HS2

January 2026

Construction Noise and Vibration Monthly Report – November 2025

North Warwickshire Borough Council

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Non-Technical Summary

This Noise and Vibration Monitoring Report fulfils HS2 Limited's commitment detailed in the Environmental Minimum Requirements (EMRs), Annex 1, Code of Construction Practice, to present the results of noise and vibration monitoring carried out within North Warwickshire Borough Council (NWBC) area during the month of November 2025.

Within this period noise and vibration monitoring were undertaken at the following worksites:

- Church Lane Embankment worksite (ref.: CLE), where water proofing, Kerbing works including concrete pours and utilities installation were underway.
- Kingsbury Main Compound worksite (ref.: KMC), where operation of precast yard, batching plant, offices and welfare facilities was underway.
- Marston Box worksite (ref.: MB), where drilling and material processing, including crushing concrete were underway.
- Faraday Avenue Embankment and Underbridge worksite (ref.: FAEU), where material deliveries and offices and welfare facilities was underway.
- Chattle Hill Box Structure worksite (ref.: CHBS), where site maintenance was underway.
- Attleboro Lane Overbridge worksite (ref.: ALO),where retaining wall construction, pile installation and sheet piling were underway.
- Marsh Lane Embankment (ref.: MLE) worksites, where dig and replace, compound operation, haul road operation and maintenance, material movements, stockpiling, embankment construction and culvert installation were underway
- Gilson Embankment worksite (ref.: GE), where earthworks, material movements and site maintenance were underway.
- Gilson Drive worksite (ref.: GLD), where embankment construction, earthworks and site maintenance were underway.
- Birmingham Road worksite (ref.: BRD), where no works were underway.
- Water Orton South Compound (ref.: WOSC), where operation of generators, flood defence construction, superstructure works, piling works, including bored piles, excavation, and formwork, reinforcement and concrete works were underway.

The HS2 threshold levels for significant noise impacts, which are defined in Information Paper E23 (https://www.gov.uk/government/publications/hs2-information-papers-environment), were not exceeded due to HS2 works during November 2025.

There were no exceedances of trigger levels as defined in section 61 consents during the reporting period.

Two (2) complaints regarding noise and vibration were received by HS2 during the reporting period.

Abbreviations and Descriptions

The abbreviations, descriptions and project terminology used within this report can be found in Table 1.

Table 1: Table of Abbreviations

Acronym/Term	Definition
$L_{Aeq,T}$	See equivalent continuous sound pressure level
Ambient sound	A description of the all-encompassing sound at a given location and time which will include sound from many sources near and far. Ambient sound can be quantified in terms of the equivalent continuous sound pressure level, $L_{pAeq,T}$
Decibel(s), or dB	Between the quietest audible sound and the loudest tolerable sound there is a million to one ratio in sound pressure (measured in Pascal (Pa)). Because of this wide range, a level scale called the decibel (dB) scale, based on a logarithmic ratio, is used in sound measurement. Audibility of sound covers a range of approximately 0-140dB.
Decibel(s) A-weighted, or dB(A)	The human ear system does not respond uniformly to sound across the detectable frequency range and consequently instrumentation used to measure sound is weighted to represent the performance of the ear. This is known as the 'A weighting' and is written as 'dB(A)'.
Equivalent continuous sound pressure level, or $L_{Aeq,T}$	An index used internationally for the assessment of environmental sound impacts. It is defined as the notional unchanging level that would, over a given period of time (T), deliver the same sound energy as the actual time-varying sound over the same period. Hence fluctuating sound levels can be described in terms of an equivalent single figure value, typically expressed as a decibel level.
Exclusion of data	Measurement of noise levels can be affected by weather conditions such as prolonged periods of rain, winds speeds higher than 5m/s and snow/ice ground cover. Noise levels measured during these periods are considered not representative of normal noise conditions at the site and, for the purposes of this report, are excluded from the assessment of exceedances and calculation of typical noise levels and are also greyed out in charts. Identifiable incongruous noise and vibration events not attributable to HS2 construction noise are also excluded.
Façade	A facade noise level is the noise level 1m in front of a large reflecting surface. The effect of reflection, is to produce a slightly higher (typically +3 dB) sound level than it would be if the reflecting surface was not there.
Free-field	A free-field noise level is the noise level measured at a location where no reflective surfaces, other than the ground, lies within 3.5 metres of the microphone position.
LOAEL	Lowest Observed Adverse Effect Level - the level above which adverse effects on health and quality of life can be detected.
Peak particle velocity, or PPV	Instantaneous maximum velocity reached by a vibrating element as it oscillates about its rest position. The PPV is a simple indicator of perceptibility and risk of damage to structures due to vibration. It is usually measured in mm/s.
SOAEL	Significant Observed Adverse Effect Level - the level above which significant adverse effects on health and quality of life occur.
Sound pressure level	The parameter by which sound levels are measured in air. It is measured in decibels. The threshold of hearing has been set at 0dB, while the threshold of pain is approximately 120dB. Normal speech is approximately 60dB at a distance of 1 metre and a change of 3dB in a time varying sound signal is commonly regarded as being just detectable. A change of 10dB is subjectively twice, or half, as loud.
Vibration dose value, or VDV	An index used to evaluate human exposure to vibration in buildings. While the PPV provides information regarding the magnitude of single vibration events, the VDV provides a measure of the total vibration experienced over a specified period of time (typically 16h daytime and 8h night-time). It takes into account the magnitude, the number and the duration of vibration events and can be used to quantify exposure to continuous, impulsive, occasional and intermittent vibration. The vibration dose value is measured in $m/s^{1.75}$.

1 Introduction

1.1.1 HS2 is required to undertake noise (and vibration) monitoring as necessary to comply with the requirements of the High Speed Rail (London-West Midlands) Environmental Minimum Requirements, including specifically Annex 1: Code of Construction Practice, in addition to any monitoring requirements arising from conditions imposed through consents under Section 61 of the Control of Pollution Act, 1974 or through Undertakings & Assurances given to third parties. Such monitoring may be undertaken for the following purposes:

- monitoring the impact of construction works;
- to investigate complaints, incidents and exceedance of trigger levels; or
- monitoring the effectiveness of noise and vibration control measures.

1.1.2 Monitoring data and interpretive reports are to be provided to each relevant local authority on a monthly basis and shall include a summary of the construction activities occurring, the data recorded over the monitoring period, any complaints received, any periods in exceedance of agreed trigger levels, the results of any investigations and any actions taken or mitigation measures implemented. This report provides noise data, and interpretation thereof, for monitoring carried out by HS2 within the North Warwickshire Borough Council (NWBC) area for the period 1st to 30th of November 2025.

1.1.3 Construction sites in the local authority area where monitoring was undertaken during this period include:

- Church Lane Embankment worksite, ref.: CLE (see Plan 1 in Appendix A), where work activities included:
  - Water proofing.
  - Kerbing works including concrete pours and drainage installation.
  - Utilities installation.
- Kingsbury Main Compound worksite, ref.: KMC (see Plan 2 in Appendix A), where works activities included:
  - Operation of precast yard.
  - Operation of batching plant.
  - Operation of offices and welfare facilities.
- Marston Box/Marston Lane worksite, ref.: MB (see Plan 2 in Appendix A), where works activities included:

    - High directional drilling.
    - Material processing, including crushing concrete.
- Faraday Avenue Embankment and Underbridge worksite, ref.: FAEU (see Plan 3 in Appendix A), where works activities included:
    - Material deliveries.
    - Operation of offices and welfare facilities.
- Chattle Hill Box Structure worksite, ref.: CHBS (see Plan 4 in Appendix A), where work activities included:
    - Site maintenance.
- Attleboro Lane Overbridge worksite, ref.: ALO (See Plan 4 in Appendix A), where work activities included:
    - Retaining wall construction, including base slab, capping beams, walls and roof slab installation.
    - Pile installation.
    - Sheet piling.
- Marsh Lane Embankment worksite, ref: MLE (See Plan 4 in Appendix A), where work activities included:
    - Dig and replace.
    - Compound operation.
    - Haul road operation and maintenance.
    - Material movements.
    - Stockpiling.
    - Embankment construction.
    - Culvert installation.
- Gilson Embankment worksite, ref.: GE (see Plan 4 in Appendix A), where works activities included:
    - Earthworks.
    - Material movements.
    - Site maintenance.

- Gilson Drive worksite, ref.: GLD (see Plan 4 in Appendix A), works activities included:
    - Earthworks.
    - Material movements.
    - Site maintenance.
- Birmingham Road worksite, ref.: BRD (see Plan 4 in Appendix A), where no works activities were underway.
- Water Orton Sound Compound, ref.: WOSC (see Plan 4 in Appendix A), work activities included:
    - Operation of generators.
    - Flood defence construction.
    - Superstructure works, including plant maintenance and highways works.
    - Piling works, including cropping piles and bored piles.
    - Excavation.
    - Formwork, reinforcement and concrete works.

1.1.4 The applicable standards, guidance, and monitoring methodology is outlined in the construction noise and vibration monitoring methodology report which can be found at the following location https://www.gov.uk/government/collections/monitoring-the-environmental-effects-of-hs2. Noise and vibration monitoring reports for previous months can also be found at this location.

1.2 Measurement Locations

1.2.1 Fourteen (14) noise monitoring installations and seven (7) vibration monitoring installations were active in November in the NWBC area.

1.2.2 Table 2 summarises the location of noise and vibration monitoring installations within the NWBC area in November 2025.

1.2.3 Maps showing the position of noise and vibration monitoring installations are presented in Appendix B.

Table 2: Monitoring Locations

Worksite Reference	Measurement Reference	Address
CLE	CLE-N1	Highfields Cottage, Middleton, North Warwickshire
KMC	KMC-N1	Wheatley House, Kingsbury Road, Curdworth CP, Marston, Warwick
MB	MB-N1	Elford House, Kingsbury Road, Curdworth, Sutton Coldfield
	MB-V1	Elford House, Kingsbury Road, Curdworth, Sutton Coldfield
FAEU	FAEU-N1	South of Orchard Cottage, Newlands Lane, Curdworth, Warwickshire
	FAEU-V1	South of Orchard Cottage, Newlands Lane, Curdworth, Warwickshire
CHBS	CHBS-N1	6 Gorsey Way, Coleshill, Warwickshire, Birmingham
WOSC	WOSC-N3	(south of) 53 Watton Lane, Water Orton
MLE	MLE-N1	Rostrevor, Vicarage Lane, Water Orton CP, North Warwickshire
ALO	ALO-N1	West of 47 Attleboro Lane, Water Orton, Birmingham
	ALO-N2	(south of) 57 Attleboro Lane, Water Orton, Birmingham
	ALO-V1	West of 47 Attleboro Lane, Water Orton, Birmingham
	ALO-V5	(south of) 57 Attleboro Lane, Water Orton, Birmingham
	AFE-N1	Attleboro Farm, Attleboro Lane, Water Orton, Birmingham
	AFE-V1	Attleboro Farm, Attleboro Lane, Water Orton, Birmingham
GE	GE-N2	Lovegrove Cottage, Gilson Road, Warwickshire
GLD	GLD-N1	10 Gilson Dr, Coleshill, Birmingham
	GLD-V1	10 Gilson Dr, Coleshill, Birmingham
BRD	BRD-N2	1 New Cottages, Birmingham Road, Coleshill, Birmingham
	BRD-N3	1 New Cottages, Birmingham Road, Coleshill, Birmingham
	BRD-V1	1 New Cottages, Birmingham Road, Coleshill, Birmingham

2 Summary of Results

2.1 Summary of Measured Noise and Vibration Levels

2.1.1 Table 3 presents a summary of the measured noise levels at each monitoring location over the reporting period. The $L_{Aeq,T}$ is presented for each of the relevant time periods averaged over the calendar month, along with the highest single period $L_{Aeq,T}$ that was found to occur within the month.

Table 3: Summary of Measured dB L_{Aeq} Data over the Monitoring Period

Worksite Reference	Measurement Reference	Site Address	Free-Field or Façade Measurement	Weekday Average LAeq,T (Highest Day LAeq,T)					Saturday Average LAeq,T (Highest Day LAeq,T)					Sunday / Public Holiday Average LAeq,T (Highest Day LAeq,T)	
				0700 - 0800	0800 - 1800	1800 - 1900	1900 - 2200	2200 - 0700	0700 - 0800	0800 - 1300	1300 - 1400	1400 - 2200	2200 - 0700	0700 - 2200	2200 - 0700
CLE	CLE-N1	Highfields Cottage, Middleton	Free-field	48.8 (54.1)	48.2 (55.8)	45.8 (48.7)	45.5 (55.6)	43.0 (54.0)	45.2 (47.9)	46.5 (53.4)	46.2 (50.7)	44.7 (54.1)	40.8 (50.3)	46.7 (54.2)	42.2 (49.2)
KMC	KMC-N1	Kingsbury Road, Curdworth	Free-field	59.2 (61.9)	60.4 (63.3)	57.6 (61.9)	57.1 (61.0)	56.0 (61.9)	57.5 (60.3)	57.5 (59.2)	57.5 (61.5)	58.4 (65.0)	56.4 (60.4)	58.0 (63.1)	55.6 (61.0)
MB	MB-N1	Elford House, Kingsbury Road, Curdworth	Free-field	58.8 (62.2)	58.4 (62.4)	57.3 (60.6)	56.3 (60.1)	53.7 (60.9)	55.3 (55.6)	57.9 (60.1)	58.0 (59.6)	57.7 (61.4)	52.4 (57.3)	57.5 (61.5)	53.6 (61.0)
FAEU	FAEU-N1	(South of) Orchard Cottage, Newlands Lane, Curdworth	Free-field	57.6 (59.9)	56.5 (60.5)	56.2 (58.6)	55.2 (60.9)	53.6 (59.8)	54.0 (56.5)	55.5 (58.2)	55.7 (57.2)	54.5 (57.6)	51.2 (55.1)	55.0 (59.7)	53.4 (59.2)
CHBS	CHBS-N1	6 Gorsey Way, Coleshill	Free-field	63.4 (65.6)	62.6 (64.2)	61.2 (62.7)	59.5 (62.6)	57.4 (63.8)	58.5 (59.7)	61.3 (62.3)	62.0 (62.8)	60.3 (64.6)	56.1 (65.0)	60.9 (65.0)	57.5 (62.9)

Worksite Reference	Measurement Reference	Site Address	Free-Field or Façade Measurement	Weekday Average LAeq,T (Highest Day LAeq,T)					Saturday Average LAeq,T (Highest Day LAeq,T)					Sunday / Public Holiday Average LAeq,T (Highest Day LAeq,T)	
				0700 - 0800	0800 - 1800	1800 - 1900	1900 - 2200	2200 - 0700	0700 - 0800	0800 - 1300	1300 - 1400	1400 - 2200	2200 - 0700	0700 - 2200	2200 - 0700
WOSC	WOSC-N3	(south of) 53 Watton Lane, Water Orton	Free field	64.4 (67.1)	64.5 (69.5)	63.5 (72.0)	61.7 (72.5)	59.0 (65.6)	60.8 (62.4)	63.0 (64.7)	62.4 (64.5)	62.1 (68.6)	56.6 (59.9)	61.1 (64.4)	58.3 (65.0)
MLE	MLE-N1	Rostrevor, Vicarage Lane, Water Orton	Free field	56.6 (58.9)	56.2 (59.5)	57.2 (72.8)	56.1 (72.6)	53.7 (62.3)	55.8 (57.7)	54.9 (58.2)	53.9 (56.7)	55.9 (65.2)	52.7 (58.6)	55.3 (58.5)	54.1 (59.2)
ALO	ALO-N1	West of 47 Attleboro Lane, Water Orton	Free field	59.5 (63.1)	59.9 (63.8)	59.5 (65.8)	58.8 (68.0)	56.5 (62.5)	59.0 (62.0)	58.5 (62.7)	57.0 (61.6)	58.7 (69.8)	55.4 (60.5)	58.6 (62.9)	57.5 (63.6)
	ALO-N2	(South of) 57 Attleboro Lane, Water Orton	Free field	59.4 (63.5)	60.0 (64.0)	59.6 (66.9)	58.6 (67.8)	56.1 (62.4)	58.9 (61.9)	59.0 (63.2)	57.6 (61.7)	59.7 (70.7)	56.0 (59.9)	58.3 (63.3)	57.0 (63.5)
	AFE-N1	Attleboro Farm, Attleboro Lane	Free field	64.4 (67.1)	64.3 (67.2)	64.3 (67.1)	63.2 (66.8)	60.8 (66.5)	62.3 (65.5)	63.0 (66.6)	62.0 (65.8)	65.2 (85.6)	59.4 (64.6)	63.3 (68.0)	62.0 (67.4)
GE	GE-N2	Lovegrove Cottage, Gilson Road	Free-field	62.4 (63.7)	61.7 (63.7)	61.5 (63.1)	59.7 (63.2)	57.3 (63.0)	58.1 (60.5)	60.0 (62.9)	60.6 (62.7)	59.3 (62.1)	54.9 (58.9)	60.2 (64.3)	57.3 (63.2)

Worksite Reference	Measurement Reference	Site Address	Free-Field or Façade Measurement	Weekday Average LAeq,T (Highest Day LAeq,T)					Saturday Average LAeq,T (Highest Day LAeq,T)					Sunday / Public Holiday Average LAeq,T (Highest Day LAeq,T)	
				0700 - 0800	0800 - 1800	1800 - 1900	1900 - 2200	2200 - 0700	0700 - 0800	0800 - 1300	1300 - 1400	1400 - 2200	2200 - 0700	0700 - 2200	2200 - 0700
GLD	GLD-N1	10 Gilson Dr, Coleshill	Free-field	57.9 (61.0)	61.0 (65.9)	56.9 (59.6)	55.9 (59.7)	54.1 (62.6)	56.0 (57.4)	57.8 (60.5)	56.6 (60.9)	55.7 (61.9)	52.7 (59.9)	55.6 (58.1)	54.0 (59.4)
BRD	BRD-N2	1 New Cottages, Birmingham Road, Coleshill	Free-field	63.4 (66.3)	63.9 (67.0)	61.7 (64.3)	60.6 (63.8)	58.9 (65.8)	60.2 (61.7)	60.7 (62.2)	60.1 (62.3)	59.9 (62.3)	56.7 (60.4)	59.8 (62.6)	58.1 (63.4)
	BRD-N3		Free-field	63.8 (68.3)	66.5 (68.7)	61.2 (66.4)	60.8 (65.8)	58.7 (67.3)	63.4 (67.8)	66.5 (68.8)	63.5 (67.2)	62.2 (66.5)	59.2 (63.9)	59.9 (66.3)	57.8 (61.7)

2.1.2 Table 4 presents a summary of the measured vibration levels at each monitoring location over the reporting period. The highest PPV measured during the monitoring along any axis is presented in the table.

Table 4: Summary of Measured PPV Data over the Monitoring Period

Worksite Reference	Measurement Reference	Monitor Address	Highest PPV measured in any axis, mm/s
MB	MB-V1	Kingsbury Road, Curdworth, Sutton Coldfield, West Midland	1.79 (X-axis)
FAEU	FAEU-V1	(south of) Orchard Cottage, Newlands Lane, Curdworth, Warwickshire	0.23 (X-axis)
ALO	ALO-V1	West of 47 Attleboro Lane, Water Orton	1.58 (Y-axis)
	ALO-V5	(south of) 57 Attleboro Lane, Water Orton	0.49 (Y-axis)
	AFE-V1	Attleboro Farm, Attleboro Lane, Water Orton	1.57 (Z-axis)
GLD	GLD-V1	10 Gilson Dr, Coleshill	5.86 (Y-axis)
BRD	BRD-V1	1, New Cottages, Birmingham Road, Coleshill	0.71 (Z-axis)

2.1.3 Appendix C presents graphs of the noise and vibration monitoring data over the month for each of the measurement locations. Noise data presented consists of the hourly L_{Aeq} values and, where relevant, the $L_{Aeq,T}$ values (where the time period T has been taken to be the averaging period as specified in Table 1 of HS2 Information Paper E23). Vibration data presented consist of hourly PPV values. The full data set for the monitoring equipment can be found at the following location: https://data.gov.uk/dataset/24542ae7-dd44-444f-b259-871c4cc43b5e/environmental-monitoring-data.

2.2 Exceedances of the LOAEL and SOAEL

2.2.1 The lowest observed adverse effect level (LOAEL) is defined in the Planning Practice Guidance – Noise (PPG) as the level above which "noise starts to cause small changes in behaviour and/or attitude, e.g. turning up volume of television; speaking more loudly; where there is no alternative ventilation, having to close windows for some of the time because of the noise. Potential for some reported sleep disturbance. Affects the acoustic character of the area such that there is a perceived change in the quality of life".

2.2.2 The significant observed adverse effect level (SOAEL) is defined in the 'Planning Practice Guidance – Noise' as the level above which "noise causes a material change in behaviour and/or attitude, e.g. avoiding certain activities during periods of intrusion; where there is no alternative ventilation, having to keep windows closed

most of the time because of the noise. Potential for sleep disturbance resulting in difficulty in getting to sleep, premature awakening and difficulty in getting back to sleep. Quality of life diminished due to change in acoustic character of the area."

2.2.3 HS2 Phase One Information Paper E23: Control of Construction Noise and Vibration sets out the LOAELs and SOAELs for construction noise.

2.2.4 Where reported construction noise levels exceed the LOAEL and SOAEL, relevant periods will be identified. Summary statistics to evaluate ongoing qualification for noise insulation and temporary rehousing are also presented where relevant.

2.2.5 Table 5 presents a summary of recorded exceedances of the LOAEL and SOAEL at each measurement location over the reporting period, including the number of exceedances during each time period.

Table 5: Summary of Exceedances of LOAEL and SOAEL

Worksite Reference	Measurement Reference	Site Address	Day (Weekday, Saturday, Sunday, Night)	Time period	Number of exceedances of LOAEL	Number of exceedances of SOAEL
CLE	CLE-N1*	Highfields Cottage, Middleton	All days	All periods	No exceedances	No exceedances
KMC	KMC-N1*	Kingsbury Road, Sutton Coldfield	All days	All periods	No exceedances	No exceedances
MB	MB-N1*	Elford House, Kingsbury Road, Curdworth	All days	All periods	No exceedances	No exceedances
FAEU	FAEU-N1*	South of Orchard Cottage, Newlands Lane, Curdworth	All days	All periods	No exceedances	No exceedances
CHBS	CHBS-N1*	6 Gorsey Way, Coleshill	All days	All periods	No exceedances	No exceedances
WOSC	WOSC-N3*	(south of) 53 Watton Lane, Water Orton, B46 1PB	All days	All periods	No exceedances	No exceedances
MLE	MLE-N1	Rostrevor, Vicarage Lane, Water Orton CP	All days	All periods	No exceedances	No exceedances

Worksite Reference	Measurement Reference	Site Address	Day (Weekday, Saturday, Sunday, Night)	Time period	Number of exceedances of LOAEL	Number of exceedances of SOAEL
ALO	ALO-N1	West of 47 Attleboro Lane, Water Orton	Weekdays	0800-1800	2	No exceedances
	ALO-N2	(south of) 57 Attleboro Lane, Water Orton, Birmingham, B46 1SD	All days	All periods	No exceedances	No exceedances
	AFE-N1	Attleboro Farm, Attleboro Lane, Water Orton, Birmingham, B46 1SD	Weekdays Saturday	0800-1800 0800-1300	1 1	No exceedances
GE	GE-N2	Lovegrove Cottage, Gilson Road	All days	All periods	No exceedances	No exceedances
GLD	GLD-N1	10 Gilson Dr, Coleshill	Weekdays	0800-1800	2	No exceedances
BRD	BRD-N2	1 New Cottages, Birmingham Road, Coleshill	All days	All periods	No exceedances	No exceedances
	BRD-N3*	1 New Cottages, Birmingham Road, Coleshill	All days	All periods	No exceedances	No exceedances

*A distance correction has been applied when calculating exceedances of the LOAEL and SOAEL.

2.2.6 There were exceedances of the LOAEL due to HS2 construction works at three (3) monitoring location during weekday and Saturday daytime periods.

2.2.7 No exceedances of the SOAEL were recorded due to HS2 construction works during November 2025.

Exceedances of Trigger Level

2.2.8 Table 6 provides a summary of exceedances of the Section 61 trigger noise levels determined to be due to HS2 related construction noise measured during the reporting period, along with the findings of any investigation.

Table 6: Summary of Exceedances of Trigger Levels

Complaint Reference Number (if applicable)	Worksite Reference	Date and Time Period	Identified Source	Results of Investigation (including noise monitoring results)	Actions Taken
-	-	-	-	-	-

2.3 Complaints

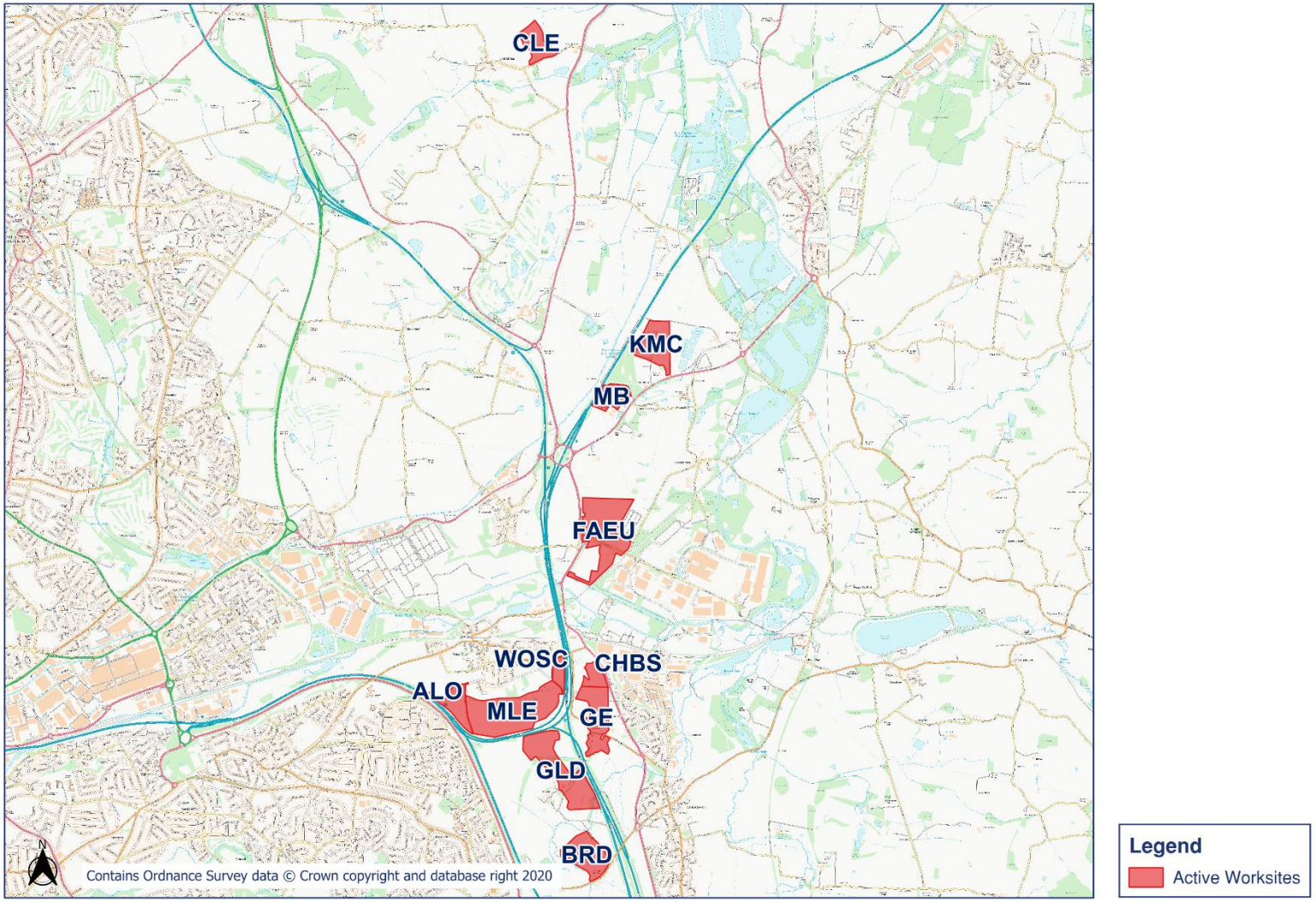
2.3.1 Table 7 provides a summary of complaint information related to noise and vibration received during the reporting period, along with the findings of any investigation.

Table 7: Summary of Complaints

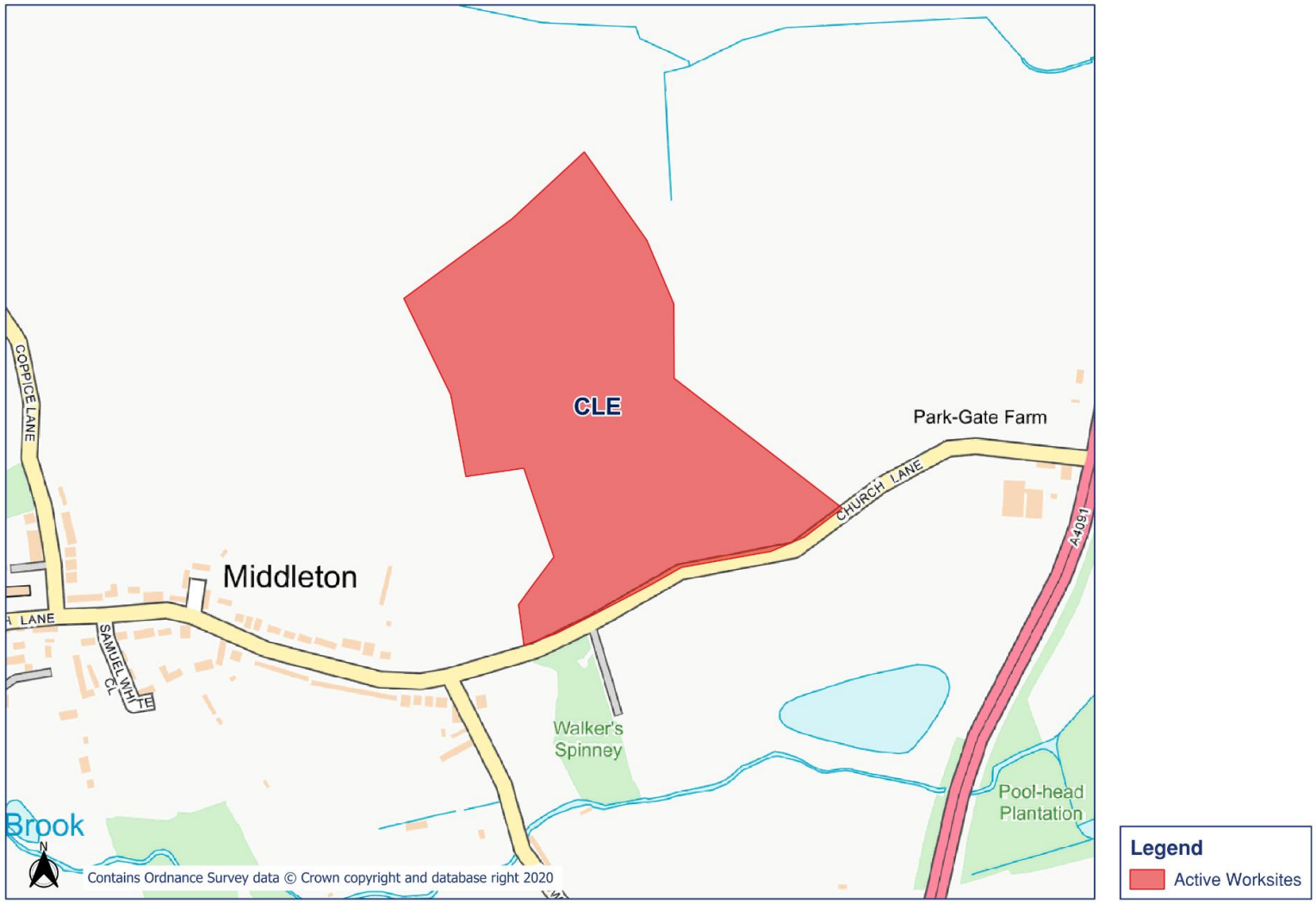
Complaint Reference Number	**Worksite Reference**	**Description of Complaint**	**Results of Investigation**	**Actions Taken**
HS2-25-46855-C HS2-25-46867-C	N/A	Complaint due to banging noise.	Noise due to overnight piling works on the M42, which were associated with HS2 construction, were consented and included permission to work through the night. The piling works were undertaken outside of the worksite boundaries considered within this report, therefore monitors were placed in the surrounding area, and no exceedances of threshold values were recorded during the works period and works have now been completed.	Resident has been informed of the results of the investigation.

