Donaldson and Abel Coal Mines

Bi-Annual Noise Monitoring - Half-year Ending December 2024

Donaldson Coal Pty Ltd

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v1.0	14 March 2025	Martin Davenport	Jonathan Caine	Martin Davenport

Basis of Report

This report has been prepared by SLR Consulting Australia (SLR) with all reasonable skill, care and diligence, and taking account of the timescale and resources allocated to it by agreement with Donaldson Coal Pty Ltd (the Client). Information reported herein is based on the interpretation of data collected, which has been accepted in good faith as being accurate and valid.

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1.0 Introduction

1.1 Background

Donaldson Coal Pty Ltd has commissioned SLR Consulting Australia Pty Ltd (SLR) to conduct half-yearly noise monitoring surveys for the Donaldson Coal Mine and Abel Coal Mine during the December 2024 half in accordance with the *Donaldson Coal Mine and Abel Underground Coal Mine - Noise Management Plan Care and Maintenance* (the NMP) dated 3 June 2019.

1.2 Objectives of this Report

The objectives of the noise monitoring survey for this half-year were as follows:

- Measure the ambient noise levels at six focus receptor locations (potentially worst affected) surrounding Donaldson Coal Mine and Abel Coal Mine.
- Qualify all sources of noise within each of the attended surveys, including estimated contribution or maximum level of individual noise sources.
- Assess the noise emissions of Donaldson Coal Mine and Abel Coal Mine with respect to the limits contained in the Development Consent.

1.3 Acoustic Terminology

The following report uses specialist acoustic terminology. An explanation of common terms is provided in **Appendix A**.

2.0 Development Consent Project Approval

Development consent was obtained by Donaldson Coal Pty Ltd for the Donaldson Mine in October 1999 following a Commission of Inquiry. Development Consent number N97/00147 was issued by the Minister for Urban Affairs pursuant to Section 101 of the Environmental Planning and Assessment Act 1979 (EP&A Act).

Project Approval (Application No. 05_0136) granted by the Minister of Planning was obtained by Donaldson Coal Pty Ltd for Abel Coal Mine in 2007.

2.1 Donaldson Coal Mine Development Consent Conditions

The Development Consent nominates hours of operation and mine noise emission goals in the Sections entitled "*Operation of Development, Condition No. 3(1) and 3(2)"*, and *"Noise and Vibrational Noise Limits: Condition No. 15*" as follows:

3.(1) Subject to (2) the approved hours of operation are as follows:

Works	***Period***	***Hours***
Construction, including construction of any bunds	*Monday to Friday* *Saturday*	*7 am to 6 pm* *8 am to 1 pm*
Mining operations, including mining, haulage of waste to dumps and coal processing	*Monday to Friday* *Saturday, Sunday*	*24 hours per day* *7 am to 6 pm*
Road Transportation and stockpiling of coal	*7 days per week*	*24 hours per day*
Rail loading of coal	*7 days per week*	*7 am to 10 pm*

Works	Period	Hours
Maintenance of mobile and fixed plant	*7 days per week*	*24 hours per day*
Blasting, not involving closure of John Renshaw Drive	*Monday to Saturday*	*7 am to 5 pm*
Blasting, involving closure of John Renshaw Drive	*Monday to Saturday*	*10 am to 2 pm*
Notes: Restrictions on Public Holidays are the same as Sundays		

2. The Applicant shall submit a report to the Director-General's satisfaction demonstrating the noise limits in Condition 15 can be met while rail loading of coal is occurring during the period from 6 pm to 10 pm. If that report does not demonstrate that the noise limits can be met to the Director-General's satisfaction, then the hours of operation for rail loading of coal shall be restricted to 7 am to 6 pm."

15. Unless subject to a negotiated agreement in accordance with Condition 23, the Applicant shall ensure that the noise emission from construction or mining operations, when measured or computed at the boundary of any dwelling not owned by the applicant (or within 30 metres of the dwelling, if the boundary is more than 30 metres from the dwelling), shall not exceed the following noise limits:

Location	$L_{A10(15minute)}$ Noise Limits (dBA)	
	Daytime	Night-time
Beresfield area (residential)	*45*	*35*
Steggles Poultry Farm	*50*	*40*
Ebenezer Park Area	*46*	*41*
Black Hill Area	*40*	*38*
Buchanan and Louth Park Area	*38*	*36*
Ashtonfield Area	*41*	*35*
Thornton Area	*48*	*40*
Notes: Daytime is 7 am to 10 pm Monday-Saturday, and 8 am to 10 pm Sundays and Public Holidays. Night-time is 10 pm to 7 am Monday-Saturday, and 10 pm to 8 am Sundays and Public Holidays.		

The noise limits apply for prevailing meteorological conditions (winds up to 3 m/s), except under conditions of temperature inversions."

Other Conditions of Consent relevant to noise are as follows:

18. The applicant shall survey and investigate noise reduction measures from plant and equipment and set targets for noise reduction in each Annual Environmental Management Report (AEMR), taking into consideration valid noise complaints received in the previous year. The Report shall also include remedial measures.

19. The Applicant shall revise the Noise Management Plan as necessary and provide an updated Plan five years after commencement of mining to the Director-General, the independent noise expert (Condition 48), EPA, Councils and the Community Consultative Committee.

2.2 Abel Coal Mine – Project Approval

Approved Operations

The following operations are approved under the Abel Coal Mine Project Approval:

- Extraction of up to 6.1 Mtpa of Run of Mine (ROM) coal from the Abel Underground Coal Mine.
- Transport coal to the existing Bloomfield Coal Handling and Preparation Plant (CHPP) by private haul roads, or by coal conveyor, or by a combination of both methods.
- Operate the CHPP to process coal extracted from the Abel Coal Mine and the Bloomfield and Donaldson Coal Mines.
- Transportation of product coal from the Bloomfield site by rail via the Bloomfield rail loading facility.

The Project Approval was modified in June 2010 (05_0136 MOD 1) allowing construction and operation of a downcast ventilation fan. In May 2011 the Project Approval was modified again (05_0136 MOD 2) to allow the construction and operation of an upcast ventilation fan (and associated facilities). In December 2013 the Project Approval was further modified (05_0136 MOD3) to account for the increase in coal extracted including the upgrade of the Bloomfield CHPP.

Consent Conditions

The relevant conditions relating to noise from the Abel Coal Mine approval are reproduced below.

Schedule 4

NOISE

Operational Noise Criteria

1. *The Proponent shall ensure that the noise generated by the Project does not exceed the criteria in Table 4 at any residence on privately-owned land.*

Table 4: Operational Noise Criteria dB(A)

Location	***Receiver Area***	***Day***	***Evening***	***Night***	
		$L_{Aeq(15minute)}$	$L_{Aeq(15minute)}$	$L_{Aeq(15minute)}$	$L_{Aeq(15minute)}$
Location I	*Lord Howe Drive, Ashtonfield*	*36*	*36*	*36*	*45*
Location K	*Catholic Diocese Land*	*37*	*37*	*37*	*45*
Location L	*Kilshanny Avenue, Ashtonfield*	*40*	*40*	*40*	*47*
All other Locations	*All other privately owned Residences*	*35*	*35*	*35*	*45*

Notes: To interpret the locations referred to in Table 4, see plan in Appendix 3.

Noise generated by the project is to be measured in accordance with the relevant requirements, and exemptions (including certain meteorological conditions), of the NSW Industrial Noise Policy. Appendix 4 sets out the meteorological conditions under which these criteria apply, and the requirements for evaluating compliance with these criteria.

These noise criteria do not apply if the Proponent has an Agreement with the relevant landowner to generate higher noise levels, and the proponent has advised the Department in writing of the terms of this agreement.

Construction Noise Criteria

1. *The proponent shall ensure that the noise generated during the construction of the downcast ventilation shaft as described in EA (MOD3) does not exceed the criteria in Table 5.*

Table 5: Construction Noise Criteria dB(A)

Location	Receiver	Day
		$L_{Aeq(15minute)}$
Location R	281 Lings Road, Buttai	50
Location S	189 Lings Road, Buttai	43

Notes: The criteria in Table 5 apply only whilst the downcast ventilation shaft is being constructed, and for a maximum of 12 weeks from the commencement of construction.

To interpret the locations referred to in Table 5, see plan in Appendix 3 (attached to this report as Appendix A).

Noise generated by the project is to be measured in accordance with the relevant requirements, and exemptions (including certain meteorological conditions), of the NSW Industrial Noise Policy.

However, these noise criteria do not apply if the Proponent has an Agreement with the relevant landowner to generate higher noise levels, and the proponent has advised the Department in writing of the terms of this agreement.

Rail Noise Criteria

1. *The proponent shall ensure that the noise from rail movements on the Bloomfield Rail Spur does not exceed the limits in Table 6 at any residence on privately owned land.*

Table 6: Rail Spur noise criteria dB (A)

Location	Day	Evening	Night
	$L_{Aeq(period)}$		
All privately owned land	55	45	40

Cumulative Noise Criteria

1. *The proponent shall implement all reasonable and feasible measures to ensure that the noise generated by the project combined with noise generated by other mines does not exceed the criteria in Table 7 at any residence on privately-owned land.*

Table 7: Cumulative noise criteria dB (A)

Location	Day	Evening	Night
	$L_{Aeq(period)}$		
All privately owned land	55	45	40

Notes: Cumulative noise is to be measured in accordance with the relevant requirements, and exemptions (including meteorological conditions), of the NSW Industrial Noise Policy. Appendix 4 sets out the metrological conditions under which these criteria apply and the requirements for evaluating compliance with these criteria.

Operating Conditions

1. *The proponent shall:*
    a. *Implement best management practise to minimise the construction, operational, road and rail noise of the project;*
    b. *Operate an on-site noise management system to ensure compliance with the relevant conditions of this approval;*
    c. *Minimise the noise impacts of the project during meteorological conditions under which the noise limits in this consent do not apply (see Appendix 4);*
    d. *Only receive and/or dispatch locomotives and rolling stock either on or from the site that are approved to operate on the NSW rail network in accordance with the noise limits in ARTC's EPL (No. 3142);*
    e. *Carry out regular monitoring to determine whether the project is complying with the noise criteria and other relevant conditions of approval, to the satisfaction of the Director-General.*

Noise Management Plan

2. *The proponent shall prepare and implement a Noise Management Plan for the project to the satisfaction of the Director-General. This plan must:*
    a. *Be prepared in consultation with the EPA, and be submitted to the Director-General for approval within 6 months of the date of approval of MOD 3;*
    b. *Describe the measures that would be implemented to ensure compliance with the noise criteria and operating conditions in this approval; Describe the proposed noise management system in detail; and*
    c. *Include a monitoring program that:*
        - *Uses attended monitoring to evaluate the compliance of the project against the noise criteria in this approval;*
        - *Evaluates and reports on:*
            - *The effectiveness of the on-site noise management system; and*
            - *Compliance against the noise operating conditions; and*
            - *Defines what constitutes a noise incident, and includes protocol for identifying and notifying the Department and relevant stakeholders of any noise incidents.* Appendix 4

Noise Compliance Assessment

Applicable Meteorological Conditions

1. *The noise criteria in Tables 4 and 7 are to apply under all metrological conditions except the following:*
    a. *During periods of rain or hail.*
    b. *Average wind speed at microphone height exceeds 5 m/s;*
    c. *Wind speeds greater than 3 m/s measured at 10m above ground level; or*
    d. *Temperature inversion conditions greater than $3^{o}C$/100m.*

Determination of Meteorological Conditions

2. *Except for wind speed at microphone height, the data to be used for determining metrological conditions shall be that recorded by the meteorological station located on the site.*

Compliance Monitoring

3. *Attended monitoring is to be used to evaluate compliance with the relevant conditions of this approval.*
4. *Unless otherwise agreed with the director-general, this monitoring is to be carried out in accordance with the relevant requirements for reviewing performance set out in the NSW Industrial Noise Policy (as amended from time to time), in particular the requirements relating to:*
    a. *Monitoring locations for the collection of representative noise data;*
    b. *Metrological conditions during which collection of noise data is not appropriate;*
    c. *Equipment used to collect noise data, and conformity with Australian Standards relevant to such equipment; and*
    d. *Modification to noise data collected, including for the exclusion of extraneous noise and/or penalties for modifying factors apart from adjustments for duration.*

Appendix 5

Statement of Commitments

3. Noise

3.1 Construction Activities

The following noise control measures will be implemented prior to commencement of construction of the Abel Underground Mine or the upgrade of the Bloomfield CHPP.

1. *Maintain all machinery and equipment in working order;*
    a. *No construction activities at the Abel pit top will take place on Sundays or Public Holidays;*
    b. *Where possible locate noisy site equipment behind structures that act as barriers or at the greatest distance from noise sensitive areas; and*
    c. *Orientate equipment so that noise emissions are directed away from noise sensitive areas.*

3.2 Noise Control Measures

a. *The following noise control measures will be implemented prior to the mining of coal from the Abel underground Mine:*
    i. *Orientation of the ventilation fans away from residential receivers and angle the output parallel to the ground.*
    ii. *The sound power level of the front end loader to be used near the portal should not exceed 113 dBA and will be fitted with a noise sensitive reversing alarm.*
b. *The following noise control measures will be implemented prior to the Bloomfield CHPP receiving any ROM coal from Able Underground Mine;*

i. Noise mitigation works including partial enclosure and noise screening of drives and conveyors of the Bloomfield CHPP to screen residences to the north of the site.

3.2 Monitoring

The Company will implement a Noise Monitoring Program for the Abel Underground Mine and the Bloomfield CHPP, to the satisfaction of the Director-General. The Noise Monitoring Program shall include a combination of real-time and supplementary attended monitoring measures, and a noise monitoring protocol for evaluating compliance with the noise environmental assessment. This plan will be integrated with the monitoring plans for the Tasman, Donaldson and Bloomfield Mines to provide a single integrated Noise Monitoring Program for all 4 mines.

3.4 Continuous Improvement

The Company shall:

a. Report on these investigations and implementation of any new noise mitigation measures on site in the AEMR, to the satisfaction of the Director General.

The operator of the Bloomfield CHPP shall:

b. Investigate ways to reduce the noise generated by the Bloomfield CHPP, including maximum noise levels which may result in sleep disturbance;

c. Implement all reasonable and feasible best practice noise mitigation measures on the site; and

d. Report on these investigations and the implementation of any new noise mitigation measures on site in the AEMR, to the satisfaction of the Director-General

3.0 Noise Monitoring Methodology

3.1 General Requirements

The operational noise monitoring program was conducted with reference to Development Consent N97/00147 (Donaldson Coal Mine), Project Approval 05_0136 (Abel Coal Mine), the NMP and AS 1055-2018 *Acoustics - Description and Measurement of Environmental Noise*.

All acoustic instrumentation employed throughout the monitoring program has been designed to comply with the requirements of AS IEC 61672.1 – 2019 *Electroacoustics—Sound level meters*, AS IEC 60942 2017 *Electroacoustics – Sound calibrators* and carried current NATA or manufacturer calibration certificates. Certificates for acoustic instrumentation used during the December 2024 half is provided in **Appendix B**.

Instrument calibration was conducted before and after each measurement, with the variation in calibrated levels not exceeding ±0.5 dBA.

3.2 Monitoring Locations

Baseline and preceding operational half-yearly surveys have been conducted at 11 locations surrounding the Donaldson Mine and Abel Coal Mine sites. With the experience of these previous surveys, it was decided to concentrate noise monitoring at six focus locations that represent the potentially most noise affected areas from Donaldson Mine and Abel Coal Mine. The details of the monitoring locations are contained within **Table 1**.

It is relevant to note that Donaldson Open Cut Mine has ceased production and all major earthworks on the site have been finalised. Furthermore, Abel mine was placed in Care & Maintenance on 28th April 2016 and there were no operations onsite during the December 2024 noise monitoring period.

Table 1 Monitoring Locations

Noise Monitoring Location	Description
D	Black Hill School, Black Hill
F	Lot 684 Black Hill Road, Black Hill
G	156 Buchannan Road, Buchannan
I	49 Magnetic Drive, Ashtonfield
L	65 Tipperary Dr, Ashtonfield
J	220 Parish Drive, Thornton

A map giving the approximate location of the noise monitoring sites is contained within **Appendix C**.

3.3 Unattended Noise Monitoring

An environmental noise logger was deployed for a minimum of a seven day period between Thursday 7 November 2024 and 24 December 2024 at each of the six (6) nominated locations given in **Table 1**.

All unattended monitoring equipment was programmed to continuously record statistical noise level indices in 15 minute intervals including the LAmax, L_{A1}, L_{A10}, L_{A90}, L_{A99}, L_{Amin} and L_{Aeq}. The statistical noise exceedance levels (L_{AN}) are the levels exceeded for N% of the 15 minute interval. The L_{A90} represents the level exceeded for 90% of the interval period and is referred to as the average minimum or background noise level. The L_{A10} is the level exceeded for 10% of the time and is usually referred to as the average maximum noise level. The L_{Aeq} is the equivalent continuous sound pressure level and represents the steady sound level which is equal in energy to the fluctuating level over the interval period. The L_{Amax} is the maximum noise level recorded over the interval.

3.4 Operator Attended Noise Monitoring

Operator attended surveys were conducted at each of the six monitoring locations during the daytime, evening and night-time periods, to verify the unattended logging results and to determine the character and contribution of ambient noise sources.

4.0 Operator Attended Noise Monitoring

4.1 Results of Operator Attended Noise Monitoring

Operator attended noise measurements were conducted during the day, evening and night-time period on Tuesday 17 December 2024 and night-time period on Thursday 19 December 2024. Operator attended noise surveys were conducted using a Brüel & Kjær Type 2250L (serial number 3003389) sound level meter.

Ambient noise levels given in the tables include all noise sources such as traffic, insects, birds, and mine operations as well as any other industrial operations.

The tables provide the following information:

- Monitoring location.
- Date and start time.
- Wind velocity (m/s) and Temperature (ºC) at the measurement location.
- Typical maximum (L_{Amax}) and contributed noise levels.

Mine contributions listed in the tables are from the Abel Coal Mine and are stated only when a contribution could be quantified.

Table 2 Location D, Black Hill Public School, Black Hill

Period	Date/ Start time/ Weather	Primary Noise Descriptor (dBA re 20 μPa)					Description of Noise Emission, Typical Maximum Noise Levels (L_{Amax} – dBA)
		L_{Amax}	L_{A1}	L_{A10}	L_{A90}	L_{Aeq}	
Day	17/12/2024 11:20 29°C 1.9m/s NE	76	74	67	50	63	Road traffic 33-76 Birdsong 55 Aeroplane 54-52 Insects 50-75 **Abel Coal Mine Contribution: Inaudible**
		Estimated Abel Coal Mine Noise Contribution: Inaudible					
Evening	17/12/2024 19:04 21°C 3.9m/s E	78	77	74	70	55	Insects 53-78 Road traffic 73-77 **Abel Coal Mine Contribution: Inaudible**
		Estimated Abel Coal Mine Noise Contribution: Inaudible					
Night	19/12/2024 04:14 18°C 2.0m/s E	79	63	47	42	52	Birdsong 44-50 Road traffic 40-79 **Abel Coal Mine Contribution: Inaudible**
		Estimated Abel Coal Mine Noise Contribution: Inaudible					

Table 3 Location F, Black Hill Road, Black Hill

Period	Date/ Start time/ Weather	Primary Noise Descriptor (dBA re 20 μPa)					Description of Noise Emission, Typical Maximum Noise Levels (L_{Amax} – dBA)
		L_{Amax}	L_{A1}	L_{A10}	L_{A90}	L_{Aeq}	
Day	17/12/2024 11:20 27°C 2.2 m/s NE	76	72	64	53	61	Road traffic 51-76 Insects 52-65 **Abel Coal Mine: Inaudible**
		Estimated Abel Coal Mine Noise Contribution: Inaudible					
Evening	17/12/2024 19:25 24°C 3.9 m/s E	78	77	75	59	71	Insects 59-75 Road traffic 45-78 **Abel Coal Mine: Inaudible**
		Estimated Abel Coal Mine Noise Contribution: Inaudible					
Night	19/12/2024 04:15 18°C 2.0 m/s E	81	64	59	50	58	Insects 42-70 Road traffic 48-81 Birdsong 47 **Abel Coal Mine: Inaudible**
		Estimated Abel Coal Mine Noise Contribution: Inaudible					

Table 4 Location G, Buchanan Road, Buchanan

Period	Date/ Start time/ Weather	Primary Noise Descriptor (dBA re 20 μPa)					Description of Noise Emission, Typical Maximum Noise Levels (L_{Amax} – dBA)
		L_{Amax}	L_{A1}	L_{A10}	L_{A90}	L_{Aeq}	
Day	17/12/2024 13:04 29°C 3.4 m/s NE	78	76	75	69	73	Road traffic 42-55 Insects 70-78 **Abel Coal Mine: Inaudible**
		Estimated Abel Coal Mine Noise Contribution: Inaudible					
Evening	17/12/2024 20:28 21°C 3.3 m/s WSW	68	67	62	52	58	Insects 51-68 Road traffic 40-51 **Abel Coal Mine: Inaudible**
		Estimated Abel Coal Mine Noise Contribution: Inaudible					
Night	19/12/2024 05:47 18°C 1.4 m/s E	64	55	52	46	49	Birdsong 44-64 Road traffic 42-53 **Abel Coal Mine: Inaudible**
		Estimated Abel Coal Mine Noise Contribution: Inaudible					

Table 5 Location I, Magnetic Drive, Ashtonfield

Period	Date/ Start time/ Weather	Primary Noise Descriptor (dBA re 20 μPa)					Description of Noise Emission, Typical Maximum Noise Levels (L_{Amax} – dBA)
		L_{Amax}	L_{A1}	L_{A10}	L_{A90}	L_{Aeq}	
Day	17/12/2024 16:10 30°C 4.3m/s NE	77	74	69	65	68	Road traffic 77 Insects 64-69 **Abel Coal Mine Contribution: Inaudible**
		Estimated Abel Coal Mine Noise Contribution: Inaudible					
Evening	17/12/2024 21:17 20°C 1.7m/s N	73	64	51	43	51	Insects 41-44 Aeroplane 51 Road traffic 61-73 Wind in trees 55 **Abel Coal Mine Contribution: Inaudible**
		Estimated Abel Coal Mine Noise Contribution: Inaudible					
Night	19/12/2024 06:37 18°C 1.6m/s E	72	71	67	51	64	Insects 50-72 Birdsong 48-53 Road traffic 65-68 **Abel Coal Mine Contribution: Inaudible**
		Estimated Abel Coal Mine Noise Contribution: Inaudible					

Table 6 Location L, Tipperary Drive, Ashtonfield

Period	Date/ Start time/ Weather	Primary Noise Descriptor (dBA re 20 μPa)					Description of Noise Emission, Typical Maximum Noise Levels (L_{Amax} – dBA)
		L_{Amax}	L_{A1}	L_{A10}	L_{A90}	L_{Aeq}	
Day	17/12/2024 13:49 29°C 3.4 m/s NE	68	62	47	36	48	Road traffic 65-68 Urban hum 33-37 Birdsong 50 Insects 33 **Abel Coal Mine: Inaudible**
		Estimated Abel Coal Mine Noise Contribution: Inaudible					
Evening	17/12/2024 20:56 21°C 3.3 m/s WSW	76	67	61	48	58	Insects 47 Road traffic 76 Wind in trees 45-66 **Abel Coal Mine: Inaudible**
		Estimated Abel Coal Mine Noise Contribution: Inaudible					
Night	19/12/2024 06:15 18°C 1.6 m/s ESE	70	64	48	41	50	Birdsong 45-70 Road traffic 50-69 **Abel Coal Mine: Inaudible**
		Estimated Abel Coal Mine Noise Contribution: Inaudible					

Table 7 Location J, Parish Drive, Thornton

Period	Date/ Start time/ Weather	Primary Noise Descriptor (dBA re 20 μPa)					Description of Noise Emission, Typical Maximum Noise Levels (L_{Amax} – dBA)
		L_{Amax}	L_{A1}	L_{A10}	L_{A90}	L_{Aeq}	
Day	17/12/2024 12:36 28°C 3.2 m/s NE	72	69	61	57	60	Road traffic 43-52 Wind in trees 42-44 Insects 56-63 **Abel Coal Mine: Inaudible**
		Estimated Abel Coal Mine Noise Contribution: Inaudible					
Evening	17/12/2024 21:54 15°C 1.8 m/s WSW	68	62	56	49	53	Insects 38-42 Road traffic 33-49 Wind in trees 47-68 **Abel Coal Mine: Inaudible**
		Estimated Abel Coal Mine Noise Contribution: Inaudible					
Night	17/12/2024 22:09 20°C 1.6m/s WNW	61	58	55	49	52	Insects 46 Road traffic 33-42 Wind in trees 50-61 **Abel Coal Mine: Inaudible**
		Estimated Abel Coal Mine Noise Contribution: Inaudible					

4.2 Operator Attended Noise Monitoring Summary

4.2.1 Donaldson Mine

Donaldson Open Cut Mine has ceased production and all major earthworks on the site have been finalised. There were no operations onsite during the December 2024 noise monitoring period.

4.2.2 Abel Coal Mine

Abel mine was placed in Care & Maintenance on 28th April 2016 and there were no operations onsite, excluding that from the Bloomfield CHPP which operates under the Abel Coal Mine project consent conditions.

The Bloomfield CHPP and Abel noise emissions were inaudible during all operator attended noise surveys. Noise generated by local and distant traffic was a significant contributor to ambient noise levels at all monitored locations as well as neighbourhood noise and 'natural' noises such as birds, insects, animals, and wind related noise.

4.3 Compliance Assessment and Discussion of Results

4.3.1 Operations

Results of the operational compliance assessment are given in **Table 8.**

Table 8 Compliance Noise Assessment – Operations

Location	Estimated Abel Contribution $L_{Aeq(15min)}$ dBA			Consent Conditions $L_{Aeq(15min)}$ dBA			Compliance		
	Day	Eve	Night	Day	Eve	Night	Day	Eve	Night
D – Black Hill School, Black Hill	I/A[2]	I/A[2]	I/A[2]	35	35	35	Yes	Yes	Yes
F – Black Hill Road, Black Hill[1]	I/A[2]	I/A[2]	I/A[2]	35	35	35	Yes	Yes	Yes
G – Buchanan Road, Buchanan	I/A[2]	I/A[2]	I/A[2]	39	42	37	Yes	Yes	Yes
I – Magnetic Drive, Ashtonfield	I/A[2]	I/A[2]	I/A[2]	36	36	36	Yes	Yes	Yes
L – Tipperary Dr, Ashtonfield	I/A[2]	I/A[2]	I/A[2]	35	35	35	Yes	Yes	Yes
J – Parish Drive, Thornton	I/A[2]	I/A[2]	I/A[2]	35	35	35	Yes	Yes	Yes
Note 1: Mine-owned property				Note 2: I/A = Inaudible					

Results presented in **Table 8** indicate that compliance with the relevant consent conditions was achieved at all noise monitoring locations during all periods.

4.3.2 Sleep Disturbance

Results of the sleep disturbance compliance assessment are given in **Table 9**.

Table 9 Compliance Noise Assessment – Sleep Disturbance

Location	Estimated Abel Contribution $L_{A1(1minute)}$ dBA	Consent Conditions $L_{A1(1min)}$ dBA	Compliance
D – Black Hill School, Black Hill	I/A[2]	45	Yes
F – Black Hill Road, Black Hill[1]	I/A[2]	45	Yes
G – Buchanan Road, Buchanan	I/A[2]	45	Yes
I – Magnetic Drive, Ashtonfield	I/A[2]	46	Yes
L – Tipperary Dr, Ashtonfield	I/A[2]	46	Yes
J – Parish Drive, Thornton	I/A[2]	45	Yes
Note 1: Mine-owned property		Note 2: I/A = Inaudible	

Results presented in **Table 9** indicate that compliance with the sleep disturbance consent conditions was achieved at all noise monitoring locations during the night-time noise surveys.

5.0 Unattended Continuous Noise Monitoring

5.1 Results of Unattended Continuous Noise Monitoring

Unattended continuous noise monitoring was conducted between Thursday 7 November 2024 and to 24 December 2024 at each of the six monitoring locations given in **Table 10**.

Table 10 Noise Logger and Noise Monitoring Locations

Location	Noise Logger Serial Number	Date of Logging
D – Black Hill School, Black Hill	SVAN 957 98070	7/11/2024 to 16/11/2024
F – Black Hill Road, Black Hill	ARL EL-316 16-203-526	7/11/2024 to14/11/2024
G – Buchanan Road, Buchanan	SVAN 957 20664	17/12/2024 to 24/12/2024
I – Magnetic Drive, Ashtonfield	SVAN 957 23814	17/12/2024 to 24/12/2024
L – 65 Tipperary Dr, Ashtonfield	SVAN 957 27522	17/12/2024 to 24/12/2024
J – Parish Drive, Thornton	SVAN 957 20644	17/12/2024 to 24/12/2024

The unattended ambient noise logger data from each monitoring location are presented graphically on a daily basis and are attached as **Appendix D**. A summary of the results of the unattended continuous noise monitoring is given in **Table 11**.

The ambient noise level data quantifies the overall noise level at a given location independent of its source or character.

The measured ambient noise levels were divided into three periods representing day, evening and night as designated in the NSW Noise Policy for Industry (NPfI).

Precautions were taken to minimise influences from extraneous noise sources (eg optimum placement of the loggers away from creeks, trees, houses, etc), however, not all these sources or their effects can be eliminated. This is particularly the case during the warmer times of year when noise from insects, frogs, birds and other animals can become quite prevalent.

Weather data for the subject area during the noise monitoring period was provided by Bloomfield Colliery. Noise data during periods of any rainfall and/or wind speeds in excess of 5 m/s were discarded in accordance with NPfI weather affected data exclusion methodology.

