations were undertaken during the audit period. Operations will likely commence in mid to late 2017, but will be dependent on the completion of construction activities.
3.0 SOIL AND WATER	3.1 Soil Management		iv) Rehabilitation involving topsoil respreading will occur on the entire infrastructure area. The open cut footprint will be rehabilitated through direct tree planting and more specific rehabilitation measures; and	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.	Not triggered	No quarrying operations were undertaken during the audit period. Operations will likely commence in mid to late 2017, but will be dependent on the completion of construction activities.
3.0 SOIL AND WATER	3.1 Soil Management		v) Topsoil will be respread on final landforms at a minimum of 15cm, and an intermediate layer will be established at a minimum of 30cm.	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.	Not triggered	No quarrying operations were undertaken during the audit period. Operations will likely commence in mid to late 2017, but will be dependent on the completion of construction activities.

Commitment Aspect	Commitment Sub-aspect (i)	Commitment Sub-aspect (ii)	Commitment Description	Evidence Verified	Compliance	Comments/Recommendations
3.0 SOIL AND WATER	3.1 Soil Management		Where topsoil stripping and transportation is required, the following topsoil handling techniques will be implemented to prevent excessive soil deterioration, note this also applies to subsoil stripping: i) Strip material to the depths stated in the table above, subject to further investigation as required; ii) Topsoil will be maintained in a slightly moist condition during stripping. Material will not be stripped in either an excessively dry or wet condition; iii) Place stripped material directly onto reshaped overburden and spread immediately to avoid the requirement for stockpiling; iv) Clay material will be applied first to create an intermediate layer. The loam topsoil will then be spread to overlie this layer; v) The surface of soil stockpiles will be left in as coarsely structured a condition as possible in order to promote infiltration and minimise erosion until vegetation is established, and to prevent anaerobic zones forming; vi) Maintain a maximum stockpile height of 3m; vii) If long-term stockpiling is planned (i.e. greater than 12 months), stockpiles will be seeded and fertilised as soon as possible; and viii) Prior to re-spreading stockpiled topsoil onto reshaped overburden an assessment of weed infestation on stockpiles will be undertaken to determine if individual stockpiles require herbicide application and/or “scalping” of weed species prior to topsoil spreading. ix) An inventory of available soil will be maintained to ensure adequate topsoil materials are available for planned rehabilitation activities. x) The respread topsoil surface will be scarified prior to, or during seeding, to reduce run-off and increase infiltration.	Site inspection	Not verified	Topsoil has been stripped No stripping was underway during the site inspection and conditions during stripping could not be observed. Direct replacement measures not yet applicable.
3.0 SOIL AND WATER	3.2 Groundwater Management		Prior to commencement of works, further investigation of groundwater conditions will be conducted in consultation with the NSW Office of Water;	During correspondence with T. Grugeon, it was confirmed that consultation with the DPI Water (formerly NSW Office of Water) took place prior to the commencement of construction activities. This consultation was initiated by SLR Consulting who prepared the quarry's water management plan. It was noted that no response to this consultation was received. Sighted a copy of correspondence from DPI Water (dated 23 September 2015) confirming that they had reviewed the water management plan and had no further comment regarding the plan.	Compliant	-
3.0 SOIL AND WATER	3.2 Groundwater Management		Benches and the pit floor will be graded to promote drainage toward the entrance to the pit;	-	Not triggered	-
3.0 SOIL AND WATER	3.2 Groundwater Management		Minor seepage and ponding water from excessive rainfall will be managed by conventional drainage measures within the quarry such as periodic pumping out to the surrounding drainage controls. Water will be retained on site for quarry operations and for environmental mitigation;	Site inspection	Not verified	Water management measures appear to be appropriately designed. However the application of the specific measures listed could not be verified.
3.0 SOIL AND WATER	3.2 Groundwater Management		Only emergency vehicles repairs will be carried out onsite and any major vehicle repairs/maintenance will occur offsite;	Site inspection	Not verified	There was no evidence that only emergency vehicles repairs were being carried out onsite during the site inspection. However, it could not be verified that this has not occurred at any time.
3.0 SOIL AND WATER	3.2 Groundwater Management		Refuelling will be undertaken in a designated non-permeable (compacted clay or concrete) area;	Site inspection	Administrative non-compliance	The site is under construction and re-fuelling areas have not been constructed. Refuelling in the quarry and infrastructure area is currently performed by a mobile tanker. These are temporary arrangements during the project's construction period and will be addressed prior to the commencement of quarrying operations. Obviously, some earthworks need to be completed before a non-permeable refuelling area can be established. It would have been better to recognise this when writing this commitment. **It is recommended that a non-permeable refuelling area (or areas) is constructed as soon as practicable.**
3.0 SOIL AND WATER	3.2 Groundwater Management		Runoff water from the Project site will be collected and monitored for environmental mitigation to prevent chemicals and hydrocarbon pollutants such as petroleum, diesel, and oil seeping into the groundwater system;	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'	Compliant	Oil and grease are monitored in surface water. Parameters indicative of hydrocarbon contamination are measures in groundwater (see below).
3.0 SOIL AND WATER	3.2 Groundwater Management		Fuel storage facilities will be installed in accordance with relevant statutory requirements. Handling and storage of fuel and oil within the project site will be in accordance with Australian Standards, AS 1940-2004 (Storage and Handling of Flammable and Combustible Liquids) and NSW Work Cover 2005 Code of Practice for Storage and Handling of Dangerous Goods to reduce the risk of any spills or environmental release. Above ground storage in a bunded facility will be used;	Site inspection	Not triggered	Not triggered as fuel storage facilities have not been installed. See comments in regard to Commitment 3.2 above.

Commitment Aspect	Commitment Sub-aspect (i)	Commitment Sub-aspect (ii)	Commitment Description	Evidence Verified	Compliance	Comments/Recommendations
3.0 SOIL AND WATER	3.2 Groundwater Management		Material Safety Data Sheets (MSDS) will be kept in the site safety system for all chemicals used on site. The MSDS will contain information on the environmental impacts of the use of certain chemicals and include detail on emergency response, clean up and disposal. Handling and storage of all chemicals within the project site will be in accordance with Dangerous Goods Act 1975 (NSW), and Australian standards, including AS 1940-2004 (Storage and Handling of Flammable and Combustible Liquids); and	Site inspection	Compliant	During correspondence with T. Grugeon, it was confirmed that the MSDS are stored in a register on site, along with risk assessments for the handling and storage of dangerous goods. The MSDS are accessible at the sign-in shed at the Karuah East Quarry site office, with additional copies available in the quarry manager's office. Electronic copies are also available. In addition, T. Grugeon confirmed that during the site inspection there were two spill kits available on site, as required under the NSW Dangerous Goods Act 1975 and Australian Standards.
3.0 SOIL AND WATER	3.2 Groundwater Management		Quarry rehabilitation will use spoil, and clean fill fit for purpose and in accord with relevant statutory requirements.	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.	Not triggered	No rehabilitation has been undertaken.
3.0 SOIL AND WATER	3.2 Groundwater Management	Contingency, Monitoring and Reporting for Groundwater Management	***Contingency Plans*** Emergency Response Procedures will be developed and implemented for the proposed Karuah East quarry. Contingency plans will be developed to address actions that are required where unforeseen events occur. Contingency plans will consider the following: (i) Groundwater levels: If groundwater level monitoring indicates abrupt changes, additional investigations will be carried out to implement necessary measures; and (ii) Groundwater quality: In the event that the groundwater quality monitoring indicates a deteriorating change of groundwater quality in relation to the proposed quarrying operations, the appropriate authority will be contacted to discuss the implementation of necessary measures.	Sighted a copy of SLR Consulting, 'Water Management Plan - Karuah East Quarry Project' (dated 1 December 2015).	Compliant	Appendix B of the Water Management Plan contains Trigger Action Response Plans (TARPs) to manage any possible unforeseen events, including changes to groundwater levels and groundwater quality.
3.0 SOIL AND WATER	3.2 Groundwater Management	Contingency, Monitoring and Reporting for Groundwater Management	***Monitoring Plan*** Monitoring of groundwater levels and groundwater quality will be conducted prior to the start of quarry operations. The existing monitoring bores at BH205, BH207, BH208 and BH303 will be used for monitoring groundwater of the quarry area. New monitoring bores will be installed if any existing monitoring bores are destroyed during the quarry operations, or are subject to general failure. Surface runoff water will also be monitored.	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.	Compliant	No new monitoring bores have been required to date.
3.0 SOIL AND WATER	3.2 Groundwater Management	Groundwater Levels	Groundwater levels will be monitored on a quarterly basis to identify any adverse impacts arising from the operation of the quarry in the future, and to identify long-term groundwater level trends.	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'. Sighted a copy of the Karuah East Quarry, Monthly Environmental Monitoring Reports for January and February 2017 and May through to December 2016.	Compliant	-
3.0 SOIL AND WATER	3.2 Groundwater Management	Groundwater Quality	Groundwater samples will be collected for laboratory analysis on a 6-monthly basis. The groundwater quality results will be laboratory analysed for the parameters below and compared to background water quality results. The groundwater sampling will be carried out by an experienced groundwater professional or environmental scientist in accordance with Australian sampling standards. The basic analyte and parameter suite applies to all samples. The additional extended analytic suite should apply annually together with the basic suite.	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'. Sighted a copy of the Karuah East Quarry, Monthly Environmental Monitoring Report for March and October 2016. During correspondence with T. Grugeon, it was confirmed that the groundwater monitoring in March 2016 was carried out by RCA Australia. In addition, groundwater monitoring in October 2016 and April 2017 was undertaken by Valley Civilab. The groundwater samples collected as part of these monitoring events were tested in NATA approved labs for the listed analytes.	Administrative non-compliance	There is no evidence that the groundwater sampling was carried out by an experienced professional or environmental scientist in accordance with the Australian sampling standards. **It is recommended that the qualifications and experience of the professional undertaking groundwater sampling are provided in monitoring reports.** The laboratory results for March 2016 and April 2017 confirmed that the suite of analytes listed as part of this commitment were assessed (with the exception of total iron, which was not assessed as part of the April 2017 monitoring event). **It is recommended that total iron concentrations be assessed as part of the 12 monthly suite of analytes or that the Water Management Plan is amended to remove this requirement .**

