HS2

October 2021

Construction noise and vibration Monthly Report – August 2021

London Borough of Camden

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List of tables

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 the London Borough of Camden during the month of August 2021.

Within this period monitoring was undertaken at the following worksites:

- Noise monitoring was undertaken in the vicinity of The Adelaide Road Ventilation Shaft (ref.: ARVS) where utility works, vegetation clearance, installation of working platforms, concrete pouring, installation of site welfare units, digging of trial holes and hoarding and fencing works were underway.
- Noise monitoring was undertaken in the vicinity of Euston Throat Retained Cut and Granby Terrace Bridge worksite (ref.: ETRC & GTB) where piling, roadworks, installation of water treatment equipment, beam tests, concrete breaking, groundworks and piling platform construction were underway.
- Noise monitoring was undertaken in the vicinity of Euston Scissor Cut worksite (ref.: ESC) where line works, piling, electricity substation installation, roadworks, wall demolitions and installation, pile mat construction and excavations were underway.
- Noise and vibration monitoring were undertaken in the vicinity of the Hampstead Road Bridge worksite (ref.: HRB) where hoarding works, utility works and roadworks were underway.
- Noise and vibration monitoring were undertaken in the vicinity of the Euston Cavern worksite (ref.: ECAV), where wall support works and pile mat construction were underway.
- Noise monitoring was undertaken in the vicinity of On-Network worksites (ref.: B, C, D, E, F, G and H), where:
    - deliveries, scrap removal and surveys for the Clarkson Row access point (worksite E); and
    - cable management systems works and surveys (worksite H) were underway.
    - no works were undertaken at worksites B, C, D, F and G
- Noise monitoring was undertaken in the vicinity of the 140 Hampstead Road and Power Signal Box worksite (ref.: S001-WS02), where demolition and earthworks were underway.
- Noise monitoring was undertaken in the vicinity of the Former National Temperance Hospital, 110 Hampstead Road worksite (ref.: S003-WS06), where no works were undertaken.

- Noise monitoring was undertaken in the vicinity of the Former National Temperance Hospital - Euston North worksite (ref.: NTH-EN) where retaining wall construction, piling and removal of masonry baskets were underway.
- Noise monitoring was undertaken in the vicinity of the Euston Towers Demolition worksite (ref.: ETD), where demolition and hoarding works were underway.
- Noise monitoring was undertaken in the vicinity of the Vehicle Holding Area worksite (ref.: VHA), where vehicle movements were underway.
- Noise monitoring was undertaken in the vicinity of the Traction Substation worksite (ref.: TSS) where tunnel preparation works and foundation construction were underway.
- Noise monitoring was undertaken in the vicinity of the Interim Taxi Rank worksite (ref.: ITR), where site maintenance was underway.

Further works, where monitoring did not take place, were:

- Stephenson Way, Regnart Buildings, Gower Street and Harrington Street where utilities works were underway;
- Doric Way, where digging of trial holes was underway; and
- Euston Station, where ground investigation works were undertaken at street level.

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 in the Local Authority Area during August 2021.

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

Nine (9) complaints were received during the monitoring period. A description of complaints, the results of investigations and any actions taken are detailed in Table 7 of this report.

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 +2.5 to +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.

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 London Borough of Camden (LBC) for the period 1st to 31st August 2021.

1.1.2 Active construction sites in the local authority area where monitoring was undertaken during this period include:

- The Adelaide Road ventilation shaft ref.: ARVS, (see plan 2 in Appendix A), where work activities included:
  - utility works (saw cutting, road breakout, excavations, duct laying and backfilling);
  - vegetation clearance;
  - installation of working platforms;
  - concrete pouring;
  - installation of new welfare area (installation of plinths, utility run, temporary sewage holding tank, site cabins and relocation of a generator);
  - digging of trial holes;
  - hoarding works; and
  - modification of access gate.

- Euston Throat Retained Cut and Granby Terrace Bridge worksite ref.: ETRC & GTB (see plan 2 in Appendix A), where work activities included:
    - sheet piling;
    - haul road modification works;
    - installation of water treatment equipment;
    - steel and concrete beam (capping beam) trial;
    - concrete guide wall breakout;
    - excavation of west retaining wall;
    - piling platform construction;
    - hoarding works;
    - removal of broken masonry wall;
    - wall demolition;
    - backfilling; and
    - contiguous bored piling including vacuum excavation of excess concrete.
- Euston Scissor Cut worksite ref.: ESC (see plan 2 in Appendix A), where work activities included:
    - line works (mobilisation, bridge strengthening and anchor installation);
    - contiguous pore piling;
    - low voltage substation installation;
    - haul road modification;
    - wall demolition (excavations, concrete breaking, backfilling, compaction and muckaway);
    - wall works (coring, installation of ground anchors and unexploded ordnance survey probing);
    - wall capping beam installation (steel fixing, formworks, sheet piling, concrete pouring and breaking out of guide walls);
    - portal pile mat construction (excavation, backfill, compaction, muckaway and piling); and
    - bulk excavations.
- Hampstead Road Bridge worksite ref.: HRB (see plan 3 in Appendix A), where work activities included:
    - hoarding modifications;
    - utility works (temporary site installation, removal of tree stump and road breaking); and

- modification of central reservation on Hampstead Road (fencing works, digging of trial pit, breaking out of central reservation, excavation, concrete pouring and repositioning of kerbs).

- Euston Cavern worksite ref.: ECAV (see plan 3 in Appendix A), where work activities included:
  - wall works on Park Village East (coring, installation of ground anchors and unexploded ordnance survey probing); and
  - portal pile mat construction (excavations, backfilling, compaction, muckaway and piling)
- On-Network worksites ref.: B, C, D, E, F, G and H (see plan 3 in Appendix A), where work activities included:
  - deliveries, scrap removal, surveys and ground investigation works for the Clarkson Row access point (worksite E); and
  - cable management system works and surveys (worksite H).
  - no works were undertaken at worksites B, C, D, F and G.

- 140 Hampstead Road and Power Signal Box worksite ref.: S001-WS02 (see plan 2 in Appendix A), where work activities included:
  - substructure demolition; and
  - earthworks (ground remediation and backfilling).
- Former National Temperance Hospital, 110 Hampstead Road worksite ref.: S003-WS06 (see plan 3 in Appendix A), where no works were undertaken.
- Former National Temperance Hospital - Euston North worksite ref.: NTH-EN (see plan 3 in Appendix A), where work activities included:
  - completion of retaining wall construction
  - sheet piling
  - removal of masonry baskets
- Euston Towers Demolition worksite ref.: ETD (see plan 3 in Appendix A), where work activities included:
  - ground floor slab demolition; and
  - replacement of site hoarding.
- Vehicle Holding Area worksite ref.: VHA (see plan 1 in Appendix A), where work activities included:
  - general compound operation (vehicle movements).
- Traction Substation worksite ref.: TSS (see plan 3 in Appendix A), where work activities included:

- completion of shaft in preparation for tunnelling; and
- foundation construction for future walls.

- Interim Taxi Rank worksite ref.: ITR (see plan 3 in Appendix A), where work activities included:
  - site maintenance.

1.1.3 Further works, where monitoring did not take place, were also undertaken at the following locations:

- Stephenson Way, Regnart Buildings, Gower Street and Harrington Street where utilities works were undertaken;
- Doric Way, where digging of trial holes was undertaken; and
- Euston Station, where ground investigation works were undertaken at street level.

1.1.4 The applicable standards, guidance, and monitoring methodology are 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 Thirty-two (32) noise and ten (10) vibration monitoring installations were active across fourteen (14) worksites in August in the LBC area. Table 2 summarises the position of noise and vibration monitoring installations within the LBC area in August 2021.

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

Table 2: Monitoring Locations

Worksite Reference	Measurement Reference	Address
ARVS	N051	Outside 70 Adelaide Road
	N052	Adelaide Road-Beaumont Walk
	V059	Outside 68 Adelaide Road
B	JC	Juniper Crescent
ESC	N024	External to Park Village Studios, Park Village East
	N047	Park Village East/Mornington Street bridge, lamppost #13
	PVS-V1	Park Village Studios
ESC, C	N022	External to 34 Mornington Terrace
	N046	Mornington Terrace near The Edinboro Castle pub, lamppost #18
ETRC & GTB	N001	Park Village East, lamppost #1 (external to Cubitt Court, 100 Park Village East)
	N002	Park Village East, lamppost #2 (external to Richmond Court)
	N003	Park Village East, lamppost #9 (external to Silsoe House)
	SH-V1	Silsoe House
ETRC & GTB, D	N004	Mornington Terrace, lamppost #7 (junction of Mornington Terrace, Mornington Place and Clarkson Row)
ETRC & GTB, E	N005	5A Granby Terrace
ETRC & GTB, F	N023	Lamppost #21 on Hampstead Road
HRB	N020	Mackworth Street, lamppost #1
	N021	Stanhope Street, lamppost #2
	N044	Regents Park Estate west, near Langdale
	N045	Regents Park Estate south, external to Coniston
	V039	Coniston, Regents Park Estate
	V043	Cubitt Court, Park Village East
G, H	HH	Euston Station Parcel Deck, Barnby Street

Worksite Reference	Measurement Reference	Address
G	BS	Roof of Stockbeck House, Barnby Street
S001-WS02	N018	Outside replacement housing, Hampstead Road
	N019	Outside Cartmel, Hampstead Road
ETD, TSS	N006	Royal College of General Practitioners roof level
TSS	N008	Stephenson's Way lamppost (external to RCGP)
	N010	Wesley Hotel
	N011	Euston Street, lamppost #4 (external to 82 Euston Street)
	V002	Royal College of General Practitioners basement boiler room by Stephenson Way
	V037	Magic Circle, basement
	V038	Wesley Hotel, basement lightwell, Euston Street
ETD	N007	Royal College of General Practitioners, Melton Street
	V003	Royal College of General Practitioners basement vaults under Melton St
VHA	N025	External to 3 Prince Albert Road
	N026	Thames Water Compound
NTH-EN, TSS	N012	Drummond Street, lamppost #14 (opposite to 92-94 Drummond Street)
NTH-EN	N014	Starcross Street lamppost (external to Exmouth Arms)
	N016	Margaret Centre roof
	N017	Hampstead Road, lamppost #48
	V021	42-44 Cobourg Street

