



Werris Creek Coal Mine

Independent Noise Audit 2020

22 July 2020

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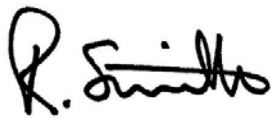
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Werris Creek Coal Mine

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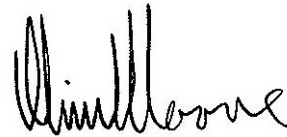
Robert Smith
Lead Auditor



Aaron McKenzie
Lead Auditor



Heather McKay
Project Manager



Oliver Moore
Partner in Charge

Environmental Resources Management Australia Pty Ltd

Level 15

309 Kent Street

Sydney NSW 2000

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1. INTRODUCTION

1.1 Overview

Werris Creek Coal Mine (WCC), on behalf of Whitehaven Coal Limited (herein referred to as 'WHC') commissioned Environmental Resources Management Australia Pty Ltd (ERM) to perform an Independent Noise Audit.

The mine is located approximately 4 km south of Werris Creek, New South Wales (NSW). The purpose of the audit was to satisfy the Department of Planning, Industry and Environment (DPIE)¹ Ministers' Conditions of Approval (CoA) Project Approval number PA 10_0059 Modification 2 which requires completion of an independent Noise Audit by the end of June 2014, and every 3 years thereafter. The audit period assessed in this IEA is 1 July 2017 through 12 June 2020 (the date the site visit was completed as part of the audit).

The primary objectives of the audit included:

- assess the environmental performance of the project and assess whether it is complying with the requirements in the CoA and any relevant EPL, and Mining Lease (including any assessment, plan or program required under these approvals);
- review the adequacy of any approved strategy, plan, or program required under the abovementioned consents/approvals; and
- recommend appropriate measures or actions to improve the environmental performance of the project, and/or any assessment, plan or program required under the abovementioned approvals.

1.2 Scope of Works

The scope of the audit are outlined in Table 1-1 below.

Table 1-1 Statutory Conditions Relating to the Independent Noise Audit

Condition	Requirement	Section Addressed
PA 10_0059		
Schedule 3 Condition 4 e	The Proponent shall: (e) carry out a comprehensive noise audit of the project in conjunction with each independent environmental audit, to the satisfaction of the Secretary.	This document
Schedule 5 Condition 8 a	This audit must: (a) be conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Secretary;	This document
EPL 12290		
E1.1	The licensee must provide the EPA with a copy of any Noise Audit and Independent Environmental Audit Report required by condition 4 of Schedule 3 and conditions 8 and 9 of Schedule 5 of the Werris Creek Mine Extension Project Approval (No. 10_0059). If the Noise Audit and Independent Environmental Audit Report do not incorporate the following information or assessments, then the licensee must also provide a separate report to the EPA that incorporates the following:	This document
E1.1(a)	An assessment of noise emissions from the premises against the noise limits established by the Project Approval (No. 10_0059), as well as	Section 4

¹ Formerly the Department of Planning and Environment (DP&E).

	against the long term noise goal and noise acquisition criteria established within Project Approval No. 10_0059 that has been completed in accordance with the procedures defined in the NSW Industrial Noise Policy and any relevant Application Notes published by the EPA;	
E1.1(b)	An evaluation of current mine noise impacts at all non-project related receptors and the noise mitigation practices that have been implemented at the premises against the best available economically achievable technology and current best practice principles for minimising noise emissions; and	Section 5
E1.1(c)	Where noise impacts at any affected non-project related receptor exceeds the long-term noise goal established by condition 4 of Schedule 3 of Project Approval 10_0059, the licensee must provide documented evidence that demonstrates that reasonable attempts have been made to reach a negotiated agreement with all relevant affected receptors within the last 3 years.	Section 4.2.3
	The reports required by this condition must be submitted to the EPA's Armidale office within 6 weeks of the 30 June 2014, and every three years thereafter.	This document is to be submitted to EPA by 10 August 2020
	Note: For the purposes of this condition, a privately owned property that is subject to a current and legally binding negotiated agreement between the licensee and the relevant property owner, is considered project related, as is any property or residence held in the ownership of the licensee or its associated companies.	Section 4.1

2. AUDIT METHODOLOGY

2.1 Methodology

The Independent Noise Audit methodology consisted of the following key steps:

- Reviewing all documents provided by WCC prior to the audit;
- Site inspections and interviews with key WCC personnel on 11 and 12 June 2020;
- Review of additional relevant documentation obtained onsite or provided by WCC after the site inspection; and
- WCC review and comment on the draft audit report.

ERM's Aaron McKenzie (Acoustic Consultant) was present on site on 11 and 12 June 2020. The site inspections included visual inspections of the WCC Mine and interviews with key WCC Mine personnel, including Mathew Hollis (Environmental Superintendent) and Lynden Cini (Group Superintendent – Environment). Photographs were taken during the site inspections and evidence was viewed (and collected) as part of the audit including reports, correspondence, spreadsheets and forms.

2.2 Assessment of Compliance

Findings resulting from an assessment of audit evidence were divided into four categories as follows:

- **Compliant (C):** the intent and all elements of the audit criteria requirements have been complied with within the scope of the audit.
- **Non-compliant (NC):** Failure to meet the audit requirements, failure to achieve the field performance outcomes identified in documentation, or ineffective environmental management of the activity.

- **Not Triggered (NT)** – A regulatory approval requirement has an activation or timing trigger that had not been met at the time of the audit inspection, and therefore a determination of compliance could not be made.
- **Note:** A statement or fact, where no assessment of compliance is required.

A qualitative risk assessment was also completed on the findings, consistent with AS/NZS 4360:2004 Risk management and HB 436:2004 Risk Management Guidelines Companion to AS/NZS 4360:2004 and as described in the DPIE publication “Independent Audit Guidelines” issued October 2015.

The overall level of risk was estimated by combining the likelihood of harm occurring with the estimated level of harm associated with each finding. Risk levels have been assigned as follows:

- **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.

Appendix B, C and D provide a detailed review of each of the noise related conditions contained within PA 10_0059, EPL 12290 and the Statement of Commitments. Section 3 summarises the identified non-compliances.