Commitment Aspect	Commitment Sub-aspect (i)	Commitment Sub-aspect (ii)	Commitment Description	Evidence Verified	Compliance	Comments/Recommendations
3.0 SOIL AND WATER	3.2 Groundwater Management	Groundwater Quality	Basic Analytes and Parameters – 6 monthly (every sample): ph, Electrical Conductivity (EC), Total Dissolved Solids (TDS); Alkalinity; Total nitrogen, total phosphorus; Major ions, calcium, magnesium, sodium, potassium, chloride, sulphate, carbonate, bicarbonate; Total Petroleum Hydrocarbon (TPH); and BTEX (benzene, toluene, ethyl benzene, exylene).	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'. Sighted a copy of the Karuah East Quarry, Monthly Environmental Monitoring Report for October 2016.	Compliant	TPH is reported as total recoverable hydrocarbons (TRH) as per the NEPM method detailed here: http://www.measurement.gov.au/Services/EnvironmentalTesting/Pages/HydrocarbonsandEnvironmentalContamination.aspx
3.0 SOIL AND WATER	3.2 Groundwater Management	Groundwater Quality	Additional Analysis – 12 monthly (every second sample only): Nutrient suite: total nitrogen, nitrate, total Kjeldahl nitrogen, total phosphorus, phosphate; Metals (arsenic, cadmium, chromium, copper, lead, zinc, nickel, manganese, mercury, total iron, filterable iron); Polycyclic Aromatic Hydrocarbon (PAH); and Organophosphorus pesticides, phenoxy acid herbicides.	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'. Sighted a copy of the Karuah East Quarry, Monthly Environmental Monitoring Report for October 2016. Sighted a copy of the laboratory results for the March 2016 (dated 15 April 2016) and the April 2017 monitoring event (dated 12 April 2017). The results confirmed that the suite of analytes listed as part of this commitment were assessed (with the exception of total iron, which was not assessed as part of the April 2017 monitoring event).	Administrative non-compliance	The laboratory results for March 2016 and April 2017 confirmed that the suite of analytes listed as part of this commitment were assessed (with the exception of total iron, which was not assessed as part of the April 2017 monitoring event). **It is recommended that total iron concentrations be assessed as part of the 12 monthly suite of analytes or that the Water Management Plan is amended to remove this requirement.**
3.0 SOIL AND WATER	3.2 Groundwater Management	Groundwater Quality	The recording date, time and parameters of monitoring data will be collected and tabulated. All original laboratory reports will be maintained on file. Monitoring records will be kept until the closure stage of the quarry for inspection on request by government agencies.	Sighted a copy of the laboratory reports for March 2016, October 2016 and April 2017 groundwater monitoring activities.	Compliant	-
3.0 SOIL AND WATER	3.3 Surface Water – Proposed Water Management System	Quarry Extraction Area	Runoff generated within the active quarry extraction area will be directed into an in-pit sump where it will be contained and pumped out as required so as not to impede quarrying activity;	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.	Not triggered	No quarrying operations were undertaken during the audit period. Operations will likely commence in mid to late 2017, but will be dependent on the completion of construction activities.
3.0 SOIL AND WATER	3.3 Surface Water – Proposed Water Management System	Quarry Extraction Area	A bund and sediment fence will be maintained along the southern boundary of the quarry, to minimise the risk of sediment being washed downstream of the quarry;	During the site inspection, evidence of bunds and sediment fencing along the perimeter of the quarry were observed (refer to Photograph 4.3 and Photograph 4.4).	Compliant	-
3.0 SOIL AND WATER	3.3 Surface Water – Proposed Water Management System	Quarry Extraction Area	Construction of the quarry floor will be managed in such a way so as to direct all runoff to the in-pit sump. The location of this sump will change as quarrying progresses, however it will generally be located in the south east corner of the quarry;	-	Not triggered	-
3.0 SOIL AND WATER	3.3 Surface Water – Proposed Water Management System	Quarry Extraction Area	Water collected in the in-pit sump will be pumped out as required into a rock lined table drain adjacent to the main haul road. The water will flow down this drain to the main dirty water dam, Dam 1, via a rock lined drop structure; and	-	Not triggered	-
3.0 SOIL AND WATER	3.3 Surface Water – Proposed Water Management System	Quarry Extraction Area	Progressive rehabilitation of all formed surfaces, such as quarry benches and long term soil stockpiles, will occur wherever possible to reduce the amount of total suspended solids (TSS) in runoff from disturbed areas.	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.	Not triggered	No quarrying operations were undertaken during the audit period. Operations will likely commence in mid to late 2017, but will be dependent on the completion of construction activities.
3.0 SOIL AND WATER	3.3 Surface Water – Proposed Water Management System	Dam 1 Catchment (crushing plant and product stockpiles)	An existing farm dam will be upgraded and used as a sediment dam (Dam 1);	Site inspection	Compliant	-
3.0 SOIL AND WATER	3.3 Surface Water – Proposed Water Management System	Dam 1 Catchment (crushing plant and product stockpiles)	The crushing plant area will be graded such that runoff from this area will flow into Dam 1;	Site inspection	Compliant	During the site inspection, Gerard Grugeon explained that the infrastructure area is graded such that runoff from this area will flow into Dam 1. Evidence of the drainage system to capture this runoff was also observed during the site inspection.
3.0 SOIL AND WATER	3.3 Surface Water – Proposed Water Management System	Dam 1 Catchment (crushing plant and product stockpiles)	Water for haul road and some stockpile dust suppression, as well as for the crushing plant will be sourced from Dam 1; and	Site inspection	Not verified	Water was not being used for dust suppression during the site inspection and no permanent pumping infrastructure is in place. However, there is no evidence that water from Dam 1 is not being used for this purpose.
3.0 SOIL AND WATER	3.3 Surface Water – Proposed Water Management System	Dam 1 Catchment (crushing plant and product stockpiles)	A diversion bund will be constructed along the eastern boundary of this catchment area, to direct runoff from the area into Dam 1.	Site inspection	Compliant	During the site inspection, evidence of diversion bunds along the eastern boundary of this catchment area were observed (refer to Photograph 4.3).

<table>
<tr><th>Commitment Aspect</th><th>Commitment Sub-aspect (i)</th><th>Commitment Sub-aspect (ii)</th><th>Commitment Description</th><th>Evidence Verified</th><th>Compliance</th><th>Comments/Recommendations</th></tr>
<tr><td>3.0 SOIL AND WATER</td><td>3.3 Surface Water – Proposed Water Management System</td><td>Dam 2 Catchment (product stockpiles and office infrastructure area)</td><td>A second sediment dam, Dam 2, will be constructed adjacent to the main haul road to capture runoff from this area. Water collected in Dam 2 will be re-used for dust suppression on the product stockpiles.</td><td>Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.

Sighted a copy of the Karuah East Quarry, 'Monthly Environmental Monitoring Report - February 2017'.

Site inspection</td><td>Not verified</td><td>Within the Annual Review, it was noted that construction of Dam 2 was completed in October 2016. Further, there is reference to sampling at this location for two months within the audit period (ie November and December 2016). The February monitoring report also indicated that Dam 2 was being reconstructed and modified.

During the site inspection, Dam 2 was not observed. T. Grugeon noted during the site inspection that there was poor catchment in Dam 2 and that revisions to the Water Management Plan would be required.

There were no product stockpiles at the time of the site inspection.

Water was not being used for dust suppression during the site inspection and no permanent pumping infrastructure is in place. However, there is no evidence that water from Dam 2 is not being used for this purpose.</td></tr>
<tr><td>3.0 SOIL AND WATER</td><td>3.3 Surface Water – Proposed Water Management System</td><td>Dam 3 Catchment (product stockpiles)</td><td>A third sediment dam, Dam 3, will be constructed in the north east corner of the southern stockpile area. Water collected in dam 3 will be re-used for dust suppression on the adjacent product stockpiles.</td><td>During the site inspection, evidence of the construction of Dam 3 was observed (refer to Photograph 4.2).</td><td>Not verified</td><td>Dam 3 has been constructed.
There were no product stockpiles at the time of the site inspection.
Water was not being used for dust suppression during the site inspection and no permanent pumping infrastructure is in place. However, there is no evidence that water from Dam 3 is not being used for this purpose.</td></tr>
<tr><td>3.0 SOIL AND WATER</td><td>3.3 Surface Water – Proposed Water Management System</td><td>During Construction</td><td>Sediment laden runoff from disturbed areas during construction will be managed by implementing the following erosion and sedimentation control principles:
- Conducting best practice land clearing procedures for all proposed disturbance areas;
- Minimising the disturbance footprint;
- Coordinating construction sequences to minimise exposure of disturbed soils to the elements;
- Separate/diversion of upslope ‘clean’ water catchment runoff prior to land disturbance;
- Ensuring sediment-laden runoff is treated via designated sediment control devices;
- Appropriate storage of topsoil stockpiles in areas away from roadways and other drainage lines;
- Revegetation of disturbed areas as soon as possible following the completion of construction activities; and
- Implementing an effective maintenance period.</td><td>Site inspection</td><td>Compliant</td><td>Construction was ongoing during the audit period.
During the site inspection, these erosion and sediment control practices were observed</td></tr>
<tr><td>3.0 SOIL AND WATER</td><td>3.3 Surface Water – Proposed Water Management System</td><td>Surface Water Management – Final Landform</td><td>Dams 1, 2 & 3 will remain in place for post-mining landuse. Consultation will be undertaken with relevant government agencies in relation to licensing conditions at that time; and</td><td>Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.</td><td>Not triggered</td><td>No quarrying operations were undertaken during the audit period. Operations will likely commence in mid to late 2017, but will be dependent on the completion of construction activities.</td></tr>
<tr><td>3.0 SOIL AND WATER</td><td>3.3 Surface Water – Proposed Water Management System</td><td>Surface Water Management – Final Landform</td><td>If deemed necessary by the relevant government agency, the dams will be removed.</td><td>Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.</td><td>Not triggered</td><td>No quarrying operations were undertaken during the audit period. Operations will likely commence in mid to late 2017, but will be dependent on the completion of construction activities.</td></tr>
<tr><td>3.0 SOIL AND WATER</td><td>3.3 Surface Water – Proposed Water Management System</td><td>Dam Design</td><td>Each dam will be constructed to the following capacity in accordance with ‘Blue Book’ requirements:

Table 2 – Summary of Proposed Dams
<table><tr><th>Dam</th><th>Sediment Zone (ML)</th><th>Settling Zone (ML)</th><th>Additional water storage capacity (ML)</th><th>Total Capacity (ML)</th></tr><tr><td>Dam 1</td><td>3.4</td><td>5.4</td><td>3.6</td><td>12.4</td></tr><tr><td>Dam 2</td><td>0.4</td><td>0.9</td><td>0</td><td>1.3</td></tr><tr><td>Dam 3</td><td>0.6</td><td>1.7</td><td>0</td><td>2.3</td></tr></table></td><td>Site inspection</td><td>Not verified</td><td>The depth and total volume of the dams were not determined by survey as part of the audit. However, based on visual observation the dams appear to have the extent indicated in the Water Management Plan.</td></tr>
<tr><td>3.0 SOIL AND WATER</td><td>3.3 Surface Water – Proposed Water Management System</td><td>Management and Maintenance of Dams</td><td>In the event that water is required to be discharged offsite, the water will be tested prior to discharge to ensure appropriate discharge criteria are met, such as Total Suspended Solids (TSS) below a concentration of 50mg/L. Where this is not the case, water will be treated, for example through the use of chemical flocculation, to achieve a suitable water quality; and</td><td>Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.

Sighted a copy of the Karuah East Quarry, 'Monthly Environmental Monitoring Report - January 2017'.

Sighted a copy of the Karuah East Quarry, 'Monthly Environmental Monitoring Report - February 2017'.</td><td>Non-compliant</td><td>As described above (refer to Schedule 3, Condition 19 of PA 09_0175), the results of the TSS monitoring during the discharge events from Dam 3 in March and April 2017 exceeded the concentration limits (40 mg/L) defined by Condition L2.4 of the quarry’s EPL and 50 mg/L.
It is recommended that water be treated during all future dam water discharges to achieve a suitable water quality.</td></tr>
</table>

Commitment Aspect	Commitment Sub-aspect (i)	Commitment Sub-aspect (ii)	Commitment Description	Evidence Verified	Compliance	Comments/Recommendations
3.0 SOIL AND WATER	3.3 Surface Water – Proposed Water Management System	Management and Maintenance of Dams	An inspection of the sediment dams will be undertaken as part of the routine site environmental inspection program or following significant rainfall. Various information, such as the general condition of the dam, evidence of overflow, condition of downstream catchments, water colour, evidence of eroding surfaces and approximate retained capacity, will be recorded.	T. Grugeon confirmed in correspondence on 30 May 2017 that routine inspections of the sediment dams are undertaken weekly, with more extensive inspections undertaken on a quarterly basis. These inspections focus on sediment, erosion, general dam condition and water management across the site. A copy of a quarterly inspection report (dated 1 December 2016) and an example of a weekly log book entry were provided.	Compliant	It is noted that there was little free-board on Dam 1 during the site inspection.
3.0 SOIL AND WATER	3.3 Surface Water – Proposed Water Management System	Mitigation Measures for Drainage Lines	A sediment fence will be installed along the downstream side of the entire southern face of the quarry as a sediment control measure to minimise the transport of any sediment into the remaining section of the first order drainage line to the south of the extraction area. This drainage line will be reinstated as close as possible to its original path following completion of extraction activities at the quarry as part of the final rehabilitation of the site;	Site inspection	Compliant	During the site inspection, evidence of the construction of sediment fencing along the downstream side of the southern face of the quarry was observed (refer to Photograph 4.3 and Photograph 4.4).
3.0 SOIL AND WATER	3.3 Surface Water – Proposed Water Management System	Mitigation Measures for Drainage Lines	A Site Water Management Plan (SWMP) for Karuah East will be prepared and include details on the drainage line rehabilitation works. Works within the restored drainage lines will be generally undertaken in accordance with Section 5.3.3 of the Blue Book (Volume 1) and the 'Guidelines for Controlled Activities – In-Stream Works' (DWE, 2008) for watercourse rehabilitation and riparian zone rehabilitation. Key design elements of channel establishment works will include: - Implement temporary erosion controls to provide for the short-term stabilisation of the channel; - Design and construct the stream channel so that it will be stable for the long term and minimizes the potential for the migration of any erosion upstream or downstream; - The drainage line will be re-instated as a compound channel with a main channel conveying the small to medium flows, and a floodplain used to convey the high overbank flows; - The main channel forming part of the re-instated central drainage line will be generally trapezoidal in shape with 3:1 (H:V) bank batters; - Natural meanders will be used instead of straight lines to reflect natural stream characteristics; - Where there are high erosive forces (such as high flow velocity or steep grades) the channel bed will be rock lined where required and constructed in accordance with the 'Blue Book', including the placement of appropriately sized rocks above a filter layer of suitable geotextile; and - Soil will be packed in between rocks to allow sedges and grasses to be established within the channel to provide for long-term channel stability. - Following earthworks and channel establishment, a riparian corridor will be established with a minimum width of 10m, measured horizontally and at right angles to the flow from the top of both banks on the streams. Key design elements of the riparian corridor establishment will include: - Implement temporary erosion controls to provide for the short-term stabilisation of the riparian corridor; - Restore a vegetated riparian corridor along the stream channel (10 m from top of bank); - Establish a diverse range of locally occurring vegetation species; - Establish a full range of vegetation types, including trees, shrubs and grass covers; - No exotics species are to be introduced; and - Maintain the rehabilitated riparian corridor for two years after initial rehabilitation.	Sighted a copy of SLR Consulting, 'Water Management Plan - Karuah East Quarry Project' (dated 1 December 2015).	Compliant	Clearing in the south-western section of the quarry extraction area has been truncated compared to approved limits to minimise the potential for sediment to report to the Yalimbah Creek drainage line to the south of the area (which is monitored at SW4).
3.0 SOIL AND WATER	3.3 Surface Water – Proposed Water Management System	Licensed Discharge Point / Licensing Requirements	A Licensed Discharge Point (LDP) will be installed as required at the outlets of Dam 1, Dam 2 and Dam 3. An application to the NSW OEH for the establishment of the LDP's will be made; and	EPL 20611	Compliant	The EPL includes LDPs for Dams 1, 2 and 3.
3.0 SOIL AND WATER	3.3 Surface Water – Proposed Water Management System	Licensed Discharge Point / Licensing Requirements	The controlled release of water will preferentially be made from Dam 1 and Dam 3. The water management system will be set up to allow for water to be pumped from Dam 2 to Dam 1 as required for release.	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'. Sighted a copy of the Karuah East Quarry, 'Monthly Environmental Monitoring Report - February 2017'. Site inspection	Not verified	Within the Annual Review, it was noted that construction of Dam 2 was completed in October 2016. Further, there is reference to sampling at this location for two months within the audit period (ie November and December 2016). The February monitoring report also indicated that Dam 2 was being reconstructed and modified. During the site inspection, Dam 2 was not observed. T. Grugeon noted during the site inspection that there was poor catchment in Dam 2 and that revisions to the Water Management Plan would be required.
3.0 SOIL AND WATER	3.3 Surface Water – Proposed Water Management System	Site Water Balance	The proposed dams will be built to at least the specified sizes (Table 2 above), and made larger where practical in consultation with NOW;	Compliant	Not verified	The depth and total volume of the dams were not determined by survey as part of the audit. However, based on visual observation the dams appear to have the extent indicated in the Water Management Plan.
3.0 SOIL AND WATER	3.3 Surface Water – Proposed Water Management System	Site Water Balance	That controlled discharge of treated (e.g. flocculated) water be undertaken when total site storage levels are above 4.3ML, which would provide the capacity to contain more rainfall events and reduce wet weather discharges (this assumes the dams are built to the capacities presented in Table 2 above); and	Site inspection	Compliant	It is noted that there was little free-board on Dam 1 and 3 during the site inspection. No water level gauges were observed. **It is recommended that water level gauges are installed in the dams and the relationship between water levels and total volume stored is established.**
3.0 SOIL AND WATER	3.3 Surface Water – Proposed Water Management System	Site Water Balance	All water usage will be monitored across the site to enable an update of the water balance using actual metered water usage data after 12 months of operation.	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.	Not triggered	No quarrying operations were undertaken during the audit period. Operations will likely commence in mid to late 2017, but will be dependent on the completion of construction activities.

