
East Boggabri Coal Pty Ltd

ABN: 73 100 742 185

Noise Management Program

for the

East Boggabri Coal Mine

incorporating a

Noise Management Protocol

and

Noise Monitoring Program

Approved

Prepared by



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Prepared by:

Spectrum Acoustics Pty Ltd
PO Box 374
WALLSEND NSW 2287
ABN: 40 106 435 554

Telephone: (02) 4957 6311
Facsimile: (02) 4957 6322
Email: specross@bigpond.net.au

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On behalf of:

East Boggabri Coal Pty Ltd
PO Box 2440
FORTITUDE VALLEY BC QLD 4006
ABN: 73 100 742 185

Telephone: (07) 3000 5693
Facsimile: (07) 3000 5694
Email: kross@whitehaven.net.au

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ACRONYMS USED THROUGHOUT THIS REPORT

AEMR	-	Annual Environmental Management Report
CCC	-	Community Consultative Committee
CHPP	-	Coal Handling and Preparation Plant
DA	-	Development Application
DEC (EPA)	-	Department of Environment and Conservation (Environment Protection Authority)
DOP	-	Department of Planning
DPI (MR)	-	Department of Primary Industries (Mineral Resources)
EBCM	-	East Boggabri Coal Mine
EBC		East Boggabri Coal Pty Ltd
EIS	-	Environmental Impact Statement
EMS	-	Environmental Management Strategy
ENCM	-	Environmental Noise Control Manual
GSC	-	Gunnedah Shire Council
GTAs	-	General Terms of Approval
INP	-	Industrial Noise Policy
ISO	-	International Standards Organisation
NMP	-	Noise Management Program
NSC	-	Narrabri Shire Council

1 INTRODUCTION

The East Boggabri Coal Mine (EBCM) is located within a 661ha site approximately 15km northeast of Boggabri, 10km north of the Whitehaven Coal Mine and south of, and adjacent to, the approved Boggabri Coal Project. The mine is being developed by East Boggabri Coal Pty Ltd (EBPCL).

The mine will involve the following activities.

- Open cut coal mining over an area of approximately 160ha.
- Programmed placement of overburden and interburden materials from the open cut to two out-of-pit overburden emplacements and the open cut void itself.
- On-site crushing and temporary stockpiling of the mined coal.
- Establishment of a transport route between the Project Site and the Whitehaven CHPP and rail loading facility with the importation of road construction materials from the Whitehaven Coal Mine for construction of sections of the transport route.
- Transportation of product coal from the Project Site to the Whitehaven CHPP for washing and/or despatch to export markets via rail to the Port of Newcastle.
- Backloading of coarse reject material from the Whitehaven CHPP for placement in the mined out areas of the EBCM.
- Installation of a range of services, structures and transportable buildings.
- Progressive shaping and rehabilitation of the mine area and other areas of disturbance.

This document has been prepared to satisfy two requirements.

- (i) *Condition No. 4(11) of DA 88-4-2005 issued by the Minister for Planning which requires the preparation of a noise monitoring program.*

“11. Prior to carrying out any development on the mine site, the Applicant shall prepare (and following approval implement) a Noise Monitoring Program for the development in consultation with the DEC and to the satisfaction of the Director-General. This Program must include a noise monitoring protocol for evaluating compliance with the criteria in conditions 6 and 8.”
- (ii) DEC General Terms of Approval *Condition E4.1* which requires the preparation of a noise management protocol, viz:

“E4.1 Prior to the construction and operational activities on the premises commencing, the proponent must prepare and subsequently implement, a Noise Management Protocol. The protocol must include, but need not be limited to, the following matters:

 - (a) compliance standards;*
 - (b) community consultation;*
 - (c) complaints handling monitoring/system;*
 - (d) site contact person to follow up complaints;*

- (e) *mitigation measures;*
- (f) *the design/orientation of the proposed mitigation methods demonstrating best practice;*
- (g) *operating time;*
- (h) *contingency measures where noise complaints are received; and*
- (i) *monitoring methods and program.”*

In effect, the Noise Management Program (NMP) addresses the requirements in both conditions by:

- recording the measures which will mitigate the environmental effects of noise from the above activities on surrounding neighbours;
- proposing noise monitoring programs to assess and report the levels of impact; and
- providing a mechanism whereby any noise complaints can be dealt with quickly and effectively.