Table 11 Unattended Continuous Noise Monitoring Ambient Noise Levels

Location	Period	L_{A1}	L_{A10}	L_{A90}	L_{Aeq}
D – Black Hill School, Black Hill	Day	66	55	42	56
	Evening	60	52	39	54
	Night	54	49	34	50
F – Black Hill Road, Black Hill	Day	57	50	39	48
	Evening	54	46	36	56
	Night	52	45	31	46
G – Buchanan Road, Buchanan	Day	80	78	67	76
	Evening	68	64	40	71
	Night	47	43	30	67
I – Magnetic Drive, Ashtonfield	Day	72	67	49	68
	Evening	66	50	39	67
	Night	53	46	35	64
L – 65 Tipperary Dr, Ashtonfield	Day	62	52	42	62
	Evening	60	51	35	52
	Night	48	36	27	47
J – Parish Drive, Thornton	Day	78	74	53	73
	Evening	59	55	42	72
	Night	48	44	32	64

5.2 Long term Unattended Continuous Monitoring Summary

5.2.1 Ambient L_{A90} Noise Levels

The long term ambient L_{A90} noise levels collected from each monitoring location are presented graphically in **Figure 1**, **Figure 2** and **Figure 3** for the daytime, evening and night-time periods respectively.

Figure 1 Long Term Daytime L_{A90} Noise Levels

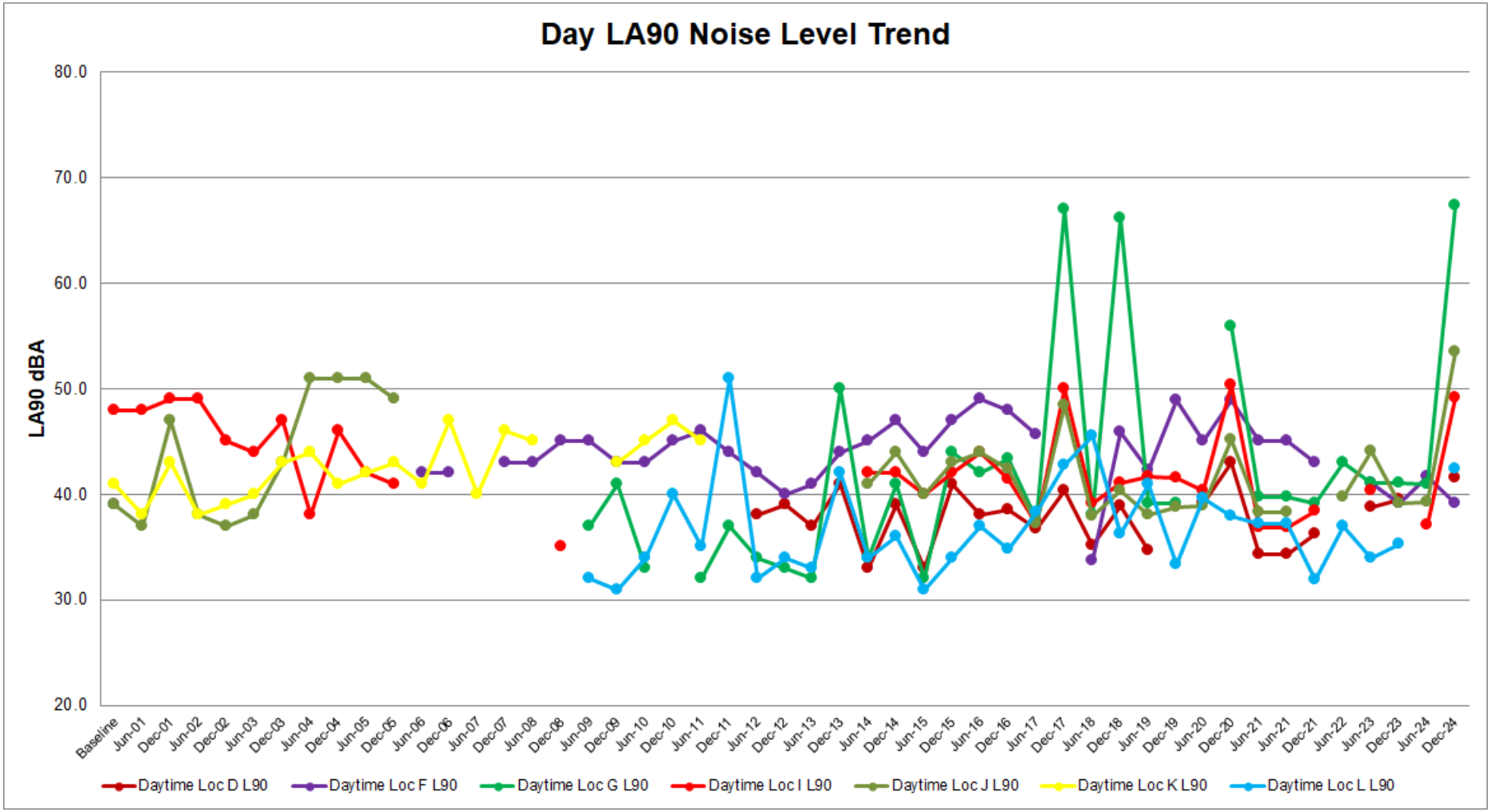


Figure 2 Long Term Evening L_{A90} Noise Levels

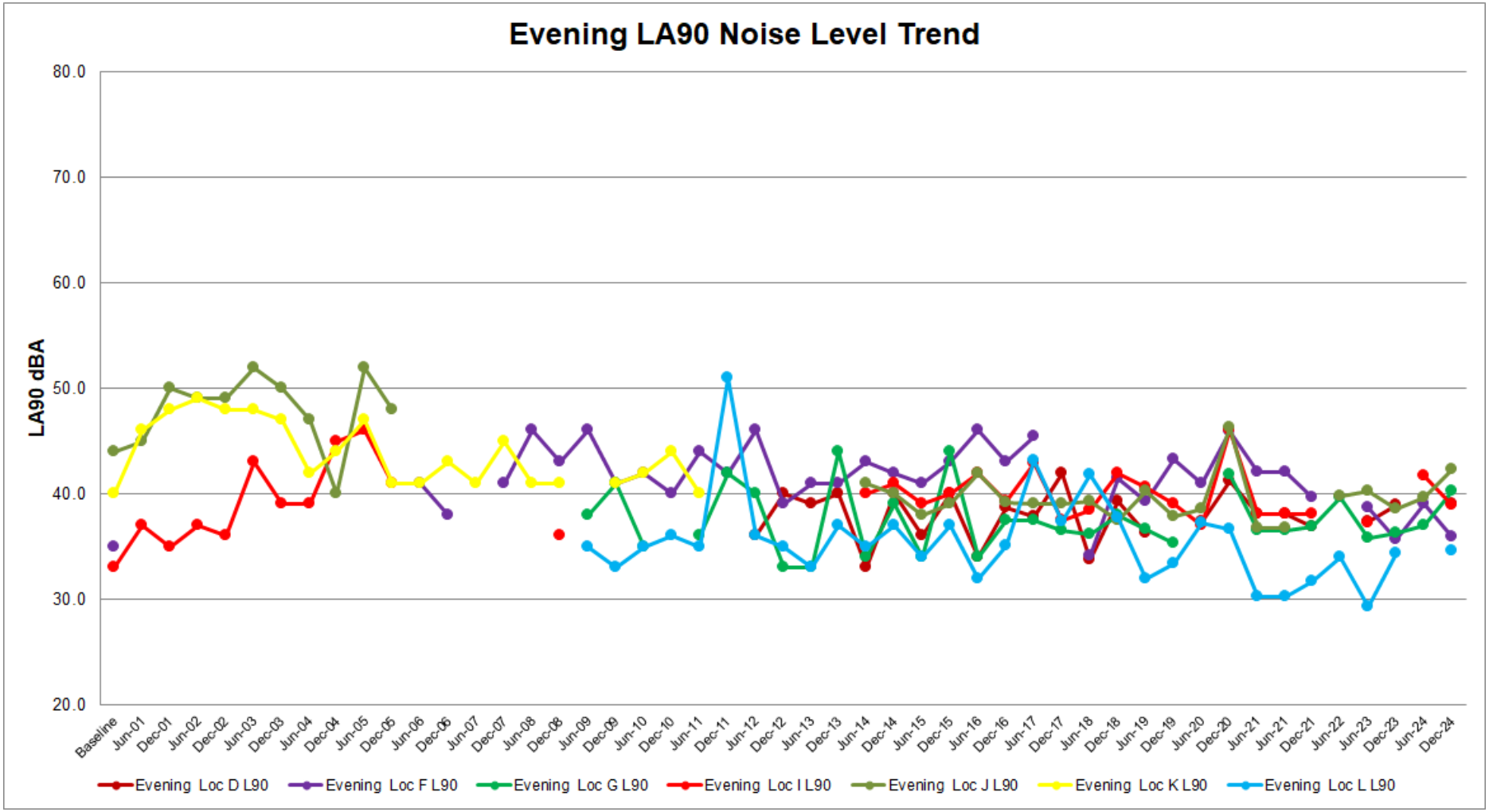
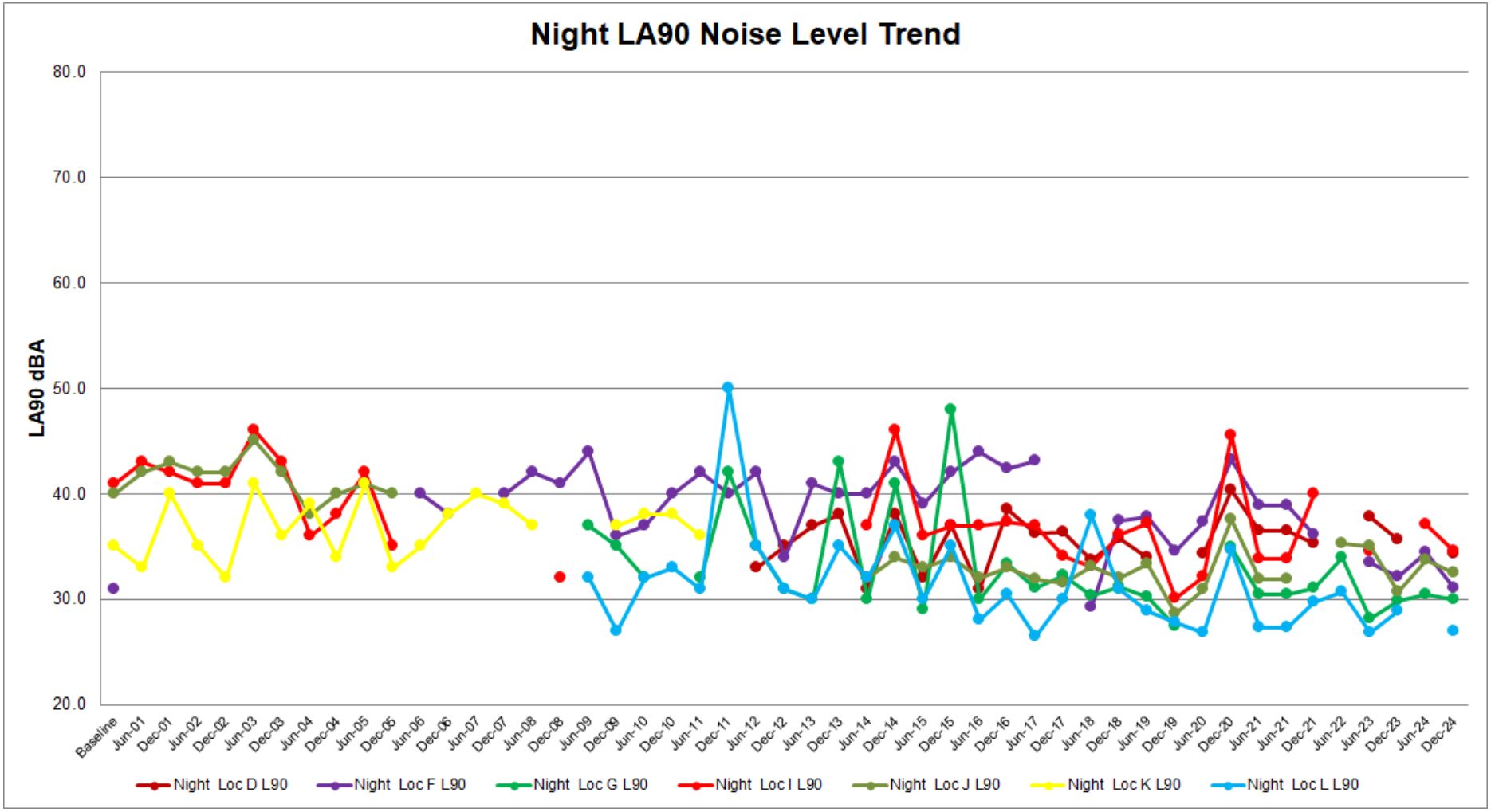


Figure 3 Long Term Night-time L_{A90} Noise Levels



5.2.1.1 Baseline

The summary of results in **Table 12** shows the ambient L_{A90} noise levels recorded for the current monitoring period compared to the levels recorded during the baseline monitoring process (ie. prior to commencement of mining operation at Donaldson).

Table 12 L_{A90} Results Comparison – Baseline

Monitoring Location	Period[1]	Long term Night-time L_{A90} Noise Levels		
		Baseline	December 2024	Difference dB[3]
D – Black Hill School, Black Hill	Day	N/A[2]	42	N/A[2]
	Evening	N/A[2]	39	N/A[2]
	Night	N/A[2]	34	N/A[2]
F – Black Hill Road, Black Hill	Day	39	39	0
	Evening	35	36	1
	Night	31	31	0
G – Buchanan Road, Buchanan	Day	N/A[2]	67	N/A[2]
	Evening	N/A[2]	40	N/A[2]
	Night	N/A[2]	30	N/A[2]
I – Magnetic Drive, Ashtonfield	Day	48	49	1
	Evening	33	39	6
	Night	41	35	-6
L – Tipperary Dr, Ashtonfield	Day	N/A[2]	42	N/A[2]
	Evening	N/A[2]	35	N/A[2]
	Night	N/A[2]	27	N/A[2]
J – Parish Drive, Thornton	Day	39	53	14
	Evening	44	42	-2
	Night	40	33	-7

Note 1: Periods are as detailed the NPfI and are Daytime - 7.00 am to 6.00 pm Monday to Saturday, 8.00 am to 6.00 pm Sunday; Evening - 6.00 pm 10.00 pm; Night - 10.00 pm to 7.00 am pm Monday to Saturday, 10.00 pm to 8.00 am Sunday.

Note 2: No data was available, therefore no comparisons can be made.

Note 3: Rounded to the nearest whole dB.

5.2.1.2 Previous Half-year

Table 13 presents the ambient L_{A90} noise levels recorded for the current monitoring period compared to those measured during the previous monitoring period.

Table 13 L_{A90} Results Comparison – Previous Half-year

Monitoring Location	Period[1]	Long term Night-time L_{A90} Noise Levels		
		June 2024	December 2024	Difference dB[3]
D – Black Hill School, Black Hill	Day	N/A[2]	42	N/A[2]
	Evening	N/A[2]	39	N/A[2]
	Night	N/A[2]	34	N/A[2]
F – Black Hill Road, Black Hill	Day	42	39	-3
	Evening	39	36	-3
	Night	34	31	-3
G – Buchanan Road, Buchanan	Day	41	67	26
	Evening	37	40	3
	Night	30	30	0
I – Magnetic Drive, Ashtonfield	Day	37	49	12
	Evening	42	39	-3
	Night	37	35	-3
L – Tipperary Dr, Ashtonfield	Day	N/A[2]	42	N/A[2]
	Evening	N/A[2]	35	N/A[2]
	Night	N/A[2]	27	N/A[2]
J – Parish Drive, Thornton	Day	39	53	14
	Evening	40	42	2
	Night	34	33	-1

Note 1: Periods are as detailed the NPfI and are Daytime - 7.00 am to 6.00 pm Monday to Saturday, 8.00 am to 6.00 pm Sunday; Evening - 6.00 pm 10.00 pm; Night - 10.00 pm to 7.00 am pm Monday to Saturday, 10.00 pm to 8.00 am Sunday.

Note 2: No data was available, therefore no comparisons can be made.

Note 3: Rounded to the nearest whole dB.

5.2.1.3 Coinciding Period last Year

Table 14 presents the ambient L_{A90} noise levels recorded for the current monitoring period compared to those measured during the coinciding monitoring period last year.

Table 14 L_{A90} Results Comparison – Coinciding Period Last Year

Monitoring Location	Period[1]	Long term Night-time L_{A90} Noise Levels		
		December 2023	December 2024	Difference dB[3]
D – Black Hill School, Black Hill	Day	40	42	2
	Evening	39	39	0
	Night	36	34	-2
F – Black Hill Road, Black Hill	Day	39	39	0
	Evening	36	36	0
	Night	32	31	-1
G – Buchanan Road, Buchanan	Day	41	67	26
	Evening	36	40	4
	Night	30	30	0
I – Magnetic Drive, Ashtonfield	Day	N/A[2]	49	N/A[2]
	Evening	N/A[2]	39	N/A[2]
	Night	N/A[2]	35	N/A[2]
L – Tipperary Dr, Ashtonfield	Day	35	42	7
	Evening	34	35	1
	Night	29	27	-2
J – Parish Drive, Thornton	Day	39	53	14
	Evening	39	42	3
	Night	31	33	2

Note 1: Periods are as detailed the NPfI and are Daytime - 7.00 am to 6.00 pm Monday to Saturday, 8.00 am to 6.00 pm Sunday; Evening - 6.00 pm 10.00 pm; Night - 10.00 pm to 7.00 am pm Monday to Saturday, 10.00 pm to 8.00 am Sunday.

Note 2: No data was available, therefore no comparisons can be made.

Note 3: Rounded to the nearest whole dB.

5.2.2 Ambient L_{A10} Noise Comparison

The long term ambient L_{A10} noise levels collected from each monitoring location are presented graphically in **Figure 4**, **Figure 5** and **Figure 6** for the daytime, evening and night-time respectively.

Figure 4 Long Term Daytime L_{A10} Noise Levels

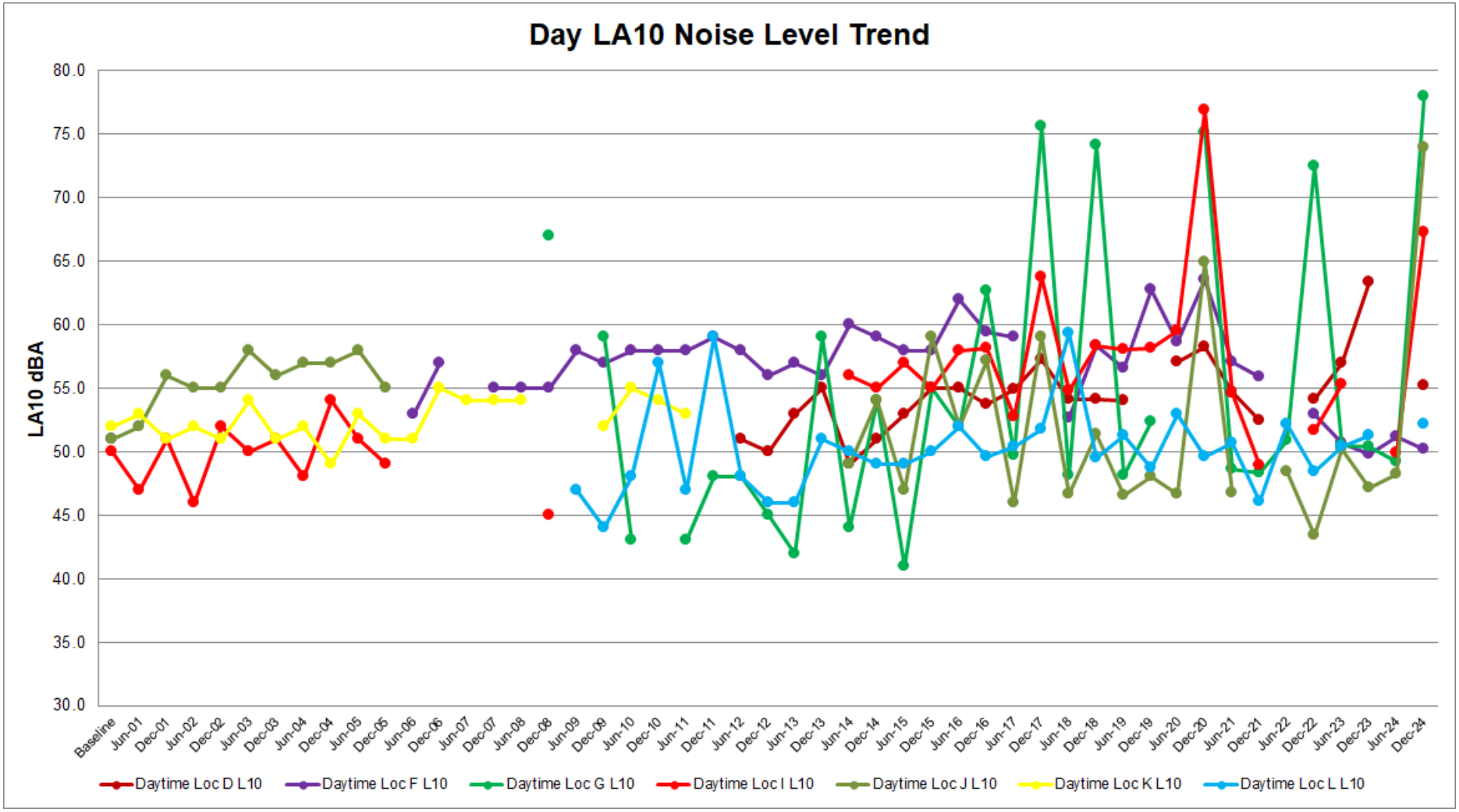


Figure 5 Long term Evening L_{A10} Noise Levels

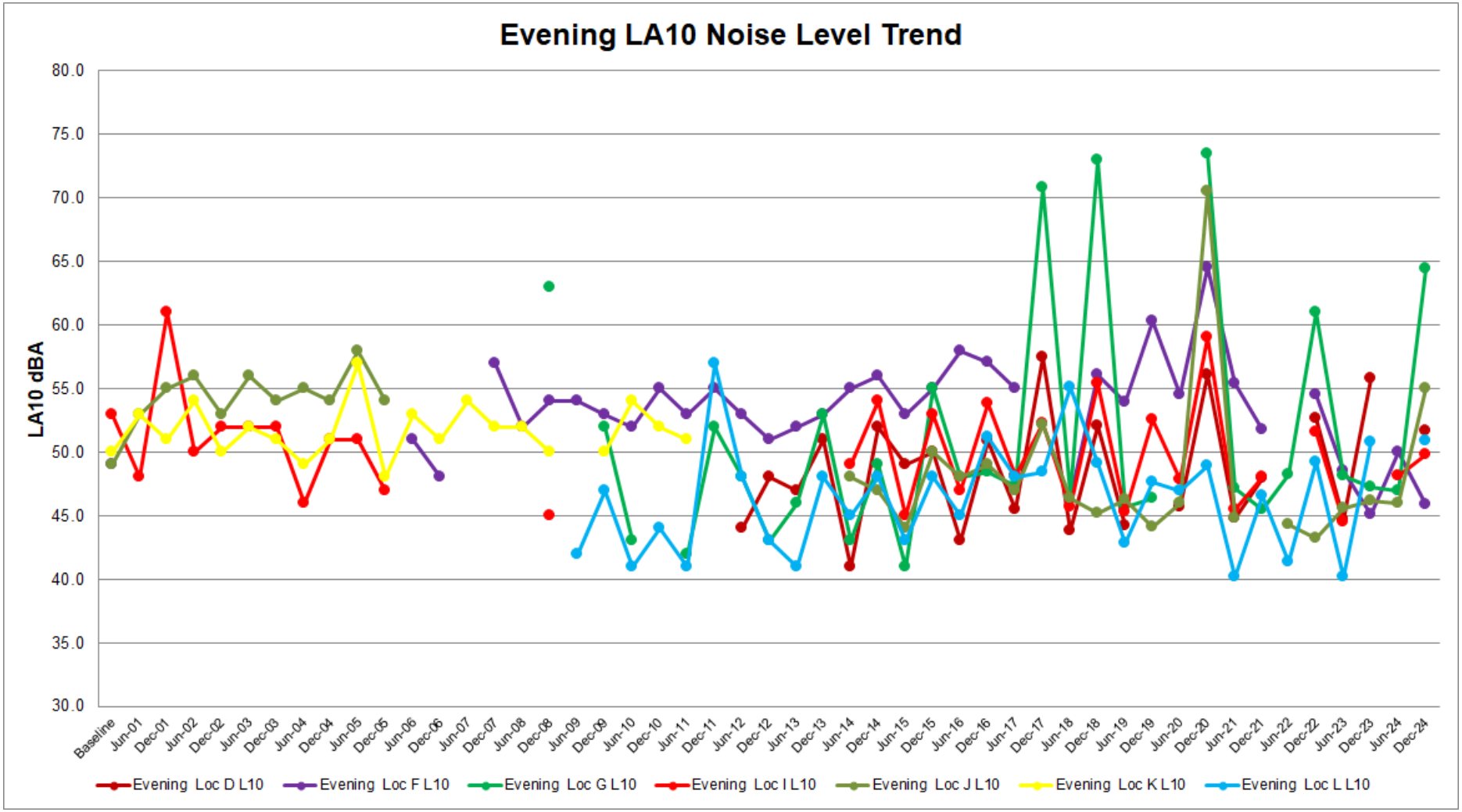
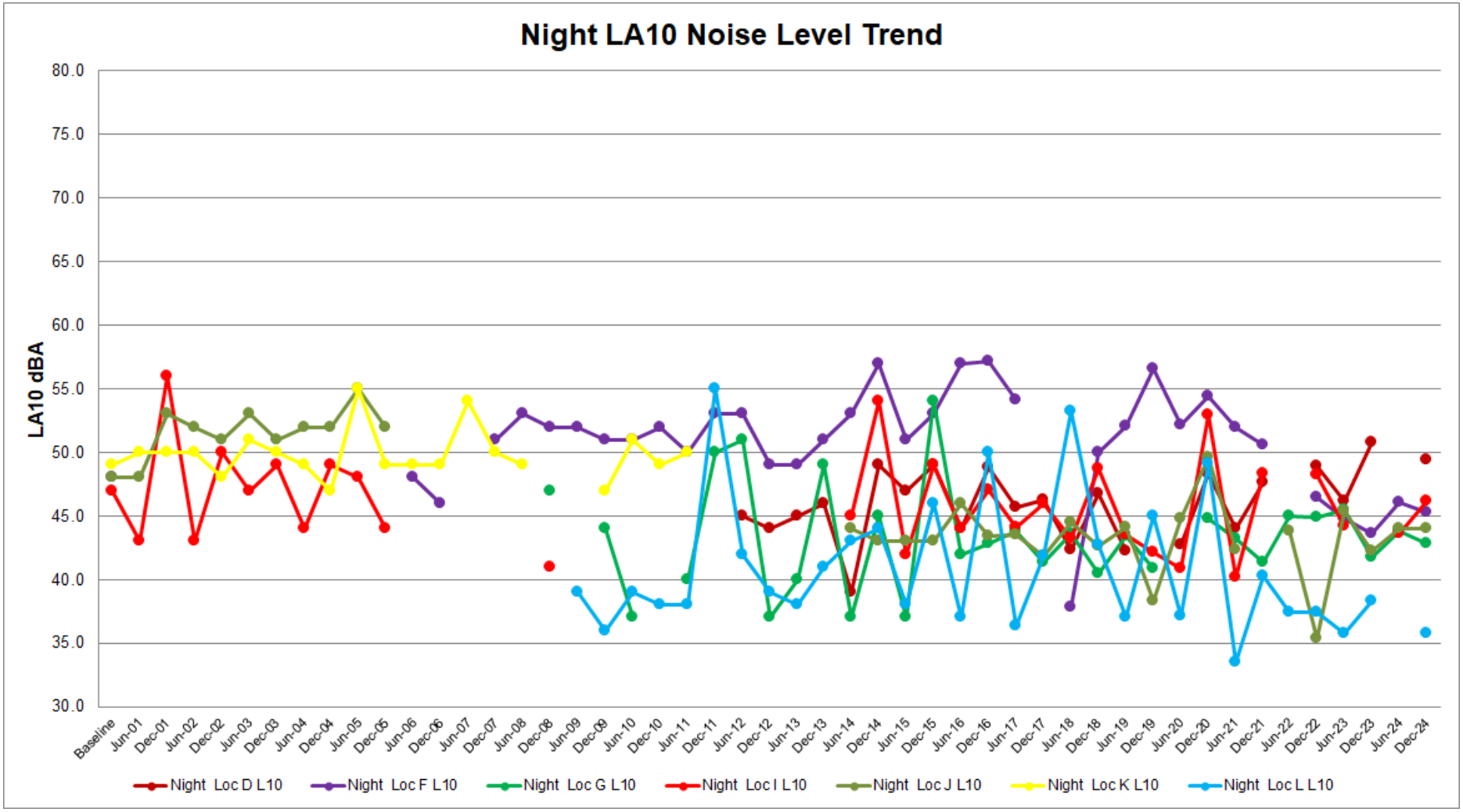


Figure 6 Long term Night L_{A10} Noise Levels



5.2.2.1 Baseline

Table 15 presents the ambient L_{A10} noise levels recorded for the current monitoring period compared to the levels recorded during the baseline monitoring period.

Table 15 L_{A10} Results Comparison – Baseline

Monitoring Location	Period[1]	Long term Night-time L_{A10} Noise Levels		
		Baseline	December 2024	Difference dB[3]
D – Black Hill School, Black Hill	Day	N/A[2]	55	N/A[2]
	Evening	N/A[2]	52	N/A[2]
	Night	N/A[2]	49	N/A[2]
F – Black Hill Road, Black Hill	Day	51	50	-1
	Evening	49	46	-3
	Night	48	45	-3
G – Buchanan Road, Buchanan	Day	N/A[2]	78	N/A[2]
	Evening	N/A[2]	64	N/A[2]
	Night	N/A[2]	43	N/A[2]
I – Magnetic Drive, Ashtonfield	Day	50	67	17
	Evening	53	50	-3
	Night	47	46	-1
L – Tipperary Dr, Ashtonfield	Day	N/A[2]	52	N/A[2]
	Evening	N/A[2]	51	N/A[2]
	Night	N/A[2]	36	N/A[2]
J – Parish Drive, Thornton	Day	51	74	23
	Evening	49	55	6
	Night	48	44	-4

Note 1: Periods are as detailed the NPfI and are Daytime - 7.00 am to 6.00 pm Monday to Saturday, 8.00 am to 6.00 pm Sunday; Evening - 6.00 pm 10.00 pm; Night - 10.00 pm to 7.00 am pm Monday to Saturday, 10.00 pm to 8.00 am Sunday.

