



Tarrawonga Noise Management Plan

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1 Introduction

1.1 Overview of Approved Operations

The Tarrawonga Coal Mine (TCM) is an open cut mining operation located approximately 15 kilometres north-east of Boggabri and 42 kilometres north-northwest of Gunnedah in New South Wales. The mine is owned and operated by Whitehaven Coal Mining Pty Ltd (Whitehaven).

The TCM commenced operations in 2006 and has approval to produce up to 3.5 million tonnes per annum of run-of-mine (ROM) coal via conventional open cut mining methods until the end of 2030. Sized coal produced on-site is transported via road to the Whitehaven coal handling and preparation plant located to the north of Gunnedah prior to being railed to the port of Newcastle via the Werris Creek Mungindi Railway. The operation of a mine has potential to impact on noise levels within and beyond the boundaries of the mine site. Approved activities generate noise from powered equipment, material handling and blasting.

TCM operates under project approval MP 11_0047 (granted 22 January 2013), inclusive of multiple modifications since this date. Further details on each modification can be found in the 'Definition' section of Project Approval (MP 11_0047).

A full project description, including baseline data, history of operations, current operating approach and mining methods are outlined within the TCM Project Environmental Assessment and previous Annual Environmental Management Reports/Annual Reviews (AEMR/Annual Review) for the site. These documents can be found on the Whitehaven Coal website, see link within section 0 of this document.

1.2 Baseline Data

Baseline noise levels were established by Spectrum Acoustics from the 2005 Environmental Impact Statement (EIS) (TCPL, 2005). Noise levels were typical of rural areas away from major roads and industries with daytime, background LA90 noise levels of around 30dB(A), L90 and night time L90 levels as low as 23dB(A). NSW Environment Protection Authority (EPA) standard noise levels below 30dB(A) shall be taken as 30dB(A) for the purposes of assessing industrial noise, so that the 30dB(A),L90 background level would be adopted for all residential receivers during the day, evening and night (EPA, 2017).

1.3 Purpose

The purpose of this Noise Management Plan (NMP) is to provide an overview of, and direction to describe the measures that would be implemented to ensure that best management practice is employed and compliance with the noise conditions of the Approval is achieved.

1.4 Scope

The scope of the NMP applies to all activities at TCM, including mining, handling, transport and storage of coal that have the potential to increase noise levels of the immediate and surrounding receiving environment. It covers:

- Topsoil recovery using scrapers, excavators, dozers and trucks;
- Drill and blast activities;
- Open cut mining using predominantly hydraulic excavators and haul trucks;
- Haul road maintenance using dozers and graders;
- Overburden shaping and dozer push;
- Coal loading;

- Coal transport along Tarrawonga Approved Haul Route;
- Land rehabilitation activities and project related earthworks and civil works;
- Ancillary activities such as pumping;
- Maintenance activities; and,
- Coal exploration drilling activities.

1.5 Management Systems

TCM; as a Whitehaven operation, has well-established management systems that are aligned with the international management system standard ISO 14001 (ISO, 2015). These management systems provide the framework to support the planning, implementation, monitoring and review to achieve continual improvement in noise management. To minimise the noise impacts of these activities, a risk-based approach has been established, which includes mechanisms for predictive forecasting and noise monitoring, providing feedback on the effectiveness of controls and enabling adaptive noise management.

2 Legislative Requirements

2.1 The Project Requirements

Requirements and commitments associated with Noise are defined within the following approvals:

- Tarrawonga Coal Mine Project Approval MP 11_0047 (including modifications); and
- Environment Protection Licence (EPL) 12365.

This NMP has been developed in accordance with the MP 11_0047 and other relevant conditions, as provided Appendix 1, Table 4 and Table 5. Table 1 provides a summary of the assessment criteria for noise.

Table 1 Project approval assessment criteria¹

Pollutant	Averaging period	Impact assessment		Land acquisition		Mitigation	
		Criterion	Basis	Criterion	Basis	Criterion	Basis
Noise residences -	Every day, evening and night	35 dB(A)	All privately-owned land L _{Aeq} (15min)	If the owner(s) request the acquisition of the residence and land in accordance with the procedures in conditions 8 and 9 of Schedule 4 of the MP 11_0047.	Following a request from the owner(s) to the Secretary for an independent noise impact assessment and the results determine that the noise generated by the project causes, or is likely to cause, sustained exceedances of the noise criteria.	If the owner(s) request mitigation at the residence, in consultation with the owner(s), TCM develops mitigation measures focused on reducing the noise impacts of the project on the residence.	Following a request from the owner(s) to the Secretary for an independent noise impact assessment, and the results determine that the cumulative noise generated by the project with the noise from other mine(s) causes, or is likely to cause, sustained exceedances of the noise criteria.
Noise residences -	Every night	45 dB(A)	L _{A1} (1min)				
Noise – land	Over 25% of the land	40 dB(A)	L _{Aeq} (15min)				
Noise cumulative –	Generated by the project combined with the noise generated from other mines day, evening or night	40 dB(A)	L _{Aeq} (period)				
Road traffic noise ²	Every day, evening and night	60 dB(A)	L _{Aeq} (15hour)	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Road traffic noise	Every night	55 dB(A)	L _{Aeq} (9hour)	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Noise (mining or road traffic)	NA	NA	NA	Upon receiving a written request for acquisition	Properties 43, 44, 45, 47, 49 Note: Properties 43, 44, 45 and 47 have been acquired by either TCM or Boggabri Coal.	Upon receiving a written request for mitigation	Properties 43, 44, 45, 47, 49 Note: Properties 43, 44, 45 and 47 have been acquired by either TCM or Boggabri Coal.

¹ Per Schedule 3 (Conditions 11e and 13) of MP 11_0047, the noise limits do not apply under G class inversion conditions. Under these conditions, mitigation actions as detailed in Section 5 will be undertaken to minimise noise impacts.

The noise limits identified in the above table do not apply at privately owned residences that are:
a) identified as residences subject to acquisition or noise mitigation on request within the Approval; or
b) subject to a private agreement, relating to the noise levels, between the licensee and the land owner.

For the purpose of the table above:

- a) Day is defined as the period from 7am to 6pm Monday to Saturday and 8am to 6pm Sundays and Public Holidays;
- b) Evening is defined as the period from 6pm to 10pm; and
- c) Night is defined as the period from 10pm to 7am Monday to Saturday and 10pm to 8am Sundays and Public Holidays.

The criteria do not apply if the TCM has a written agreement with the relevant landholder(s) to exceed the criteria and TCM has advised the Department in writing.

² Traffic noise relates to those generated by the Project and the Rocglen and Vickery coal mines on public roads. Traffic noise is to be measured in accordance with the relevant procedures in the NSW Road Noise Policy.

2.2 Boggabri-Tarrawonga-Maules Creek (BTM) Complex

The BTM Complex is an existing mining precinct centred within and around the Leard State Forest and includes TCM, Boggabri Coal Mine and Maules Creek Coal Mine. A [Noise Management Strategy](#) (NMS) was developed for the BTM Complex to address the cumulative impacts from the operation of three mines within the same Complex Precinct and address conditions of approval relating to cumulative noise impacts from the operation of the three mines. TCM approval conditions relating to cumulative noise within the BTM Complex are 6, 7, 11(b), (h) and (g). Table 2 provides the approval criteria for cumulative noise emissions.

Table 2 BTM Complex approval criteria

Pollutant	Averaging period	Impact assessment		Land acquisition		Mitigation	
		Criterion	Basis	Criterion	Basis	Criterion	Basis
Noise – cumulative	Generated by the project combined with the noise generated from other mines day, evening or night	40 dB(A)	$L_{Aeq(period)}$	If the owner(s) request the acquisition of the residence and land in accordance with the procedures in conditions 8 and 9 of Schedule 4 of the Approval	Following a request from the owner(s) to the Secretary for an independent noise impact assessment and the results determine that the noise generated by the project causes, or is likely to cause, sustained exceedances of the noise criteria	If the owner(s) request mitigation at the residence in consultation with the owner(s) focused on reducing the noise impacts of the project on the residence	Following a request from the owner(s) to the Secretary for an independent noise impact assessment and the results determine that the cumulative noise generated by the project with the noise from other mine(s) causes, or is likely to cause, sustained exceedances of the noise criteria

It is noted that PA11_0047 Conditions 11(f) and 11(g) reference noise management requirements related to the use of the rail spur line at Boggabri Coal. As access to this rail spur will not occur in the immediate future, no further consideration to this requirement is provided in this NMP.