Appendix A Site Locations

HS2 Worksite Identification Plan - Overview

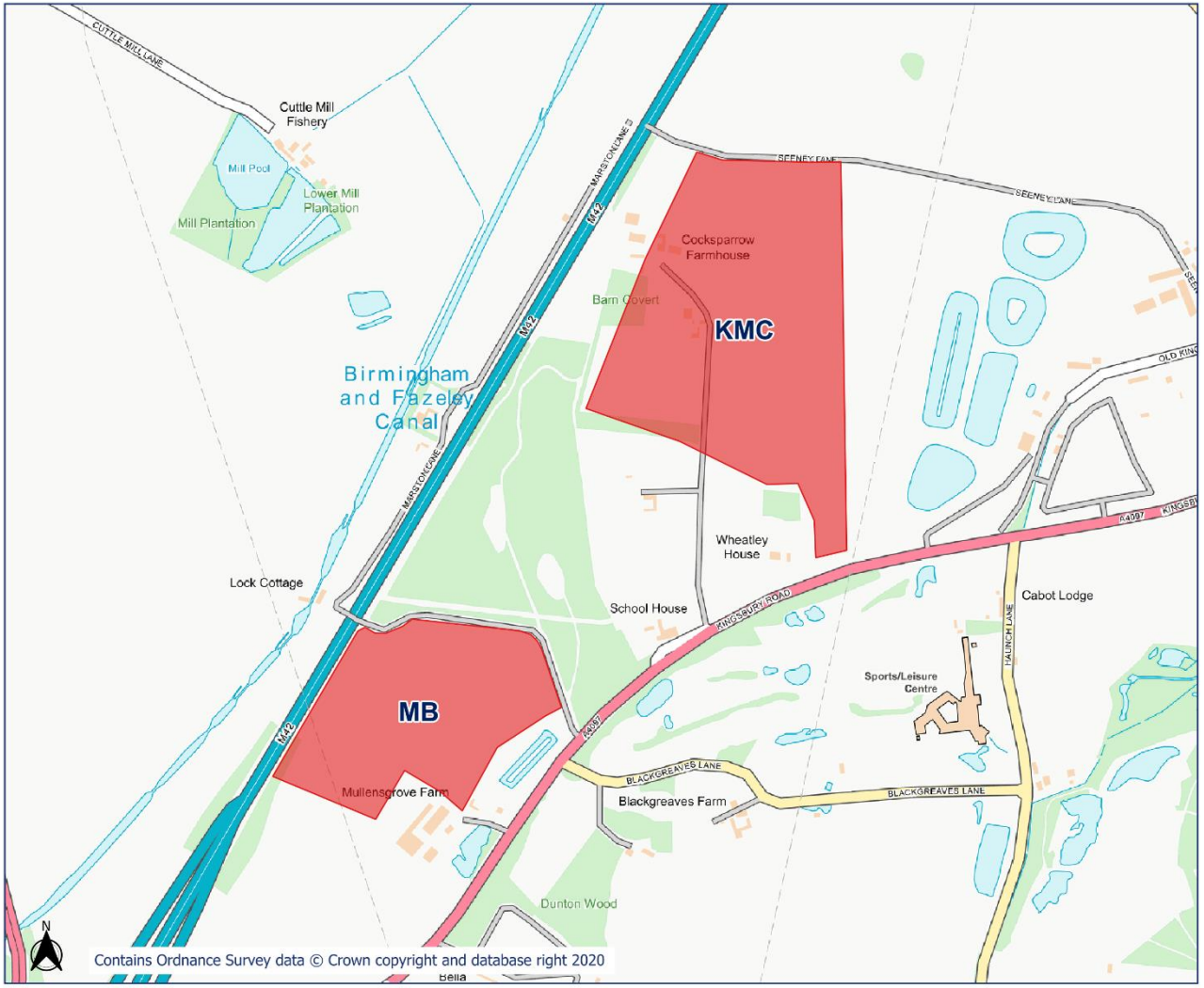


HS2 Worksite Identification Plan - 1

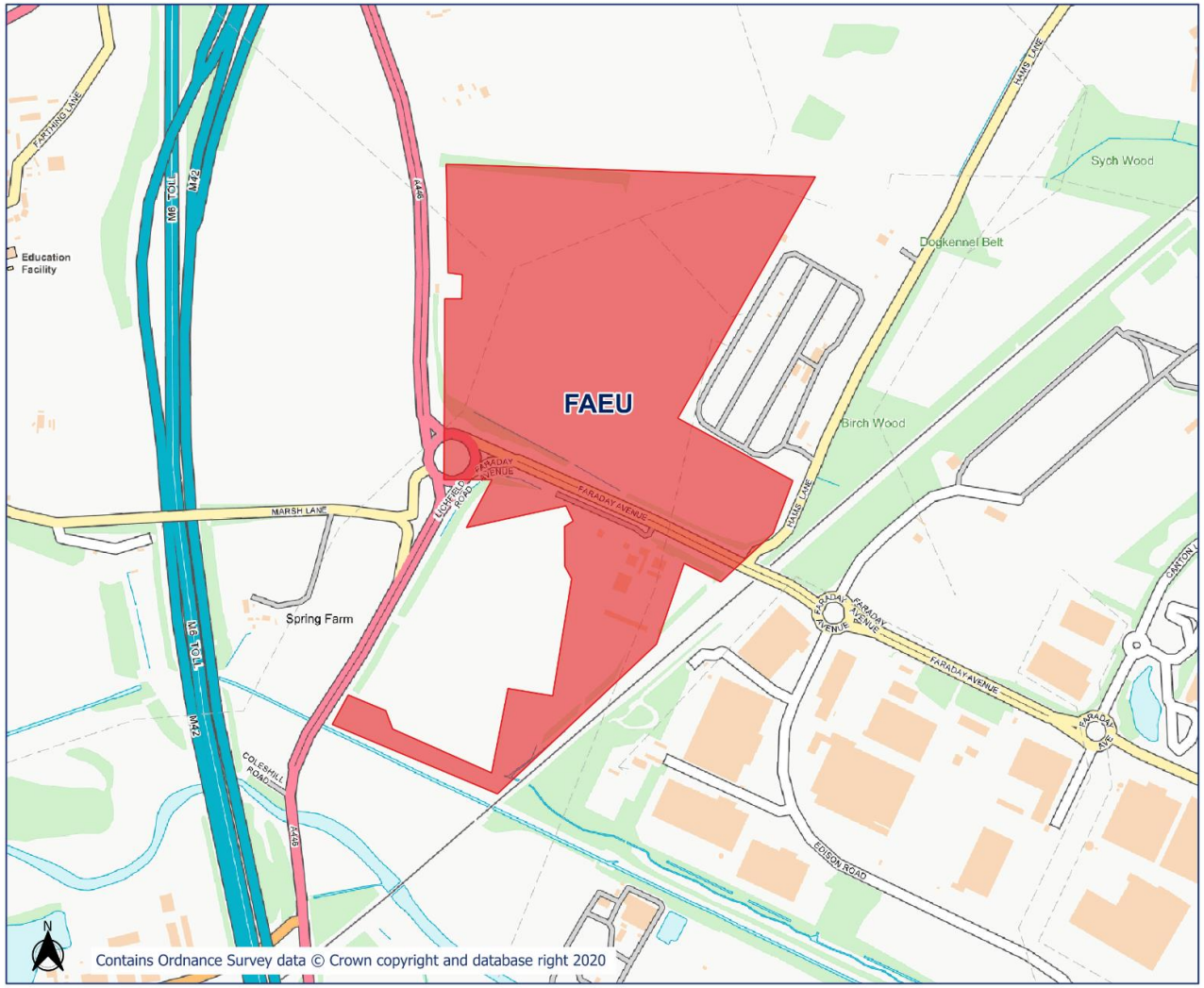


HS2

Worksite Identification Plan - 2



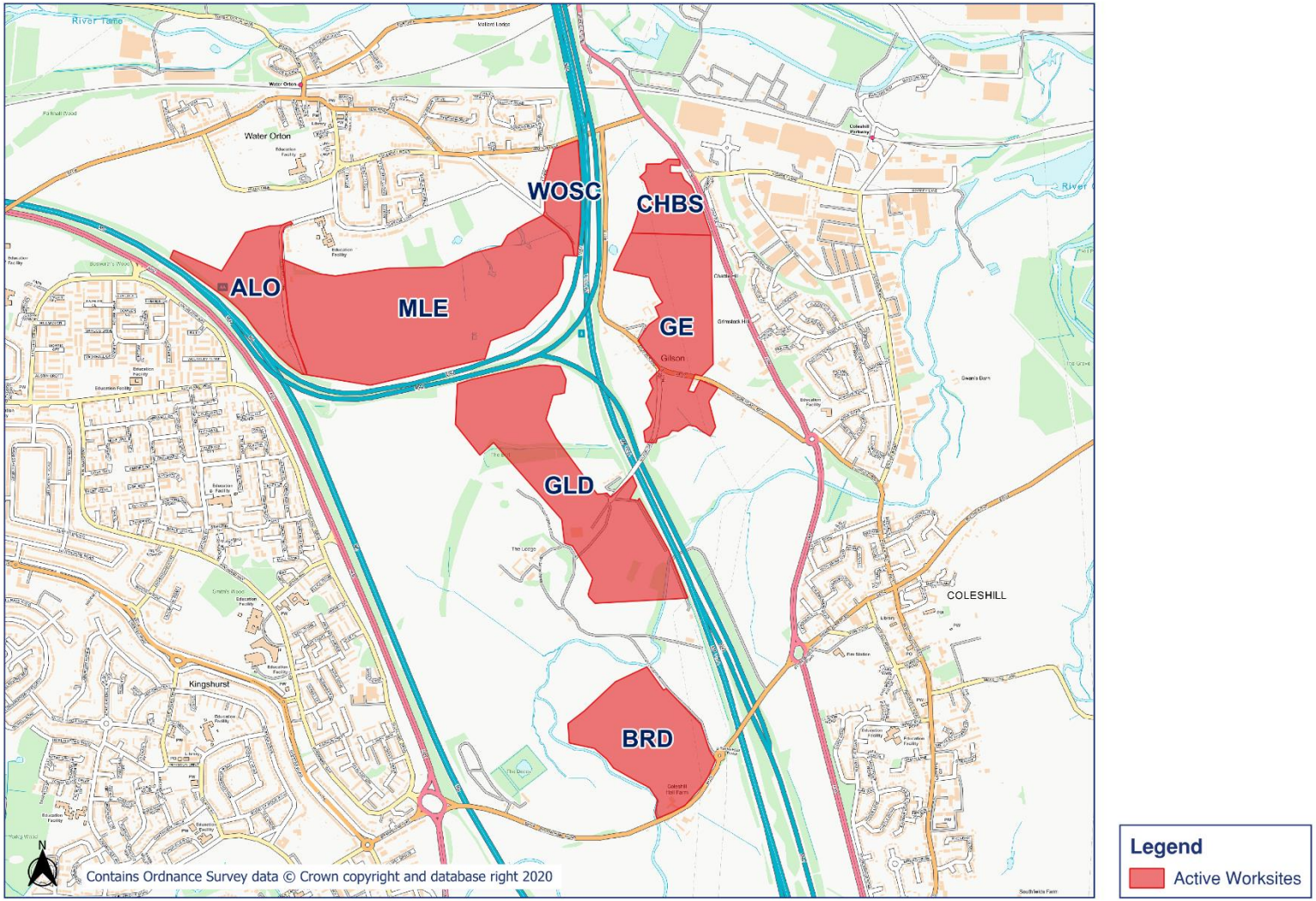
HS2 Worksite Identification Plan - 3



Legend

Active Worksites

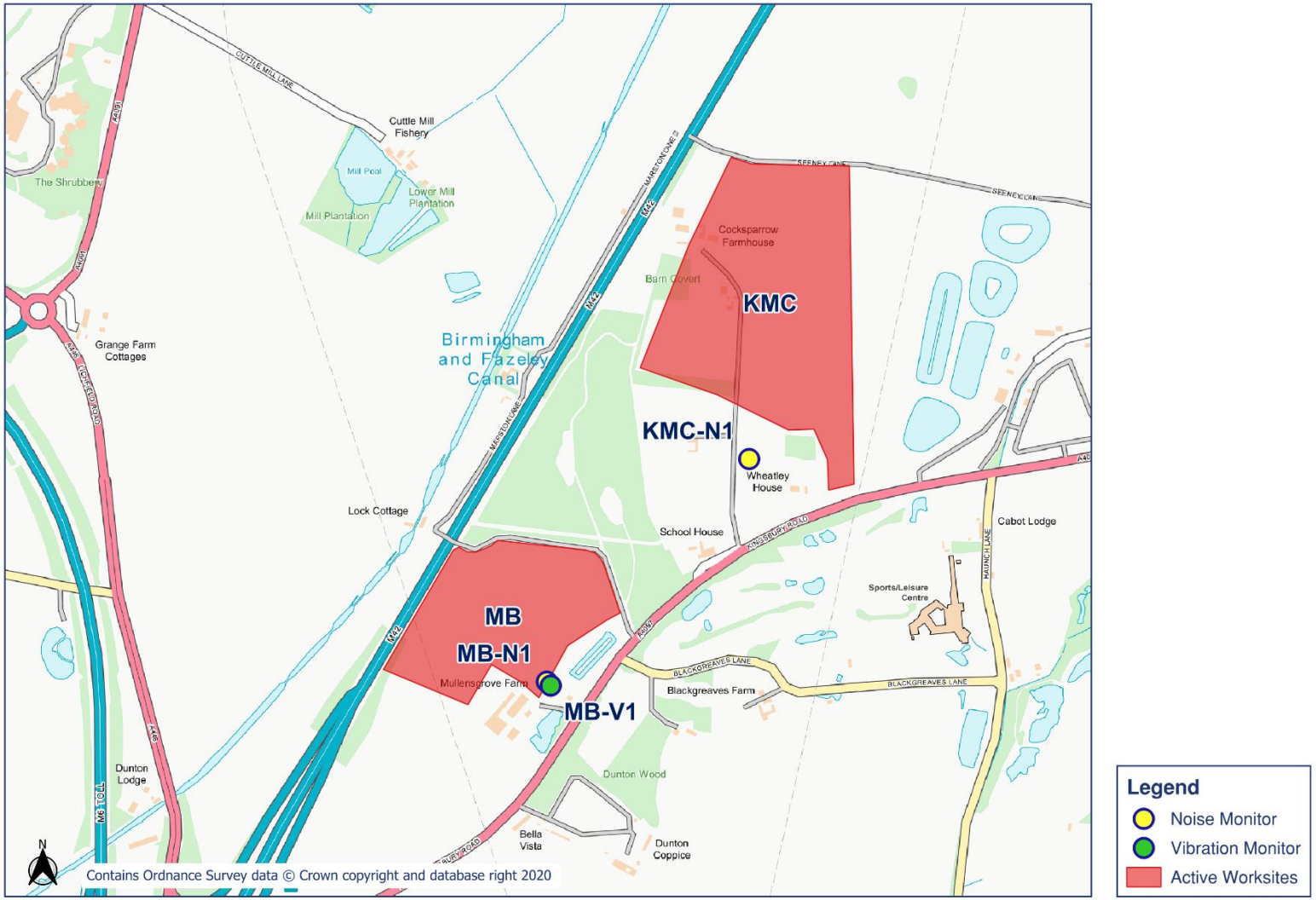
HS2 Worksite Identification Plan - 4



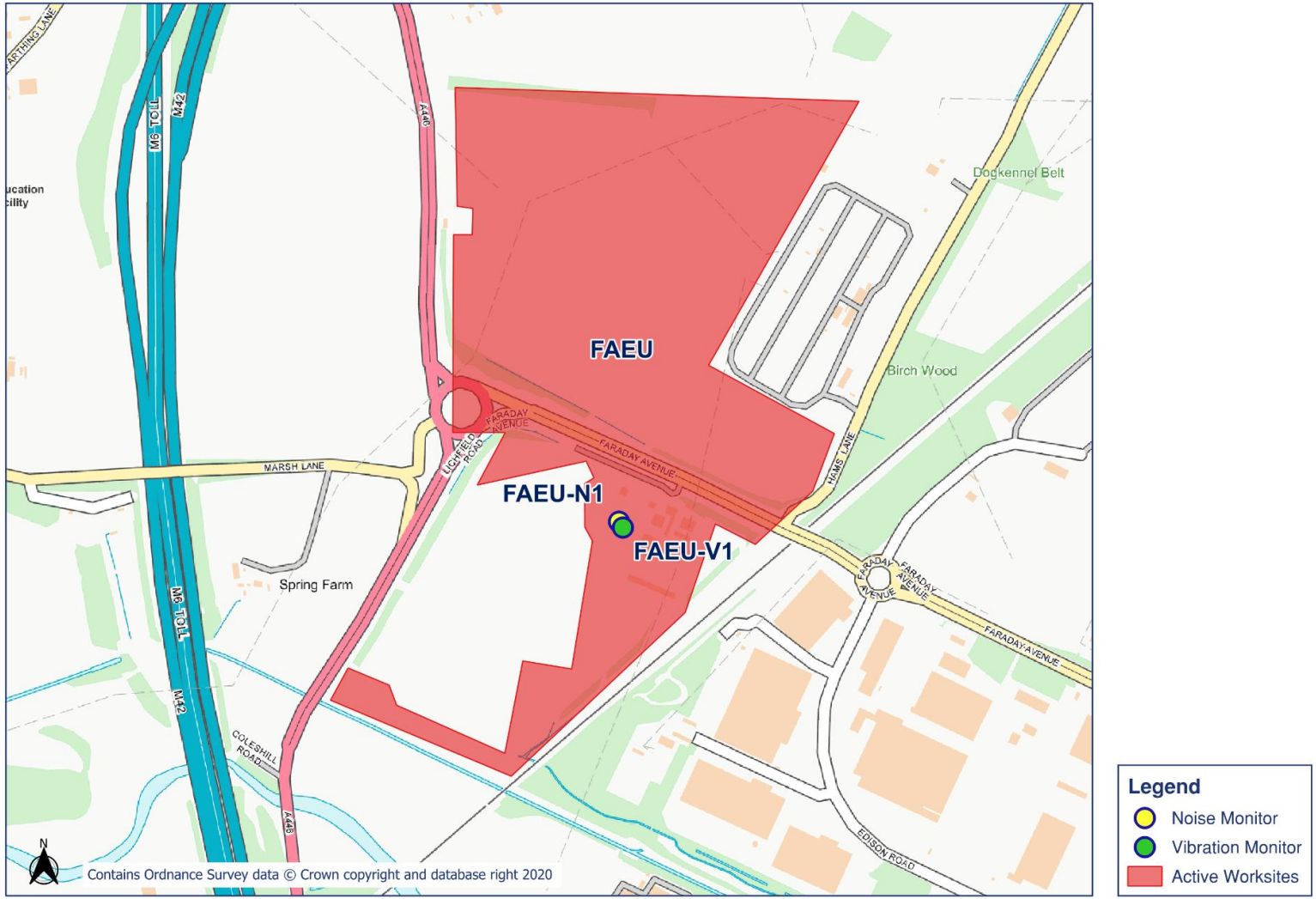
Appendix B Monitoring Locations

HS2 Noise and Vibration Monitoring Plan - 1

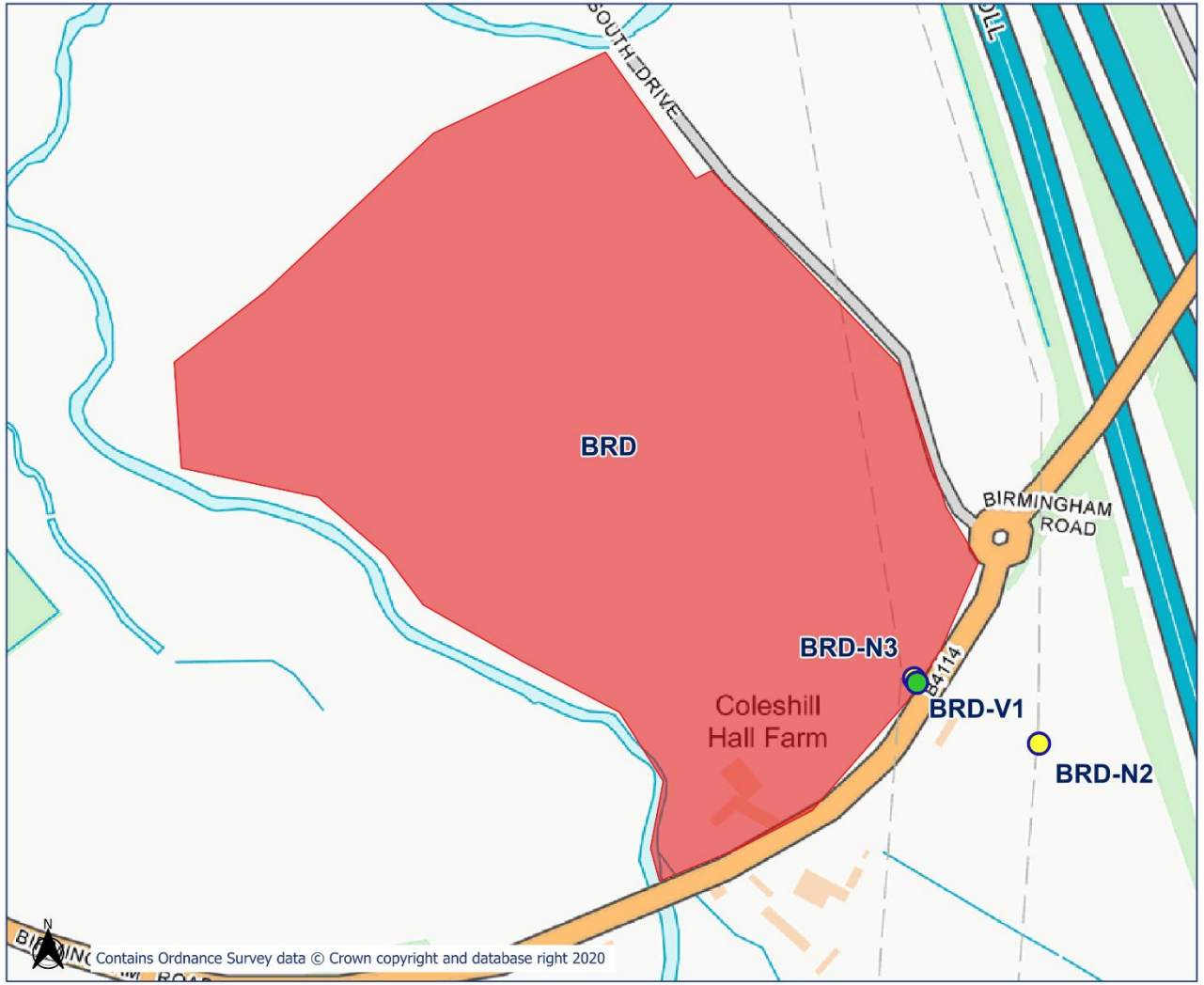
HS2 Noise and Vibration Monitoring Plan - 2



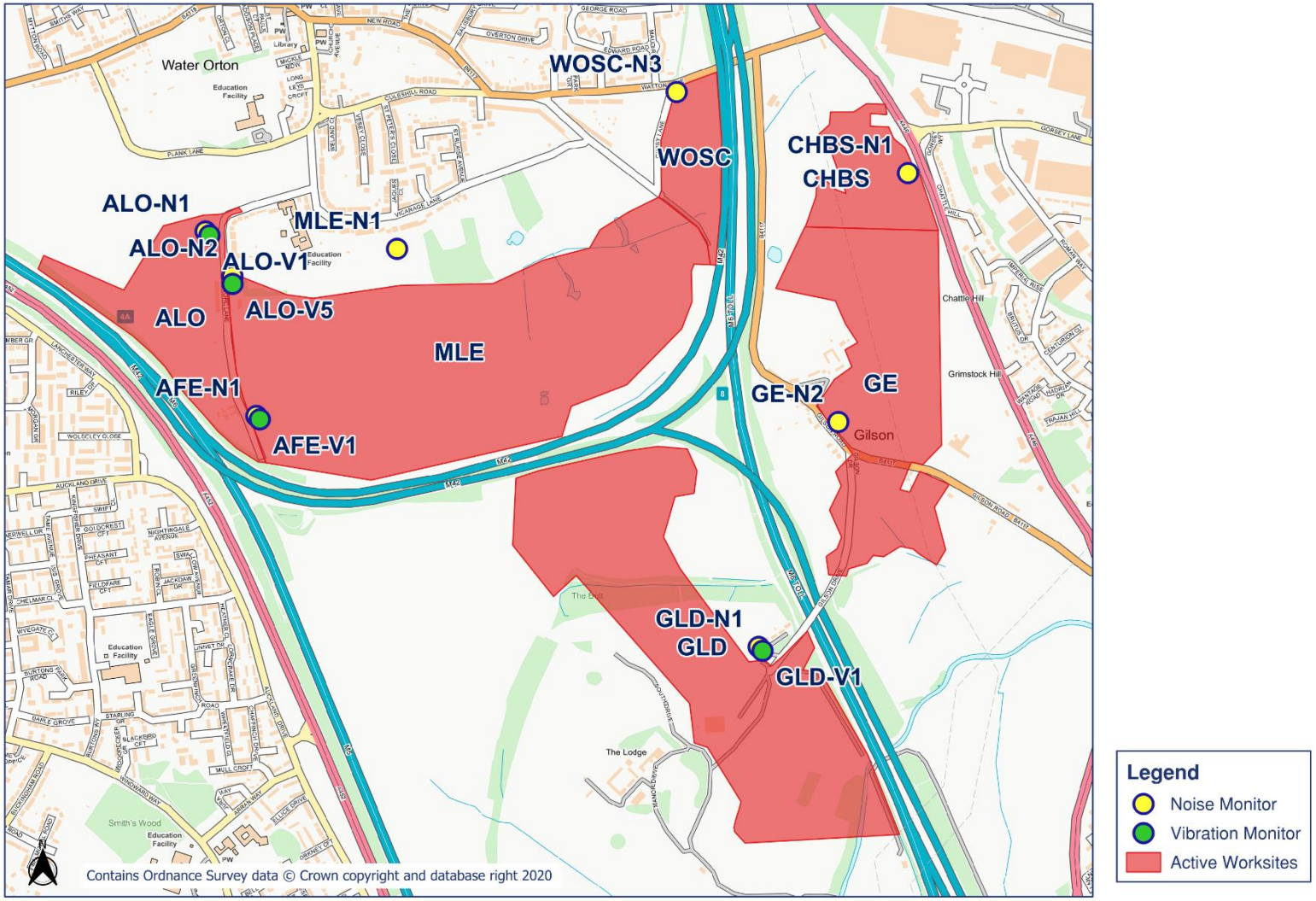
HS2 Noise and Vibration Monitoring Plan - 3



HS2 Noise and Vibration Monitoring Plan - 5



HS2 Noise and Vibration Monitoring Plan - 4

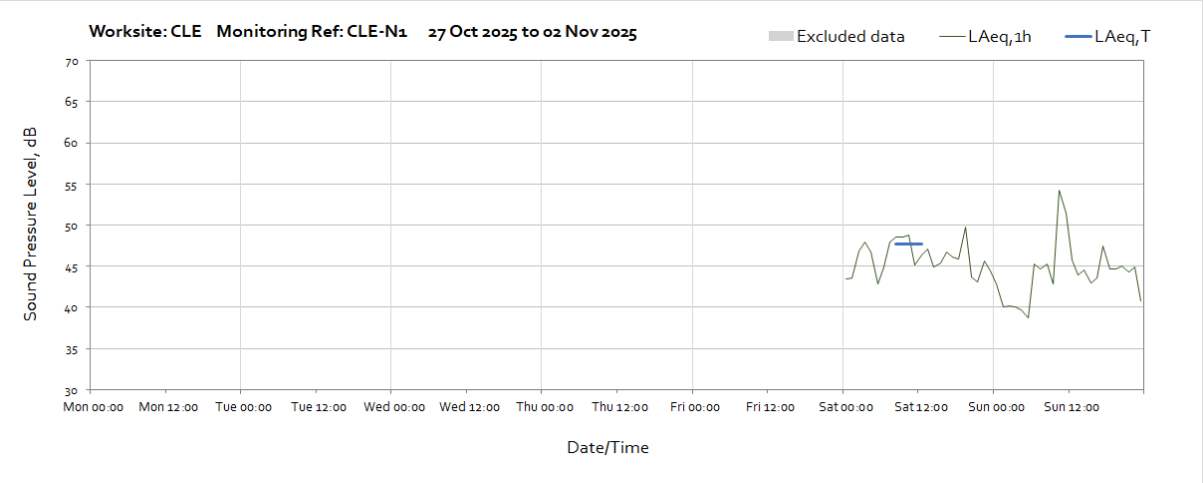


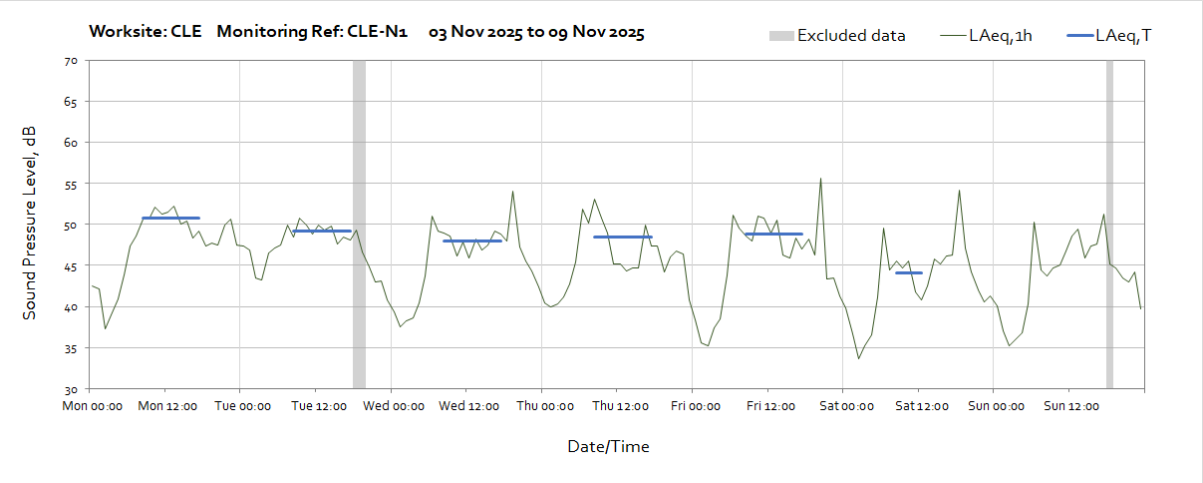
Appendix C Data

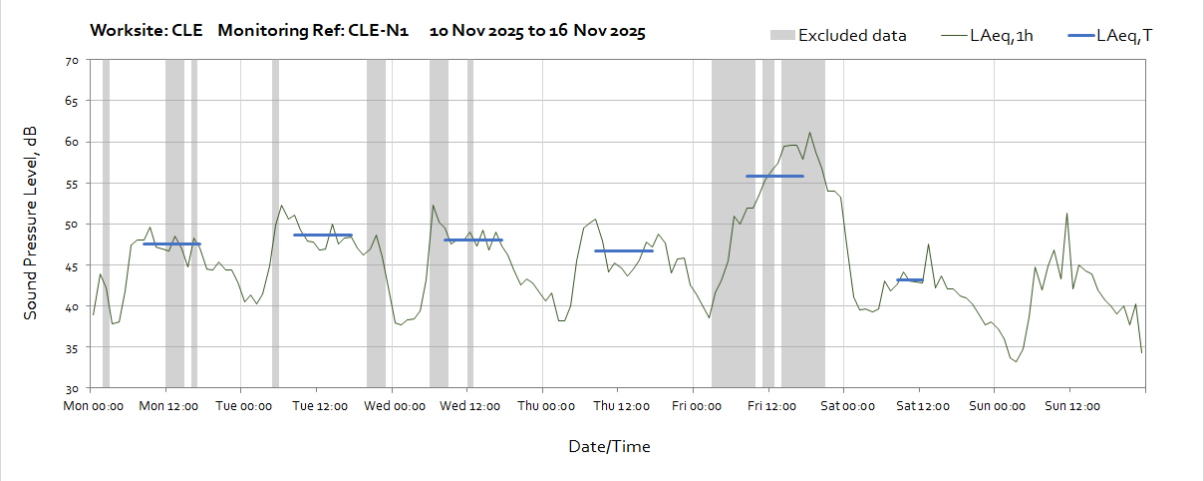
Noise

The following graphs show the hourly measured ambient noise level $L_{Aeq,1h}$ and, where relevant, the averaged noise level $L_{Aeq,T}$ values, where the time period T is as specified in Table 1 of HS2 Information Paper E23. Periods with adversely weather affected noise levels are greyed out and have been excluded from the calculation of the $L_{Aeq,T}$ values in Table 3 of the main report.:

Worksite: CLE – Monitoring Ref: CLE-N1






Worksite: CLE Monitoring Ref: CLE-N1 10 Nov 2025 to 16 Nov 2025
Excluded data
LAeq,1h
LAeq,T
Sound Pressure Level, dB
70
65
60
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45
40
35
30
Mon 00:00
Mon 12:00
Tue 00:00
Tue 12:00
Wed 00:00
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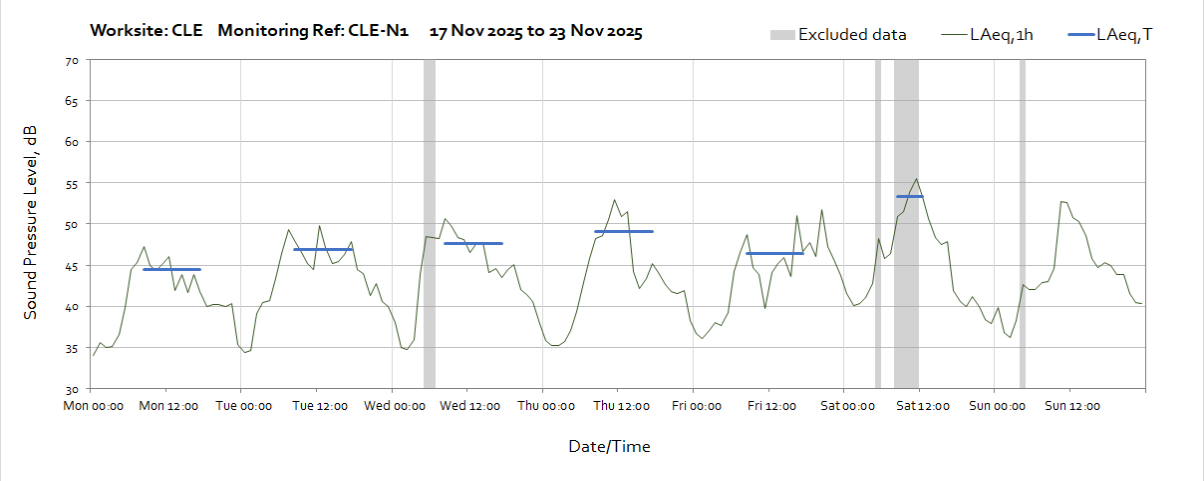
Fri 12:00
Sat 00:00
Sat 12:00
Sun 00:00
Sun 12:00
Date/Time