Note 2: No data was available, therefore no comparisons can be made.

Note 3: Rounded to the nearest whole dB.

5.2.2.2 Previous Half-year

Table 16 presents the ambient L_{A10} noise levels recorded for the current monitoring period compared to those measured during the previous monitoring period.

Table 16 L_{A10} Results Comparison – Previous Half-year

Monitoring Location	Period[1]	Long term Night-time L_{A10} Noise Levels		
		June/July 2024	December 2024	Difference dB[3]
D – Black Hill School, Black Hill	Day	N/A[2]	55	N/A[2]
	Evening	N/A[2]	52	N/A[2]
	Night	N/A[2]	49	N/A[2]
F – Black Hill Road, Black Hill	Day	51	50	-1
	Evening	50	46	-4
	Night	46	45	-1
G – Buchanan Road, Buchanan	Day	49	78	29
	Evening	47	64	17
	Night	44	43	-1
I – Magnetic Drive, Ashtonfield	Day	50	67	17
	Evening	48	50	2
	Night	44	46	2
L – Tipperary Dr, Ashtonfield	Day	N/A[2]	52	N/A[2]
	Evening	N/A[2]	51	N/A[2]
	Night	N/A[2]	36	N/A[2]
J – Parish Drive, Thornton	Day	48	74	26
	Evening	46	55	9
	Night	44	44	0

Note 1: Periods are as detailed the NPfI and are Daytime - 7.00 am to 6.00 pm Monday to Saturday, 8.00 am to 6.00 pm Sunday; Evening - 6.00 pm 10.00 pm; Night - 10.00 pm to 7.00 am pm Monday to Saturday, 10.00 pm to 8.00 am Sunday.

Note 2: No data was available, therefore no comparisons can be made.

Note 3: Rounded to the nearest whole dB.

5.2.2.3 Coinciding Period Last Year

Table 17 presents the ambient L_{A10} noise levels recorded for the current monitoring period compared to those measured during the coinciding monitoring period last year.

Table 17 L_{A10} Result Comparison – Coinciding Period Last Year

Monitoring Location	Period[1]	Long term Night-time L_{A10} Noise Levels		
		December 2023	December 2024	Difference dB[3]
D – Black Hill School, Black Hill	Day	63	55	-8
	Evening	56	52	-4
	Night	51	49	-2
F – Black Hill Road, Black Hill	Day	50	50	1
	Evening	45	46	1
	Night	44	45	1
G – Buchanan Road, Buchanan	Day	50	78	28
	Evening	47	64	17
	Night	42	43	1
I – Magnetic Drive, Ashtonfield	Day	N/A[2]	67	N/A[2]
	Evening	N/A[2]	50	N/A[2]
	Night	N/A[2]	46	N/A[2]
L – Tipperary Dr, Ashtonfield	Day	51	52	1
	Evening	51	51	0
	Night	38	36	-2
J – Parish Drive, Thornton	Day	63	55	-8
	Evening	56	52	-4
	Night	51	49	-2

Note 1: Periods are as detailed the NPfI and are Daytime - 7.00 am to 6.00 pm Monday to Saturday, 8.00 am to 6.00 pm Sunday; Evening - 6.00 pm 10.00 pm; Night - 10.00 pm to 7.00 am pm Monday to Saturday, 10.00 pm to 8.00 am Sunday.

Note 2: No data was available, therefore no comparisons can be made.

Note 3: Rounded to the nearest whole dB.

5.3 Rail Noise Monitoring

In order to determine compliance with the rail noise criteria, a noise logger was positioned at Location J between Tuesday 17 December 2024 and Tuesday 24 December 2024.

No rail movements occurred over this period and as such rail noise levels from the Bloomfield Rail Spur are considered to be in compliance with the Abel Mine Project Approval during the noise monitoring period.

6.0 Conclusion

SLR was engaged by Donaldson Coal Pty Ltd to conduct half-yearly noise monitoring surveys for Donaldson Coal Mine and Abel Coal Mine in accordance with the NMP, dated 3 June 2019.

Abel mine was placed in Care & Maintenance on 28th April 2016 and there were no operations onsite, excluding that from the Bloomfield CHPP which operates under the Abel Coal Mine project consent conditions.

Operator-attended and unattended noise measurements were conducted for the December 2024 half at six focus locations surrounding the mine.

Results of the attended noise monitoring have indicated that compliance with the Abel Mine *Project Approval* was achieved at all locations.

A comparison of ambient L_{A10} and L_{A90} noise levels recorded during the current monitoring period (December 2024), the baseline monitoring period, the last monitoring period (June/July 2024), and the coinciding monitoring period from last year (December 2023) has been conducted.

Rail noise levels from the Bloomfield Rail Spur were considered to be in compliance with the Abel Mine Project Approval during the noise monitoring period.

Appendix A Acoustic Terminology

Donaldson and Abel Coal Mines

Bi-Annual Noise Monitoring - Half-year Ending December 2024

Donaldson Coal Pty Ltd

SLR Project No.: 630.01053.20000

14 March 2025

1. Sound Level or Noise Level

The terms ‘sound’ and ‘noise’ are almost interchangeable, except that ‘noise’ often refers to unwanted sound.

Sound (or noise) consists of minute fluctuations in atmospheric pressure. the human ear responds to changes in sound pressure over a very wide range with the loudest sound pressure to which the human ear can respond being ten million times greater than the softest. the decibel (abbreviated as dB) scale reduces this ratio to a more manageable size by the use of logarithms.

The symbols SPL, L or LP are commonly used to represent Sound Pressure Level. the symbol LA represents A-weighted Sound Pressure Level. the standard reference unit for Sound Pressure Levels expressed in decibels is 2 x 10^{-5} Pa.

2. ‘A’ Weighted Sound Pressure Level

The overall level of a sound is usually expressed in terms of dBA, which is measured using a sound level meter with an ‘A-weighting’ filter. This is an electronic filter having a frequency response corresponding approximately to that of human hearing.

People’s hearing is most sensitive to sounds at mid frequencies (500 Hz to 4,000 Hz), and less sensitive at lower and higher frequencies. Different sources having the same dBA level generally sound about equally loud.

A change of 1 dB or 2 dB in the level of a sound is difficult for most people to detect, whilst a 3 dB to 5 dB change corresponds to a small but noticeable change in loudness. A 10 dB change corresponds to an approximate doubling or halving in loudness. the table below lists examples of typical noise levels.

Sound Pressure Level (dBA)	Typical Source	Subjective Evaluation
130	Threshold of pain	Intolerable
120	Heavy rock concert	Extremely noisy
110	Grinding on steel	
100	Loud car horn at 3 m	Very noisy
90	Construction site with pneumatic hammering	
80	Kerbside of busy street	Loud
70	Loud radio or television	
60	Department store	Moderate to quiet
50	General Office	
40	Inside private Office	Quiet to very quiet
30	Inside bedroom	
20	Recording studio	Almost silent

Other weightings (eg B, C and D) are less commonly used than A-weighting. Sound Levels measured without any weighting are referred to as ‘linear’, and the units are expressed as dB(lin) or dB.

3. Sound Power Level

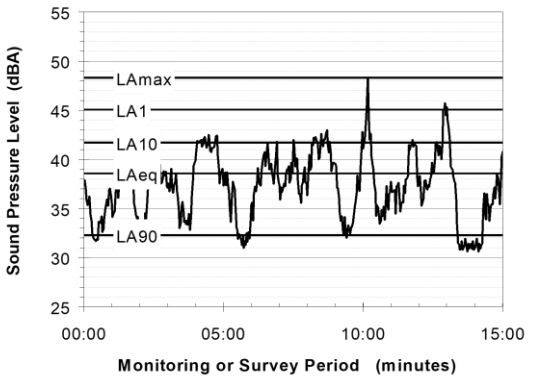
The Sound Power of a source is the rate at which it emits acoustic energy. As with Sound Pressure Levels, Sound Power Levels are expressed in decibel units (dB or dBA), but may be identified by the symbols SWL or LW, or by the reference unit 10^{-12} W.

The relationship between Sound Power and Sound Pressure is similar to the effect of an electric radiator, which is characterised by a power rating but has an effect on the surrounding environment that can be measured in terms of a different parameter, temperature.

4. Statistical Noise Levels

Sounds that vary in level over time, such as road traffic noise and most community noise, are commonly described in terms of the statistical exceedance levels LAN, where LAN is the A-weighted sound pressure level exceeded for N% of a given measurement period. for example, the LA1 is the noise level exceeded for 1% of the time, LA10 the noise exceeded for 10% of the time, and so on.

The following figure presents a hypothetical 15 minute noise survey, illustrating various common statistical indices of interest.



Of particular relevance, are:

L_{A1} the noise level exceeded for 1% of the 15 minute interval.

L_{A10} the noise level exceeded for 10% of the 15 minute interval. This is commonly referred to as the average maximum noise level.

L_{A90} the noise level exceeded for 90% of the sample period. This noise level is described as the average minimum background sound level (in the absence of the source under consideration), or simply the background level.

L_{Aeq} the A-weighted equivalent noise level (basically, the average noise level). It is defined as the steady sound level that contains the same amount of acoustical energy as the corresponding time-varying sound.

5. Frequency Analysis

Frequency analysis is the process used to examine the tones (or frequency components) which make up the overall noise or vibration signal.

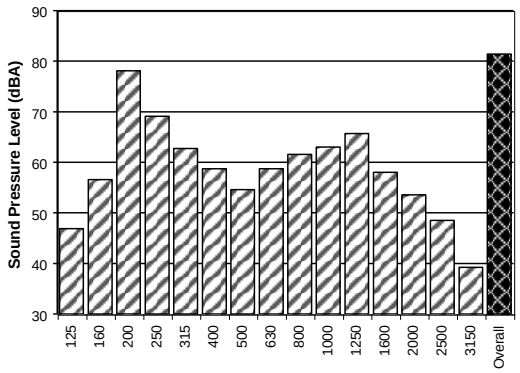
the units for frequency are Hertz (Hz), which represent the number of cycles per second.

Frequency analysis can be in:

- Octave bands (where the centre frequency and width of each band is double the previous band)
- 1/3 octave bands (three bands in each octave band)

Narrow band (where the spectrum is divided into 400 or more bands of equal width)

The following figure shows a 1/3 octave band frequency analysis where the noise is dominated by the 200 Hz band. Note that the indicated level of each individual band is less than the overall level, which is the logarithmic sum of the bands.



6. Annoying Noise (Special Audible Characteristics)

A louder noise will generally be more annoying to nearby receivers than a quieter one. However, noise is often also found to be more annoying and result in larger impacts where the following characteristics are apparent:

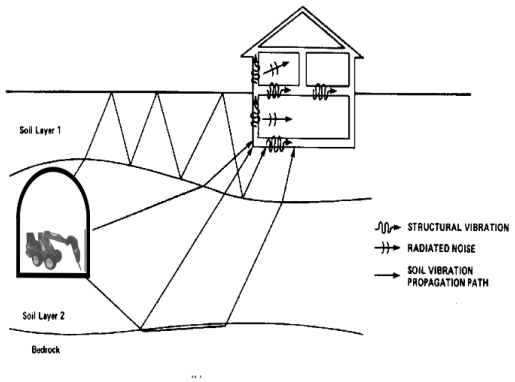
- **Tonality** - tonal noise contains one or more prominent tones (ie differences in distinct frequency components between adjoining octave or 1/3 octave bands), and is normally regarded as more annoying than 'broad band' noise.
- **Impulsiveness** - an impulsive noise is characterised by one or more short sharp peaks in the time domain, such as occurs during hammering.
- **Intermittency** - intermittent noise varies in level with the change in level being clearly audible. An example would include mechanical plant cycling on and Off.
- **Low Frequency Noise** - low frequency noise contains significant energy in the lower frequency bands, which are typically taken to be in the 10 to 160 Hz region.

7. Ground-borne Noise, Structure-borne Noise and Regenerated Noise

Noise that propagates through a structure as vibration and is radiated by vibrating wall and floor surfaces is termed 'structure-borne noise', 'ground-borne noise' or 'regenerated noise'. This noise originates as vibration and propagates between the source and receiver through the ground and/or building structural elements, rather than through the air.

Typical sources of ground-borne or structure-borne noise include tunnelling works, underground railways, excavation plant (eg rockbreakers), and building services plant (eg fans, compressors and generators).

The following figure presents an example of the various paths by which vibration and ground-borne noise may be transmitted between a source and receiver for construction activities occurring within a tunnel.



The term 'regenerated noise' is also used in other instances where energy is converted to noise away from the primary source. One example would be a fan blowing air through a discharge grill. the fan is the energy source and primary noise source. Additional noise may be created by the aerodynamic effect of the discharge grill in the airstream. This secondary noise is referred to as regenerated noise.

Appendix B Calibration Certificates

Donaldson and Abel Coal Mines

Bi-Annual Noise Monitoring – Half-year Ending December 2024

Donaldson Coal Pty Ltd

SLR Project No.: 630.01053.20000

14 March 2025

CERTIFICATE OF CALIBRATION

CERTIFICATE NO: SLM51406

EQUIPMENT TESTED: Sound Level Meter

Manufacturer:	B&K		
Type No:	B&K 2250	**Serial No:**	3003389
Mic. Type:	B&K 4950	**Serial No:**	2913816
Pre-Amp. Type:	ZC0032	**Serial No:**	20519
Filter Type:	1/3 Octave	**Test No:**	F051414

Owner: SLR Consulting Australia Pty Ltd
120 High Street
North Sydney, NSW 2060

Tests Performed: IEC 61672-3:2013 & IEC 61260-3:2016

Comments: All Test passed for Class 1. (See overleaf for details)

CONDITIONS OF TEST:

Ambient Pressure	1006	hPa ±1 hPa	**Date of Receipt :**	01/10/2024
Temperature	22	°C ±1° C	**Date of Calibration :**	04/10/2024
Relative Humidity	48	% ±5%	**Date of Issue :**	04/10/2024

Acu-Vib Test Procedure: AVP10 (SLM) & AVP06 (Filters)

CHECKED BY: .....

AUTHORISED SIGNATURE: .....

Hein Soe

Accredited for compliance with ISO/IEC 17025 - Calibration

Results of the tests, calibration and/or measurements included in this document are traceable to SI units through reference equipment that has been calibrated by the Australian National Measurement Institute or other NATA accredited laboratories demonstrating traceability.

This report applies only to the item identified in the report and may not be reproduced in part.

The uncertainties quoted are calculated in accordance with the methods of the ISO Guide to the Uncertainty of Measurement and quoted at a coverage factor of 2 with a confidence interval of approximately 95%.

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NATA
WORLD RECOGNISED
ACCREDITATION
Accredited Laboratory
No. 9262
Acoustic and Vibration
Measurements

The performance characteristics listed below were tested. The tests are based on the relevant clauses of IEC 61672-3:2013

Tests Performed:	*Clause*	*Result*
Absolute Calibration	10	Pass
Acoustical Frequency Weighting	12	Pass
Self-Generated Noise	11.1	Observed
Electrical Noise	11.2	Observed
Long Term Stability	15	Pass
Electrical Frequency Weightings	13	Pass
Frequency and Time Weightings	14	Pass
Reference Level Linearity	16	Pass
Range Level Linearity	17	Not Applicable
Toneburst	18	Pass
Peak C Sound Level	19	Pass
Overload Indicator	20	Pass
High Level Stability	21	Pass

Statement of Compliance: The sound level meter submitted for testing has successfully completed the class 1 periodic tests of IEC 61672-3:2013, for the environmental conditions under which the tests were performed. As public evidence was available, from an independent organization responsible for approving the results of pattern evaluation tests performed in accordance with IEC 61672-2:2013, to demonstrate that the model of sound level meter fully conformed to the requirements in IEC 61672-1:2013, the sound level meter submitted for testing conforms to the class 1 requirements of IEC61672-1:2013.

This Sound Level Meter included an Octave Filter Set. Tests were based on IEC 61260-3:2016 and were conducted to test the following performance characteristics:

Tests performed	*Clause*	*Result*
Test of relative attenuation at filter midband frequency	10	Pass
Linear operating range including range control if fitted	11	N/A
Test of lower limit of linear operating range	12	Pass
Measurement of relative attenuation (filter shape)	13	Pass

The filter submitted for testing successfully completed the tests listed above for the environmental conditions under which the tests were performed. If the filter type has successfully completed the pattern-evaluation tests of IEC 61260-2 then it can be stated that the filter set continues to conform to the specifications of IEC 61260-1.

A full technical report is available on request.

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Sound Level Meter
AS 1259-1:1990 - AS 1259-2:1990
Calibration Certificate

Calibration Number C24306

Client Details SLR Consulting Australia Pty Ltd
10 Kings Road
New Lambton NSW 2305

Equipment Tested/ Model Number : ARL EL-316
Instrument Serial Number : 16-203-526
Microphone Serial Number : 322264
Pre-amplifier Serial Number : 28144

Atmospheric Conditions
Ambient Temperature : 21.5 °C
Relative Humidity : 52.8 %
Barometric Pressure : 101.19 kPa

Calibration Technician : Peter Elters
Secondary Check: Rhys Gravelle
Calibration Date : 29 Apr 2024
Report Issue Date : 30 Apr 2024

Approved Signatory : Ken Williams

Clause and Characteristic Tested	Result	Clause and Characteristic Tested	Result
10.2.2: Absolute sensitivity	*Pass*	10.3.4: Inherent system noise level	*Pass*
10.2.3: Frequency weighting	*Pass*	10.4.2: Time weighting characteristic F and S	*Pass*
10.3.2: Overload indications	*Pass*	10.4.3: Time weighting characteristic I	*Pass*
10.3.3: Accuracy of level range control	*Pass*	10.4.5: R.M.S performance	*Pass*
8.9: Detector-indicator linearity	*Pass*	9.3.2: Time averaging	*Pass*
8.10: Differential level linearity	*Pass*	9.3.5: Overload indication	*Pass*

Uncertainties of Measurement -

Acoustic Tests		Environmental Conditions	
31.5 Hz to 8kHz	*±0.14 dB*	*Temperature*	*±0.1 °C*
12.5kHz	*±0.17 dB*	*Relative Humidity*	*±1.9 %*
16kHz	*±0.25 dB*	*Barometric Pressure*	*±0.11 kPa*
Electrical Tests			
31.5 Hz to 20 kHz	*±0.1 dB*		

All uncertainties are derived at the 95% confidence level with a coverage factor of 2.

The sound level meter under test has been shown to conform to the type 1 requirements for periodic testing as described in AS 1259.1:1990 and AS 1259.2:1990 for the tests stated above.

NATA WORLD RECOGNISED ACCREDITATION

This calibration certificate is to be read in conjunction with the calibration test report.

Acoustic Research Labs Pty Ltd is NATA Accredited Laboratory Number 14172.
Accredited for compliance with ISO/IEC 17025 - Calibration.

The results of the tests, calibrations and/or measurements included in this document are traceable to SI units.

NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration and inspection reports.

Acoustic Research Labs Pty Ltd
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Sound Level Meter
AS 1259-1:1990 - AS 1259-2:1990
Calibration Test Report

Calibration Number C24306

Client Details SLR Consulting Australia Pty Ltd
10 Kings Road
New Lambton NSW 2305

Equipment Tested/ Model Number : ARL EL-316
Instrument Serial Number : 16-203-526
Microphone Serial Number : 322264
Pre-amplifier Serial Number : 28144

Atmospheric Conditions
Ambient Temperature : 21.5 °C
Relative Humidity : 52.8 %
Barometric Pressure : 101.19 kPa

Calibration Technician : Peter Elters
Calibration Date : 29 Apr 2024
Secondary Check: Rhys Gravelle
Report Issue Date : 30 Apr 2024

Approved Signatory : Ken Williams

Clause and Characteristic Tested	Result	Clause and Characteristic Tested	Result
10.2.2: Absolute sensitivity	*Pass*	10.3.4: Inherent system noise level	*Pass*
10.2.3: Frequency weighting	*Pass*	10.4.2: Time weighting characteristic F and S	*Pass*
10.3.2: Overload indications	*Pass*	10.4.3: Time weighting characteristic I	*Pass*
10.3.3: Accuracy of level range control	*Pass*	10.4.5: R.M.S performance	*Pass*
8.9: Detector-indicator linearity	*Pass*	9.3.2: Time averaging	*Pass*
8.10: Differential level linearity	*Pass*	9.3.5: Overload indication	*Pass*

Uncertainties of Measurement -

Acoustic Tests		Environmental Conditions	
31.5 Hz to 8kHz	*±0.14 dB*	*Temperature*	*±0.1 °C*
12.5kHz	*±0.17 dB*	*Relative Humidity*	*±1.9 %*
16kHz	*±0.25 dB*	*Barometric Pressure*	*±0.11 kPa*
Electrical Tests			
31.5 Hz to 20 kHz	*±0.1 dB*		

All uncertainties are derived at the 95% confidence level with a coverage factor of 2.

The sound level meter under test has been shown to conform to the type 1 requirements for periodic testing as described in AS 1259.1:1990 and AS 1259.2:1990 for the tests stated above.

CERTIFICATE OF CALIBRATION

CERTIFICATE NO: SLM36492

EQUIPMENT TESTED: Sound Level Meter

Manufacturer:	Svantek		
Type No:	SVAN-957	**Serial No:**	20644
Mic. Type:	7052E	**Serial No:**	71155
Pre-Amp. Type:	SV12L	**Serial No:**	19758
Filter Type:	1/3 Octave	**Test No:**	F036493

Owner: SLR Consulting Australia Pty Ltd
120 High Street
North Sydney, NSW 2060

Tests Performed: IEC 61672-3:2013 & IEC 61260-3:2016

Comments: All Test passed for Class 1. (See overleaf for details)

CONDITIONS OF TEST:

Ambient Pressure	1000	hPa ±1 hPa	**Date of Receipt :**	13/06/2023
Temperature	22	°C ±1° C	**Date of Calibration :**	19/06/2023
Relative Humidity	36	% ±5%	**Date of Issue :**	19/06/2023

Acu-Vib Test Procedure: AVP10 (SLM) & AVP06 (Filters)

CHECKED BY: ..... **AUTHORISED SIGNATURE:** .....

Hein Soe

Accredited for compliance with ISO/IEC 17025 - Calibration
Results of the tests, calibration and/or measurements included in this document are traceable to SI units through reference equipment that has been calibrated by the Australian National Measurement Institute or other NATA accredited laboratories demonstrating traceability.

This report applies only to the item identified in the report and may not be reproduced in part.

The uncertainties quoted are calculated in accordance with the methods of the ISO Guide to the Uncertainty of Measurement and quoted at a coverage factor of 2 with a confidence interval of approximately 95%.

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WORLD RECOGNISED ACCREDITATION
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Acoustic and Vibration Measurements

Acu-Vib Electronics
CALIBRATIONS SALES RENTALS REPAIRS

Head Office & Calibration Laboratory
Unit 14, 22 Hudson Ave. Castle Hill NSW 2154
(02) 9680 8133
www.acu-vib.com.au

The performance characteristics listed below were tested. The tests are based on the relevant clauses of IEC 61672-3:2013

Tests Performed:	*Clause*	*Result*
Absolute Calibration	10	Pass
Acoustical Frequency Weighting	12	Pass
Self-Generated Noise	11.1	Observed
Electrical Noise	11.2	Observed
Long Term Stability	15	Pass
Electrical Frequency Weightings	13	Pass
Frequency and Time Weightings	14	Pass
Reference Level Linearity	16	Pass
Range Level Linearity	17	Pass
Toneburst	18	Pass
Peak C Sound Level	19	Pass
Overload Indicator	20	Pass
High Level Stability	21	Pass

Statement of Compliance: The sound level meter submitted for testing has successfully completed the class 1 periodic tests of IEC 61672-3:2013, for the environmental conditions under which the tests were performed. As public evidence was available, from an independent organization responsible for approving the results of pattern evaluation tests performed in accordance with IEC 61672-2:2013, to demonstrate that the model of sound level meter fully conformed to the requirements in IEC 61672-1:2013, the sound level meter submitted for testing conforms to the class 1 requirements of IEC61672-1:2013.

This Sound Level Meter included an Octave Filter Set. Tests were based on IEC 61260-3:2016 and were conducted to test the following performance characteristics:

Tests performed	*Clause*	*Result*
Test of relative attenuation at filter midband frequency	10	Pass
Linear operating range including range control if fitted	11	Pass
Test of lower limit of linear operating range	12	Pass
Measurement of relative attenuation (filter shape)	13	Pass

The filter submitted for testing successfully completed the tests listed above for the environmental conditions under which the tests were performed. If the filter type has successfully completed the pattern-evaluation tests of IEC 61260-2 then it can be stated that the filter set continues to conform to the specifications of IEC 61260-1.

A full technical report is available on request.

CERTIFICATE OF CALIBRATION

CERTIFICATE NO: SLM37262

EQUIPMENT TESTED: Sound Level Meter

Manufacturer:	Svantek		
Type No:	SVAN-957	**Serial No:**	20664
Mic. Type:	ACO 7052E	**Serial No:**	87431
Pre-Amp. Type:	SV12L	**Serial No:**	22200
Filter Type:	1/3 Octave	**Test No:**	F037263

Owner: SLR Consulting Australia Pty Ltd
120 High Street
North Sydney, NSW 2060

Tests Performed: IEC 61672-3:2013 & IEC 61260-3:2016

Comments: All Test passed for Class 1. (See overleaf for details)

CONDITIONS OF TEST:

Ambient Pressure	1005	hPa ±1 hPa	**Date of Receipt :**	29/08/2023
Temperature	23	°C ±1° C	**Date of Calibration :**	01/09/2023
Relative Humidity	42	% ±5%	**Date of Issue :**	04/09/2023

Acu-Vib Test Procedure: AVP10 (SLM) & AVP06 (Filters)

CHECKED BY: ..... **AUTHORISED SIGNATURE:** .....

Hein Soe

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CERTIFICATE OF CALIBRATION

CERTIFICATE NO: SLM52115

EQUIPMENT TESTED: Sound Level Meter

Manufacturer:	Svantek		
Type No:	SVAN 957	**Serial No:**	23814
Mic. Type:	ACO 7052E	**Serial No:**	78245
Pre-Amp. Type:	SV 12L	**Serial No:**	49806
Filter Type:	1/3 Octave	**Test No:**	F052116

Owner: SLR Consulting Australia Pty Ltd
120 High Street
North Sydney, NSW 2060

Tests Performed: IEC 61672-3:2013 & IEC 61260-3:2016

Comments: All Test passed for Class 1. (See overleaf for details)

CONDITIONS OF TEST:

Ambient Pressure	1005	hPa ±1 hPa	**Date of Receipt :**	15/11/2024
Temperature	25	°C ±1° C	**Date of Calibration :**	29/11/2024
Relative Humidity	50	% ±5%	**Date of Issue :**	02/12/2024

Acu-Vib Test Procedure: AVP10 (SLM) & AVP06 (Filters)

CHECKED BY: ....

AUTHORISED SIGNATURE: .....

Hein Soe

Accredited for compliance with ISO/IEC 17025 - Calibration

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The uncertainties quoted are calculated in accordance with the methods of the ISO Guide to the Uncertainty of Measurement and quoted at a coverage factor of 2 with a confidence interval of approximately 95%.

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Accredited Laboratory
No. 9262
Acoustic and Vibration
Measurements

CERTIFICATE NO: SLM52115

The performance characteristics listed below were tested. The tests are based on the relevant clauses of IEC 61672-3:2013

Tests Performed:	*Clause*	*Result*
Absolute Calibration	10	Pass
Acoustical Frequency Weighting	12	Pass
Self-Generated Noise	11.1	Observed
Electrical Noise	11.2	Observed
Long Term Stability	15	Pass
Electrical Frequency Weightings	13	Pass
Frequency and Time Weightings	14	Pass
Reference Level Linearity	16	Pass
Range Level Linearity	17	Pass
Toneburst	18	Pass
Peak C Sound Level	19	Pass
Overload Indicator	20	Pass
High Level Stability	21	Pass

Statement of Compliance: The sound level meter submitted for testing successfully completed the periodic tests of IEC 61672-3:-2013, for the environmental conditions under which the tests were performed. However, no general statement or conclusion can be made about conformance of the sound level meter to the full specifications of IEC 61672-1:-2013 because evidence was not publically available, from an independent testing organization responsible for pattern approvals, to demonstrate that the model of sound level meter fully conformed to the class 1 specifications in IEC 61672-1:-2013 and because the periodic tests of IEC 61672-3:-2013 cover only a limited subset of the specifications in IEC 61672-1:-2013.

This Sound Level Meter included an Octave Filter Set. Tests were based on IEC 61260-3:2016 and were conducted to test the following performance characteristics:

Tests performed	*Clause*	*Result*
Test of relative attenuation at filter midband frequency	10	Pass
Linear operating range including range control if fitted	11	Pass
Test of lower limit of linear operating range	12	Pass
Measurement of relative attenuation (filter shape)	13	Pass

The filter submitted for testing successfully completed the tests listed above for the environmental conditions under which the tests were performed. If the filter type has successfully completed the pattern-evaluation tests of IEC 61260-2 then it can be stated that the filter set continues to conform to the specifications of IEC 61260-1.

A full technical report is available on request.