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	Weekly Average $L_{Aeq,T}$ (Highest Day $L_{Aeq,T}$)					Saturday Average $L_{Aeq,T}$ (highest day $L_{Aeq,T}$)					Sunday / Public Holiday Average $L_{Aeq,T}$ (highest day $L_{Aeq,T}$)	
				0700 - 0800	0800 - 1800	1800 - 1900	1900 - 2200	2200 - 0700	0700 - 0800	0800 - 1300	1300 - 1400	1400 - 2200	2200 - 0700	0700 - 2200	2200 - 0700
ARVS	N051	Outside 70 Adelaide Road	Free-field	64.9 (67.4)	66.6 (69.4)	67.0 (70.8)	65.9 (70.4)	62.2 (72.1)	62.5 (62.8)	68.8 (72.5)	69.3 (69.8)	66.3 (73.3)	62.7 (68.0)	65.4 (72.7)	61.5 (69.7)
	N052	Adelaide Road-Beaumont Walk	Free-field	63.4 (65.0)	65.3 (68.9)	65.4 (70.4)	64.7 (68.2)	60.8 (72.2)	61.1 (62.1)	66.0 (68.8)	65.7 (66.8)	64.1 (66.7)	60.9 (66.9)	63.7 (71.1)	60.0 (66.6)
B	JC	Juniper Crescent	Free-field	56.6 (59.7)	57.3 (59.7)	56.5 (58.6)	57.9 (60.1)	54.5 (61.7)	56.7 (57.5)	55.8 (56.9)	55.4 (56.2)	55.0 (55.8)	51.2 (55.9)	54.5 (56.7)	52.9 (59.1)
ESC	N024	External to Park Village Studios, Park Village East	Free-field	58.3 (60.2)	60.6 (66.7)	60.1 (71.2)	58.2 (71.8)	54.1 (62.6)	55.4 (56.9)	57.6 (58.6)	57.9 (59.1)	58.1 (65.1)	54.4 (67.0)	56.5 (59.6)	53.0 (57.3)
	N047	Park Village East/Mornington Street bridge, lamppost #13	Free-field	58.9 (63.2)	62.7 (69.5)	60.7 (66.9)	58.8 (63.2)	53.9 (60.7)	56.0 (57.7)	58.7 (59.9)	58.5 (59.6)	58.5 (59.7)	56.0 (73.0)	58.3 (67.3)	53.5 (60.0)
ESC, C	N022	External to 34 Mornington Terrace	Free-field	59.6 (62.9)	68.2 (88.4)	59.9 (69.2)	58.9 (64.8)	54.0 (59.5)	58.1 (59.3)	61.3 (65.1)	58.7 (58.8)	58.4 (60.0)	52.5 (63.2)	58.2 (68.7)	53.6 (58.4)
	N046	Mornington Terrace near The Edinboro Castle pub, lamppost #18	Free-field	63.2 (65.9)	68.9 (86.9)	63.6 (65.8)	62.9 (64.9)	58.3 (63.4)	62.6 (63.4)	65.1 (70.7)	63.2 (63.3)	62.8 (63.8)	56.1 (64.5)	62.3 (69.5)	58.3 (62.9)
ETRC & GTB	N001	External to Cubitt Court, 100 Park Village East	Free-field	57.5 (59.6)	64.9 (71.5)	59.8 (66.1)	57.3 (63.0)	51.8 (60.7)	55.1 (56.8)	62.7 (63.9)	57.7 (59.2)	57.6 (60.3)	53.1 (65.5)	57.0 (63.4)	51.7 (57.7)
	N002	Richmond Court, Park Village East	Free-field	57.7 (59.2)	62.1 (66.6)	60.3 (65.0)	58.3 (61.4)	53.3 (60.3)	55.2 (58.2)	59.1 (59.8)	59.0 (60.1)	58.5 (60.6)	54.5 (66.3)	58.3 (67.2)	53.0 (57.2)

Worksite Reference	Measurement Reference	Site Address	Free-field or Façade Measurement	Weekly Average $L_{Aeq,T}$ (Highest Day $L_{Aeq,T}$)					Saturday Average $L_{Aeq,T}$ (highest day $L_{Aeq,T}$)					Sunday / Public Holiday Average $L_{Aeq,T}$ (highest day $L_{Aeq,T}$)	
				0700 - 0800	0800 - 1800	1800 - 1900	1900 - 2200	2200 - 0700	0700 - 0800	0800 - 1300	1300 - 1400	1400 - 2200	2200 - 0700	0700 - 2200	2200 - 0700
	N003	Silsoe House, Park Village East	Façade	58.2 (60.2)	61.9 (66.5)	60.4 (64.2)	58.7 (63.4)	53.7 (61.9)	55.3 (58.0)	59.8 (60.9)	59.3 (61.0)	59.0 (65.0)	54.9 (65.6)	58.6 (66.9)	53.5 (58.8)
ETRC & GTB, D	N004	Mornington Terrace, lamppost #7	Free-field	66.1 (70.9)	68.8 (70.7)	67.0 (69.3)	67.4 (71.6)	60.0 (68.6)	66.7 (69.1)	65.2 (66.7)	67.0 (68.5)	64.6 (69.3)	56.5 (66.1)	63.9 (68.7)	59.5 (67.9)
ETRC & GTB, E	N005	5A Granby Terrace	Free-field	64.5 (67.1)	67.0 (68.3)	66.5 (69.9)	65.4 (68.9)	60.7 (65.9)	62.9 (63.9)	66.0 (67.2)	64.1 (65.0)	63.5 (69.2)	60.3 (64.1)	63.7 (67.8)	60.6 (64.2)
ETRC & GTB, F	N023	Lamppost #21 on Hampstead Road	Free-field	67.0 (69.9)	69.8 (71.2)	68.5 (73.8)	67.7 (76.8)	65.3 (72.5)	66.3 (68.1)	68.0 (69.0)	66.3 (66.3)	67.0 (70.9)	66.2 (71.2)	66.6 (71.9)	64.7 (67.9)
HRB	N020	Mackworth Street, lamppost #1	Free-field	52.2 (55.2)	72.6 (80.3)	52.1 (60.7)	49.5 (53.9)	46.1 (50.8)	55.0 (62.3)	67.1 (71.5)	48.5 (49.5)	48.7 (50.9)	46.9 (59.7)	49.0 (53.0)	46.3 (51.4)
	N021	Stanhope Street, lamppost #2	Free-field	55.1 (58.4)	62.5 (75.2)	58.9 (65.1)	56.1 (61.2)	50.9 (60.3)	53.5 (55.7)	59.1 (60.9)	56.2 (58.0)	56.8 (58.9)	53.0 (64.7)	56.3 (61.1)	51.4 (55.7)
	N044	Regents Park Estate west, near Langdale	Free-field	58.3 (64.8)	69.0 (70.9)	59.1 (69.8)	55.0 (67.4)	52.7 (66.9)	61.7 (67.2)	67.3 (69.2)	63.8 (64.0)	57.7 (63.8)	53.2 (63.7)	59.4 (67.0)	53.0 (64.0)
	N045	Regents Park Estate south, external to Coniston	Free-field	56.4 (60.0)	65.6 (81.2)	58.3 (66.4)	56.0 (64.0)	53.0 (60.0)	56.5 (57.6)	64.1 (67.0)	56.7 (58.8)	54.8 (60.2)	52.1 (58.4)	55.0 (60.2)	52.7 (57.2)
G, H	HH	Euston Station Parcel Deck, Barnby Street	Free-field	60.4 (62.2)	62.6 (64.2)	62.9 (66.1)	62.6 (68.6)	57.9 (64.4)	57.3 (58.1)	61.1 (63.9)	61.1 (61.3)	60.9 (68.2)	58.4 (65.8)	60.8 (67.2)	58.5 (68.0)
G	BS	Roof of Stockbeck House, Barnby Street	Free-field	62.4 (66.1)	63.0 (64.9)	62.5 (65.0)	62.1 (64.9)	58.5 (65.1)	61.4 (65.9)	62.2 (63.8)	61.8 (62.5)	60.3 (62.4)	56.4 (62.2)	60.5 (63.6)	57.1 (60.3)

Worksite Reference	Measurement Reference	Site Address	Free-field or Façade Measurement	Weekly Average $L_{Aeq,T}$ (Highest Day $L_{Aeq,T}$)					Saturday Average $L_{Aeq,T}$ (highest day $L_{Aeq,T}$)					Sunday / Public Holiday Average $L_{Aeq,T}$ (highest day $L_{Aeq,T}$)	
				0700 - 0800	0800 - 1800	1800 - 1900	1900 - 2200	2200 - 0700	0700 - 0800	0800 - 1300	1300 - 1400	1400 - 2200	2200 - 0700	0700 - 2200	2200 - 0700
S001-WS02	N018	Outside replacement housing, Hampstead Road	Free-field	66.7 (69.8)	69.8 (75.7)	68.7 (74.0)	68.3 (75.3)	65.2 (71.8)	64.9 (66.1)	68.1 (69.6)	68.7 (70.6)	68.2 (75.0)	65.6 (71.6)	67.3 (75.2)	65.1 (72.5)
	N019	Outside Cartmel, Hampstead Road	Free-field	53.7 (55.1)	60.7 (67.1)	53.8 (60.0)	53.4 (61.5)	51.1 (56.1)	51.6 (52.5)	55.8 (58.9)	51.1 (52.1)	52.2 (54.3)	51.1 (56.9)	52.1 (54.8)	50.8 (53.1)
ETD, TSS	N006	Royal College of General Practitioners roof level	Free-field	58.0 (65.6)	64.5 (69.3)	57.5 (59.3)	57.7 (65.6)	56.2 (61.6)	55.2 (56.0)	57.9 (61.4)	56.1 (56.1)	55.9 (57.6)	54.5 (59.6)	56.2 (57.9)	53.5 (56.6)
TSS	N008	Stephenson's Way lamppost (external to RCGP)	Façade	58.0 (60.7)	62.6 (71.2)	55.2 (57.8)	55.1 (61.8)	54.2 (61.1)	56.2 (56.5)	57.4 (58.5)	54.5 (55.2)	54.8 (58.0)	53.7 (60.4)	55.0 (58.8)	52.7 (55.9)
	N010	Wesley Hotel	Façade	69.4 (70.3)	69.0 (74.1)	55.4 (69.0)	56.7 (69.4)	57.1 (68.1)	69.5 (69.9)	69.4 (70.0)	66.5 (69.1)	60.3 (69.2)	59.4 (69.6)	66.1 (70.2)	55.2 (67.8)
	N011	Outside 82 Euston Street	Free-field	56.6 (61.5)	60.0 (66.6)	53.7 (56.8)	54.5 (63.4)	52.0 (62.1)	52.2 (55.0)	54.5 (56.2)	52.9 (53.6)	54.7 (62.3)	50.9 (58.2)	52.8 (56.1)	50.9 (55.4)
ETD	N007	Royal College of General Practitioners, Melton Street	Free-field	64.3 (66.4)	68.4 (76.2)	63.5 (64.6)	63.7 (66.7)	62.6 (72.4)	62.4 (63.7)	64.7 (65.8)	64.9 (65.6)	63.7 (66.9)	62.2 (66.1)	63.2 (66.8)	62.2 (65.9)
VHA	N025	External to 3 Prince Albert Road	Free-field	66.9 (69.0)	67.4 (78.0)	66.5 (70.4)	66.1 (73.6)	63.0 (72.0)	65.3 (67.6)	66.4 (70.3)	64.8 (64.9)	65.4 (69.3)	63.8 (67.2)	65.5 (74.4)	62.5 (66.6)
	N026	Thames Water Compound	Free-field	55.9 (56.8)	57.0 (58.9)	56.5 (59.1)	54.9 (59.6)	51.7 (60.3)	54.6 (55.5)	55.6 (57.1)	56.5 (56.5)	55.3 (57.5)	51.3 (55.6)	55.0 (58.9)	51.6 (58.2)