Worksite: CLE Monitoring Ref: CLE-N1 17 Nov 2025 to 23 Nov 2025
Excluded data
LAeq,1h
LAeq,T
Sound Pressure Level, dB
70
65
60
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Mon 00:00
Mon 12:00
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Tue 12:00
Wed 00:00
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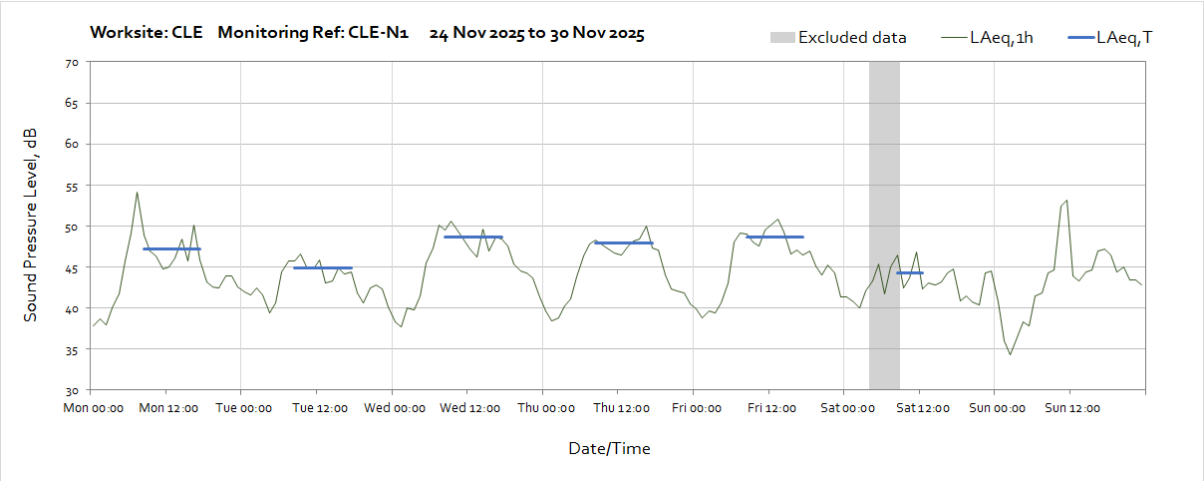
Fri 12:00
Sat 00:00
Sat 12:00
Sun 00:00
Sun 12:00
Date/Time


Worksite: CLE Monitoring Ref: CLE-N1 24 Nov 2025 to 30 Nov 2025
Excluded data
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LAeq,T
Sound Pressure Level, dB
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65
60
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35
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Mon 00:00
Mon 12:00
Tue 00:00
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Sun 00:00
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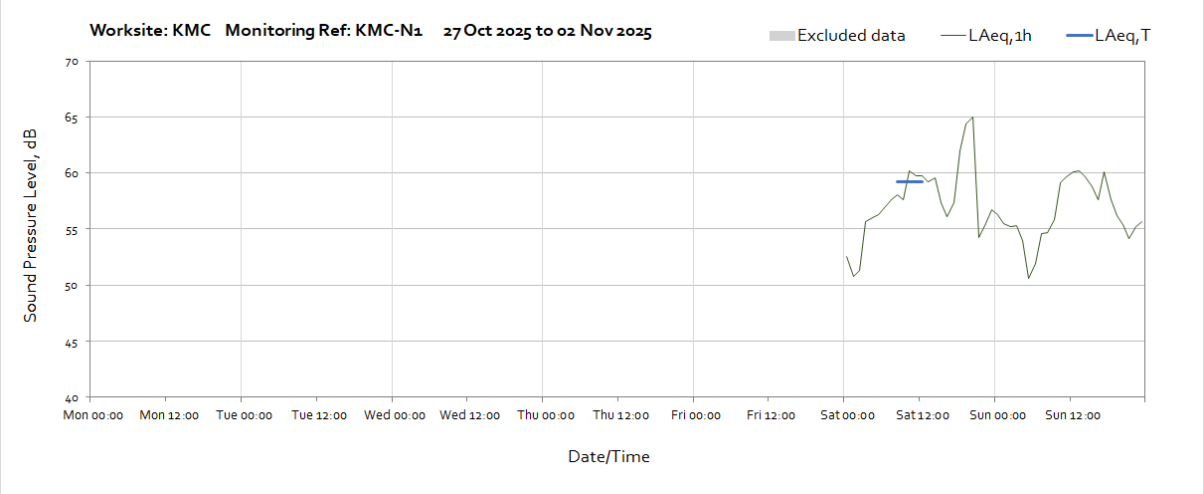
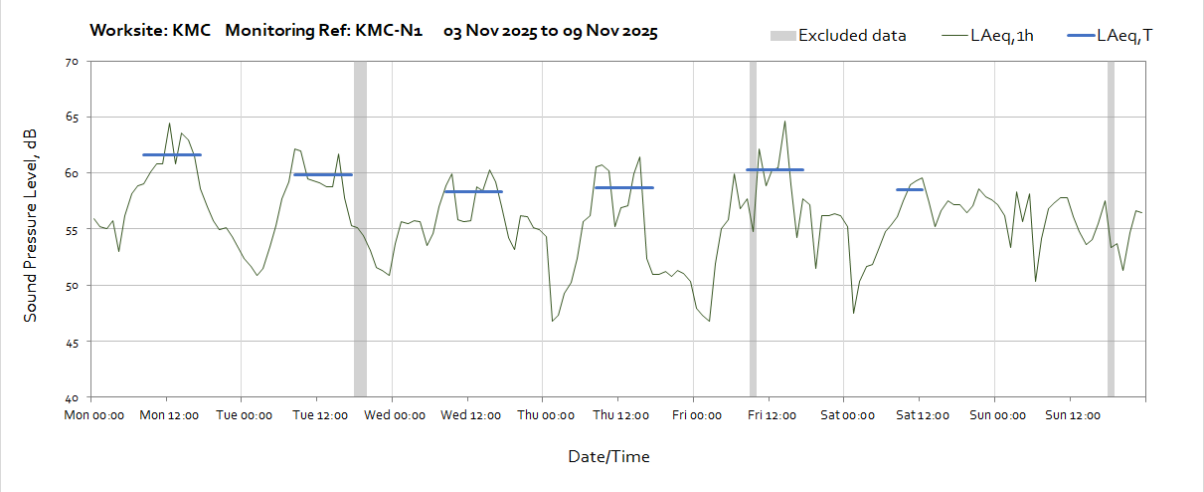
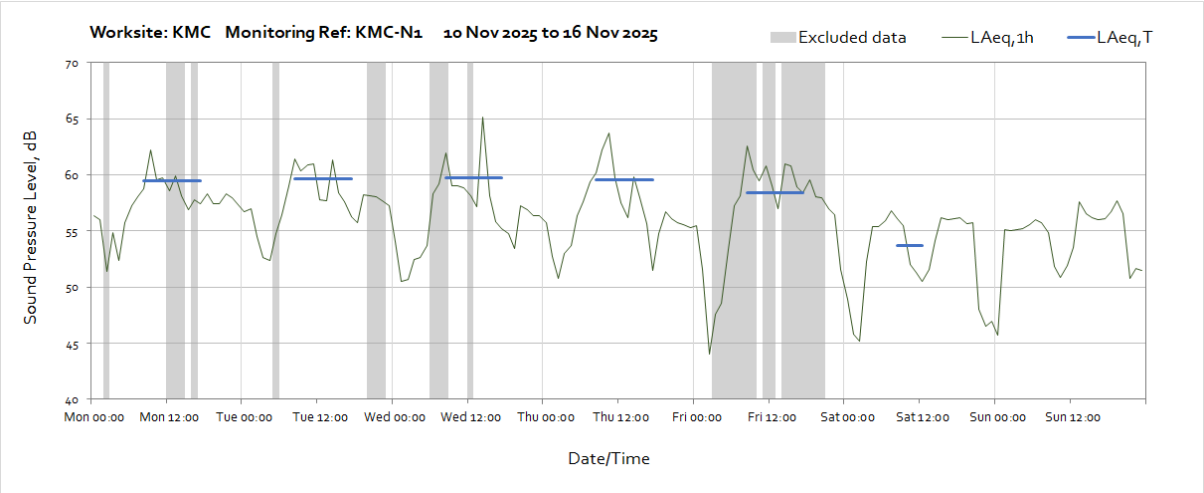
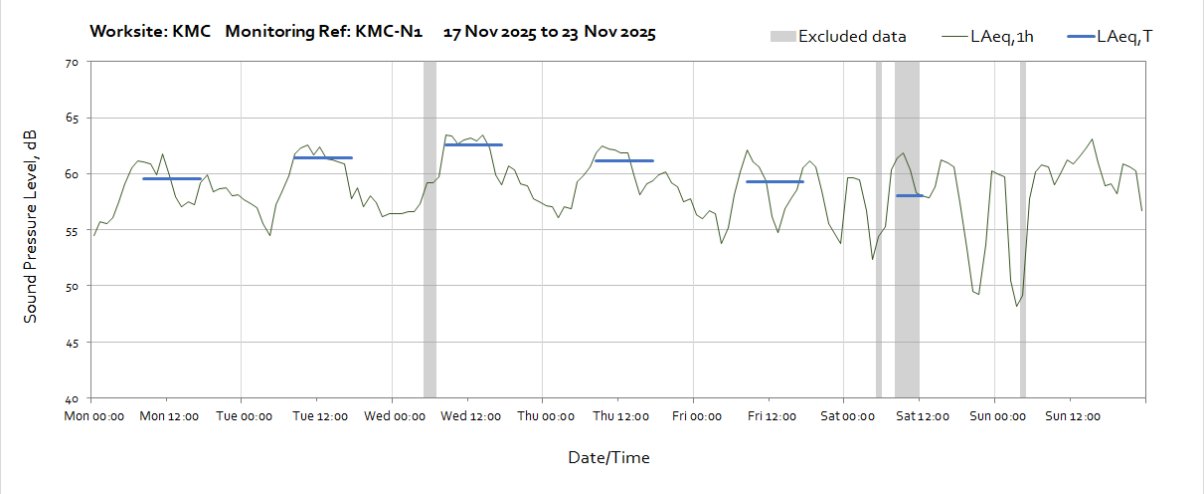
Date/Time

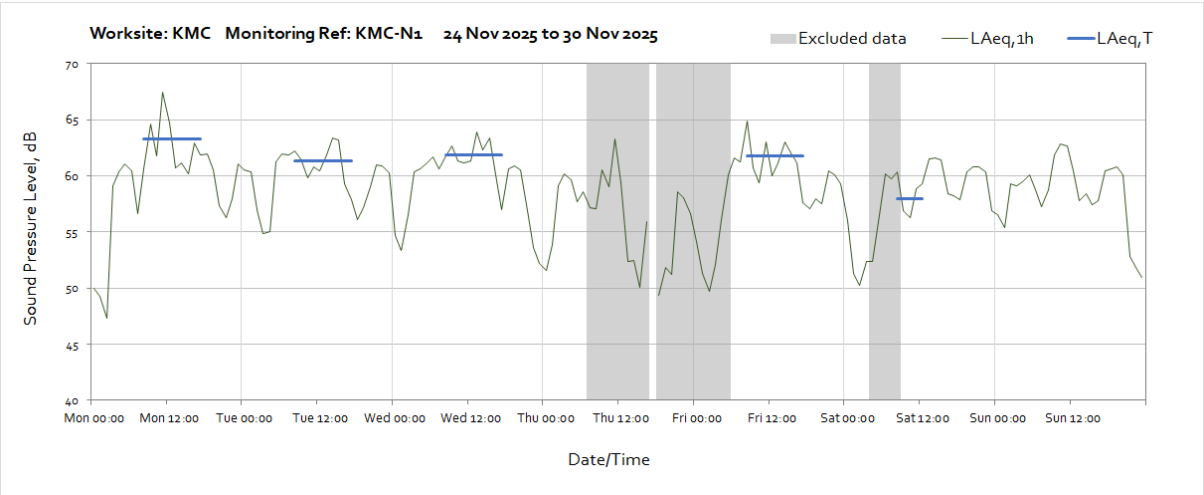
Worksite: KMC – Monitoring Ref: KMC-N1





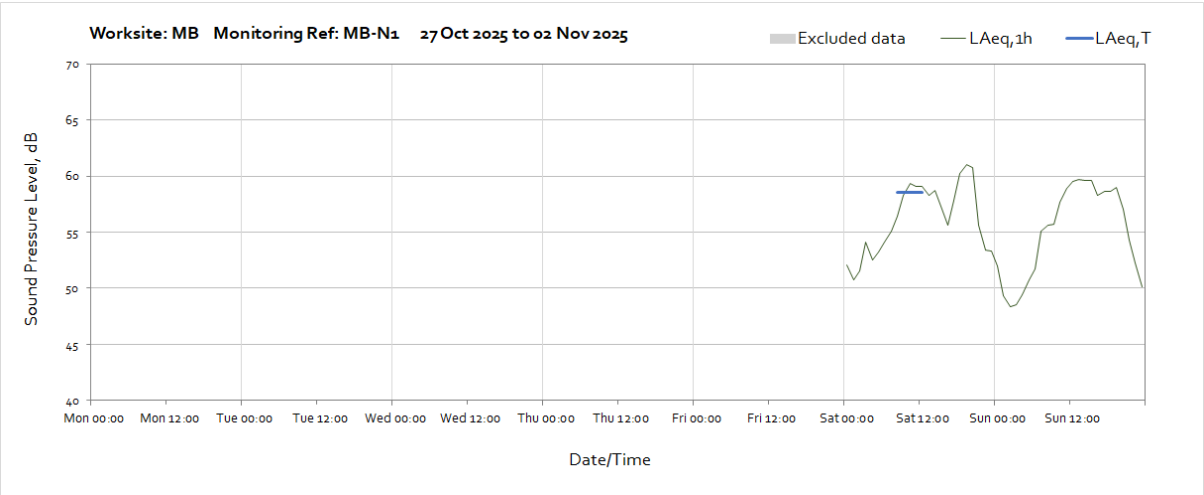


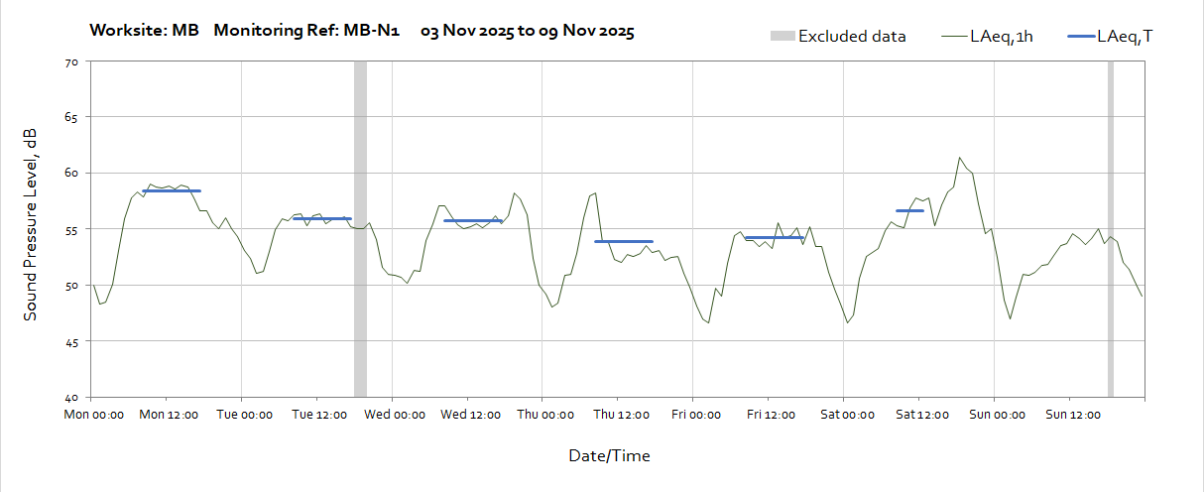




Note: Missing data between 17:00 and 18:00 on Thursday 27th November was due to a signal error at the monitoring station.

Worksite: MB – Monitoring Ref: MB-N1




Worksite: MB Monitoring Ref: MB-N1 03 Nov 2025 to 09 Nov 2025
Excluded data
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LAeq,T
Sound Pressure Level, dB
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65
60
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Mon 12:00
Tue 00:00
Tue 12:00
Wed 00:00
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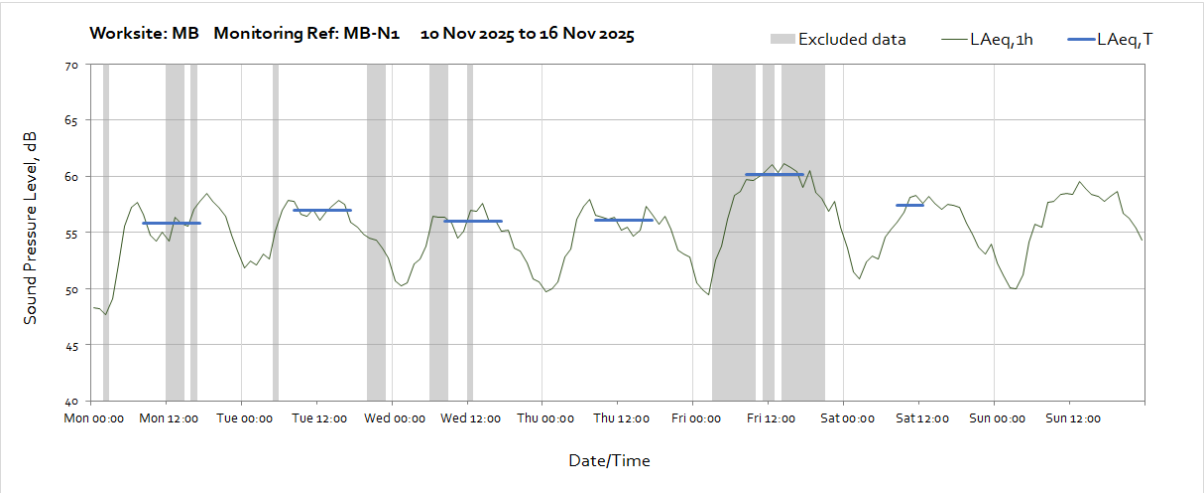
Sun 00:00
Sun 12:00
Date/Time


Worksite: MB Monitoring Ref: MB-N1 10 Nov 2025 to 16 Nov 2025
Excluded data
LAeq,1h
LAeq,T
Sound Pressure Level, dB
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Mon 12:00
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Wed 00:00
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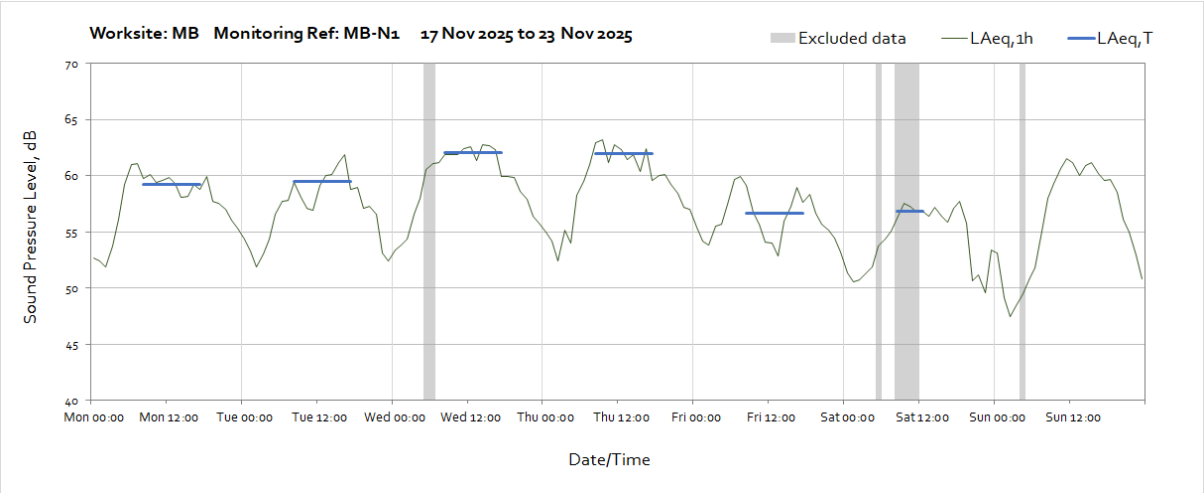
Sun 12:00
Date/Time


Worksite: MB Monitoring Ref: MB-N1 17 Nov 2025 to 23 Nov 2025
Excluded data
LAeq,1h
LAeq,T
Sound Pressure Level, dB
70
65
60
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40
Mon 00:00
Mon 12:00
Tue 00:00
Tue 12:00
Wed 00:00
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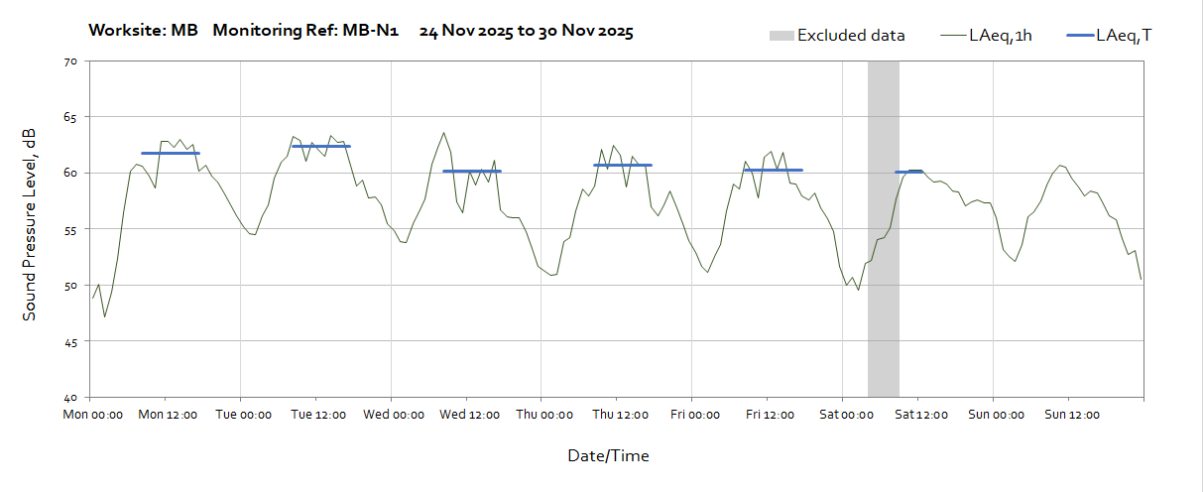
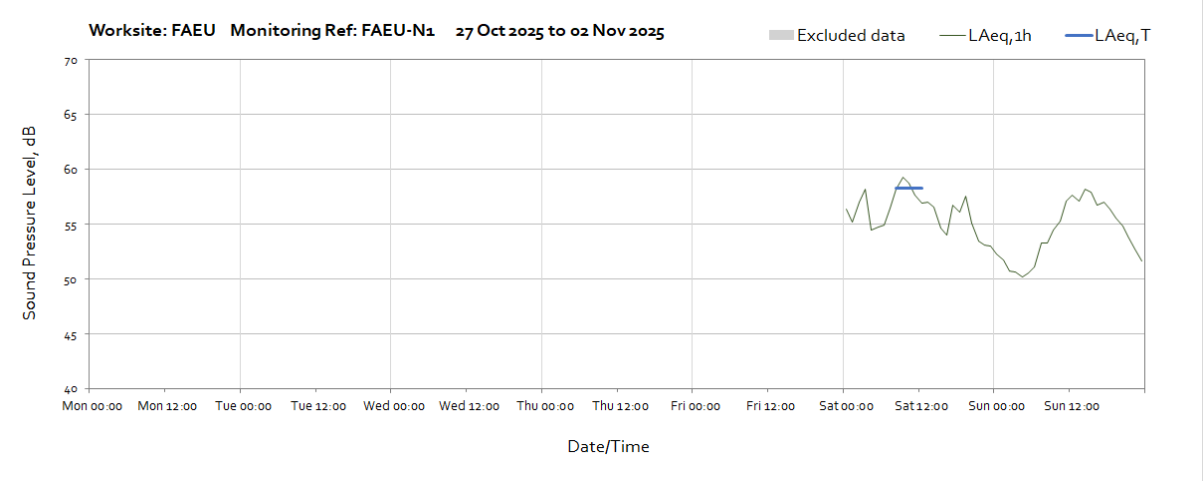
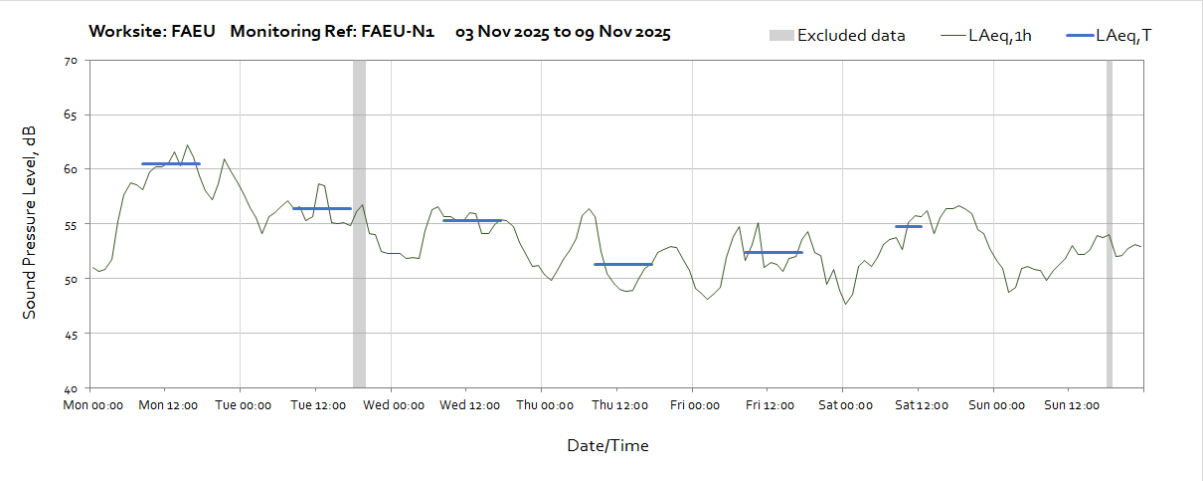
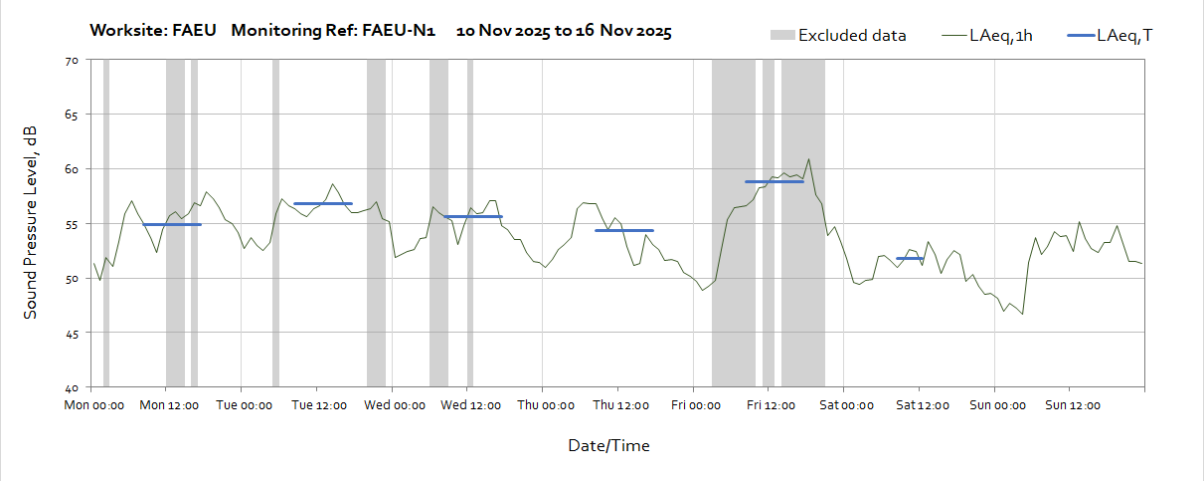
Date/Time



Worksite: FAEU – Monitoring Ref: FAEU-N1



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Excluded data
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LAeq,T
Sound Pressure Level, dB
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65
60
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Tue 12:00
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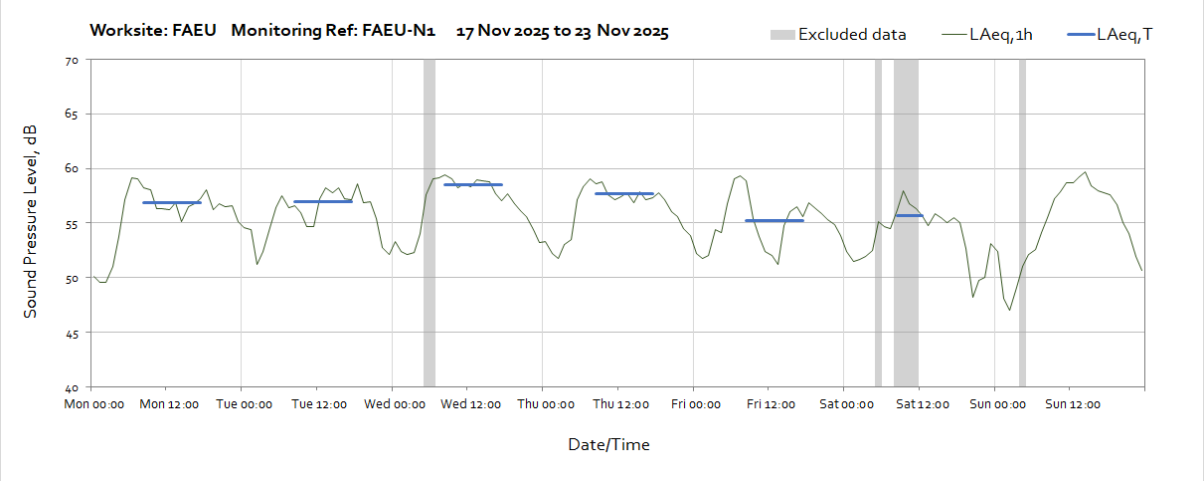
Sun 00:00
Sun 12:00
Date/Time


Worksite: FAEU Monitoring Ref: FAEU-N1 17 Nov 2025 to 23 Nov 2025
Excluded data
LAeq,1h
LAeq,T
Sound Pressure Level, dB
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60
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Tue 12:00
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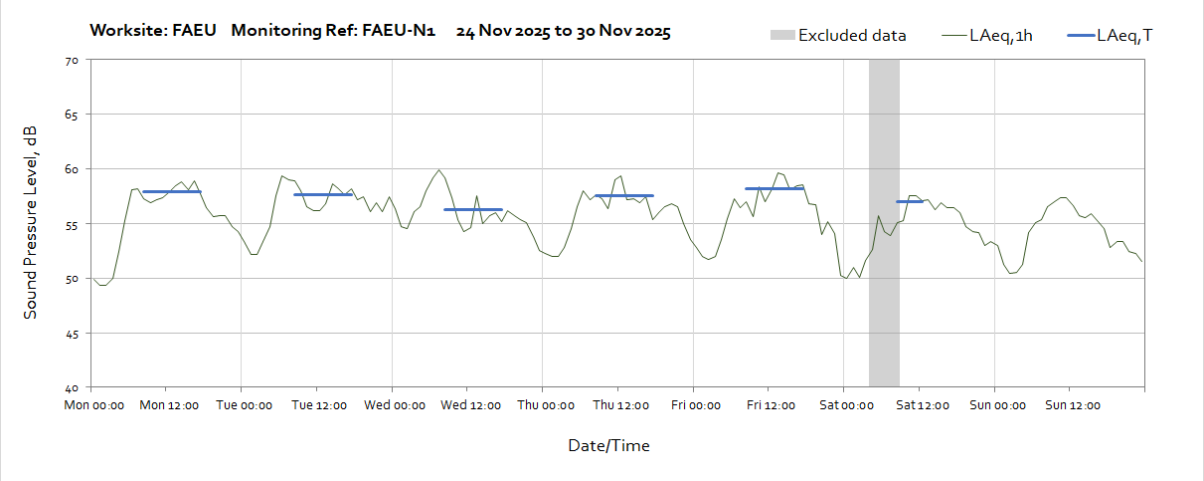
Date/Time