3 Consultation and Communication

The NMP has been prepared in consultation with the Department of Planning, Housing and Infrastructure (DPHI)(Previously DPE). In addition, TCM has extensive consultation and communication processes, including but not limited to:

- A comprehensive community engagement program;
- Periodic engagement with TCM Community Consultative Committee (CCC) and the BTM CCC;
- Ongoing consultation with relevant government agencies including the EPA;

- A community response line (1800 942 836) which enables members of the community to contact environment and community staff directly to discuss concerns with noise; and,
- Publicly available project approvals, environmental and other related documentation (annual reports, complaints register, CCC minutes) via the [Whitehaven Coal website](#).

4 Risk Management

TCM implements a comprehensive risk management system as documented in the Whitehaven Coal HSE Risk Management Standard (WHC-STD-HSE Risk Management) and the Whitehaven Coal HSE Risk Management Procedure (WHC-PRO-HSE Risk Management). Noise risks and their associated control measures are documented in the Tarrawonga Broadbrush Risk Assessment; the control measures are summarised in section 5 of this Management Plan. Operational and project related changes that have the potential to materially alter the noise profile are managed through the Whitehaven Coal Management of Change Standard (WHC-STD-Management of Change).

5 Control Measures

5.1 Overview of operational controls

The Approval requires TCM to implement reasonable and foreseeable avoidance and mitigation measures regarding Noise. Key operational control measures are included in Table 3.

Table 3 Control measures

Risk	Source	Mitigation Measures	Responsibility	Timing
Noise at private properties exceeds noise criteria	Refer to list in Section 1.4	<p>Predictive forecasts in mine planning and the use of real-time noise monitoring to enable reactive management to noise levels. Where forecasts indicate high noise risk, such as F or G class stability or source to receiver winds up to 3 m/s, operational activities will give appropriate consideration by:</p> <ul style="list-style-type: none"> • Constant observation of real-time noise data near potentially impacted receivers; • Notify OCE or other relevant personnel if real-time levels approach levels that would trigger TARPs, • Make contingency for in-pit overburden emplacement in lieu of operating at elevated locations. • Identify "very noise enhancing" meteorological conditions as defined in the Npfl and implement the above actions relative to the 5 dB increase in off-site noise impact criteria. 	Operations Manager	As required
Noise at private properties exceeds noise criteria	Refer to list in Section 1.4	Real-time weather monitoring system to measure meteorological conditions that may affect noise propagation. The weather station monitors all parameters consistent with EPL requirements including inversion stability class. Refer to section 6.	Environmental Superintendent	Ongoing

Risk	Source	Mitigation Measures	Responsibility	Timing
Noise at private properties exceeds noise criteria	Refer to list in Section 1.4	All employees and contractors undergo induction covering environmental awareness training (including noise control).	Environmental Superintendent	Ongoing
Noise at private properties exceeds noise criteria	Refer to list in Section 1.4	Toolbox talks undertaken regarding noise impacts and controls.	Environmental Superintendent	As required
Noise at private properties exceeds noise criteria	Refer to list in Section 1.4	Sound Power Levels of large mobile mining equipment tested annually and any defects in noise suppression equipment will be noted for remedy during routine maintenance.	Environmental Superintendent	As required
Noise at private properties exceeds noise criteria	Refer to list in Section 1.4	Any new dump trucks, dozers, drills or excavators purchased for use on site will be fitted with noise sound suppression.	Maintenance Manager	As required
Noise at private properties exceeds noise criteria	Refer to list in Section 1.4	Trigger, Action, Response Plan (TARP) to direct response to monitoring results that pose a risk to compliance relating to noise emissions. Included in the TARP are options to preferentially redeploy certain equipment to reduce noise. This will be implemented based on equipment size, location and priority in the mine plan.	OCE	As required
Noise at private properties exceeds noise criteria	Refer to list in Section 1.4	Where practicable installation of an earthen bund on the southern side of exposed sections of the services corridor (Run of Mine (ROM) coal haul road to the Boggabri Coal Mine) ³ .	Operations Manager	As required
Noise at private properties exceeds noise criteria	Refer to list in Section 1.4	Where practicable reduction in speed, number of, or relocation of mobile fleet items, or modify alignment of haul routes operating during the evening and nighttime periods where measured noise levels (real-time monitoring) indicate likely exceedance of noise criteria or during G class inversion conditions.	OCE	Ongoing
Noise at private properties exceeds noise criteria	Refer to list in Section 1.4	Undertake reasonable mitigation, acquisition or agreement measures with owners of privately owned residences if triggered by criteria in Sch 3 Cn 4 and Cn 5.	Operations Manager	As required
Road Noise at private properties exceeds noise criteria	Refer to list in Section 1.4	Coal transport will be undertaken between the approved times of 4am and 11:15pm Monday to Friday, and between 4am and 7:15pm on Saturdays.	Operations Manager	Ongoing

³ Construction of the earth bund is reliant on construction of infrastructure at Boggabri Coal and commercial arrangements between Boggabri Coal and TCM and will not be constructed until these are finalised.

Risk	Source	Mitigation Measures	Responsibility	Timing
		Noise generated by rail transport is monitored at the Gunnedah CHPP under the approval conditions for DA0079.2002.		
Road Noise at private properties exceeds noise criteria	Refer to list in Section 1.4	Where modelling or attended noise monitoring of road noise indicates exceedance of road noise criteria the source will be identified and controlled. If it is indicated that exceedances may occur and operational reduction of noise cannot be executed at private residences an agreement will be sought with the landowner and registered with the DPHI as per Sch 3 Cn 8.	Operations Manager	Ongoing
Road Noise at private properties exceeds noise criteria	Refer to list in Section 1.4	All trucks are speed limited to 90 km per hour to, amongst other things, minimise engine noise	Operations Manager	Ongoing
Road Noise at private properties exceeds noise criteria	Refer to list in Section 1.4	All trucks transporting coal will be well maintained to ensure optimal operation, which will minimise the potential for noise emissions.	Operations Manager	Ongoing
Road Noise at private properties exceeds noise criteria	Refer to list in Section 1.4	Drivers will be instructed to operate in accordance with an existing Transport Policy and Code of Conduct, which identify aspects such as travelling speeds, general behaviour, avoidance of exhaust brakes, load coverage, complaints and disciplinary procedures. The Policy and Code apply to all employee and contractor-owned vehicles.	Operations Manager	Ongoing

5.2 Trigger Action Response Plan

TCM carry out noise monitoring and meteorological monitoring as the primary means for reactive noise management. The Trigger, Action Response Plans (TARPs) provide operations with a standardised approach to respond to results indicating the potential to exceed noise criteria.

5.2.1 Noise Trigger Action Response Plan

TCM has a TARP which specifies what actions are taken in response to noise readings that reach or exceed both an internally defined noise levels and the noise levels specified in MP 11_0047 and EPL 12365. The TARP also specifies what actions must be taken if there is a temperature inversion. A copy of the TARP is included in Appendix 2.

6 Noise Monitoring

6.1 Monitoring Program

A Noise Monitoring Program has been established to evaluate and report on:

- the effectiveness of the management of noise;
- compliance with noise criteria; and

- compliance with noise operating conditions.

Monitoring is conducted in accordance with NSW EPA's Noise Policy for Industry (Environment Protection Authority, 2017), "Acoustics – Description and Measurement of Environmental Noise" (Standards Australia, 1997) and "Electro acoustics – Sound Level Meters – Specifications" (Standards Australia, 2004). The effectiveness of the monitoring program will be evaluated each year upon the review of this plan as per the requirements of section 9.1 and reported on each year in the annual review.

6.2 Monitoring Locations

Noise monitoring station locations are provided in Figure 1: TCM's Noise Monitoring Locations. The noise monitoring locations are:

- Attended monitoring – "Matong" (eastern zone), "Bungalow" (southern zone), "Barber's Lagoon" (western zone); and
- Real-time monitor – "Coomalgah".
- Road Noise Monitoring – "Weroona", "Brooklyn 1", "Brooklyn 2", "Longlands" and "Cedarvale"

The location of the continuous, real-time, noise monitor has been established to form part of the real-time monitoring network for the BTM Complex.