Commitment Aspect	Commitment Sub-aspect (i)	Commitment Sub-aspect (ii)	Commitment Description	Evidence Verified	Compliance	Comments/Recommendations
3.0 SOIL AND WATER	3.3 Surface Water – Proposed Water Management System	Site Water Management Plan	A Site Water Management Plan (SWMP) will be prepared following project approval in accordance with regulatory requirements and conditions of consent. The SWMP will be developed in accordance with the Blue Book (Volume 1 and Volume 2E).	Sighted a copy of SLR Consulting, 'Water Management Plan - Karuah East Quarry Project' (dated 1 December 2015).	Compliant	-
3.0 SOIL AND WATER	3.3 Surface Water – Proposed Water Management System	Site Water Management Plan	The SWMP will incorporate the following:	-	Note	-
3.0 SOIL AND WATER	3.3 Surface Water – Proposed Water Management System	Site Water Management Plan	On-site soil and water management principles and objectives, including the following: i) Containment of dirty water runoff from the active quarry area by directing this water into in-pit sumps; ii) Directing sediment-laden runoff from disturbance areas and rehabilitated areas into designated sediment control dams; iii) Installing temporary erosion and sediment control devices as required (i.e. sediment fences sand bag weirs) to minimise the discharge of sediment laden water from newly disturbed areas; iv) Diverting clean water runoff unaffected by the operations away from disturbed areas and offsite, where possible; v) Maintaining sediment control structures to ensure that the designed capacities are maintained for optimum settling of sediments; and vi) Implementing an effective revegetation and maintenance program for the site.	Sighted a copy of SLR Consulting, 'Water Management Plan - Karuah East Quarry Project' (dated 1 December 2015).	Compliant	-
3.0 SOIL AND WATER	3.3 Surface Water – Proposed Water Management System	Site Water Management Plan	Identification of sources of sedimentation and erosion.	Sighted a copy of SLR Consulting, 'Water Management Plan - Karuah East Quarry Project' (dated 1 December 2015).	Compliant	-
3.0 SOIL AND WATER	3.3 Surface Water – Proposed Water Management System	Site Water Management Plan	Soil Best Management Practices (BMPs) to be implemented on-site, including: i) quarry planning considerations (such as minimising disturbance); ii) topsoil/subsoil handling and stockpiling procedures; and iii) topsoil/subsoil respreading procedures.	Site inspection. Correspondence with T. Grugeon (30 May 2017).	Compliant	T. Grugeon confirmed in correspondence on 30 May 2017 that topsoil was stripped in to stockpiles mainly around the weighbridge, plant and stockpile areas. This topsoil was stripped to approximately 300-400 mm depth. Topsoil was also stripped from the extraction area (where possible) and has been used to form water bunds to direct water towards Dam 1. These bunds prevent any dirty water from flowing in to both the Bulga and Yalimbah creek tributaries. Sediment fencing along with fallen timber has also been placed in areas exposed to sediment runoff during earthworks (namely along the eastern side of the haul road, behind the existing bunds).
3.0 SOIL AND WATER	3.3 Surface Water – Proposed Water Management System	Site Water Management Plan	Water BMPs to be implemented on-site, including; i) clean water diversions; ii) dirty water capture and treatment; iii) additional sediment protection measures to be employed during the life of the Project; and iv) maintenance of sediment control structures.	Site inspection	Compliant	-
3.0 SOIL AND WATER	3.3 Surface Water – Proposed Water Management System	Site Water Management Plan	Drainage line rehabilitation.	Site inspection	Not triggered	Construction underway.
3.0 SOIL AND WATER	3.3 Surface Water – Proposed Water Management System	Site Water Management Plan	Water monitoring procedures.	Sighted a copy of SLR Consulting, 'Water Management Plan - Karuah East Quarry Project' (dated 1 December 2015).	Compliant	-
3.0 SOIL AND WATER	3.3 Surface Water – Proposed Water Management System	Site Water Management Plan	Documentation and reporting procedures.	Sighted a copy of SLR Consulting, 'Water Management Plan - Karuah East Quarry Project' (dated 1 December 2015).	Compliant	-
3.0 SOIL AND WATER	3.3 Surface Water – Proposed Water Management System	Surface Water Monitoring Program	A Surface Water Monitoring Program will be implemented to monitor both the surface water quality upstream and downstream of the site, and the effectiveness of the Site Water Management Plan, including:	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.	Compliant	-
3.0 SOIL AND WATER	3.3 Surface Water – Proposed Water Management System	Surface Water Monitoring Program	The results of Surface water monitoring undertaken during quarrying operations at Karuah East will be compared against the baseline data collected as part of the Surface Water Assessment;	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.	Compliant	
3.0 SOIL AND WATER	3.3 Surface Water – Proposed Water Management System	Surface Water Monitoring Program	A baseline ecological health condition assessment of Yalimbah Creek will be undertaken prior to commencement of operations, and monitoring of Yalimbah Creek will continue as part of the annual ecological monitoring of offset areas;	Sighted a copy of Kleinfelder, 'Baseline Ecological Surveys and Monitoring - Karuah East Quarry Biodiversity Offset Area and Lot 12' (dated January 2016).	Compliant	-

Commitment Aspect	Commitment Sub-aspect (i)	Commitment Sub-aspect (ii)	Commitment Description	Evidence Verified	Compliance	Comments/Recommendations
3.0 SOIL AND WATER	3.3 Surface Water – Proposed Water Management System	Surface Water Monitoring Program	The following parameters (see Table 3 below) will be measured at each monitoring location via collection of a grab sample. The recorded values for the parameters measured will be assessed as a minimum against baseline water quality results as well as the ANZECC trigger values presented below, and plotted to identify any trends over time. The OEH will be notified in the event of increasing levels of any parameter; and **Table 3 – Surface Water Monitoring Parameters** Parameter / Unit / ANZECC Guidelines[1] pH (Field) / – / 6.5 – 8.5 Conductivity (Field) / uS/cm / 125 – 2200 Conductivity (Lab) / uS/cm / 125 – 2200 Total Dissolved Solids / mg/L / – Parameter / Unit / ANZECC Guidelines[1] Total Phosphorus / mg/L / 0.025 Ammonia / mg/L / 0.02 Nitrogen (Nitrate) / mg/L / 0.350 Total Hardness (as CaCO3) / mg/L / – Oil & Grease / mg/L / – Arsenic / mg/L / 0.024 Cadmium / mg/L / 0.0002 Calcium / mg/L / – Chromium / mg/L / 0.001 Copper / mg/L / 0.0014 Lead / mg/L / 0.0034 Magnesium / mg/L / – Manganese / mg/L / 1.9 Nickel / mg/L / 0.011 Potassium / mg/L / – Sodium / mg/L / – Vanadium / Mg/L / – Zinc / mg/L / 0.0312 [1]Key default trigger values presented in ANZECC 2000 for slightly disturbed upland rivers in NSW... Heavy metals based on hard water (120-179 mgCaCO3/L)	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.	Compliant	-
3.0 SOIL AND WATER	3.3 Surface Water – Proposed Water Management System	Surface Water Monitoring Program	The range of analytes measured will be reviewed following the first 12 months of monitoring and a diagnostic set of analytes adopted for ongoing monitoring.	Correspondence with T. Grugeon (30 May 2017).	Compliant	T. Grugeon noted in correspondence on 30 May 2017 that Karuah East Quarry are yet to review the suite of analytes assessed as part of surface water monitoring activities. As noted during the site inspection, it has been difficult to sample a number of the surface water monitoring locations due to limited water availability at these locations and access limitations during dam construction. This has contributed to gaps in the quarry's baseline data. T. Grugeon indicated that the suite of analytes will likely be reviewed in July/August 2017, once baseline conditions have been more thoroughly established.
3.0 SOIL AND WATER	3.3 Surface Water – Proposed Water Management System	Surface Water Monitoring Program	*Surface water monitoring locations will be as follows:* Dam1; Dam 2; Dam 3; SW 1 and SW 2 - Existing second order drainage line (within Lot 13 flowing along the eastern boundary of the Study Area); both upstream and downstream of the quarry; SW 3 - Existing drainage line downstream of Dam 2; and SW 4 - Existing drainage line downstream of the quarry extraction area.	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.	Compliant	-
3.0 SOIL AND WATER	3.3 Surface Water – Proposed Water Management System	Surface Water Monitoring Program	The table below identifies the monitoring point locations, the type of monitoring point, and the frequency of sampling. Location / Type of Monitoring Point / Description of Location / Frequency: Dam 1 / Water Quality / Proposed dam located in crushing plant area / Monthly, and within 24 hours of any discharge. Also prior to any controlled (i.e. planned) discharge. Dam 2 / Water Quality / Proposed dam located in western section of stockpile area / Monthly, and within 24 hours of any discharge. Also prior to any controlled (i.e. planned) discharge. Dam 3 / Water Quality / Proposed dam located in eastern section of stockpile area / Monthly and within 24 hours of any discharge. Also prior to any controlled (ie. planned) discharge. SW1 / Water Quality / Existing second order drainage line upstream of site / Monthly (if creek flowing) SW2 / Water Quality / Existing second order drainage line downstream of site / Monthly (if creek flowing) and within 24 hours of any discharge. SW3 / Water Quality / Downstream of Dam 2 / Monthly (if creek flowing) and within 24 hours of any discharge. SW4 / Water Quality / Downstream of quarry extraction area. / Monthly (if creek flowing). Water management (erosion and sediment / Erosion and Sediment Control / All noted erosion and sediment control structures. / Monthly and after significant rainfall events.	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.	Compliant	-