Worksite: FAEU Monitoring Ref: FAEU-N1 24 Nov 2025 to 30 Nov 2025
Excluded data
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LAeq,T
Sound Pressure Level, dB
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65
60
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Mon 12:00
Tue 00:00
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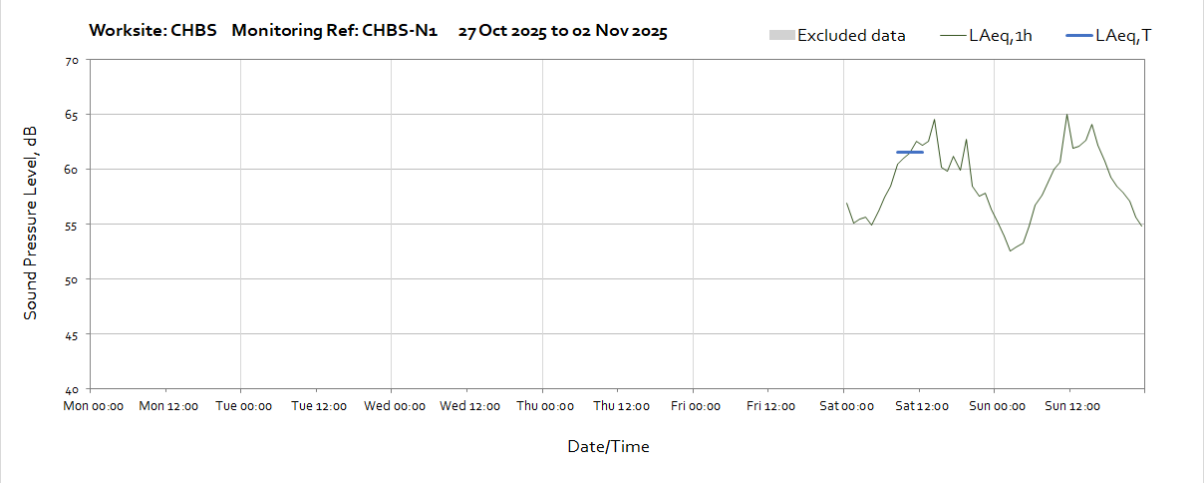
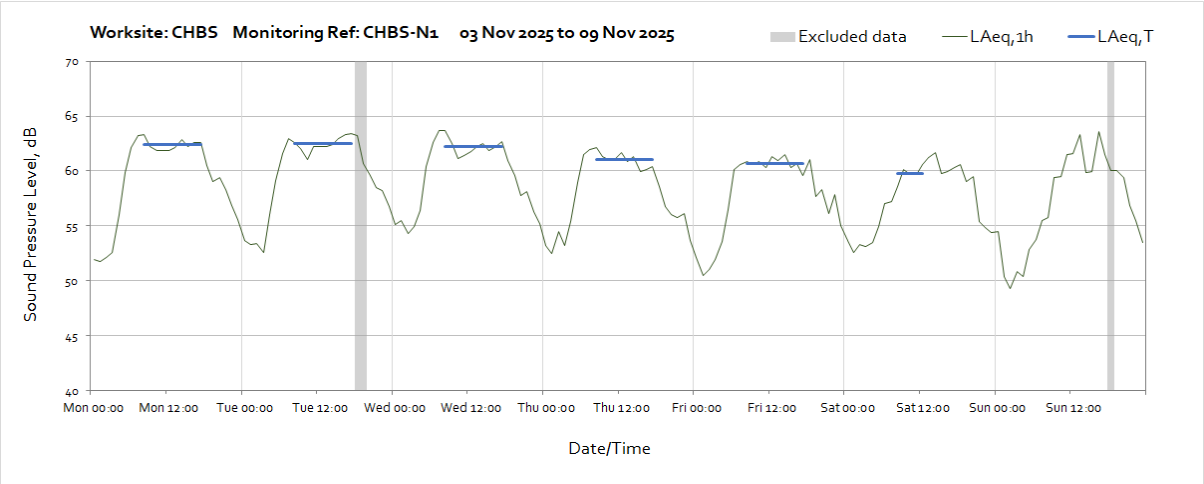
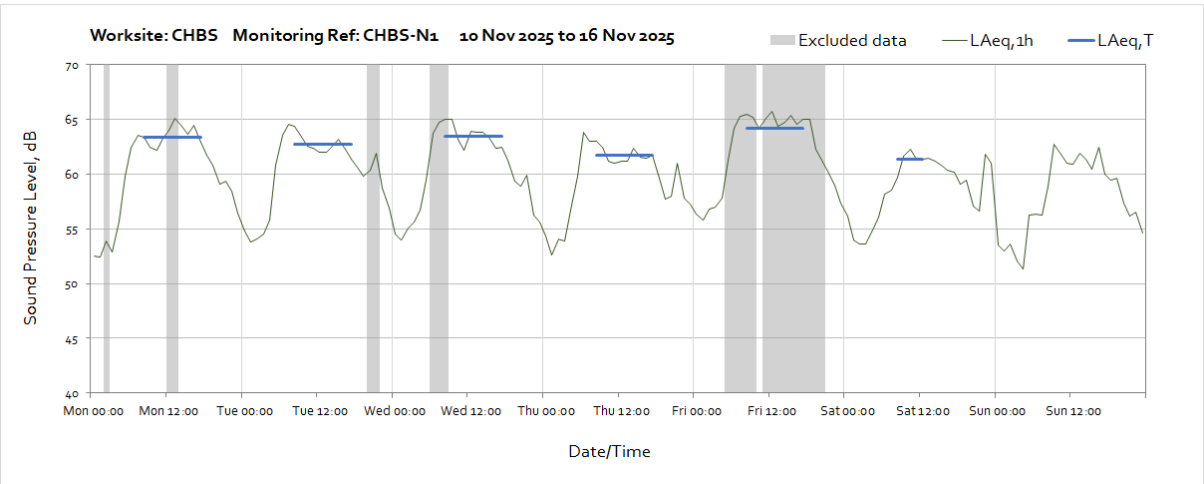
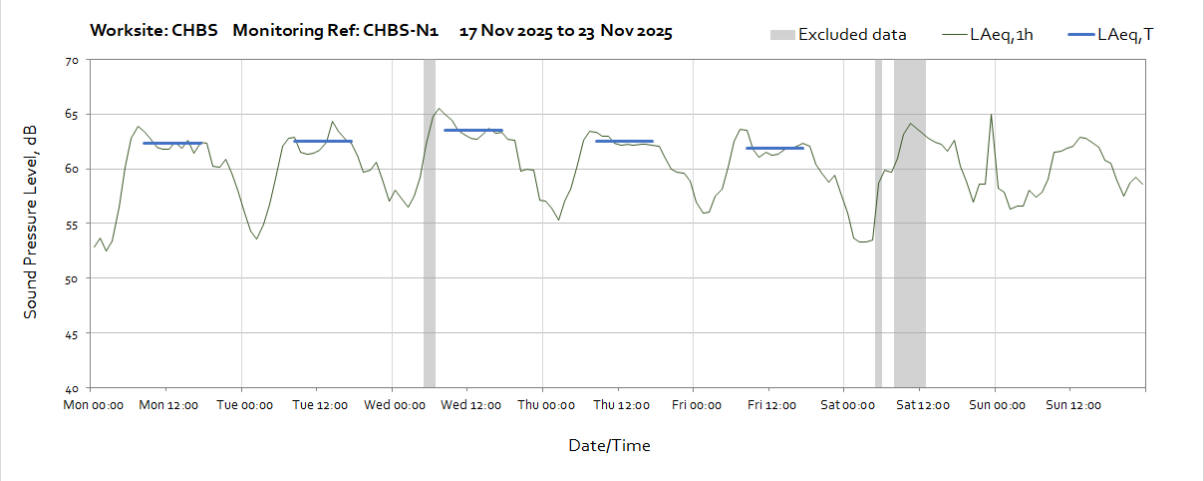
Sun 12:00
Date/Time

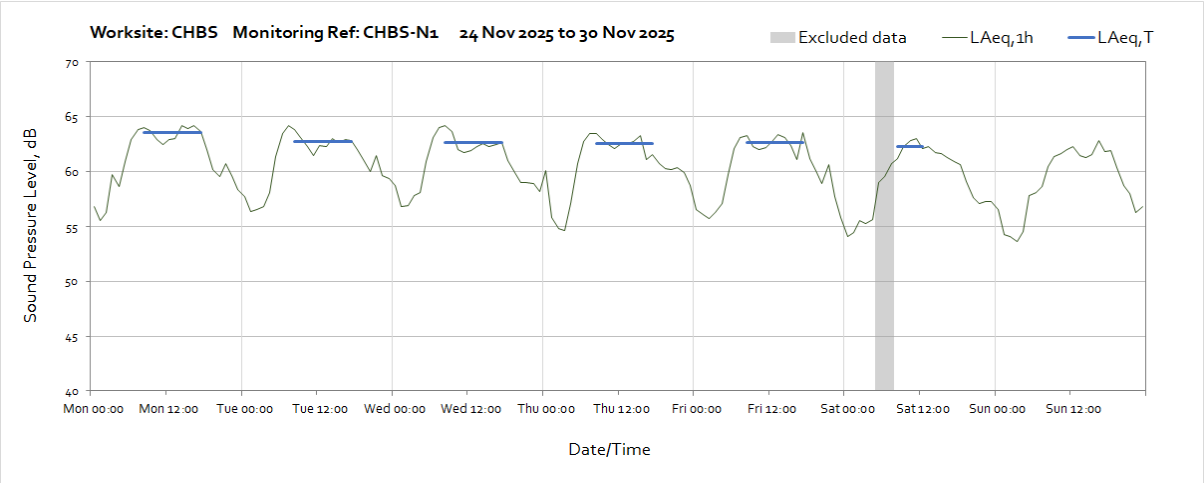
Worksite: CHBS – Monitoring Ref: CHBS-N1



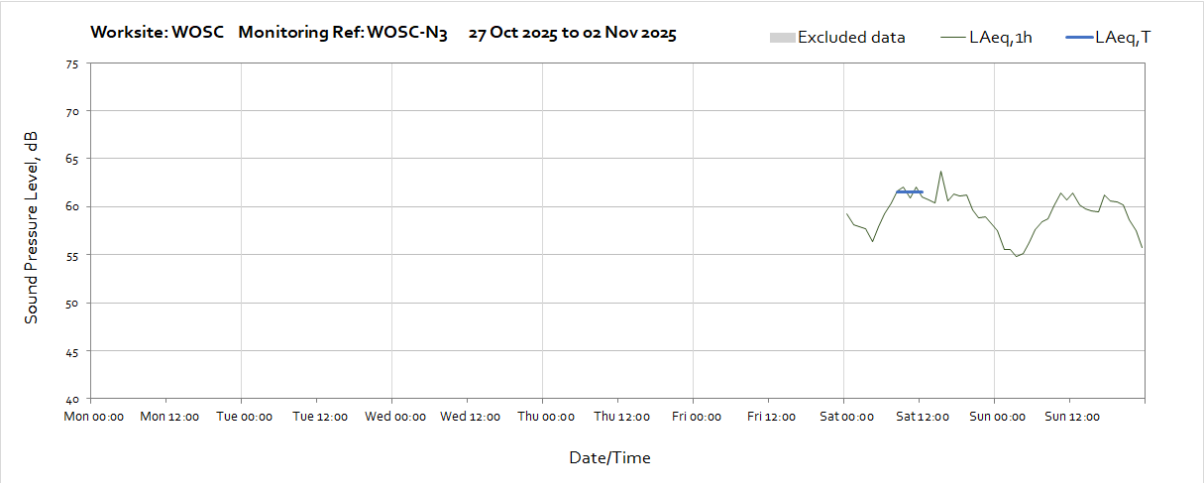


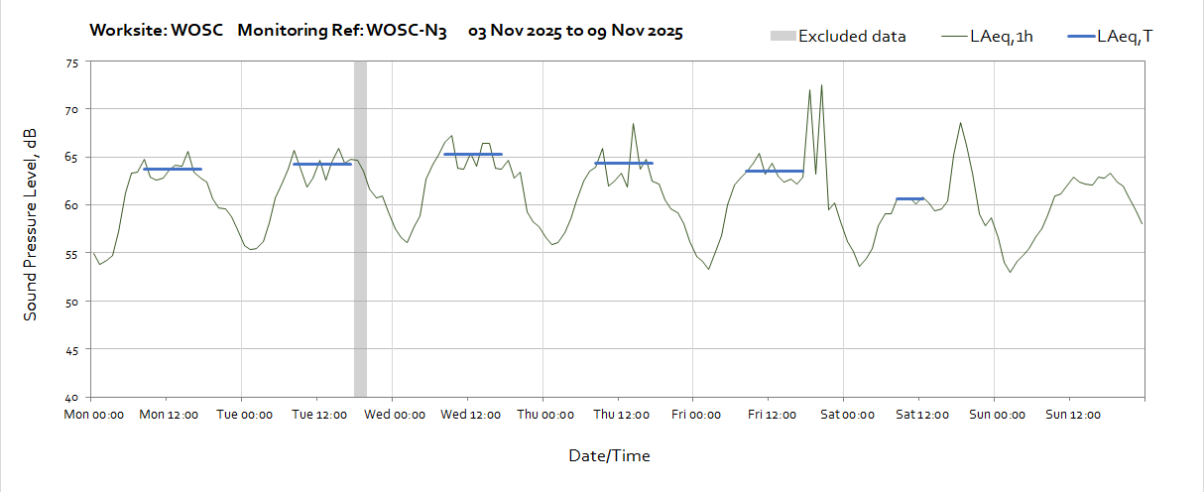






Worksite: WOSC – Monitoring Ref: WOSC-N3




Worksite: WOSC Monitoring Ref: WOSC-N3 03 Nov 2025 to 09 Nov 2025
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LAeq,T
Sound Pressure Level, dB
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70
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60
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50
45
40
Mon 00:00
Mon 12:00
Tue 00:00
Tue 12:00
Wed 00:00
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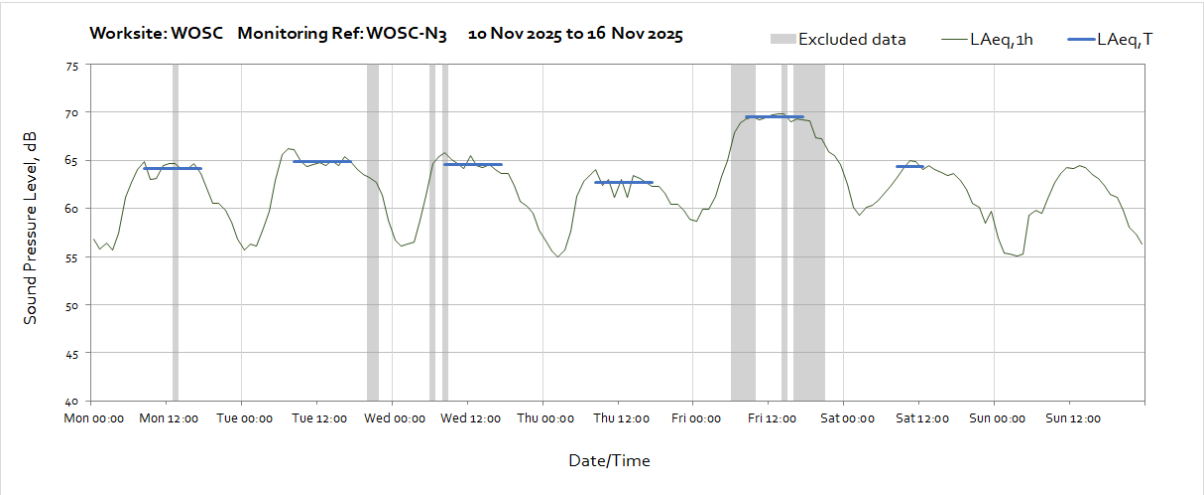
Sat 12:00
Sun 00:00
Sun 12:00
Date/Time


Worksite: WOSC Monitoring Ref: WOSC-N3 10 Nov 2025 to 16 Nov 2025
Excluded data
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LAeq,T
Sound Pressure Level, dB
75
70
65
60
55
50
45
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Mon 00:00
Mon 12:00
Tue 00:00
Tue 12:00
Wed 00:00
Wed 12:00
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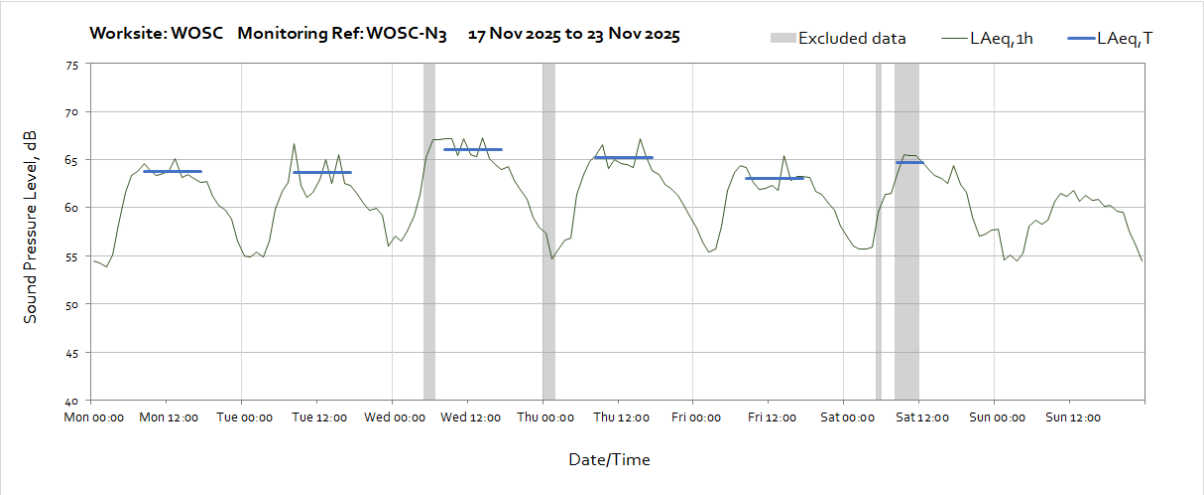
Fri 00:00
Fri 12:00
Sat 00:00
Sat 12:00
Sun 00:00
Sun 12:00
Date/Time


Worksite: WOSC Monitoring Ref: WOSC-N3 17 Nov 2025 to 23 Nov 2025
Excluded data
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LAeq,T
Sound Pressure Level, dB
75
70
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Tue 12:00
Wed 00:00
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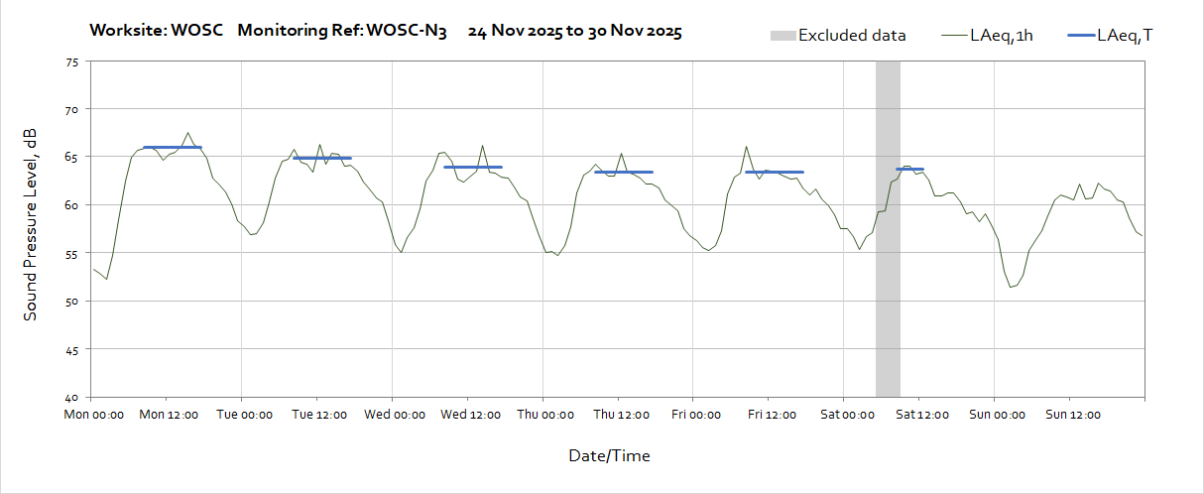
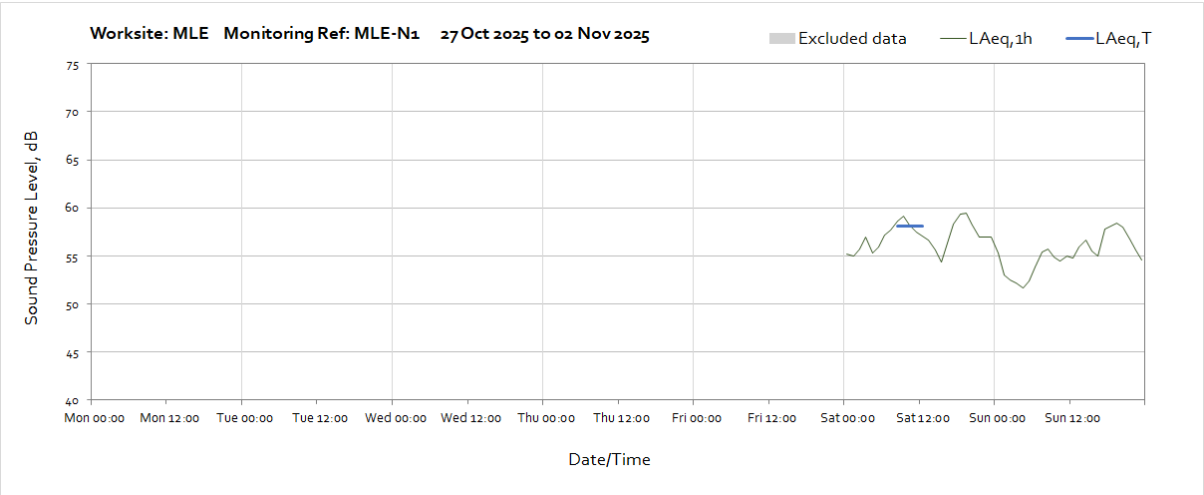
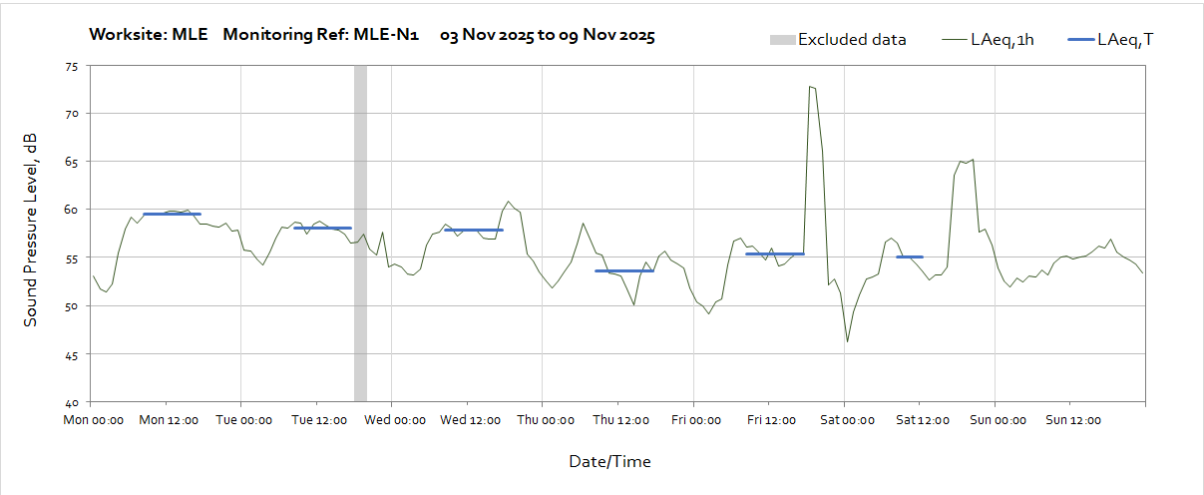
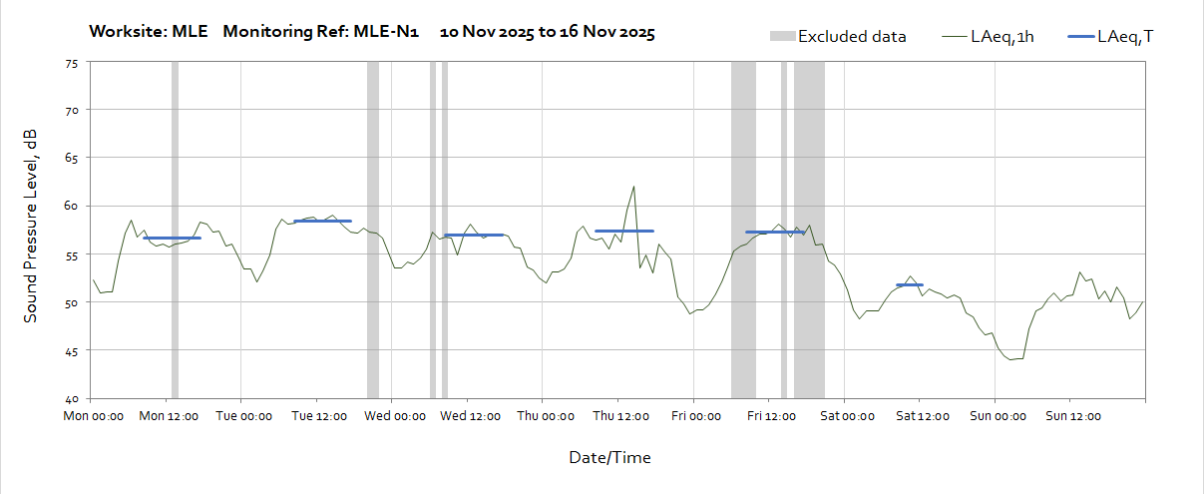
Sun 12:00
Date/Time



Worksite: MLE – Monitoring Ref: MLE-N1






Worksite: MLE Monitoring Ref: MLE-N1 10 Nov 2025 to 16 Nov 2025
Excluded data
LAeq,1h
LAeq,T
Sound Pressure Level, dB
75
70
65
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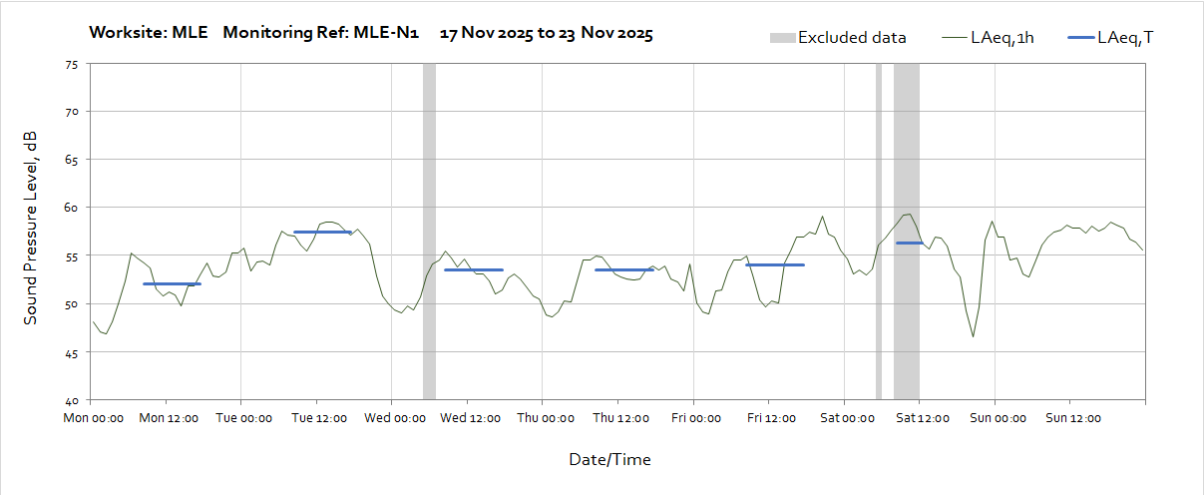
Sun 00:00
Sun 12:00
Date/Time


Worksite: MLE Monitoring Ref: MLE-N1 17 Nov 2025 to 23 Nov 2025
Excluded data
LAeq,1h
LAeq,T
Sound Pressure Level, dB
75
70
65
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Wed 00:00
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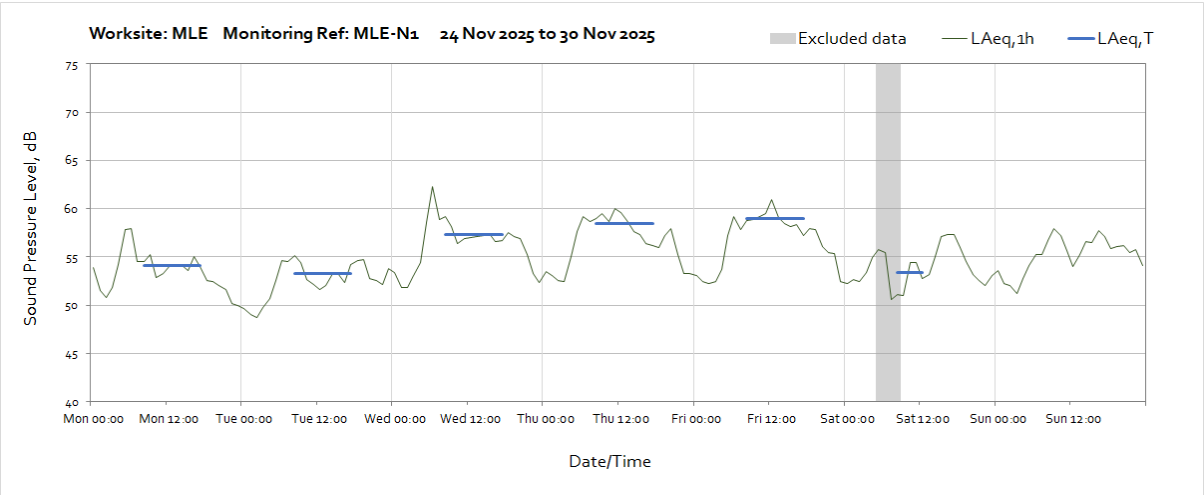
Sun 12:00
Date/Time


Worksite: MLE Monitoring Ref: MLE-N1 24 Nov 2025 to 30 Nov 2025
Excluded data
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LAeq,T
Sound Pressure Level, dB
75
70
65
60
55
50
45
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Tue 12:00
Wed 00:00
Wed 12:00
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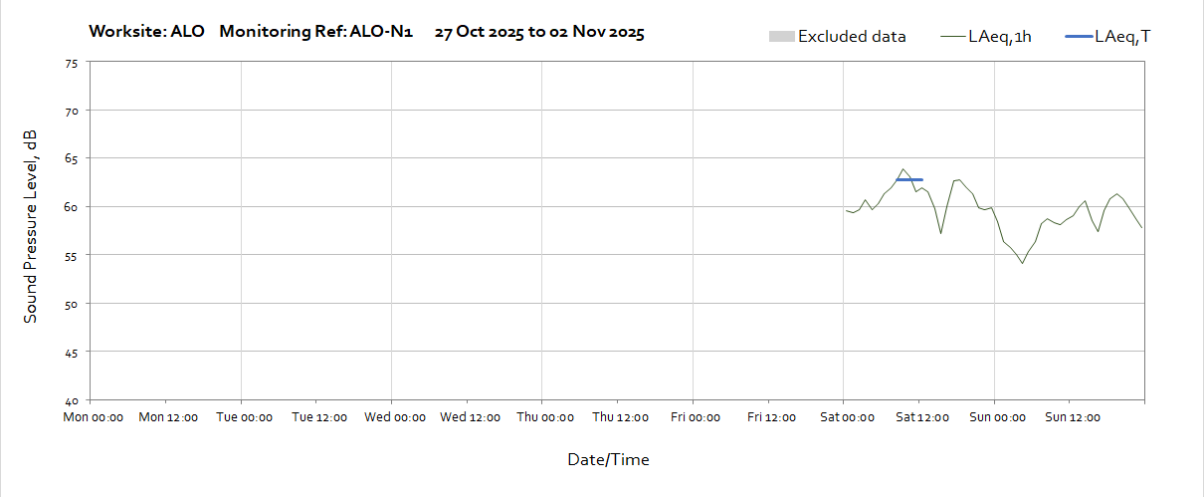
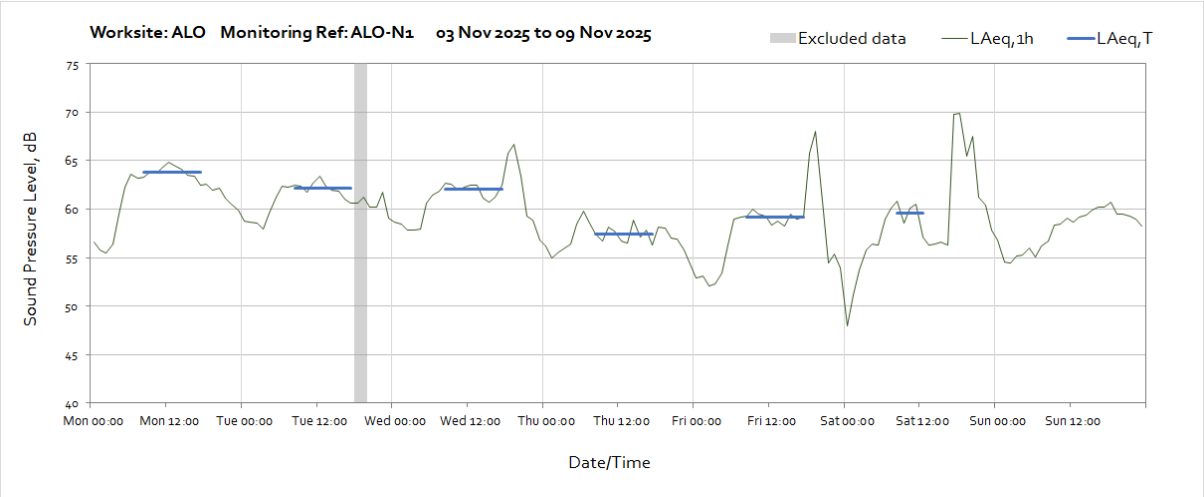
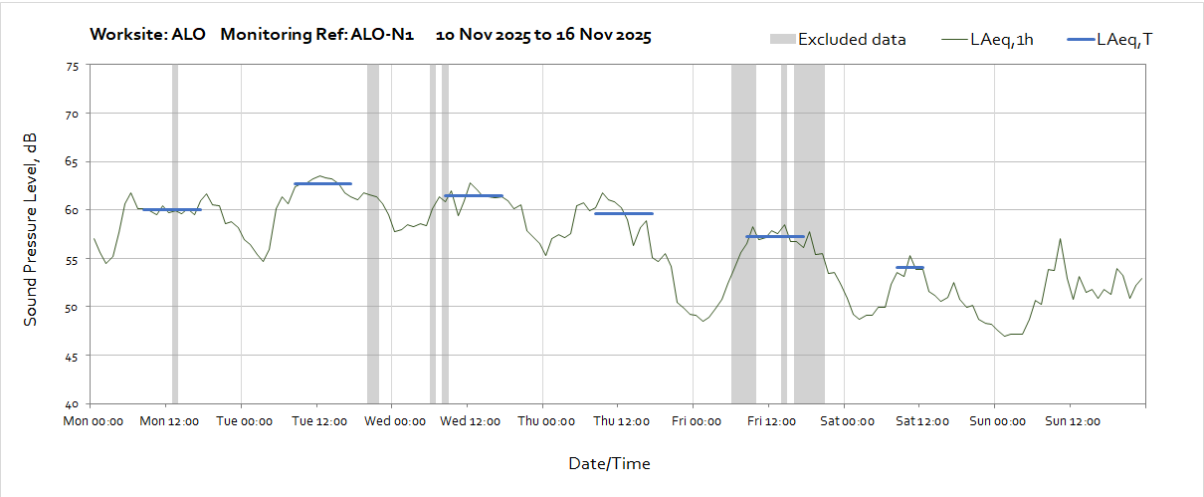
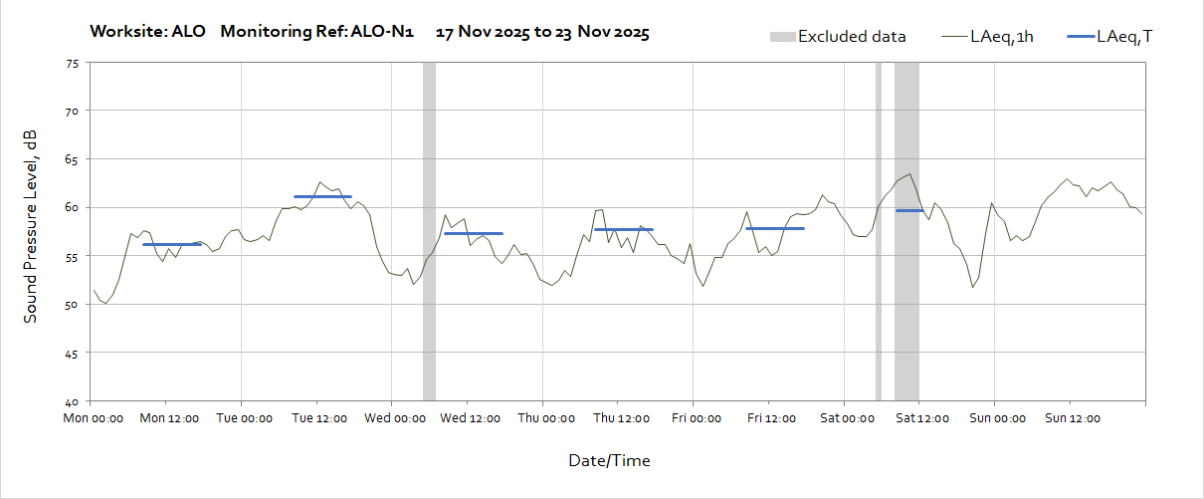
Sun 00:00
Sun 12:00
Date/Time