CERTIFICATE OF CALIBRATION

CERTIFICATE NO: SLM38870

EQUIPMENT TESTED: Sound & Vibration Analyser

Manufacturer:	Svantek		
Type No:	SVAN 957	**Serial No:**	27522
Mic. Type:	ACO 7052E	**Serial No:**	80473
Pre-Amp. Type:	SV12L	**Serial No:**	114031
Filter Type:	1/1 Octave	**Test No:**	F038871

Owner: SLR Consulting Australia Pty Ltd
120 High Street
North Sydney, NSW 2060

Tests Performed: IEC 61672-3:2013 & IEC 61260-3:2016

Comments: All Test passed for Class 1. (See overleaf for details)

CONDITIONS OF TEST:

Ambient Pressure	993	hPa ±1 hPa	**Date of Receipt :**	16/02/2024
Temperature	24	°C ±1° C	**Date of Calibration :**	23/02/2024
Relative Humidity	42	% ±5%	**Date of Issue :**	26/02/2024

Acu-Vib Test Procedure: AVP10 (SLM) & AVP06 (Filters)

CHECKED BY: .....

AUTHORISED SIGNATURE: .....

Hein Soe

Accredited for compliance with ISO/IEC 17025 - Calibration

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Accredited Laboratory No. 9262
Acoustic and Vibration Measurements

The performance characteristics listed below were tested. The tests are based on the relevant clauses of IEC 61672-3:2013

Tests Performed:	*Clause*	*Result*
Absolute Calibration	10	Pass
Acoustical Frequency Weighting	12	Pass
Self-Generated Noise	11.1	Observed
Electrical Noise	11.2	Observed
Long Term Stability	15	Pass
Electrical Frequency Weightings	13	Pass
Frequency and Time Weightings	14	Pass
Reference Level Linearity	16	Pass
Range Level Linearity	17	Pass
Toneburst	18	Pass
Peak C Sound Level	19	Pass
Overload Indicator	20	Pass
High Level Stability	21	Pass

Statement of Compliance: The sound level meter submitted for testing successfully completed the periodic tests of IEC 61672-3:-2013, for the environmental conditions under which the tests were performed. However, no general statement or conclusion can be made about conformance of the sound level meter to the full specifications of IEC 61672-1:-2013 because evidence was not publically available, from an independent testing organization responsible for pattern approvals, to demonstrate that the model of sound level meter fully conformed to the class 1 specifications in IEC 61672-1:-2013 and because the periodic tests of IEC 61672-3:-2013 cover only a limited subset of the specifications in IEC 61672-1:-2013.

This Sound Level Meter included an Octave Filter Set. Tests were based on IEC 61260-3:2016 and were conducted to test the following performance characteristics:

Tests performed	*Clause*	*Result*
Test of relative attenuation at filter midband frequency	10	Pass
Linear operating range including range control if fitted	11	Pass
Test of lower limit of linear operating range	12	Pass
Measurement of relative attenuation (filter shape)	13	Pass

The filter submitted for testing successfully completed the tests listed above for the environmental conditions under which the tests were performed. If the filter type has successfully completed the pattern-evaluation tests of IEC 61260-2 then it can be stated that the filter set continues to conform to the specifications of IEC 61260-1.

A full technical report is available on request.

CERTIFICATE OF CALIBRATION

CERTIFICATE NO: SLM39807

EQUIPMENT TESTED: Sound Level Meter

Manufacturer:	Svantek		
Type No:	SVAN 977C	**Serial No:**	98070
Mic. Type:	MK255	**Serial No:**	21096
Pre-Amp. Type:	SV 12L	**Serial No:**	18240
Filter Type:	1/3 Octave	**Test No:**	F039808

Owner: SLR Consulting Australia Pty Ltd
120 High Street
North Sydney, NSW 2060

Tests Performed: IEC 61672-3:2013 & IEC 61260-3:2016

Comments: All Test passed for Class 1. (See overleaf for details)

CONDITIONS OF TEST:

Ambient Pressure	1011	hPa ±1 hPa	**Date of Receipt :**	11/03/2024
Temperature	22	°C ±1° C	**Date of Calibration :**	17/05/2024
Relative Humidity	58	% ±5%	**Date of Issue :**	17/05/2024

Acu-Vib Test Procedure: AVP10 (SLM) & AVP06 (Filters)

CHECKED BY: ...KB..

AUTHORISED SIGNATURE: .....

Hein Soe

Accredited for compliance with ISO/IEC 17025 - Calibration

Results of the tests, calibration and/or measurements included in this document are traceable to SI units through reference equipment that has been calibrated by the Australian National Measurement Institute or other NATA accredited laboratories demonstrating traceability.

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Accredited Laboratory No. 9262
Acoustic and Vibration Measurements

The performance characteristics listed below were tested. The tests are based on the relevant clauses of IEC 61672-3:2013

Tests Performed:	*Clause*	*Result*
Absolute Calibration	10	Pass
Acoustical Frequency Weighting	12	Pass
Self-Generated Noise	11.1	Observed
Electrical Noise	11.2	Observed
Long Term Stability	15	Pass
Electrical Frequency Weightings	13	Pass
Frequency and Time Weightings	14	Pass
Reference Level Linearity	16	Pass
Range Level Linearity	17	Pass
Toneburst	18	Pass
Peak C Sound Level	19	Pass
Overload Indicator	20	Pass
High Level Stability	21	Pass

Statement of Compliance: The sound level meter submitted for testing has successfully completed the class 1 periodic tests of IEC 61672-3:2013, for the environmental conditions under which the tests were performed. As public evidence was available, from an independent organization responsible for approving the results of pattern evaluation tests performed in accordance with IEC 61672-2:2013, to demonstrate that the model of sound level meter fully conformed to the requirements in IEC 61672-1:2013, the sound level meter submitted for testing conforms to the class 1 requirements of IEC61672-1:2013.

This Sound Level Meter included an Octave Filter Set. Tests were based on IEC 61260-3:2016 and were conducted to test the following performance characteristics:

Tests performed	*Clause*	*Result*
Test of relative attenuation at filter midband frequency	10	Pass
Linear operating range including range control if fitted	11	Pass
Test of lower limit of linear operating range	12	Pass
Measurement of relative attenuation (filter shape)	13	Pass

The filter submitted for testing successfully completed the tests listed above for the environmental conditions under which the tests were performed. If the filter type has successfully completed the pattern-evaluation tests of IEC 61260-2 then it can be stated that the filter set continues to conform to the specifications of IEC 61260-1.

A full technical report is available on request.

Appendix C Noise Monitoring Locations

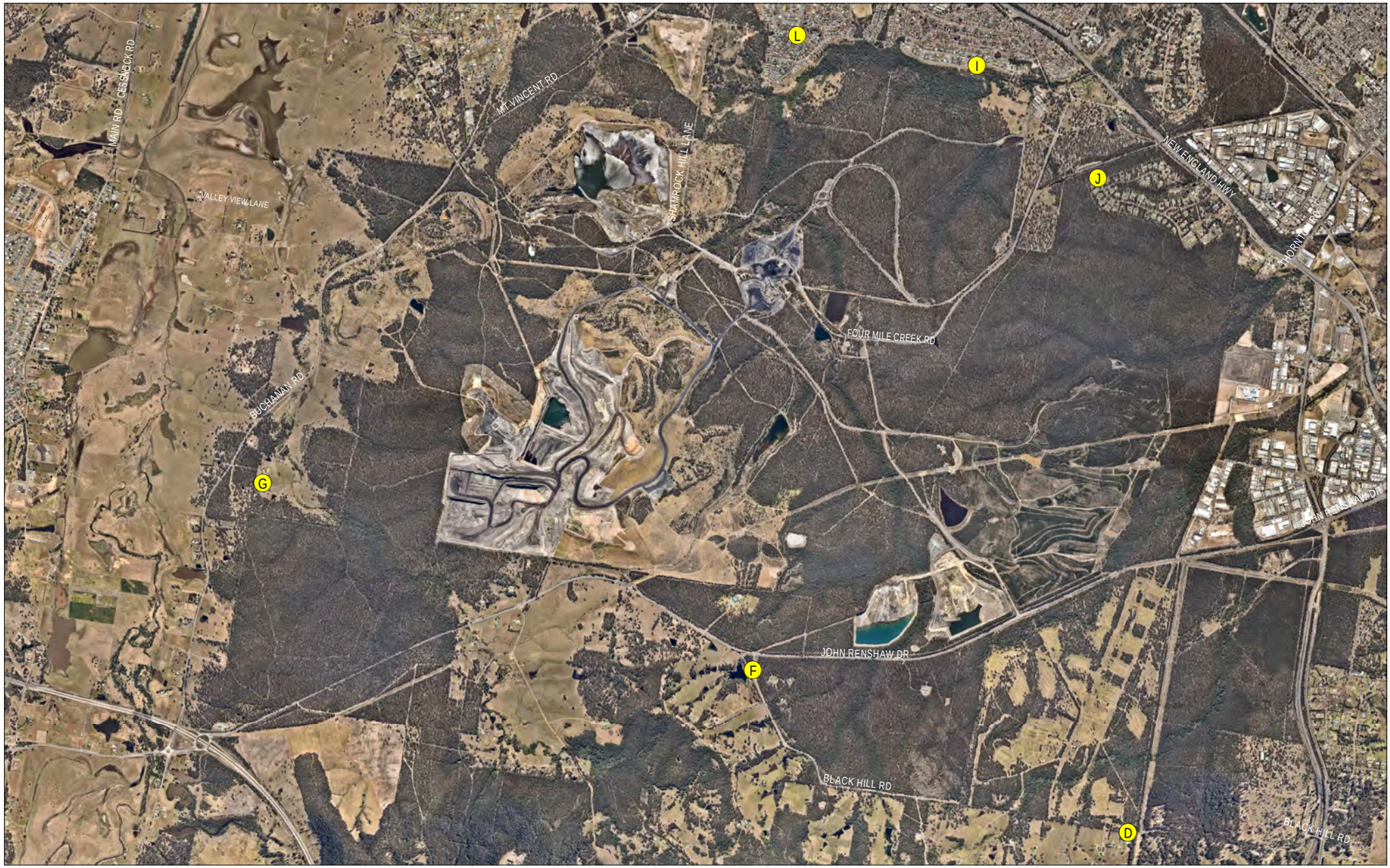
Donaldson and Abel Coal Mines

Bi-Annual Noise Monitoring - Half-year Ending December 2024

Donaldson Coal Pty Ltd

SLR Project No.: 630.01053.20000

14 March 2025



D:\Quick Jobs\Martin Davenport\Donaldson\SLR630010530 1200_AB_Monitoringlocations_01.mxd

10 KINGS ROAD
NEW LAMBTON
NEW SOUTH WALES 2305
AUSTRALIA
T: 61 2 4037 3200
F: 61 2 4037 3201
www.slrconsulting.com

Project No.:	630.01053.01200
Date:	11/01/2018
Drawn by:	NT
Scale:	1:45,000
Sheet Size:	A4
Projection:	GDA 1994 MGA Zone 56

LEGEND

Noise Monitoring Locations

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W
E
S

0 500 1,000 1,500 2,000 m

Donaldson Coal

Noise Monitoring Locations

APPENDIX C

Appendix D Statistical Ambient Noise Levels

Donaldson and Abel Coal Mines

Bi-Annual Noise Monitoring - Half-year Ending December 2024

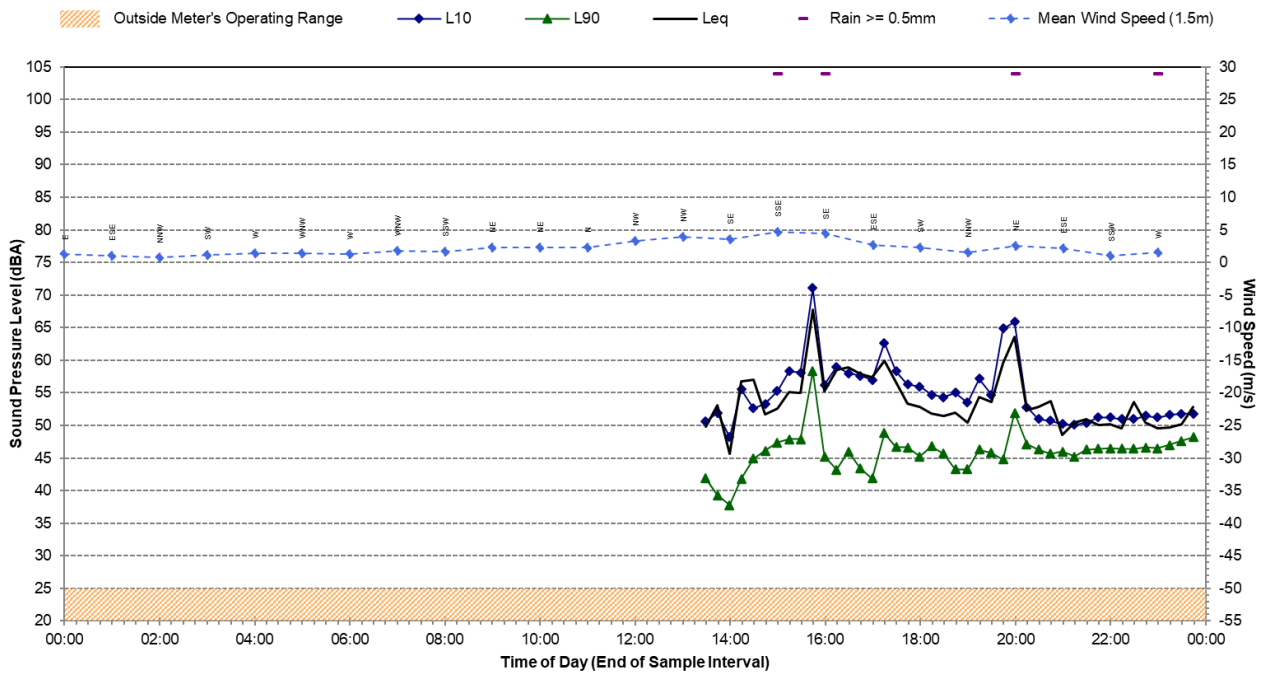
Donaldson Coal Pty Ltd

SLR Project No.: 630.01053.20000

14 March 2025

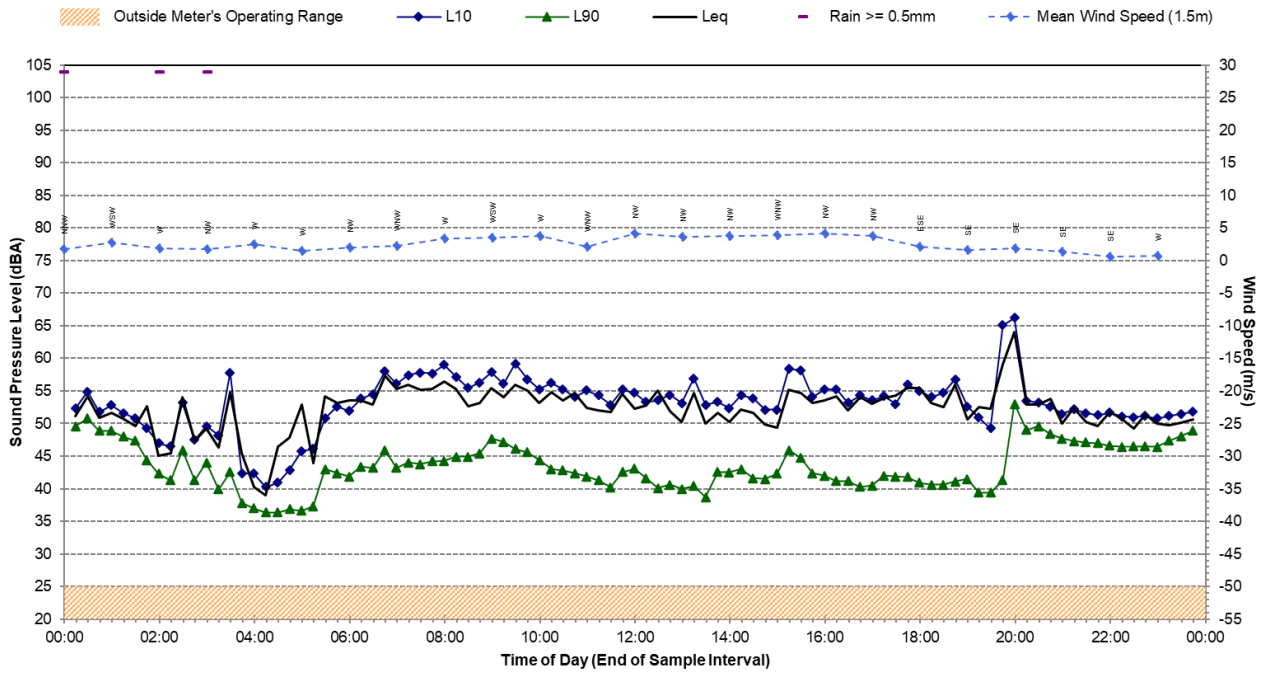
Statistical Ambient Noise Levels

Location D - Thursday, 7 November 2024

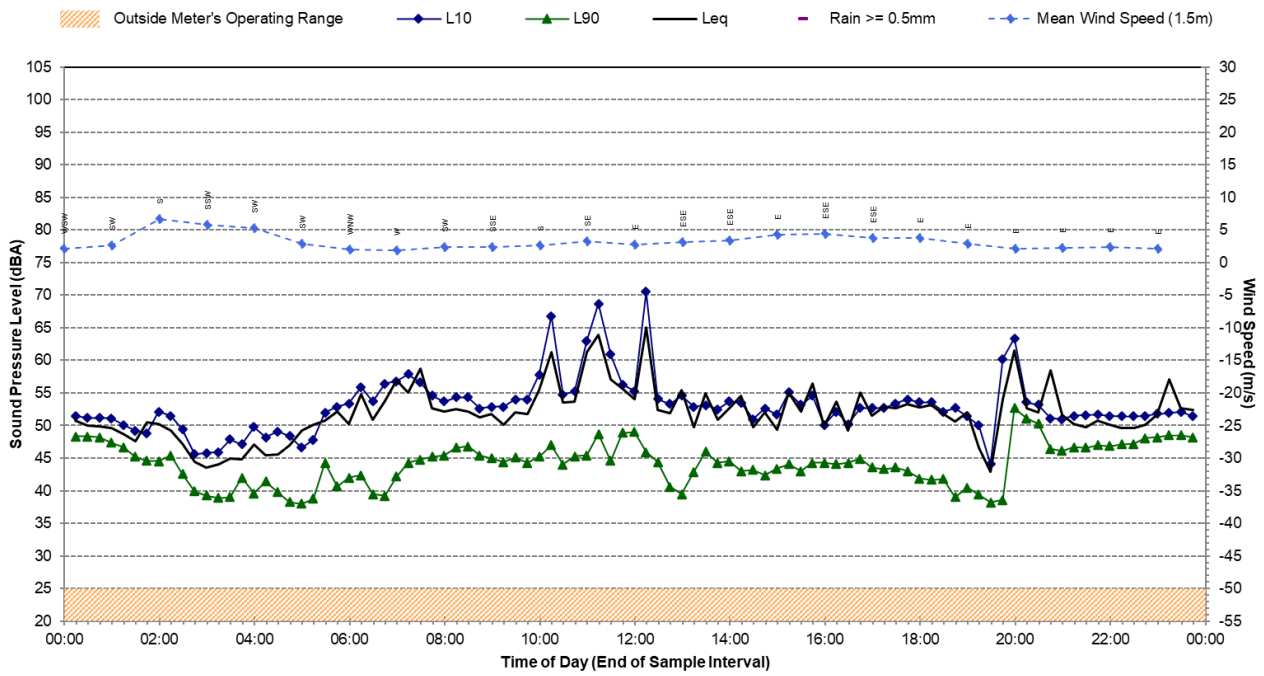


Statistical Ambient Noise Levels

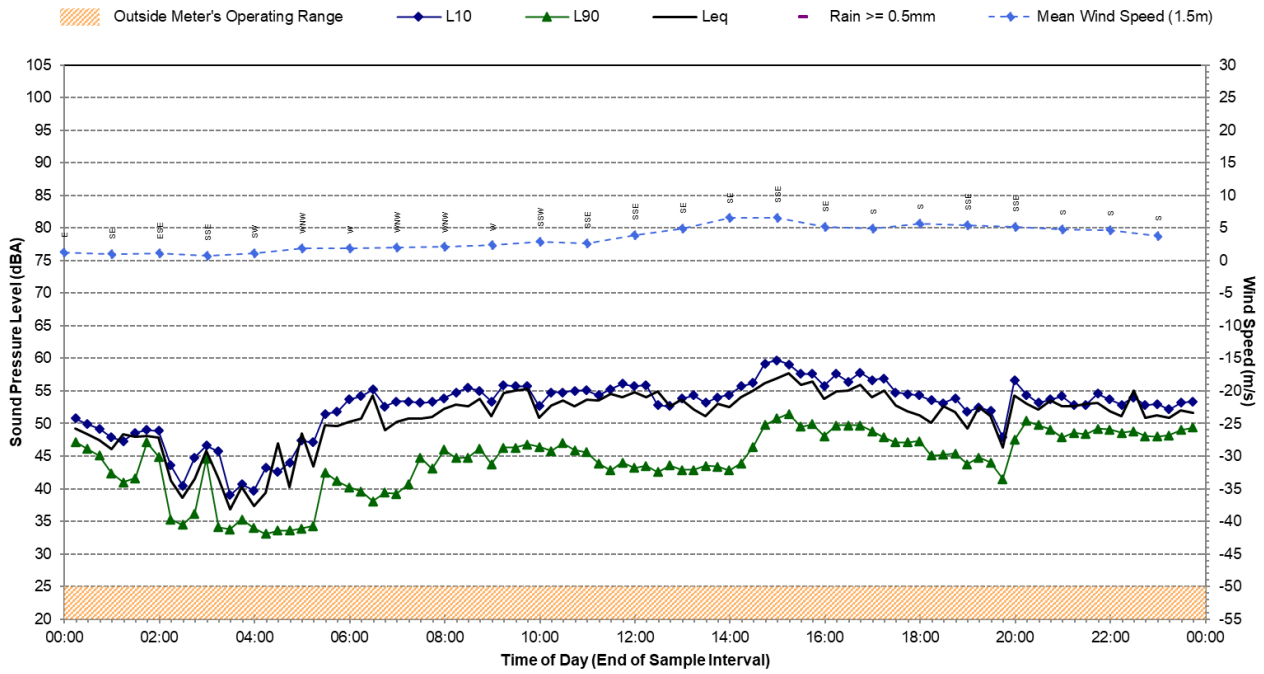
Location D - Friday, 8 November 2024



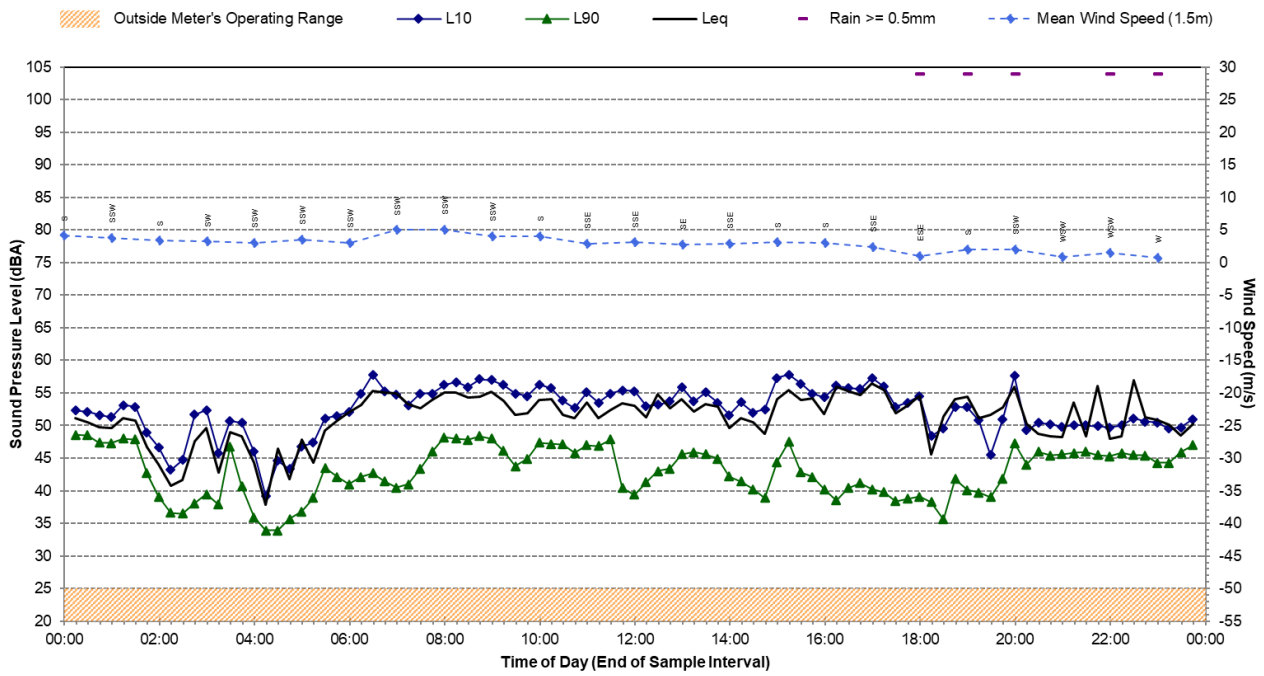
Statistical Ambient Noise Levels
Location D - Saturday, 9 November 2024



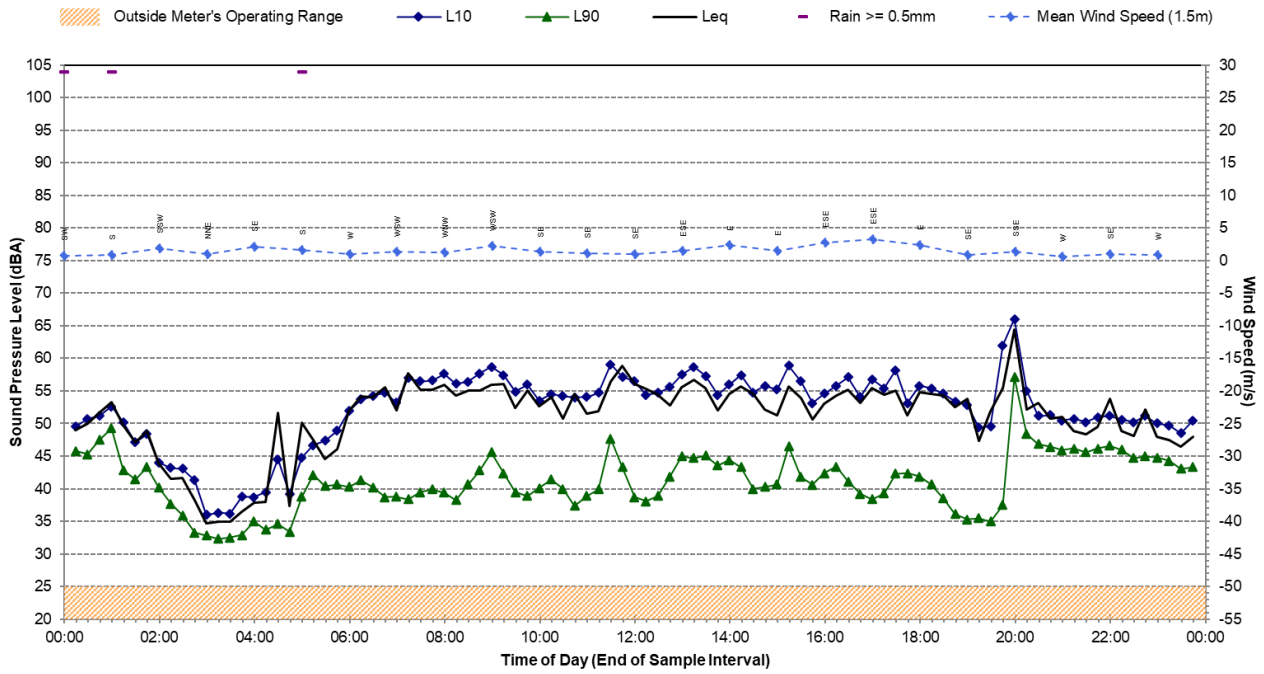
Statistical Ambient Noise Levels
Location D - Sunday, 10 November 2024