3. AUDIT FINDINGS

3.1 EPL 12290 Clause R4.1

In accordance with Clause R4.1 of EPL 12290, WCC is required to submit a noise compliance assessment report to the EPA within 30 days of the completion of the monthly monitoring.

Review of the completion dates of the monitoring reports and records of submission to EPA indicated these were typically submitted outside the 30 day period and considered a low risk non-compliance.

3.2 EPL 12290 Clause M9.1

Attended noise monitoring is required at locations labelled “R24 Hazeldene”, “R12 Quipolly Railway Cottage”, “R96 Talavera”, “R98 Kyooma” and “R57 33 Kurrara St, Werris Ck”. EPL Monitoring reports for 2017 and 2018 are missing data for location R57 for the following months; June to December 2017, January and March 2018.

The missing data from the 2017 and 2018 EPL reports are considered a low risk non-compliance.

4. ASSESSMENT OF MINE NOISE PERFORMANCE - EPL CLAUSE E1.1 (A)

4.1 Mine Noise Criteria

Noise criteria are presented in Table 4-1 for all privately owned properties not subject to negotiated agreements with WCC. It is understood that all other locations listed within PA 10_0059 have negotiated agreements in place or have been acquired by WCC.

Table 4-1 Applicable Noise Criteria

Location	Day LAeq (15min)	Evening/Night LAeq (15min)	Night LA1 (1min)	Long Term LAeq (15min)	Acquisition LAeq (15min)
R12 - Quipolly Railway Cottage	38	38	45	35	40
R24 - Hazeldene	37	37	45	35	40
R96 - Talavera	38	38	45	35	40
R98 - Kyooma	36	38	45	35	40
Any other non-project related residence	35	35	45	35	40

4.2 Assessment of WCC Noise

4.2.1 Monthly Operator Attended Noise Monitoring Results

WCC has implemented a noise management plan (NMP) which contains a noise monitoring program (Section 9 of NMP) including monthly operator attended noise monitoring and real time noise monitoring. Monthly operational noise monitoring has been undertaken during the audit period in accordance with the NMP. The off-site monthly noise monitoring results during the audit period are summarised in Table 4-2 and Table 4-3 below for the noise monitoring locations listed in Table 4-1.

Table 4-2 Daytime Werris Creek Coal Mine Intrusive LAeq(15minute) Contributed Noise Level (dBA)

Location	Criteria	Long Term goal	Acquisition Criteria	Jun 17	Jul 17	Aug 17	Sep 17	Oct 17	Nov 17	Dec 17	Jan 18	Feb 18	Mar 18	Apr 18	May 18	Jun 18	Jul 18	Aug 18	Sep 18	Oct 18	Nov 18	Dec 18	
R12	38	35	40	IA	25	30	IA	<20	IA	IA	IA	IA	IA	IA	IA	IA	IA	IA	IA	IA	IA	IA	IA
R24	37	35	40	IA	27	NM	<20	<30	IA	IA	IA	IA	IA	IA	IA	IA	IA	IA	IA	IA	IA	IA	IA
R57	35	35	40	-	-	-	-	-	-	-	-	IA	-	IA	<25	IA	IA	IA	IA	IA	IA	IA	IA
R96	38	35	40	IA	IA	31	<30	IA	IA	IA	25	IA	NM	IA	<25	28	IA	IA	IA	IA	IA	26	IA
R98	36	35	40	<20	IA	<25	<30	<25	IA	<30	<30	NM	<25	IA	IA	IA	30	IA	FA	IA	IA	IA	IA

Location	Criteria	Long Term goal	Acquisition Criteria	Jan 19	Feb 19	Mar 19	Apr 19	May 19	Jun 19	Jul 19	Aug 19	Sep 19	Oct 19	Nov 19	Dec 19	Jan 20	Feb 20	Mar 20	Apr 20	
R12	38	35	40	<20	<20	<20	<20	25	25	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
R24	37	35	40	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
R57	35	35	40	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
R96	38	35	40	24	23	<20	<20	<20	<20	<20	25	<20	<20	<20	<20	<20	<20	<20	24	<20
R98	36	35	40	<20	22	<20	<20	<20	26	<20	<20	<20	<20	<20	21	20	<20	<20	<20	<20

Note: NM - Not Measurable; IA - Inaudible; FA - Faintly Audible

Table 4-3 Evening/Night-time Werris Creek Coal Mine Intrusive LA_{eq(15minute)} Contributed Noise Level (dBA)

Location	Criteria	Long Term goal	Acquisition Criteria	Jun 17	Jul 17	Aug 17	Sep 17	Oct 17	Nov 17	Dec 17	Jan 18	Feb 18	Mar 18	Apr 18	May 18	Jun 18	Jul 18	Aug 18	Sep 18	Oct 18	Nov 18	Dec 18		
R12	38	35	40	31	23	27	IA	IA	IA	NM	IA	IA	29	IA	IA	IA	IA	IA	IA	IA	IA	IA	IA	
R24	37	35	40	<25	23	28	IA	IA	IA	<20	IA	IA	<25	IA	IA	33	26	IA	25	IA	IA	IA	IA	
R57	35	35	40	-	-	-	-	-	-	-	-	-	-	FA	<25	IA	IA	IA	IA	IA	IA	IA	IA	IA
R96	38	35	40	<25	27	32	30	<20	IA	28	IA	<30	<25	IA	IA	IA	<20	30	IA	IA	IA	IA	IA	
R98	38	35	40	<25	25	33	<20	<25	IA	<30	IA	<30	<30	20	IA	28	<20	IA	27	IA	26	IA	IA	

Location	Criteria	Long Term goal	Acquisition Criteria	Jan 19	Feb 19	Mar 19	Apr 19	May 19	Jun 19	Jul 19	Aug 19	Sep 19	Oct 19	Nov 19	Dec 19	Jan 20	Feb 20	Mar 20	Apr 20
R12	38	35	40	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	22	<20	<20
R24	37	35	40	<20	<20	<20	<20	23	<20	<20	<20	22	<20	<20	21	<20	<20	22	<20
R57	35	35	40	<20	24	<20	<20	27	<20	28	<20	<20	<20	<20	<20	<20	<20	<20	<20
R96	38	35	40	<20	22	<20	<20	<20	22	<20	<20	<20	25	25	28	26	25	22	<20
R98	38	35	40	<20	24	24	<20	<20	24	<20	<20	25	30	<20	27	22	<20	28	<20

Note: NM - Not Measurable; IA - Inaudible; FA - Faintly Audible

4.2.2 Evaluation of Compliance with the PA and EPL Noise Criteria

Besides where data is missing for Location R57, the monitoring results as shown in Table 4-2 and Table 4-3 (and reported in the Annual Reviews 2017, 2018 and 2019), monthly noise monitoring results identified no exceedances of the noise criteria during the audit period.