The NMP has been prepared with reference to relevant legislation and guidelines, is consistent with the commitments in the following documentation which was prepared prior to the granting of development consent.

- Environmental Impact Statement – Specifically Section 4.8.
- Noise and Vibration Assessment – included as Volume 2 (Part 7) of the Specialist Consultant Studies Compendium.

The NMP applies to the construction and operational phases of the EBCM. In accordance with Development Consent *Condition 4(46)*, a separate Road Noise Management Plan has been developed for construction and use of the off-site transport route.

2 NOISE COMPLIANCE CRITERIA

Noise compliance criteria for the various stages and activities associated with the mine's development were established in the EIS using relevant DEC guidelines. These criteria have been incorporated in Development Consent *Condition 4(6)* which is reproduced below. Additionally, Development Consent *Condition 4(8)* identifies criteria which, if exceeded, may trigger the land acquisition process.

Noise Impact Assessment Criteria

4(6) *The Applicant shall ensure that the noise generated by the development, including the noise generated on the private sections of the transport route, does not exceed the noise impact assessment criteria presented in Table 7 at any residence on privately-owned land.*

Day (Construction Stage) $L_{A10}(15 \text{ minute})$	Day (Operational Stage) $L_{Aeq}(15 \text{ minute})$	Evening $L_{Aeq}(15 \text{ minute})$	Night $L_{Aeq}(15 \text{ minute})$	Night $L_{A1}(1 \text{ minute})$
40	35	35	35	45

Table 7: Noise Impact Assessment Criteria dB(A)

Note:

- Noise from the development is to be measured at the most affected point or within the residential boundary, or at the most affected point within 30 metres of a dwelling (rural situations) where the dwelling is more than 30 metres from the boundary,
- To determine compliance with the $L_{Aeq}(15 \text{ minute})$ noise limits in the above table, where it can be demonstrated that direct measurement of noise from the development is impractical, the DEC may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy). The modification factors in Section 4 of the NSW Industrial Noise Policy shall also be applied to the measured noise levels where applicable.
- Noise from the development is to be measured at 1 metre from the dwelling façade to determine compliance with the $L_{A1}(1 \text{ minute})$ noise limits in the above table.
- The noise emission limits identified in the above table apply under meteorological conditions of:
 - wind speeds of up to 3 m/s at 10 metres above ground level; or
 - Temperature inversion conditions of up to 3°C/100m, and wind speeds of up to 2 m/s at 10 metres above ground level.

Land Acquisition Criteria

4(8) *If the noise generated by the development exceeds the criteria in Table 9, the Applicant shall, upon receiving a written request from the landowner, acquire the land in accordance with the procedures in Conditions 10 to 12 of Schedule 5.*

Day/Evening/Night $L_{Aeq}(15 \text{ minute})$	Property
40	Affected residences on privately-owned land.

Table 9: Land Acquisition Criteria dB(A)

Notes:

- The provisions of this condition do not apply during the Construction Stage of the mine; and
- Noise generated by the development is to be measured in accordance with the notes presented below Table 7.

3 MANAGEMENT SAFEGUARDS AND AMELIORATIVE ACTIONS

The following actions or strategies will be implemented to minimise the potential for noise impacts at residential receivers during construction and operational phases of the mine.

Construction Stage

The safeguards to minimise the likelihood of noise criteria exceedances due to construction activities were presented in the Noise and Vibration Assessment (p7-32) and are as follows.

1. Only conduct one of the noisier operations (tree felling or topsoil removal) if it is necessary to work at the closest points to "Templemore" under inversion or northwest wind conditions; or
2. Ensure that simultaneous topsoil removal and tree felling in the most exposed locations, occurs only under neutral conditions or when the wind direction is outside the northwestern quadrant (ie, bearing $0^{\circ} - 270^{\circ}$).

A further safeguard against potential noise impacts from construction activities is the limitation of activities to daytime hours as required under *Condition 4(9)*, viz:

"4(9). During the construction stage, the Applicant is permitted to carry out development between 7 am to 6 pm Monday to Saturday, excluding public holidays. The Applicant shall notify the Department of the date of commencement and completion of construction activities."