Statistical Ambient Noise Levels
Location D - Monday, 11 November 2024

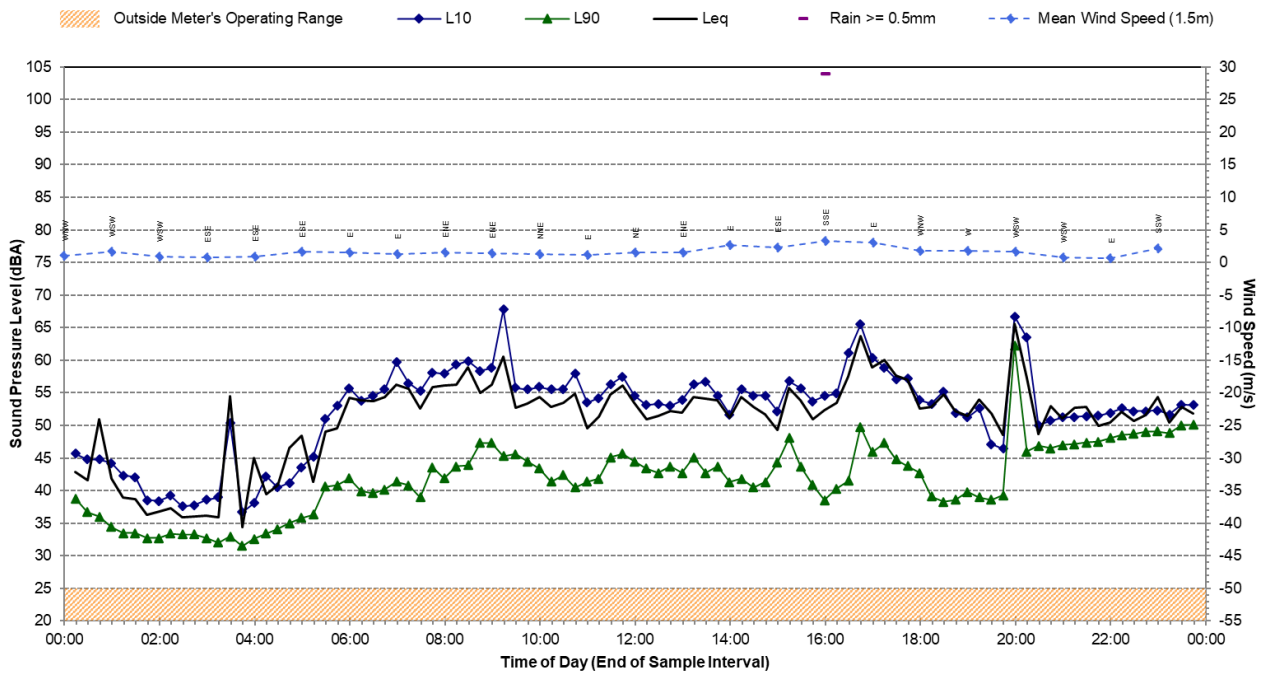


Statistical Ambient Noise Levels
Location D - Tuesday, 12 November 2024



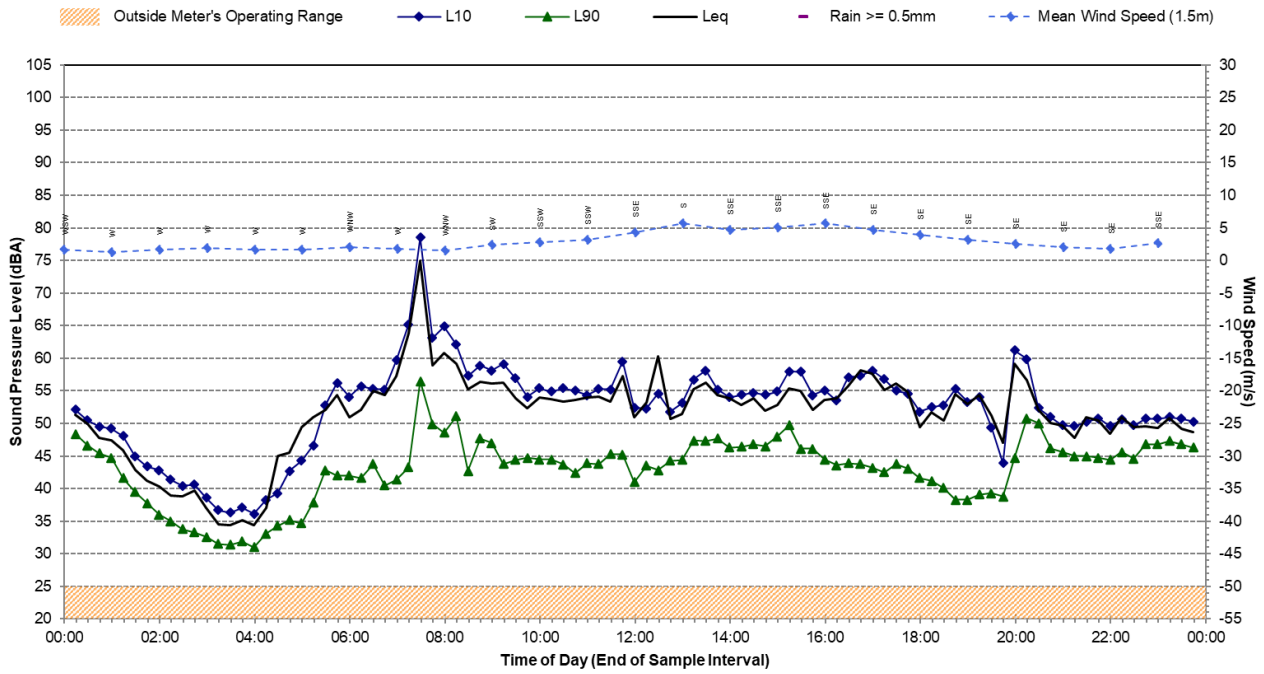
Statistical Ambient Noise Levels

Location D - Wednesday, 13 November 2024

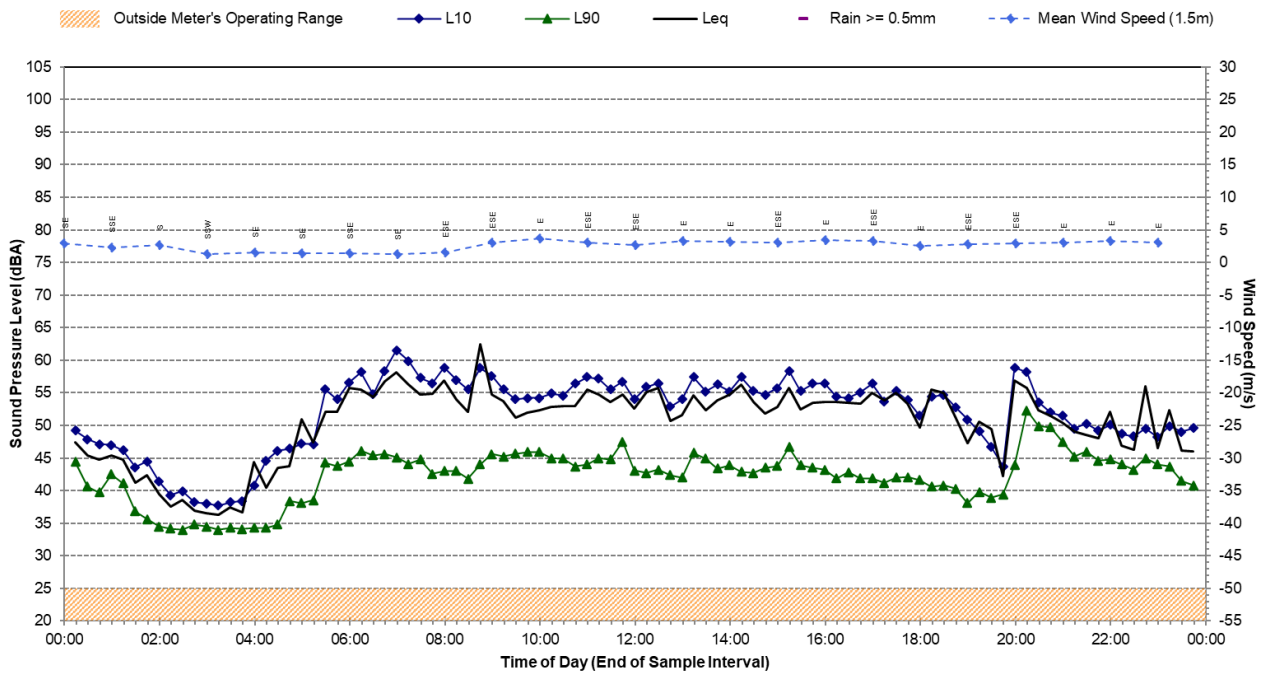


Statistical Ambient Noise Levels

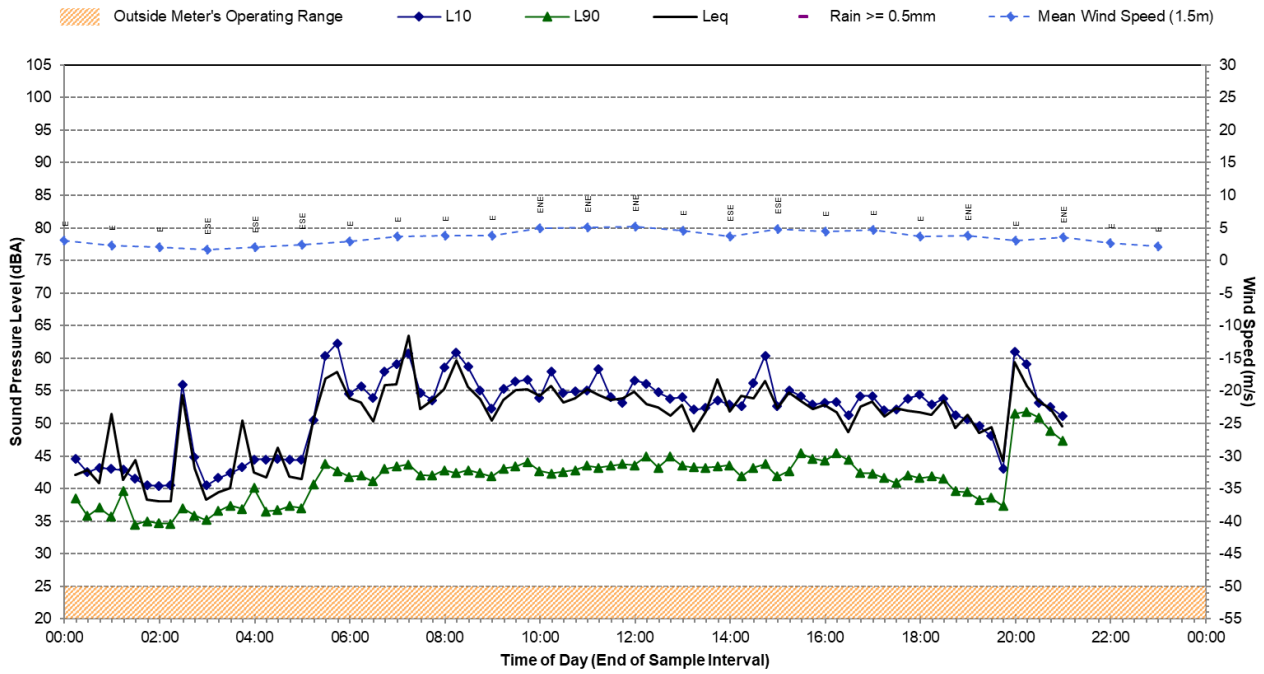
Location D - Thursday, 14 November 2024



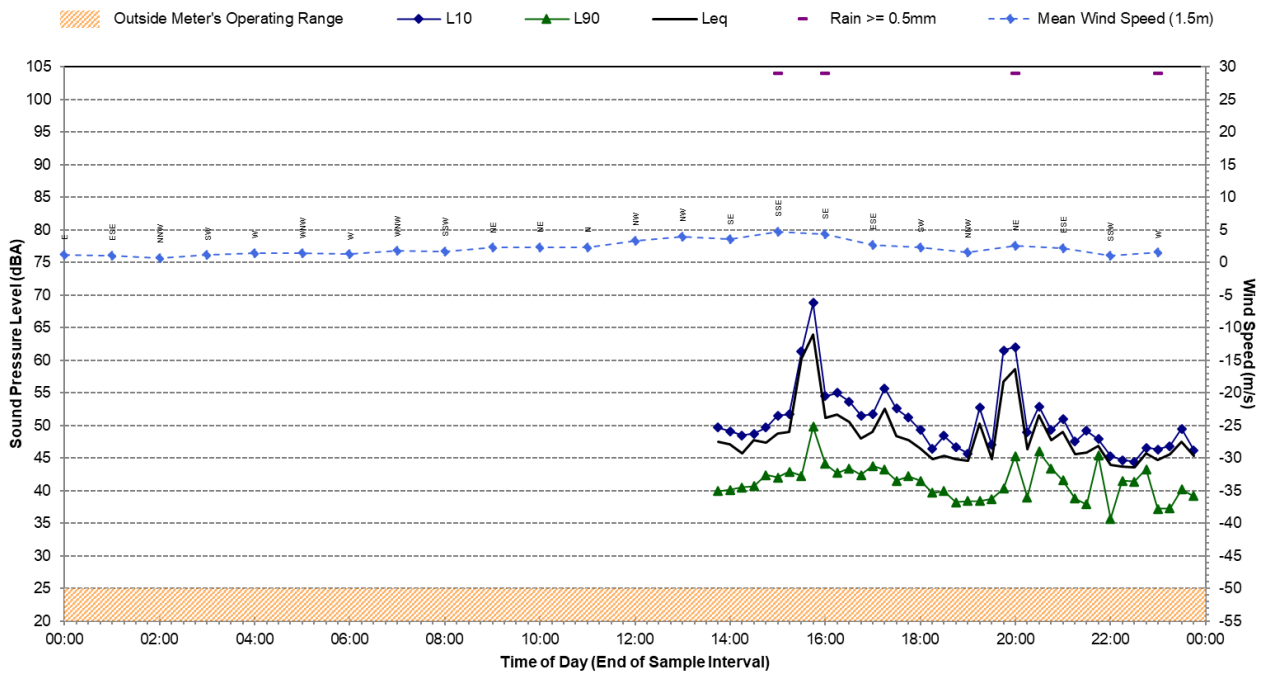
Statistical Ambient Noise Levels
Location D - Friday, 15 November 2024



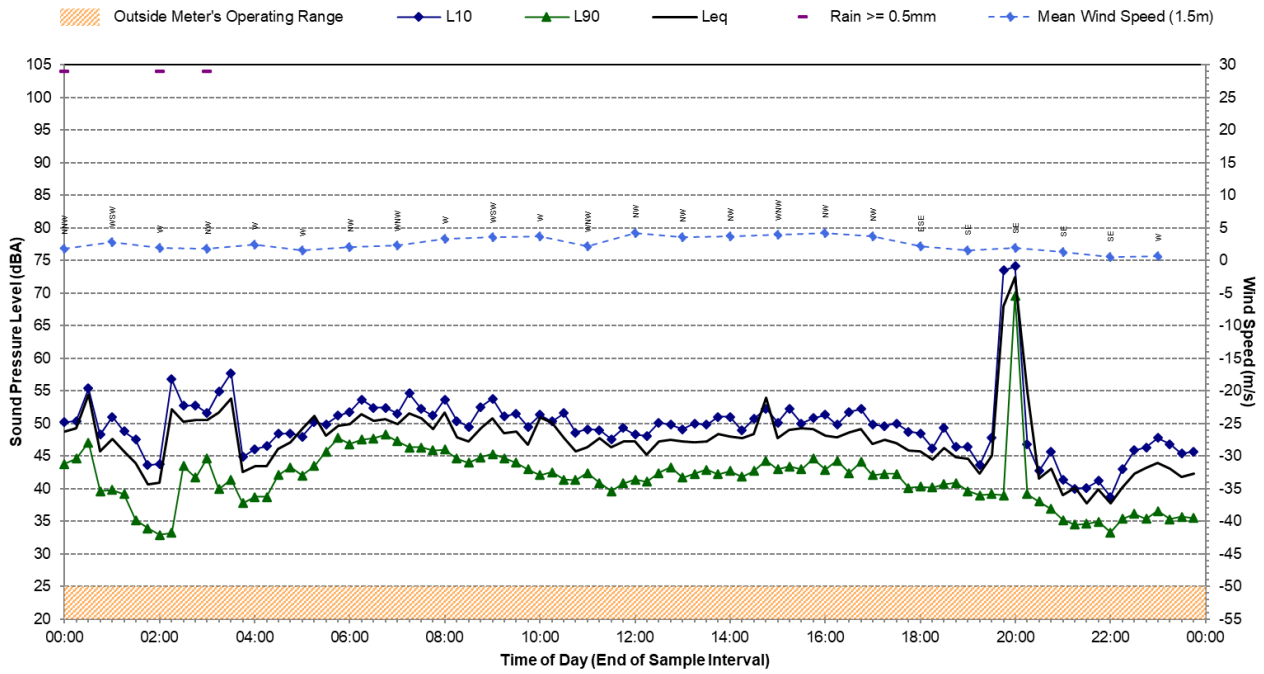
Statistical Ambient Noise Levels
Location D - Saturday, 16 November 2024



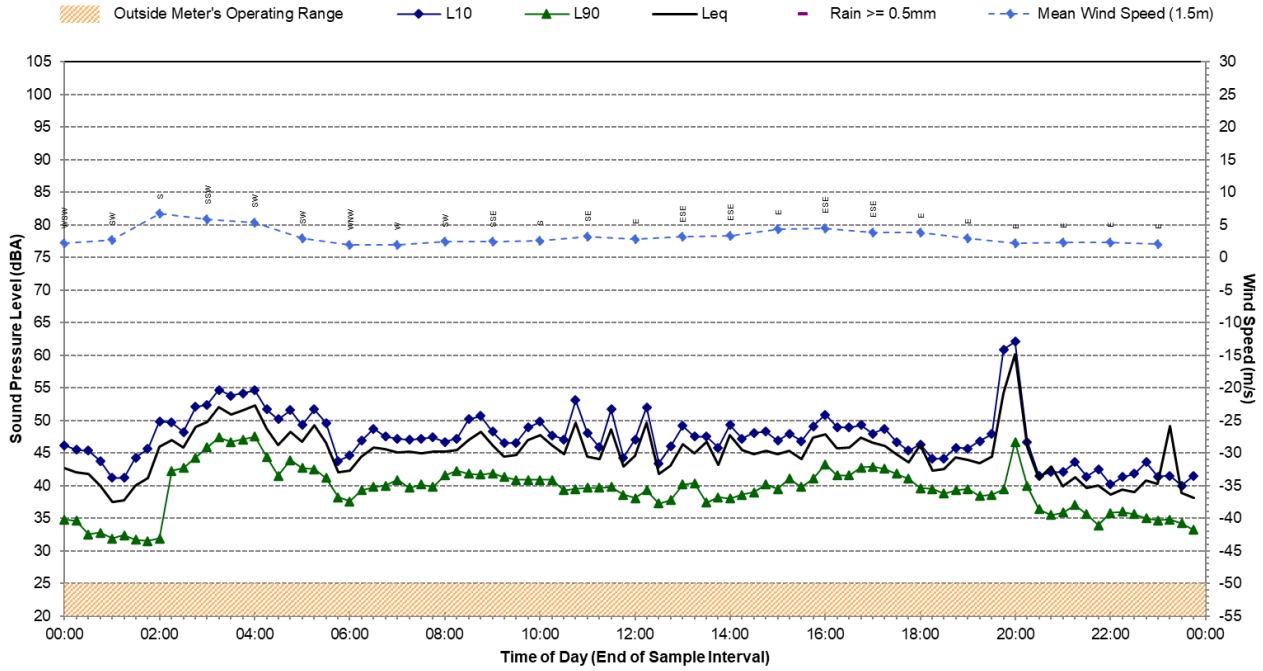
Statistical Ambient Noise Levels
Location F - Thursday, 7 November 2024



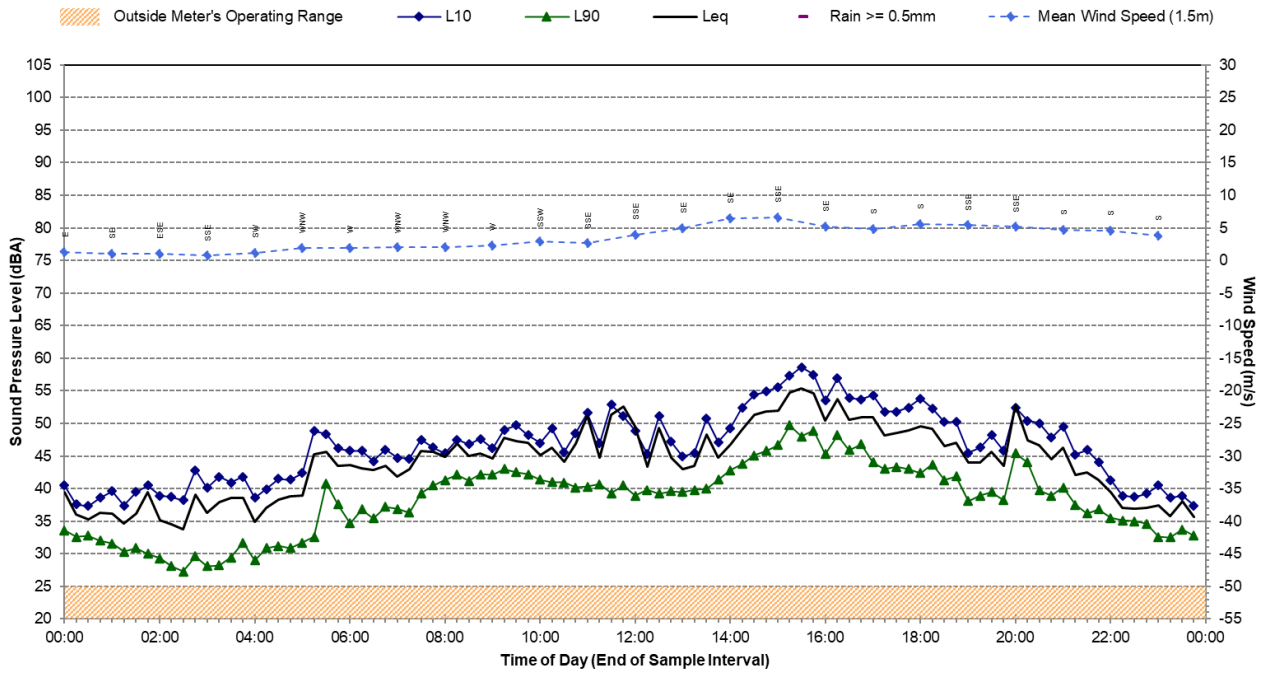
Statistical Ambient Noise Levels
Location F - Friday, 8 November 2024



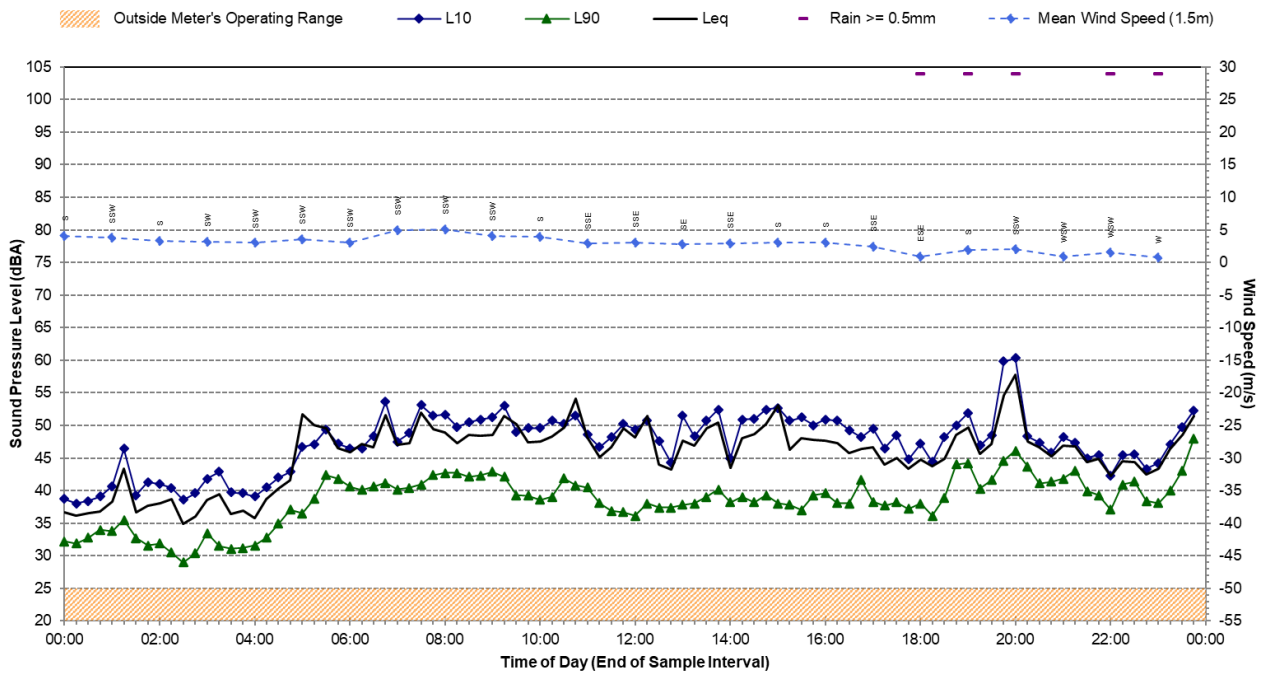
Statistical Ambient Noise Levels
Location F - Saturday, 9 November 2024



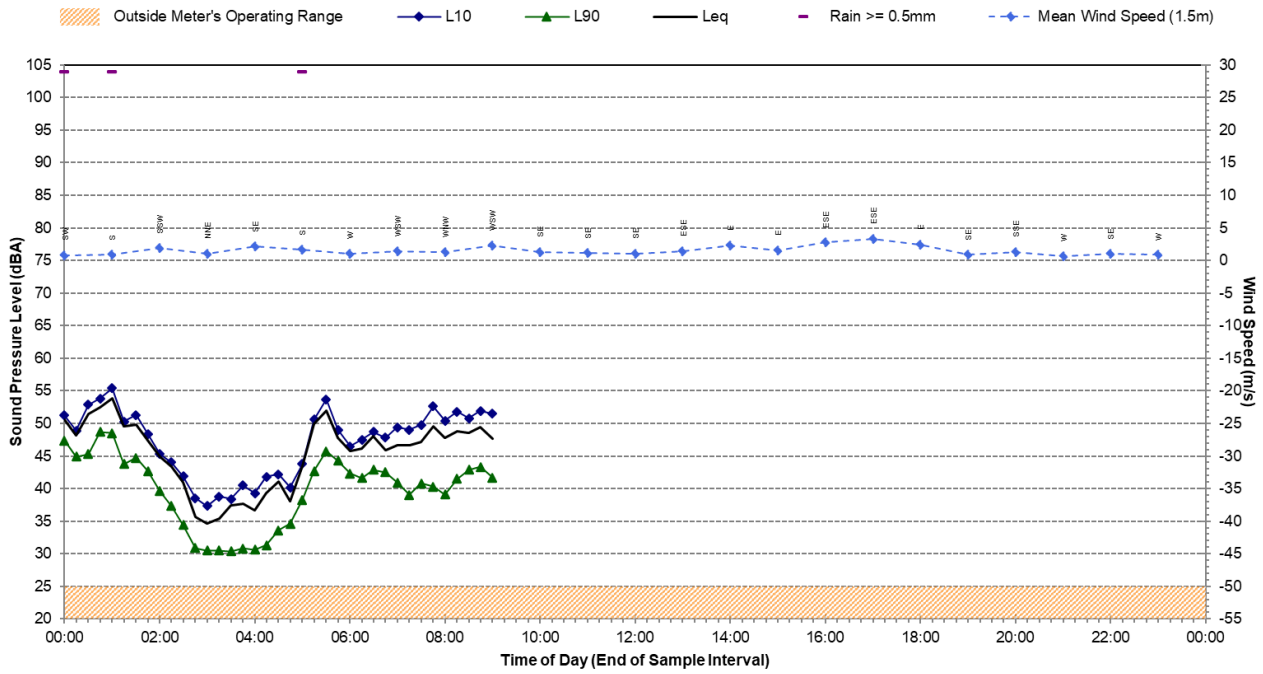
Statistical Ambient Noise Levels
Location F - Sunday, 10 November 2024