No exceedances of the LA1(1minute) noise criteria were reported during the audit period.

4.2.3 Evaluation of Compliance with the Long-term Noise Goal

Clause E1.1(c) requires that “Where noise impacts at any affected non-project related receptor exceeds the long term noise goal

...the licensee must provide documented evidence that demonstrates that reasonable attempts have been made to reach a negotiated agreement with all relevant affected receptors within the last 3 years”.

During the audit period (refer Table 4-2 and Table 4-3), no exceedances of the long-term noise goal were recorded during the monthly-attended noise monitoring surveys.

4.3 Noise Complaints

Table 4-4 presents a summary of the noise complaints received by WCC since 2012.

Table 4-4 Noise Complaint History

Noise source	2012	2013	2014	2015	2016	2017	2018	2019	2020*
Mine	13	4	1	1	1	2	-	-	-
TLO	6	6	5	1	-	-			

* 2020 up to June (not included)

The noise complaint history shows that noise complaints have decreased over time. i

Table 4-5 Noise Complaints for the audit reported period

Complaint	Date	Method	Nature	Investigation	Action taken
1	20/08/2017	Phone to EO	EO received voice mail stating noise levels were bad	EO returned called to complainant and left a voice message requesting further details. Complainant did not return EO's call	None required
	21/08/2017	Phone call from EPA	EO received phone call from EPA to discuss previous noise complaint. Complainant had advised EPA noise of concern were operations from 7-8 am on 20.8.17	EO explained to EPA the communication trail, with no forthcoming return call from complainant. EO advised EPA that since communications could not be established, no operational changes were made. EO identified a temperature inversion at the times EPA identified, which potentially amplified noise, concurrent with a Southerly wind	EPA advised no further comment or action was necessary

Table 4-5 shows there was only a single complaint during the audit-reporting period.

4.4 Summary

In general, the following is noted with regard to WCC noise emissions:

- The existing NMP is effectively implemented with operator attended noise monitoring conducted in accordance with the noise-monitoring program on a monthly basis and real-time noise levels, audio and weather being effectively monitored daily.
- Noise emissions from the WCCM are compliant with the relevant noise criteria at all the nearest residential receiver locations during the monthly attended noise monitoring surveys.
- Noise emissions from WCCM are below the long term noise goal at the nearest non project related residential receivers

5. EVALUATION OF CURRENT MINE NOISE IMPACTS AND MITIGATION PRACTISES - EPL CLAUSE E1.1 (B)

The NMP describes the noise mitigation and management measures, currently implemented.

This includes;

- at-source noise reduction (eg attenuation packages installed on trucks, enclosed conveyor, silent horns)
- source to receiver noise barriers in the form of bunds
- noise management measures including a “real time” noise monitoring program which enables “live” management of WCC noise emissions utilising continuous noise monitoring and a noise control noise operator who identifies noise exceedance risk and modifies operations to avoid noise exceedance.

The effectiveness of WCC noise mitigation practises was evaluated using the following indicators:

- Results of monthly operator-attended noise monitoring.
- Number of noise-related complaints.
- Trends of WCC related night-time noise levels measured in compliance monitoring locations.

The monthly operator attended noise monitoring results and reduction in the number of noise related complaints show general compliance with the EPL Clause E1.1. These practises are consistent with “best available economically achievable technology and current best practice principles for minimising noise emissions”.

The need for a negotiated agreement due to exceedance of long term noise goals has not been triggered in the audit period.

6. SUMMARY AND RECOMMENDATIONS

The monitoring data reviewed by ERM indicates compliance throughout the audit period with the PA 10_0059 conditions and EPL 12290 licence noise limits. Monthly operator attended noise monitoring results have demonstrated that the noise management and mitigation strategies employed by WCC are effective in managing noise impacts from the site.

With real time noise monitoring and operational management and a consistent record of compliance with noise limits, a reduction in compliance monitoring requirements from monthly to quarterly or a reduction in monitoring duration (eg: 1 hour to 15minute) should be considered as part of a future review of the NMP.

APPENDIX A ENDORSEMENT OF THE PROPOSED AUDIT TEAM



Mr Lynden Cini
Group Superintendent - Environment
Whitehaven Coal Limited

Via Email Only: LCini@whitehavencoal.com.au

20/04/2020

Dear Mr Cini

**Werris Creek Mine Extension Project (MP 10_0059)
2020 Independent Environmental Audit Team**

I refer to your request (reference MP10_0059-PA-23) seeking endorsement of the proposed audit team for the upcoming Independent Environmental Audit (IEA) required by Schedule 5, Condition 8 of project approval MP 10_0059 (the approval) for the Werris Creek Mine Extension Project (the site).

The Secretary has considered Werris Creek Coal's request and endorses the following audit team from Environmental Resources Management Australia Pty Ltd (ERM) for the 2020 IEA:

- Ms Heather McKay – Lead auditor;
- Mr Oliver Moore – Technical oversight and reviews;
- Mr Aaron McKenzie – Support and Acoustics Auditor; and
- Mr Wijnand Gemson – Water/groundwater specialist.

The IEA is to be conducted in accordance with the conditions of the approval, and the Department's *Independent Audit Guideline* (October 2015). Further, the Secretary requests that in undertaking the IEA, the Auditor:

- Only use the compliance status descriptors "compliant", "non-compliant" or "not triggered". The terms "partial compliance", "partial non-compliance", "not verified" or other similar terms are not to be used.