Worksite Reference	Measurement Reference	Site Address	Free-field or Façade Measurement	Weekly Average $L_{Aeq,T}$ (Highest Day $L_{Aeq,T}$)					Saturday Average $L_{Aeq,T}$ (highest day $L_{Aeq,T}$)					Sunday / Public Holiday Average $L_{Aeq,T}$ (highest day $L_{Aeq,T}$)	
				0700 - 0800	0800 - 1800	1800 - 1900	1900 - 2200	2200 - 0700	0700 - 0800	0800 - 1300	1300 - 1400	1400 - 2200	2200 - 0700	0700 - 2200	2200 - 0700
NTH-EN, TSS	N012	Opposite 92-94 Drummond Street	Free-field	56.3	58.8	57.9	60.3	55.3	54.2	56.7	56.5	56.7	54.0	56.7	53.6
				(58.8)	(61.8)	(59.2)	(97.8)	(68.7)	(55.0)	(57.6)	(56.5)	(59.3)	(59.3)	(60.3)	(60.0)
NTH-EN	N014	Starcross Street lamppost (external to Exmouth Arms)	Free-field	53.7	56.6	57.8	58.2	52.2	50.7	53.6	54.1	55.8	50.2	53.9	53.3
				(58.7)	(58.8)	(64.1)	(67.5)	(65.5)	(52.6)	(55.5)	(54.8)	(65.5)	(58.9)	(59.1)	(65.9)
	N016	Margaret Centre roof	Free-field	53.7	56.3	53.3	53.6	50.9	51.2	53.4	52.5	53.3	51.1	52.2	50.1
				(59.8)	(60.7)	(55.2)	(59.9)	(56.9)	(52.2)	(55.6)	(53.5)	(59.0)	(59.6)	(56.9)	(53.8)
	N017	Hampstead Road, lamppost #48	Free-field	68.7	69.7	69.5	69.1	66.4	66.1	68.2	69.2	69.1	66.9	68.1	65.9
				(71.9)	(72.1)	(72.4)	(75.0)	(72.3)	(66.5)	(68.6)	(69.8)	(74.0)	(70.8)	(74.0)	(71.8)

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
ARVS	V059	Outside 68 Adelaide Road	3.40 (Z-axis)
HRB	V039	Coniston, Regents Park Estate	1.09 (Z-axis)
	V043	Cubitt Court, Park Village East	1.46 (X-axis)
ETD	V003	RCGP basement vaults, 305 Euston Road	1.41 (Z-axis)
TSS	V002	RCGP basement boiler room, 305 Euston Road	0.95 (X-axis)
	V037	Magic Circle, basement	1.35 (Z-axis)
	V038	Wesley Hotel, basement lightwell, Euston Street	2.91 (Z-axis)
NTH-EN	V021	42-44 Cobourg Street (floor)	3.02 (Z-axis)
ESC	PVS-V1	Park Village Studios	0.96 (X-axis)
ETRC & GTB	SH-V1	Silsoe House	1.23 (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 SOAEL

2.2.1 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."

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

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

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

Table 5: Summary of Exceedances of SOAEL

Worksite Reference	Measurement Reference	Site Address	Day (Weekday, Saturday, Sunday, Night)	Time period	Number of exceedances of SOAEL
ARVS	N051	Outside 70 Adelaide Road	All days	All periods	No exceedance
	N052	Adelaide Road-Beaumont Walk	All days	All periods	No exceedance
B	JC	Juniper Crescent	All days	All periods	No exceedance
ESC	N024	External to Park Village Studios, Park Village East	All days	All periods	No exceedance
	N047	Park Village East/Mornington Street bridge, lamppost #13	All days	All periods	No exceedance
ESC, C	N022	External to 34 Mornington Terrace	All days	All periods	No exceedance
	N046	Mornington Terrace near The Edinboro Castle pub, lamppost #18	All days	All periods	No exceedance
ETRC & GTB	N001	External to Cubitt Court, 100 Park Village East	All days	All periods	No exceedance
	N002	Richmond Court, Park Village East	All days	All periods	No exceedance
	N003	Silsoe House, Park Village East	All days	All periods	No exceedance
ETRC & GTB, D	N004*	Mornington Terrace, lamppost #7	All days	All periods	No exceedance
ETRC & GTB, E	N005	5A Granby Terrace	All days	All periods	No exceedance

Worksite Reference	Measurement Reference	Site Address	Day (Weekday, Saturday, Sunday, Night)	Time period	Number of exceedances of SOAEL
ETRC & GTB, F	N023	Lamppost #21 on Hampstead Road	All days	All periods	No exceedance
HRB	N020*	Mackworth Street, lamppost #1	All days	All periods	No exceedance
	N021*	Stanhope Street, lamppost #2	All days	All periods	No exceedance
	N044*	Regents Park Estate west, near Langdale	All days	All periods	No exceedance
	N045*	Regents Park Estate south, external to Coniston	All days	All periods	No exceedance
G, H	HH	Euston Station Parcel Deck, Barnby Street	All days	All periods	No exceedance
G	BS	Roof of Stockbeck House, Barnby Street	All days	All periods	No exceedance
S001-WS02	N018	Outside replacement housing, Hampstead Road	All days	All periods	No exceedance
	N019	Outside Cartmel, Hampstead Road	All days	All periods	No exceedance
ETD, TSS	N006	RCGP Roof level	All days	All periods	Not applicable**
TSS	N008	RCGP Stephenson Way	All days	All periods	No exceedance
	N010	Wesley Hotel	All days	All periods	Not applicable**
	N011	Outside 82 Euston Street	All days	All periods	No exceedance
ETD	N007	RCGP, Melton Street	All days	All periods	No exceedance
VHA	N025*	External to 3 Prince Albert Road	All days	All periods	No exceedance
	N026	Thames Water Compound	All days	All periods	No exceedance

Worksite Reference	Measurement Reference	Site Address	Day (Weekday, Saturday, Sunday, Night)	Time period	Number of exceedances of SOAEL
NTH-EN	N012	Opposite 92-94 Drummond Street	All days	All periods	No exceedance
	N014	Starcross Street lamppost (external to Exmouth Arms)	All days	All periods	No exceedance
	N016	Margarete Centre roof	All days	All periods	No exceedance
	N017	Hampstead Road, lamppost #48	All days	All periods	No exceedance

* Further analysis of noise levels due to utility works being undertaken in close proximity of the noise monitor has been undertaken and noise levels corrected to be representative of the nearest receptors.

** The defined SOAEL criteria are not applicable to non-residential properties.

2.2.5 No exceedances of the SOAEL were recorded due to HS2 construction works during August 2021.

2.3 Exceedances of Trigger Level

2.3.1 Table 6 provides a summary of exceedances of the S61 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
-	-	-	-	-	-