The "Brooklyn 1" residence has been demolished. Road traffic noise modelling for the Project, and previous monitoring conducted for the Canyon (Whitehaven) and Tarrawonga mines, has identified road noise levels below, but close to, the criterion at the "Brooklyn (1)" residence. Road noise monitoring will continue to be conducted at this site as a proxy for "Brooklyn (2)". Historical monitoring at "Brooklyn (2)" has found levels well below the criterion at all times.

There has been no access granted by the landowners for "Longlands" or "Cedarvale" so roadside monitoring will be conducted and corrected for distance as required. Since these properties adjoin each other, one monitoring location near their common boundary will be utilized as representative of both receivers.

The noise monitoring activities are described in Table 4. Noise monitoring of the rail loading facilities for Tarrawonga Coal Mine is conducted as part of the operational environmental measures for the Gunnedah CHPP (refer WHC-PLN-CHPP-Environmental Management Plan).

Table 4 Noise Monitoring Locations

Monitor	EPL #	Easting	Northing	Residence/Property	Parameter	Frequency
AWS	W1	230897	6605869	“Templemore”	Rain, wind speed, wind direction, temperature, solar radiation	Continuous
Attended noise	TN2	235883	6605901	“Matong”	L _{Aeq} (15-minute)	4 days per quarter
Attended noise	TN3	222888	6602618	“Barber’s Lagoon”	L _{Aeq} (15-minute)	4 days per quarter
Attended noise	TN4	228691	6599021	“Bungalow”	L _{Aeq} (15-minute)	4 days per quarter
Real-time monitor	N2	234758	6606192	“Coomalgah”+	L _{A90} , L _{Aeq} and L _{A10} and low-frequency filtered L _{Aeq}	As required
Road noise	-	234418	6581187	“Weroona” on public road, 320m from residence	Day: 60 dB(A), L _{Aeq} (1 hour) Night: 55 dB(A), L _{Aeq} (1 hour)	Bi Annually
Road noise	-	233222	6576597	“Brooklyn 2” on public road 480m from residence	Day: 60 dB(A), L _{Aeq} (1 hour) Night: 55 dB(A), L _{Aeq} (1 hour)	Bi Annually
Road noise	-	232836	6573551	“Longlands” and “Cedarvale” On public road between adjacent residences.	Day: 60 dB(A), L _{Aeq} (1 hour) Night: 55 dB(A), L _{Aeq} (1 hour)	Bi Annually
Sound power level	-	As required	As required	As required	Sound Power Level	Annually*

*For consistency with other mines throughout NSW, annual sound power screening tests will be conducted such that all heavy machinery on site will be measured on a three-yearly basis.

+The exact location of the real time monitoring unit may change due to infrastructure on the property changing and it may be relocated within the property to ensure it is sited in the most appropriate location

A noise monitoring network has been established to quantify cumulative noise levels from the BTM Complex and noise from individual mines by monitoring in real-time (unattended) and attended noise levels at sensitive receivers. This network includes the monitoring stations in place for TCM.

6.3 Monitoring Procedures and Process

6.3.1 Attended Noise Monitoring

Attended noise surveys will be conducted as follows:

- Attended noise monitoring will be undertaken on four days per quarter by an independent acoustic consultant for compliance purposes. All attended noise monitoring will be conducted in accordance with the NSW Noise Policy for Industry, AS 1055.1-1997 'Acoustics – Description and Measurement of environmental noise – General Procedures' (or any subsequent revision or replacement document), and will expressly monitor the modification factors referred to in the NSW Noise Policy for Industry.
- Attended surveys will be conducted with a focus on night-time periods.
- Noise levels will be measured in one-third octave bands using an instrument with IEC Type 1 characteristics as defined in Australian Standard AS IEC (International Electrotechnical Commission) 61672.1 – 2004 "Electro acoustics – Sound Level Meters – Specifications" (Standards Australia, 2004) or any more recent version of the standard. 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.
- The instrument will be set to A-weighting, "fast" response and measurements of $L_{Aeq(15\text{ minute})}$ will be taken at the location.
- 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. Where an obvious noise exceedance is detected, the noise monitor must notify the TCM of the exceedance and obtain relevant information as to the possible source of the exceedance (i.e. malfunctioning equipment, additional activity contributing to noise levels) to ensure appropriate reporting and action on the exceedance.
- Extraneous noise sources will be excluded from the measured signal using robust methods approved by EPA and DPHI and the $L_{Aeq(15\text{-minute})}$ level attributable to TCM activities will be identified and compared with the relevant criteria.
- Details regarding plant configuration, interval survey, weather conditions, extraneous noise sources, monitoring locations and times of measurement will be recorded for inclusion in the noise monitoring report.
- Noise criteria will apply under all Pasquill stability classes A-G including winds up to 2 m/s for F and G class stability.

For "very noise enhancing conditions" as defined in the Npfl the criteria are increased by 5 dB.

- Frequency of monitoring will be reviewed by the BTM mines in accordance with the BTM Complex [Noise Management Strategy](#).
- A mobile noise monitoring system utilising IEC Type 1 sound level meter with statistical and third-octave band capabilities or similar may be located at properties should the necessity to arise (as per section 1.1); that will most likely be impacted by mine noise, as assessed in noise modelling for the Extension Project, or at properties where a complaint has been made in relation to mine noise. Site selection will be based on location of operational activity most likely to impact on that receiver.

6.3.2 Real-time noise monitoring

Real-time noise monitoring will be conducted as follows:

- A real-time noise monitoring system utilising IEC Type 1 sound level meter with statistical and third-octave band capabilities or similar is located at the “Coomalgah” property.
- The unit will calculate, as a minimum, 15-minute statistics comprising L_{A90} , L_{Aeq} and L_{A10} and low-frequency filtered L_{Aeq} (nominal threshold 800Hz, but able to be changed).
- Each 15-minute statistic will have an accompanying third-octave band spectrum.
- Statistical data and digital audio files (minimum duration one minute per 15 minute interval) will be continuously recorded into the web based repository using an appropriate communications format.
- A computer accessible to site personnel will display statistical results in real time via a web-based repository and daily charts will be sent via email for later reference or printing.
- Noise levels nominally 2dBA below the site noise criteria 35dBA (i.e.33dBA) will be set as trigger points in the real-time system to send pre-programmed SMS messages to relevant personnel.
- On receipt of an SMS alert, audio files will be reviewed to determine the cause of the noise and, if necessary, the management safeguards and ameliorative actions in section 5 will be initiated.

6.3.3 Road Noise Monitoring

Road Noise monitoring will be conducted as follows:

- Road noise monitoring will be undertaken on a six monthly basis and will assess cumulative noise impacts from the Vickery and Tarrawonga transport activities against road noise compliance criteria.
- All noise investigations will be carried out in accordance with NSW Noise Policy for Industry (NPfI, 2017), NSW Road Noise Policy and applicable Australian Standards.
- 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.
- The instrument will be set to A-weighting, “fast” response mode and measurements of L_{Aeq} (1 hour) will be taken at each location in Table 4. Each measurement will be stored at a sampling rate of no greater than 2 seconds for further analysis.
- Road noise surveys will be conducted on a 6 monthly basis. One full one-hour measurement of road noise will be taken at each location in Table 1 during either the morning between 4:00 am and 6:00 am or the evening period after 6.00 pm. In keeping with the approved coal transport times, any measurements on Saturdays would be conducted during the morning period.
- Field notes will be taken during each road noise measurement recording the time and number of truck pass-bys, and all extraneous noise sources.
- Extraneous noise sources will be filtered from the measured signal using suitable software acceptable to EPA (such as Bruel & Kjaer “Evaluator” Software) and the noise level attributable to coal trucks will be identified and compared with the relevant criteria.
- If an individual truck seems particularly loud or has an observable fault resulting in elevated noise emissions, this will be recorded in the field notes.
- The monitoring report will include, as a minimum:
 - the total number of trucks counted during the noise measurement (identified as empty or full);

- the total measured LAeq (1 hour) from coal trucks;
- the total measured LAeq (1 hour) from all sources to allow comparison of contribution from coal haul trucks comparative to other sources.
- details of any identified noisy truck(s);
- details of the calculation methodology; and
- wind speed and directional data and a discussion of potential meteorological influence on noise levels during each measurement period.