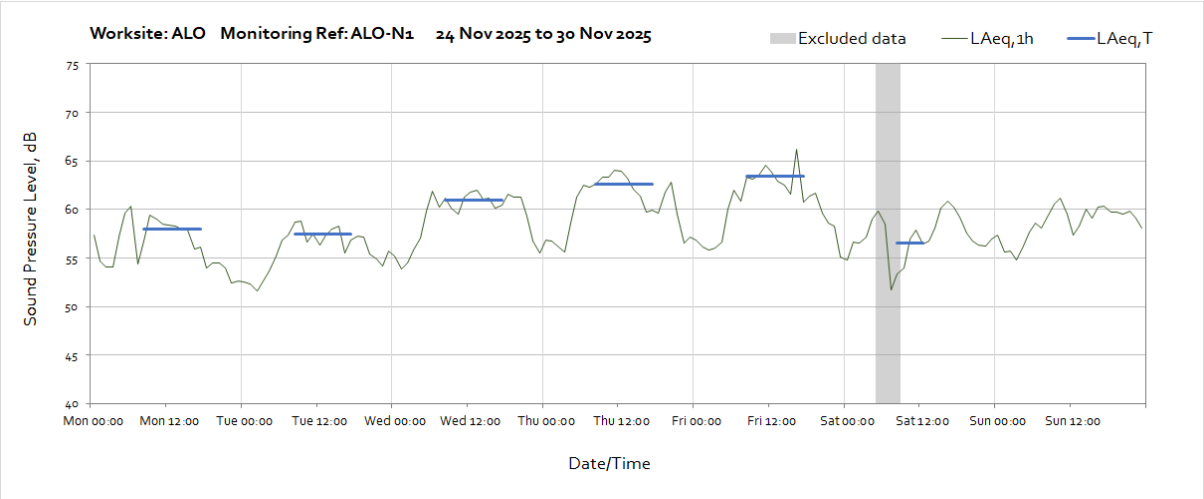
Worksite: ALO – Monitoring Ref: ALO-N1



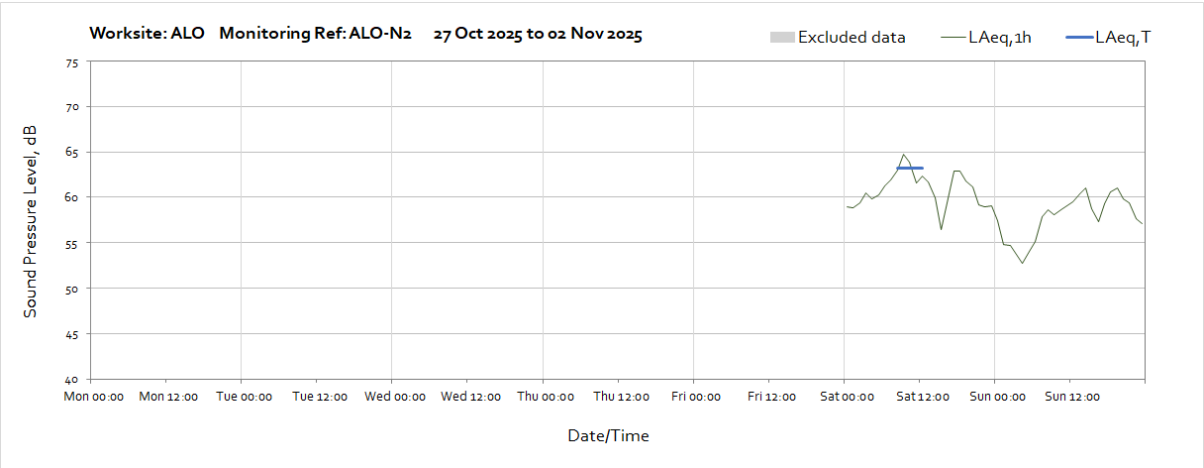


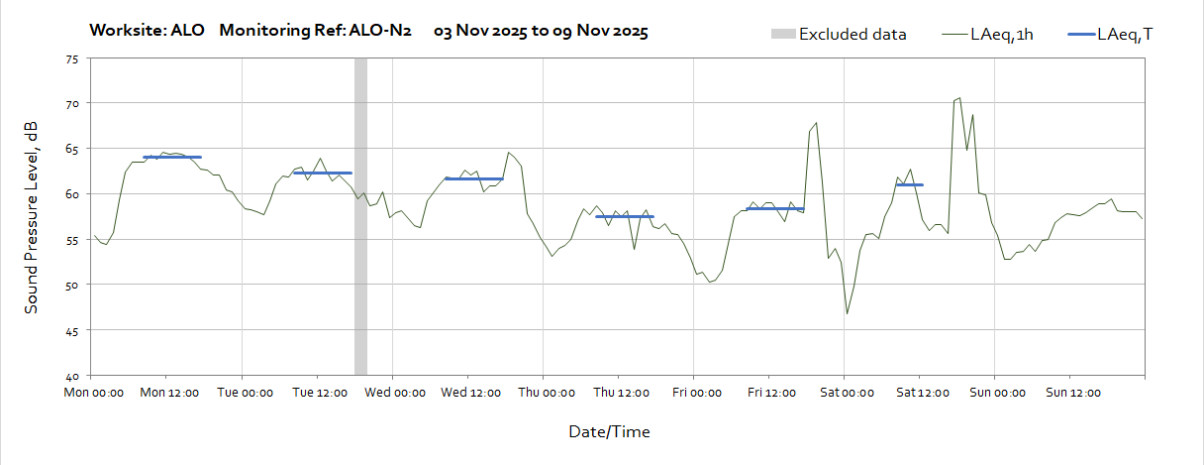






Worksite: ALO – Monitoring Ref: ALO-N2




Worksite: ALO Monitoring Ref: ALO-N2 03 Nov 2025 to 09 Nov 2025
Excluded data
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LAeq,T
Sound Pressure Level, dB
75
70
65
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50
45
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Mon 00:00
Mon 12:00
Tue 00:00
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Wed 00:00
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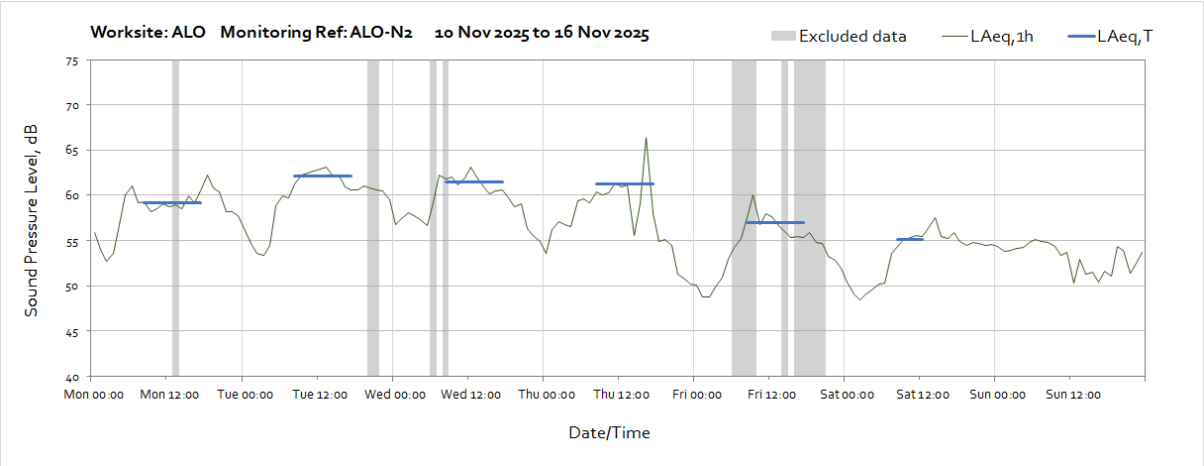
Sun 00:00
Sun 12:00
Date/Time


Worksite: ALO Monitoring Ref: ALO-N2 10 Nov 2025 to 16 Nov 2025
Excluded data
LAeq,1h
LAeq,T
Sound Pressure Level, dB
75
70
65
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Tue 00:00
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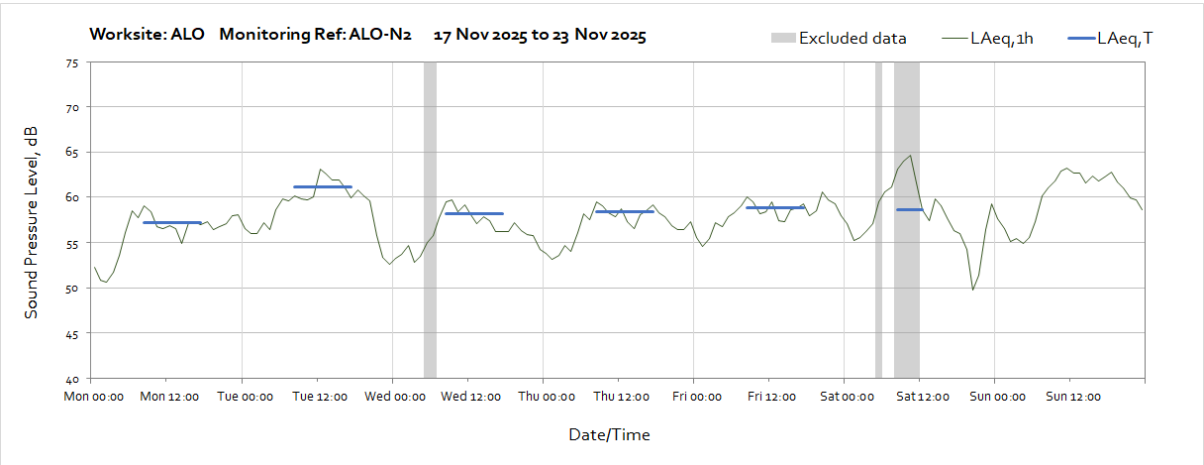
Sun 00:00
Sun 12:00
Date/Time


Worksite: ALO Monitoring Ref: ALO-N2 17 Nov 2025 to 23 Nov 2025
Excluded data
LAeq,1h
LAeq,T
Sound Pressure Level, dB
75
70
65
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50
45
40
Mon 00:00
Mon 12:00
Tue 00:00
Tue 12:00
Wed 00:00
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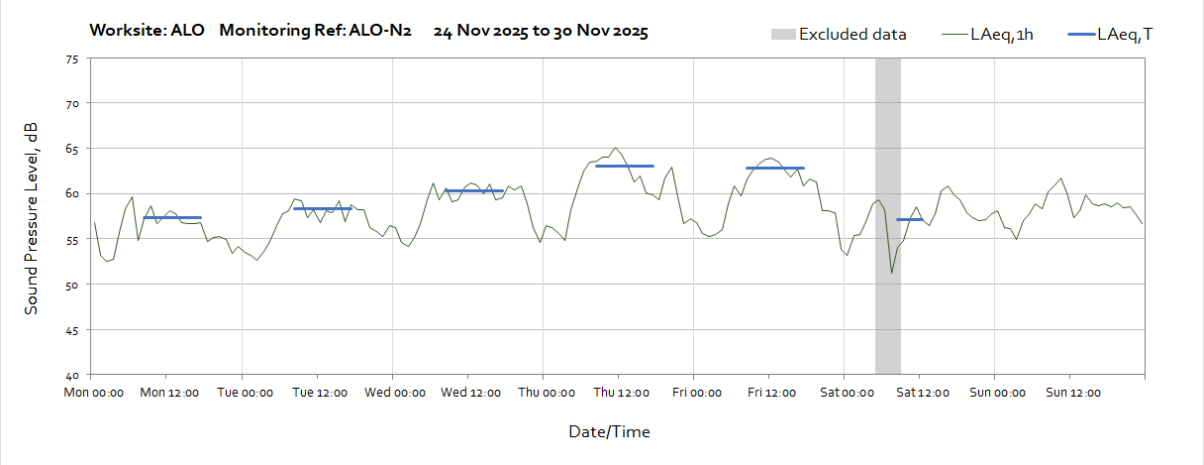
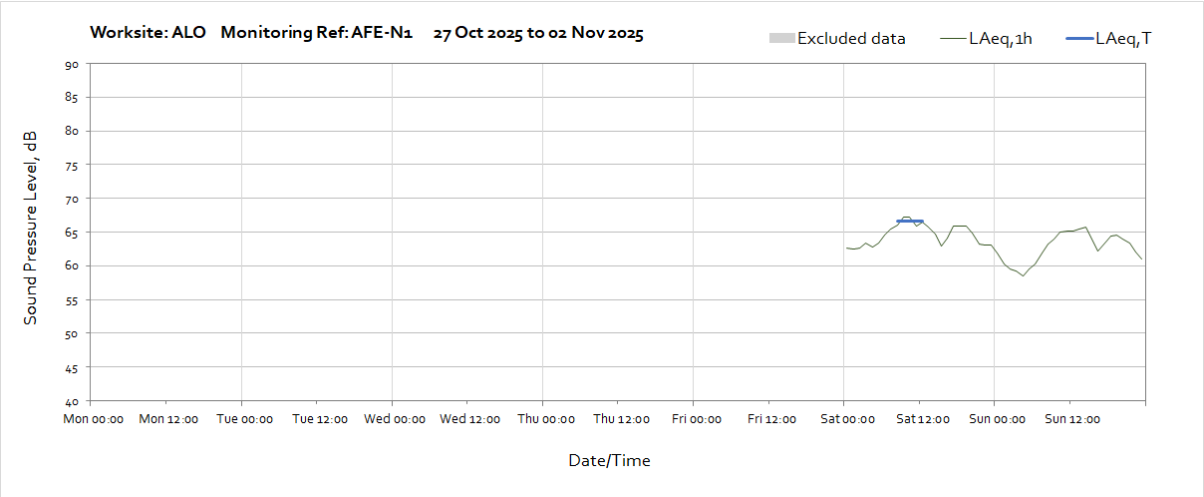
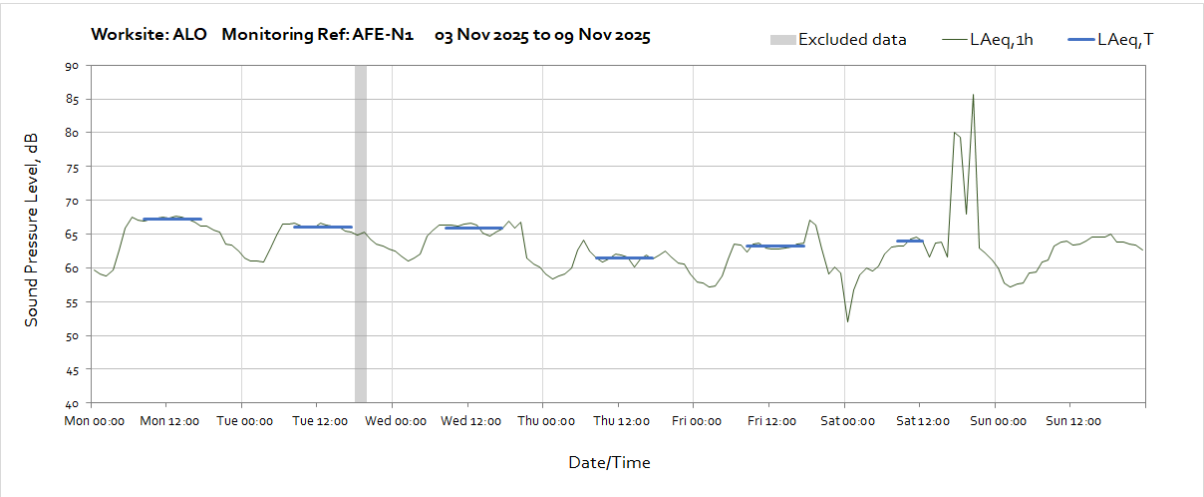
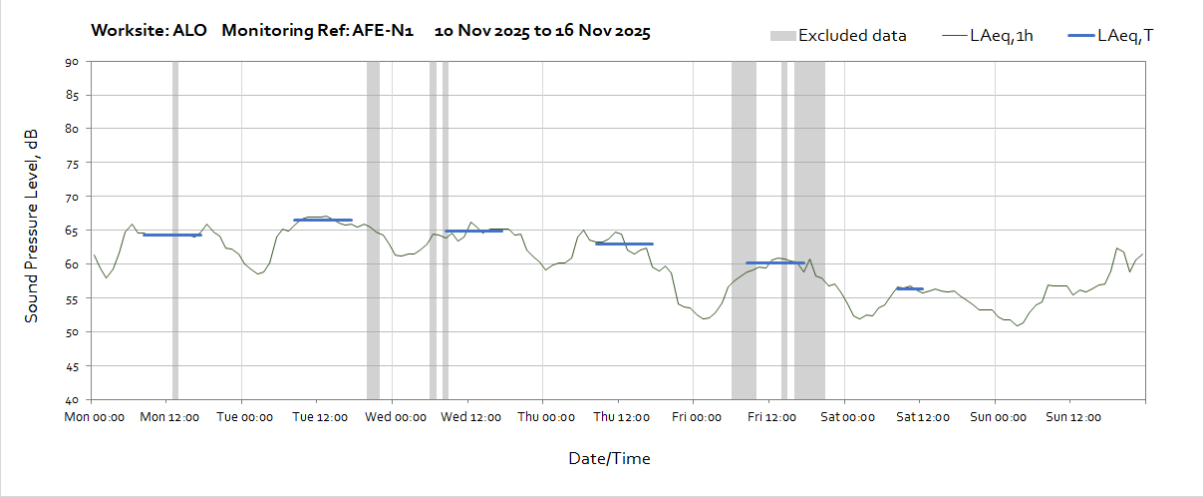
Fri 12:00
Sat 00:00
Sat 12:00
Sun 00:00
Sun 12:00
Date/Time



Worksite: ALO – Monitoring Ref: AFE-N1






Worksite: ALO Monitoring Ref: AFE-N1 10 Nov 2025 to 16 Nov 2025
Excluded data
LAeq,1h
LAeq,T
Sound Pressure Level, dB
90
85
80
75
70
65
60
55
50
45
40
Mon 00:00
Mon 12:00
Tue 00:00
Tue 12:00
Wed 00:00
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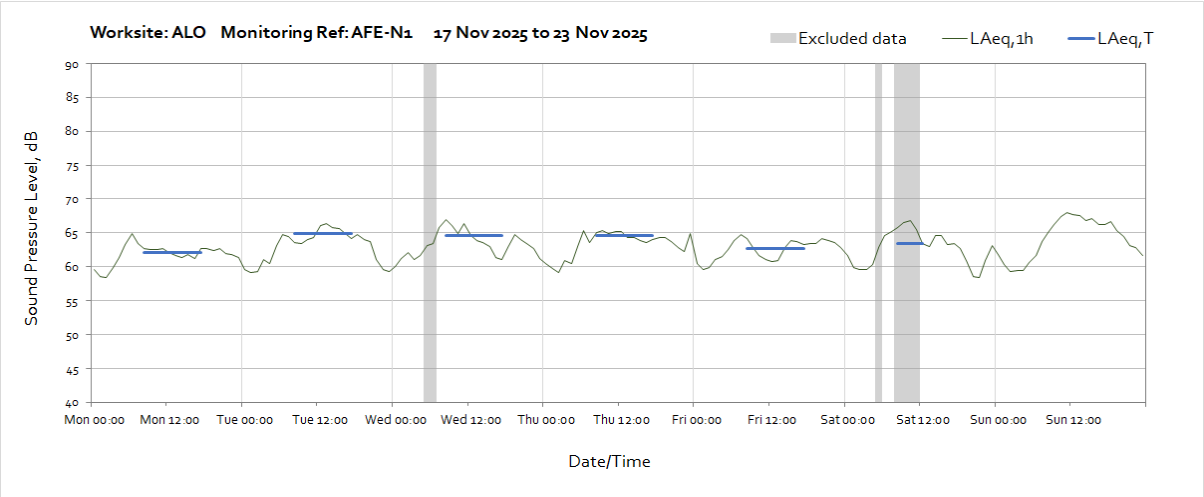
Sat 00:00
Sat 12:00
Sun 00:00
Sun 12:00
Date/Time


Worksite: ALO Monitoring Ref: AFE-N1 17 Nov 2025 to 23 Nov 2025
Excluded data
LAeq,1h
LAeq,T
Sound Pressure Level, dB
90
85
80
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70
65
60
55
50
45
40
Mon 00:00
Mon 12:00
Tue 00:00
Tue 12:00
Wed 00:00
Wed 12:00
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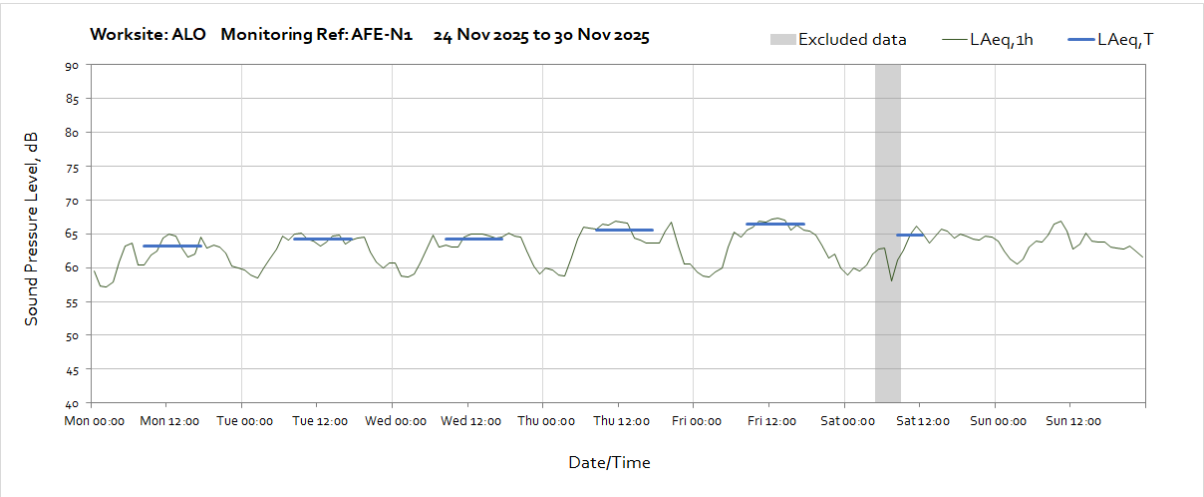
Thu 12:00
Fri 00:00
Fri 12:00
Sat 00:00
Sat 12:00
Sun 00:00
Sun 12:00
Date/Time


Worksite: ALO Monitoring Ref: AFE-N1 24 Nov 2025 to 30 Nov 2025
Excluded data
LAeq,1h
LAeq,T
Sound Pressure Level, dB
90
85
80
75
70
65
60
55
50
45
40
Mon 00:00
Mon 12:00
Tue 00:00
Tue 12:00
Wed 00:00
Wed 12:00
Thu 00:00
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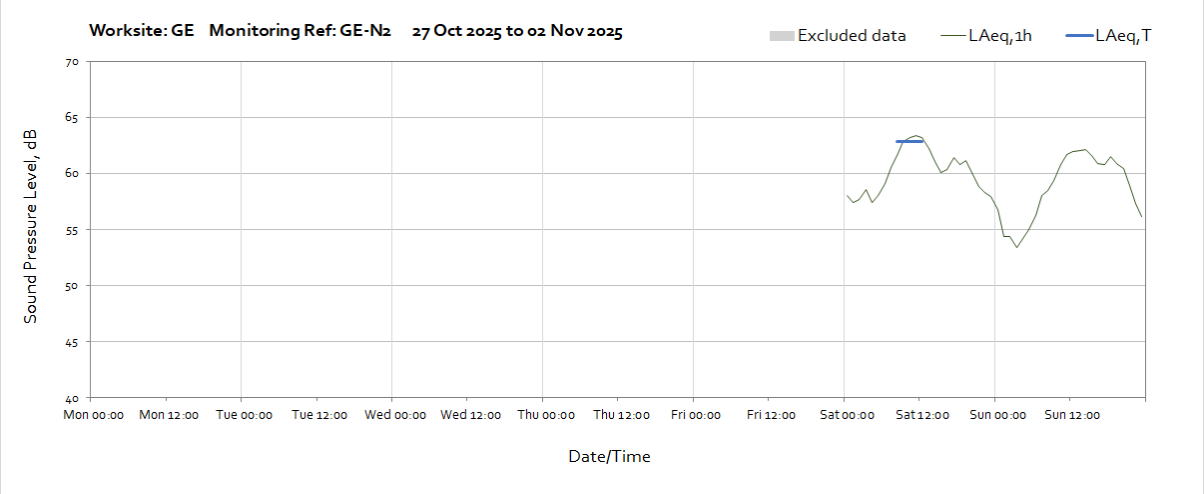
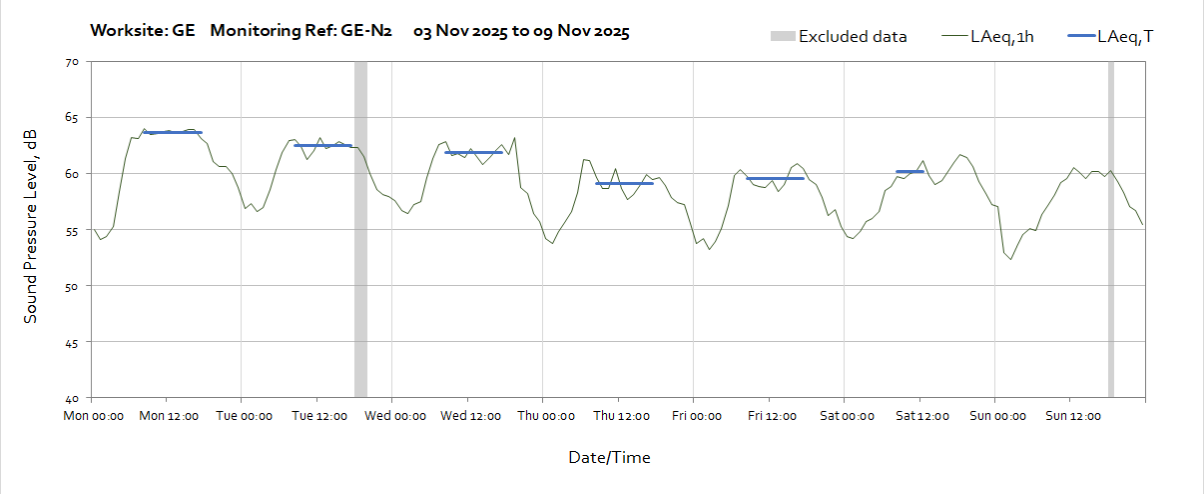
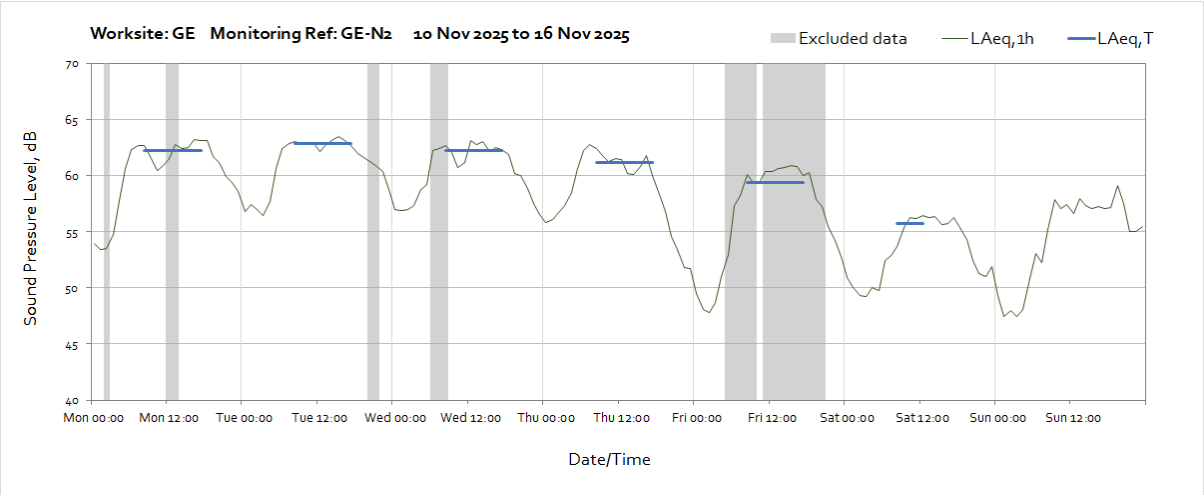
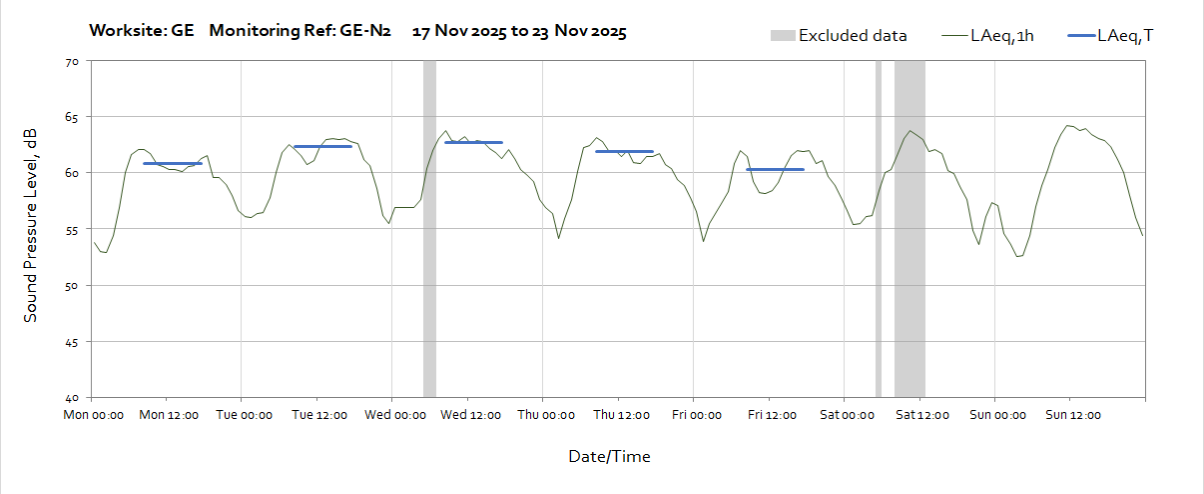
Fri 12:00
Sat 00:00
Sat 12:00
Sun 00:00
Sun 12:00
Date/Time