2.4 Complaints

2.4.1 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

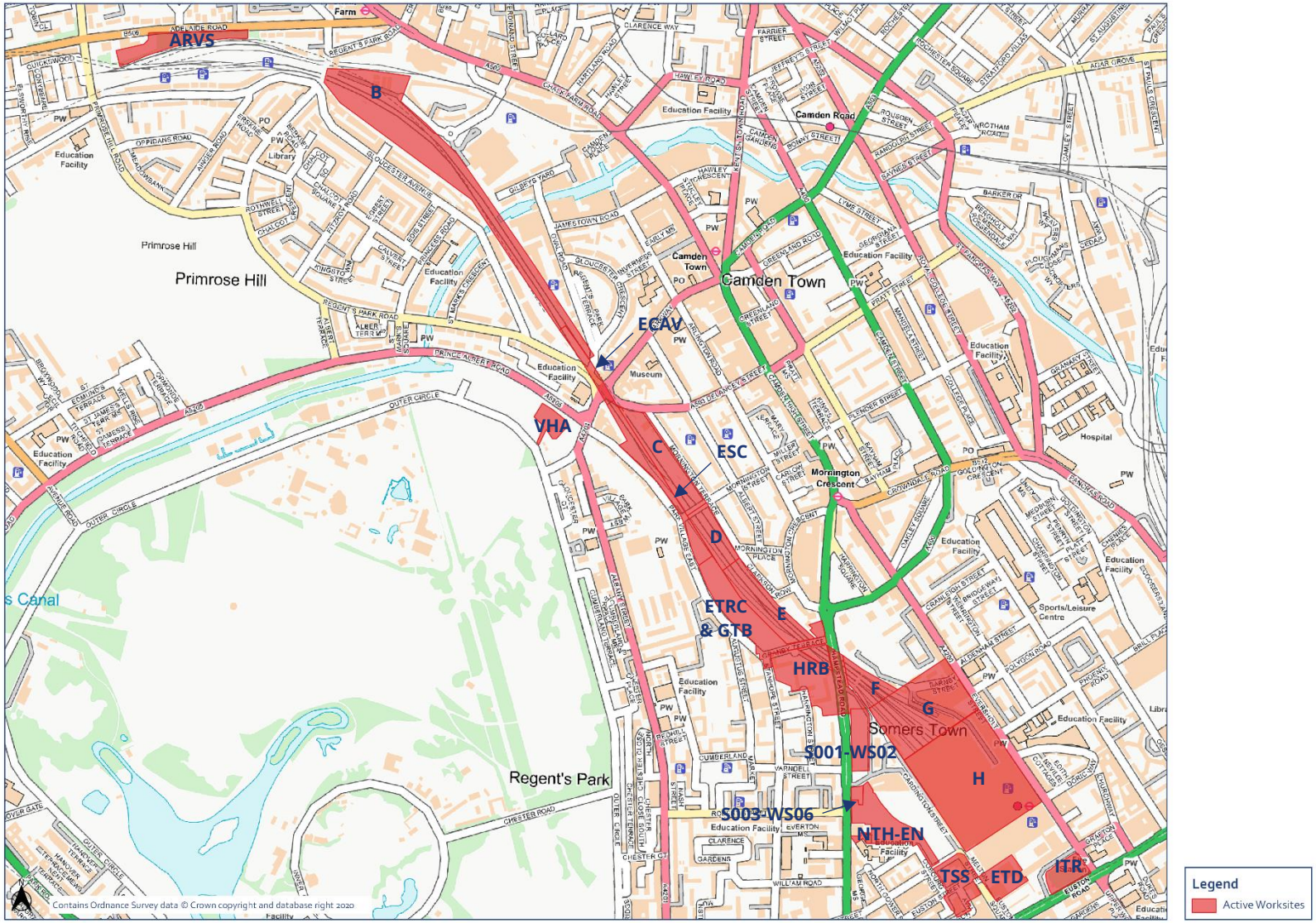
Complaint Reference Number	Worksite Reference	Description of Complaint	Results of Investigation	Actions Taken
HS2-21-42383-C	ETRC & GTB	Complaint due sirens from works vehicles.	The noise was associated with the use of a road sweeper.	Information was provided to the Stakeholder confirming the source of the noise. Alternative sirens / warnings are being investigated.
HS2-21-42415-C	ETD, TSS	Complaint due to drilling noise during the night-time.	The nearby works undertaken at the time of complaint did not include drilling.	Information was provided to the Stakeholder confirming that the drilling noise was not associated with HS2 works.
HS2-21-42420-C	HRB	Complaint due to persistent construction noise across the past three years.	The Stakeholder has previously been advised that they are eligible for hotel respite following the outcome of a special cases panel.	The Stakeholders eligibility for hotel respite as reiterated.
HS2-21-42430-C	ARVS	Complaint due to generator noise during the night-time.	The generator is a hybrid type which operates on diesel during the day (louder) and batteries during the night (quieter). Noise monitoring demonstrates compliance with Section 61 and best practicable means (BPM) were used.	Information was provided to the Stakeholder confirming that the generator type selection and use of acoustic barriers have been utilised to reduce noise.
HS2-21-42470-C	ETRC & GTB	Complaint due to noise between 07:00 and 08:00.	The noise was associated with deliveries to the worksites. Noise monitoring demonstrates compliance with Section 61 and BPM were used.	Information was provided to the Stakeholder confirming the cause of the noise. It has been requested that deliveries are undertaken later, where possible.

Complaint Reference Number	Worksite Reference	Description of Complaint	Results of Investigation	Actions Taken
HS2-21-42472-C	ESC	General complaint regarding construction noise during the day.	The noise was associated with HS2 utility works. Noise monitoring demonstrates compliance with Section 61 and BPM were used, including the use of localised acoustic barriers.	Information was provided to the Stakeholder confirming the cause of the noise. Additional acoustic barriers will be utilised around the whole site permitter, where practicable.
HS2-21-42477-C	B	General complaint regarding construction noise during the day.	No HS2 construction works were undertaken near to the Stakeholder at the time of the complaint.	Information was provided to the Stakeholder confirming that the noise was not associated with HS2.
HS2-21-63878-E	ETRC	Complaint from resident regarding structural damage to the property due to HS2 construction works.	On-going.	On-going.
HS2-21-63936-E	ETRC/HRB	Complaint regarding piling noise during the daytime.	Noise was due to breaking down of the concrete piling platform to make way for excavation works. Works were undertaken in accordance with the methodology detailed in the Section 61 consent and BPM were used, including noise reducing blankets around the works.	Information was provided to the Stakeholder confirming the cause of the noise and measures that are in place to reduce noise.