6.3.4 Sound Power Level testing

It is a requirement that new heavy mining equipment purchased post the date of the approval is to be commissioned as noise attenuated units.

All mining equipment is to be tested as part of an annual testing program and monitored to ensure the noise performance of operating equipment is maintained within specification. For consistency with other mines throughout NSW, annual sound power screening tests will be conducted such that all heavy machinery on site will be measured on a three-yearly basis.

7 Responsibilities

Role	Responsibility
Environmental Superintendent, Advisor or delegate	Maintenance and update of this plan and monitoring program.
Operations Manager, Statutory Open Cut Examiner (OCE), Production Superintendent, Drill & Blast Superintendent and Maintenance Manager	Implementation of operational controls listed in Table 3.
All employees	All employees at TCM share the responsibility of maintaining the Licence to Operate which includes the management of Noise and are referenced where applicable in operational control documentation.

8 Data Quality Assurance

- Real-time data is accessed by a web interface that provides notifications when equipment is not operating as required or a noise trigger level is reached. Additional quality checks are undertaken when a noise alert is reached. Validations on the daily noise are undertaken by an external contractor.
- Monitoring equipment is maintained and calibrated in accordance with manufacturer's specifications and relevant standards.
- Random audits of operating responses to real time noise monitoring systems are undertaken as required.

9 Compliance Obligations

9.1 Protocol for determining exceedances

If attended noise monitoring results exceed the levels outlined in section 2, the source of the elevated noise will be verified and identify options to address noise related impacts. Such actions will include:

- Additional testing to confirm the elevated noise is sustained in nature. Further discussion will be undertaken with EPA and DPHI regarding additional monitoring requirements to determine whether a sustained exceedance constitutes a non-compliance;
- Consideration to changes to operational procedure or equipment type; and
- The installation of sound attenuation measures to plant and equipment, where necessary.

Where it is identified that the above options cannot achieve compliance with noise criteria identified through attended noise monitoring, TCM will undertake negotiations with the affected landowners with a view to entering into private agreements.

Only attended noise monitoring will be utilised to determine compliance. Real time monitoring will be used for operational management purposes only.

9.2 Non-compliance Notification

A written report on a non-compliance with required information will be provided to the DPHI via the major projects website within 7 days of becoming aware of the non-compliance (or as otherwise directed by the DPHI) as per 8A and 8B of Schedule 5 of MP 11_0047.

9.3 Incident Notification

In accordance with Schedule 5 Condition 8 MP 11_0047 and under Section 148 of the *Protection of the Environment Operations Act 1997* (POEO Act) the Secretary of DPHI, EPA and any representatives of all relevant regulatory agencies will be informed of any incident that:

- has caused, or threatens to cause, material harm to the environment; and
- breaches or exceeds the limits or performance measures/criteria in this approval.

A notification will be provided to the DPHI and the EPA immediately after becoming aware of an incident via the major project portal and the EPA 'hub' email address/pollution phone line.

9.4 Complaint Handling

Whilst all endeavours will be made by TCM to avoid adverse noise impacts on local landowners / residents, it is acknowledged that impacts may be experienced. To ensure an appropriate and consistent level of reporting, response and follow-up to any complaints is adopted by TCM, the following complaints management protocol will be followed:

- a publicly advertised telephone complaints line will be in place to receive complaints;
- initial response is provided where practical within 24 hours of receipt of a complaint;
- an investigation will be initiated as per for an exceedance (section 10.3); and
- all details regarding the complaint including investigation outcomes and follow up actions will be documented in a complaints register.

A copy of the complaints register will be updated monthly on the TCM website. A summary of complaints received every 12 months will be included in the Annual Review (AR) (refer to section 10.6).

9.5 Tenancy/Local Landowner Compliance

Prospective tenants of mine-owned properties that are predicted to experience exceedances of noise criteria will be advised of the potential amenity impacts associated with living or occupying the land in accordance with Schedule 4 Condition 2 of MP 11_0047.

In accordance with Schedule 4 Condition 3, TCM will notify any affected landowner of any exceedances in writing and follow up with subsequent monitoring results. This notification and follow up will continue until monitoring results indicate that the project is complying with the relevant criteria.

10 Reporting and Review

10.1 Regular monitoring reports on webpage

In accordance with Condition 13 of Schedule 5 of MP 11_0047, the following reports are provided on the WHC website, including:

- Daily weather forecasts for the week;
- Operational responses to noise and dust levels;
- Monthly reporting results as per the Approval; and
- Summary reports available monthly required under Section 66(6) of the *POEO Act*.

10.2 Compliance Reporting

Exceedances identified during routine monitoring will be investigated and entered into the WHC incident and hazard reporting system. If the investigation identifies that an exceedance of the approval criteria has occurred this will be reported to the DPHI in accordance with Schedule 5, Conditions 8-8C and Appendix 9 of MP11_0047.

An overview of any non-compliances or incidents received during the reporting year are included in TCM's AR. Refer to section 10.5 for further detail on the AR.

10.3 Incident reporting

A written report on the incident will be provided to the DPHI via the major project portal within 7 days and a detailed report with 30 days of becoming aware of the incident (or as otherwise directed by the DPHI) as per the requirements of Conditions 1 to 4 of Schedule 5, Appendix 9 of MP 11_0047. Reporting to additional regulatory authorities will be executed to meet legal obligations.

10.4 CCC Reporting

The CCC has been established and will continue to be operated for the duration of operations on site. Regular briefings to the CCC will be provided, including a summary of results from the TCM noise monitoring network. Final minutes of CCC Meetings are available on the TCM webpage in accordance with Schedule 5 Condition 12(a) of MP11_0047.

10.5 Annual Review

In accordance with the requirements of the consent, TCM will seek validation of the tenth percentile methodology used in the noise impact assessment for the Tarrawonga Coal Project. This will be completed on an annual basis by the provision of a report from an appropriately qualified acoustical consultant, utilising the data obtained over a 12-month period from the monitoring program and providing a comparative assessment against the modelled predictions from the tenth percentile methodology. The outcomes are reported in the Annual Review.

By the end of March each year, TCM will review the noise performance for the previous calendar year. The noise component of the AR includes the required detail as per the DPHI AR Guideline (2015). The AR will be sent to the relevant regulatory agencies for review and made publicly available on the WHC website.

Any additional mitigation methods that are implemented by TCM throughout the calendar year (such as additional plant attenuation, real-time noise monitor movements etc.) will be reported in the annual review.

10.6 Review

The NMP will be reviewed and evaluated to assess its adequacy and effectiveness, to the satisfaction of the Secretary (in consultation with relevant government agencies) in accordance with Schedule 5, Conditions 3 and 5 of the Approval. This requires that this is undertaken within 3 months of:

- a) The submission of the AR;
- b) The submission of an incident report;
- c) The submission of an audit; and
- d) Any modifications to the conditions of the Approval.

If necessary the NMP will be revised to incorporate any recommended measures to improve the environmental performance of TCM resulting from audits, community complaints (section 9.4) and incident investigation findings (section 10.3). In addition, the review process will include ongoing evaluation of operational modifications, alternative methodologies and new technologies that become available for their potential to lessen noise impacts.

10.7 Independent Audit

In accordance with Condition 10 and 11 of Schedule 5 of the Approval, an Independent Environmental Audit (IEA) of TCM was initially undertaken in 2014 and additional IEAs have been undertaken every 3 years since. The IEA includes a review of the noise performance of TCM, assess compliance with the requirements in this plan, and implementation of noise management measures.