Commitment Aspect	Commitment Sub-aspect (i)	Commitment Sub-aspect (ii)	Commitment Description	Evidence Verified	Compliance	Comments/Recommendations
3.0 SOIL AND WATER	3.3 Surface Water – Proposed Water Management System	Reporting of Monitoring Data	Karuah East Quarry Pty Ltd will collate surface water analysis data and maintain an up to date record of analysis both in hard copy (laboratory reports) and electronic (results) format. These results will be interpreted as they are received in order to ensure appropriate operational guidance on maintaining water quality within desired parameters;	Sighted laboratory reports.	Compliant	-
3.0 SOIL AND WATER	3.3 Surface Water – Proposed Water Management System	Reporting of Monitoring Data	The results of water quality analysis will be reported in the Annual Environmental Management Report (AEMR); and	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.	Compliant	-
3.0 SOIL AND WATER	3.3 Surface Water – Proposed Water Management System	Reporting of Monitoring Data	In the event that an exceedance in surface water quality criteria is identified, the exceedance will need to be reported to the relevant agencies in accordance with the requirements of the EPL.	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'. Sighted a copy of the Karuah East Quarry, 'Monthly Environmental Monitoring Report - January 2017'. Sighted a copy of the Karuah East Quarry, 'Monthly Environmental Monitoring Report - February 2017'.	Non-compliant	As described above (refer to Schedule 3, Condition 19 of PA 09_0175), the results of the water quality monitoring for pH, TSS and oil and grease during the discharge events from Dam 3 in March and April 2017 exceeded the concentration limits defined by Condition L2.4 of the quarry's EPL. These discharge events should have been reported due to the degraded water quality recorded. **It is recommended that any exceedances of water quality criteria during dam water discharges are reported, in accordance with the project approval conditions and the quarry's EPL .**
4. BIODIVERSITY & CONSERVATION OFFSET	4.1 Flora and Fauna	Vegetation Clearing Management	<u>Site Survey and Exclusion Fencing</u> The extraction area/forest interface will be delineated to protect retained bushland areas on Lot 12 and 13. To achieve this, the quarry footprint boundary will be surveyed and pegged by a Registered Surveyor prior to the conduct of clearing operations. Plastic mesh fencing or star pickets and flagging tape will be installed along the extraction boundary for use as exclusion fencing. The fencing will function as a clearly marked 'exclusion' boundary for the machinery operations.	Site inspection	Compliant	During the site inspection, evidence of appropriate signage delineating the conservation offset areas from the extraction area/project area was observed. In addition, it was noted that boundary tape and plastic mesh fencing was used during the clearing process. Fencing has not yet been erected to the extent identified in this commitment, which is unclear as to whether it applies to construction as well as to operations. It was noted that long-term exclusion fencing cannot be erected until after construction has been completed. **It is recommended that exclusion fencing be installed as soon as practicable after the completion of construction to meet this commitment.**
4. BIODIVERSITY & CONSERVATION OFFSET	4.1 Flora and Fauna	Vegetation Clearing Management	Permanent chain wire metal exclusion fencing will be installed around the entire perimeter of the quarry footprint (except at the designated aerial fauna crossings) prior to the commencement of quarry operations.	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.	Not triggered	No quarrying operations were undertaken during the audit period. Operations will likely commence in mid to late 2017, but will be dependent on the completion of construction activities.
4. BIODIVERSITY & CONSERVATION OFFSET	4.1 Flora and Fauna	Vegetation Clearing Management	<u>Clearing Protocol</u> The following protocol will be undertaken as part of the clearing activity on the subject site: i) All contractors conducting clearing, earth works or quarrying activities within the subject site will be informed of the restrictions to the clearing of vegetation outside the 'exclusion fencing'. A construction protocol will be prepared requiring all earthworks, machinery and personnel be strictly controlled and be restricted to the extraction footprint. No storage of materials, vehicle parking or other disturbance will be undertaken outside the exclusion fencing. Contractors will be supplied with the construction protocol regarding the clearing restrictions through a work site induction program; ii) Trees will be felled away from the refined bushland on the subject site back into the extraction areas; and iii) Domestic fauna (ie. dogs) will be prohibited from entering the subject site with Contractors.	Site inspection Sighted a copy of Kleinfelder, 'Vegetation Clearing Completion Report for Stage 1 of the Karuah East Quarry Project' (dated 3 February 2017). Sighted a copy of SLR Consulting, 'Landscape and Rehabilitation Management Plan - Karuah East Quarry Project' (dated 12 November 2015).	Compliant	The Landscape and Rehabilitation Management Plan details the pre-clearing survey requirements and vegetation clearing protocols that were implemented to minimise impacts during the clearing proves.
4. BIODIVERSITY & CONSERVATION OFFSET	4.1 Flora and Fauna	Fauna Management	***Pre Clearing Surveys***	-	-	-
4. BIODIVERSITY & CONSERVATION OFFSET	4.1 Flora and Fauna	Fauna Management	Where possible, vegetation clearing activity will be timed so as to avoid the following breeding periods for hollow dependent fauna: i) October – February (microbats); and ii) June – August (large forest owls and microbats in torpor).	Sighted a copy of Kleinfelder, 'Vegetation Clearing Completion Report for Stage 1 of the Karuah East Quarry Project' (dated 3 February 2017).	Compliant	Vegetation clearing for the project commenced in April 2016 and the majority of the project area was cleared between April and June 2016, with some clearing also occurring in July and November 2016. However, it is noted that the commitment is to avoid these periods "where possible" and that there will be ongoing clearing as part of the project. **It is recommended that future clearing is scheduled well in advance to avoid breeding periods for hollow-dependent fauna.**

Commitment Aspect	Commitment Sub-aspect (i)	Commitment Sub-aspect (ii)	Commitment Description	Evidence Verified	Compliance	Comments/Recommendations
4. BIODIVERSITY & CONSERVATION OFFSET	4.1 Flora and Fauna	Fauna Management	If restricting the clearing to these limited times is not found to be practical, then ecological pre-clearing surveys will be undertaken within two weeks prior to the commencement of the clearing. If required, components of the pre clearing surveys will include:	Sighted a copy of Kleinfelder, 'Vegetation Clearing Completion Report for Stage 1 of the Karuah East Quarry Project' (dated 3 February 2017). Sighted a copy of SLR Consulting, 'Landscape and Rehabilitation Management Plan - Karuah East Quarry Project' (dated 12 November 2015).	Compliant	Vegetation clearing for the project commenced in April 2016 and the majority of the project area was cleared between April and June 2016, with some clearing also occurring in July and November 2016. Additional pre-clearing surveys for the clearing within the breeding periods of hollow-dependent fauna were conducted in accordance with Section 6.2.2 and Section 6.2.4 of the Landscape and Rehabilitation Management Plan.
4. BIODIVERSITY & CONSERVATION OFFSET	4.1 Flora and Fauna	Fauna Management	Threatened Fauna Searches Within one week prior to commencement of vegetation clearing, searches for signs of Threatened species occurring within the quarry footprint will be undertaken. These searches would include but not be limited to; i) Searches for nests of threatened raptors; and ii) Searches for whitewash or other signs of roosting or nesting Powerful and Masked Owls. If a threatened raptor or owl nest site is recorded within the subject site during the surveys, clearing activity will not take place in the vicinity of the nest (within 50 metres) until the nest is vacated by the affected species (including fledglings). Recorded nest sites would be subject to a monitoring program to ensure that no clearing activity is undertaken until the nest sites are vacated.	Sighted a copy of Kleinfelder, 'Vegetation Clearing Completion Report for Stage 1 of the Karuah East Quarry Project' (dated 3 February 2017). Sighted a copy of SLR Consulting, 'Landscape and Rehabilitation Management Plan - Karuah East Quarry Project' (dated 12 November 2015).	Compliant	Vegetation clearing for the project commenced in April 2016 and the majority of the project area was cleared between April and June 2016, with some clearing also occurring in July and November 2016. Additional pre-clearing surveys for the clearing within the breeding periods of fauna were conducted in accordance with Section 6.2.2 and Section 6.2.4 of the Landscape and Rehabilitation Management Plan. This included diurnal searches for signs of roosting or nesting threatened raptors and forest owl species. No evidence of raptor or owl nesting or roosting sites were identified during the diurnal pre-clearance surveys or during the vegetation clearing supervision.
4. BIODIVERSITY & CONSERVATION OFFSET	4.1 Flora and Fauna	Fauna Management	Small Mammal Trapping Elliott trapping will be undertaken within one week prior to commencement of vegetation clearing over a 4 night period, targeting the Brush-tailed Phascogale (Phascogale tapoatafe) and Squirrel Glider (Petaurus norfolcensis). A total of 4 trap lines (equating to 160 arboreal Elliott trap and 400 terrestrial Elliott trap nights) will be established across the subject site (2 lines/stratification unit).	Sighted a copy of Kleinfelder, 'Vegetation Clearing Completion Report for Stage 1 of the Karuah East Quarry Project' (dated 3 February 2017). Sighted a copy of SLR Consulting, 'Landscape and Rehabilitation Management Plan - Karuah East Quarry Project' (dated 12 November 2015).	Compliant	Vegetation clearing for the project commenced in April 2016 and the majority of the project area was cleared between April and June 2016, with some clearing also occurring in July and November 2016. Additional pre-clearing surveys for the clearing within the breeding periods of fauna were conducted in accordance with Section 6.2.2 and Section 6.2.4 of the Landscape and Rehabilitation Management Plan. One native mammal species and one introduced mammal species were captured during the pre-clearance trapping. No threatened fauna species were recorded during the trapping surveys.
4. BIODIVERSITY & CONSERVATION OFFSET	4.1 Flora and Fauna	Fauna Management	Stag Watching and Anabat Survey A combined Stag Watching and Anabat survey would be conducted within the subject site over a 4 night period in an attempt to identify potential Microchiropteran bat roost trees. Should further investigations reveal the presence of a maternity colony, no clearing would be undertaken until after the completion of the breeding period (mid October – mid February inclusive).	Sighted a copy of Kleinfelder, 'Vegetation Clearing Completion Report for Stage 1 of the Karuah East Quarry Project' (dated 3 February 2017). Sighted a copy of SLR Consulting, 'Landscape and Rehabilitation Management Plan - Karuah East Quarry Project' (dated 12 November 2015).	Compliant	Vegetation clearing for the project commenced in April 2016 and the majority of the project area was cleared between April and June 2016, with some clearing also occurring in July and November 2016. Additional pre-clearing surveys for the clearing within the breeding periods of fauna were conducted in accordance with Section 6.2.2 and Section 6.2.4 of the Landscape and Rehabilitation Management Plan. No microchiropteran bats or other native fauna were specifically recorded emerging from the habitat tress that were observed during stag-watching and spotlighting surveys.
4. BIODIVERSITY & CONSERVATION OFFSET	4.1 Flora and Fauna	Fauna Management	A report detailing the methods and results of the pre-clearing surveys will be prepared and submitted to OEH immediately prior to the commencement of the clearing operations.	Sighted a copy of Kleinfelder, 'Vegetation Clearing Completion Report for Stage 1 of the Karuah East Quarry Project' (dated 3 February 2017). Correspondence with T. Grugeon (30 May 2017).	Administrative non-compliance	Correspondence with T. Grugeon on 30 May 2017 confirmed that the pre-clearing surveys were undertaken as per Section 6.2 of the landscape and rehabilitation management plan, which was approved by DPE in accordance with Condition 32 of Schedule 3 of PA 09_0175. However, specific correspondence with OEH to address this commitment did not occur. **It is recommended that the report detailing the methods and results of the pre-clearing surveys is submitted to OEH.**
4. BIODIVERSITY & CONSERVATION OFFSET	4.1 Flora and Fauna	Fauna Management	Ecological Clearing Supervision The removal of all identified hollow bearing trees will be undertaken with the presence of a qualified and suitably experienced fauna ecologist. A tree felling protocol will be developed to minimise harm to hollow obligates during the clearing of trees for the proposal. The tree felling protocol will be developed by a suitably qualified and licenced ecologist with previous experience supervising felling trees. The tree felling protocol will comprise pre-felling identification and mapping of hollow bearing trees, inspections of trees on the day of clearing, procedures for the safe removal of fauna species from trees prior to and post felling, a relocation/release procedure and a methodology for salvaging (and relocating) tree hollows where practicable. The relevance of the marked hollow bearing trees and requirements for ecological clearing supervision and hollow resource recovery will be communicated to the clearing Contractor as part of a site induction program.	Sighted a copy of Kleinfelder, 'Vegetation Clearing Completion Report for Stage 1 of the Karuah East Quarry Project' (dated 3 February 2017).	Compliant	-