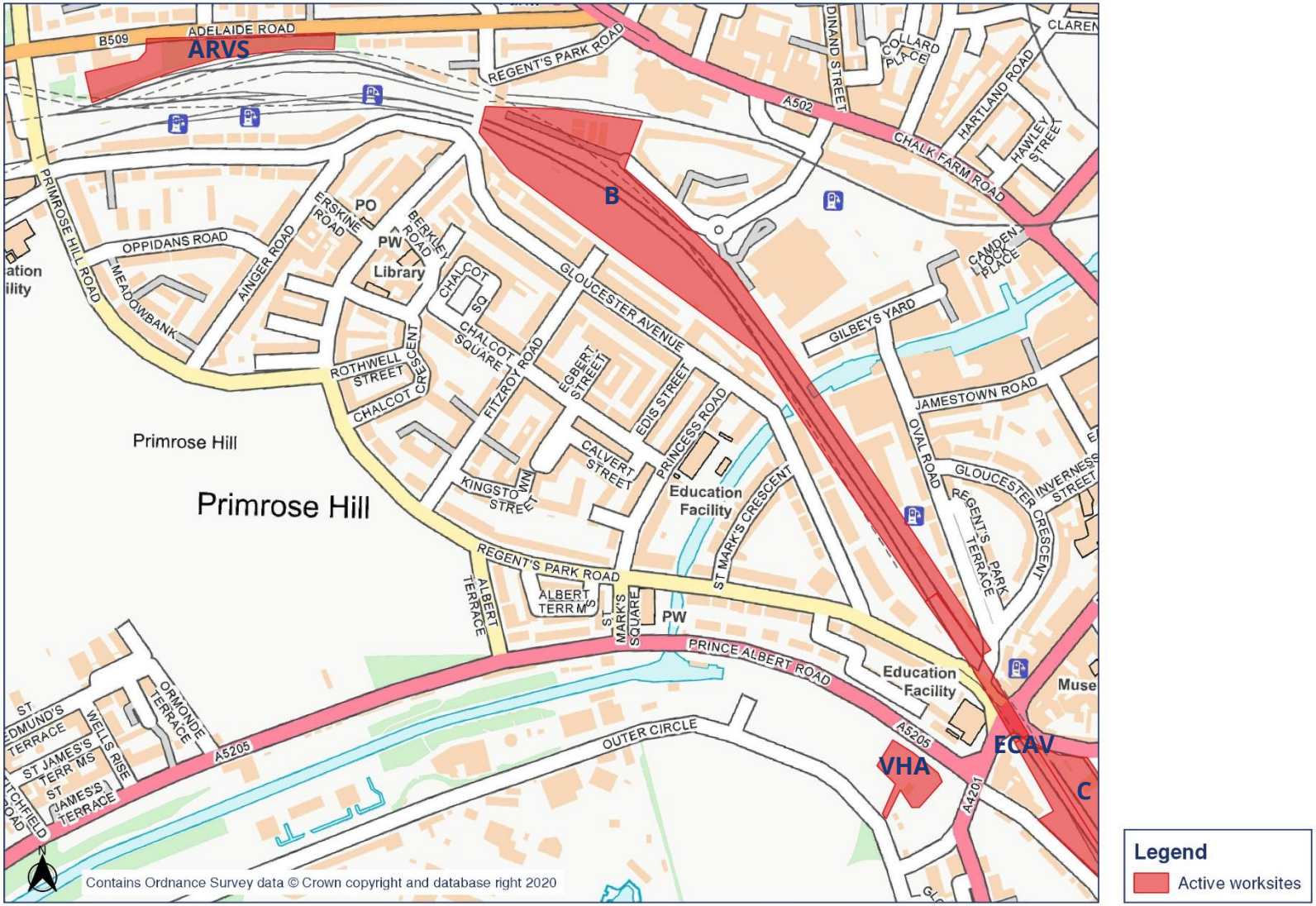
Appendix A Site Locations

HS2

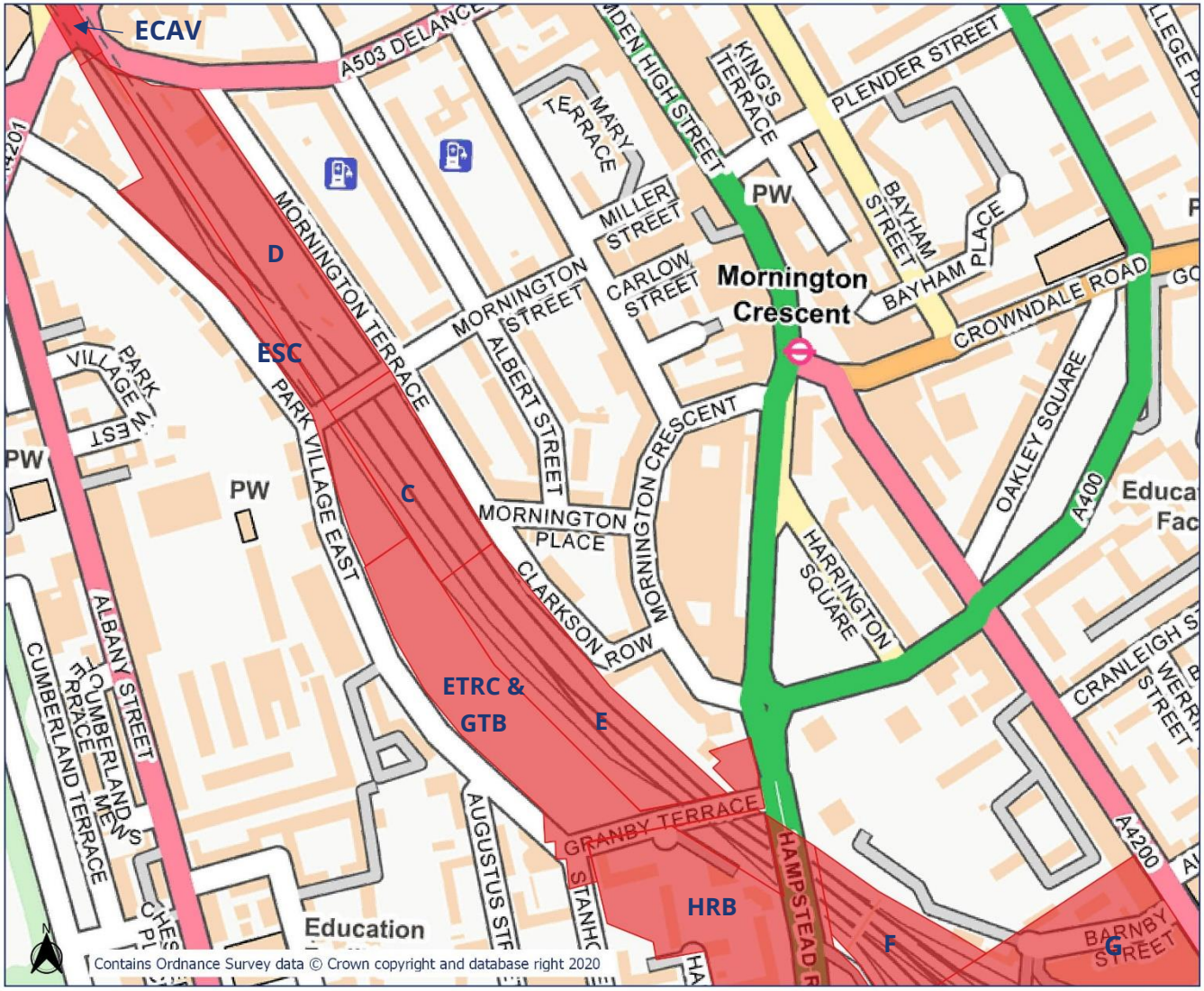
Worksite identification plan - Overview



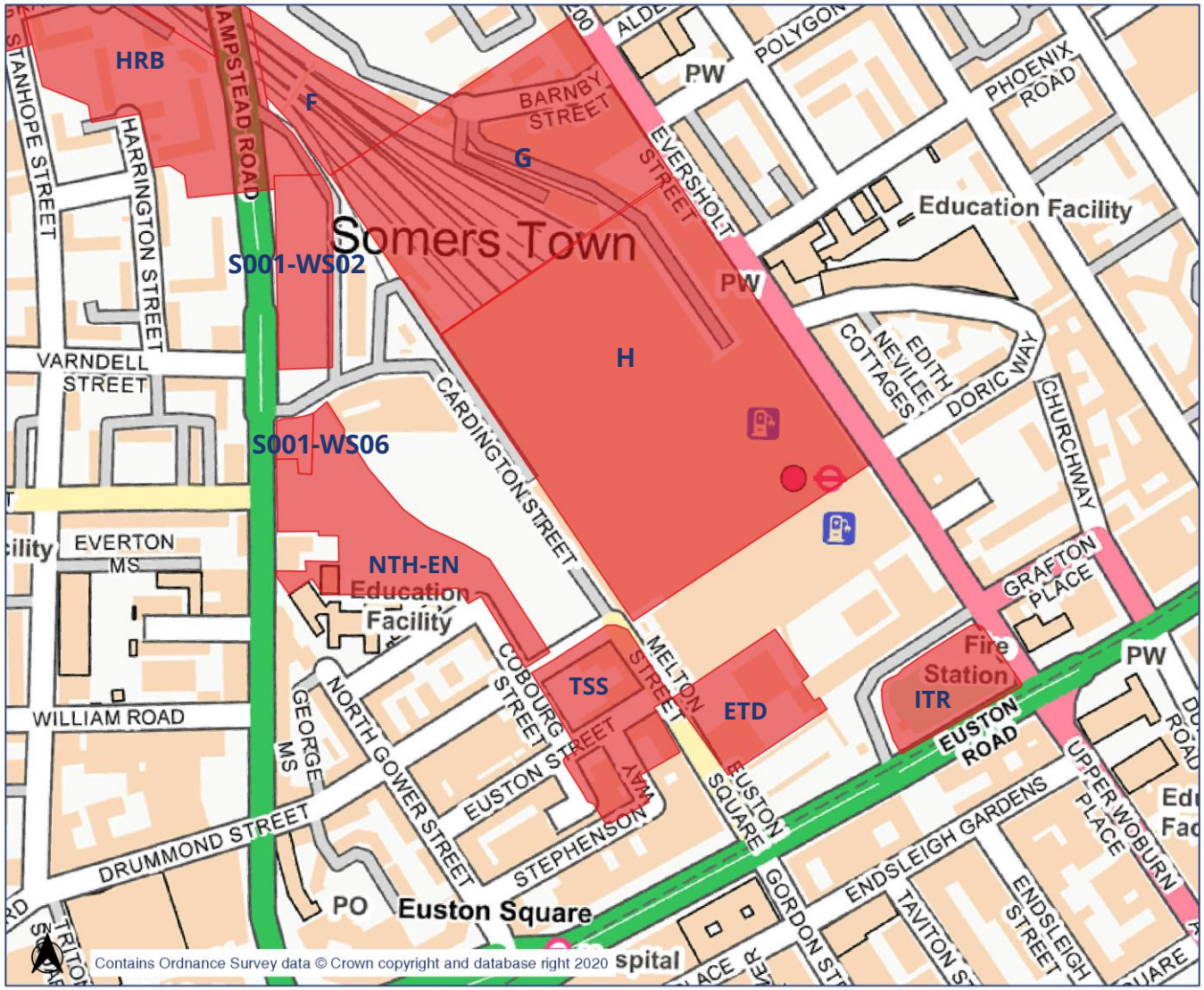
HS2 Worksite identification plan - 1



HS2 Worksite identification plan - 2



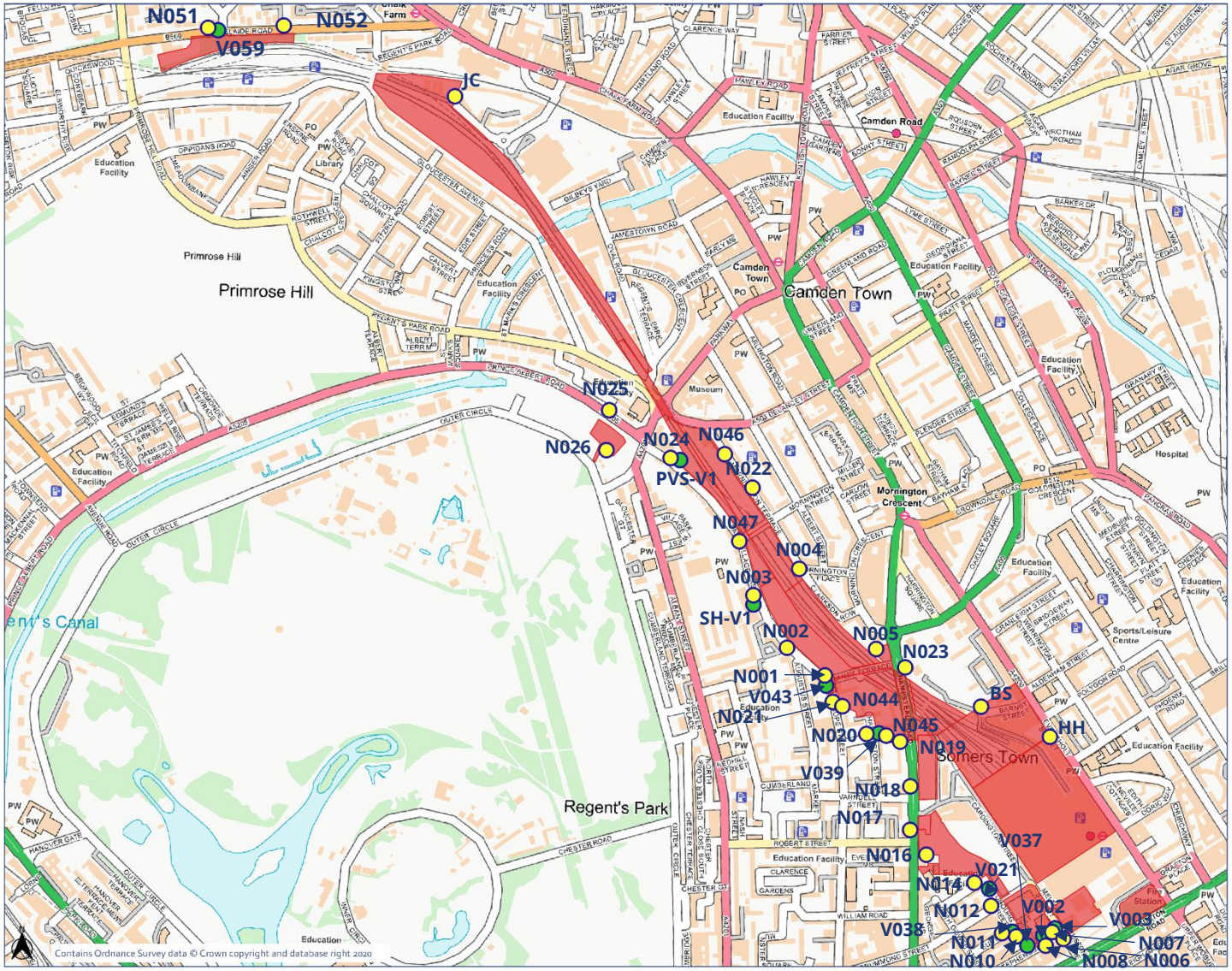
Worksite identification plan - 3



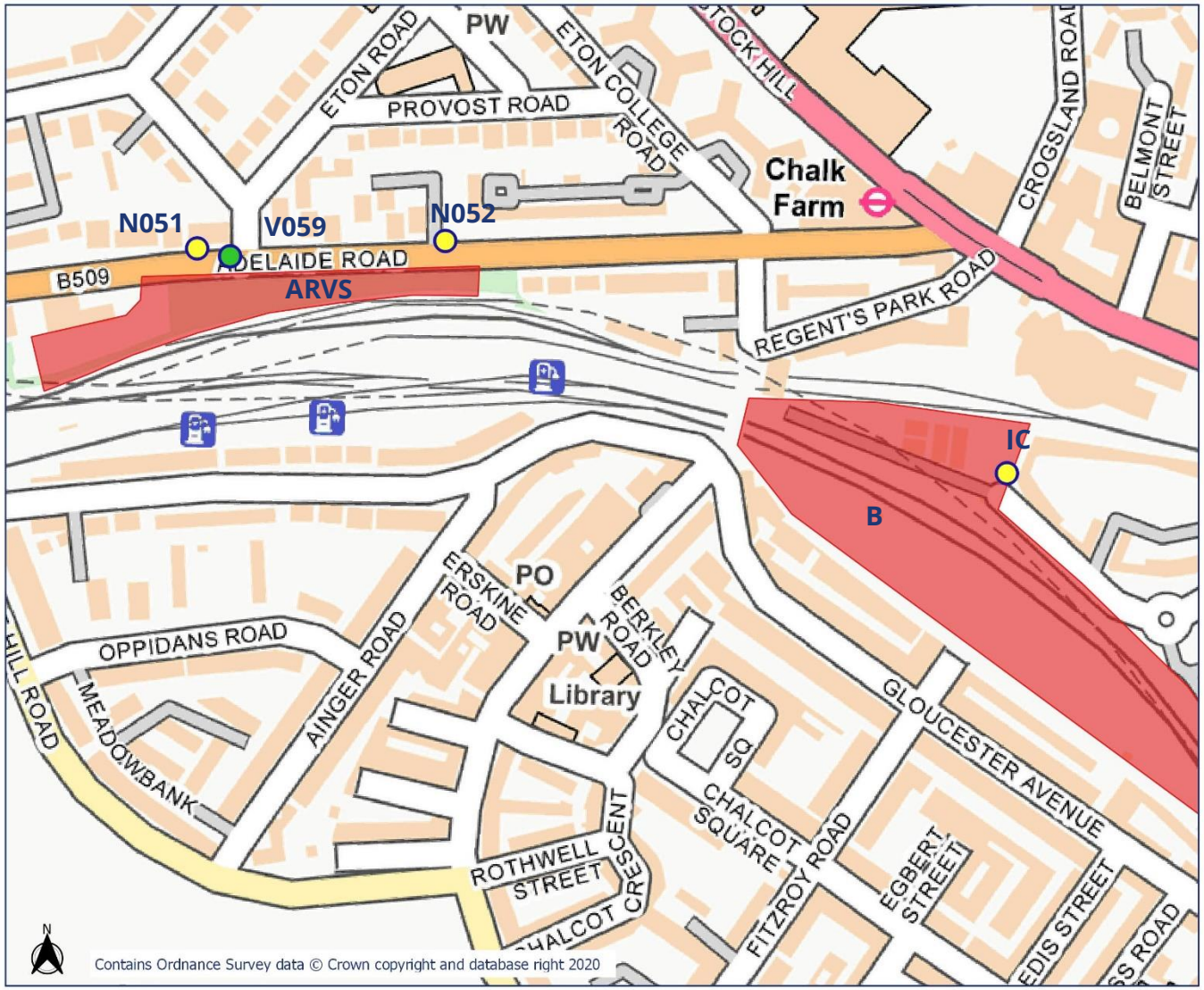
Appendix B Monitoring Locations

HS2

Noise and vibration monitoring plan - Overview