11 References

- Environment Protection Authority. (2017). *Noise Policy for Industry*. Sydney: Environment Protection Authority.
- EPA. (2017). *NSW EPA Noise Policy for Industry*. Sydney: Corporate State of NSW and EPA. Retrieved from <https://www.epa.nsw.gov.au/-/media/epa/corporate-site/resources/noise/17p0524-noise-policy-for-industry.pdf>
- ISO. (2015). *ISO 14001:2015 Environmental management systems*.
- SPCC. (1994). *NSW Environment Protection Authority (EPA) & State Pollution Control Commission (SPCC) Environmental Noise Control Manual*. Sydney: Environment Protection Authority.
- Standards Australia. (1987). *AS 2923-1987: Ambient Air—Guide for Measurement of Horizontal Wind for Air Quality Applications*. SAI Global.
- Standards Australia. (1997). *AS 1055.1-1997 ‘Acoustics – Description and Measurement of environmental noise – General Procedures’*.
- Standards Australia. (1997). *AS 1055.1-1997 Acoustics - Description and measurement of environmental noise*. Homebush: Standards Australia.
- Standards Australia. (2004). *AS IEC 61672.1 – 2004 “Electro acoustics – Sound Level Meters – Specifications”*.
- Standards Australia. (2014). *AS/NZS 3580. 14:2014 Methods for sampling and analysis of ambient air Part 14: Meteorological monitoring for ambient air quality monitoring applications*. Sydney: SAI Global Limited.
- TCPL. (2005). *Tarrawonga Coal Pty Ltd East Boggabri Joint Venture Environmental*.
- USEPA. (2000). *Meteorological Monitoring Guidance for Regulatory Modeling Applications*. Research Triangle Park: USEPA.

11.1 Version Control

Revision	Description	Author	Authorised by	Date
1.0	Initial document	Spectrum Acoustics	C. Burgess	February 2006
1.1	Amendments to monitoring locations and requirements	T.Thompson	D.Young	November 2008
2.0	2010 Modification review	J.Scealy	D.Young	March 2011
2.1	MP11_0047 review	L.Johnson	J.Johnson	June 2014
3.1	MP11_0047 review	L.Johnson	J.Johnson	September 2014
3.2	MP11_0047 review	L.Johnson	J.Johnson	December 2014
4.1	MP11_0047 review	L.Johnson	A.Margetts	February 2017
5.1	MP11_0047 review	Todoroski Air Sciences	TCM	August 2018
5.2	MP11_0047 review	Todoroski Air Sciences	TCM	May 2019
5.3	MP11_0047 review-MOD7	Todoroski Air Sciences/TCM	TCM	May 2021
6.0	MP11_0047 review-MOD10	TCM	Environmental Superintendent	January 2024
6.1	MP11_0047 review-MOD10-response to DPHI review	TCM	M Martin	April 2024