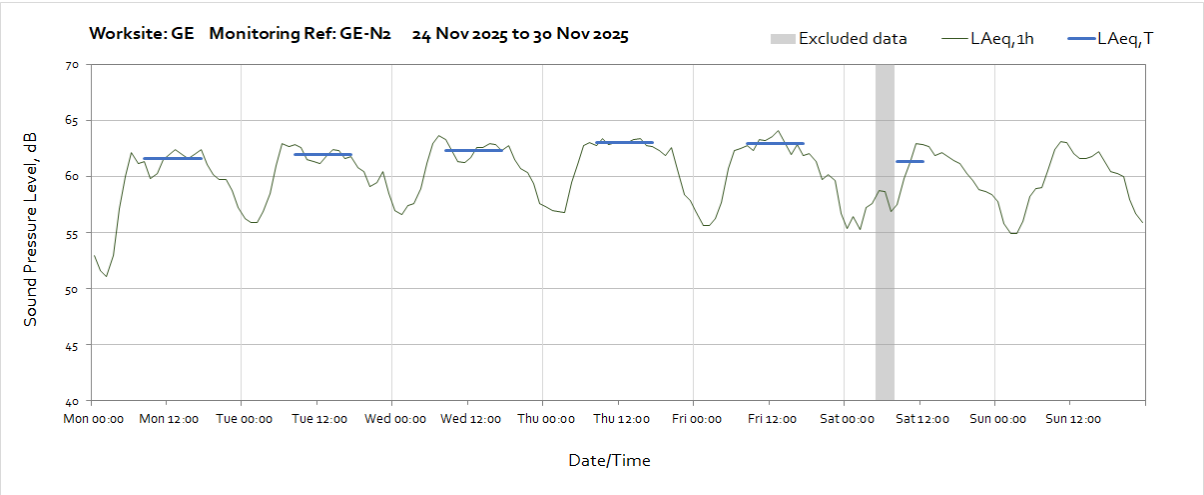
Worksite: GE – Monitoring Ref: GE-N2



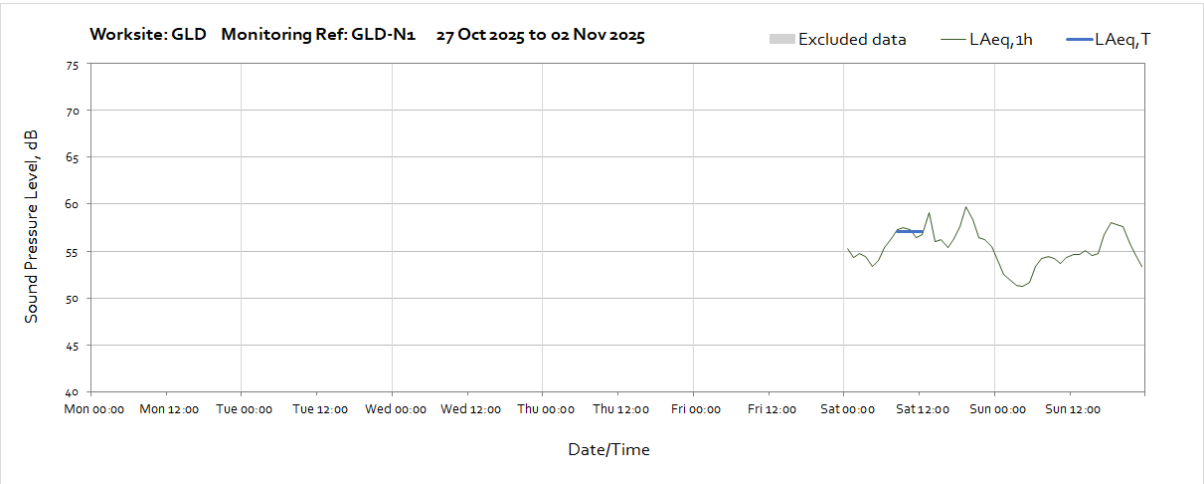


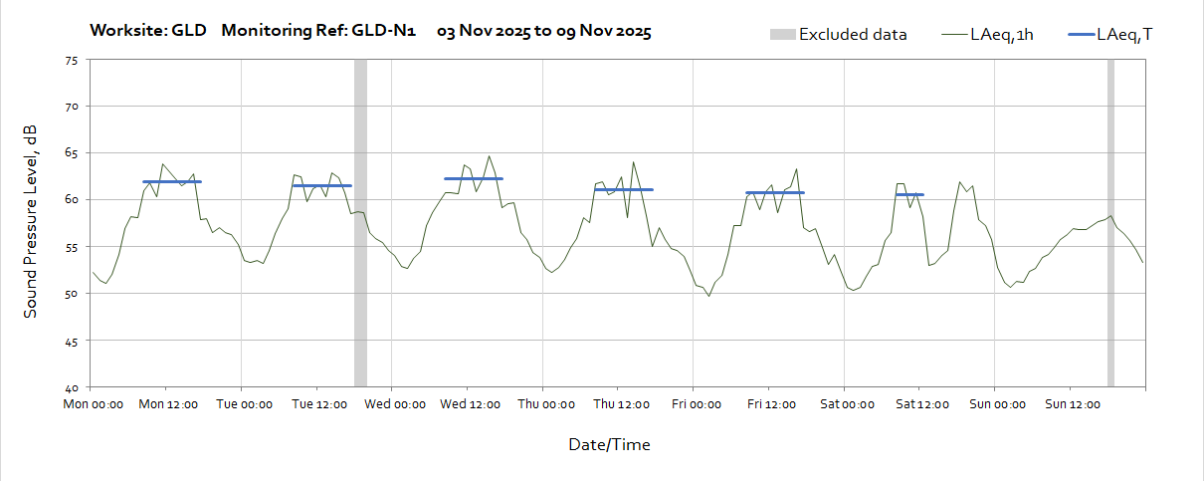






Worksite: GLD - Monitoring Ref: GLD-N1




Worksite: GLD Monitoring Ref: GLD-N1 03 Nov 2025 to 09 Nov 2025
Excluded data
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LAeq,T
Sound Pressure Level, dB
75
70
65
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55
50
45
40
Mon 00:00
Mon 12:00
Tue 00:00
Tue 12:00
Wed 00:00
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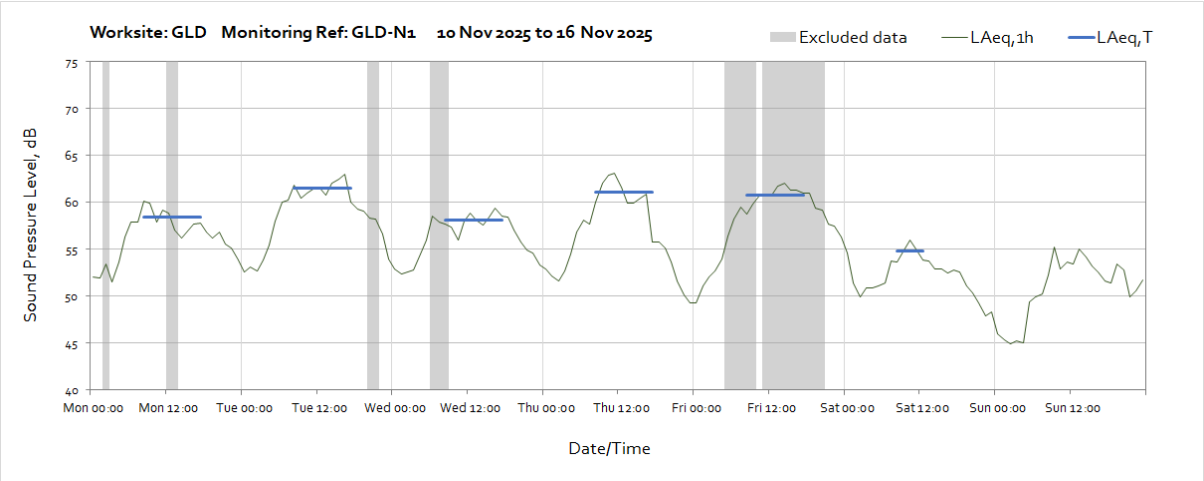
Sun 12:00
Date/Time


Worksite: GLD Monitoring Ref: GLD-N1 10 Nov 2025 to 16 Nov 2025
Excluded data
LAeq,1h
LAeq,T
Sound Pressure Level, dB
75
70
65
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55
50
45
40
Mon 00:00
Mon 12:00
Tue 00:00
Tue 12:00
Wed 00:00
Wed 12:00
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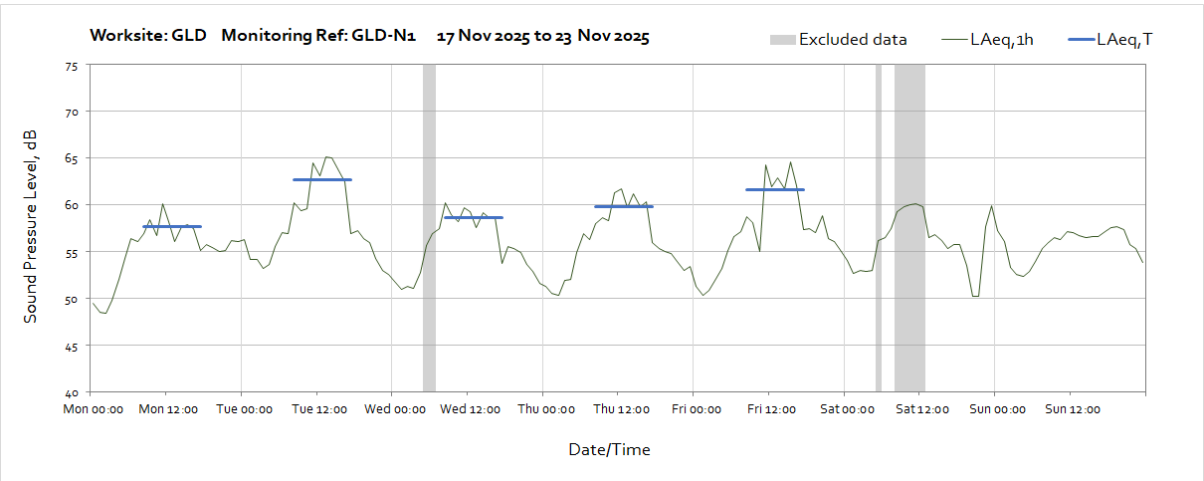
Fri 12:00
Sat 00:00
Sat 12:00
Sun 00:00
Sun 12:00
Date/Time


Worksite: GLD Monitoring Ref: GLD-N1 17 Nov 2025 to 23 Nov 2025
Excluded data
LAeq,1h
LAeq,T
Sound Pressure Level, dB
75
70
65
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55
50
45
40
Mon 00:00
Mon 12:00
Tue 00:00
Tue 12:00
Wed 00:00
Wed 12:00
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Thu 12:00
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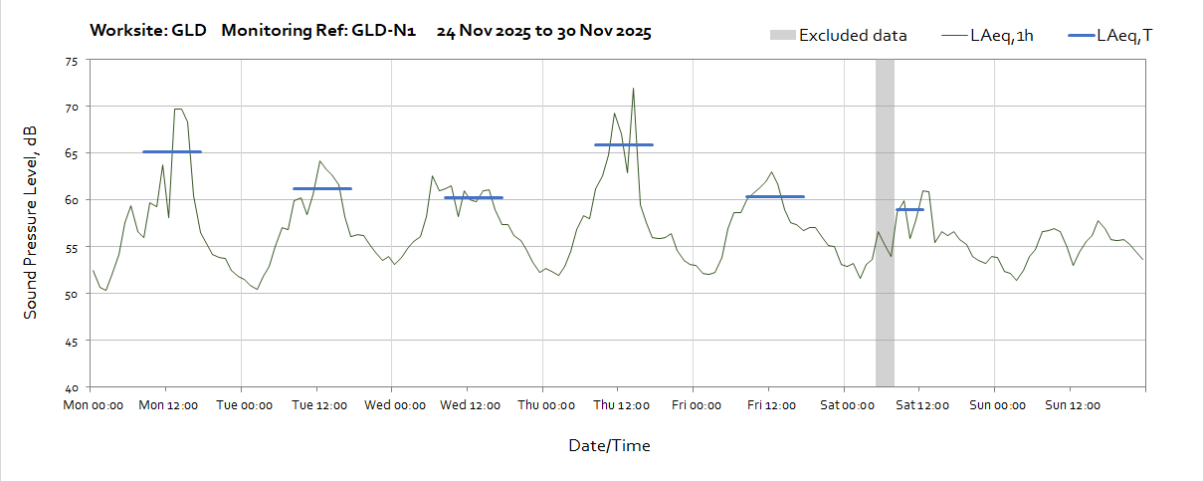
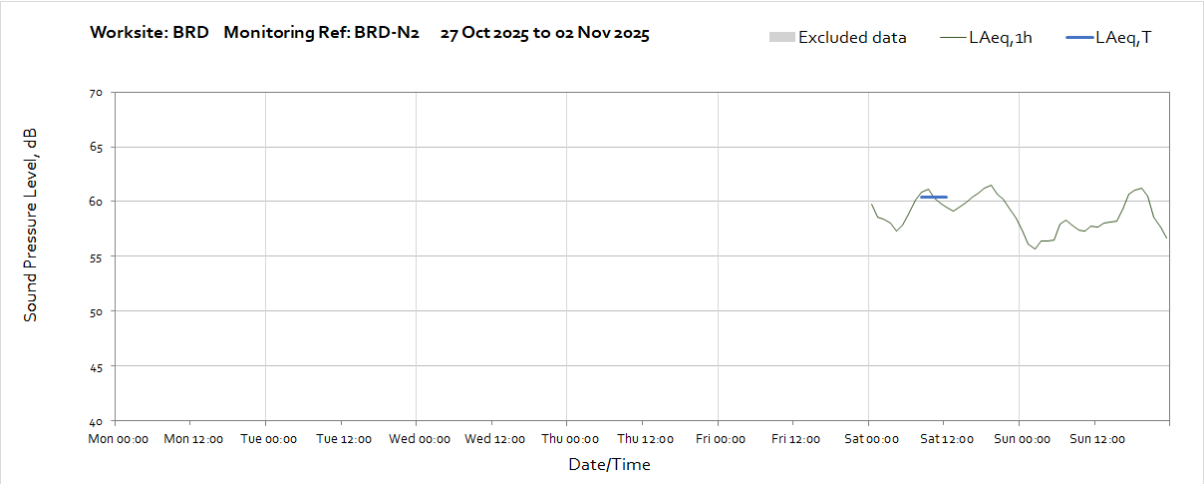
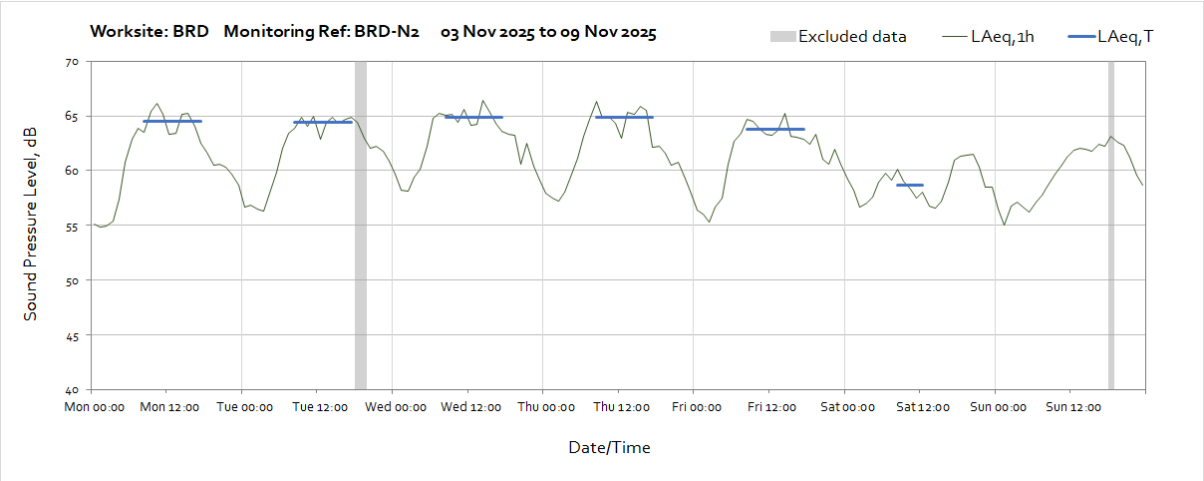
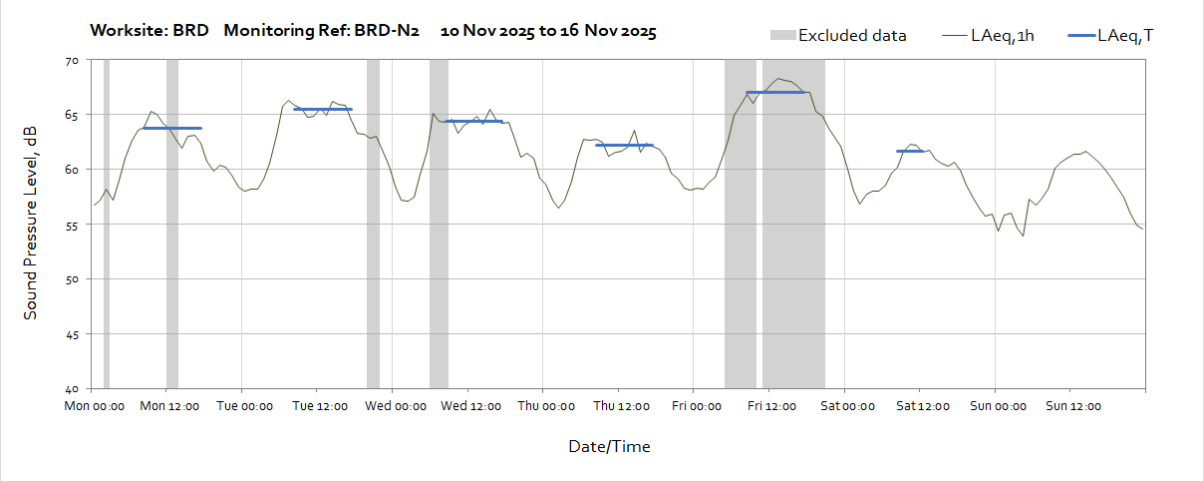
Fri 12:00
Sat 00:00
Sat 12:00
Sun 00:00
Sun 12:00
Date/Time



Worksite: BRD - Monitoring Ref: BRD-N2






Worksite: BRD Monitoring Ref: BRD-N2 10 Nov 2025 to 16 Nov 2025
Excluded data
LAeq,1h
LAeq,T
Sound Pressure Level, dB
70
65
60
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45
40
Mon 00:00
Mon 12:00
Tue 00:00
Tue 12:00
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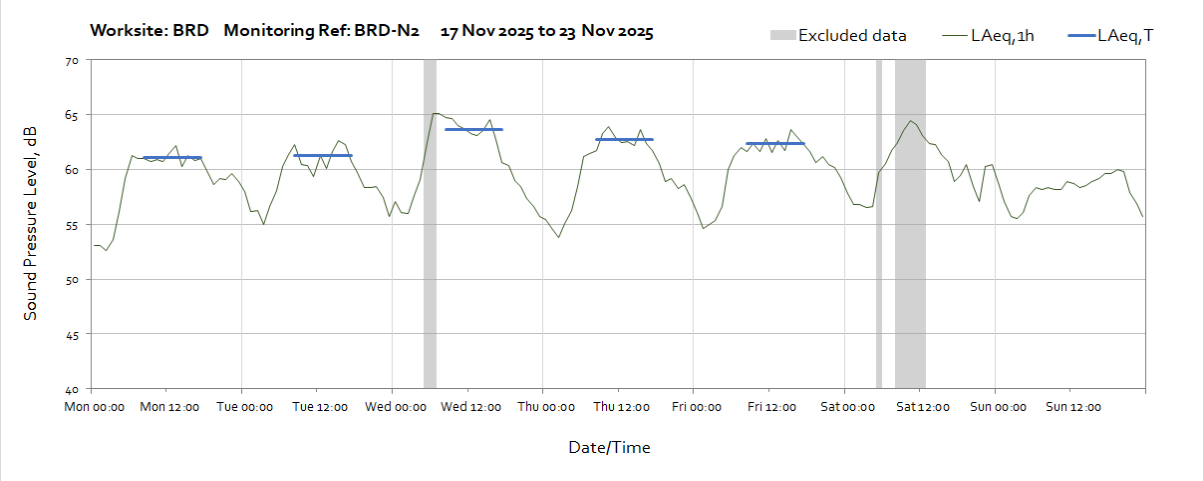
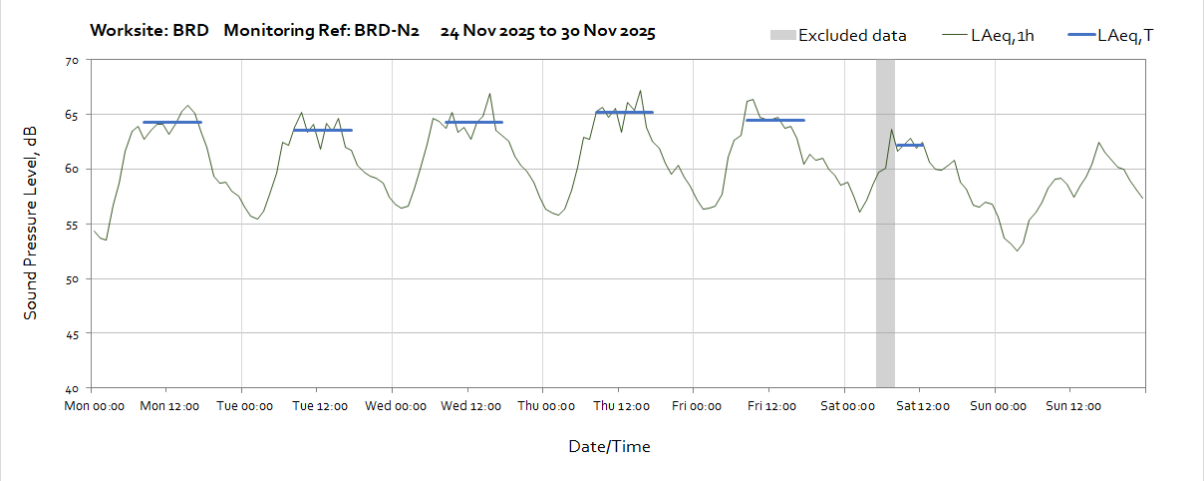
Date/Time


Worksite: BRD Monitoring Ref: BRD-N2 17 Nov 2025 to 23 Nov 2025
Excluded data
LAeq,1h
LAeq,T
Sound Pressure Level, dB
70
65
60
55
50
45
40
Mon 00:00
Mon 12:00
Tue 00:00
Tue 12:00
Wed 00:00
Wed 12:00
Thu 00:00
Thu 12:00
Fri 00:00
Fri 12:00
Sat 00:00
Sat 12:00
Sun 00:00
Sun 12:00
Date/Time


Worksite: BRD Monitoring Ref: BRD-N2 24 Nov 2025 to 30 Nov 2025
Excluded data
LAeq,1h
LAeq,T
Sound Pressure Level, dB
70
65
60
55
50
45
40
Mon 00:00
Mon 12:00
Tue 00:00
Tue 12:00
Wed 00:00
Wed 12:00
Thu 00:00
Thu 12:00
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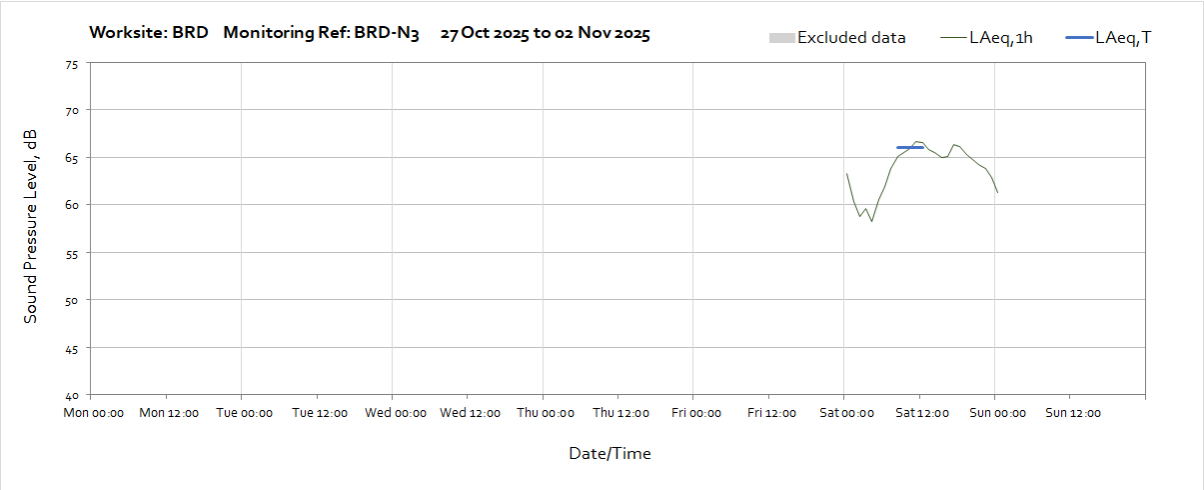
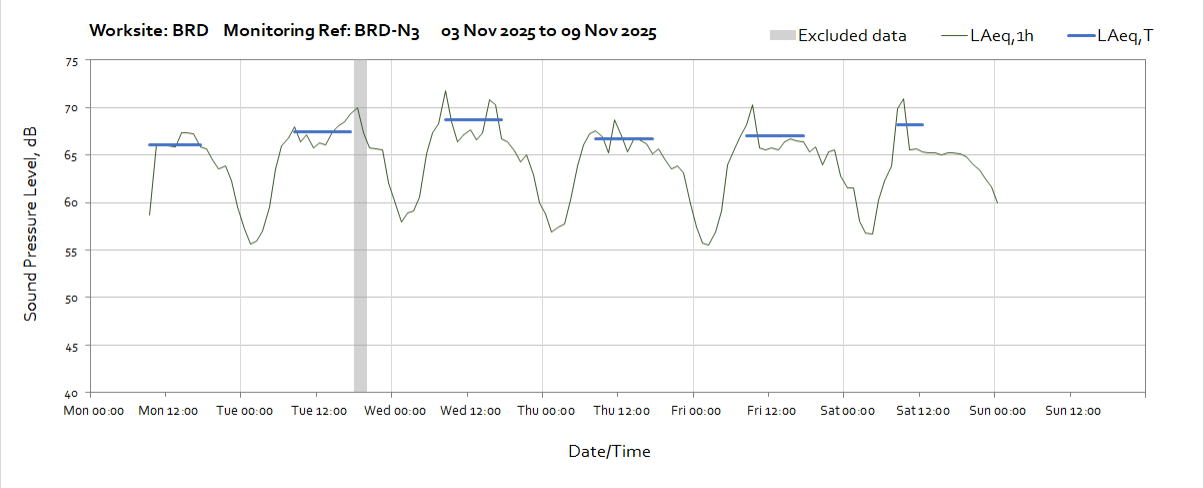
Sat 00:00
Sat 12:00
Sun 00:00
Sun 12:00
Date/Time

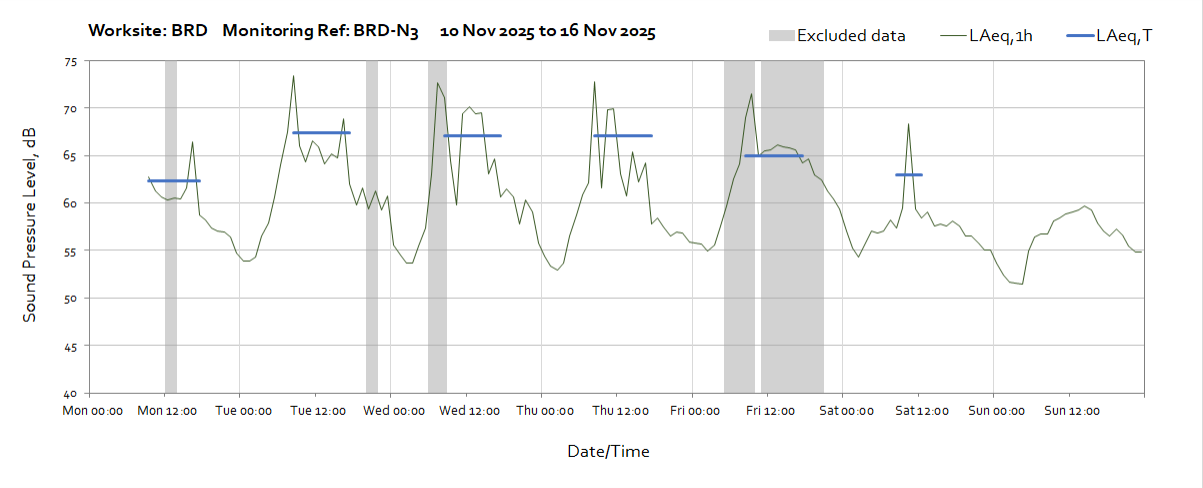
Worksite: BRD - Monitoring Ref: BRD-N3



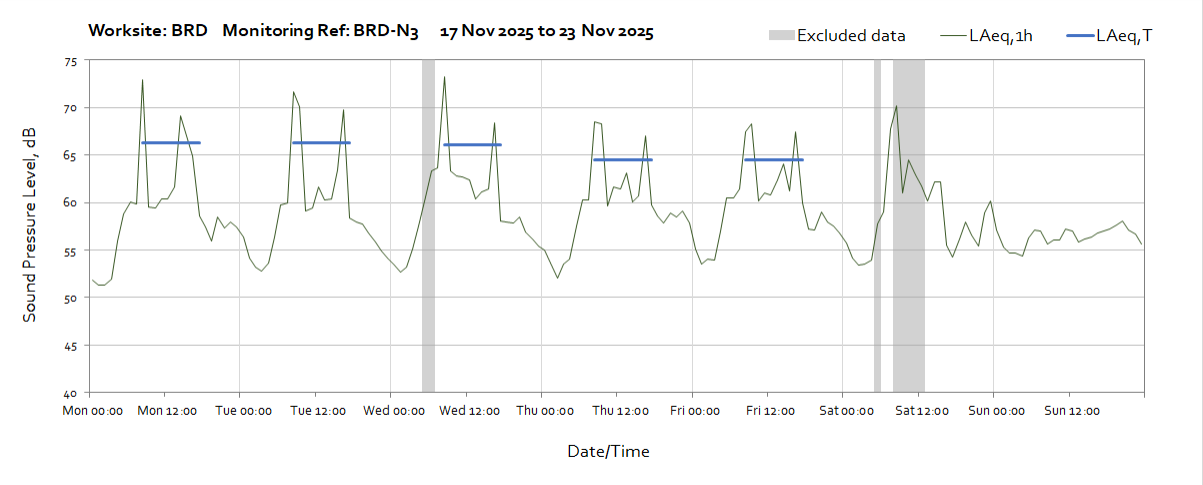
Note: Missing data between 01:00 on Sunday 2nd and 09:00 on Monday 3rd November was due to a synchronisation issue at the monitoring station.

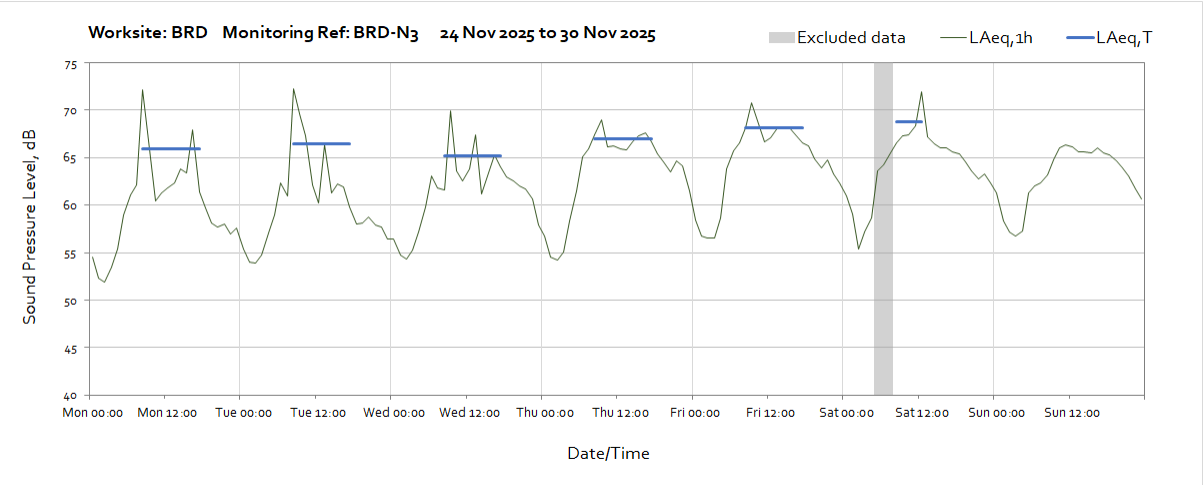


Note: Missing data between 01:00 on Sunday 2nd and 09:00 on Monday 3rd November and between 01:00 on Sunday 9th and 09:00 on Monday 10th November was due to a synchronisation issue at the monitoring station.



Note: Missing data between 01:00 on Sunday 9th and 09:00 on Monday 10th November was due to a synchronisation issue at the monitoring station.