In addition to the above, the following procedures will be adopted to control noise from site construction activities.

- (a) Contractors, including all personnel and sub-contractors, will undergo environmental training on noise control and awareness. This training will take place before the commencement of work by any contractor, or sub-contractor, whose work is likely to create noise.
- (b) Potentially affected residents will be notified prior to noisy activities and will be kept informed throughout the construction phase.
- (c) Earthmoving equipment to be used during construction will be required to satisfy the maximum Sound Power Levels listed in **Table 1**. Equipment not listed in **Table 1** must have a maximum dynamic Sound Power Level of 115 dB(A) as measured generally in accordance with ISO 6395:1988 "Acoustics - Measurement of exterior noise emitted by earth-moving machinery - Dynamic test conditions."

TABLE 1 CONSTRUCTION MACHINERY MAXIMUM SOUND POWER LEVELS dB(A), $L_{Aeq}(15\text{-minute})$	
ITEM	MAXIMUM SOUND POWER LEVEL
Grader	115
Dump Truck	117
Scraper	118
Dozer (tree felling)	117

- (d) Site equipment will be selected so as to have the lowest practical level of sound emission and will be maintained in good order.
- (e) All contractors will be required to pay due attention to adverse weather conditions (as advised by EBCM site manager following advisory notice provided by real-time meteorological station - operator attended computer terminal link) and make modifications to the work program where necessary.
- (f) The contractors will be required to provide certification of equipment sound power levels to the Mine Manager in response to a request to do so.
- (f) All complaints will be registered and responded to in accordance with the complaints procedures in the EMS.

Monitoring of emitted noise levels will be undertaken during construction to verify compliance with noise criteria and to assess the need for additional noise attenuation measures.

A Noise Monitoring Protocol is included in this document as **Appendix 1**.

Operational Stage

In the EIS, noise levels were predicted to equal the criterion of 35 dB(A) at the nearest residence under worst case meteorological conditions during the placement of overburden at the closest point on the southern emplacement to that residence. These noise emissions from overburden emplacement will be minimised by:

- forming the leading (southern/eastern) edges of the southern emplacement to a height of 15 m during calm daytime conditions or when winds are between northeast and southwest (at any time); and
- operating behind the 15 m high bund during adverse weather conditions.

Adverse weather conditions will be identified through maintenance of a real-time link between a weather station operated on the "Nagero" property in (compliance with *Condition 4(12)*) and an operator attended computer terminal. When winds are recorded from between the northeast and southwest, or wind speeds of any direction are $<3\text{m/s}$, an advisory notice on the computer terminal would read "favourable meteorological conditions" or similar.

In the event of winds >3m/s from the northwestern quadrant, the advisory notice on the nominated computer terminal would read “adverse meteorological conditions, restrict activities on southern emplacement to behind 15m acoustic bund”, or similar. The following protocol would be followed.

- (i) The nominated employee responsible for meteorological station data evaluation would advise the site management of adverse meteorological conditions.
- (ii) The site manager would advise the mining contractor site supervisor to restrict activities on the southern emplacement to behind 15m acoustic bund until further notice.
- (iii) On transferring activities to behind the 15m acoustic bund, the mining contractor site supervisor would inform the site manager of compliance with requirement.

In the event that meteorological conditions are more extreme than those assumed during the prediction of likely noise levels or other unforeseen factors lead to elevated noise levels after applying the above mitigation measures, consideration will be given to establishing an in-pit emplacement area to operate concurrently with the southern emplacement. At times when the site weather data identifies these more extreme conditions, overburden placement will only occur in the in-pit emplacement at night.

With regard to operating hours, *Condition 4(10)* states that:

“4(10). During the operational stage, the Applicant is permitted to:

- a) carry out processing on the mine site between 7 am to 10 pm Monday to Friday, and 7 am to 6 pm Saturday, excluding public holidays;*
- b) carry out open cut mining operations on the mine site between 7 am and midnight Monday to Friday, midnight and 3:30 am Tuesday to Saturdays; and*
- c) undertake maintenance activities at any time Monday to Sunday.”*

Other noise management measures to be adopted to control operational noise are set out below.