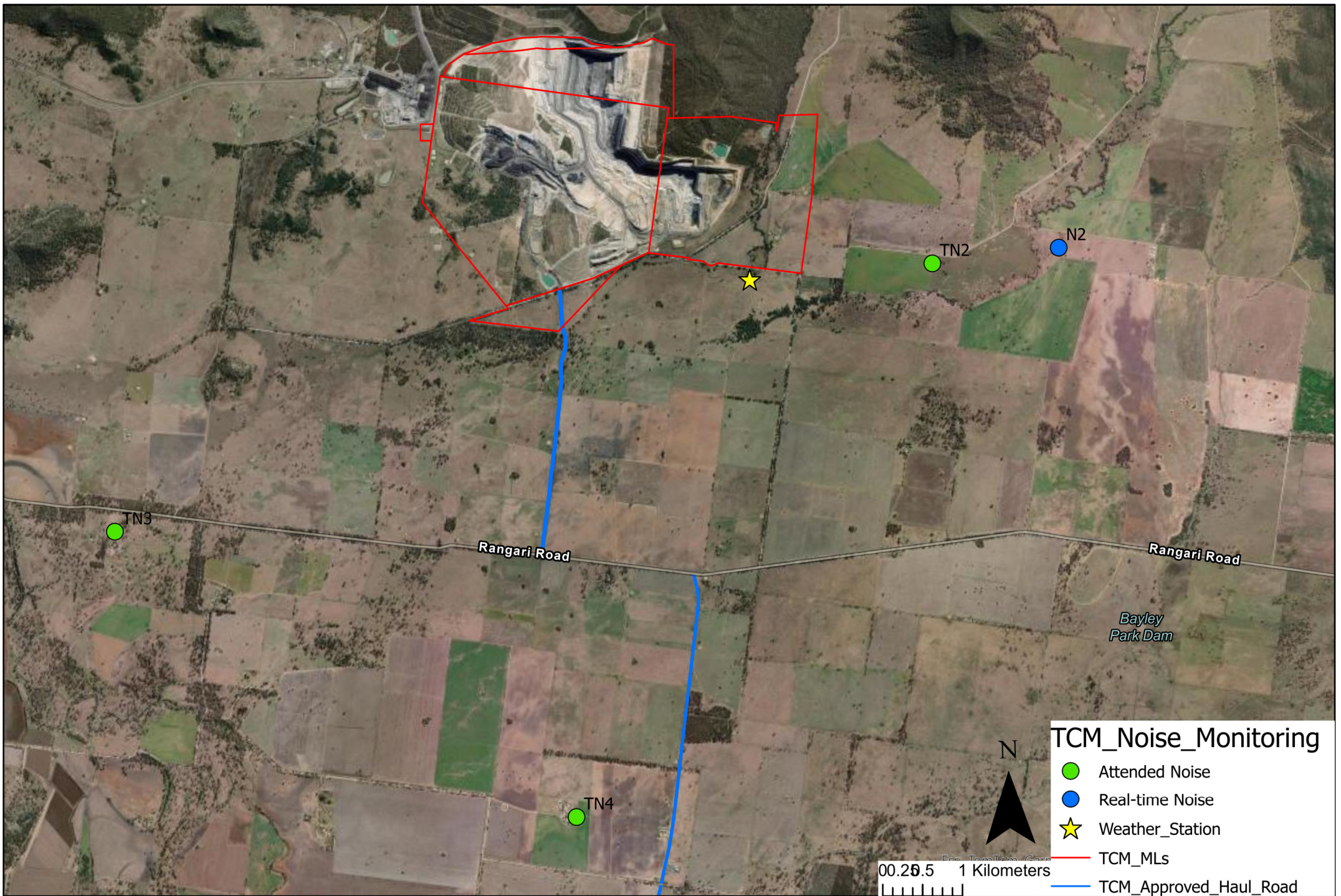


Figure 1: Noise Monitoring Locations

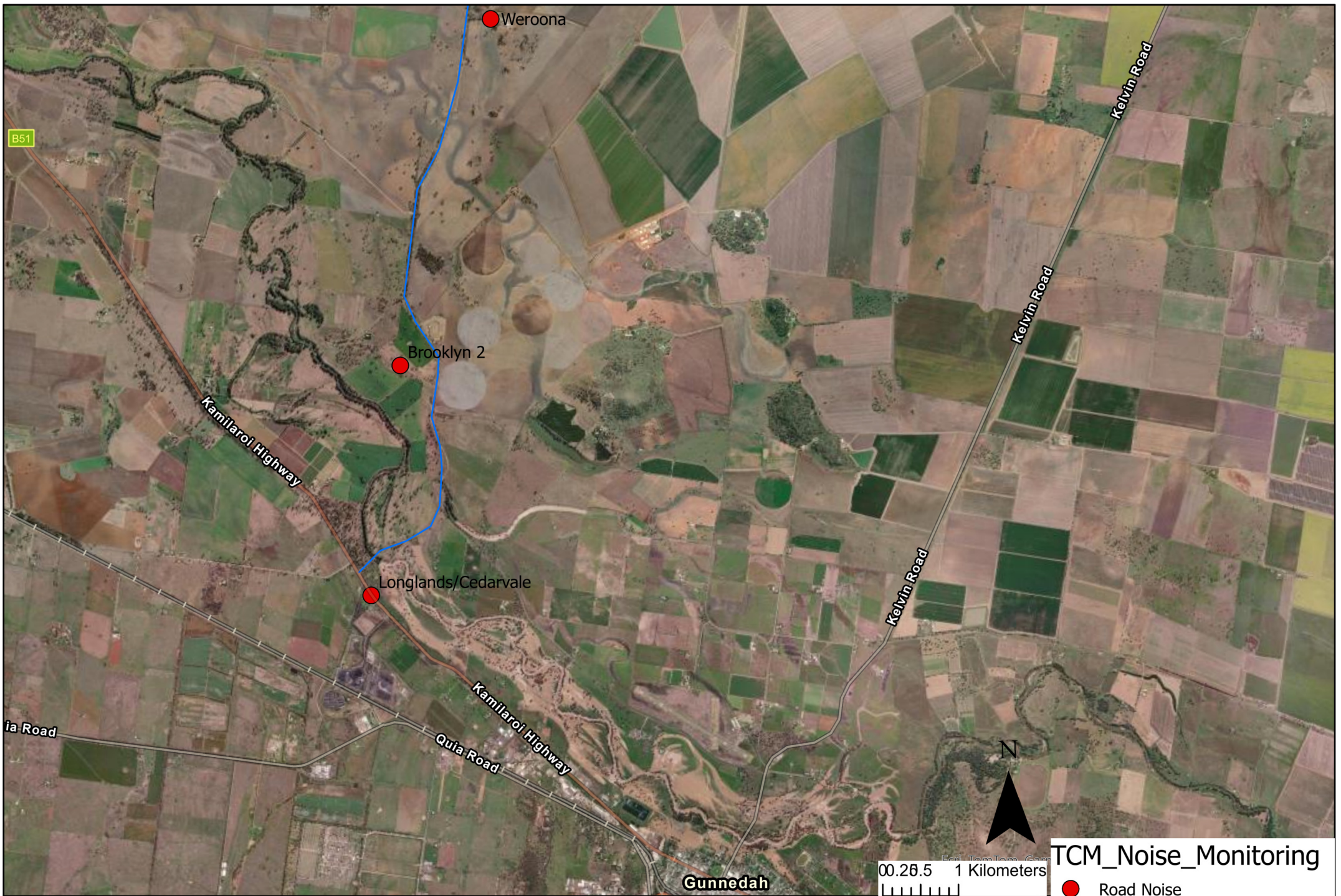


Figure 2: Road Noise Monitoring Locations

TCM_Noise_Monitoring

- Road Noise
- TCM_Approved_Haul_Road

Date: January 2024

0.25 0.5 1 Kilometers

Author: M. Wright

Appendix 1: Project approval conditions

Table 5 Specific management plan requirements

Schedule	Condition	Approval Condition (MP 11_0047)	Relevant section of this NMP						
Acquisition on Request Conditions									
3	1	<p>Upon receiving a written request for acquisition from an owner of the privately-owned land listed in Table 1, the Proponent shall acquire the land in accordance with the procedures in conditions 8 and 9 of schedule 4.</p> <p style="text-align: center;">Table 1: Land subject to acquisition upon request</p> <table border="1" style="width: 100%;"> <thead> <tr> <th>Acquisition basis</th> <th>Property ID</th> </tr> </thead> <tbody> <tr> <td>Noise & Air</td> <td>44, 45, 49</td> </tr> <tr> <td>Noise</td> <td>43, 47</td> </tr> </tbody> </table> <p>Notes:</p> <ul style="list-style-type: none"> Properties 43, 44 and 45 also have acquisition rights under the approval for the Boggabri coal mine, and/or the existing consent (DA 88-4-2005) for the Tarrawonga mine. The Proponent may acquire these properties on an equitable basis with the owner of the Boggabri mine. For the purposes of acquisition under this condition, parcels of land that are in close proximity and operated as a single agricultural enterprise should be included as part of the land to be acquired. Where the Proponent and the owner(s) cannot agree on whether non-contiguous parcels of land should be included, either party may refer the matter to the Secretary for resolution. The Secretary's decision as to the lands to be included for acquisition under the procedures in conditions 8 and 9 of Schedule 4 shall be final. 	Acquisition basis	Property ID	Noise & Air	44, 45, 49	Noise	43, 47	Section 2
Acquisition basis	Property ID								
Noise & Air	44, 45, 49								
Noise	43, 47								
Additional Noise And/Or Air Quality On Request									
3	2	<p>Upon receiving a written request from the owner of any residence on the land listed in Table 1, the Proponent shall implement additional noise and/or air quality mitigation measures (such as double glazing, insulation, air filters, a first flush roof water drainage system and/or air conditioning) at the residence in consultation with the owner. These measures must be reasonable and feasible and directed towards reducing the noise and/or air quality impacts of the project on the residence.</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>	Section 2 and 5						
Noise Criteria									
3	3	<p>Except for the noise-affected land in Table 1, the Proponent shall ensure that operational noise generated by the project does not exceed the criteria in Table 2 at any residence on privately-owned land.</p> <p style="text-align: center;">Table 2: Noise criteria dB(A)</p> <table border="1" style="width: 100%;"> <thead> <tr> <th>Land</th> <th>Day, Evening & Night LAeq(15 min)</th> <th>Night LA1 (1 min)</th> </tr> </thead> <tbody> <tr> <td>All other privately-owned residences</td> <td>35</td> <td>45</td> </tr> </tbody> </table> <p>Notes:</p> <ul style="list-style-type: none"> Operational noise includes noise from the mining operations and the use of private roads (excluding the Kamilaroi Highway overpass) and rail spurs. Noise is to be measured in accordance with the relevant requirements, and exemptions (including certain meteorological conditions (also see condition 13)), of the NSW Noise Policy for Industry. <p>However, these noise criteria do not apply if the Proponent has an agreement with the owner/s of the relevant residence or land to generate higher noise levels, and the Proponent has advised the Department in writing of the terms of this agreement.</p>	Land	Day, Evening & Night LAeq(15 min)	Night LA1 (1 min)	All other privately-owned residences	35	45	Section 2
Land	Day, Evening & Night LAeq(15 min)	Night LA1 (1 min)							
All other privately-owned residences	35	45							
Noise Acquisition Requirements - Residences									
3	4	<p>If the owner(s) of a privately owned residence, that is not listed in Table 1, have reason to believe that operational noise from the project is causing the criteria in Table 2 to be exceeded at the residence, the owner(s) can request an independent noise impact assessment for the residence. The request shall be made in writing to the Secretary. If the Secretary considers that a noise impact assessment is warranted, then the Proponent shall commission the assessment.</p>	Section 2 and 5						

Schedule	Condition	Approval Condition (MP 11_0047)	Relevant section of this NMP
		<p>If the noise assessment determines that the noise generated by the project causes sustained exceedances, or is likely to cause sustained exceedances of the criteria in Table 2, the owner(s) can make a written request to the proponent for one of the following:</p> <p>a) mitigation (such as double glazing, insulation and air-conditioning) at the residence in consultation with the owner(s). These measures must be reasonable and feasible and directed towards reducing the noise impacts of the project on the residence. If within 3 months of receiving this request from the owner(s), the proponent and owner(s) 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; or</p>	
		<p>b) acquisition of the residence and land in accordance with the procedures in conditions 8 and 9 of Schedule 4.</p> <p>Upon receiving a written request from the owner(s), the proponent must undertake whichever option has been requested by the owner(s).</p> <p>However this condition does not apply if the proponent has an agreement with the owner(s) of the relevant residence to generate higher noise levels, and the proponent has advised the Department in writing of the terms of this agreement.</p> <p><i>Notes:</i></p> <ol style="list-style-type: none"> 1. <i>For the purposes of this condition a privately owned residence is defined as a residence not owned by a mining company that: is regularly occupied; or is an existing residence that is not regularly occupied but for which a valid development consent exists; or is a proposed residence for which a development application has been lodged with the relevant authority prior to the date of this approval.</i> 2. <i>For the purposes of acquisition under this condition, parcels of land that are in close proximity and operated as a single agricultural enterprise should be included as part of the land to be acquired. Where the proponent and owner(s) cannot agree on whether non-contiguous parcels of land should be included, either party may refer the matter to the Secretary for resolution. The Secretary's decision as to the lands to be included for acquisition under the procedures in conditions 8 and 9 of Schedule 4 shall be final.</i> 3. <i>The noise assessment must be undertaken by a suitably qualified, experienced and independent person, whose appointment has been approved by the Secretary and include either:</i> <ol style="list-style-type: none"> a. <i>sufficient monitoring at the affected residence to allow for assessment of impacts under a range of meteorological conditions (including adverse conditions) likely to be experienced at the residence; or</i> b. <i>sufficient monitoring to allow reliable prediction of the likely impacts under the range of meteorological conditions (including adverse conditions) likely to be experienced at the residence.</i> 4. <i>Monitoring should be conducted in accordance with the requirements of the NSW Industrial Noise Policy.</i> 5. <i>Where predictions of likely impacts is to be used, either in substitution for, or in conjunction with direct measurement of noise impacts at the residence, it must be based on sufficient monitoring data to provide a reliable estimate of the impacts (including under adverse meteorological conditions) and be derived using standard noise modelling techniques accepted by the EPA.</i> <p><i>The proponent shall ensure that the requested noise impact assessment is submitted to the Secretary within 3 months of the Secretary's decision that the assessment was warranted. The proponent shall also provide a copy of the assessment to the owner(s) of the residence at the same time it is submitted to the Secretary.</i></p>	Section 2 and 5
Noise Acquisition Requirements - Land			
3	5	<p>If the owner(s) of land containing a privately owned residence, which is not listed in Table 1, have reason to believe that operational noise from the project is causing noise levels to exceed 40dB(A)LAeq15min over more than 25% of that land, the owner(s) can request an independent noise impact assessment for the land. The request shall be made in writing to the Secretary. If the Secretary considers that a noise impact assessment is warranted, then the proponent shall commission the assessment.</p> <p>If the noise impact assessment determines that the noise generated by the project causes sustained exceedances, or is likely to cause sustained exceedances of the 40dB(A) criteria the owner(s) can make a written request to the proponent for acquisition of the residence and land in accordance with the procedures in conditions 8 and 9 of Schedule 4.</p>	Section 2 and 5