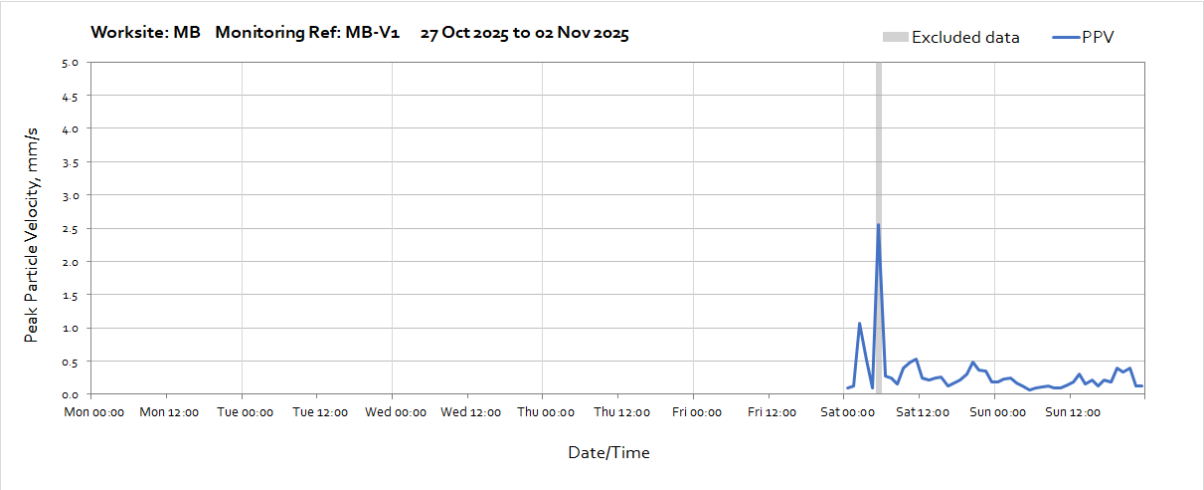


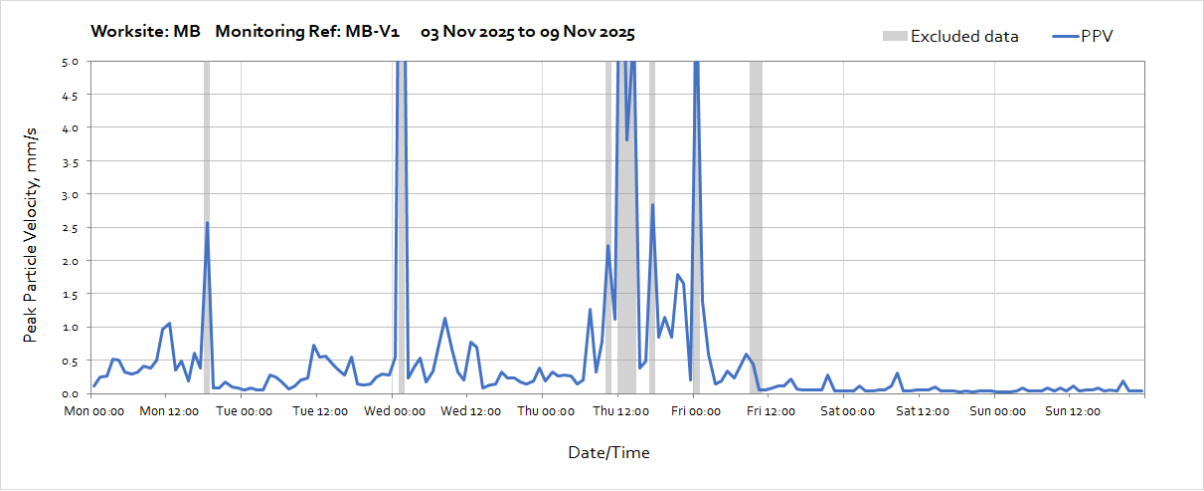


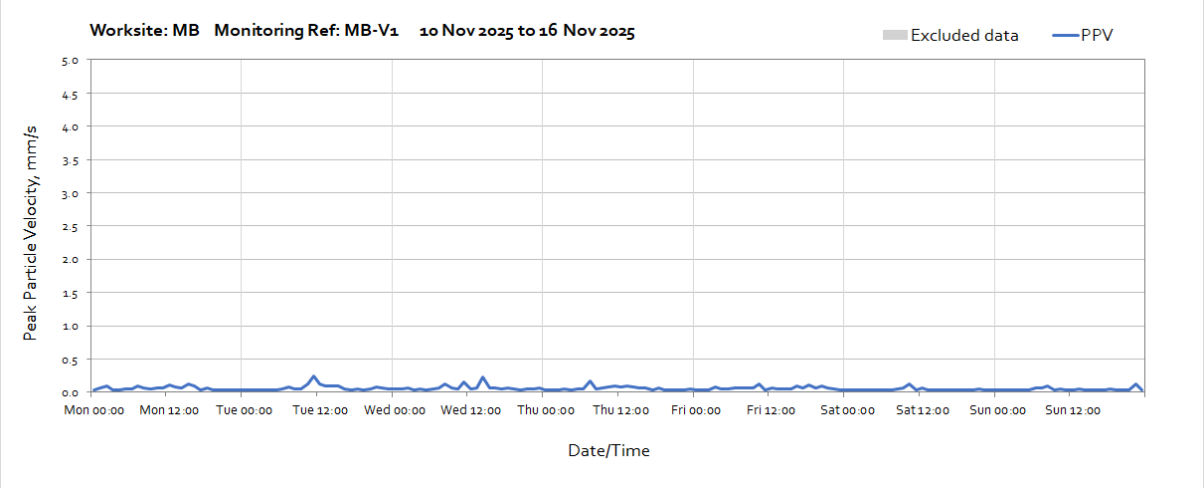
Vibration

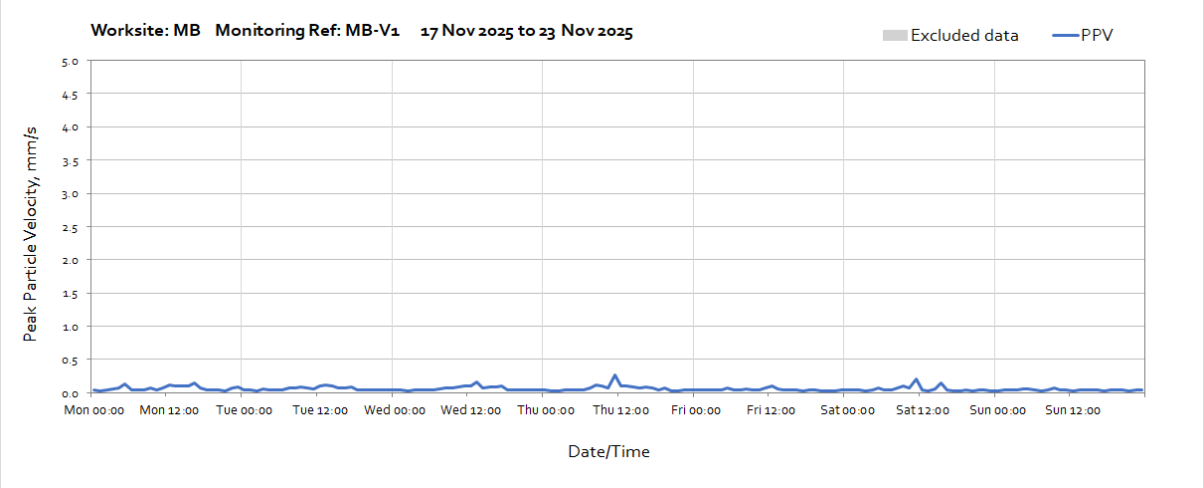
The following graphs show the hourly measured peak particle velocity PPV recorded during the monitoring period. The graphs show the highest PPV of the three orthogonal axes x, y and z. Where high values of PPV were caused by local interference with the vibration monitor, which are not representative of HS2 construction works, these values have been greyed out in the following charts and have been excluded to calculate values in Table 4 of the main report.

Worksite: MB – Monitoring Ref: MB-V1






Worksite: MB Monitoring Ref: MB-V1 10 Nov 2025 to 16 Nov 2025
Excluded data
PPV
Peak Particle Velocity, mm/s
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
Mon 00:00
Mon 12:00
Tue 00:00
Tue 12:00
Wed 00:00
Wed 12:00
Thu 00:00
Thu 12:00
Fri 00:00
Fri 12:00
Sat 00:00
Sat 12:00
Sun 00:00
Sun 12:00
Date/Time


Worksite: MB Monitoring Ref: MB-V1 17 Nov 2025 to 23 Nov 2025
Excluded data
PPV
Peak Particle Velocity, mm/s
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
Mon 00:00
Mon 12:00
Tue 00:00
Tue 12:00
Wed 00:00
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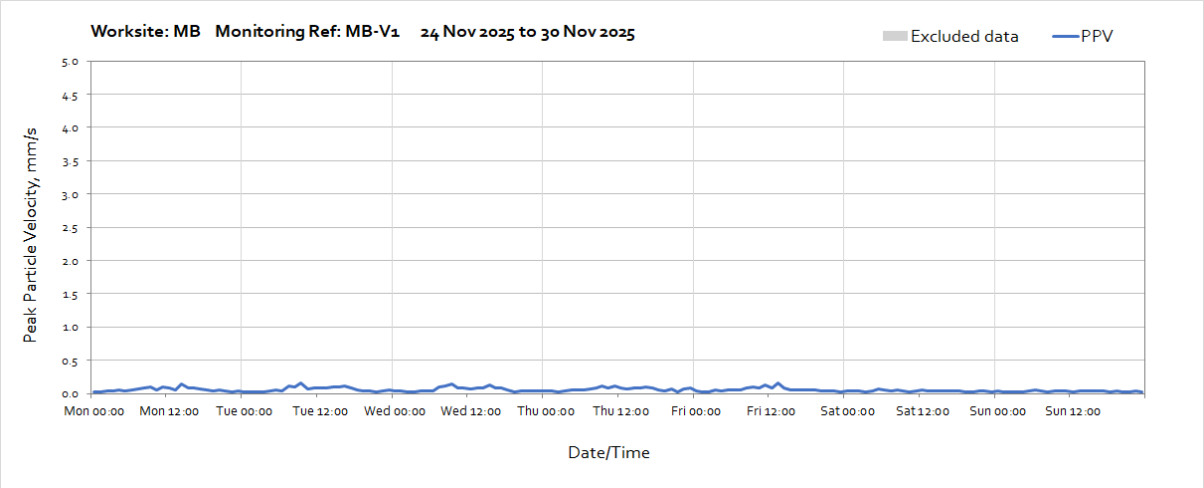
Thu 12:00
Fri 00:00
Fri 12:00
Sat 00:00
Sat 12:00
Sun 00:00
Sun 12:00
Date/Time


Worksite: MB Monitoring Ref: MB-V1 24 Nov 2025 to 30 Nov 2025
Excluded data
PPV
Peak Particle Velocity, mm/s
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
Mon 00:00
Mon 12:00
Tue 00:00
Tue 12:00
Wed 00:00
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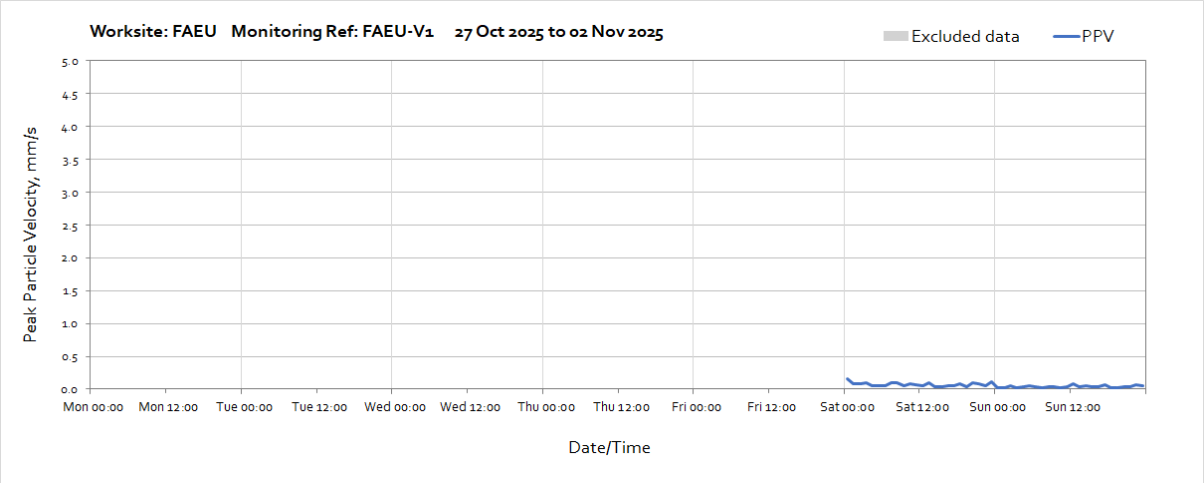
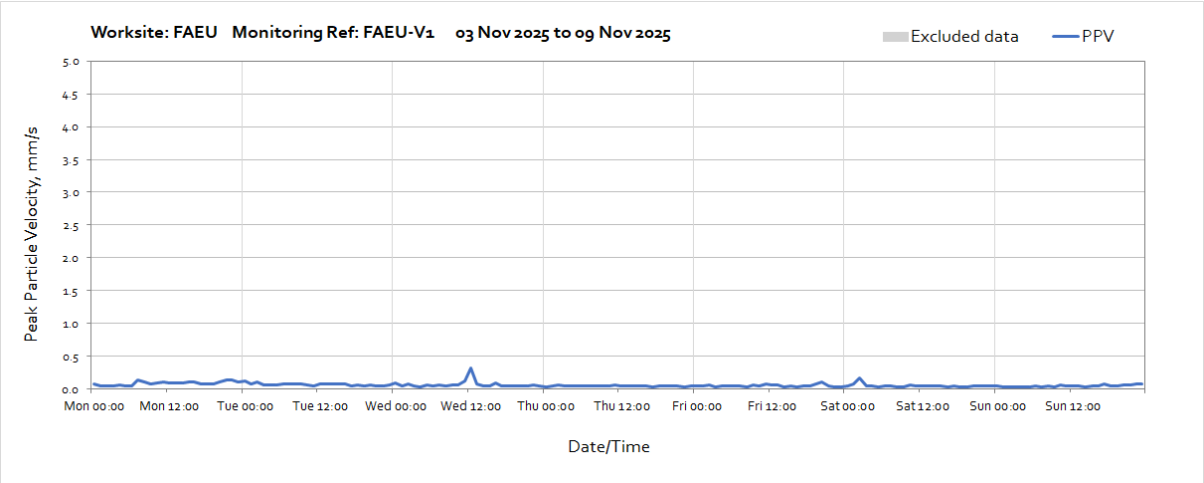
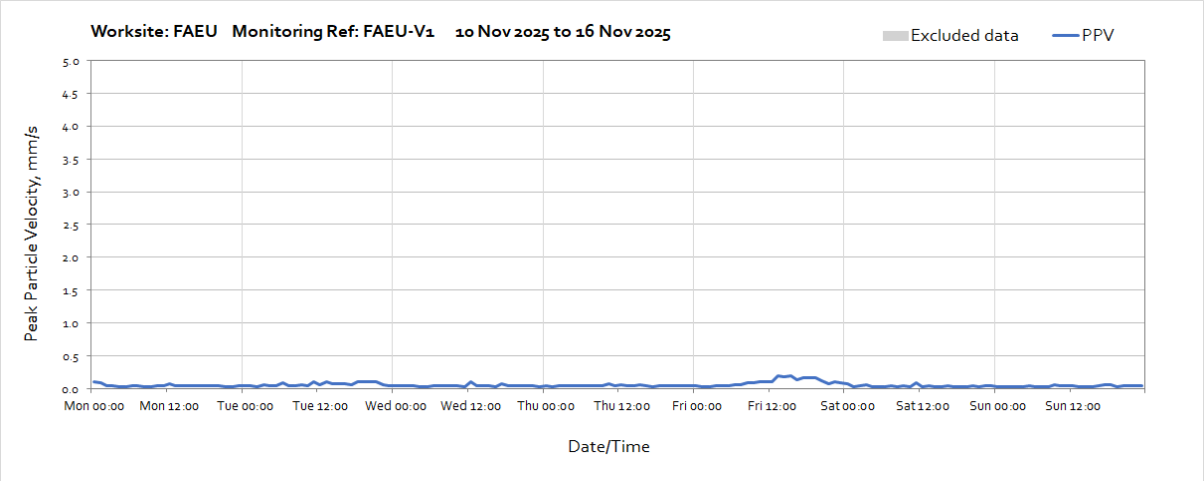
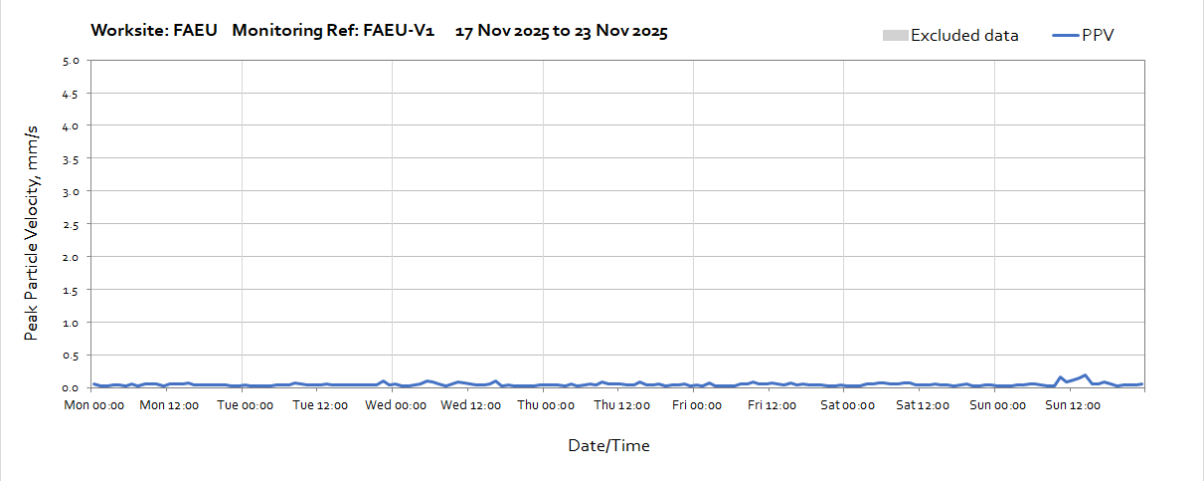
Thu 12:00
Fri 00:00
Fri 12:00
Sat 00:00
Sat 12:00
Sun 00:00
Sun 12:00
Date/Time

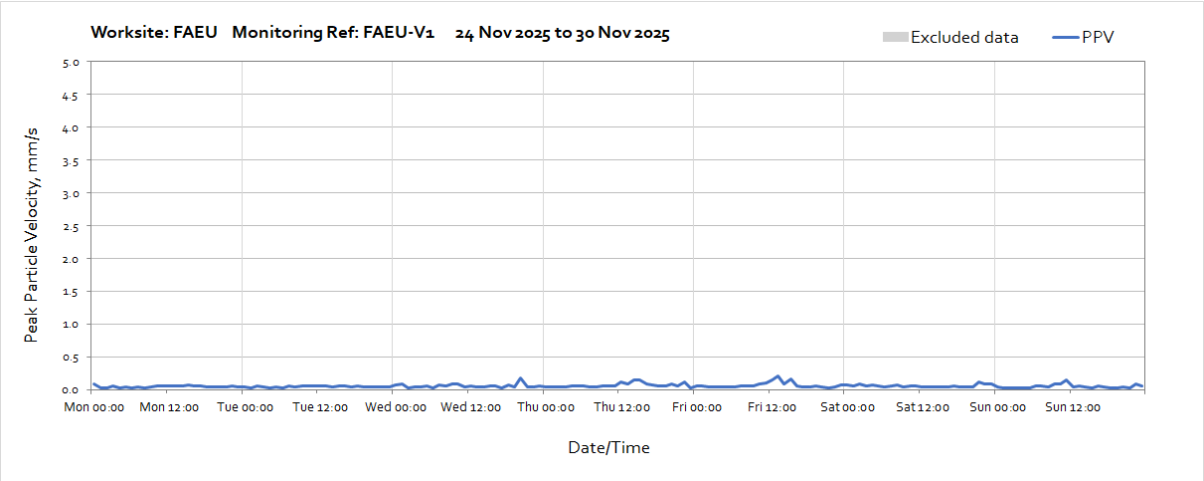
Worksite: FAEU – Monitoring Ref: FAEU-V1



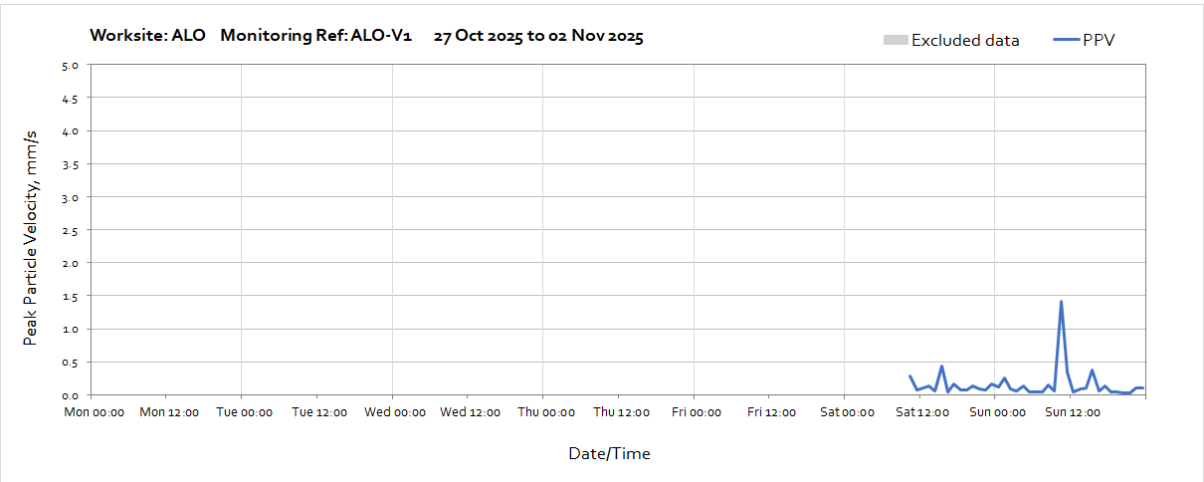




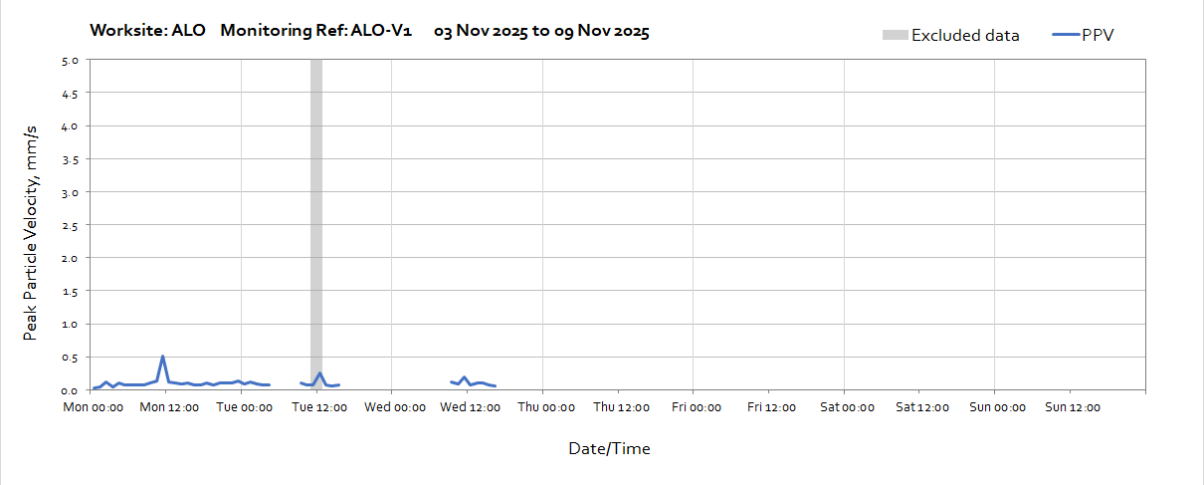




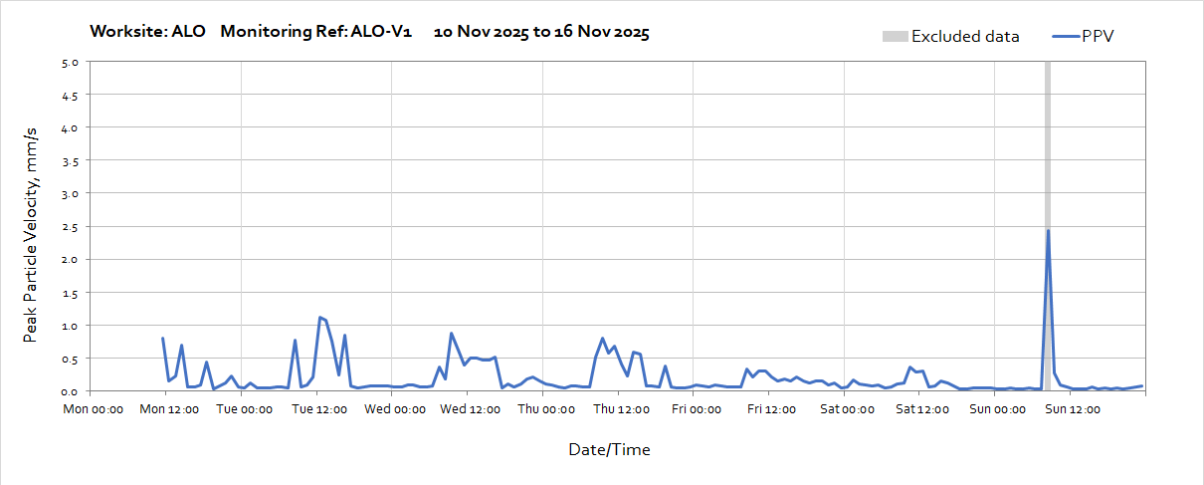
Worksite: ALO – Monitoring Ref: ALO-V1



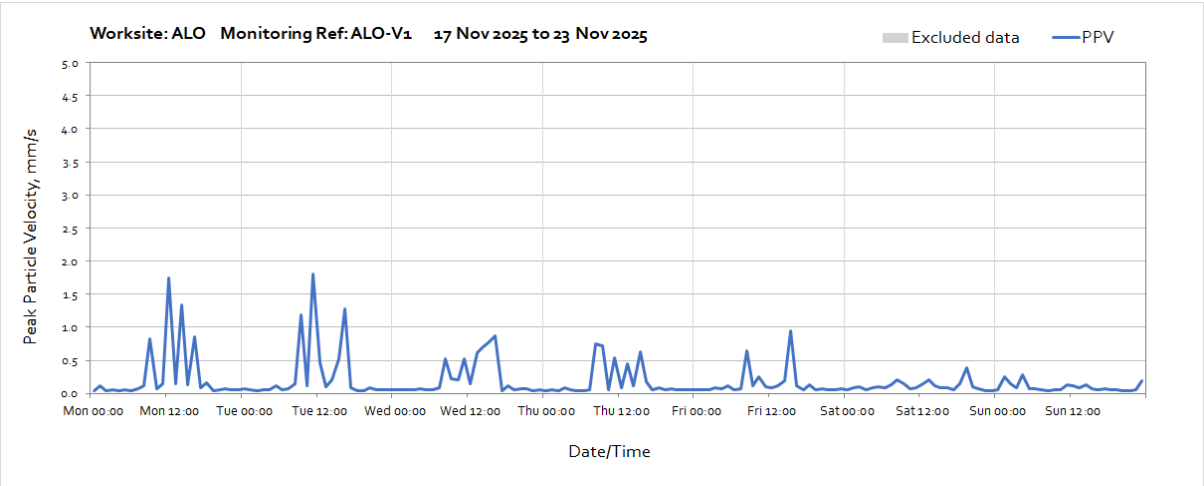
Note: Missing data throughout the week was due to a loss of power to the monitoring station caused by poor weather conditions preventing sufficient light reach the solar panel.

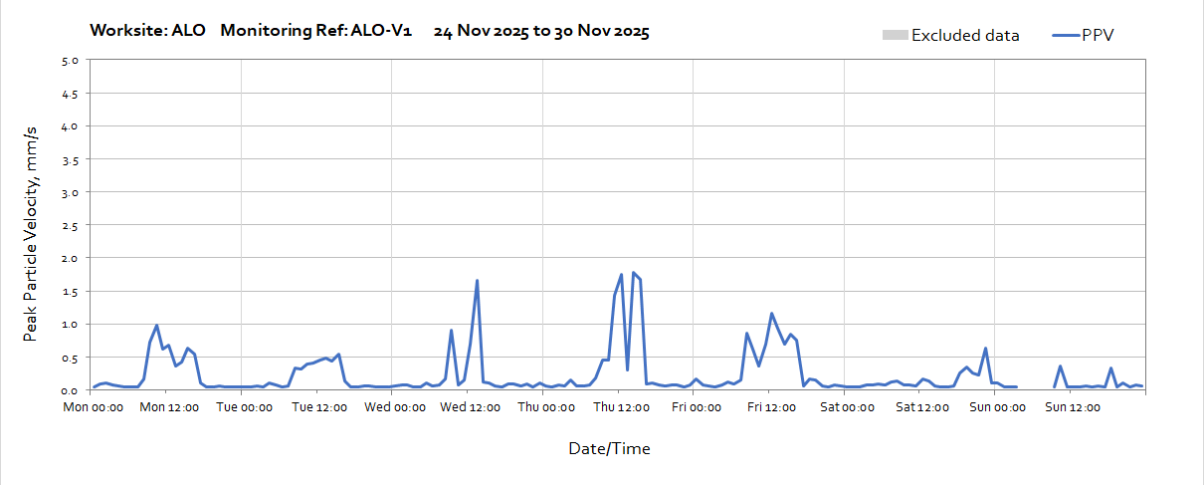


Note: Missing data throughout the week was due to a loss of power to the monitoring station caused by poor weather conditions preventing sufficient light reach the solar panel.



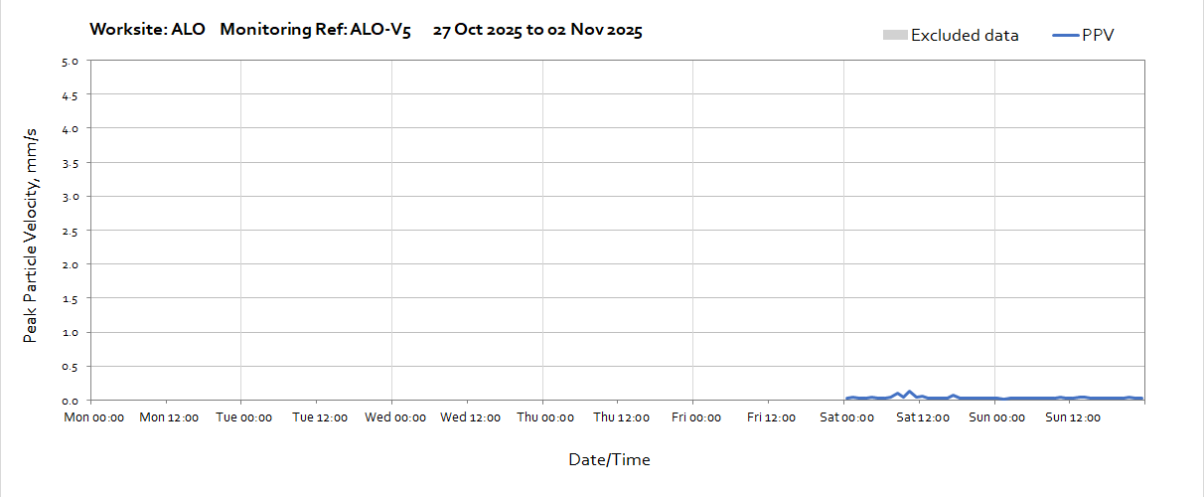
Note: Missing data throughout the week was due to a loss of power to the monitoring station caused by poor weather conditions preventing sufficient light reach the solar panel.

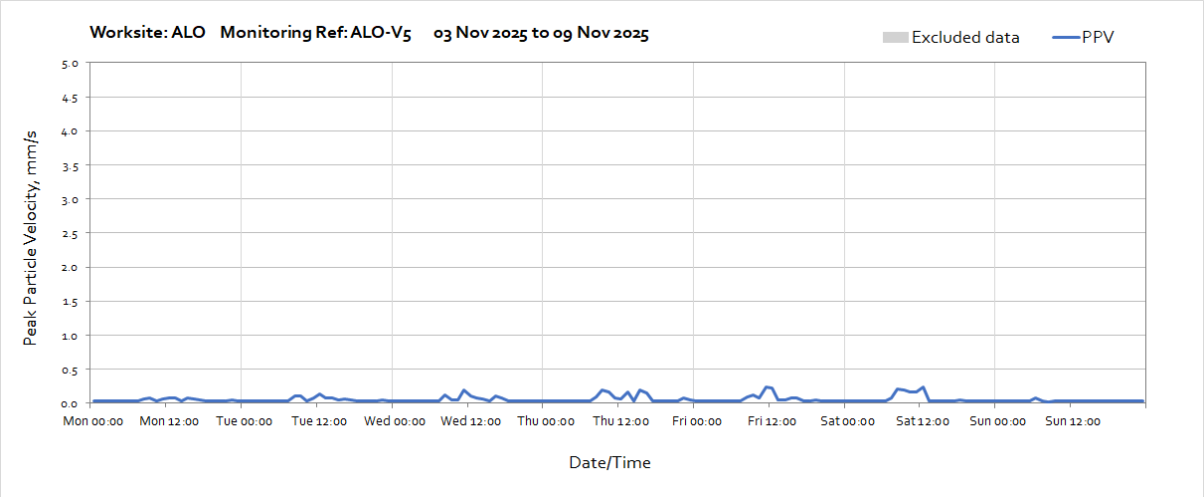


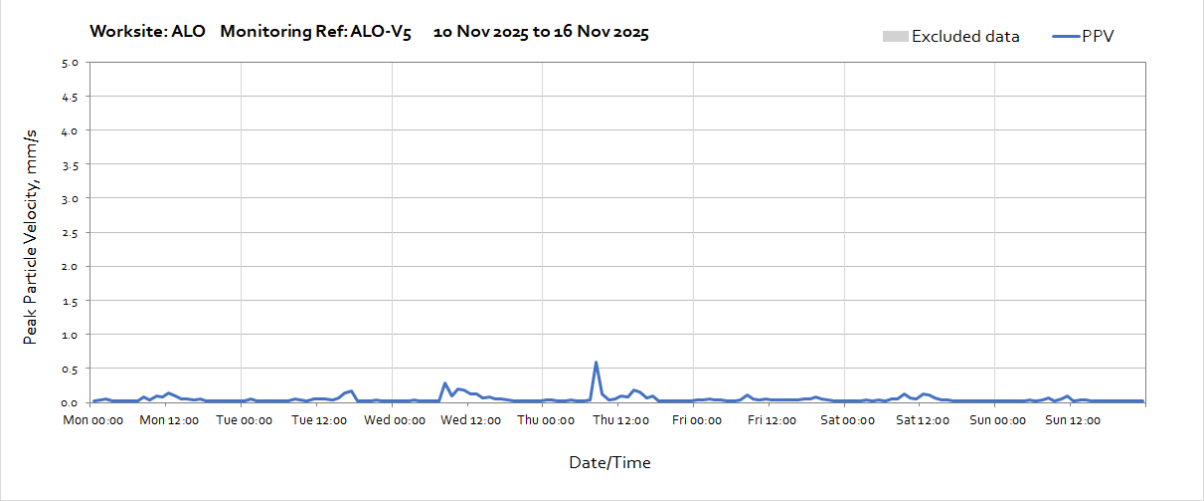


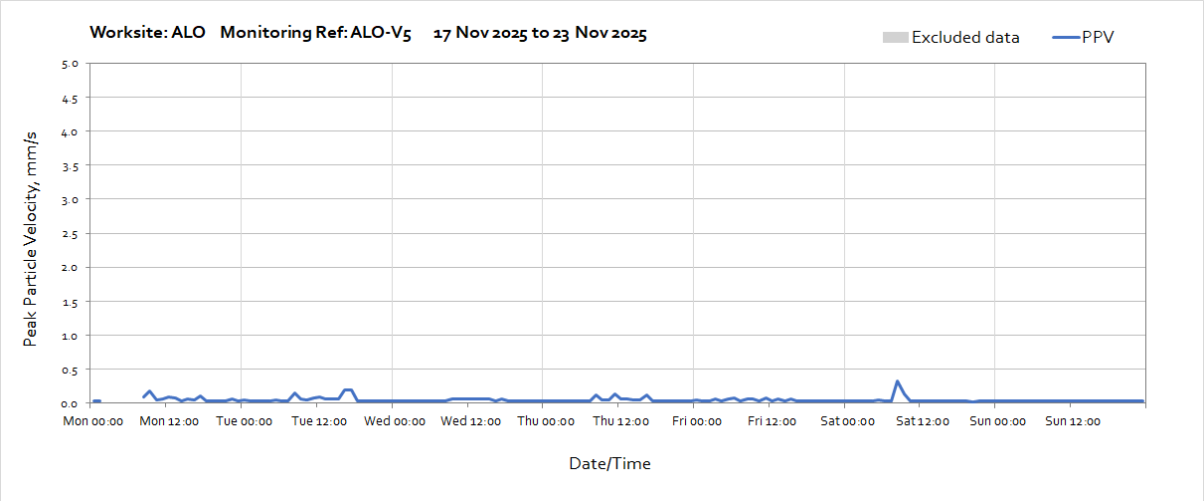
Note: Missing data throughout the week was due to a loss of power to the monitoring station caused by poor weather conditions preventing sufficient light reach the solar panel.