- (a) Contractors, including all personnel and sub-contractors, will undergo environmental training on noise control and awareness. This training will take place before the commencement of work by any contractor, or sub-contractor, whose work is likely to create loud noise.
- (b) Mobile mining equipment to be used during the operational phases will be required to have certification that noise levels do not exceed the Sound Power Levels listed in **Table 2**. Equipment not listed in **Table 2** must have a maximum dynamic Sound Power Level of 116 dB(A) as measured generally in accordance with ISO 6395:1988 “Acoustics - Measurement of exterior noise emitted by earth-moving machinery - Dynamic test conditions” or as otherwise advised by the acoustic consultant.

**TABLE 2
MOBILE MINING EQUIPMENT
MAXIMUM SOUND POWER LEVELS**

ITEM	MAXIMUM SOUND POWER LEVEL
Dozer	116 dB(A) $L_{eq,(15\text{-minute})}$
Haul truck (on flat, loaded)	118 dB(A) L_{max}
Haul truck (uphill, loaded)	121 dB(A) L_{max}
Haul truck (downhill, empty)	124 dB(A) L_{max}
Front-end loader	115 dB(A) $L_{eq(15\text{-minute})}$
Excavator (with trucks)	117 dB(A) $L_{eq(15\text{-minute})}$
Drill*	115 dB(A) $L_{eq(15\text{-minute})}$

* The drill may be measured in accordance with AS 2012, excluding measurement points 5 and 6.

- (c) Site equipment will be selected so as to have the lowest practical level of sound emission and will be maintained in good order.
- (d) The contractors will be required to pay due attention to adverse weather conditions (as advised by EBCM site manager following advisory notice provided by real-time meteorological station - operator attended computer terminal link) and make modifications to the work program where necessary.
- (e) All complaints will be registered and responded to in accordance with the complaints procedures in the EMS.
- (f) Monitoring of emitted noise levels will be undertaken during mining operations to verify compliance with noise criteria and to assess the need, if any, for additional noise attenuation measures.

4 MANAGEMENT OF COMMUNITY CONSULTATION

Community Consultation

Community consultation was an important element throughout the planning and investigation stages into the EBCM. This program will continue throughout the life of the mine, with EBCPL addressing any concerns raised by the local community in a timely and efficient manner.

Within 3 months of the date of development consent, a Community Consultation Committee (CCC) will be established to address any concerns raised by local members of the community. The CCC will be comprised, and meetings conducted, in accordance with *Conditions 6(8) and 6(9)*, viz:

- “6(8) Within 3 months of the date of this consent, the Applicant shall establish a Community Consultative Committee to oversee the environmental performance of the development. This committee shall:*
- (a) be comprised of:*
 - 2 representatives from the Applicant, including the person responsible for environmental management at the mine;*
 - 1 representative each from the NSC and GSC; and*
 - at least 4 representatives from the local community, whose appointment has been approved by the Director-General in consultation with the NSC and GSC;*
 - (b) be chaired by the representative from either NSC or GSC or by a third party as approved by the Director-General;*
 - (c) meet at least four times a year, or as determined by the Director-General; and*
 - (d) review and provide advice on the environmental performance of the development, including any construction or environmental management plans, monitoring results, audit reports, or complaints.*
- 6(9) The Applicant shall, at its own expense:*
- (a) ensure that 2 of its representatives attend the Committee’s meetings;*
 - (b) provide the Committee with regular information on the environmental performance and management of the development;*
 - (c) provide meeting facilities for the Committee;*
 - (d) arrange site inspections for the Committee, if necessary;*
 - (e) take minutes of the Committee’s meetings;*
 - (f) make these minutes available at the NSC and GSC within 14 days of the Committee meeting, or as agreed to by the Committee;*
 - (g) respond to any advice or recommendations the Committee may have in relation to the environmental management or performance of the development; and*
 - (h) forward a copy of the minutes of each Committee meeting, and any responses to the Committee’s recommendations to the Director-General within a month of the Committee meeting.”*

Notification of Landowners

The following notification conditions (parts relating to noise only) are included in Schedule 5 of the development consent and will be followed by EBCPL.

“5(1) If the ... noise model predictions in the documents listed in condition 2 of schedule 3 identify that the ... noise generated by the development is likely to be greater than the ... noise impact assessment criteria in schedule 4, then the Applicant shall notify the relevant landowners and/or existing or future tenants (including tenants of mine-owned properties) accordingly before it carries out any development.”