Schedule	Condition	Approval Condition (MP 11_0047)	Relevant section of this NMP				
		<p>However, this condition does not apply if the proponent has an agreement with the owner(s) of the relevant residence to generate higher noise levels, and the Proponent has advised the Department in writing of the terms of this agreement.</p> <p>Note: The notes to condition 4 of this Schedule also apply to this condition.</p>					
Cumulative Noise Criteria							
3	6	<p>Except for the land listed in Table 1, the Proponent shall ensure that the operational noise generated by the project combined with the noise generated by the other mines does not exceed the criteria in Table 3 at any residence on privately-owned land.</p> <p style="text-align: center;">Table 3: Cumulative noise criteria dB (A) LAeq(period)</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Land</th> <th>Day, Evening and Night LAeq (15 min)</th> </tr> </thead> <tbody> <tr> <td>All privately owned land</td> <td>40</td> </tr> </tbody> </table> <p>Notes:</p> <ul style="list-style-type: none"> Cumulative noise is to be measured in accordance with the relevant requirements, and exemption (including certain meteorological conditions (also see condition 13)), of the NSW Industrial Noise Policy Operational noises include noise from the mining operations and the use of private roads (excluding the Kamilaroi overpass) and rail spurs 	Land	Day, Evening and Night LAeq (15 min)	All privately owned land	40	Sections 2 and 6
Land	Day, Evening and Night LAeq (15 min)						
All privately owned land	40						
Cumulative Noise Acquisition Requirements							
3	7	<p>If the owner(s) of a privately owned residence, which is not listed in Table 1, reasonably believes that the noise limits in Table 3 are being exceeded at the residence and that the exceedance is caused by operational noise from the project and one or more other mines (including use of private roads or rail spurs), the owner(s) can request an independent noise impact assessment for the residence. The request shall be made in writing to the Secretary. If the Secretary considers that a noise impact assessment is warranted, then the proponent shall commission the assessment.</p> <p>Where the noise impact assessment determines that the cumulative noise generated by the project combined with the noise from the other mine(s) causes, or is likely to cause sustained exceedances of the criteria in Table 3, then the owner(s) can make a written request to the proponent for one of the following:</p> <p>a) mitigation (such as double glazing, insulation and air-conditioning) at the residence in consultation with the owner(s). These measures must be reasonable and feasible and directed towards reducing the noise impacts of the project on the residence. If within 3 months of receiving this request from the owner(s), the proponent and the owner(s) 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; or</p>	Section 2 and 5				
		<p>b) acquisition of the residence and land in accordance with the procedures in Conditions 8 and 9 of Schedule 4.</p> <p>Upon receiving a written request from the owner(s), the proponent must undertake whichever option has been requested by the owner(s).</p> <p>However, this condition does not apply if the Proponent has an agreement with the owner(s) of the relevant residence to generate higher noise levels, and the proponent has advised the Department in writing of the terms of this agreement.</p> <p>The proponent may seek to recover an equitable share of the costs incurred from other mines contributing to the cumulative impact. Unless otherwise agreed between the mines, the proportional contributions should be based on expert analysis of the monitoring results to assess relative contribution to the impact. In the event of a dispute between the mines, the proponent, or one of the contributing mines may submit the matter to the Secretary for resolution. The Secretary's decision shall be final.</p> <p>Notes:</p> <ol style="list-style-type: none"> The notes to condition 4 apply to this condition. The noise impact assessment shall include assessment of the relative contribution of the mines to the impact at the residence. 	Section 2 and 5				
Road Traffic Noise Criteria							
3	8	<p>The Proponent, together with the owners of the Rocglen and Vickery coal mines, shall ensure that the noise generated on public roads by the Project and the other mines, does not exceed the criteria in Table 4 at any existing residence on privately-owned land.</p> <p style="text-align: center;">Table 4: Road traffic noise criteria dB(A) Land</p>	Sections 2 and 6				

Schedule	Condition	Approval Condition (MP 11_0047)	Relevant section of this NMP						
		<table border="1"> <thead> <tr> <th>Land</th> <th>Day and Evening LAeq(15 hour)</th> <th>Night LAeq(9hour)</th> </tr> </thead> <tbody> <tr> <td>All privately owned residences</td> <td>60</td> <td>55</td> </tr> </tbody> </table> <p>However, these criteria do not apply if the Proponent has a written agreement with the relevant landowner to exceed the criteria, and the Proponent has advised the Department in writing of the terms of this agreement. <i>Note: Traffic noise generated by the Project is to be measured in accordance with the relevant procedures in the NSW Road Noise Policy.</i></p>	Land	Day and Evening LAeq(15 hour)	Night LAeq(9hour)	All privately owned residences	60	55	
Land	Day and Evening LAeq(15 hour)	Night LAeq(9hour)							
All privately owned residences	60	55							
		Attenuation of Plant							
3	9	<p>The proponent shall</p> <p>a) ensure that:</p> <ul style="list-style-type: none"> all trucks, dozers, drills and excavators purchased for use on the site after the date of this approval are commissioned as noise suppressed (or attenuated) units; improvements are made to existing noise suppression equipment as improved technology becomes available where reasonable and feasible; and 	Section 5, 6 and 1						
		b) monitor and report on the implementation of these requirements annually on its website.	Section 6 and 1						
3	10	<p>The proponent shall:</p> <p>a) conduct an annual testing program of the plant on the site;</p>	Section 6						
		b) restore the effectiveness of any attenuation if it is found to be defective; and	Section 5						
		c) report on the results of any testing and/or attenuation work within the annual review.	Section 1						
		Operating Conditions							
3	11	<p>The proponent shall:</p> <p>a) implement best management practice to minimise all operational, low frequency, road and rail traffic noise levels associated with the project;</p>	Section 5						
		b) operate a comprehensive on-site noise management system that uses a combination of predictive meteorological forecasting and real-time noise monitoring data to guide the day to day planning of mining operations and the implementation of both proactive and reactive noise mitigation measures to ensure compliance with the relevant conditions of this approval;	Section 5 and 6						
		c) maintain the effectiveness of noise suppression equipment on plant at all times and ensure defective plant is not operationally used until fully repaired;	Section 5						
		d) ensure that noise attenuated plant is deployed preferentially in locations near to sensitive receivers;	Section 6						
		e) minimise the noise impacts of the project during meteorological conditions under which the noise limits in this approval do not apply (see condition 13);	Section 5						
		f) ensure that project related trains on the Boggabri spur line only use locomotives that are approved to operate on the NSW rail network in accordance with the noise limits in ARTC's EPL (No. 3142);	Section 5						
		g) use its best endeavours to ensure that project related rolling stock supplied by service providers on the Boggabri rail spur line is designed, constructed and maintained to minimise noise; and	Section 5						
		h) co-ordinate the noise management on site with the noise management at other mines within the Leard Forest Mining Precinct to minimise the cumulative impacts of these mines, to the satisfaction of the Secretary.	Section 1.1 and 5						
		Management Plan							
3	12	<p>12. The proponent shall prepare and implement a Noise Management Plan for the project to the satisfaction of the Secretary. This plan must:</p> <p>a) be prepared in consultation with the EPA, and be submitted to the Secretary for approval by the end of May 2013;</p>	This Plan						
		<p>b) describe the measures that would be implemented to ensure:</p> <ul style="list-style-type: none"> best practice management is being employed; the noise impacts of the project are minimised during meteorological conditions under which the noise limits in this approval do not apply; compliance with the relevant conditions of this approval. 	Section 5						
		c) describe the proposed noise management system in detail;	Section 5						
		d) include a risk/response matrix to codify operational responses to varying levels of risk resulting from weather conditions and specific mining activities;	Section 5.2						
		e) include commitments to provide summary reports and specific briefings at CCC meetings on issues arising from noise monitoring;	Section 1						