The IEA period shall be from 16 June 2017 to the IEA audit inspection date, which shall coincide with the end of the audit period, and be completed no later than 16 June 2020, unless otherwise agreed by the Secretary.

The IEA report together with responses to any recommendations (RAR) contained in the IEA report should be submitted to the Department by 28 July 2020.

If you wish to discuss the matter further, please contact Ann Hagerthy on 02 6575 3407 or email to compliance@planning.nsw.gov.au

Yours sincerely

Heidi Watters
Team Leader Northern
Compliance
As nominee of the Planning Secretary

APPENDIX B PA 10_0059 NOISE COMPLIANCE REGISTER

Condition Number	Condition	Compliance Status	Evidence	Recommended Action																																				
SCHEDULE 3 - ENVIRONMENTAL PERFORMANCE CONDITIONS																																								
NOISE																																								
Noise Criteria																																								
1	<p>The Proponent shall ensure that the noise generated by the project (including noise generated on the Werris Creek Rail Spur) does not exceed the criteria in Table 1 at any residence on privately-owned land.</p> <p>Table 1: Noise Criteria</p> <table border="1"> <thead> <tr> <th>Location</th> <th>Day dB(A) LAeq(15 min)</th> <th>Evening & Night dB(A) LAeq(15 min)</th> <th>Night dB(A) LA1 (1 min)</th> </tr> </thead> <tbody> <tr> <td>R10, R11</td> <td>39</td> <td>39</td> <td>45</td> </tr> <tr> <td>R21</td> <td>39</td> <td>37</td> <td>45</td> </tr> <tr> <td>R12</td> <td>38</td> <td>38</td> <td>45</td> </tr> <tr> <td>R96</td> <td>38</td> <td>38</td> <td>45</td> </tr> <tr> <td>R7, R8, R9, R24</td> <td>37</td> <td>37</td> <td>45</td> </tr> <tr> <td>R22</td> <td>36</td> <td>37</td> <td>45</td> </tr> <tr> <td>R98</td> <td>36</td> <td>38</td> <td>45</td> </tr> <tr> <td>All other privately- owned residences</td> <td>35</td> <td>35</td> <td>45</td> </tr> </tbody> </table> <p>Notes:</p> <ul style="list-style-type: none"> To interpret the locations referred to in Table 1, see the applicable figure in Appendix 3; and 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. 	Location	Day dB(A) LAeq(15 min)	Evening & Night dB(A) LAeq(15 min)	Night dB(A) LA1 (1 min)	R10, R11	39	39	45	R21	39	37	45	R12	38	38	45	R96	38	38	45	R7, R8, R9, R24	37	37	45	R22	36	37	45	R98	36	38	45	All other privately- owned residences	35	35	45	Compliant	<p>There were no exceedances of Noise Criteria during the audit period.</p> <p>Evidence:</p> <ul style="list-style-type: none"> Annual reviews: 2017, 2018 EPL monitoring reports: 2017 (from June), 2018, 2019 and 2020 (until April) Review of noise monitoring contractor compliance reports; <i>Spectrum Acoustics Noise Monitoring Results, Global Acoustics noise monitoring reports</i>. <p>Section 9.1 and appendix E of the approved NMP outlines methodology in accordance with INP. It is noted that much of this information has been culled from the proposed NMP.</p> <p>Section 8.1 of the approved NMP identifies those receivers which have</p>	
Location	Day dB(A) LAeq(15 min)	Evening & Night dB(A) LAeq(15 min)	Night dB(A) LA1 (1 min)																																					
R10, R11	39	39	45																																					
R21	39	37	45																																					
R12	38	38	45																																					
R96	38	38	45																																					
R7, R8, R9, R24	37	37	45																																					
R22	36	37	45																																					
R98	36	38	45																																					
All other privately- owned residences	35	35	45																																					

	<p>However, these criteria do not apply if the Proponent has an agreement with the relevant owner/s of these residences/land to generate higher noise levels, and the Proponent has advised the Department in writing of the terms of this agreement.</p>		<p>agreement with WCC for higher noise levels with those agreements being to the satisfaction of DPIE and the EPA.</p> <p>Evidence:</p> <ul style="list-style-type: none"> Noise Management Plan (NMP): WHC_PLN_WC_NOISE MANAGEMENT PLAN 16 April 2014 					
Noise Acquisition Criteria								
2	<p>If the noise generated by the project causes sustained exceedances of the criteria in Table 2 at any residence on privately-owned land or on more than 25 percent of any privately-owned land, then upon receiving a written request for acquisition from the landowner, the Proponent shall acquire the land in accordance with the procedures in conditions 5 - 6 of schedule 4.</p>	Not Triggered	<p>No noise levels above 40 dBA reported in Annual Reviews.</p> <p>Evidence:</p> <ul style="list-style-type: none"> Annual reviews: 2017 and 2018, 2019. EPL monitoring reports: 2017 (from June), 2018, 2019 and 2020 (until April) 					
	<p>Table 2: Noise Acquisition Criteria</p> <table border="1"> <thead> <tr> <th>Location</th> <th>Day/Evening/Night dB(A) LAeq (15min)</th> </tr> </thead> <tbody> <tr> <td>All privately-owned land</td> <td>40</td> </tr> </tbody> </table> <p>Note: Noise generated by the project is to be measured in accordance with the relevant requirements and exemptions (including certain meteorological conditions) of the NSW INP.</p>	Location	Day/Evening/Night dB(A) LAeq (15min)	All privately-owned land	40			
Location	Day/Evening/Night dB(A) LAeq (15min)							
All privately-owned land	40							
Additional Noise Mitigation Measures								
3	<p>Upon receiving a written request from the owner of the land listed in Table 3, the Proponent shall implement additional noise mitigation measures (such as double-glazing, insulation, and/or air conditioning) at any residence on the land in consultation with the owner. These measures must be reasonable and feasible.</p> <p>If within 3 months of receiving this request from the owner, the Proponent and the owner cannot agree on the measures to be implemented, or there is a dispute about the implementation of these measures, then either party may refer the matter to the Secretary for resolution.</p>	Not Triggered	<p>Outlined in Section 8.12 of the approved NMP.</p> <p>Based on records in Annual Reviews and discussions with the Environmental Superintendent, there have been no additional requests.</p> <p>Evidence:</p> <ul style="list-style-type: none"> Annual reviews: 2017 and 2018 					
	<p>Table 3: Land subject to additional noise mitigation measures</p> <table border="1"> <thead> <tr> <th>Location</th> </tr> </thead> <tbody> </tbody> </table>	Location						
Location								