Statistical Ambient Noise Levels
Location F - Monday, 11 November 2024

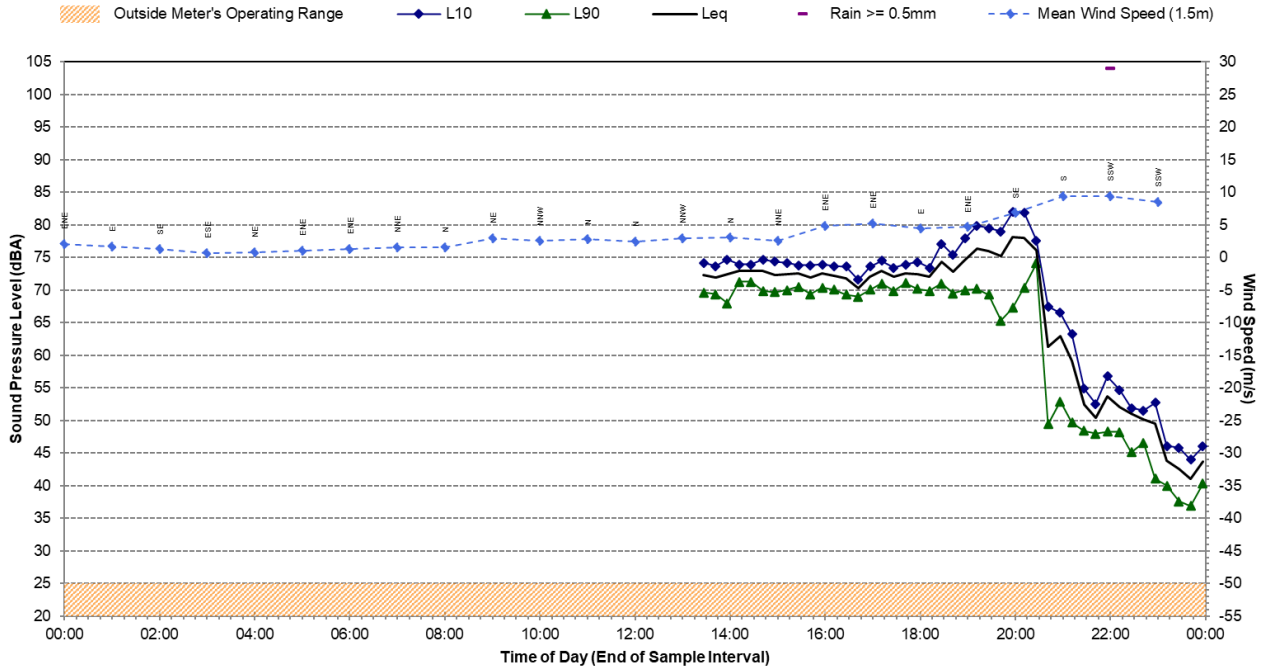


Statistical Ambient Noise Levels
Location F - Tuesday, 12 November 2024



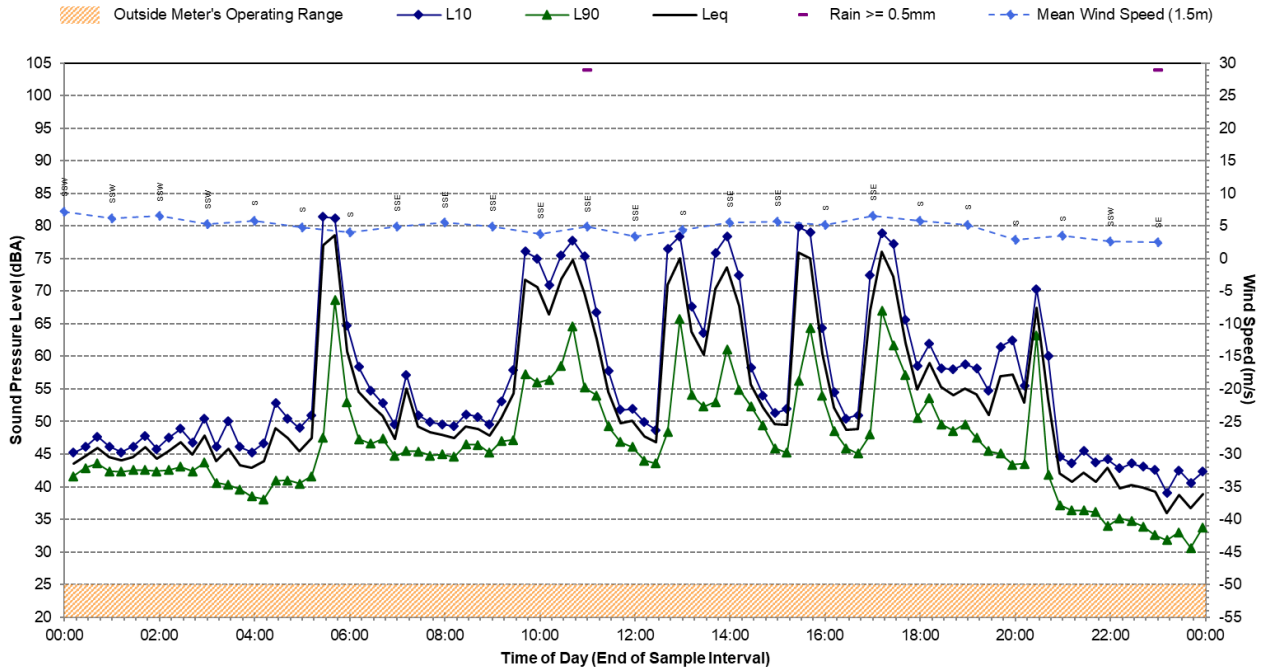
Statistical Ambient Noise Levels

Location G - Tuesday, 17 December 2024



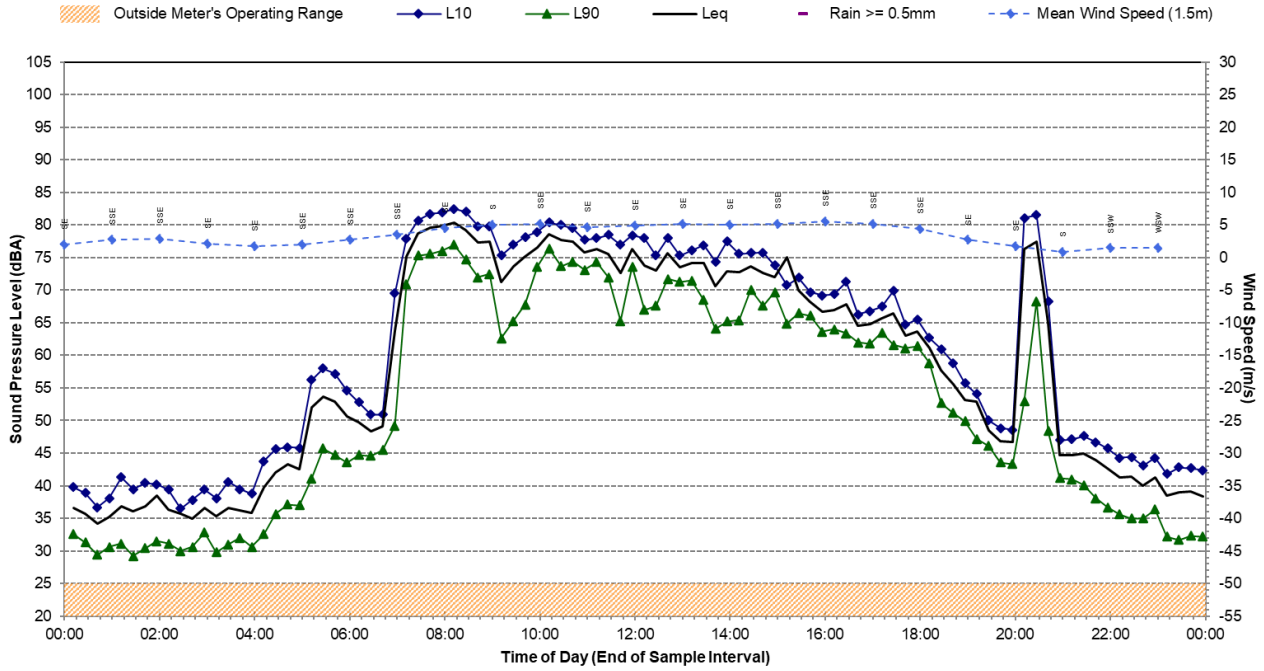
Statistical Ambient Noise Levels

Location G - Wednesday, 18 December 2024



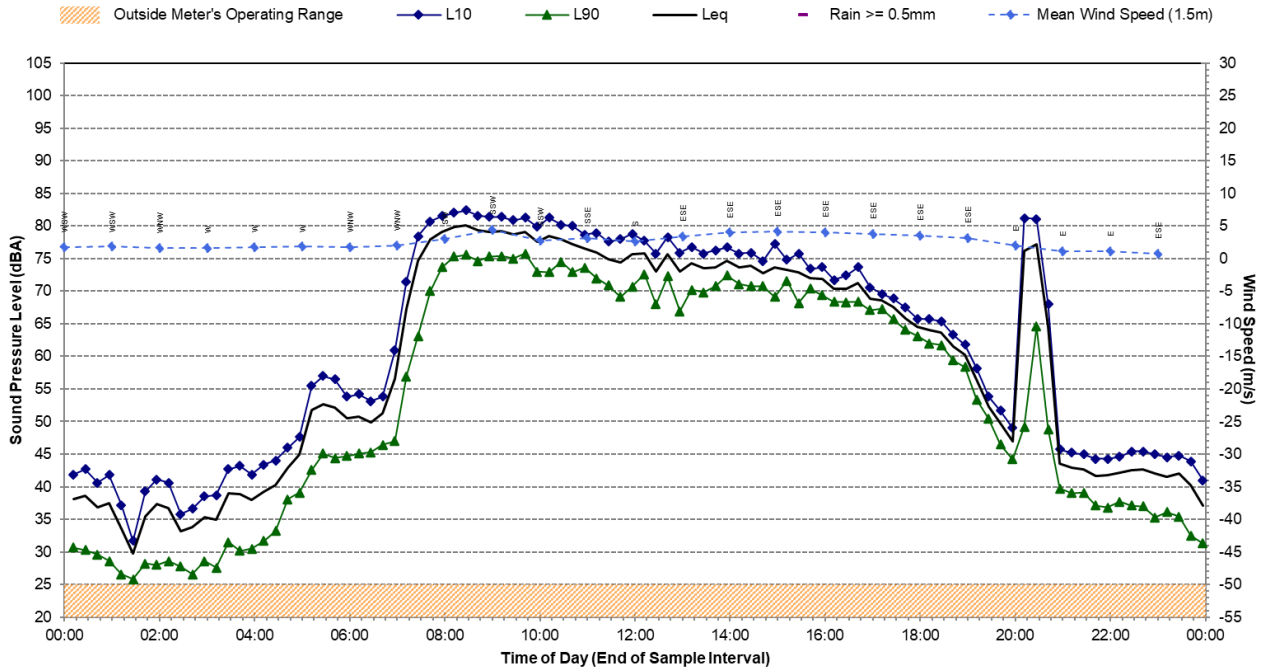
Statistical Ambient Noise Levels

Location G - Thursday, 19 December 2024

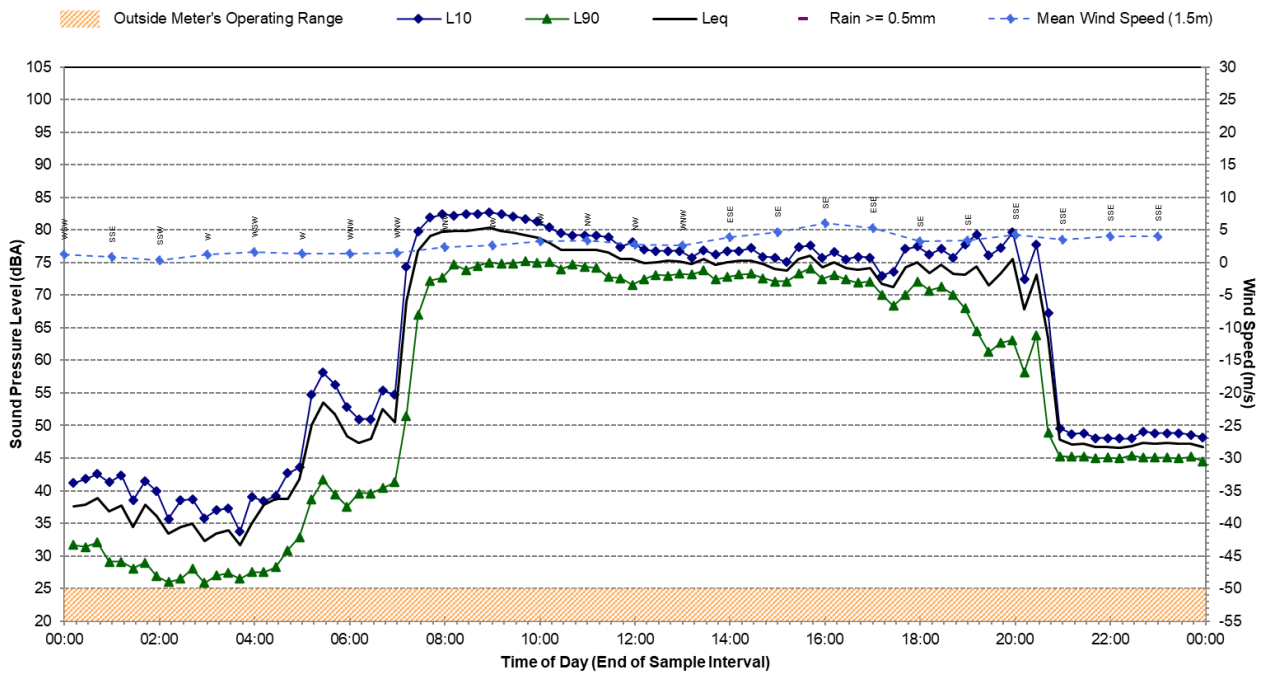


Statistical Ambient Noise Levels

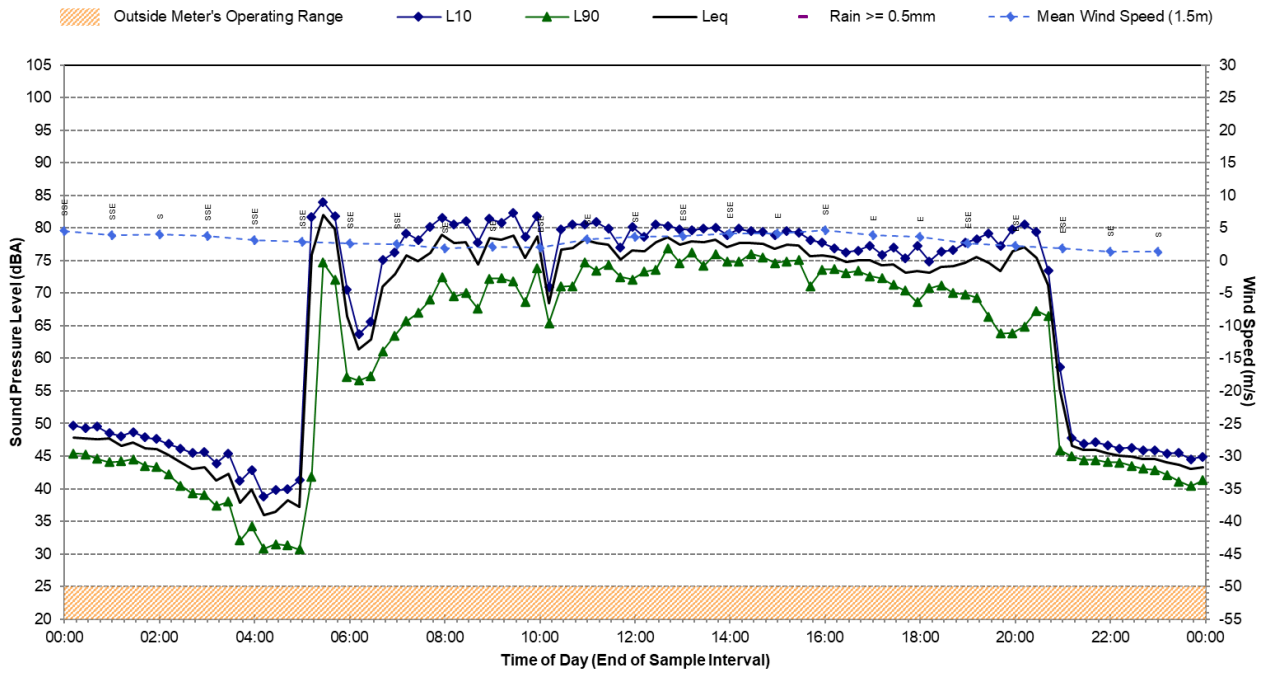
Location G - Friday, 20 December 2024



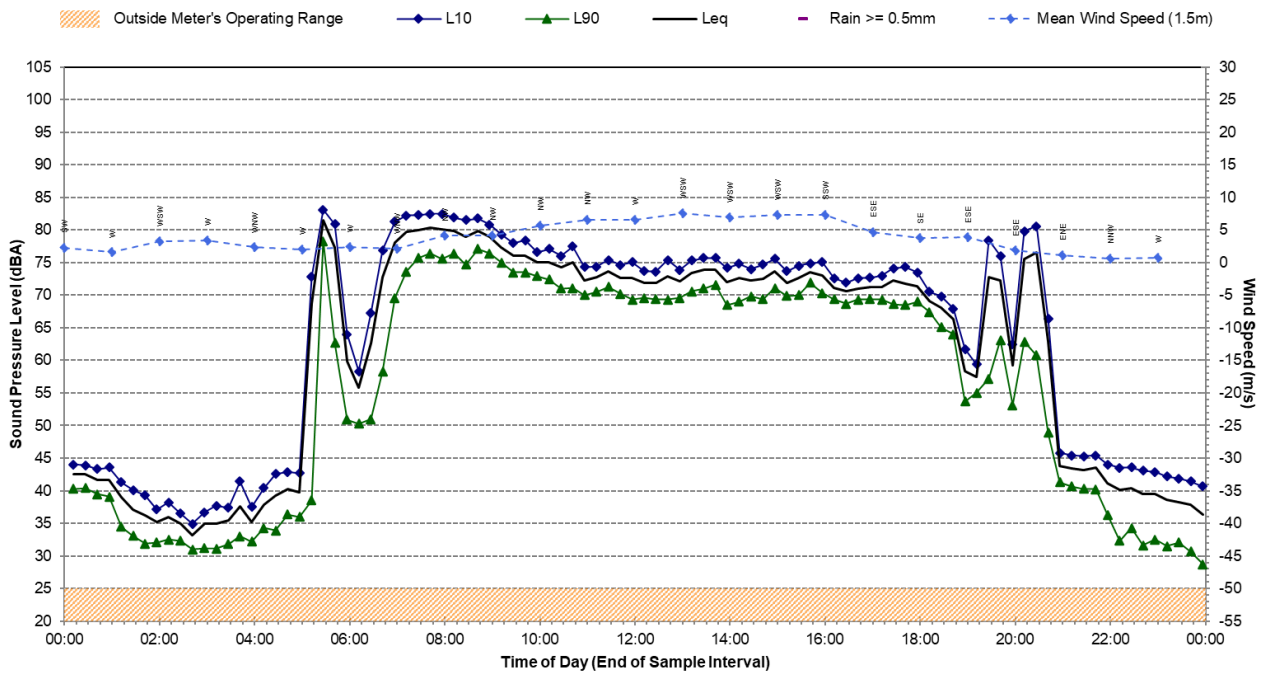
Statistical Ambient Noise Levels
Location G - Saturday, 21 December 2024



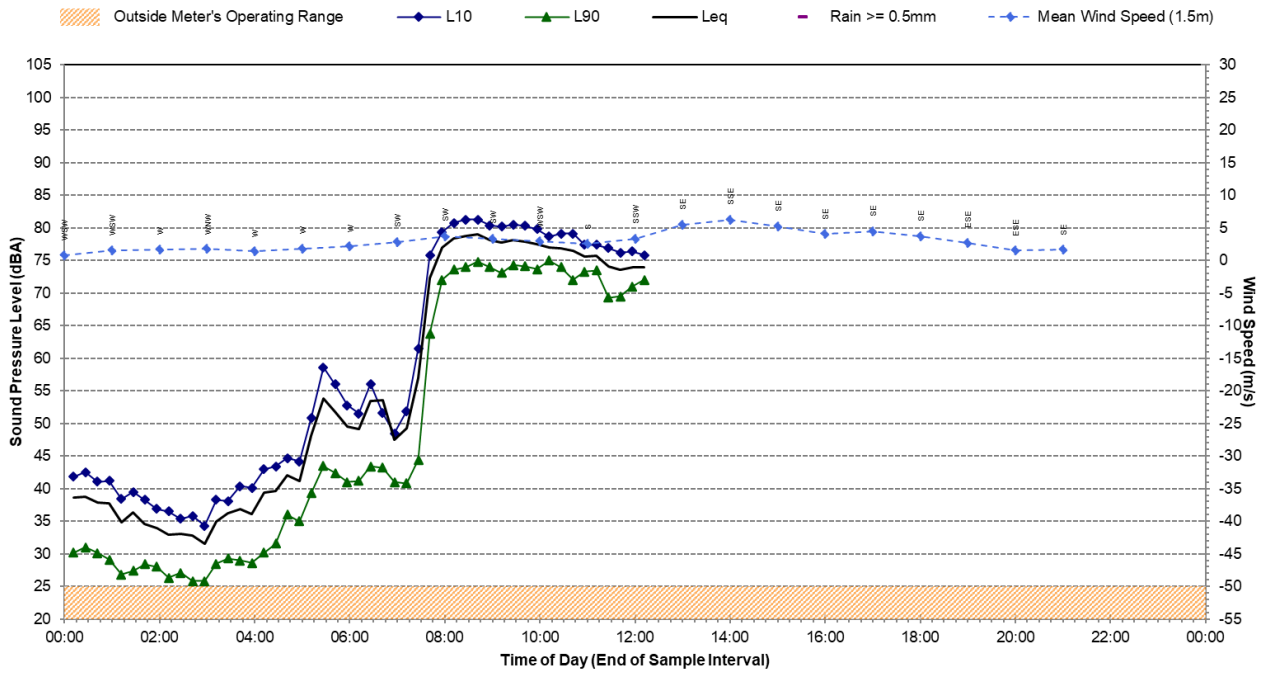
Statistical Ambient Noise Levels
Location G - Sunday, 22 December 2024



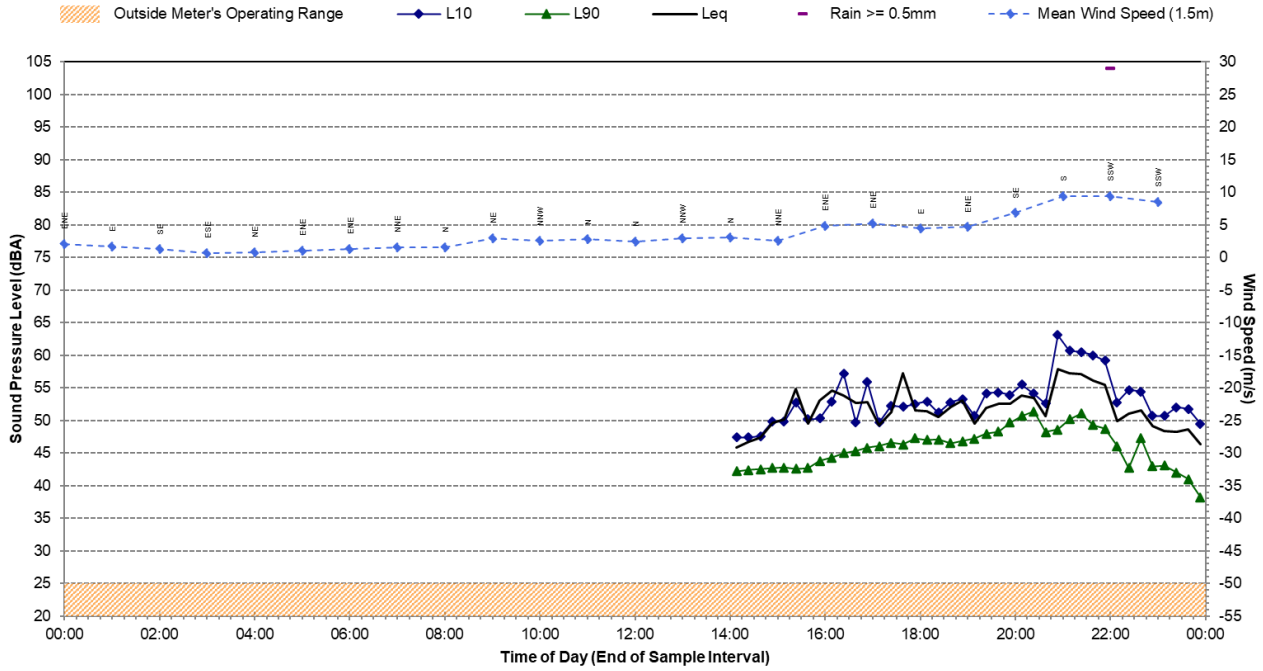
Statistical Ambient Noise Levels
Location G - Monday, 23 December 2024



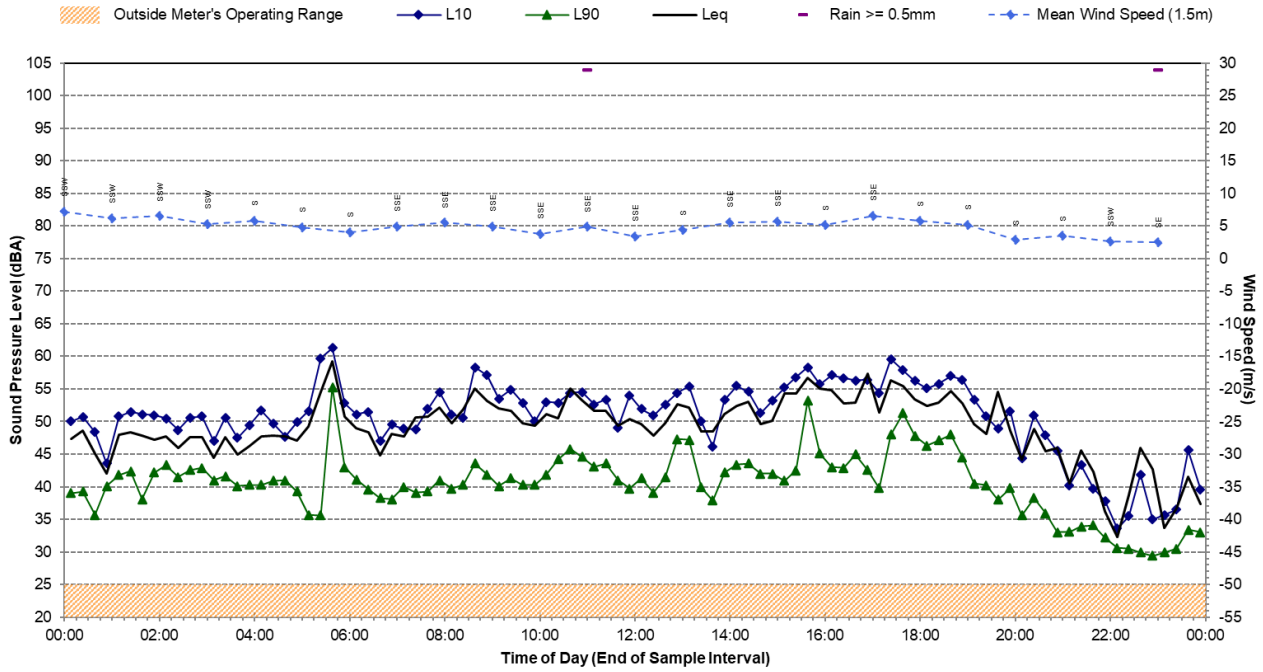
Statistical Ambient Noise Levels
Location G - Tuesday, 24 December 2024