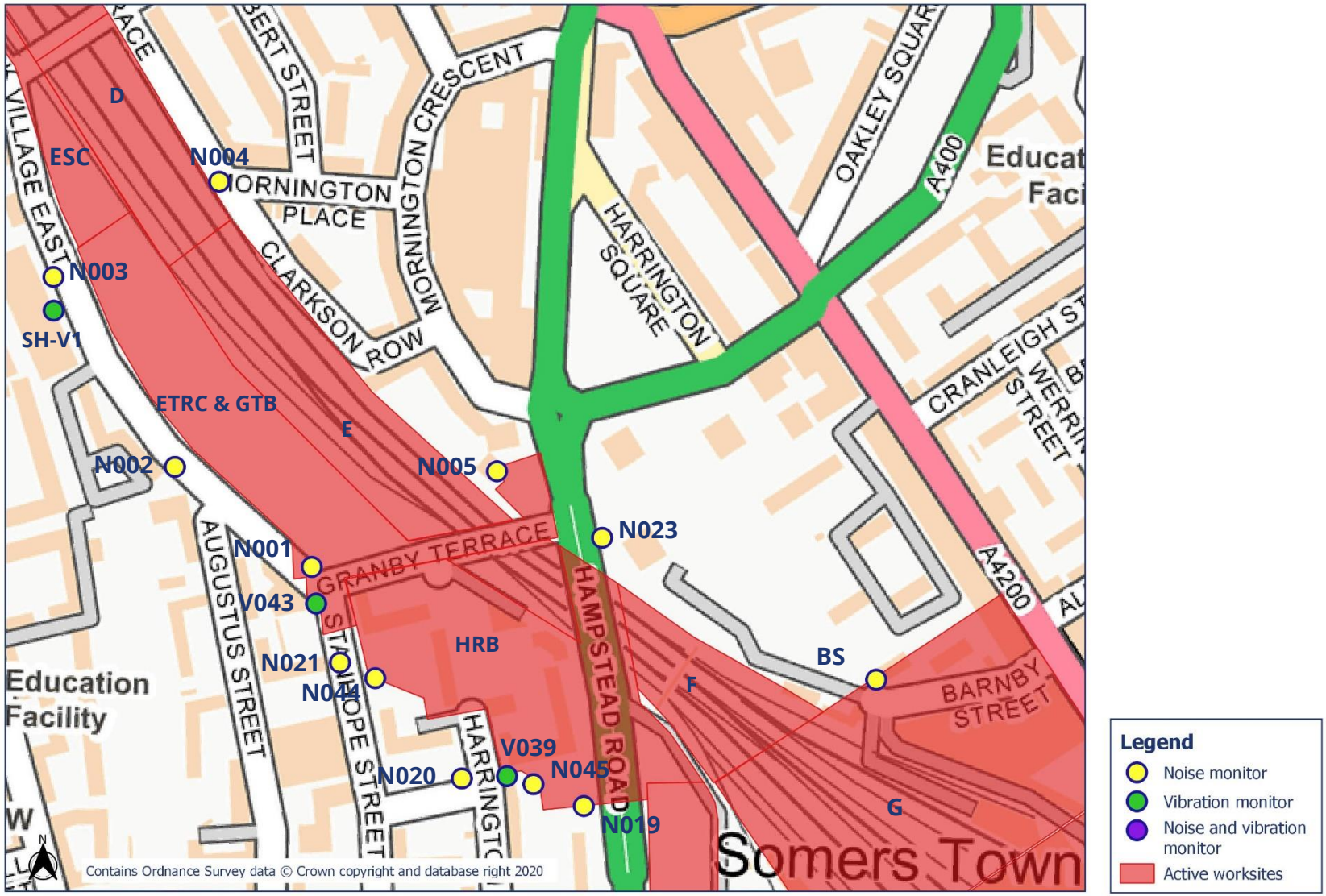


HS2 Noise and vibration monitoring plan - 1

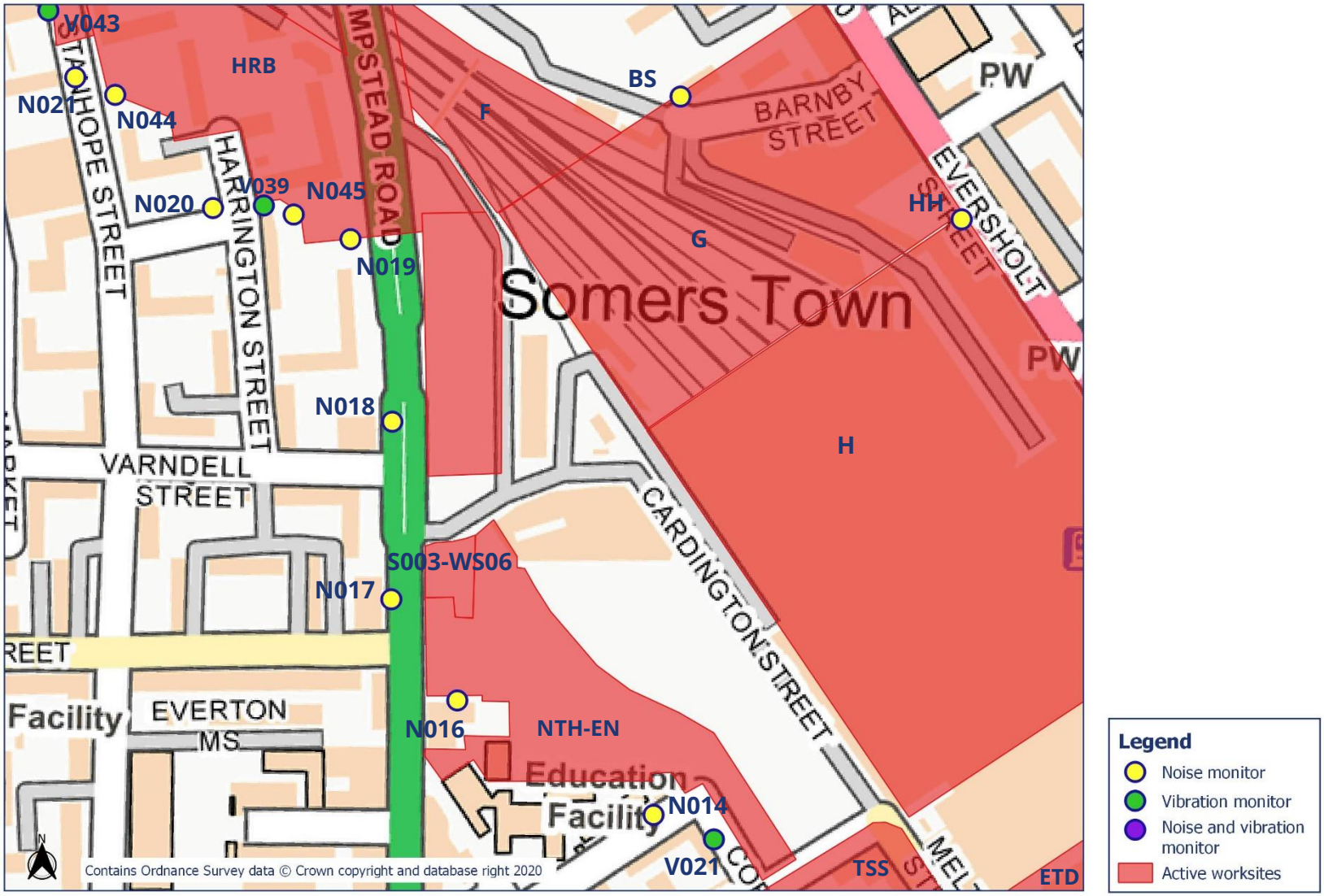


HS2 Noise and vibration monitoring plan - 2

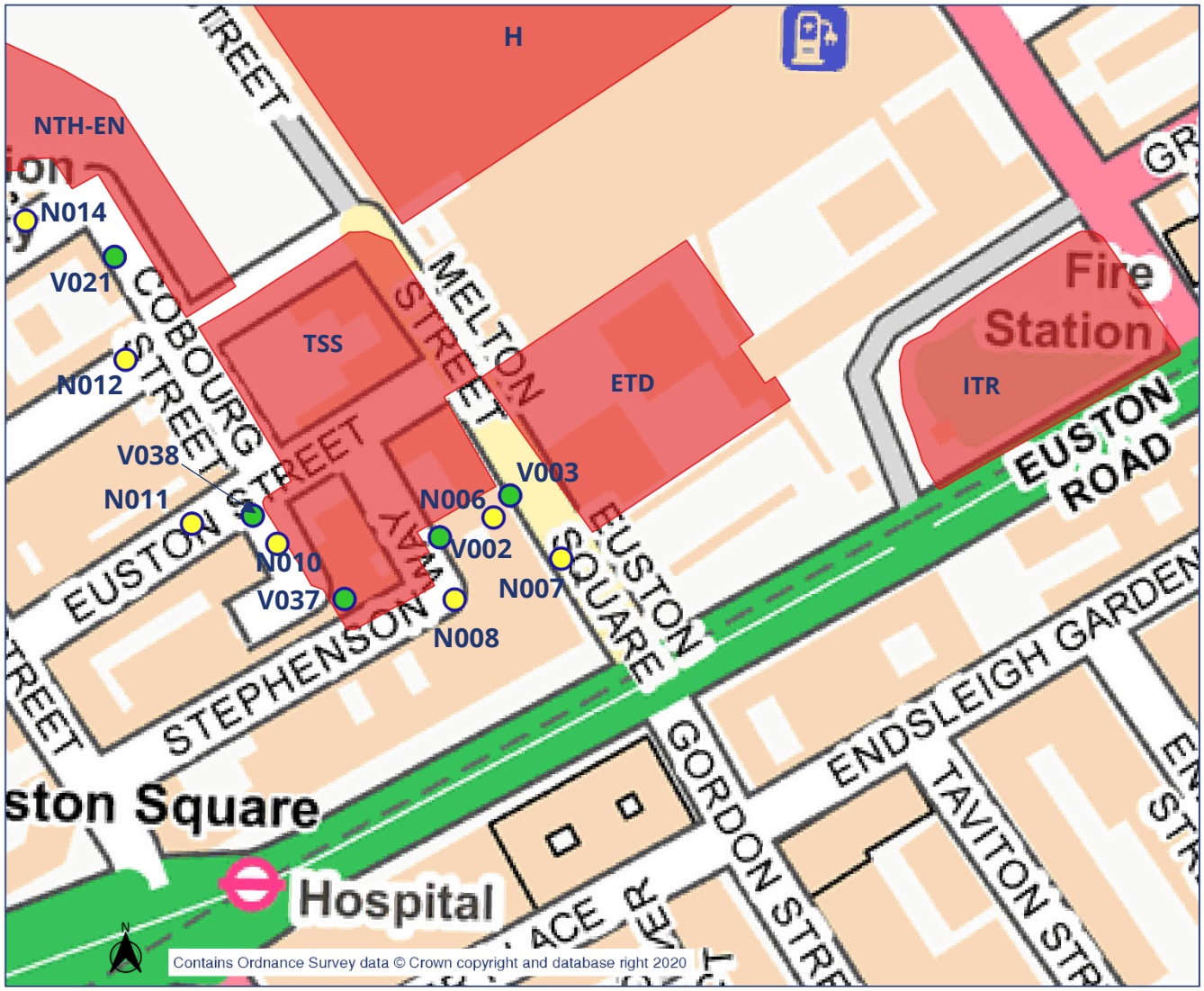
HS2 Noise and vibration monitoring plan - 3



HS2 Noise and vibration monitoring plan - 4



HS2 Noise and vibration monitoring plan - 5



Legend

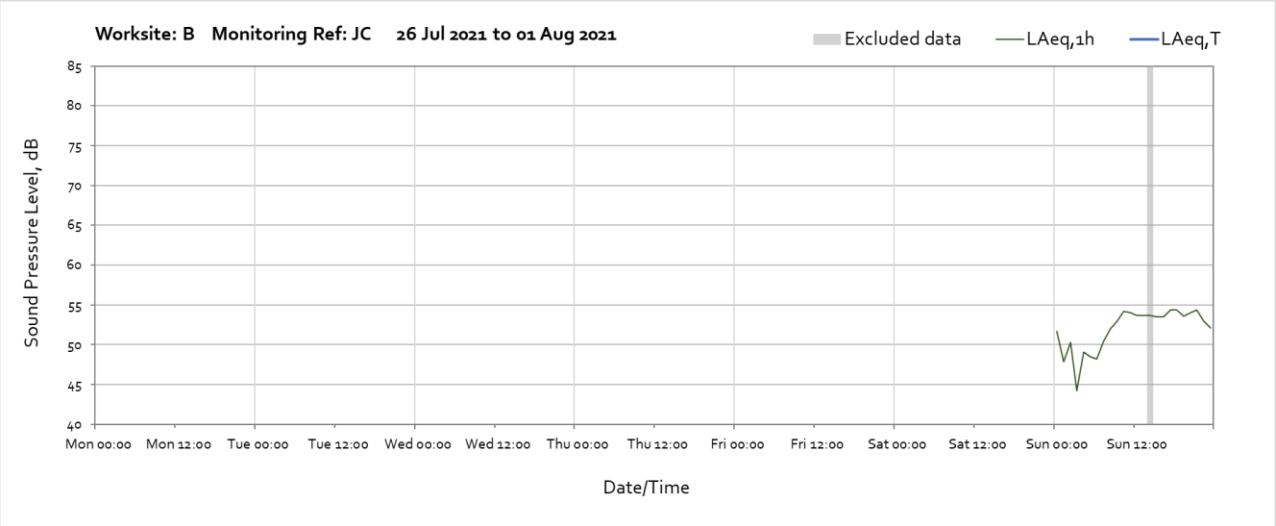
- Noise Monitor
- Vibration Monitor