	R10, R11, R12, R21, R96		<ul style="list-style-type: none"> EPL monitoring reports: 2017 (from June), 2018, 2019 and 2020 (until April) 					
Operating Conditions								
4	<p>The Proponent shall:</p> <p>(a) implement best practice noise management to minimise the operational, low frequency, rail and road traffic noise of the project;</p> <p>(b) regularly assess the real-time noise monitoring and meteorological forecasting data and relocate, modify, and/or stop operations on site to ensure compliance with the relevant conditions of this approval;</p> <p>(c) minimise the noise impacts of the project during temperature inversions; and</p> <p>(d) use its best endeavours to achieve the long-term noise goals in Table 4, where this is reasonable and feasible, and report on the progress towards achieving these goals in the annual review;</p> <p>(e) carry out a comprehensive noise audit of the project in conjunction with each independent environmental audit, to the satisfaction of the Secretary.</p>	Compliant	<p>Evidence:</p> <p>(a) Reviewed Noise Management Plan. Evidence of decreased noise complaints over the audit period over successive Annual Review periods.</p> <p>(b) Sentinex real time noise website for project</p> <p>(c) Noise Control Operators (NCOs) proforma log records in operation during night-time period, with notes on revised operations during night-time period when noise issues identified.</p> <p>(d) Separate Noise Audit Report has been prepared as part of this audit.</p>					
	<p>Table 4: 4: Long-term noise goal</p> <table border="1"> <thead> <tr> <th>Location</th> <th>Day/Evening/Night dB(A) LAeq (15min)</th> </tr> </thead> <tbody> <tr> <td>All privately-owned land</td> <td>35</td> </tr> </tbody> </table>	Location	Day/Evening/Night dB(A) LAeq (15min)	All privately-owned land	35			
Location	Day/Evening/Night dB(A) LAeq (15min)							
All privately-owned land	35							
Noise Management Plan								
5	<p>The Proponent shall prepare and implement a NMP for the project to the satisfaction of the Secretary. This plan must:</p> <p>(a) be prepared in consultation with EPA by a suitably qualified expert whose appointment has been approved by the Secretary;</p> <p>(b) be submitted to the Secretary for approval by the end of April 2012;</p> <p>(c) describe the measures that would be implemented to ensure compliance with the relevant conditions of this approval, including:</p> <ul style="list-style-type: none"> a real-time noise management system that employs both reactive and proactive mitigation measures; and rail spur management plan, that has been prepared in consultation with ARTC and the rail freight company; and <p>(d) include a Noise Monitoring Program that:</p>	Compliant	<p>Covered in previous audits.</p> <p>Evidence:</p> <ul style="list-style-type: none"> Noise Management Plan (NMP): WHC_PLN_WC_NOISE MANAGEMENT PLAN 16 April 2014 	<p>A new update of the NMP would be recommendable as it is now 6 years old.</p>				

	<ul style="list-style-type: none"> ■ • uses a combination of real-time and supplementary attended noise monitoring measures to evaluate the performance of the project; ■ is capable of monitoring temperature inversion strengths at an appropriate sampling rate; ■ evaluates and reports on the effectiveness of the real-time noise management system; ■ includes a protocol for determining exceedances of the relevant conditions of this approval. 			
SCHEDULE 4 - ADDITIONAL PROCEDURES				
NOTIFICATION OF LANDOWNERS				
1	<p>By the end of December 2011, the Proponent shall:</p> <p>(a) notify in writing the owners of:</p> <ul style="list-style-type: none"> ■ any residence on the land listed in Table 3 of schedule 3 that they are entitled to ask the Proponent to install additional noise mitigation measures at their residence at any stage during the project; and ■ any privately-owned land within 2 kilometres of the approved open cut mining pit that they are entitled to ask the proponent for a property inspection to establish the baseline condition of any buildings or structures on their land, or to have a previous property inspection report updated; and <p>(b) send a copy of the NSW Health fact sheet entitled "Mine Dust and You" (as may be updated from time to time) to the owners of any land (including mine-owned land) where the predictions in the EA identify that dust emissions generated by the project are likely to be greater than the relevant air quality criteria in schedule 3 at any time during the life of the project.</p>	Not Triggered	<p>Covered in previous audit.</p> <p>There was no new cases where a landowner had to be notified.</p>	
2	<p>As soon as practicable after obtaining monitoring results showing:</p> <p>(a) an exceedance of the relevant criteria in schedule 3, the Proponent shall notify the affected landowner in writing of the exceedance, and provide regular monitoring results to each of these parties until the project is complying with the relevant criteria again</p>	Not Triggered	<p>Based on a review of Annual Reviews and discussions with the Environmental Officer this condition has not been triggered.</p> <p>Evidence:</p> <ul style="list-style-type: none"> ■ Annual reviews: 2017 and 2018 	