Statistical Ambient Noise Levels
Location L - Tuesday, 17 December 2024

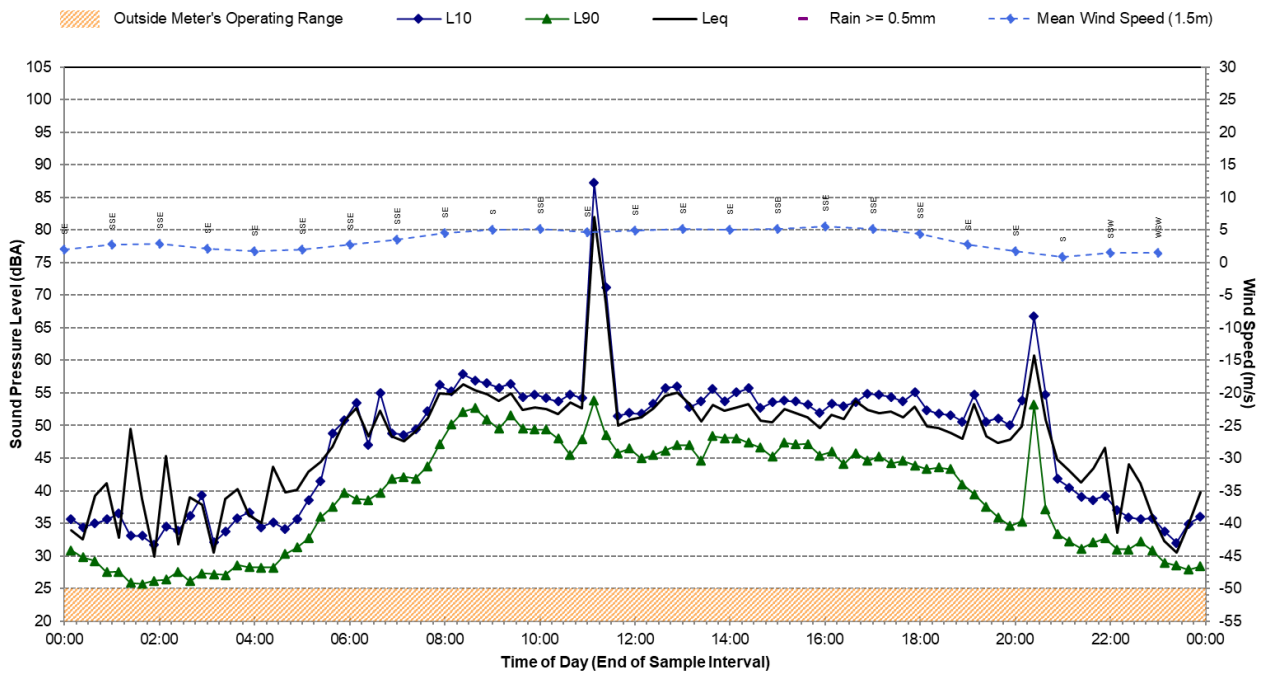


Statistical Ambient Noise Levels
Location L - Wednesday, 18 December 2024



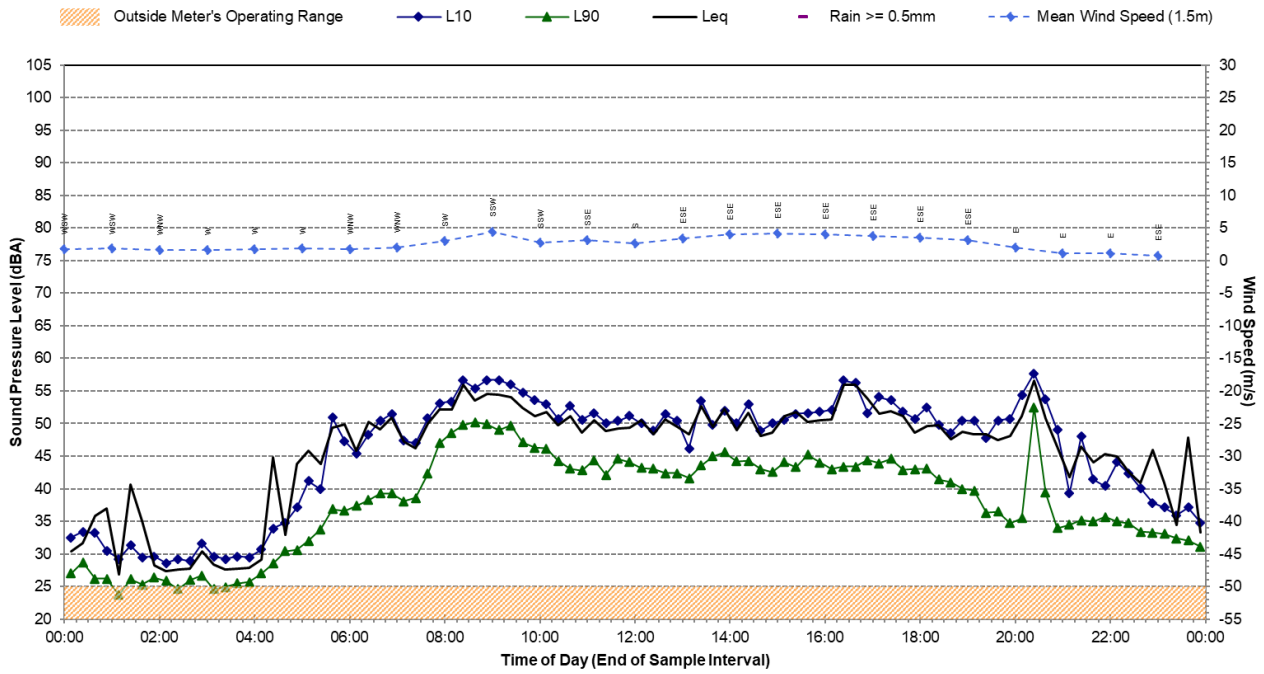
Statistical Ambient Noise Levels

Location L - Thursday, 19 December 2024

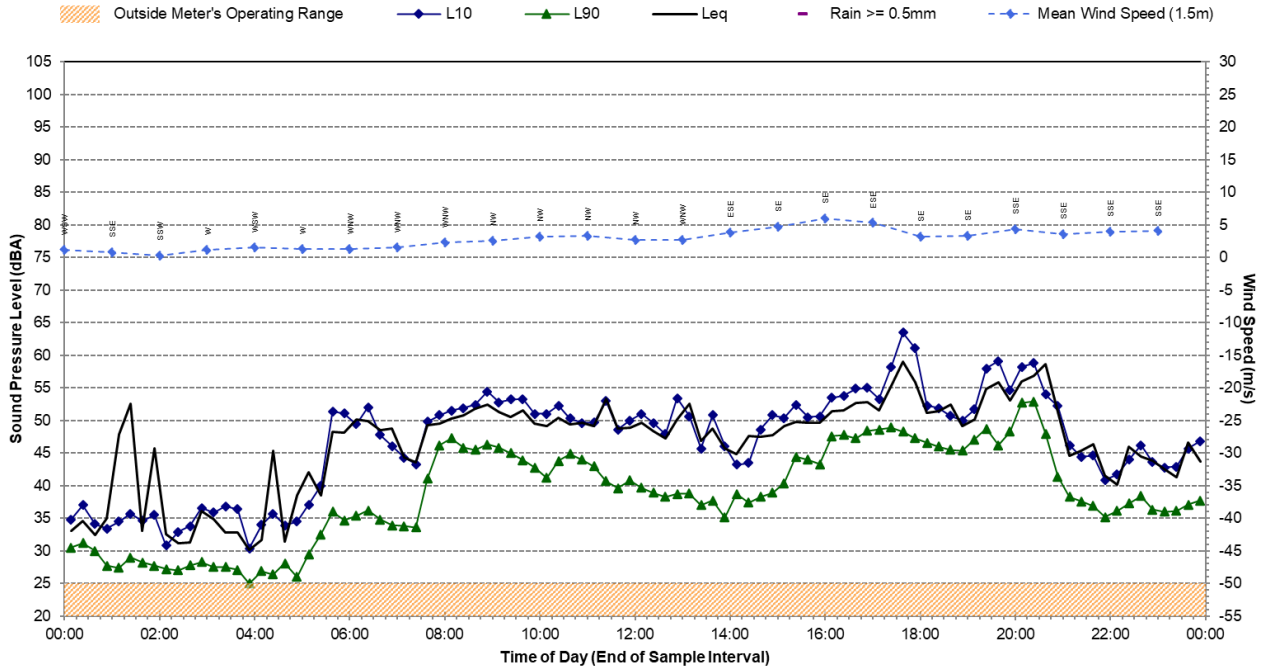


Statistical Ambient Noise Levels

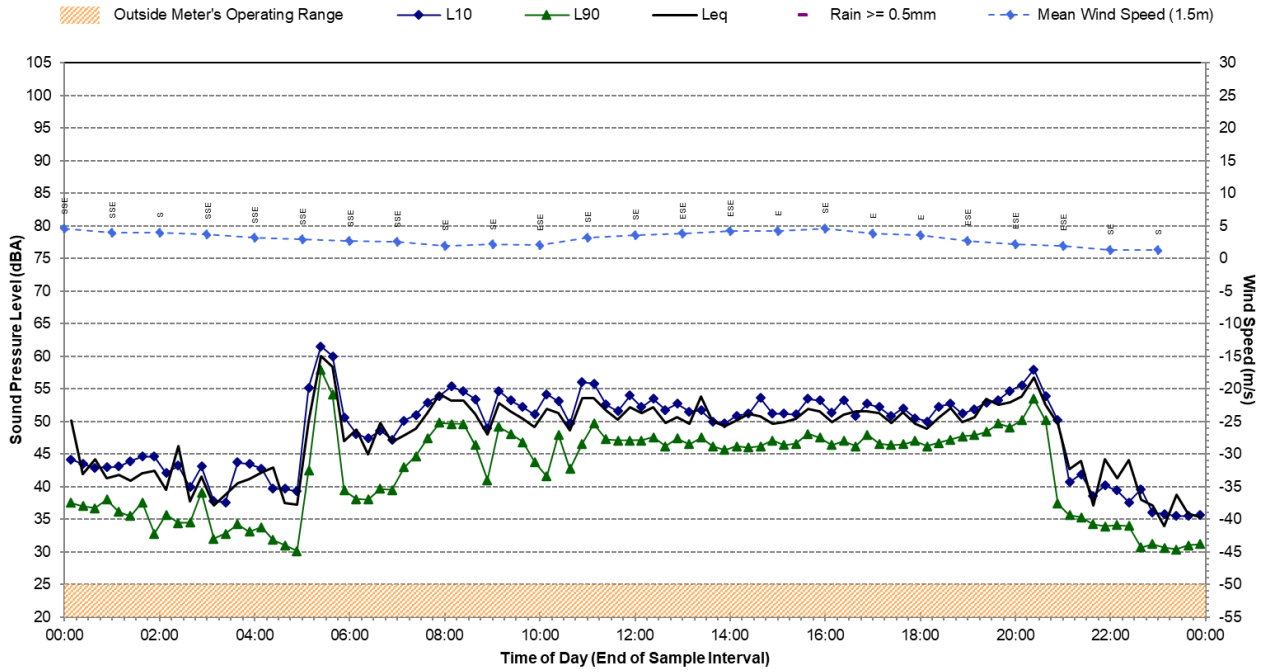
Location L - Friday, 20 December 2024



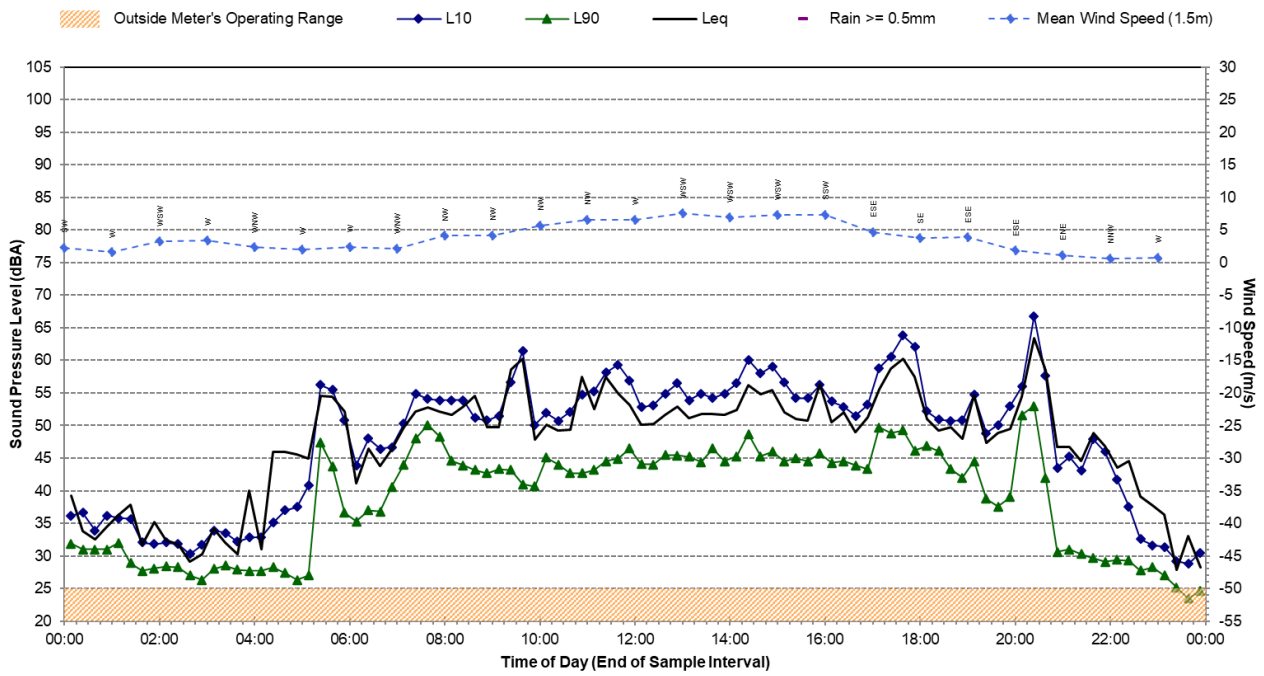
Statistical Ambient Noise Levels
Location L - Saturday, 21 December 2024



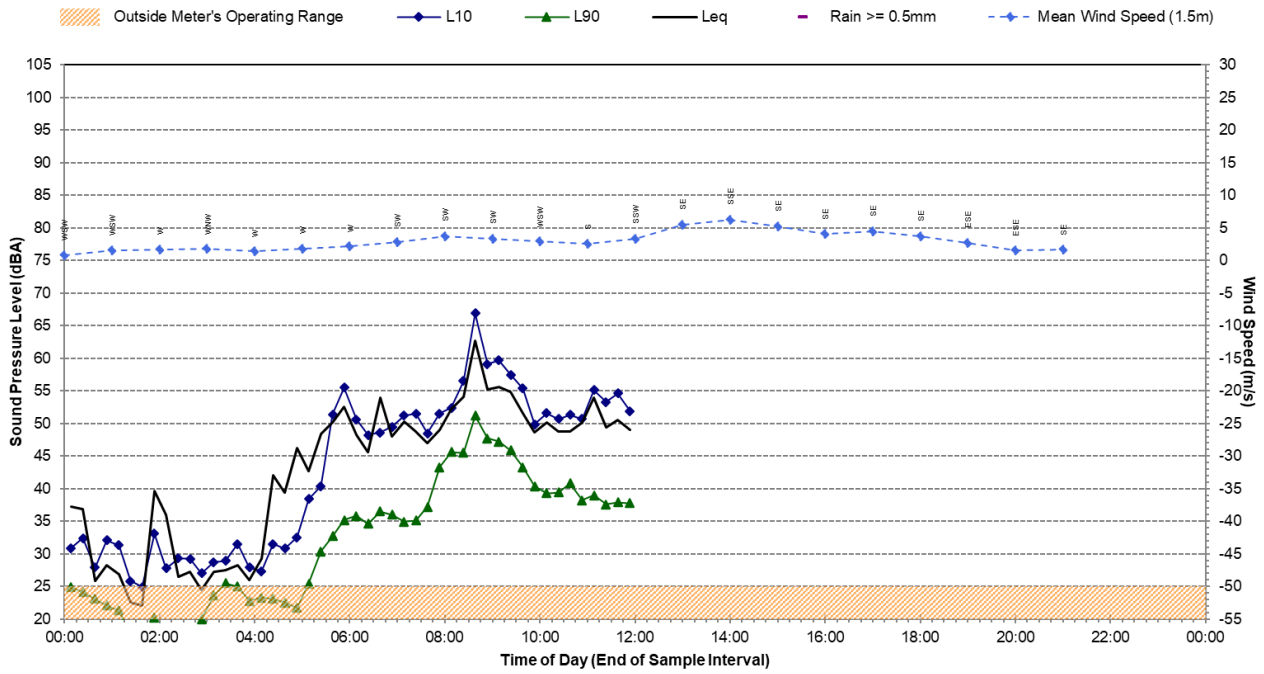
Statistical Ambient Noise Levels
Location L - Sunday, 22 December 2024