“5(2) If the results of the ... noise monitoring required in schedule 4 identify that the ... noise generated by the development is greater than any of the ... noise criteria in schedule 4, except where this is predicted in the EIS, then the Applicant shall notify the Director-General and the affected landowners and/or existing or future tenants (including tenants of mine-owned properties) accordingly, and provide quarterly monitoring results to each of these parties until the results show that the development is complying with the ... noise criteria in schedule 4.”

Complaints Handling and Monitoring

EBC will:

- establish and maintain a system for recording complaints with respect to construction and mining activities. A publicly advertised telephone complaints line will be utilized to receive complaints during operating hours and record complaints at other times;
- ensure that all complaints are entered into a log book or similar database;
- ensure that an initial response is provided within 24 hours of receipt of a complaint except in the event of complaints recorded when the mine is not operational; and
- provide a report of complaints received every 12 months to DoP, NSC, GSC, DEC, DPI (Mineral Resources) and the CCC through the AEMR.

The EBCM complaints record will include the following details for noise complaints.

- The date and time of complaint.
- Any personal details the complainant wishes to provide or if no such details are provided a note to that effect.
- The nature of the noise that led to the complaint, including the time of the noise and its duration.
- The action taken by EBC in relation to the complaint, including any follow-up contact with the complainant.
- If no action was taken by EBC, the reason why no action was taken.

If any complainant does not consider the response from EBC to adequately address their concerns, the Independent Review procedure detailed in Development Consent *Conditions 5(4) to 5(9)* will be adopted.

Contingency Measures When Noise Complaints are Received

If noise levels of any item of plant or machinery exceed the levels outlined in **Tables 1 and 2**, or if noise levels at any residence exceed the levels outlined in *Condition 4(6)*, the noise producing plant or machine will be measured by an independent acoustic consultant. Sound attenuation measures will be installed to plant and equipment where necessary to ensure that noise emissions comply with the relevant noise levels in **Tables 1 and 2**. Alternatively, the equipment will be stood down or removed from site.

Best Practice Methodology

There are no specific noise mitigation measures in the EIS that require engineering design. The NMP incorporates best practice techniques of identifying potential noise related impacts, avoiding certain adverse times and weather conditions and field verification of predicted noise levels early in the life of the project. The community liaison program, complaints register and response methods and regular monitoring as identified in Section 6 and **Appendix 1** in this document are all best practice procedures in the mining industry.

5 MONITORING AND REPORTING

Periodic monitoring of noise levels is required in accordance with Development Consent Condition 4(11), viz:

“4(11) Prior to carrying out any development on the mine site, the Applicant shall prepare (and following approval implement) a Noise Monitoring Program for the development in consultation with the DEC, and to the satisfaction of the Director-General. This Program must include a noise monitoring protocol for evaluating compliance with the criteria in Development Consent Conditions 4(6), and 4(8).”

Noise Compliance Monitoring

Noise compliance monitoring during the construction phase of the mine will be operator attended in order to accurately determine the noise contribution from the mine-related activities alone. Initial periods of attended monitoring will be used to ascertain whether ongoing compliance monitoring of operational noise can be conducted accurately using unattended noise loggers. As noted in the EIS, most residential receivers are located where there are no other significant noise sources.

Monitoring will be conducted at or near the residential locations presented in **Figure 1** and listed in **Table 3**. The frequency of monitoring is nominated in **Table 4**.

RECEIVER NUMBER (AS PER FIGURE 1)	LAND OWNER
N1 – “Templemore”	P. & A. Laird
N2 – “Bollol Creek Station”	J. Picton
N3 – “Tarrowonga”	R. & R. McGregor
N4 – “Ambarado”	D. Wellwood

1. Other locations may be required by the DEC if initial monitoring indicates that other locations should be included.

Attended noise surveys will be conducted as follows.

1. All noise investigations will be carried out in accordance with NSW DEC’s Industrial Noise Policy, 2000 (INP), Environmental Noise Control Manual (ENCM) and applicable Australian Standards.
2. Noise levels will be measured in one-third octave bands using an instrument with IEC Type 1 characteristics as defined in AS 1259-1990 “Sound Level Meters”. The instrument will have current calibration as per manufacturer’s instructions and field calibration will be confirmed before and after measurements with a sound level calibrator.