Independent Review			
3	<p>If an owner of privately-owned land considers the project to be exceeding the relevant criteria in schedule 3, then he/she may ask the Secretary in writing for an independent review of the impacts of the project on his/her land.</p> <p>If the Secretary is satisfied that an independent review is warranted, then within 2 months of the Secretary's decision the Proponent shall:</p> <p>(a) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the Secretary, to:</p> <ul style="list-style-type: none"> ■ consult with the landowner to determine his/her concerns; ■ 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 <p>(b) give the Secretary and landowner a copy of the independent review.</p>	Not triggered	<p>Based on a review of Annual Reviews and discussions with the Environmental Officer this condition has not been triggered.</p> <p>Evidence:</p> <ul style="list-style-type: none"> ■ Annual reviews: 2017 and 2018
4	<p>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.</p> <p>If the independent review determines that the project is not complying with the relevant criteria in schedule 3, then the Proponent shall:</p> <p>(a) implement all reasonable and feasible mitigation measures, in consultation with the landowner and appointed independent person, and conduct further monitoring until the project complies with the relevant criteria; and</p> <p>(b) secure a written agreement with the landowner to allow exceedances of the relevant criteria; to the satisfaction of the Secretary.</p> <p>If the independent review determines that the project is not complying with the relevant acquisition criteria, and that the project is primarily responsible for this non-compliance, then upon receiving a written request from the landowner, the Proponent shall acquire all or part of the landowner's land in accordance with the procedures in condition 5-6 below.</p>	Not triggered	<p>Based on a review of Annual Reviews and discussions with the Environmental Officer this condition has not been triggered.</p> <p>Evidence:</p> <ul style="list-style-type: none"> ■ Annual reviews: 2017 and 2018 EPL monitoring reports: 2017 (from June), 2018, 2019 and 2020 (until April)
Land Acquisition			
5	<p>Within 3 months of receiving a written request from a landowner with acquisition rights, the Proponent shall make a binding written offer to the landowner based on:</p>	Not triggered	<p>Based on a review of Annual Reviews and discussions with the Environmental Officer this condition has not been triggered.</p>

(a) the current market value of the landowner's interest in the land at the date of this written request, as if the land was unaffected by the project, having regard to the:

- existing and permissible use of the land, in accordance with the applicable planning instruments at the date of the written request; and
- presence of improvements on the land and/or any approved building or structure which has been physically commenced at the date of the landowner's written request, and is due to be completed subsequent to that date, but excluding any improvements that have resulted from the implementation of 'additional noise mitigation measures' in condition 4 of schedule 3;

(b) the reasonable costs associated with:

- relocating within the Liverpool Plains Shire local government area, or to any other local government area agreed to by the Secretary;
- obtaining legal advice and expert advice for determining the acquisition price of the land, and the terms upon which it is to be acquired; and

(c) reasonable compensation for any disturbance caused by the land acquisition process.

However, if at the end of this period, the Proponent and landowner cannot agree on the acquisition price of the land and/or the terms upon which the land is to be acquired, then either party may refer the matter to the Secretary for resolution.
Upon receiving such a request, the Secretary will request the President of the NSW Division of the Australian Property Institute to appoint a qualified independent valuer to:

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

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

However, if either party disputes the independent valuer's determination, then within 14 days of receiving the independent valuer's report, they may refer the matter to the

Evidence:

- Annual reviews: 2017 and 2018
EPL monitoring reports: 2017 (from June), 2018, 2019 and 2020 (until April)

	<p>Secretary for review. Any request for a review must be accompanied by a detailed report setting out the reasons why the party disputes the independent valuer's determination.</p> <p>Following consultation with the independent valuer and both parties, the Secretary will determine a fair and reasonable acquisition price for the land, having regard to the matters referred to in paragraphs (a)-(c) above, the independent valuer's report and any other relevant submissions. Within 14 days of this determination, the Proponent shall make a binding written offer to the landowner to purchase the land at a price not less than the Secretary's determination.</p>			
6	<p>The Proponent shall pay all reasonable costs associated with the land acquisition process described in condition 4 above, including the costs associated with obtaining Council approval for any plan of subdivision (where permissible), and registration of the plan at the Office of the Registrar-General.</p>	Not triggered	<p>Based on a review of Annual Reviews and discussions with the Environmental Officer this condition has not been triggered.</p> <p>Evidence:</p> <ul style="list-style-type: none"> ■ EPL monitoring reports: 2017 (from June), 2018, 2019 and 2020 (until April) 	

APPENDIX C EPL 12290 COMPLIANCE REGISTER

Condition Number	Condition	Compliance Status	Evidence	Recommended Action
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2. Discharges to Air and Water and Applications to Land

3. Limit Conditions

L4 Noise Limits

L4.1	Noise generated from the premises must not exceed the noise limits in the table below.				Compliant	<p>There were no exceedances of Noise Criteria during the audit period.</p> <p>Evidence:</p> <ul style="list-style-type: none"> ■ Annual reviews: 2017 and 2018 ■ EPL monitoring reports: 2017 (from June), 2018, 2019 and 2020 (until April) <p>Review of noise monitoring contractor compliance reports examples; <i>Spectrum Acoustics July 2019 Noise Monitoring Results Werris Creek Mine</i> and, <i>Global Acoustics Werris Creek Mine Environmental Noise Monitoring December 2017</i>.</p>	
	Locality and Location	Day LAeq (15minute)	Evening LAeq (15minute)	Night LAeq (15minute)			Night LA1 (1minute)
	R96 Talavera	38	38	38			45
	R12 Quipolly Railway Cottage	38	38	38			45
	R24 Hazeldene	37	37	37			45
	R98 Kyooma	36	38	38			45

	Any other affected residence not owned by the licensee or its related companies	35	35	35	45			
L4.2	<p>For the purpose of the condition above;</p> <p>a) Day is defined as the period from 7am to 6pm on any day.</p> <p>b) Evening is defined as the period 6pm to 10pm on any day.</p> <p>c) Night is defined as the period from 10pm to 7am on any day.</p> <p>Note: For the purpose of the noise criteria for this condition, 5dBA must be added to the measurement level if the noise is substantially tonal or impulsive in character.</p>	Compliant	<p>Noise reports consider the appropriate daytime, evening and night-time periods.</p> <p>Spectrum Acoustics compliance reports state that data from times where WCC operations were audible were analysed using the "Evaluator" software for tonal, impulsive or low frequency components as per definitions in the NSW INP. The reports reviewed did not identify any noise warranting the 5dB character penalty. Global Acoustics compliance reports stated that tonal, low frequency and impulsive components were not present.</p>					
L4.3	<p>The noise limits set out in the Noise Limits table apply under all meteorological conditions except for the following:</p> <p>a) Wind speeds greater than 3 metres/second at 10 metres above ground level; or</p> <p>b) Temperature inversion conditions up to 12°C/100m and wind speeds greater than 2 metres/second at 10 metres above ground level; or</p> <p>c) Temperature inversion conditions greater than 12°C/100m.</p>	Compliant	<p>Noise monitoring results are analysed in conjunction with weather data monitored at the WCC Mine.</p> <p>Noise monitoring reports state that the Meteorological data used is supplied by the mine from the automatic weather station M2 located on top of the overburden emplacement.</p>					