Commitment Aspect	Commitment Sub-aspect (i)	Commitment Sub-aspect (ii)	Commitment Description	Evidence Verified	Compliance	Comments/Recommendations
4. BIODIVERSITY & CONSERVATION OFFSET	4.1 Flora and Fauna	Fauna Management	Nest Box Program One nest box will be installed for each hollow to be lost as a result of the proposal. Softwood pine (plywood) nest boxes will be used and will be specifically designed for Threatened hollow obligates. Nest boxes will have swivel mounts and be fitted with screw lids to prevent damage from brushtail possums. Nest boxes will be placed in retained habitats in the study area onto host trees that do not already support hollows at a minimum height of 3 metres (aboveground) in an orientation other than west and north-west to minimise exposure to the afternoon sun. Nest boxes will be erected prior to the commencement of clearing operations and will be subject to 2 yearly maintenance for the life of the quarry. Feral bees found to colonise the nest boxes will be eradicated by a specialist pest contractor. Nest box installation will be supervised by a suitably experienced fauna ecologist.	Sighted a copy of Kleinfelder, 'Vegetation Clearing Completion Report for Stage 1 of the Karuah East Quarry Project' (dated 3 February 2017). Site inspection	Compliant	During the site inspection, Gerard and Tim confirmed that 30 nest boxes had been installed to date within the conservation offset area. During the site inspection, evidence of the installation of a number of these nest boxes were sighted.
4. BIODIVERSITY & CONSERVATION OFFSET	4.1 Flora and Fauna	Fauna Management	Aerial Fauna Crossings Two (2) dedicated aerial fauna crossings will be installed: - The western aerial fauna crossing will to be located at the existing quarry haul road approximately 250 metres north east from the existing quarry site office; and - The eastern aerial fauna crossing is proposed on Lot 13 along the north-south running access road. The canopy bridges will comprise rope netting suspended across the entire width of the haul roads connected to two (2) poles placed on opposite side of the roads. The western canopy bridge would be approximately 40-45m in length and 50cm wide whilst the eastern canopy bridge would be approximately 55 metres in length and 50cm in width. The netting of both canopy bridges would comprise 14mm diameter marine grade 'silver rope' in a flat lattice-work configuration (ie. analogous to a rope ladder laid horizontally). The height of the poles and canopy crossing above the road surface would be between 6 – 12 metres, depending on the road profile. Single strands of rope will extend from the timber poles into the canopy of adjacent trees to facilitate access by arboreal mammals. The final design of the canopy rope bridges would be chosen as part of detailed design following project approval. A twelve month monitoring program will be undertaken using a motion detecting camera system mounted on each pole at each of the two (2) aerial crossings.	Sighted a copy of Kleinfelder, 'Vegetation Clearing Completion Report for Stage 1 of the Karuah East Quarry Project' (dated 3 February 2017). Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.	Not triggered	Construction was ongoing during the audit period. Consequently, aerial fauna crossings have not yet been erected.
4. BIODIVERSITY & CONSERVATION OFFSET	4.1 Flora and Fauna	Salvage and Relocation of Terrestrial Habitat Structures	Large fallen logs will be salvaged during the clearing operations and relocated into retained forested habitats on Lots 12 and 13.	Sighted a copy of Kleinfelder, 'Vegetation Clearing Completion Report for Stage 1 of the Karuah East Quarry Project' (dated 3 February 2017). Site inspection	Compliant	During the site inspection, fallen logs and hollow logs salvaged during clearing operations were observed in the conservation offset areas (refer to Photograph 4.5).
4. BIODIVERSITY & CONSERVATION OFFSET	4.1 Flora and Fauna	Threatened Plant Populations	A salvage program for Tetratheca juncea will be implemented. The salvage program will compromise the excavation of clumps (along with rhizomes and surrounding root balls) proposed for removal and their reintroduction into prepared 'beds' within suitable habitats nearby. Application for a Section 91 licence from OEH for the salvage program will be made and will be subject to a detailed Salvage Plan to be prepared by the Proponent (and endorsed by OEH and Department of Planning) prior to commencement of the works.	Sighted a copy of Firebird ecoSultants, 'Tetratheca Juncea Translocation Management Plan for the Karuah East Quarry Site' (dated August 2015). Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'. Sighted a copy of Firebird ecoSultants Pty Ltd, 'Tetratheca juncea Monitoring Report for the Karuah East Quarry Site' (dated March 2017).	Compliant	During the site inspection, the areas in which Tetratheca juncea had been reintroduced were inspected. Outside of the flowering period it was difficult to identify these cryptic species. As the date of the site inspection did not coincide with the Tetratheca juncea flowering period, an ecologist did not attend.
4. BIODIVERSITY & CONSERVATION OFFSET	4.1 Flora and Fauna	Threatened Plant Populations	Threatened plant sub-populations of Tetratheca juncea, Grevillea parviflora subsp. parviflora and Asperula asthenes situated within retained bushland habitats on Lots 12-14 will be monitored annually by a suitably qualified and experienced botanist for the life of the quarry operation. A Monitoring Plan will be prepared prior to the commencement of clearing activity to detail survey design, data collection and reporting. Adaptive management will be employed for the life of the quarry to respond to population issues that are identified, including weed control.	Sighted a copy of Kleinfelder, '2016 Annual Monitoring Report - Karuah East Quarry Biodiversity Offset Area and Lot 12' (dated 15 December 2016). Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.	Compliant	The 2016 Annual Monitoring Report confirmed that no reduction in threatened flora populations had been recorded at the monitoring sites in 2016. Further, no major changes in vegetation health or condition were observed in the conservation offset areas in 2016.

Commitment Aspect	Commitment Sub-aspect (i)	Commitment Sub-aspect (ii)	Commitment Description	Evidence Verified	Compliance	Comments/Recommendations
4. BIODIVERSITY & CONSERVATION OFFSET	4.2 Biodiversity Offset Strategy		The proposed offset site is identified as Part Lot 13 DP 1024564, Lot 14 DP 1024546 and Lot 5 DP 838128 (provided that an option to purchase Lot 5 has been secured by the proponent). In the event that Lot 5 DP 838128 is unable to be secured by the proponent, the proponent will purchase an alternate offset site, which, combined with Lots 13 and 14, will provide a total biodiversity offset area of not less than 129.32 ha. The alternate offset site will be required to be agreed to by NSW OEH and be to the satisfaction of the Director- General.	-	Note	-
4. BIODIVERSITY & CONSERVATION OFFSET	4.2 Biodiversity Offset Strategy		The following will be undertaken by the proponent in relation to the proposed offset site identified as Part Lot 13 DP 1024564, Lot 14 DP 1024546 and Lot 5 DP 838128:	-	Note	-
4. BIODIVERSITY & CONSERVATION OFFSET	4.2 Biodiversity Offset Strategy		Seasonal flora and fauna survey of the offset site will be undertaken in accordance with relevant OEH guidelines. In particular, seasonal survey for tetratheca juncea and grevillea parviflora ssp parviflora will be undertaken and reported to the NSW OEH;	Sighted a copy of Kleinfelder, '2016 Annual Monitoring Report - Karuah East Quarry Biodiversity Offset Area and Lot 12' (dated 15 December 2016). Sighted a copy of Firebird ecoSultants Pty Ltd, 'Tetratheca juncea Monitoring Report for the Karuah East Quarry Site' (dated March 2017).	Not verified	No reduction in threatened flora populations was recorded at the monitoring sites in 2016. **It is recommended that the results of all future seasonal surveys for Tetratheca juncea and *Grevillea parviflora ssp parviflora* be reported to OEH in accordance with this condition.**
4. BIODIVERSITY & CONSERVATION OFFSET	4.2 Biodiversity Offset Strategy		Prior to establishment of the proposed quarry, the proponent will purchase Lot 5 DP 838128 (provided than an option to purchase has been secured). In the event that Lot 5 DP 838128 is unable to be secured by the proponent, as noted above, the proponent will purchase an alternate offset site (to be agreed to by NSW OEH and be to the satisfaction of the Director-General).	Site inspection. Sighted a copy of the Conservation Partners Program Application Form submitted to OEH. Sighted a copy of the draft conservation agreement for the Karuah East Quarry Biodiversity Offset Area was provided on 30 May 2017.	Compliant	Karuah East Quarry Pty Ltd secured ownership of Lot 5 in January 2016. During the interview with T. Grugeon, it was noted that arrangements have been made to secure the long-term security of the offset area, however, this has not yet been finalised and is yet to be submitted to OEH. As noted by T. Grugeon, the draft conservation agreement for the Karuah East Quarry Biodiversity Offset Area is yet to be finalised and has not been submitted to OEH.
4. BIODIVERSITY & CONSERVATION OFFSET	4.2 Biodiversity Offset Strategy		Upon approval of the project, in consultation with the NSW OEH, the proponent will secure the offset lands via a Conservation Agreement under Part 4, Division 12 of the National Parks and Wildlife Act 1974;	Karuah East Quarry Pty Ltd secured ownership of Lot 5 in January 2016. During the interview with T. Grugeon, it was noted that arrangements have been made to secure the long-term security of the offset area, however, this has not yet been finalised and is yet to be submitted to OEH. Sighted a copy of the Conservation Partners Program Application Form submitted to OEH. A copy of the draft conservation agreement for the Karuah East Quarry Biodiversity Offset Area was provided on 30 May 2017. However, as noted by T. Grugeon, this is yet to be finalised and has not been submitted to OEH.	Compliant	The conservation agreement had not been finalised within the audit period. However, no time period is specified in the commitment.
4. BIODIVERSITY & CONSERVATION OFFSET	4.2 Biodiversity Offset Strategy		A Conservation Management Plan will be developed. The plan will: i) Confirm required on ground works such as weed control, fencing, signage and pest control; ii) Confirm the timing / schedule of the abovementioned works; and iii) Specify restrictions to the existing two (2) residences of Lot 5 and Lot 14 (if purchase of Lot 5 is secured by the proponent). If an alternate offset site is provided instead of Lot 5 (as noted above) any restrictions on this land will be specified in the Conservation Management Plan.	Sighted a copy of Kleinfelder, 'Biodiversity Offset Area Management Plan - Karuah East Quarry Project' (dated 9 November 2015). Sighted a copy of Kleinfelder, '2016 Annual Monitoring Report - Karuah East Quarry Biodiversity Offset Area and Lot 12' (dated 15 December 2016).	Compliant	-
4. BIODIVERSITY & CONSERVATION OFFSET	4.2 Biodiversity Offset Strategy		Monitoring of the offset land will be undertaken annually. Results of the monitoring will be used to provide input into the priority areas for the following year(s) of ground maintenance works.	Sighted a copy of Kleinfelder, '2016 Annual Monitoring Report - Karuah East Quarry Biodiversity Offset Area and Lot 12' (dated 15 December 2016). Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.	Compliant	-
5.0 NOISE, BLASTING AND VIBRATION			Four (4) metre noise barriers will be included around stockpile and stacker locations to reduce noise emissions from mobile plant items in these areas;	Site inspection	Not triggered	Site construction is ongoing.

Commitment Aspect	Commitment Sub-aspect (i)	Commitment Sub-aspect (ii)	Commitment Description	Evidence Verified	Compliance	Comments/Recommendations
5.0 NOISE, BLASTING AND VIBRATION			Noise compliance monitoring will be undertaken in accordance with conditions of consent by a suitably qualified acoustic expert. The monitoring will consider the performance of the quarry in relation to the project specific noise, vibration and blast criteria established in the SLR Noise and Blasting Impact Assessment (dated 2 November 2012);	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'. Sighted a copy of the Karuah East Quarry, Monthly Environmental Monitoring Reports for January and February 2017.	Compliant	-
5.0 NOISE, BLASTING AND VIBRATION			The proponent will not fire blasts at the existing quarry and the proposed Karuah East quarry at the same time;	Sighted a copy of the blast reports for the six blasts conducted at Karuah East Quarry within the audit period. A copy of Karuah Quarry's (adjacent to the site) blast register was provided on 30 May 2017. This register confirmed that no blasting activities at Karuah Quarry occurred simultaneously with blasting activities at Karuah East Quarry.	Compliant	-
5.0 NOISE, BLASTING AND VIBRATION			The proponent will implement a blasting program where nearby receivers are notified in advance of a blast;	Sighted a copy of SLR Consulting, 'Blast Management Plan - Karuah East Quarry Project - October 2015' (dated 29 October 2015). Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'. Sighted a copy of the 'Karuah East Quarry Community Complaints Register 2016' and 'Karuah East Quarry Community Complaints Register 2017'. Sighted a copy of the blast reports for the six blasts conducted at Karuah East Quarry within the audit period.	Not verified	The blast management plan describes the mitigation and management measures that will be implemented during blasting activities. There is no reason to believe that these measures are not being implemented on site. No complaints have been received regarding the blasting activities at the site within the audit period.
5.0 NOISE, BLASTING AND VIBRATION			The following control measures for vibration will be undertaken: - Reducing the maximum instantaneous charge (MIC) by using delays, reduced hole diameter and/or deck loading; - Changing the burden and spacing by altering the drill pattern and/or delay layout or altering the hole inclination; - Use the minimum practicable sub drilling which gives satisfactory toe conditions; and - Investigate alternative rock breaking techniques.	Sighted a copy of SLR Consulting, 'Blast Management Plan - Karuah East Quarry Project - October 2015' (dated 29 October 2015). Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'. Sighted a copy of the 'Karuah East Quarry Community Complaints Register 2016' and 'Karuah East Quarry Community Complaints Register 2017'. Sighted a copy of the blast reports for the six blasts conducted at Karuah East Quarry within the audit period.	Not verified	Section 6 of the blast management plan describes the mitigation and management measures that will be implemented during blasting activities. There is no reason to believe that these measures are not being implemented on site. No complaints have been received regarding the blasting activities at the site within the audit period.