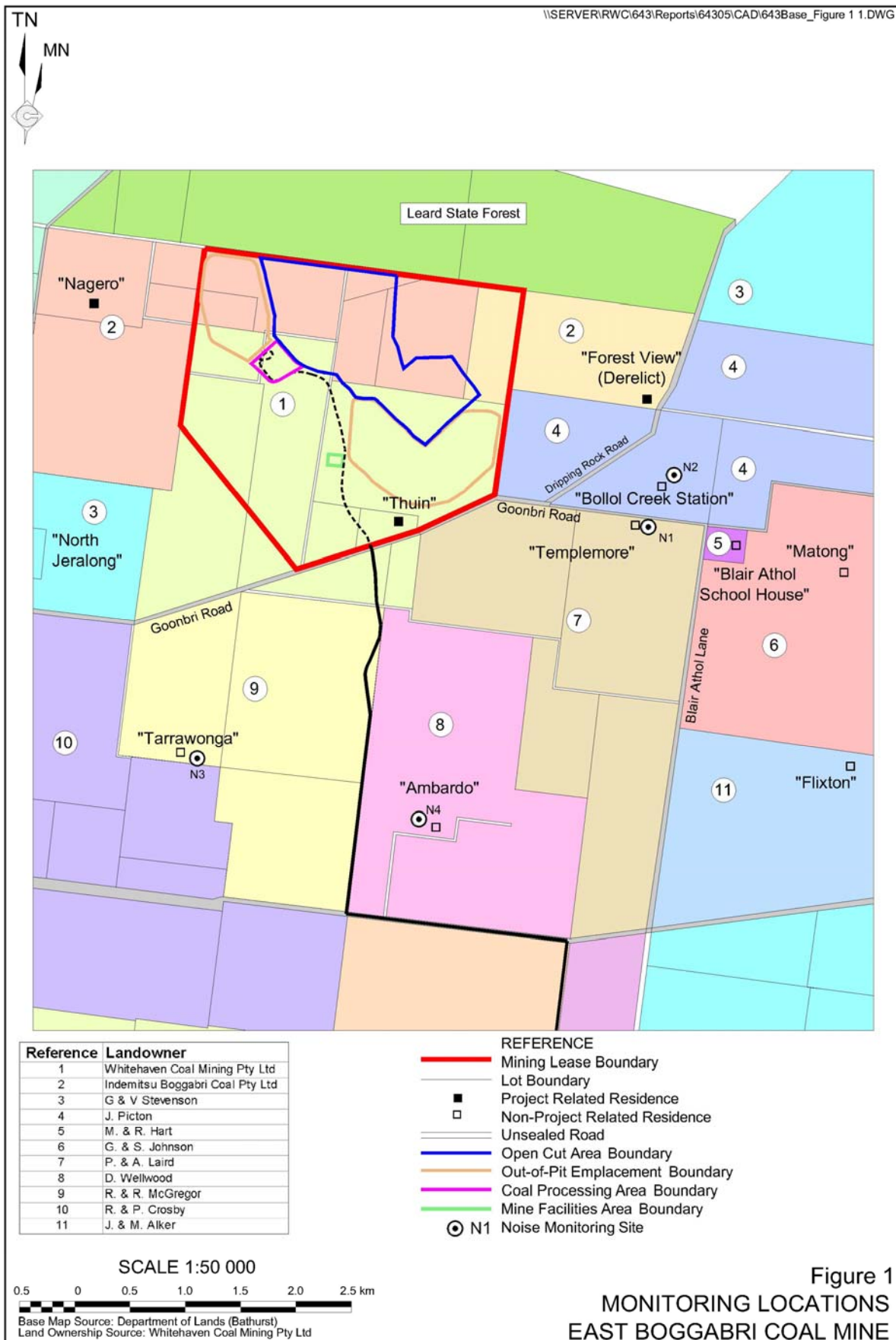


TABLE 4 NOISE MONITORING SUMMARY			
Type	Frequency	Responsibility	Comments
Construction Noise			
Attended noise surveys	Monthly during construction phase.	Suitably Qualified Acoustical Consultant.	Noise monitoring methodology provided in Section 5 of NMP
Operational Noise			
Attended Surveys (then Unattended as required)	<ul style="list-style-type: none"> • Three-monthly for first twelve months of operational phase. • Three-monthly surveys may be unattended (loggers) after the first year, subject to approval by DoP. • If unattended surveys commence after twelve months, at least one operator attended survey to be conducted each calendar year. 	Suitably Qualified Acoustical Consultant (attended surveys) or trained EBC Personnel approved by the Director-General (unattended surveys).	Noise monitoring methodology provided in Section 5 of NMP
Unattended Surveys	<ul style="list-style-type: none"> • Three monthly for first twelve months at residence most likely to be affected. 	Suitably Qualified Acoustical Consultant or trained EBC Personnel approved by the Director-General.	Monitoring for at least seven days on each occasion.
Construction Equipment and Mobile Mine Equipment Sound Power Levels			
Construction Machinery Noise	During construction and upon request from EBCM Manager	Whitehaven Coal Mine Area Manager and/or EBCM Manager and Individual Contractors approved by the Director-General.	The sound power levels are to be recorded.
Mobile Mine Equipment	Reviewed opportunistically	EBCM Mine Manager and Individual Contractors approved by the Director-General.	The sound power levels are to be recorded.

3. The instrument will be set to A-weighting, “fast” response and measurements of $L_{Aeq(15 \text{ minute})}$ will be taken at each location in **Table 3**. Each measurement will be stored at a sampling rate of no greater than 5 seconds for further analysis.
4. During the construction period, a measurement will be taken at a location nearest to where the activities will be occurring immediately prior to the commencement of those activities. Two further measurements will be taken during those construction activities. If no mine related noise is audible at the monitoring locations and if weather/operating conditions remain unchanged during the same day to record the noise levels attributable to the survey, then only one measurement will be taken at that location.
5. During operations, attended surveys will be conducted during the approved hours of operation with at least three measurements taken during one day at each location in **Table 3**, so that noise levels during the full range of operating times are monitored.

6. Field notes will be taken during each measurement recording the time and duration of noise events, noise sources, instantaneous noise levels and the frequency range of identified site noise sources.