Statistical Ambient Noise Levels
Location L - Monday, 23 December 2024

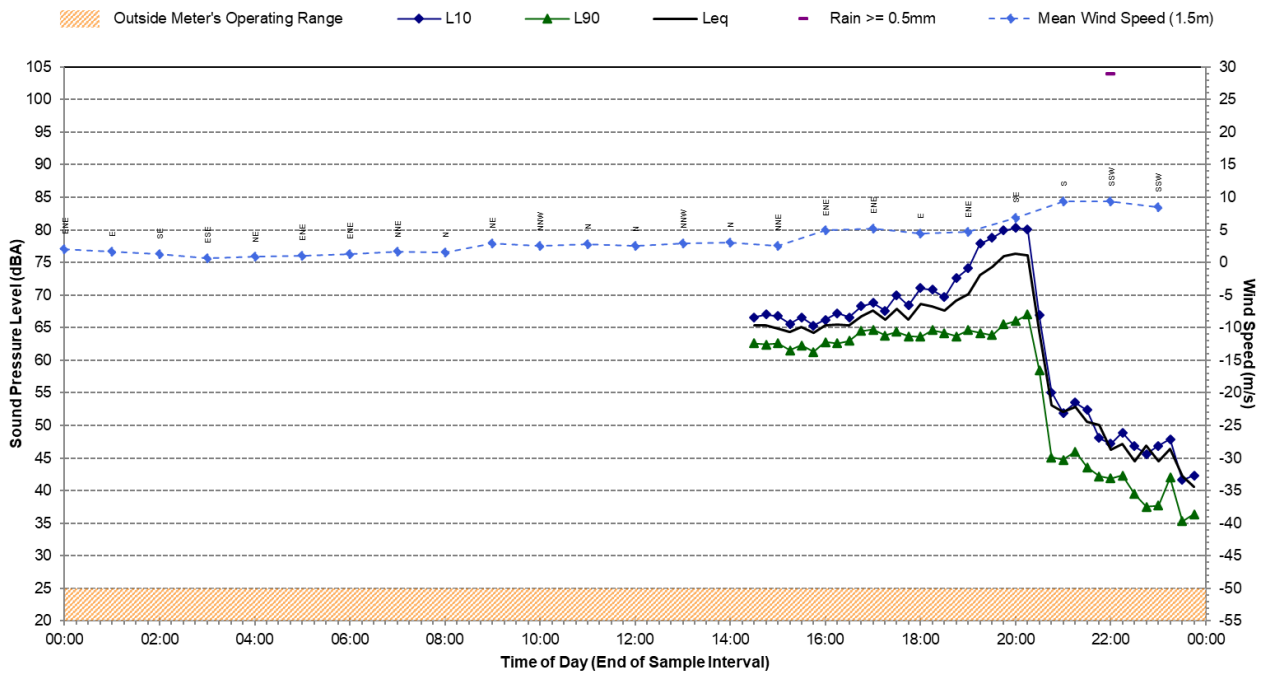


Statistical Ambient Noise Levels
Location L - Tuesday, 24 December 2024



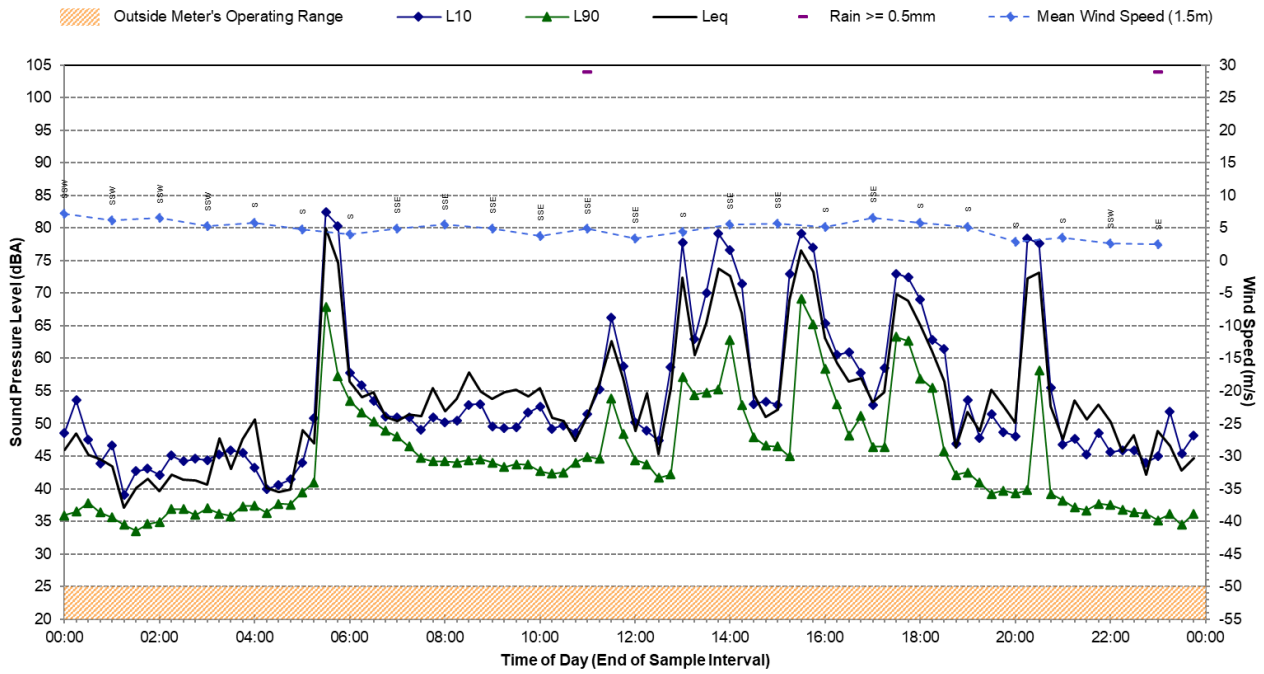
Statistical Ambient Noise Levels

Location I - Tuesday, 17 December 2024



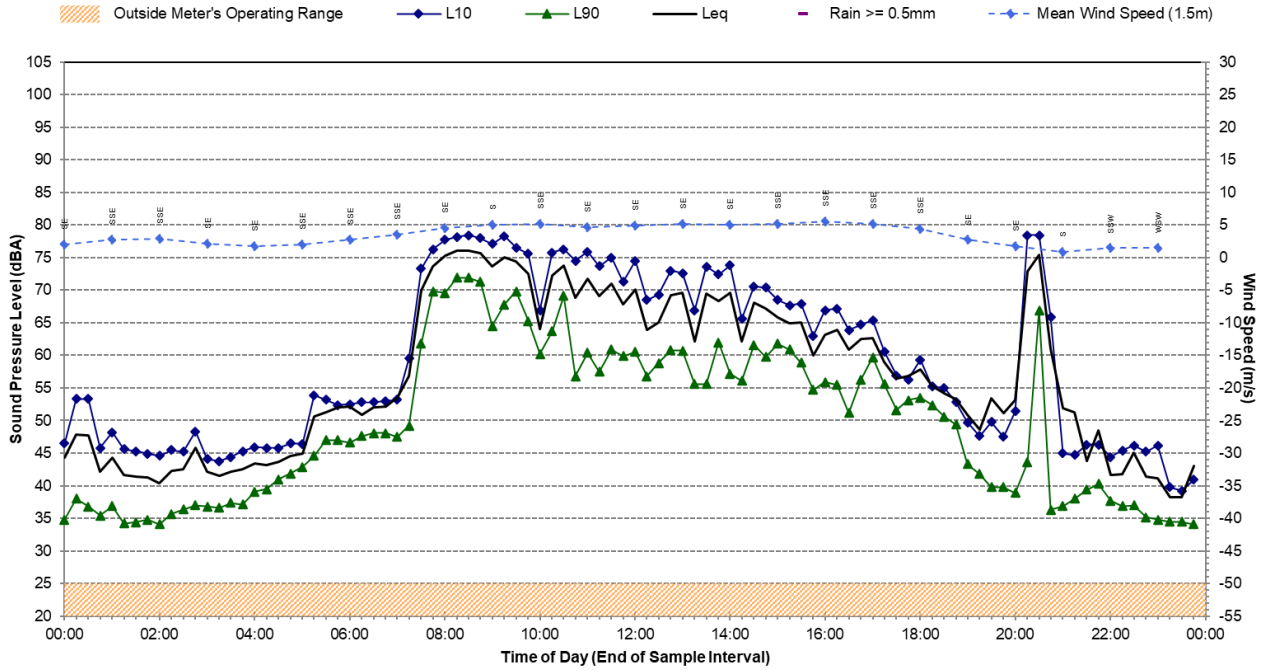
Statistical Ambient Noise Levels

Location I - Wednesday, 18 December 2024



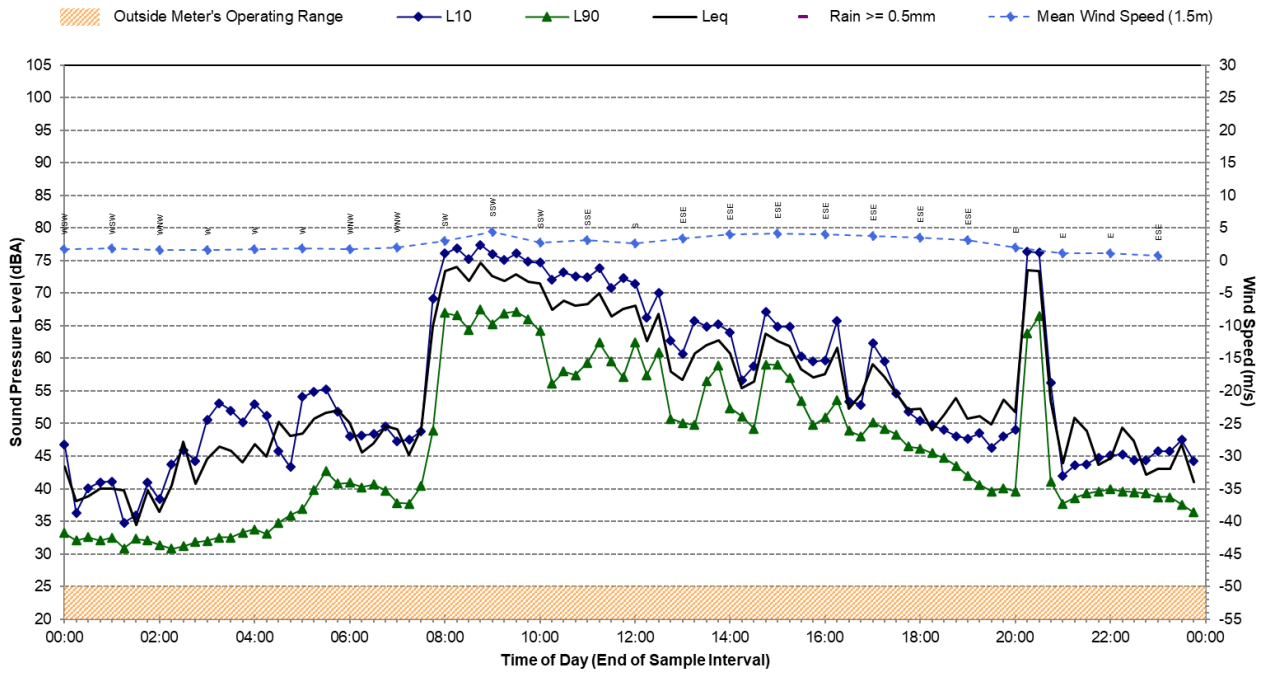
Statistical Ambient Noise Levels

Location I - Thursday, 19 December 2024

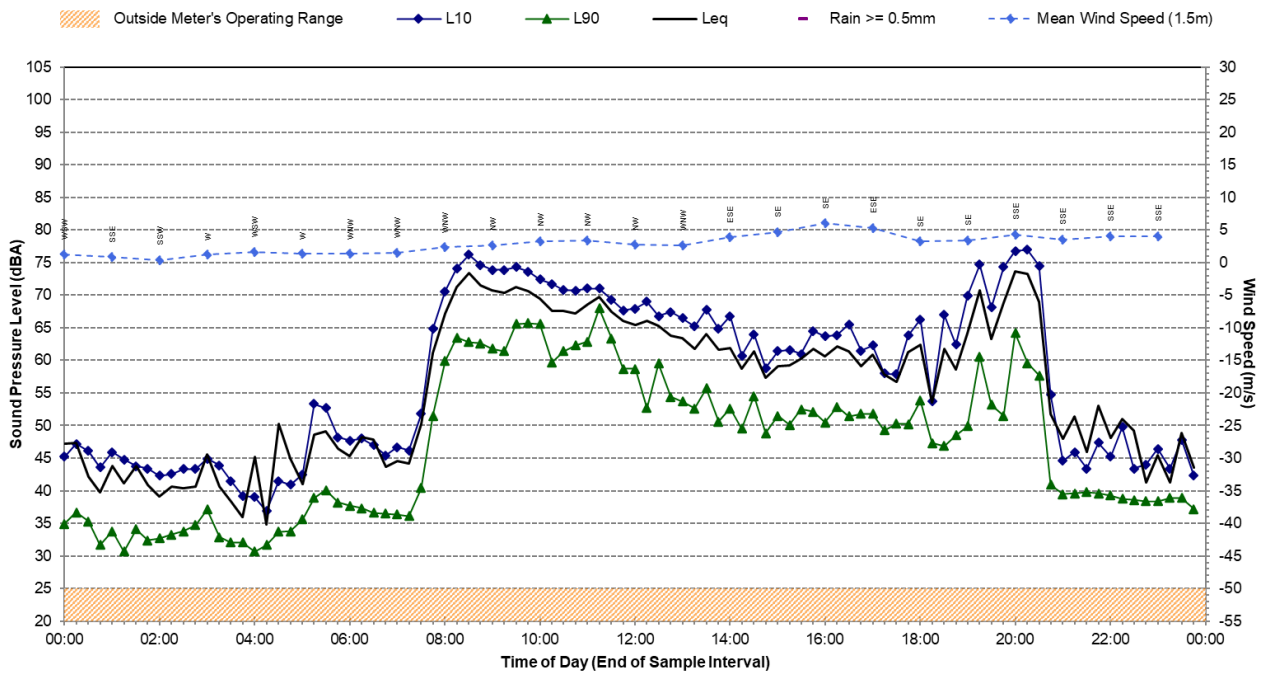


Statistical Ambient Noise Levels

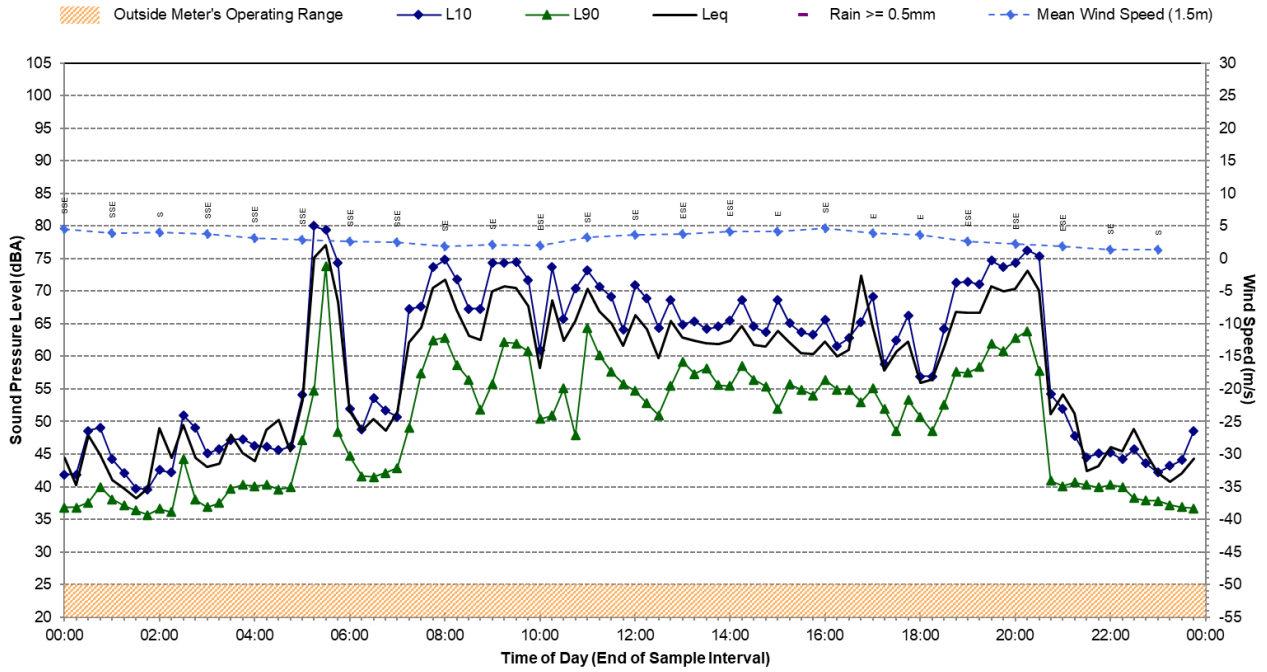
Location I - Friday, 20 December 2024



Statistical Ambient Noise Levels
Location I - Saturday, 21 December 2024

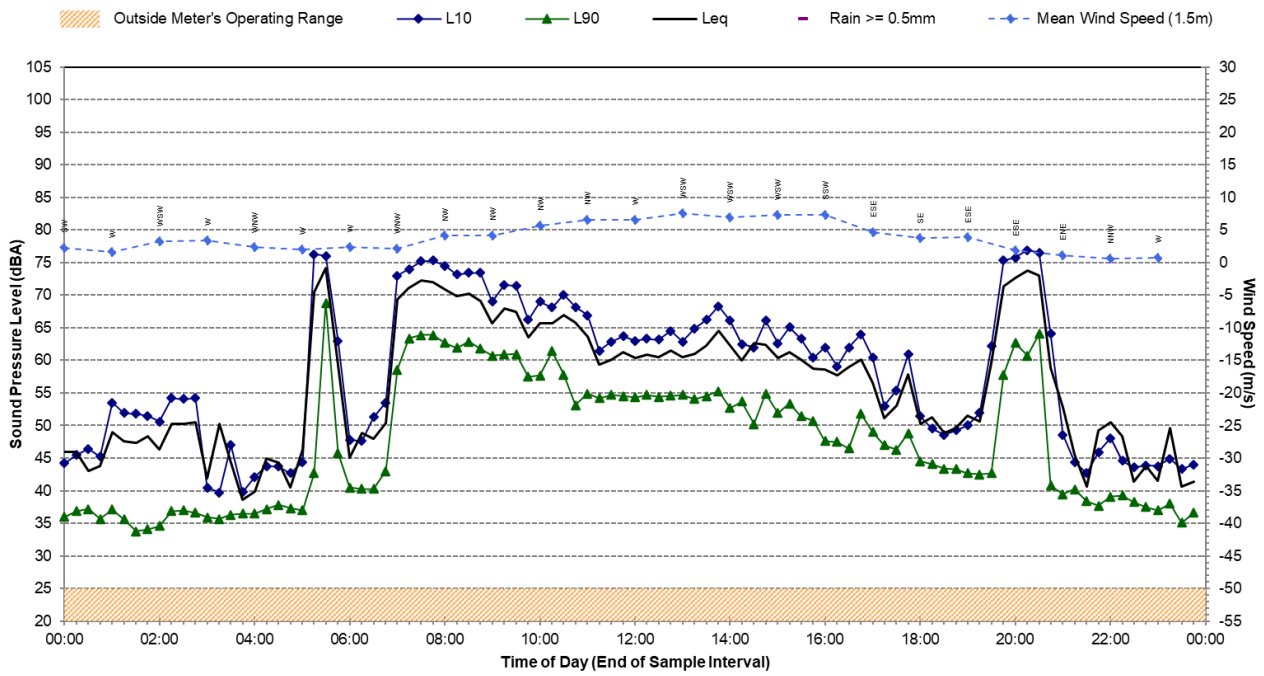


Statistical Ambient Noise Levels
Location I - Sunday, 22 December 2024



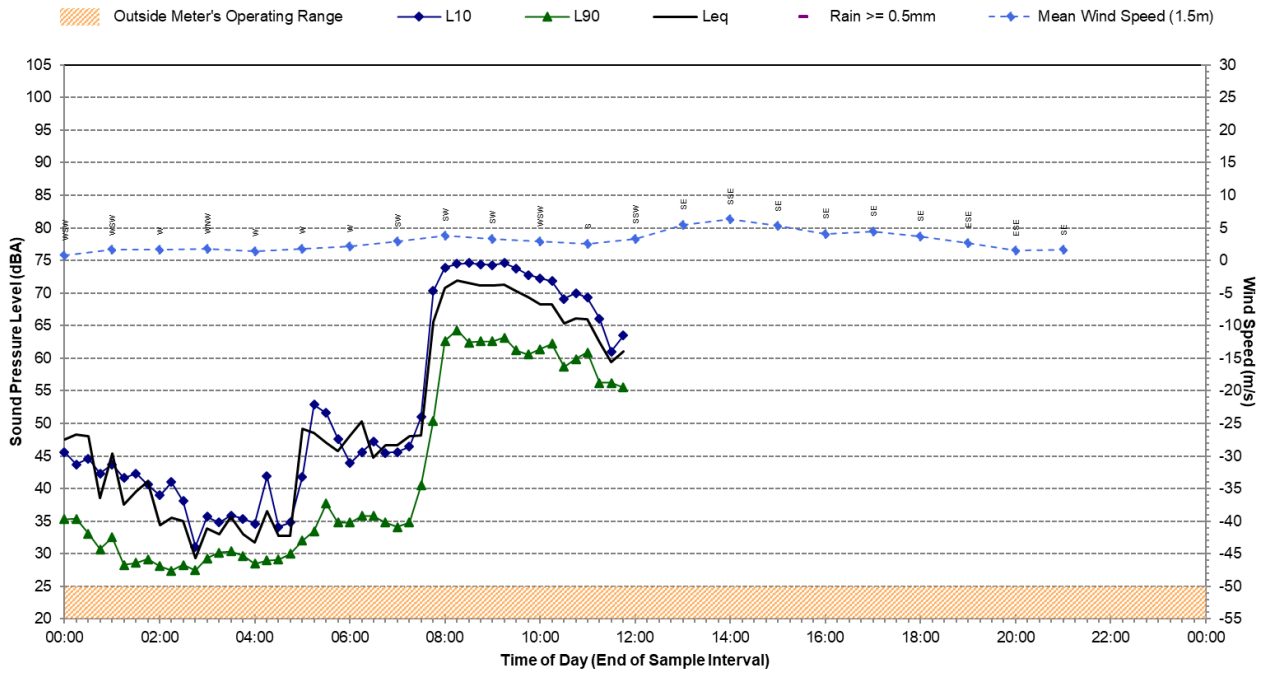
Statistical Ambient Noise Levels

Location I - Monday, 23 December 2024

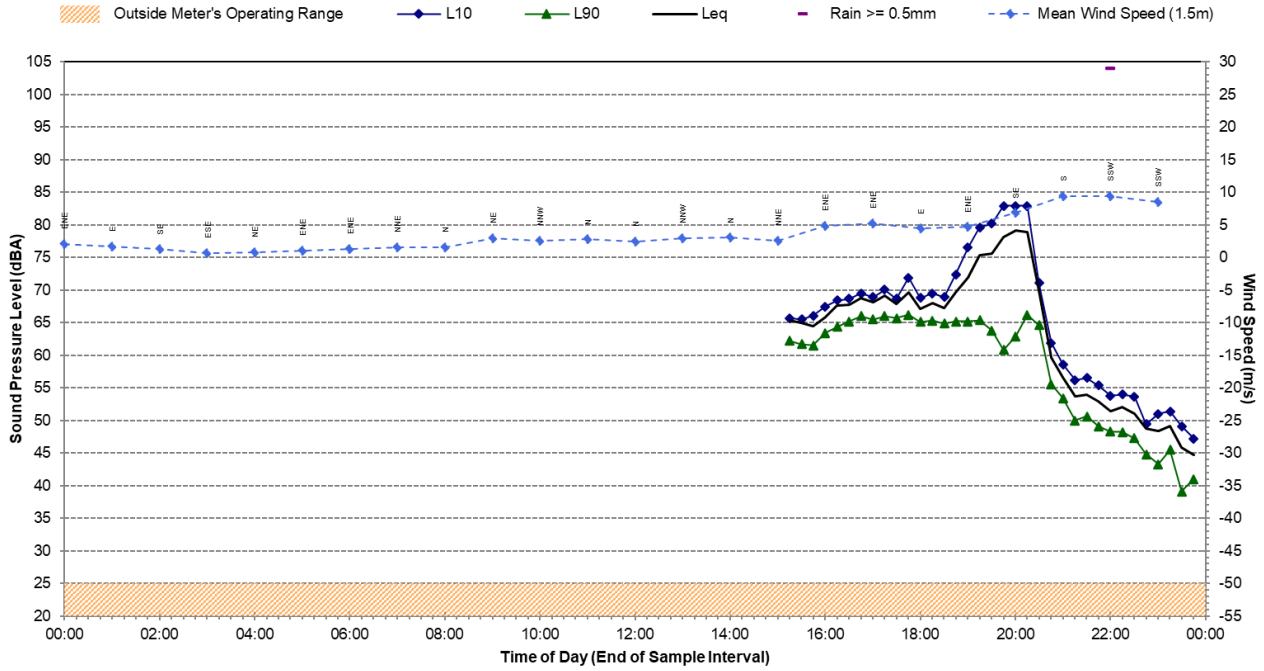


Statistical Ambient Noise Levels

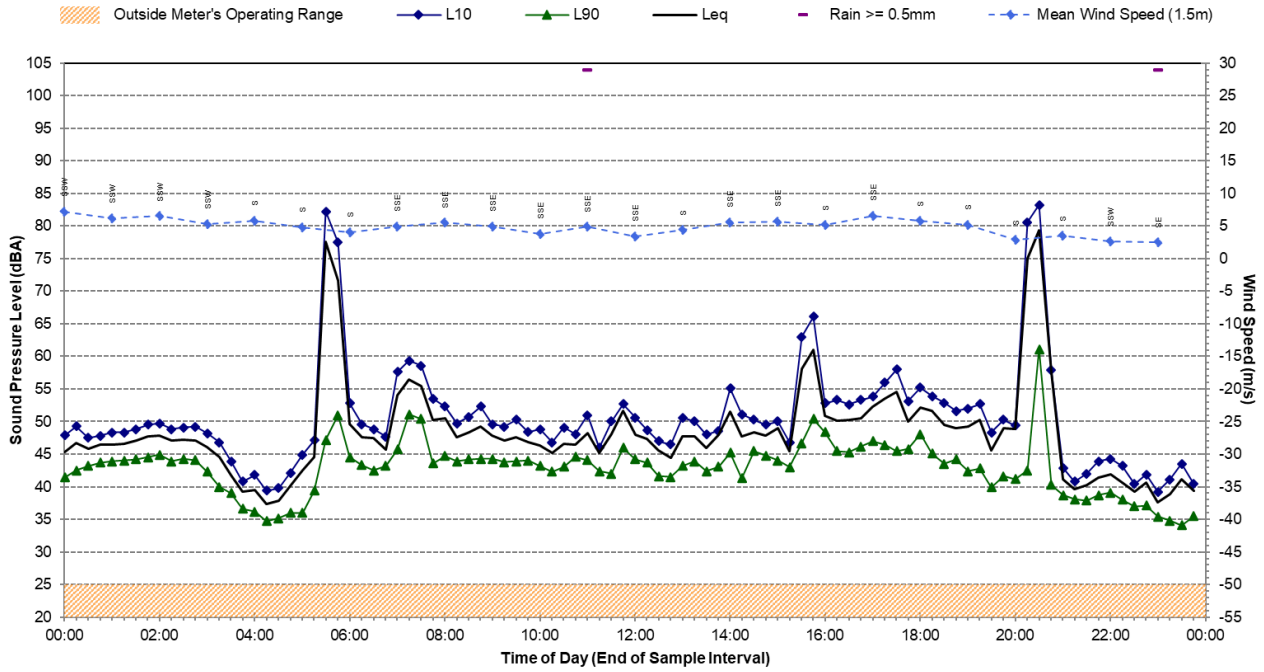
Location I - Tuesday, 24 December 2024



Statistical Ambient Noise Levels
Location J - Tuesday, 17 December 2024

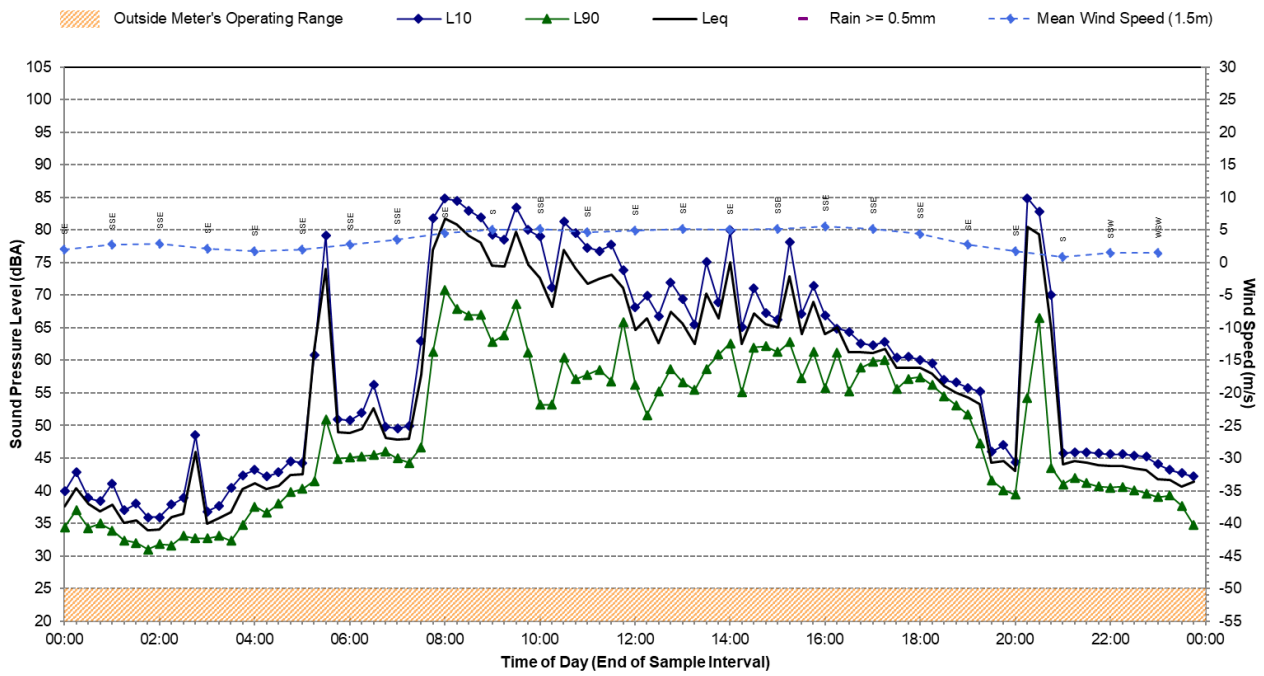


Statistical Ambient Noise Levels
Location J - Wednesday, 18 December 2024



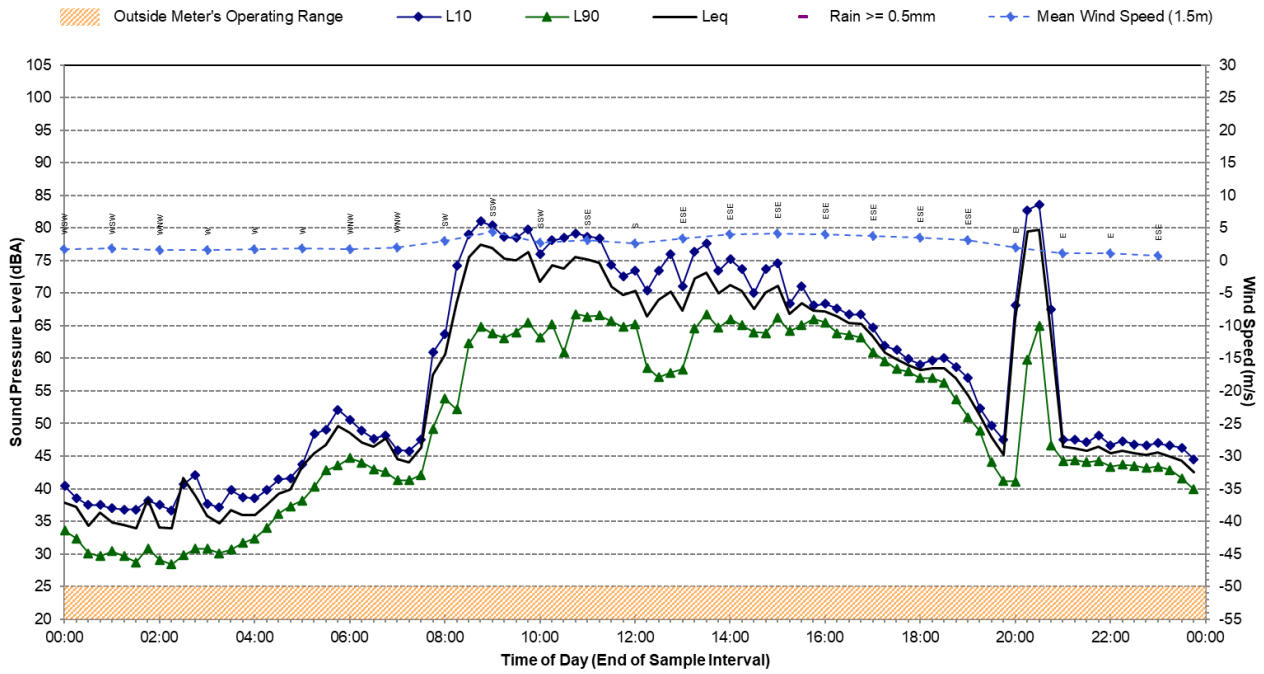
Statistical Ambient Noise Levels

Location J - Thursday, 19 December 2024

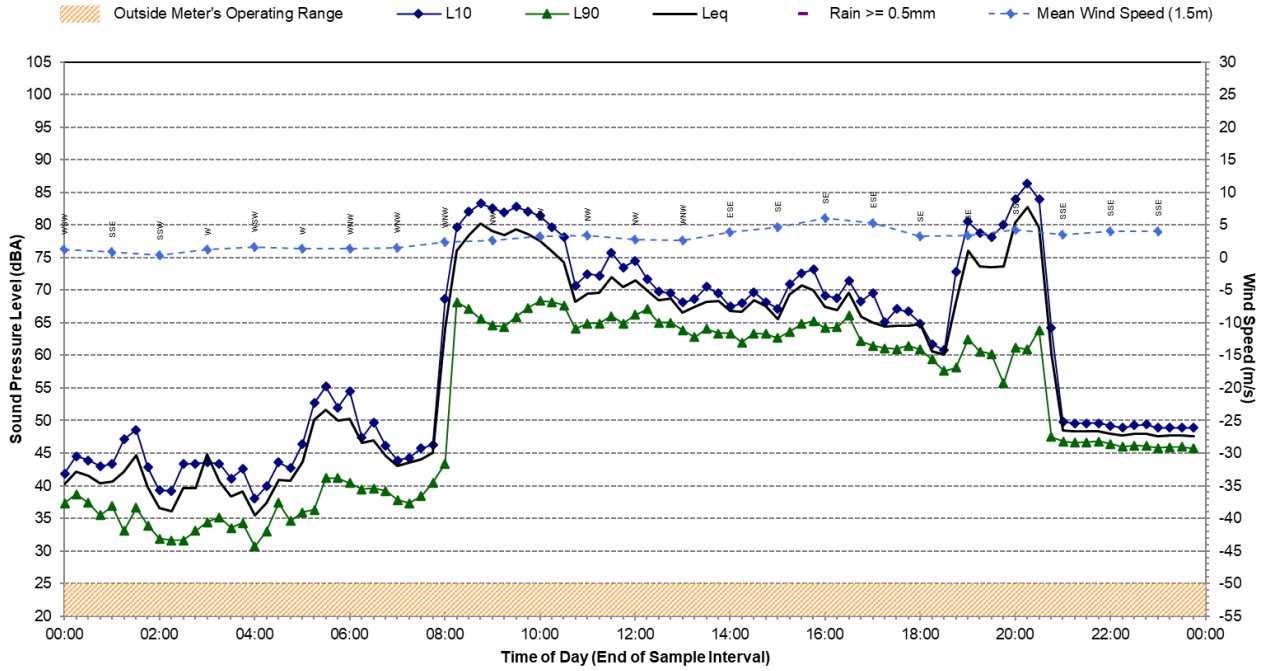


Statistical Ambient Noise Levels

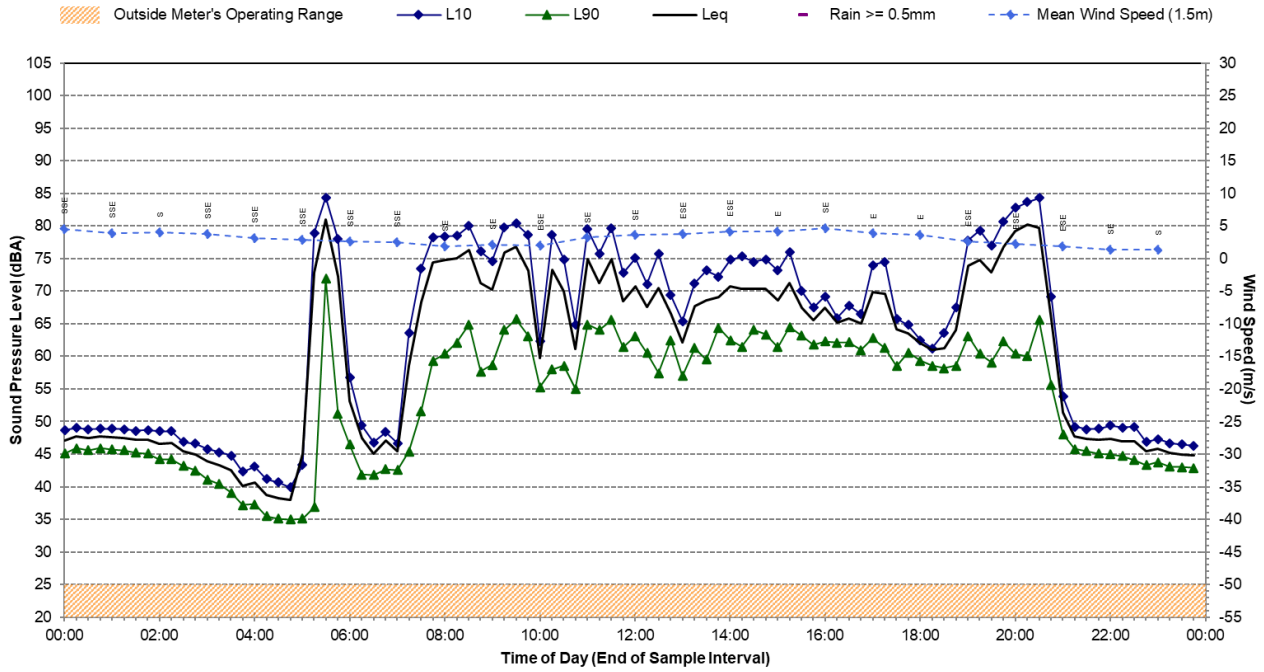
Location J - Friday, 20 December 2024



Statistical Ambient Noise Levels
Location J - Saturday, 21 December 2024

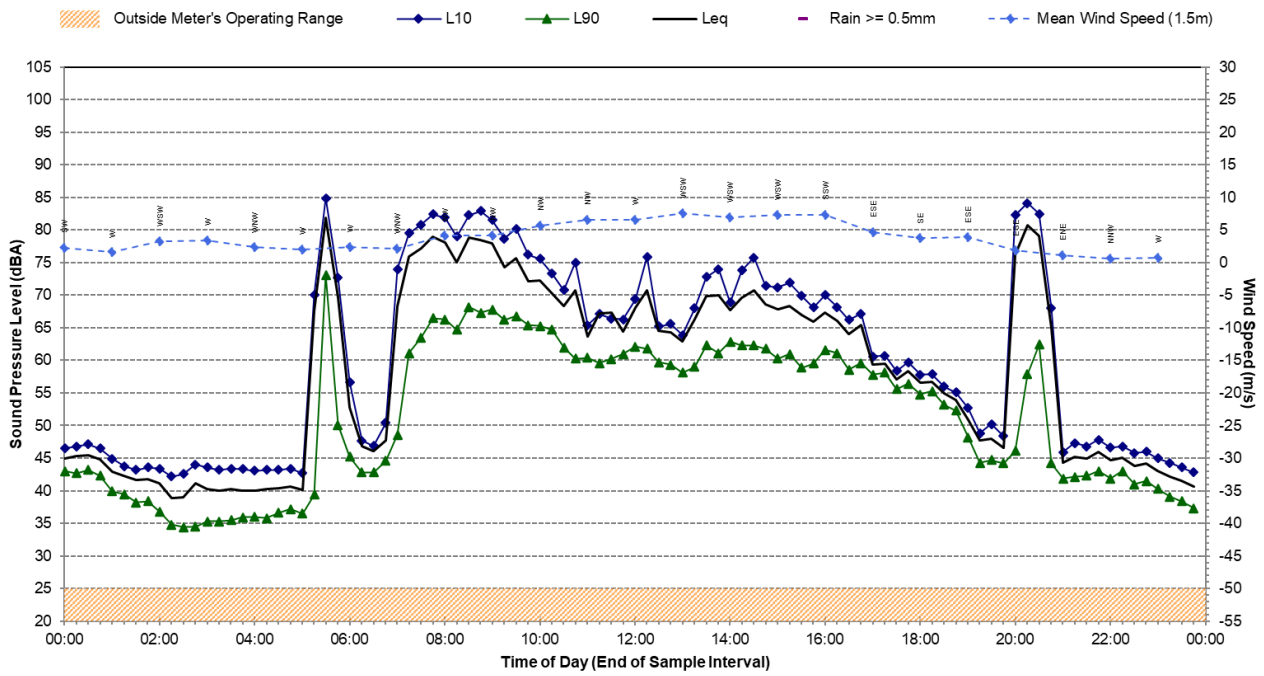


Statistical Ambient Noise Levels
Location J - Sunday, 22 December 2024



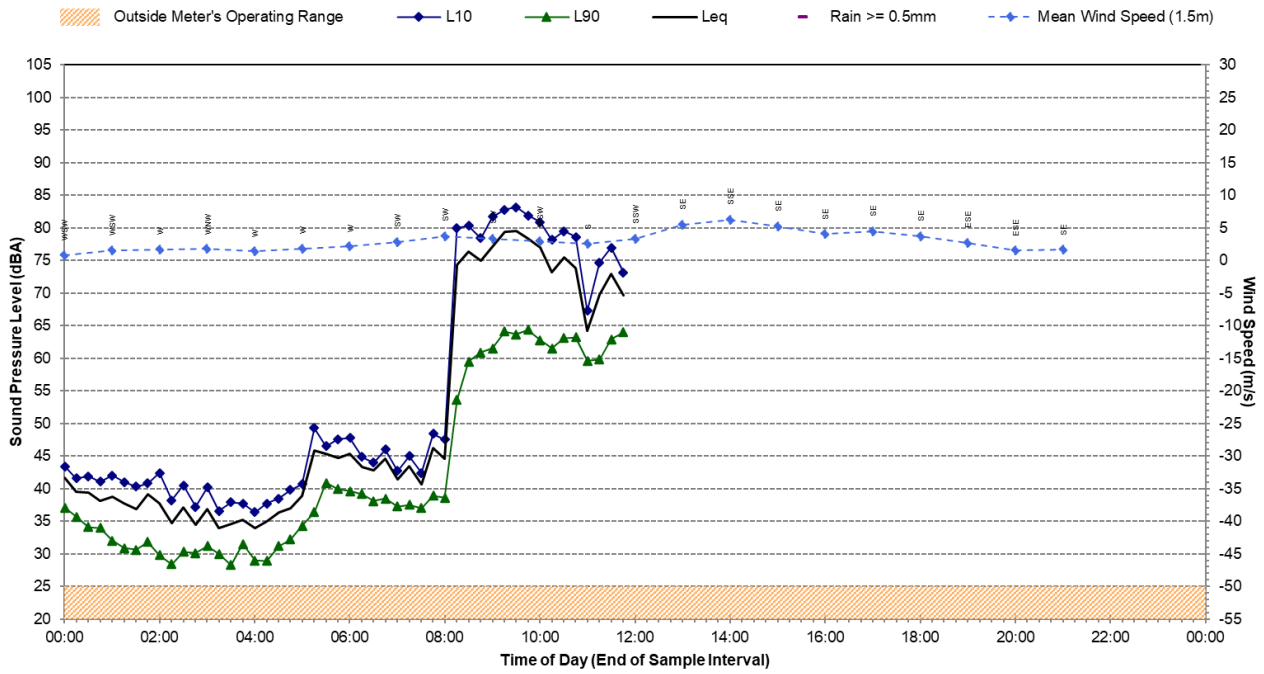
Statistical Ambient Noise Levels

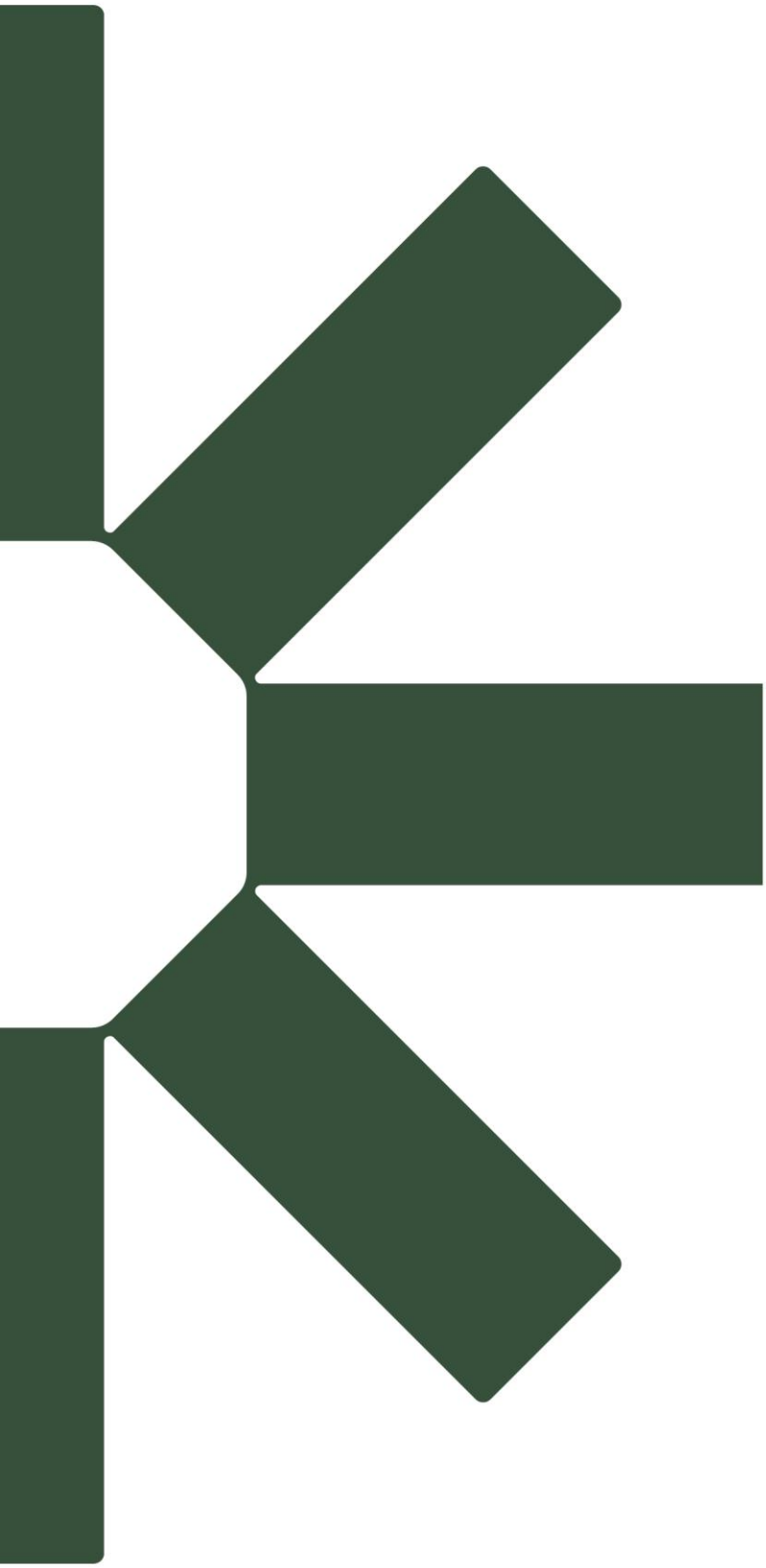
Location J - Monday, 23 December 2024



Statistical Ambient Noise Levels

Location J - Tuesday, 24 December 2024





Making Sustainability Happen