	<p>Note: For the purpose of this condition, data recorded by the meteorological station identified as EPA Identification Point no. 9 and the lower level temperature sensor identified as EPA Identification Point No. 31 must be used to determine meteorological conditions.</p> <p>Note: Temperature inversion conditions (vertical temperature gradient in degrees C/100m) are to be determined as $[(TM2 - TM3 - 0.7) * 1.25]$, where TM2 is the temperature from sensor M2 (10m weather station at top of rehabilitated overburden emplacement) and TM3 is the temperature from sensor M3 (lower weather station at base of rehabilitated overburden emplacement). Reference: Spectrum Acoustics letter report Ref: 04035/4580 of 7 November 2012 to Werris Creek Coal.</p>		<p>Temperature inversion strength is extrapolated from gauges with 80m vertical separation.</p>	
L4.4	<p>Noise impacts where wind speed exceeds 3 metres per second at 10 metres above the ground must be addressed by:</p> <p>a) documenting noise complaints received to identify any higher level of impacts or wind patterns;</p> <p>b) where levels of noise complaints indicate a higher level of impact then actions to quantify and ameliorate any enhanced impacts where wind speed exceeds 3 metres per second at 10 metres above the ground must be developed and implemented.</p>	Compliant	<p>Evidence:</p> <ul style="list-style-type: none"> ■ Annual reviews: 2017 and 2018 ■ EPL monitoring reports: 2017 (from June), 2018, 2019 and 2020 (until April) ■ Complaints Register 	
L4.5	<p>The noise limits set by condition L4.1 of the licence do not apply where a current legally binding agreement exists between the proponent and the occupant of a residential property that:</p> <p>a) agrees to an alternative noise limit for that property; or</p> <p>b) provides an alternative means of compensation to address noise impacts from the premises.</p> <p>A copy of any agreement must be provided to the EPA before the proponent can take advantage of the agreement.</p>	Compliant	<p>Section 8.1 of the approved Noise Management Plan identifies those receivers which have agreement with WCC for higher noise levels with those agreements being to the satisfaction of the DPE and EPA.</p> <p>Section 8.1 of the revised Noise Management Plan identifies the receivers with the private agreements. While the revised Noise Management Plan does not state that these have been agreed with DPE this is inferred from the previous Noise Management Plan.</p> <p>Evidence:</p>	

			<ul style="list-style-type: none"> ■ Annual reviews: 2017 and 2018 ■ EPL monitoring reports: 2017 (from June), 2018, 2019 and 2020 (until April) ■ Noise Management Plan (NMP): WHC_PLN_WC_NOISE MANAGEMENT PLAN 16 April 2014
L4.6	<p>Determining Compliance</p> <p>To determine compliance:</p> <p>a) with the Leq(15 minute) noise limits in the Noise Limits table, the noise measurement equipment must be located:</p> <p>i) approximately on the property boundary, where any dwelling is situated 30 metres or less from the property boundary closest to the premises; or</p> <p>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</p> <p>iii) within approximately 50 metres of the boundary of a National Park or a Nature Reserve.</p> <p>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.</p> <p>c) with the noise limits in the Noise Limits table, the noise measurement equipment must be located:</p> <p>i) at the most affected point at a location where there is no dwelling at the location; or</p> <p>ii) at the most affected point within an area at a location prescribed by part (a) or part (b) of this condition.</p>	Compliant	<p>The sighted noise monitoring reports detail this condition and state that monitoring is undertaken in accordance with these requirements.</p> <p>Evidence:</p> <ul style="list-style-type: none"> ■ EPL monitoring reports: 2017 (from June), 2018, 2019 and 2020 (until April)

	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.			
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O4 Other operating conditions

O4.1	All reversing beepers fitted to vehicles on the premises must be a mid-high frequency broadband type as described in the EIS.	Compliant	Based on areas shown during the inspection this appears to be compliant for all large plant items (broadband beepers audible during inspection).	
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M9 Other Monitoring and Recording Conditions

M9.1	To assess compliance with the noise limits presented in the Noise Limits table, attended noise monitoring must be undertaken in accordance with the condition titled Determining Compliance, outlined above, and: a) at the locations labelled "R24 Hazeldene", "R12 Quipolly Railway Cottage", "R96 Talavera", "R98 Kyooma" and "R57 33 Kurrara St, Werris Ck" (non project related residence number 57) on the figure titled "EPL 12290 Licensed Monitoring Points", received by the EPA via email on 17 December 2015 (DOC16/111380); b) occur monthly in a reporting period; i) occur during each day, evening and night period as defined in the NSW Industrial Noise Policy for a minimum of: ii) 1 hour during the day; and iii) 1 hour during the evening or night. Note: The frequency of monitoring may be varied by the EPA once the variability of the noise impact is established.	Compliant	Data for Location R57 missing from EPL monitoring reports presented on project website, data was collected (based on review of compliance reports) Data missing for June to December 2017 and January and March 2018.	Ensure all data is submitted to the EPA.
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R4 Other reporting conditions

R4.1	<p>A noise compliance assessment report must be submitted to the EPA within 30 days of the completion of the monthly monitoring. The assessment must be prepared by a suitably qualified and experienced acoustical consultant and include:</p> <p>a) an assessment of compliance with noise limits presented in the Noise Limits table; and</p> <p>b) an outline of any management actions taken within the monitoring period to address any exceedances of the limits contained in the Noise Limits table.</p>	NC	<p>Noise monitoring reports for the audit period have been reviewed and has been conducted in accordance with the required conditions, except for submittal within 30 days to EPA. A check of correspondence records indicated reporting was typically outside the 30 days period.</p> <p>Evidence:</p> <ul style="list-style-type: none"> ■ EPL monitoring reports: 2017 (from June), 2018, 2019 and 2020 (until April) ■ Email records of transmittal to EPA 	<p>WCC should review noise monitoring supplier contract to require reporting completed within 30 days.</p>
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8 Special Conditions