Commitment Aspect	Commitment Sub-aspect (i)	Commitment Sub-aspect (ii)	Commitment Description	Evidence Verified	Compliance	Comments/Recommendations
5.0 NOISE, BLASTING AND VIBRATION			The following control measures for air blasting will be undertaken: - Reducing the maximum instantaneous charge (MIC) by using delays, reduced hole diameter and/or deck loading; - Ensure stemming depth and type is adequate; - Eliminate exposed detonating cord and secondary blasting; - Restrict blasting events to favourable weather conditions; - Orient quarry faces away from potentially sensitive receivers; - Use a hole spacing and burden which will ensure that the explosive force is just sufficient to break the ore to the required size; and - The proponent will take particular care where the face is already broken and consider deck loading where appropriate to avoid broken ground or cavities in the face.	Sighted a copy of SLR Consulting, 'Blast Management Plan - Karuah East Quarry Project - October 2015' (dated 29 October 2015). Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'. Sighted a copy of the 'Karuah East Quarry Community Complaints Register 2016' and 'Karuah East Quarry Community Complaints Register 2017'. Sighted a copy of the blast reports for the six blasts conducted at Karuah East Quarry within the audit period.	Not verified	Section 6 of the blast management plan describes the mitigation and management measures that will be implemented during blasting activities. There is no reason to believe that these measures are not being implemented on site. No complaints have been received regarding the blasting activities at the site within the audit period.
6.0 TRANSPORT			Karuah East Quarry Pty Ltd will undertake the following road works as part of the proposed development: - Upgrade and extend Blue Rock Lane; - Realign Andesite Drive and Blue Rock Lane intersection; and - Adjust road marking at Branch Lane and Andesite Road intersection. - The works will be undertaken in accordance with the upgrade plans prepared by GCA numbered C00-C27. Road construction and drainage works will comply with Great Lakes Council and NSW RMS standards.	Site inspection	Compliant	During the site inspection, evidence of the upgrade and extension of Blue Rock Lane was observed. These roadworks are ongoing and are expected to be completed in December 2017.
7.0 AIR QUALITY & GREENHOUSE GAS EMISSION	7.1 Air Quality		The following will be undertaken:	-	-	-
7.0 AIR QUALITY & GREENHOUSE GAS EMISSION	7.1 Air Quality		Air quality monitoring will be undertaken in accordance with conditions of consent by a suitably qualified air quality expert. The monitoring will consider the performance of the quarry in relation to the criteria outlined in the SLR Air Quality Impact Assessment (dated July 2013);	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'. Sighted a copy of the Karuah East Quarry, Monthly Environmental Monitoring Reports for January and February 2017.	Compliant	-
7.0 AIR QUALITY & GREENHOUSE GAS EMISSION	7.1 Air Quality		Haul Roads from the site to the Pacific Highway will be sealed;	Site inspection	Not triggered	Road construction underway. No quarrying operations were undertaken during the audit period. Operations will likely commence in mid to late 2017, but will be dependent on the completion of construction activities.
7.0 AIR QUALITY & GREENHOUSE GAS EMISSION	7.1 Air Quality		Watering of any unsealed roads – Level 1 Watering at 2L/m2/hour;	Site inspection	Not verified	The site is currently under construction. Observations during the site inspection confirmed that there is a water truck onsite and construction areas are being progressively armoured to minimise the potential emission of dust to the air. However, the water level over the audit period could not be verified.
7.0 AIR QUALITY & GREENHOUSE GAS EMISSION	7.1 Air Quality		The crusher will be enclosed; and	-	Not triggered	No quarrying operations were undertaken during the audit period. Operations will likely commence in mid to late 2017, but will be dependent on the completion of construction activities.
7.0 AIR QUALITY & GREENHOUSE GAS EMISSION	7.1 Air Quality		Stockpiles will be subject to both water spraying and wind breaks will be installed.	-	Not triggered	During the site inspection, it was confirmed that product stockpiles have not been erected on site and no quarrying operations have been undertaken within the audit period.
7.0 AIR QUALITY & GREENHOUSE GAS EMISSION	7.2 Greenhouse Gas		***The following practices will be adopted to assist in the reduction of Greenhouse Gas emissions from operations at the project site:***	-	Note	-
7.0 AIR QUALITY & GREENHOUSE GAS EMISSION	7.2 Greenhouse Gas		<u>Relating to diesel / petroleum consumption:</u>	-	Note	-
7.0 AIR QUALITY & GREENHOUSE GAS EMISSION	7.2 Greenhouse Gas		Emissions from construction / transport vehicles and on site machinery will comply with the relevant Australian Standards;	Site inspection	Not verified	During the site inspection and interview with T. Grugeon, a copy of the service maintenance records for both the front-end loader and 40-tonne CAT currently on site were sighted and the procedures for plant and equipment maintenance were discussed. However, vehicle/equipment emissions were not measured as part of the audit.
7.0 AIR QUALITY & GREENHOUSE GAS EMISSION	7.2 Greenhouse Gas		All vehicles and machinery will be regularly maintained to ensure proper and efficient working order and therefore minimise emissions;	Site inspection	Compliant	During the site inspection and interview with T. Grugeon, a copy of the service maintenance records for both the front-end loader and 40-tonne CAT currently on site were sighted and the procedures for plant and equipment maintenance were discussed.
7.0 AIR QUALITY & GREENHOUSE GAS EMISSION	7.2 Greenhouse Gas		Optimum vehicle / equipment tire pressures will be maintained;	-	Not verified	Optimum tire pressures are not specified and therefore could not be audited.

Commitment Aspect	Commitment Sub-aspect (i)	Commitment Sub-aspect (ii)	Commitment Description	Evidence Verified	Compliance	Comments/Recommendations
7.0 AIR QUALITY & GREENHOUSE GAS EMISSION	7.2 Greenhouse Gas		Vehicle idling time will be reduced where possible;	-	Not verified	It is not possible to determine whether idling time was at the start of the project or whether they have been reduced.
7.0 AIR QUALITY & GREENHOUSE GAS EMISSION	7.2 Greenhouse Gas		The finished site topography will ensure that no excessive engine use is required; and	During the site inspection, it was evident that construction is still ongoing and amendments to site topography have not been finalised.	Not triggered	Construction was ongoing during the audit period.
7.0 AIR QUALITY & GREENHOUSE GAS EMISSION	7.2 Greenhouse Gas		Optimisation of incline / decline of roads within the construction area on the project site will be considered to reduce transport distances for vehicles entering / exiting the project site.	-	Not verified	The locations of roads are specified in the EIS and therefore are part of the approval.
7.0 AIR QUALITY & GREENHOUSE GAS EMISSION	7.2 Greenhouse Gas		Relating to electricity consumption: - Use of efficient construction equipment technology; - Use of efficient crushing and processing plant technology; and - Continued monitoring of site electricity usage and review of techniques to reduce usage (if possible).	Site inspection	Not verified	Site equipment appeared to being used efficiently, although this could not be verified. The crushers have not yet been installed and little electricity (eg for internal lighting) is used currently.
8.0 HERITAGE	8.1 Aboriginal Archaeology		If Aboriginal site/s are identified in the study area during works, then all activity in the area will cease, the area cordoned off and contact made with the Office of Environment and Heritage Enviroline 131 555, a suitably qualified archaeologist and the relevant Aboriginal stakeholders, so that it can be adequately assessed and managed; and	-	Note	-
8.0 HERITAGE	8.1 Aboriginal Archaeology		In the event that skeletal remains are uncovered, work will cease immediately in the vicinity and the site fenced. The proponent will need to contact the NSW Police Coroner to determine if the material is of Aboriginal origin. If determined to be Aboriginal, contact will be made with the OEH Enviroline 131 555 and relevant Aboriginal stakeholders in order to determine an action plan for the management of the skeletal remains prior to works re-commencing on site.	-	Note	-
8.0 HERITAGE	8.2 European Heritage		If, during the course of development works, significant European cultural heritage material is uncovered, work will cease in that area immediately. The OEH will be notified and works only recommenced when an appropriate and approved management strategy has been instigated.	-	Note	-
9.0 VISUAL			Trees will be planted as soon as practical on the initial benches on the western face of the quarry; and	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.	Not triggered	No quarrying operations were undertaken during the audit period. Operations will likely commence in mid to late 2017, but will be dependent on the completion of construction activities.
9.0 VISUAL			The proposed infrastructure area will be painted in an appropriate colour to blend in with the natural surroundings.	-	Not triggered	-
10.0 ENVIRONMENTAL MANAGEMENT STRATEGY			The Environmental Management Strategy dated August 2011 developed by GSS Environmental for the Karuah East Quarry will be adopted & implemented in full by Karuah East Pty Ltd.	Sighted a copy of SLR Consulting, 'Environmental Management Strategy - Karuah East Quarry Project - December 2015' (dated 1 December 2015).	Compliant	The Environmental Management Strategy currently implemented in full by Karuah East Quarry Pty Ltd was prepared with reference to the strategy developed by GSS Environmental in August 2011.
11.0 QUARRY CLOSURE & REHABILITATION			The Quarry Closure & Rehabilitation Plan dated November 2012 prepared by GSS Environmental for the Karuah East Quarry will be adopted and implemented in full by the proponent for the Karuah East Hard Rock Quarry (Appendix H of the EA Report dated 31 January 2013).	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.	Not triggered	No quarrying operations were undertaken during the audit period. Operations will likely commence in mid to late 2017, but will be dependent on the completion of construction activities.
11.0 QUARRY CLOSURE & REHABILITATION	11.1 Rehabilitation Management Plan		Until such time that extraction has ceased, rehabilitation will occur around the perimeter of the pit only along the benches and will not involve the pit floor. As the extraction progresses through the resource, 15m wide benches will be left every 15m of depth to provide a horizontal platform on which native flora species will be established. The revegetation program will re-establish native tree / shrub / ground cover and will stabilise reshaped and benched areas. Benches will be deep ripped to actively promote infiltration of water which will enhance soil moisture requirements for direct tree seeding and minimise surface runoff to underlying benches and the pit floor dirty water control system. On completion of quarry operations, the pit floor will be re-shaped and revegetated with wetland plant species to form a free draining wetland environment.	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.	Not triggered	Within the annual review, it was noted in Table 29 that no land has been prepared for rehabilitation and no land was under active rehabilitation within the annual review reporting period. Further it is not anticipated that any land will be prepared for or under active rehabilitation within the next annual review period.
11.0 QUARRY CLOSURE & REHABILITATION	11.1 Rehabilitation Management Plan	Topsoil Management	Topsoil stripping within the disturbed area will be undertaken when the soil is in a slightly moist condition to reducing damage to soil structure. Stripped material will be placed directly onto the disturbed areas and spread immediately if excavation sequences, equipment scheduling and weather conditions permit.	-	Not verified	Topsoil has been stripped No stripping was underway during the site inspection and conditions during stripping could not be observed. Direct replacement measures not yet applicable.
11.0 QUARRY CLOSURE & REHABILITATION	11.1 Rehabilitation Management Plan	Topsoil Management	A maximum stockpile height of 3m will be maintained to preserve viability and reduce soil deterioration.	Site inspection	Non-compliant	Refer to Schedule 3, Condition 32 of PA 09_0175.
11.0 QUARRY CLOSURE & REHABILITATION	11.1 Rehabilitation Management Plan	Topsoil Management	Stockpiles will be protected with sediment fencing and planted with a sterile cover crop (annual species) to ensure stabilisation. Surface drainage in the vicinity of the stockpiles will be configured so as to direct any runoff around the stockpile.	Site inspection	Non-compliant	Stockpiles are generally protected by sediment fences. A sterile cover crop has not been planted. **It is recommended that a sterile cover crop is planted on soil stockpiles in accordance with the Landscape and Rehabilitation Management Plan.**
11.0 QUARRY CLOSURE & REHABILITATION	11.1 Rehabilitation Management Plan	Topsoil Management	Where the stockpile is not wholly contained within the "closed loop" water management system, temporary sediment control measures such as sand bags and silt fences will be used to prevent sediment from leaving the disturbed areas.	Site inspection	Compliant	-
11.0 QUARRY CLOSURE & REHABILITATION	11.1 Rehabilitation Management Plan	Topsoil Management	Topsoil will be re-spread in the reverse sequence to its removal, so that the organic layer, containing any seed or vegetation, is returned to the surface. Topsoil will be spread to a minimum depth of 50mm on 3:1 or steeper slopes and to a minimum depth of 150mm on flatter slopes.	Site inspection	Not triggered	No soil has been respread during construction.
11.0 QUARRY CLOSURE & REHABILITATION	11.1 Rehabilitation Management Plan	Topsoil Management	Re-spread topsoil will be levelled to achieve an even surface, avoiding a compacted or an over-smooth finish.	Site inspection	Not triggered	No soil has been respread during construction.