- Active Worksites

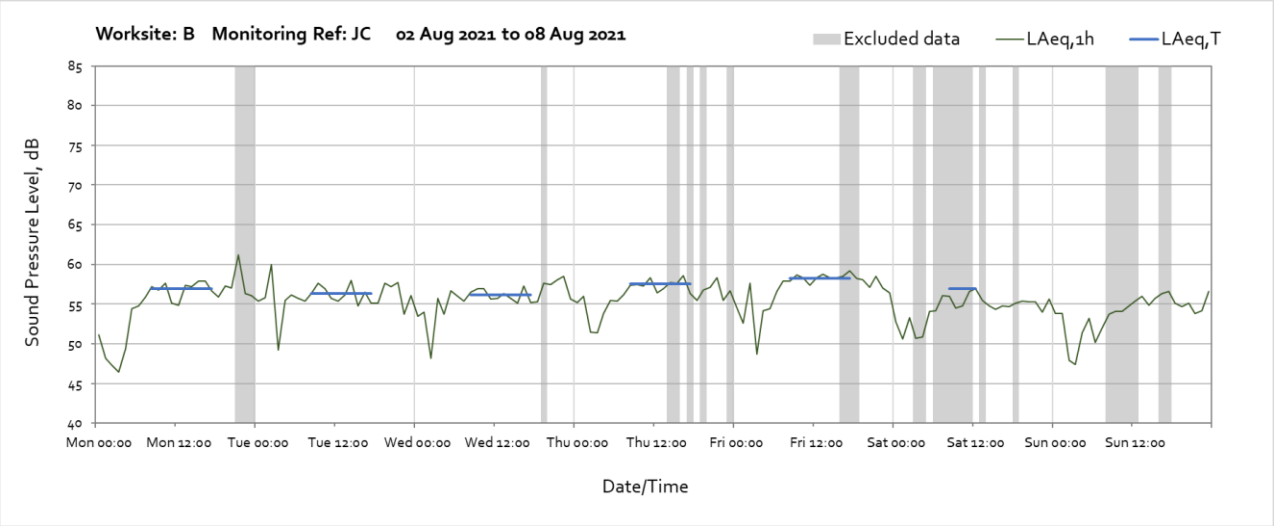
Appendix C Data

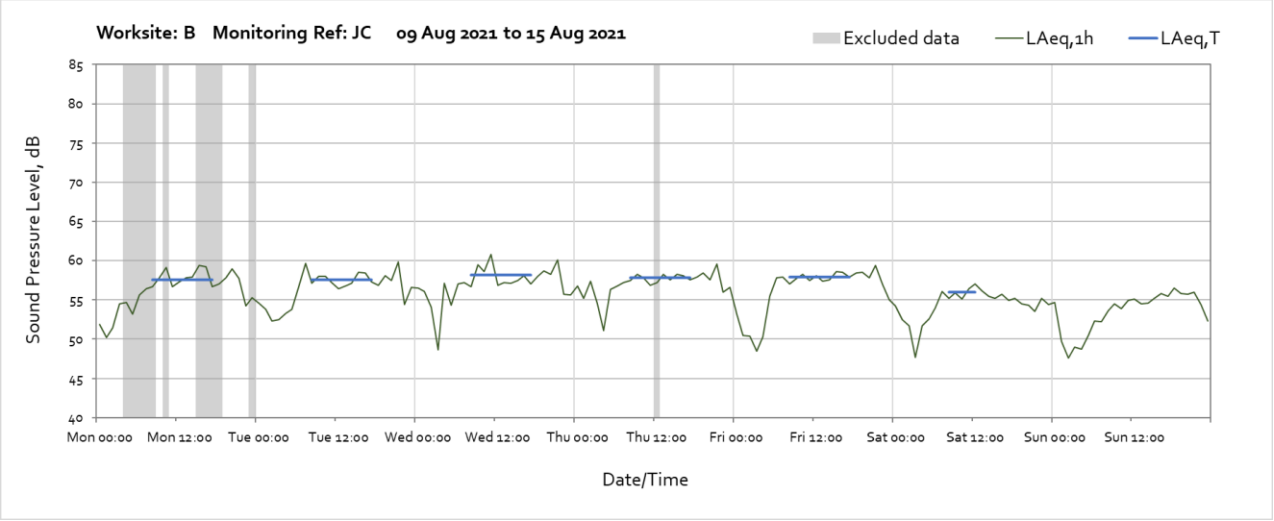
The following graphs show the hourly measured ambient noise level $L_{Aeq,1h}$ and, where relevant, the averaged noise level $L_{Aeq,T}$ values, where the time period T is as specified in Table 1 of HS2 Information Paper E23. Periods with adversely weather affected noise levels are greyed out and have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