7. Extraneous noise sources will be filtered from the measured signal using Bruel & Kjaer Evaluator Software and the $L_{Aeq(15\text{-minute})}$ level attributable to EBCM activities will be identified and compared with the relevant criteria.
8. Details regarding plant configuration, survey interval, weather conditions, extraneous noise sources, monitoring locations and times of measurement will be recorded for inclusion in the noise monitoring report.
9. Unattended noise logging (see Items 10 to 14 below) will be conducted to coincide with the monthly attended surveys during the construction period. A noise logger will be deployed at a selected location near to construction works for a three day period spanning from the day before, to the day after the attended survey.

Unattended noise surveys will be conducted as follows.

10. IEC Type 1 noise loggers with current calibration as per manufacturer's instructions will be used.
11. The logger(s) will initially be placed at one or more locations selected from **Table 3** so that it coincides with a measurement location for the attended surveys. The microphone will be fitted with a matching wind shield and will not be placed under trees or near an extraneous noise source (eg, pool pumps or electrical transformers).
12. Levels will be measured continuously over a 3-day period at 15-minute statistical intervals. Noise percentiles recorded shall include L_{Amax} , L_{Aeq} , L_{A1} , L_{A10} , L_{A90} and L_{Amin} .
13. Weather data for the unattended noise monitoring period will be interrogated to determine periods of rain or wind speeds over 5 m/s. Corresponding noise data will either be deleted or otherwise highlighted as invalid.
14. Logger data will be displayed graphically in the noise monitoring report, with periods of criterion exceedance highlighted. Comments will be given as to the noise source or weather conditions responsible for the exceedances.

The Environmental Officer will compile the results and analyses of all noise monitoring and include them in the AEMR for presentation to the relevant parties.

Following the compilation of a significant data set, application would be made to replace the attended monitoring with unattended monitoring for the 3-monthly compliance monitoring, ie. unless an issue arises that requires attended monitoring. The adoption of unattended monitoring would only occur with the approval of the Director-General.

6 RESPONSIBILITIES AND ACCOUNTABILITIES

During the construction and operational phases of the development, the EBCM will be managed by the Area Manager and Mine Manager respectively. These persons will have overall responsibility for ensuring contractors, employees and service providers comply with all laws, regulations, licences, approvals and conditions of the development consent.