Commitment Aspect	Commitment Sub-aspect (i)	Commitment Sub-aspect (ii)	Commitment Description	Evidence Verified	Compliance	Comments/Recommendations
11.0 QUARRY CLOSURE & REHABILITATION	11.1 Rehabilitation Management Plan	Surface Preparation	Thorough site preparation will be undertaken to ensure rapid establishment and growth of seedlings. All areas proposed for seeding will be deep ripped to an approximate depth of 400 – 500mm.	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.	Not triggered	Within the annual review, it was noted in Table 29 that no land has been prepared for rehabilitation and no land was under active rehabilitation within the annual review reporting period. Further it is not anticipated that any land will be prepared for or under active rehabilitation within the next annual review period.
11.0 QUARRY CLOSURE & REHABILITATION	11.1 Rehabilitation Management Plan	Surface Preparation	Where ripping on slopes is required, the ripping will be undertaken around the contour of the land at right angles to water flow	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.	Not triggered	Within the annual review, it was noted in Table 29 that no land has been prepared for rehabilitation and no land was under active rehabilitation within the annual review reporting period. Further it is not anticipated that any land will be prepared for or under active rehabilitation within the next annual review period.
11.0 QUARRY CLOSURE & REHABILITATION	11.1 Rehabilitation Management Plan	Direct Seeding	A mixture of native trees and shrubs endemic to the area will be sown onto the majority of the reshaped and benched pit areas following topdressing and site preparation.	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.	Not triggered	Within the annual review, it was noted in Table 29 that no land has been prepared for rehabilitation and no land was under active rehabilitation within the annual review reporting period. Further it is not anticipated that any land will be prepared for or under active rehabilitation within the next annual review period.
11.0 QUARRY CLOSURE & REHABILITATION	11.1 Rehabilitation Management Plan	Direct Seeding	The seed will be sourced from reputable seed supply agents. Native seed for revegetation of the quarry will be appropriately pre-treated in order to break dormancy restrictions.	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.	Not triggered	Within the annual review, it was noted in Table 29 that no land has been prepared for rehabilitation and no land was under active rehabilitation within the annual review reporting period. Further it is not anticipated that any land will be prepared for or under active rehabilitation within the next annual review period.
11.0 QUARRY CLOSURE & REHABILITATION	11.1 Rehabilitation Management Plan	Direct Seeding	The native tree and shrub seed mix will be sown at a total combined rate of approximately 6.3 kg/ha. Seed will be broadcast evenly onto topdressed areas. Seeding will be conducted in late spring, summer and early autumn.	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.	Not triggered	Within the annual review, it was noted in Table 29 that no land has been prepared for rehabilitation and no land was under active rehabilitation within the annual review reporting period. Further it is not anticipated that any land will be prepared for or under active rehabilitation within the next annual review period.
11.0 QUARRY CLOSURE & REHABILITATION	11.1 Rehabilitation Management Plan	Direct Seeding	Exotic pasture species (warm season perennial, cool season perennial, year long green perennial and annual) will be sown where the risk of erosion is less and on the more protected aspects of landforms.	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.	Not triggered	Within the annual review, it was noted in Table 29 that no land has been prepared for rehabilitation and no land was under active rehabilitation within the annual review reporting period. Further it is not anticipated that any land will be prepared for or under active rehabilitation within the next annual review period.
11.0 QUARRY CLOSURE & REHABILITATION	11.1 Rehabilitation Management Plan	Direct Seeding	All legumes will be inoculated and lime pelleted prior to seeding. Oats and/or rycorn/millet (depending on season) will be utilised as the cover crop species.	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.	Not triggered	Within the annual review, it was noted in Table 29 that no land has been prepared for rehabilitation and no land was under active rehabilitation within the annual review reporting period. Further it is not anticipated that any land will be prepared for or under active rehabilitation within the next annual review period.
11.0 QUARRY CLOSURE & REHABILITATION	11.1 Rehabilitation Management Plan	Direct Seeding	Revegetation activities will generally be undertaken in spring and autumn; however opportunistic revegetation will be undertaken if areas become available for sowing in summer or winter. After surface soil amelioration and tillage is completed for any given area, revegetation will commence as soon as practicable. The proposed method of sowing will be via conventional spreading using agricultural broadcasting equipment, or by hand if the terrain is difficult and machinery use is not possible.	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.	Not triggered	Within the annual review, it was noted in Table 29 that no land has been prepared for rehabilitation and no land was under active rehabilitation within the annual review reporting period. Further it is not anticipated that any land will be prepared for or under active rehabilitation within the next annual review period.
11.0 QUARRY CLOSURE & REHABILITATION	11.1 Rehabilitation Management Plan	Direct Seeding	Slope stabilising techniques such as hydro seeding and straw mulching will be undertaken on slopes exceeding 180 for enhancement of pasture germination.	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.	Not triggered	Within the annual review, it was noted in Table 29 that no land has been prepared for rehabilitation and no land was under active rehabilitation within the annual review reporting period. Further it is not anticipated that any land will be prepared for or under active rehabilitation within the next annual review period.
11.0 QUARRY CLOSURE & REHABILITATION	11.1 Rehabilitation Management Plan	Fencing and Weed Control	Fencing (or a similar barrier) will be erected and maintained to exclude and prohibit the movement of persons and vehicles into areas that have been rehabilitated. The fencing will be routinely checked and repaired where necessary. Signs will be placed in prominent locations to indicate areas that are undergoing rehabilitation.	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.	Not triggered	Within the annual review, it was noted in Table 29 that no land has been prepared for rehabilitation and no land was under active rehabilitation within the annual review reporting period. Further it is not anticipated that any land will be prepared for or under active rehabilitation within the next annual review period.
11.0 QUARRY CLOSURE & REHABILITATION	11.1 Rehabilitation Management Plan	Fencing and Weed Control	Weed control will be undertaken on an “as required” basis should cyclical weed invasion events occur.	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.	Not triggered	Within the annual review, it was noted in Table 29 that no land has been prepared for rehabilitation and no land was under active rehabilitation within the annual review reporting period. Further it is not anticipated that any land will be prepared for or under active rehabilitation within the next annual review period.
11.0 QUARRY CLOSURE & REHABILITATION	11.1 Rehabilitation Management Plan	Rehabilitation Maintenance	All erosion and sediment control measures will be maintained in a functioning condition until individual areas have been deemed “successfully” rehabilitated. Structural soil conservation works will be inspected after high intensity rainfall so that de-silting and prompt repairs and/or replacement of damaged works can be initiated as required.	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.	Not triggered	Within the annual review, it was noted in Table 29 that no land has been prepared for rehabilitation and no land was under active rehabilitation within the annual review reporting period. Further it is not anticipated that any land will be prepared for or under active rehabilitation within the next annual review period.
11.0 QUARRY CLOSURE & REHABILITATION	11.1 Rehabilitation Management Plan	Rehabilitation Monitoring	Regular monitoring of the revegetated areas will be undertaken during the initial vegetation establishment period and beyond. The table below presents the monitoring program, including the specific aspects and elements to be monitored and frequencies for those various aspects. ***(Refer to Table 5 - Proposed Rehabilitation Monitoring Program within the Statement of Commitments)***	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.	Not triggered	Within the annual review, it was noted in Table 29 that no land has been prepared for rehabilitation and no land was under active rehabilitation within the annual review reporting period. Further it is not anticipated that any land will be prepared for or under active rehabilitation within the next annual review period.

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11.0 QUARRY CLOSURE & REHABILITATION	11.1 Rehabilitation Management Plan	Rehabilitation Monitoring	Monitoring will be conducted periodically by independent, suitably qualified persons at locations which will be representative of the range of conditions on the rehabilitating areas. Annual reviews will be conducted of monitoring data to assess trends and monitoring program effectiveness. The outcome of these reviews will be included in each Annual Environmental Management Report (AEMR).	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.	Not triggered	Within the annual review, it was noted in Table 29 that no land has been prepared for rehabilitation and no land was under active rehabilitation within the annual review reporting period. Further it is not anticipated that any land will be prepared for or under active rehabilitation within the next annual review period.
11.0 QUARRY CLOSURE & REHABILITATION	11.1 Rehabilitation Management Plan	Rehabilitation Monitoring	In addition to the rehabilitated areas, at least two reference sites will be monitored to allow a comparison of the development and success of the rehabilitation against a control. Reference sites indicate the condition of surrounding un-disturbed areas.	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.	Not triggered	Within the annual review, it was noted in Table 29 that no land has been prepared for rehabilitation and no land was under active rehabilitation within the annual review reporting period. Further it is not anticipated that any land will be prepared for or under active rehabilitation within the next annual review period.
11.0 QUARRY CLOSURE & REHABILITATION	11.2 Final Void Management	Void Water Quality	Water will only be permitted to accumulate in the void if it maintains a quality that does not compromise its intended final use or surrounding groundwater systems. The following aspects will be considered with respect to managing final void water quality: i) Concentration of elements resulting from the quarrying of material; ii) Control of surface flow into the void; and iii) Rainfall and evaporation. Post closure a water monitoring program will remain in place to monitor any changes to chemistry within the void.	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.	Not triggered	No quarrying operations were undertaken during the audit period. Operations will likely commence in mid to late 2017, but will be dependent on the completion of construction activities.
11.0 QUARRY CLOSURE & REHABILITATION	11.2 Final Void Management	Void Slope Stability	The surrounding final slopes will be left in a condition where the risk of slope failure is minimised. This may require the benches to be battered back from the vertical to enable a stable overall slope angle. The following will be considered when assessing the geotechnical stability of highwalls: i) Long term final void water levels; ii) Height and inclination of slope and number and spacing of intermediate benches; iii) Shear strength of the highwall soils and rocks; iv) Density and orientation of fractures, faults, bedding planes, and any other discontinuities, and the strength along them; and v) The effects of the external factors, such as surface runoff. Prior to closure, investigations will be undertaken to confirm the criteria above.	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.	Not triggered	No quarrying operations were undertaken during the audit period. Operations will likely commence in mid to late 2017, but will be dependent on the completion of construction activities.
11.0 QUARRY CLOSURE & REHABILITATION	11.2 Final Void Management	Control of Surface Inflow	Drainage will be directed away from the highwall face through the construction of interceptor channels around the perimeter of the highwall and spoon drains will be utilised on the upslope side of all benches.	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.	Not triggered	No quarrying operations were undertaken during the audit period. Operations will likely commence in mid to late 2017, but will be dependent on the completion of construction activities.
11.0 QUARRY CLOSURE & REHABILITATION	11.2 Final Void Management	Control of Surface Inflow	The catchment area of the final void will be minimised by the installation of diversion drains.	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.	Not triggered	No quarrying operations were undertaken during the audit period. Operations will likely commence in mid to late 2017, but will be dependent on the completion of construction activities.
11.0 QUARRY CLOSURE & REHABILITATION	11.2 Final Void Management	Safety	The following will be considered at the time of closure to ensure that the void is left in a safe manner.	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.	Not triggered	No quarrying operations were undertaken during the audit period. Operations will likely commence in mid to late 2017, but will be dependent on the completion of construction activities.
11.0 QUARRY CLOSURE & REHABILITATION	11.2 Final Void Management	Safety	All high will to be left geotechnically stable;	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.	Not triggered	No quarrying operations were undertaken during the audit period. Operations will likely commence in mid to late 2017, but will be dependent on the completion of construction activities.
11.0 QUARRY CLOSURE & REHABILITATION	11.2 Final Void Management	Safety	A barrier at a safe distance from the perimeter of the void to prevent human access will be constructed. The highwall areas will be secured by the construction of a trench and a safety berm, as well as a security fence along the entire length of the remaining high wall;	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.	Not triggered	No quarrying operations were undertaken during the audit period. Operations will likely commence in mid to late 2017, but will be dependent on the completion of construction activities.
11.0 QUARRY CLOSURE & REHABILITATION	11.2 Final Void Management	Safety	Suitable signs, clearly stating the risk to public safety and prohibiting public access will be erected at 50m intervals outside the safety fence;	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.	Not triggered	No quarrying operations were undertaken during the audit period. Operations will likely commence in mid to late 2017, but will be dependent on the completion of construction activities.
11.0 QUARRY CLOSURE & REHABILITATION	11.2 Final Void Management	Safety	Surface runoff from land surrounding the void will be diverted from entering the void; and	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.	Not triggered	No quarrying operations were undertaken during the audit period. Operations will likely commence in mid to late 2017, but will be dependent on the completion of construction activities.
11.0 QUARRY CLOSURE & REHABILITATION	11.2 Final Void Management	Safety	Shrub and/or tree planting along the outside edge of the bund wall will be implemented where practicable to lessen the visual impact of the wall, and will be in accordance with the agreed post mining rehabilitation criteria and land use.	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.	Not triggered	No quarrying operations were undertaken during the audit period. Operations will likely commence in mid to late 2017, but will be dependent on the completion of construction activities.
11.0 QUARRY CLOSURE & REHABILITATION	11.2 Final Void Management	Monitoring and Management	After decommissioning works have been undertaken, whether progressive or final, a monitoring program will be designed to demonstrate that the completion criteria have been met and that the site is not resulting in any off site effects.	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.	Not triggered	No quarrying operations were undertaken during the audit period. Operations will likely commence in mid to late 2017, but will be dependent on the completion of construction activities.