Worksite: ALO – Monitoring Ref: ALO-V5

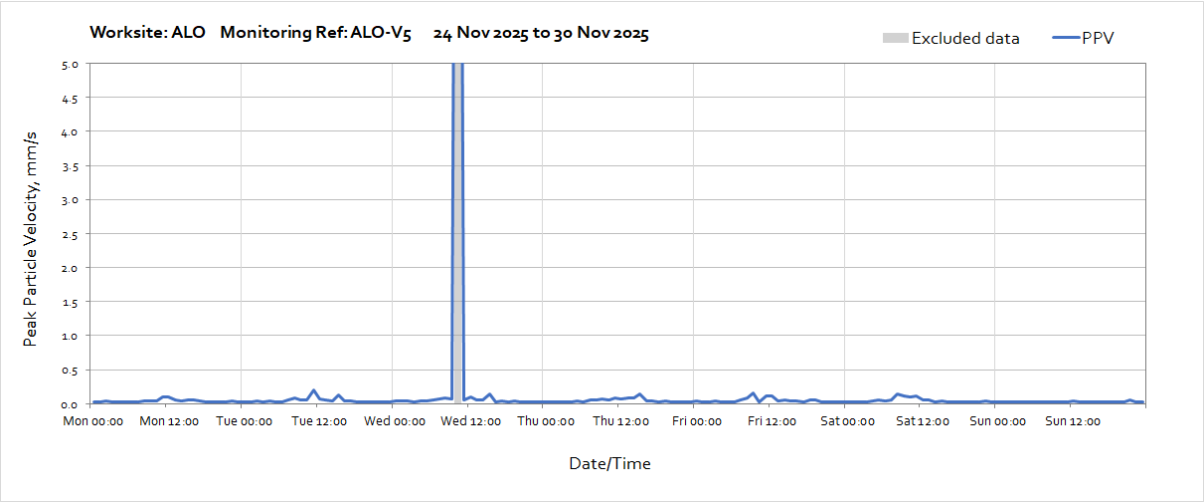




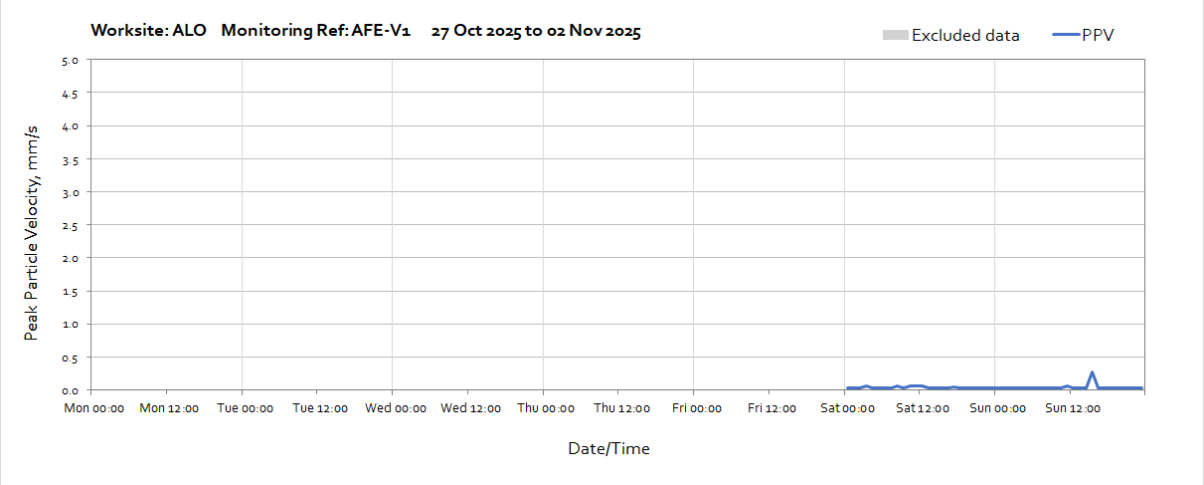


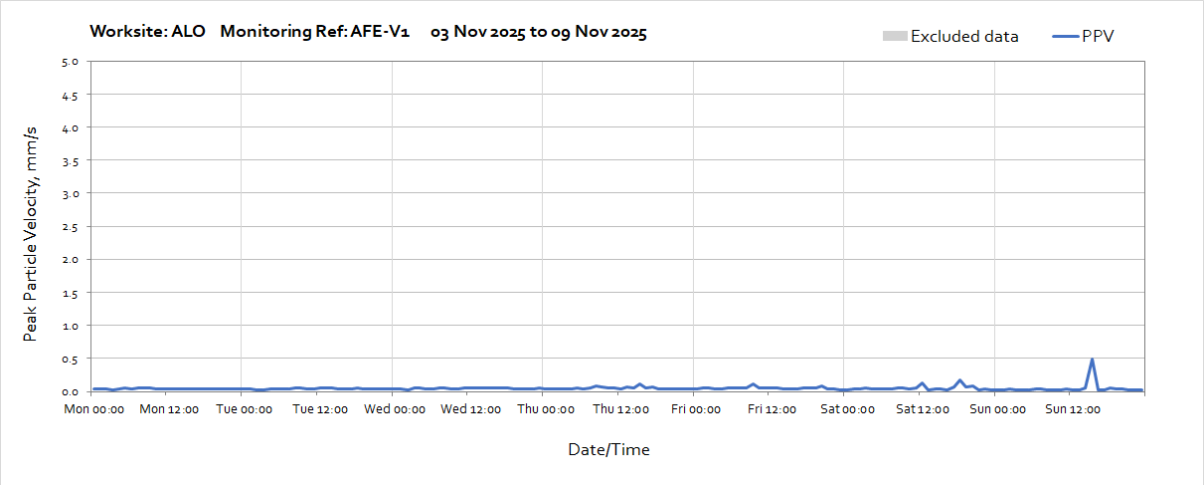


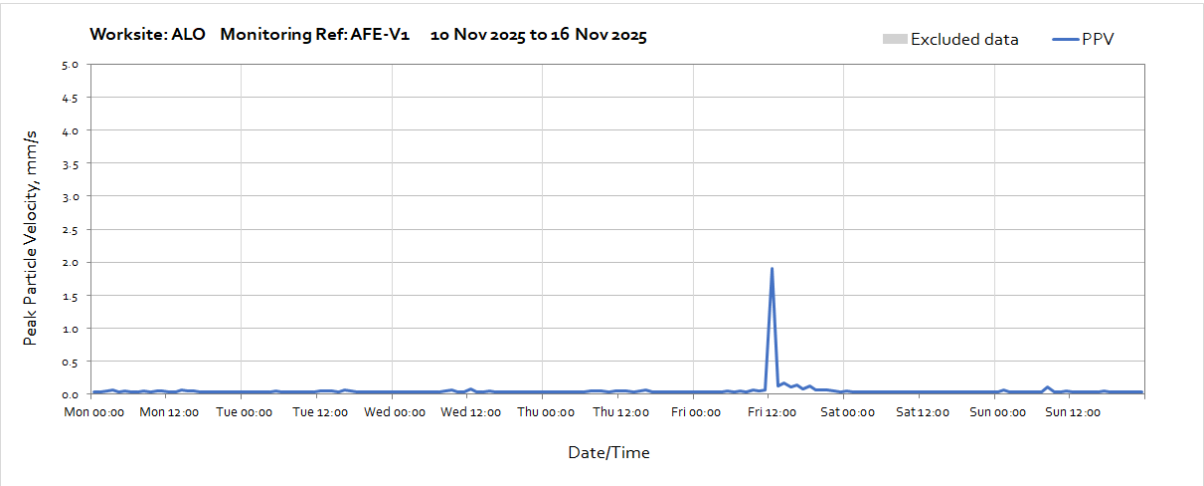
Note: Missing data between 02:00 and 08:00 on Monday 17th November was due to a synchronisation issue at the monitoring station.

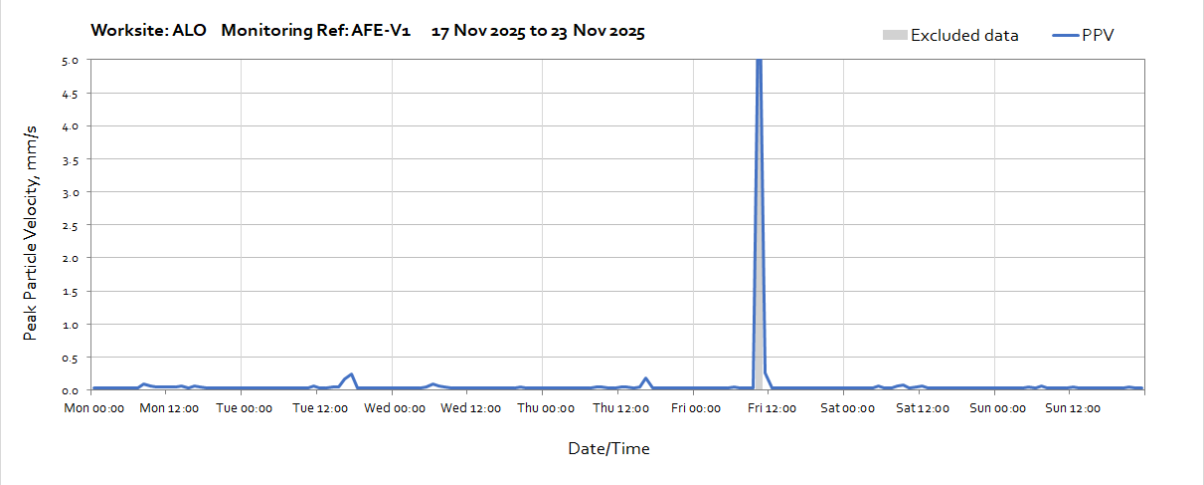


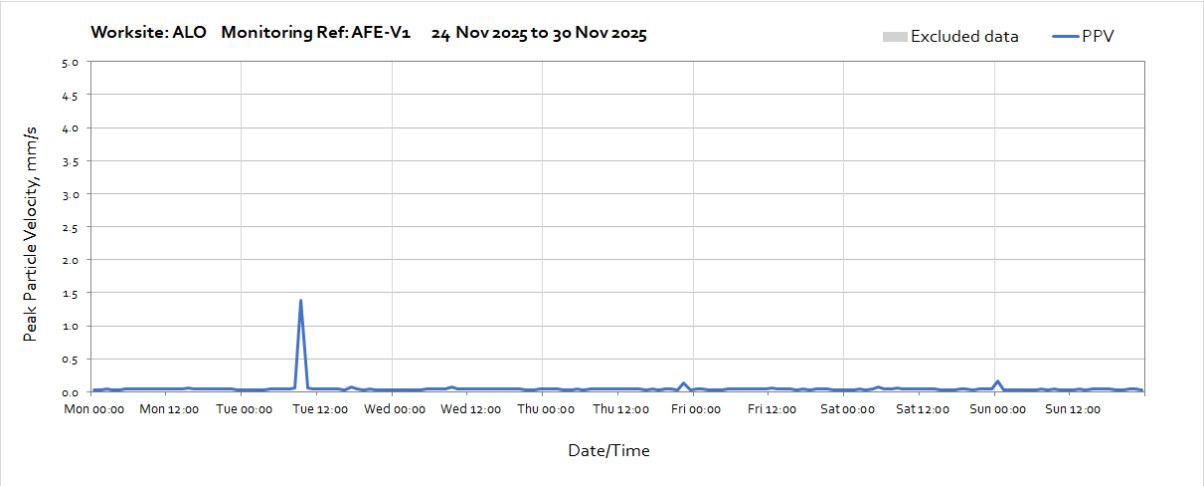
Worksite: ALO – Monitoring Ref: AFE-V1



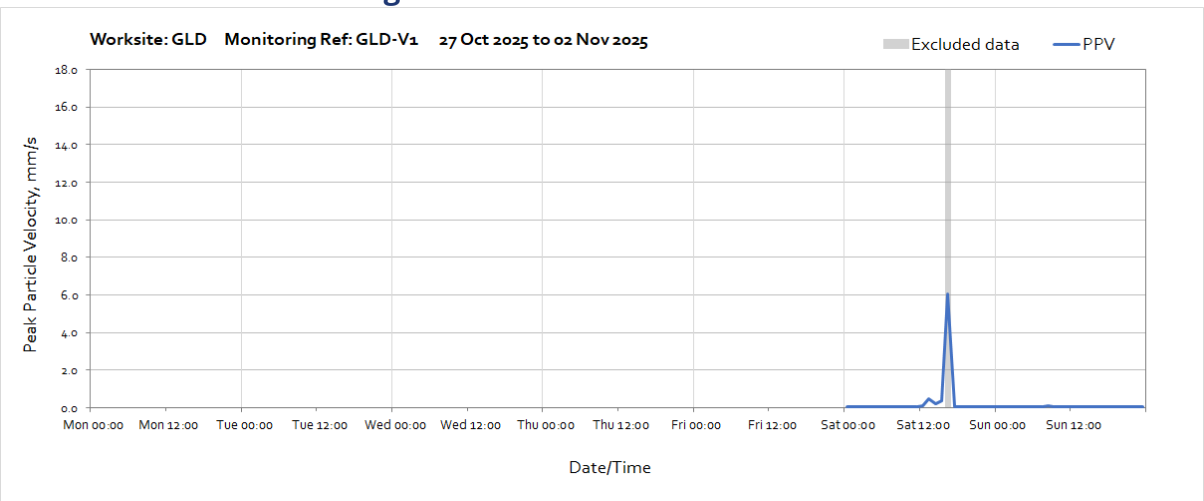


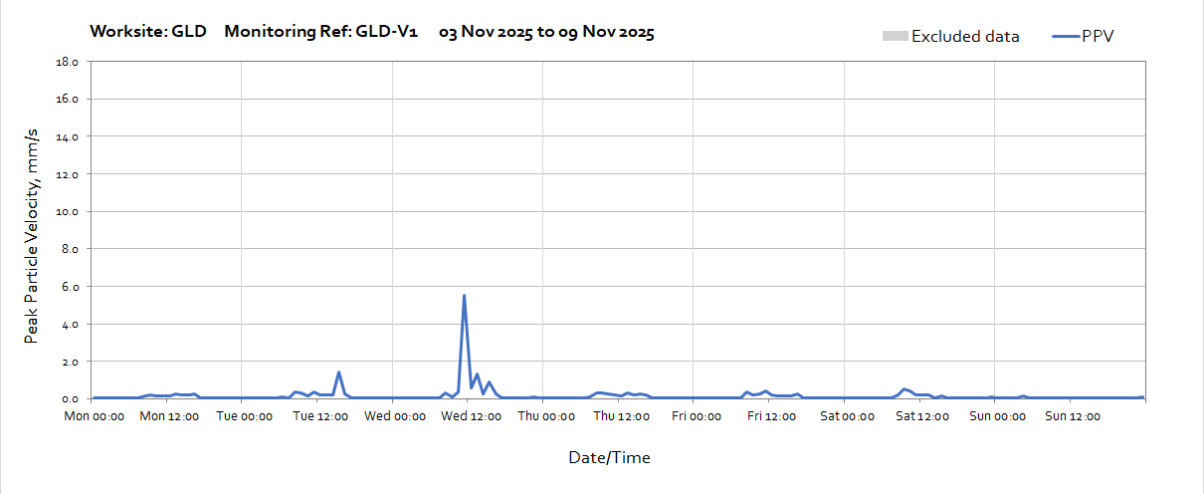


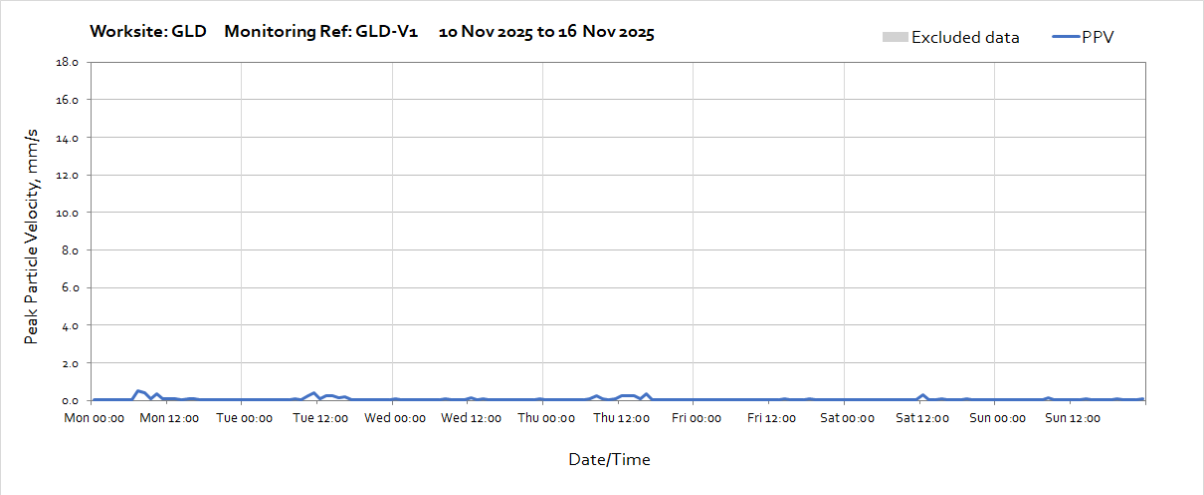


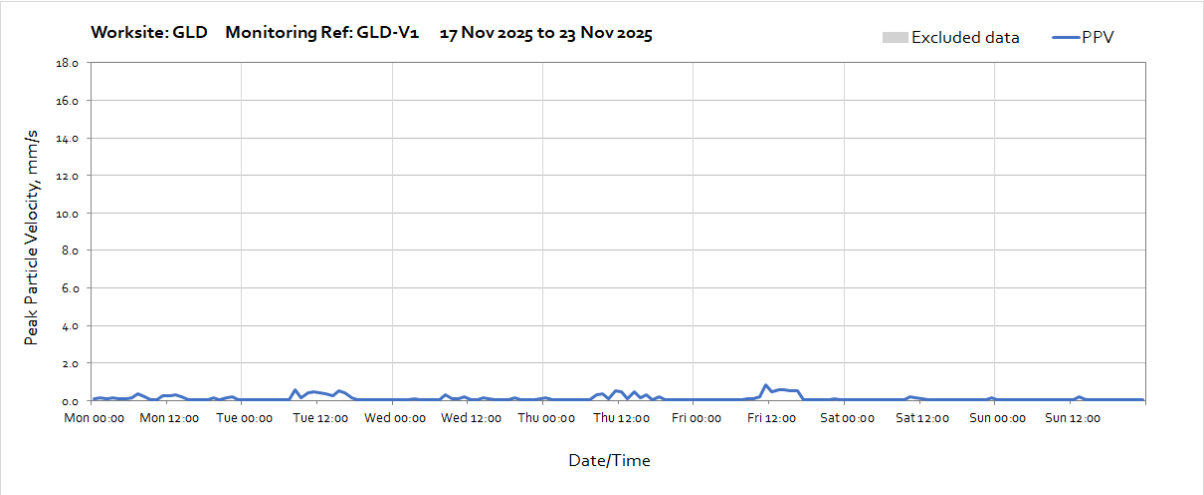


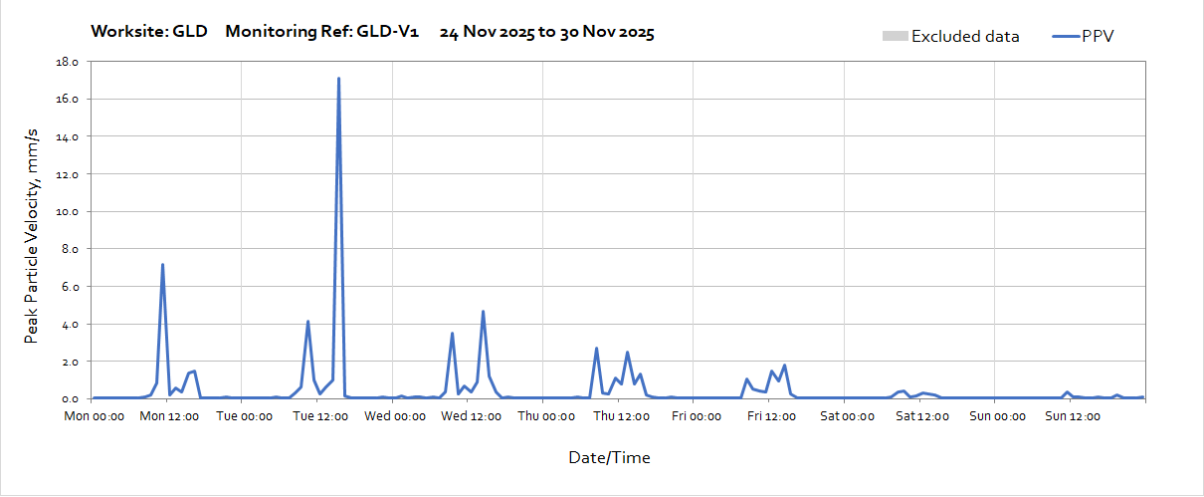
Worksite: GLD – Monitoring Ref: GLD-V1



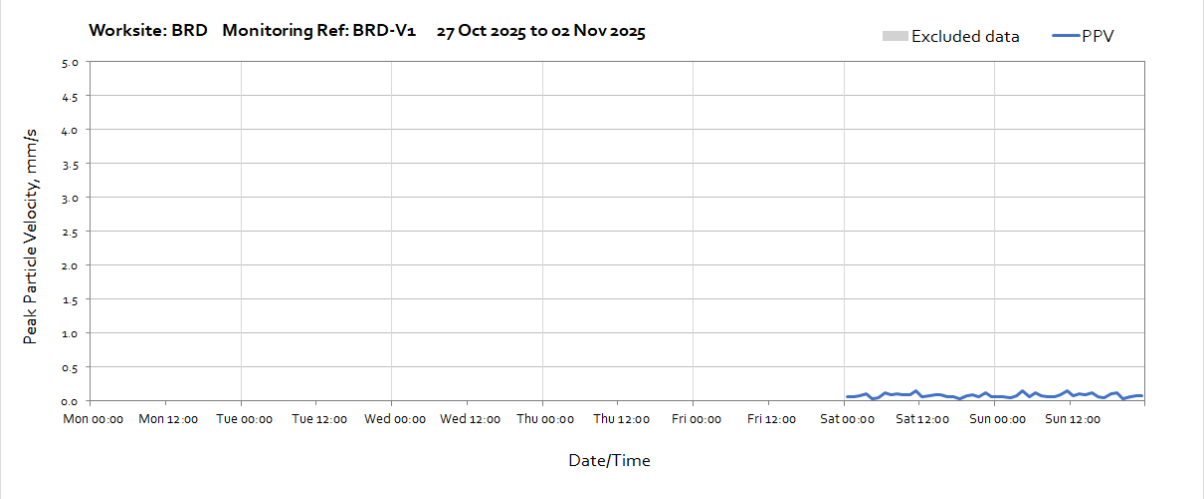

Worksite: GLD Monitoring Ref: GLD-V1 03 Nov 2025 to 09 Nov 2025
Excluded data
PPV
Peak Particle Velocity, mm/s
18.0
16.0
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
Mon 00:00
Mon 12:00
Tue 00:00
Tue 12:00
Wed 00:00
Wed 12:00
Thu 00:00
Thu 12:00
Fri 00:00
Fri 12:00
Sat 00:00
Sat 12:00
Sun 00:00
Sun 12:00
Date/Time

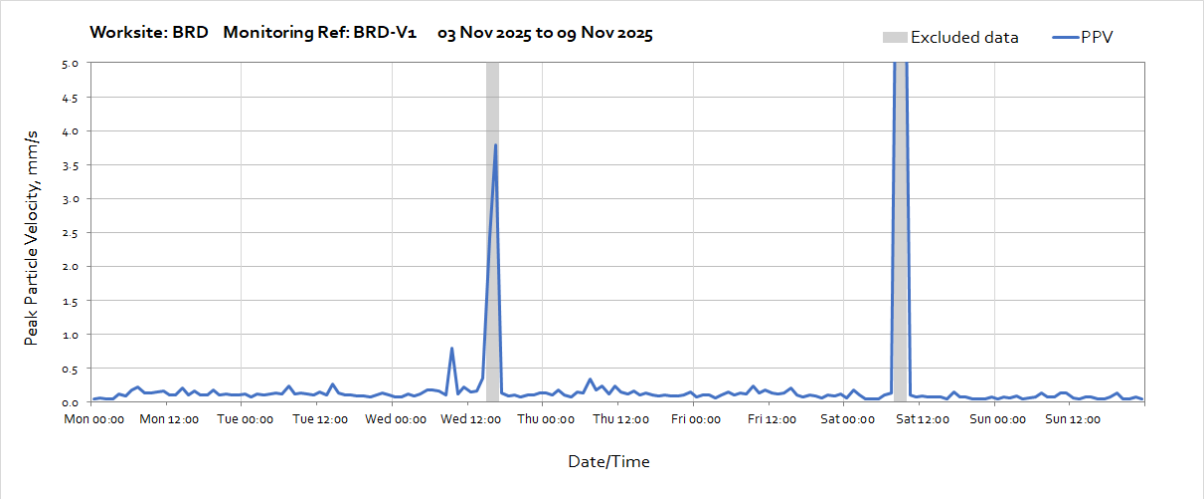

Worksite: GLD Monitoring Ref: GLD-V1 10 Nov 2025 to 16 Nov 2025
Excluded data
PPV
Peak Particle Velocity, mm/s
18.0
16.0
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
Mon 00:00
Mon 12:00
Tue 00:00
Tue 12:00
Wed 00:00
Wed 12:00
Thu 00:00
Thu 12:00
Fri 00:00
Fri 12:00
Sat 00:00
Sat 12:00
Sun 00:00
Sun 12:00
Date/Time

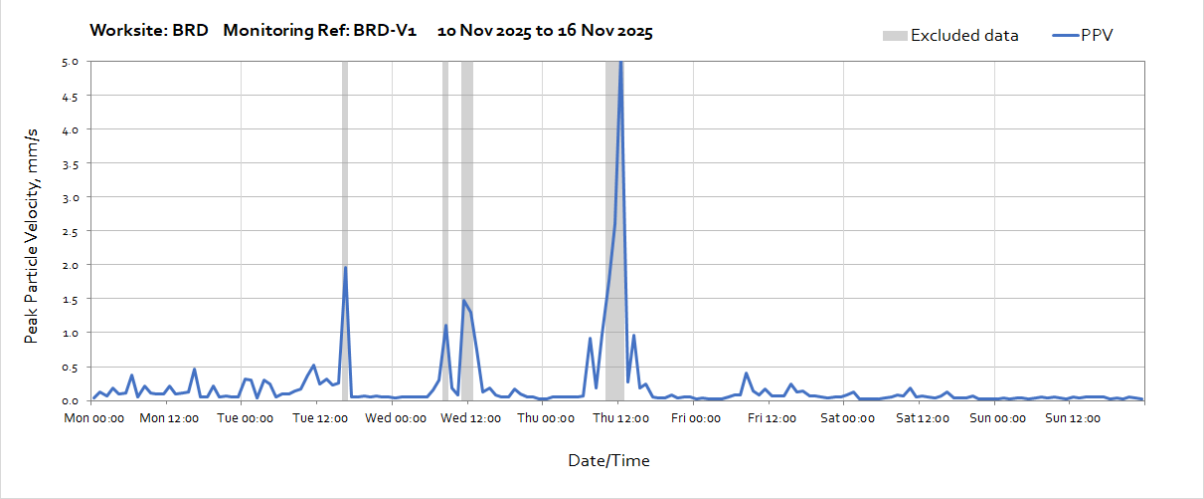

Worksite: GLD Monitoring Ref: GLD-V1 17 Nov 2025 to 23 Nov 2025
Excluded data
PPV
Peak Particle Velocity, mm/s
18.0
16.0
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
Mon 00:00
Mon 12:00
Tue 00:00
Tue 12:00
Wed 00:00
Wed 12:00
Thu 00:00
Thu 12:00
Fri 00:00
Fri 12:00
Sat 00:00
Sat 12:00
Sun 00:00
Sun 12:00
Date/Time

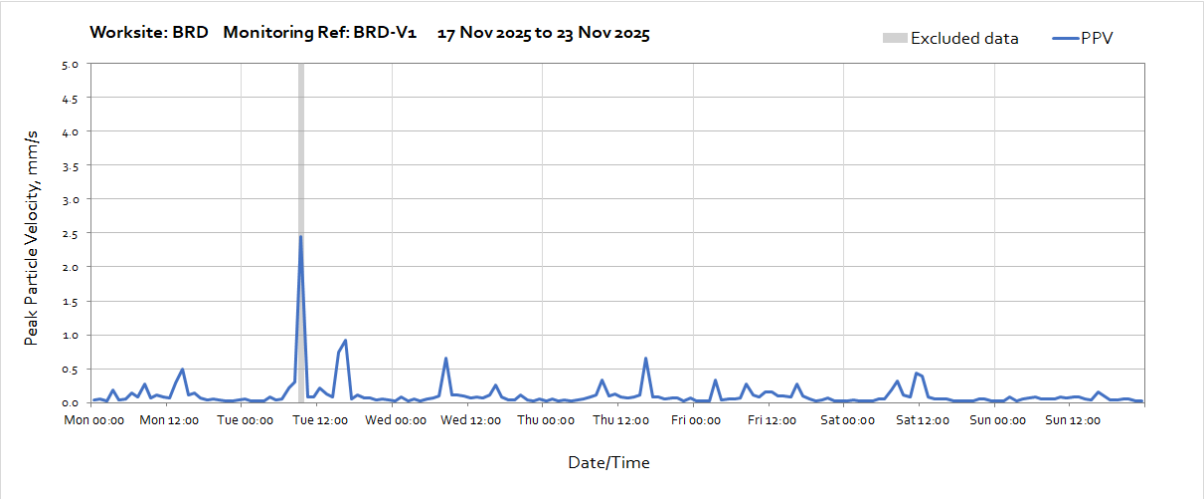


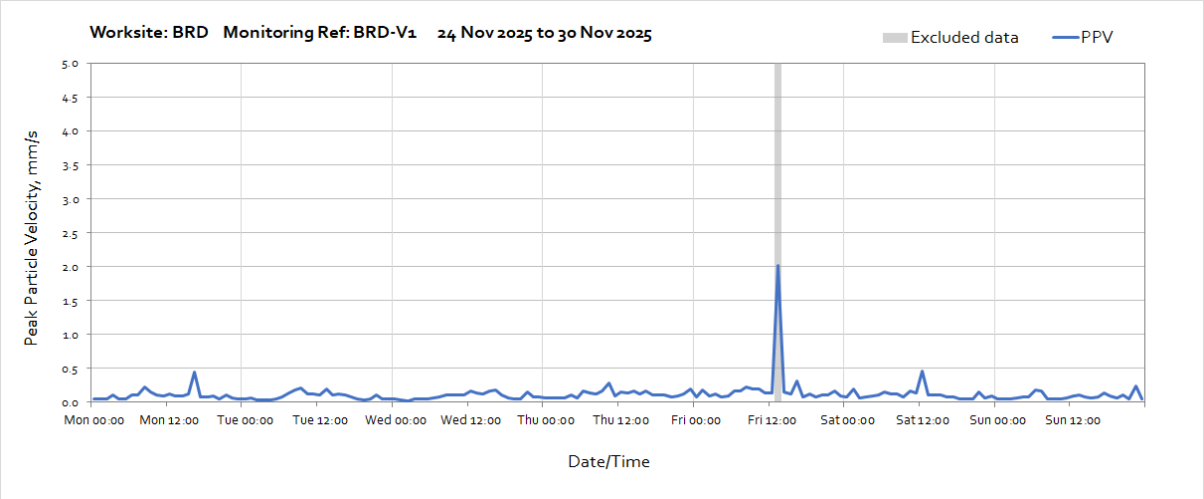
Worksite: BRD – Monitoring Ref: BRD-V1






Worksite: BRD Monitoring Ref: BRD-V1 10 Nov 2025 to 16 Nov 2025
Excluded data
PPV
Peak Particle Velocity, mm/s
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
Mon 00:00
Mon 12:00
Tue 00:00
Tue 12:00
Wed 00:00
Wed 12:00
Thu 00:00
Thu 12:00
Fri 00:00
Fri 12:00
Sat 00:00
Sat 12:00
Sun 00:00
Sun 12:00
Date/Time


Worksite: BRD Monitoring Ref: BRD-V1 17 Nov 2025 to 23 Nov 2025
Excluded data
PPV
Peak Particle Velocity, mm/s
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
Mon 00:00
Mon 12:00
Tue 00:00
Tue 12:00
Wed 00:00
Wed 12:00
Thu 00:00
Thu 12:00
Fri 00:00
Fri 12:00
Sat 00:00
Sat 12:00
Sun 00:00
Sun 12:00
Date/Time


Worksite: BRD Monitoring Ref: BRD-V1 24 Nov 2025 to 30 Nov 2025
Excluded data
PPV
Peak Particle Velocity, mm/s
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
Mon 00:00
Mon 12:00
Tue 00:00
Tue 12:00
Wed 00:00
Wed 12:00
Thu 00:00
Thu 12:00
Fri 00:00
Fri 12:00
Sat 00:00
Sat 12:00
Sun 00:00
Sun 12:00
Date/Time