All significant contractors will be required to undertake an environmental risk assessment and to prepare an Environmental Control Protocol and to submit them for approval by the Environmental Officer before the commencement of work on site. All persons undertaking any form of work on site will be required to attend a site-specific induction training course, at which they will be instructed in the environmental rules, procedures and processes applicable whilst they are on the site.

7 APPENDICES

APPENDIX 1: NOISE MONITORING PROTOCOL

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Control/ Action	Timing / Trigger	Responsibility	Monitoring	Reporting
The EBC and all contractors will provide environmental training on noise control and awareness for all personnel and sub-contractors.	This training will take place before the commencement of work by any employee, contractor, or sub-contractor whose work is likely to create loud noise.	EBCM Manager or nominated representative / Individual Contractors.	This awareness training will be incorporated into site inductions.	The effectiveness of this control will be monitored by the Environmental Officer and will be reported annually in the AEMR.
Potentially affected residents will be notified prior to potentially noisy activities and will be kept informed during the construction phase.	One week prior to potentially noisy phases of activity being undertaken or within a lesser period agreed to by the resident(s).	EBCM Manager / Environmental Officer	The effectiveness of this control can be determined in the community consultation process.	The effectiveness of this control will be reported annually in the AEMR.
Machinery to be used during construction will be required to satisfy maximum sound power levels as specified in the NMP.	Upon request from EBCM Manager.	EBCM Manager, Individual Contractors	Validation testing. Upon request by EBCM Manager.	Sound power levels of all machinery tested will be recorded.
Mobile mining equipment will be required to satisfy maximum sound power levels as specified in Table 2.	Mobile mining equipment used on site must be certified as compliant with the relevant noise standard.	EBCM Manager, Individual Contractors	Mobile mining equipment noise levels will be reviewed opportunistically.	Sound power levels of all mining equipment will be recorded.
Site equipment will be selected so as to have the lowest practical level of sound emission and will be maintained in good order.	This will be a continual process.	EBCM Manager, Individual Contractors.	Noisy equipment is to be highlighted in regular inspections of operations and noise monitoring programs.	The effectiveness of this control will be reported annually in the AEMR.
Due attention will be paid to adverse weather conditions, so that modifications can be made to the work program where necessary. A real time link between meteorological station and operator will be created advising of adverse meteorological conditions. Site manager and mining contractor supervisor will be promptly notified to transfer activities on southern emplacement to behind 15m acoustic bund.	This will be a continual process.	EBCM Manager, Individual Contractors	On-site meteorological station will highlight adverse conditions. The effectiveness of this will also be determined in the community consultation process.	The effectiveness of this control will be reported annually in the AEMR.

APPENDIX 1: NOISE MONITORING PROTOCOL

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Control/ Action	Timing / Trigger	Responsibility	Monitoring	Reporting
Heavy vehicle reversing alarms will be of the broadband type.	Before use of machinery on site.	EBCM Manager and Individual Contractors.	This control will be monitored in conjunction with the complainant.	The effectiveness of this control will be reported annually in the AEMR.
All complaints will be registered and responded to in accordance with the complaints procedure in the EMS.	Whenever a complaint is received.	EBCM Manager	This control will be monitored in the complaints handling and follow-up process.	The effectiveness of this control will be reported annually in the AEMR.
Monitoring of emitted noise levels will be undertaken during construction stage to verify compliance with noise criteria and to assess the need for additional noise attenuation measures.	On a monthly basis.	EBCM Environmental Officer and Mine Manager.	By suitably qualified acoustical consultant or trained EBCM employee approved by the Director-General.	Monitoring results and the effectiveness of any controls used will be reported in the relevant AEMR.
Monitoring of emitted noise levels will be undertaken during operational phase to verify compliance with noise criteria and to assess the need for additional noise attenuation measures.	Three monthly (attended) for initial period (undefined) and then three monthly (unattended) after that (subject to the approval of the Director-General).	EBCM Environmental Officer and Mine Manager.	By suitably qualified acoustical consultant or trained EBCM employee approved by the Director-General.	Monitoring results and the effectiveness of any controls used will be reported annually in the AEMR.