Commitment Aspect	Commitment Sub-aspect (i)	Commitment Sub-aspect (ii)	Commitment Description	Evidence Verified	Compliance	Comments/Recommendations
11.0 QUARRY CLOSURE & REHABILITATION	11.2 Final Void Management	Closure Liability	In accordance with the Department of Trade and Investment Regional Infrastructure and Services ESG1 – Rehabilitation Cost Estimate Guidelines, the closure liability for the Karuah East Quarry is **$468,134.**	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.	Not triggered	No quarrying operations were undertaken during the audit period. Operations will likely commence in mid to late 2017, but will be dependent on the completion of construction activities.
12.0 WASTE MANAGEMENT	General		*All waste or recyclable material will be handled as follows:*	-	Note	-
12.0 WASTE MANAGEMENT	During Construction	Material Type	**Excavation Material & Green Waste -** Will be stockpiled on site in accordance with the quarry rehabilitation plan.	Sighted a copy of SLR Consulting, 'Landscape and Rehabilitation Management Plan - Karuah East Quarry Project' (dated 12 November 2015). Site inspection	Compliant	During the site inspection, evidence of mulched material on site was not observed. Felled trees were observed around the perimeter of the cleared areas. In addition, fallen logs and hollow logs salvaged during clearing operations were observed in the conservation offset areas (refer to Photograph 4.5). The depth of stripping could not be verified but topsoil and subsoil appeared to be appropriately managed with the exception of some stockpiling heights (see comments on Project Approval Schedule 3, Condition 32). T. Grugeon confirmed in correspondence on 30 May 2017 that topsoil was stripped in to stockpiles mainly around the weighbridge, plant and stockpile areas. This topsoil was stripped to approximately 300-400 mm depth. Topsoil was also stripped from the extraction area (where possible) and has been used to form water bunds to direct water towards Dam 1. See note on Project Approval Schedule 3, Condition 32 regarding height of soil stockpiles.
12.0 WASTE MANAGEMENT	During Construction	Material Type	**Bricks –** Any remaining bricks will be removed from the site by a suitably qualified contractor and transported to a local crushing and recycling company.	Site inspection	Not triggered	T. Grugeon confirmed during correspondence on 30 May 2017 that there no bricks recovered within the audit period that could be recycled.
12.0 WASTE MANAGEMENT	During Construction	Material Type	**Concrete -** Any remaining concrete will be removed from the site by a suitably qualified contractor and transported to a crushing and recycling company.	Site inspection	Not triggered	T. Grugeon confirmed during correspondence on 30 May 2017 that there was very little concrete waste generated within the audit period that could be recycled.
12.0 WASTE MANAGEMENT	During Construction	Material Type	**Timber –** Any excess timber will be removed from the site by a suitably qualified contractor and transported to a landscaping supply company for chipping and composting.	Site inspection	Not triggered	T. Grugeon confirmed during correspondence on 30 May 2017 that there was very little timber waste generated within the audit period that could be recycled.
12.0 WASTE MANAGEMENT	During Construction	Material Type	**Plasterboard –** Any excess plasterboard will be removed from the site by a suitably qualified contractor and taken to landscape supply company.	Site inspection	Not triggered	T. Grugeon confirmed during correspondence on 30 May 2017 that there was very little plasterboard waste generated within the audit period that could be recycled.
12.0 WASTE MANAGEMENT	During Construction	Material Type	**Metals –** Any excess metal will be removed from the site by a suitably qualified contractor and transported to a metal recycling facility.	Site inspection	Compliant	T. Grugeon confirmed during correspondence on 30 May 2017 that there was very little metal waste generated within the audit period that could be recycled. The small amount of sheet metal generated by the demolition of a caravan and attached shed was given to an employee who reused this metal off site for a newly constructed shed. In addition, during clearing/excavation, odd bits of metal (primarily fencing materials) were transported off site and disposed of in the metal recycling skip bin at the neighbouring Karuah Quarry.
12.0 WASTE MANAGEMENT	During Construction	Material Type	**Other –** Any other materials not noted above will be removed from the site by a suitably qualified contractor and transported to an appropriate facility.	Site inspection	Compliant	T. Grugeon confirmed during correspondence on 30 May 2017 that there was very little waste generated within the audit period that could be recycled. All the waste from the demolition of a caravan and attached shed was placed in a skip bin and disposed of by a licensed contractor. Other waste generated during construction is placed in large bins that are emptied regularly by a licensed contractor. In addition, a general recycling bin is available at the site office and larger cardboard waste is periodically taken off site and disposed of in the recycling bin located at the neighbouring Karuah Quarry.
12.0 WASTE MANAGEMENT	During Operation	Quarry Activity	**Excavation Material & Green Waste** - Will be stockpiled on site in accordance with the quarry rehabilitation plan.	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.	Not triggered	No quarrying operations were undertaken during the audit period. Operations will likely commence in mid to late 2017, but will be dependent on the completion of construction activities.
12.0 WASTE MANAGEMENT	During Operation	Quarry Activity	**Bricks –** Any remaining bricks will be removed from the site by a suitably qualified contractor and transported to a local crushing and recycling company.	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.	Not triggered	No quarrying operations were undertaken during the audit period. Operations will likely commence in mid to late 2017, but will be dependent on the completion of construction activities.

Commitment Aspect	Commitment Sub-aspect (i)	Commitment Sub-aspect (ii)	Commitment Description	Evidence Verified	Compliance	Comments/Recommendations
12.0 WASTE MANAGEMENT	During Operation	Quarry Activity	**Concrete** - Any remaining concrete will be removed from the site by a suitably qualified contractor and transported to a crushing and recycling company.	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.	Not triggered	No quarrying operations were undertaken during the audit period. Operations will likely commence in mid to late 2017, but will be dependent on the completion of construction activities.
12.0 WASTE MANAGEMENT	During Operation	Quarry Activity	**Timber –** Any excess timber will be removed from the site by a suitably qualified contractor and transported to a landscaping supply company for chipping and composting.	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.	Not triggered	No quarrying operations were undertaken during the audit period. Operations will likely commence in mid to late 2017, but will be dependent on the completion of construction activities.
12.0 WASTE MANAGEMENT	During Operation	Quarry Activity	**Metals –** Any excess metal will be removed from the site by a suitably qualified contractor and transported to a metal recycling facility.	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.	Not triggered	No quarrying operations were undertaken during the audit period. Operations will likely commence in mid to late 2017, but will be dependent on the completion of construction activities.
12.0 WASTE MANAGEMENT	During Operation	Quarry Activity	**Other –** Any other materials not noted above will be removed from the site by a suitably qualified contractor and transported to an appropriate facility.	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.	Not triggered	No quarrying operations were undertaken during the audit period. Operations will likely commence in mid to late 2017, but will be dependent on the completion of construction activities.
12.0 WASTE MANAGEMENT	During Operation		**General Waste & Recyclables from Staff within the Plant Area**	-	Note	-
12.0 WASTE MANAGEMENT	During Operation		***Recyclables***	-	Note	-
12.0 WASTE MANAGEMENT	During Operation		**Paper, cardboard, glass, aluminium & plastic**	-	Note	-
12.0 WASTE MANAGEMENT	During Operation		Temporary recycle bins will be provided within staff areas of the plant. Management will ensure bins are regularly collected and transported to an appropriate recycling facility.	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.	Not triggered	No quarrying operations were undertaken during the audit period. Operations will likely commence in mid to late 2017, but will be dependent on the completion of construction activities.
12.0 WASTE MANAGEMENT	Quarry Closure	General	Waste and recyclable material associated with the quarry closure and decommissioning will be undertaken in accordance with the Quarry Closure and Rehabilitation Plan. This will include:	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.	Not triggered	No quarrying operations were undertaken during the audit period. Operations will likely commence in mid to late 2017, but will be dependent on the completion of construction activities.
12.0 WASTE MANAGEMENT	Quarry Closure	Site Services	All services including power, water, data and telephone on the site will be isolated, disconnected and terminated to make them safe. All underground services will be made safe and left buried in the ground. Overhead power lines (where they are not used by others) will be removed and the materials (i.e. poles and wire) recovered for potential re-sale or recycling as applicable.	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.	Not triggered	No quarrying operations were undertaken during the audit period. Operations will likely commence in mid to late 2017, but will be dependent on the completion of construction activities.
12.0 WASTE MANAGEMENT	Quarry Closure	Infrastructure and Buildings	All sumps will be de-watered and de-silted prior to the commencement of demolition. In addition all items of equipment will be de-oiled, degassed, depressurised and isolated and any hazardous materials (HAZMATs) removed from the site;	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.	Not triggered	No quarrying operations were undertaken during the audit period. Operations will likely commence in mid to late 2017, but will be dependent on the completion of construction activities.
12.0 WASTE MANAGEMENT	Quarry Closure	Infrastructure and Buildings	All infrastructure, including the office buildings, workshops, parking areas, crushing plant, wash plant and product storage areas will be demolished and removed from the site. Where possible assets may be reused or sold to other operations. Otherwise they will be removed from the site by a suitably qualified contractor and transported to an appropriate recycling facility;	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.	Not triggered	No quarrying operations were undertaken during the audit period. Operations will likely commence in mid to late 2017, but will be dependent on the completion of construction activities.
12.0 WASTE MANAGEMENT	Quarry Closure	Infrastructure and Buildings	The remaining items will be demolished, removed and transported from the site as required. All recoverable scrap steel will be sold and recycled, with the remaining non-recyclable wastes being taken to a licenced landfill. Prior to disposal, all wastes will be assessed and classified in accordance with Waste Classification Guidelines (DECC, 2008); and	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.	Not triggered	No quarrying operations were undertaken during the audit period. Operations will likely commence in mid to late 2017, but will be dependent on the completion of construction activities.
12.0 WASTE MANAGEMENT	Quarry Closure	Infrastructure and Buildings	All concrete footings and pads will be broken up to at least 1.5m below the surface. The waste concrete will be crushed to produce an aggregate that can either be used on the site or sold for some other beneficial use.	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.	Not triggered	No quarrying operations were undertaken during the audit period. Operations will likely commence in mid to late 2017, but will be dependent on the completion of construction activities.
12.0 WASTE MANAGEMENT	Quarry Closure	Roadways, Car Parks and Hardstand	The roadways, car parks, and hardstand areas around the processing and administration areas will be ripped up. All areas will be reshaped, deep ripped, topsoiled and seeded in accordance with the rehabilitation plan.	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.	Not triggered	No quarrying operations were undertaken during the audit period. Operations will likely commence in mid to late 2017, but will be dependent on the completion of construction activities.
12.0 WASTE MANAGEMENT	Quarry Closure	Fuel Farm and Lubricant Storage Area	Leading up to closure, a preliminary sampling and analysis programme (Phase 1) will be implemented to determine whether a more detailed assessment (Phase 2 – detailed investigation of contamination involving drilling, etc) should be conducted.	Sighted a copy of Karuah East Quarry Pty Ltd and SLR Consulting, 'Annual Review for the Karuah East Hard Rock Quarry, Karuah, NSW - Review Period: 1 January 2016 - 31 December 2016'.	Not triggered	No quarrying operations were undertaken during the audit period. Operations will likely commence in mid to late 2017, but will be dependent on the completion of construction activities.
13.0 HAZARDOUS MATERIALS / DANGEROUS GOODS			All fuel storage and storage of any required chemicals will be within the specified bunded area of the infrastructure plant. Material Safety Data Sheets will be recorded in the site safety system for all chemicals used on site. This will contain information on the environmental impacts for the use of certain chemicals and include detail on emergency response, clean up and disposal should a highly unlikely event of a spill occur.	Site inspection	Compliant	During the interview with T. Grugeon, it was confirmed that a dedicated refuelling area has not been established on site within the audit period. Refuelling is currently performed by a mobile tanker. All refuelling within the Daracon compound is also performed by a mobile tanker. These are temporary arrangements during the project's construction period and will be addressed prior to the commencement of quarrying operations.

Commitment Aspect	Commitment Sub-aspect (i)	Commitment Sub-aspect (ii)	Commitment Description	Evidence Verified	Compliance	Comments/Recommendations
14.0 UTILITIES			The proposed development will comply with the requirements of the relevant utility authorities and evidence of the necessary approvals will be provided to the NSW DoPI prior to construction works.	Correspondence with T. Grugeon (23 June 2017).	Not verified	During correspondence on 23 June 2017, T. Grugeon noted that he has been unable to locate written evidence from the relevant utility authorities. T. Grugeon indicated that all works were approved by the relevant utility authorities, however, it is not clear whether the necessary approvals were provided to the NSW DoPI prior to construction works.
15.0 OUTDOOR LIGHTING			All outdoor lighting associated with the proposed development will be designed to comply with the requirements of AS 4282, Control of Obtrusive Effects of Outdoor Lighting.	Site inspection	Not triggered	External lighting has not been installed.

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