E1.1	<p>E1 Three Yearly Independent Noise Audit</p> <p>E1.1 The licensee must provide the EPA with a copy of any Noise Audit and Independent Environmental Audit Report required by condition 4 of Schedule 3 and conditions 8 and 9 of Schedule 5 of the Werris Creek Mine Extension Project Approval (No. 10_0059). If the Noise Audit and Independent Environmental Audit Report do not incorporate the following information or assessments, then the licensee must also provide a separate report to the EPA that incorporates the following:</p> <p>(a) An assessment of noise emissions from the premises against the noise limits established by the Project Approval (No. 10_0059), as well as against the long term noise goal and noise acquisition criteria established within Project Approval No. 10_0059 that has been completed in accordance with the procedures defined in the NSW Industrial Noise Policy and any relevant Application Notes published by the EPA;</p>	Compliant	<p>This condition was met for 2014 and 2017 and has been prepared for 2020 to meet the requirements.</p>	
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	<p>(b) An evaluation of current mine noise impacts at all non-project related receptors and the noise mitigation practices that have been implemented at the premises against the best available economically achievable technology and current best practice principles for minimising noise emissions; and</p> <p>(c) Where noise impacts at any affected non-project related receptor exceeds the long term noise goal established by condition 4 of Schedule 3 of Project Approval 10_0059, the licensee must provide documented evidence that demonstrates that reasonable attempts have been made to reach a negotiated agreement with all relevant affected receptors within the last 3 years.</p> <p>The reports required by this condition must be submitted to the EPA's Armidale office within 6 weeks of the 30 June 2014, and every three years thereafter.</p>			
E1.2	<p>If the reports required by E1.1 above indicate that non-project related receptors continue to receive impacts that exceed the long term noise goal established by condition 4 of Schedule 3 of Project Approval 10_0059, then the licensee must provide the EPA with a report detailing the actions it will take during the next three year period, to further reduce noise impacts from the mine. The report must:</p> <p>(a) Provide details of any trials, tests or research that it will commission in an attempt to develop new or innovative noise mitigation technologies or management practices;</p> <p>(b) Detail the nature of any works that will be carried out at the premises or at the relevant receptor locations to further reduce noise impacts;</p> <p>(c) Provide timelines and provisional costings for the proposed actions or works;</p> <p>(d) Provide an analysis where possible of the potential noise reductions that the proposed actions are likely to achieve; and</p>	Not triggered	<p>Evidence:</p> <ul style="list-style-type: none"> ■ Annual reviews: 2017 and 2018 ■ EPL monitoring reports: 2017 (from June), 2018, 2019 and 2020 (until April) 	

	<p>(e) Define any additional noise monitoring programs that might be required to measure/validate the performance of the proposed mitigation actions.</p> <p>The report required by this condition must be submitted to the EPA by 31 August 2014 and every three years thereafter until noise emissions from the premises meet the long term noise goal established by condition 4 of Schedule 3 of Project Approval 10_0059.</p>			
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APPENDIX D STATEMENT OF COMMITMENTS 2020 - COMPLIANCE REGISTER

Desired Outcome	Action	Timing	Compliance Status	Evidence	Recommended Action
7. Noise					
Attenuate mining noise sources to ensure compliance with Project Specific Noise Criteria.	7.1 Construct an Acoustic and Visual Amenity Bund at the northern extent of mining operations.	Ongoing		Identified during site inspection	
	7.2 Implement noise mitigation and management measures in accordance with an approved NMP.	Ongoing	Compliant	Evidence included <ul style="list-style-type: none"> Compliance reports and records showing nil exceedances Records of maintenance of machinery with noise controls Real time noise data on sentinex 	
	7.3 Employ a dedicated Noise Control Operator (NCO) to continually monitor real time noise levels and inform the Open Cut Examiner (OCE) if the dominant noise source is mining.	Ongoing	Compliant	Evidence included <ul style="list-style-type: none"> Reviewed proforma log records from Noise Control Operator monitoring sentinex real time data and noting modification of operation. 	
	7.4 Modify or partially suspend mining operations to achieve the nominated noise criteria when	Ongoing	Compliant	Evidence included <ul style="list-style-type: none"> Reviewed proforma log records from Noise Control 	

	elevated noise levels a result of mining noise			Operator monitoring sentinex real time data and noting modification of operation.	
Monitor and manage noise generated by the LOM Project	7.5 Implement noise monitoring in accordance with an approved NMP for the Mine.	As defined within the NMP	Compliant	Evidence: <ul style="list-style-type: none"> ■ Annual reviews: 2017 and 2018 ■ WHC_PLN_WC_NOISE MANAGEMENT PLAN 16 April 2014 	

APPENDIX E GLOSSARY OF TERMS

Acronym / Term	Description
A-weighting	Adjustment made to a noise level based on international standards. Approximates a human's hearing response to frequency at lower sound levels.
CoA	Condition of Approval
dBA	A-weighted decibels
DPIE	Department of Planning, Industry and Environment
EPA	Environment Protection Authority
EPBC	Environment Protection and Biodiversity Conservation Act
EPL	Environment Protection Licence
ERM	Environmental Resources Management
EO	Environmental Officer
INP	NSW Industrial Noise Policy
LA1 (1min)	A-weighted noise level exceeded for 1% in 1 minute
LAeq (15min)	Equivalent average noise level A-weighted in 15 minute
MOD	Modification
NCO	Noise Control Operator
NMP	Noise Monitoring Program
NSW	New South Wales
PA	Project Approval
TLO	Train Load Out
WCC	Werris Creek Coal
WCC	Werris Creek Coal Mine
WHC	Whitehaven Coal Limited

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ERM's Sydney Office

Level 15
309 Kent Street
SYDNEY NSW 2000

T: +61 2 8584 8888

F: +61 2 9299 7502

www.erm.com