Schedule	Condition	Approval Condition (MP 11_0047)	Relevant section of this NMP
		f) describe the measures that would be implemented to ensure the noise impacts from the operation of the Kamilaroi Highway overpass are minimised as far as practicable;	Section 5
		g) include a monitoring program that: <ul style="list-style-type: none"> uses attended monitoring to evaluate the performance of the project against all noise criteria in this approval, including a minimum of four days attended monitoring per quarter at locations agreed to by the Secretary, or more regularly where required; uses real time monitoring to support the proactive and reactive noise management system on site; included monitoring of inversion strength at an appropriate sampling rate to determine compliance with noise limits; evaluates and reports on the effectiveness of the noise management system on site; provides for the annual validation of the noise model for the project (including the 10th percentile methodology); and 	Section 6
		h) includes a Leard Forest Mining Precinct Noise Management Strategy, that has been prepared in consultation with other coal mines in the precinct, to minimise the cumulative noise impacts of all mines within the precinct, and includes: <ul style="list-style-type: none"> a description of the measures that would be implemented to ensure that the noise management of the mines is properly coordinated to ensure compliance with the relevant noise criteria; a suitable monitoring network for the precinct; protocols for data sharing; and procedures for identifying and apportioning the source/s and contribution/s to cumulative noise impacts for the operating mines and other sources, using the noise and meteorological monitoring network and appropriate investigative tools. <p>Note: the Leard Forest Mining Precinct Noise Management Strategy can be developed in stages and will need to be subject to ongoing review dependent upon the determination and commencement of other mining projects in the area.</p>	Section 1.1
3	13	Where conditions in this approval refer to measurement of noise within the context of the NSW Noise Policy for Industry the inversion class to be applied to the project is Class G.	Section 5
		However, the proponent may undertake an investigation to determine whether a proposal for change in the classification could be considered for approval by the Secretary. Any such investigation must be conducted in consultation with the EPA and be conducted by a suitably qualified person whose appointment has been endorsed by the EPA and approved by the Secretary. The report and recommendation must be submitted to the EPA for endorsement prior to submission to the Secretary. If the Secretary is satisfied that the recommendation is reasonable, then the Secretary may amend the inversion class applying to the project under this approval.	

Table 5 – Project Approval General Requirements

Schedule	Condition	Additional Procedures – Notification of Landholders/Tenants	Relevant Section of this NMP
4	2	Prior to entering into any tenancy agreement for any land owned by the Proponent that is predicted to experience exceedences of the recommended dust and/or noise criteria, or for any of the land listed in Table 1 that is subsequently purchased by the Proponent, the Proponent shall: <ol style="list-style-type: none"> advise the prospective tenants of the potential health and amenity impacts associated with living on the land, and give them a copy of the NSW Health fact sheet entitled “Mine Dust and You” (as may be updated from time to time); advise the prospective tenants of the rights they would have under this approval; and request the prospective tenants consult their medical practitioner to discuss the air quality monitoring data and predictions and health impacts arising from this information, to the satisfaction of the Secretary. 	Section 9.5
4	3	As soon as practicable after obtaining monitoring results showing: <ol style="list-style-type: none"> an exceedence of the relevant criteria in schedule 3, the Proponent shall notify the affected landowner in writing of the exceedence, and provide regular monitoring results to the landowner until the project is complying with the relevant criteria again; and 	Section 9.5
Environmental Management, Reporting and Conditions – On-line Communication of Onsite Activities and Monitoring of Noise and Air Quality			
5	13	The Proponent shall, within 3 months of the date of this approval:	Section 1

		<p>a) make the following information for the project publicly available on its website, on a daily basis and in a clearly understandable form:</p> <ul style="list-style-type: none"> • daily weather forecasts for the coming week; • proposed operational responses to these weather forecasts; • real-time noise and air quality monitoring data (subject to any necessary caveats); and • any operational responses that were taken in response to the noise and air quality monitoring data, and 	
		<p>b) make provision on its website for the provision of on-line and/or email comments by members of the community regarding this information, to the satisfaction of the Secretary.</p>	Section 1

Appendix 2: Tarrawonga Environmental Noise Trigger Action Response Plan (TARP)

Location/ Activity/Situation	No Noise alarm received (Normal – Low Risk Conditions)	Noise alarm received - >33dB	Noise alarm received >35dB (Medium and High Risk Conditions) ^{1,2}
Highest work area close to Southern Boundary	No specific action required. Haul road speed limits and site procedures to be followed at all times.	Noise audio check performed, and if mine noise can be heard, actions taken, if any, are recorded in Coaltrak. If mine noise is heard- activity should be suspended in most exposed areas (TC dumps if noise alarms continue to be received and mine noise is heard or cannot be controlled.	<ol style="list-style-type: none"> 1. Check audio recordings to see if mine noise is audible. If so- check weather for wind. If wind is not contributing to noise then- 3. STOP equipment (including evaporator fans if running) until noise drops below 35dB. 4. Record action taken and the result (i.e the noise level after operations amended) in CoalTrak. 5. Even if mine noise is not audible in the noise recording we must still reduce noise impacts as far as reasonable and practicable. All <u>non-essential equipment</u> in high risk areas (eg high RL dumps, TC pit, Evaporator Fans) should be shut down until noise reduces. Record resulting noise level in CoalTrak.
Highest or Elevated dumping/ working area close to Southern Boundary			<ol style="list-style-type: none"> 1. Check audio recordings to see if mine noise is audible. If so- check weather for wind. If wind is not contributing to noise then- 3. STOP equipment (including evaporator fans if running) until noise drops below 35dB. 4. Record action taken and the result (i.e the noise level after operations amended) in CoalTrak. 5. Even if mine noise is not audible in the noise recording we must still reduce noise impacts as far as reasonable and practicable. All <u>non-essential equipment</u> in high risk areas (eg high RL dumps, TC pit, Evaporator Fans) should be shut down until noise reduces. Record resulting noise level in CoalTrak.
Highest or elevated dumping area close to Western and Northern Boundaries			<ol style="list-style-type: none"> 1. Check audio recordings to see if mine noise is audible. If so- make changes to operations in high risk areas (TC pit, high RL dumps evaporator fans). 3. Then re-check audio and if mine noise is still audible STOP equipment according to priority in this area if noise cannot be controlled. 4. Record action taken and the result (ie the noise level after operations amended) in CoalTrak.
Elevated Central dumping area			<ol style="list-style-type: none"> 1. Check audio recordings to see if mine noise is audible. If so- check weather for wind. If wind is not contributing to noise then- 3. STOP equipment (including evaporator fans if running) until noise drops below 35dB. 4. Record action taken and the result (i.e the noise level after operations amended) in CoalTrak. 5. Even if mine noise is not audible in the noise recording we must still reduce noise impacts as far as reasonable and practicable. All <u>non-essential equipment</u> in high risk areas (eg high RL dumps, TC pit, Evaporator Fans) should be shut down until noise reduces. Record resulting noise level in CoalTrak.
Southern Haul Road – high activity			<ol style="list-style-type: none"> 1. Slow trucks down below speed limits or limit amount of trucks travelling on haul road at any one time. 2. Alternatively, STOP use of route until noise drops below 35dB. 3. Record action taken and the result (ie the noise level after operations amended) in CoalTrak.

Soil Stripping and Vegetation Clearing			<ol style="list-style-type: none"> 1. CHECK Activity and noise audio and STOP if noise cannot be controlled. 2. Record action taken and the result (ie the noise level after operations amended) in CoalTrak.
Excavators and Dozers			<ol style="list-style-type: none"> 1. CHECK Activity and noise audio and STOP equipment according to priority if noise cannot be controlled. 2. Record action taken and the result (ie the noise level after operations amended) in CoalTrak.

Noise Alarm & Risk Response Matrix

¹May result in assessment and implementation of additional mitigation measures or suspension of activity.

²SMS and Email messages sent to OCE and Environmental Officer.