Noise

Worksite: B – Monitoring Ref: JC



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LAeq,T
Sound Pressure Level, dB
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80
75
70
65
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55
50
45
40
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Mon 12:00
Tue 00:00
Tue 12:00
Wed 00:00
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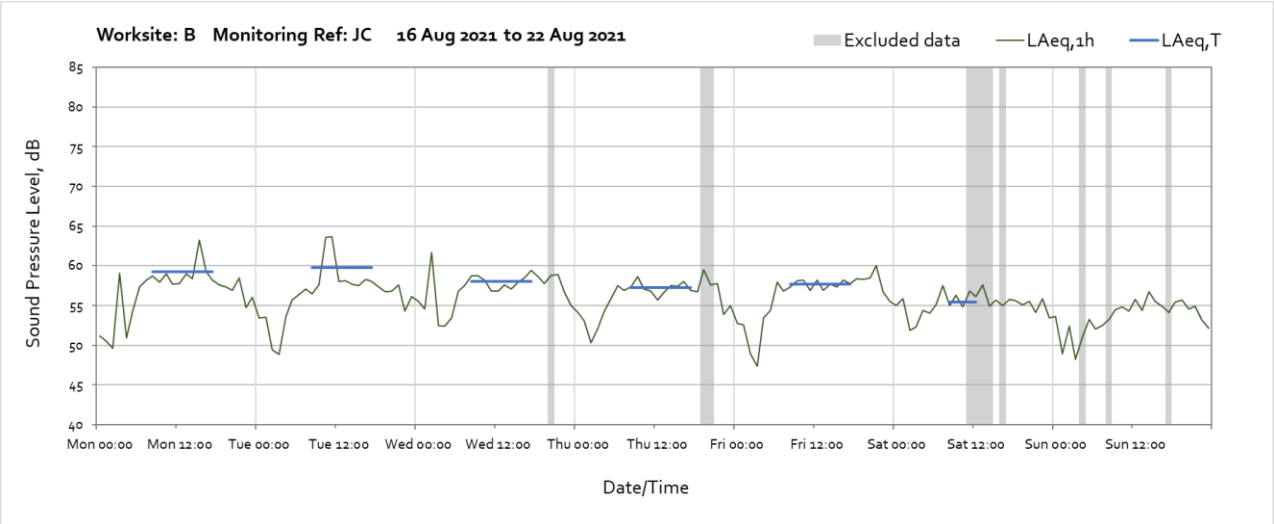
Sat 00:00
Sat 12:00
Sun 00:00
Sun 12:00
Date/Time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LAeq,1h
LAeq,T
Sound Pressure Level, dB
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80
75
70
65
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55
50
45
40
Mon 00:00
Mon 12:00
Tue 00:00
Tue 12:00
Wed 00:00
Wed 12:00
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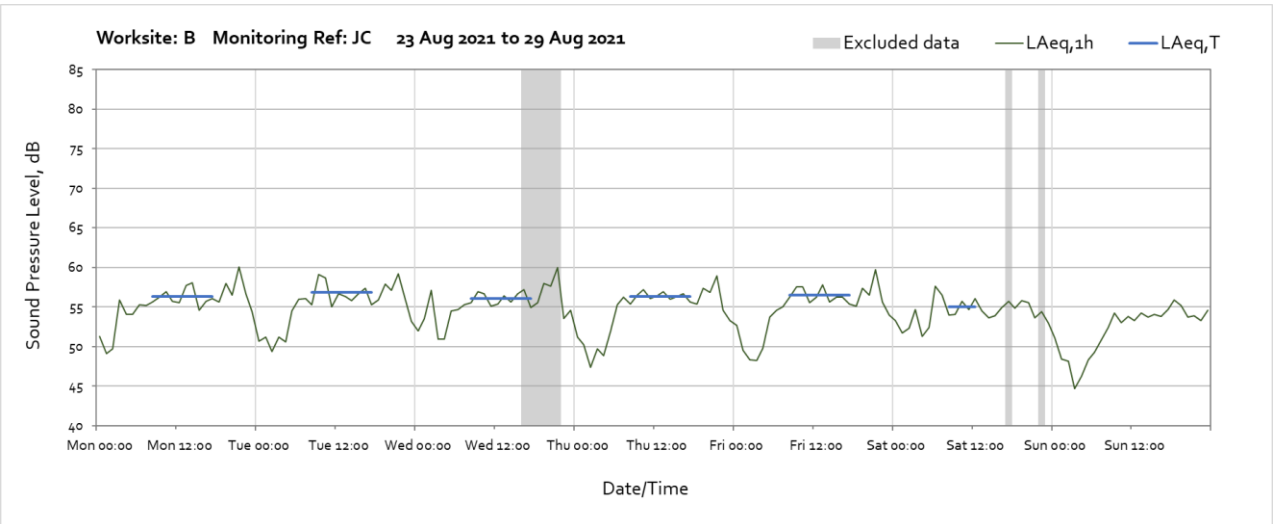
Fri 00:00
Fri 12:00
Sat 00:00
Sat 12:00
Sun 00:00
Sun 12:00
Date/Time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Excluded data
LAeq,1h
LAeq,T
Sound Pressure Level, dB
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80
75
70
65
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50
45
40
Mon 00:00
Mon 12:00
Tue 00:00
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Wed 00:00
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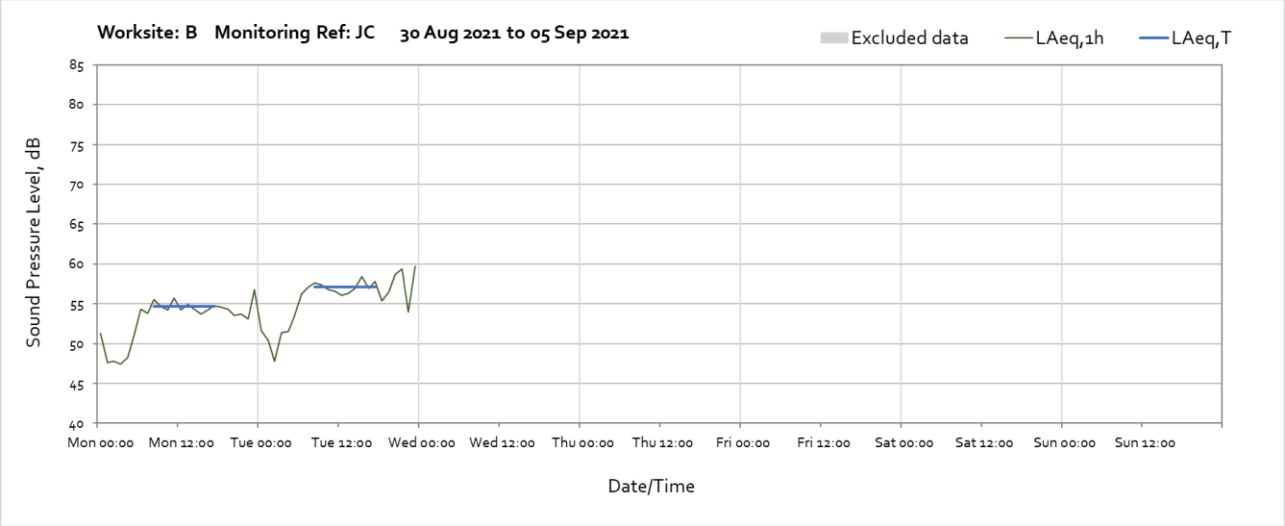
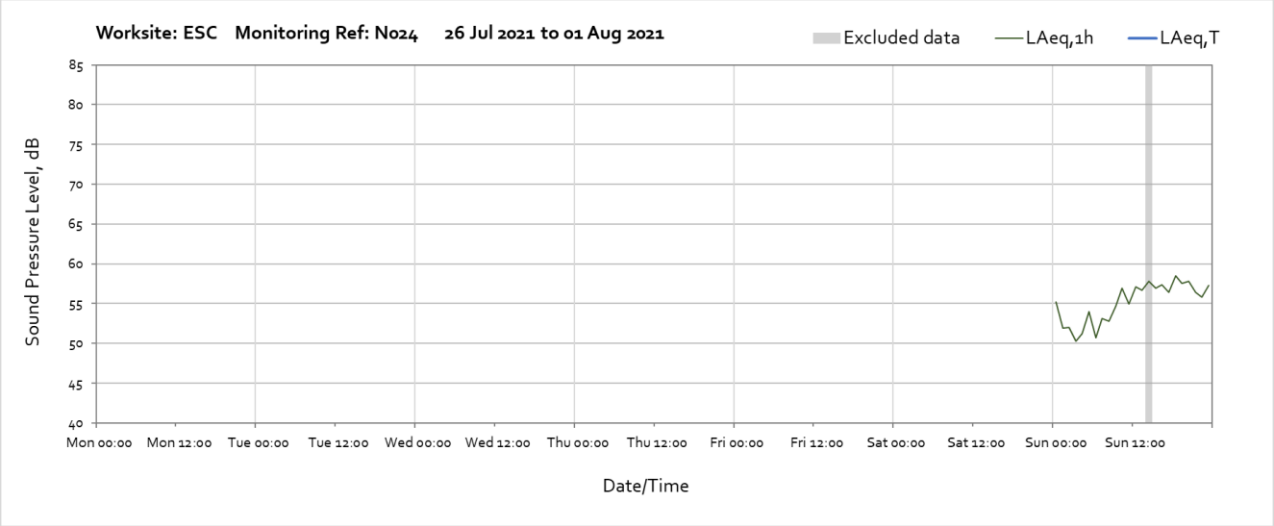
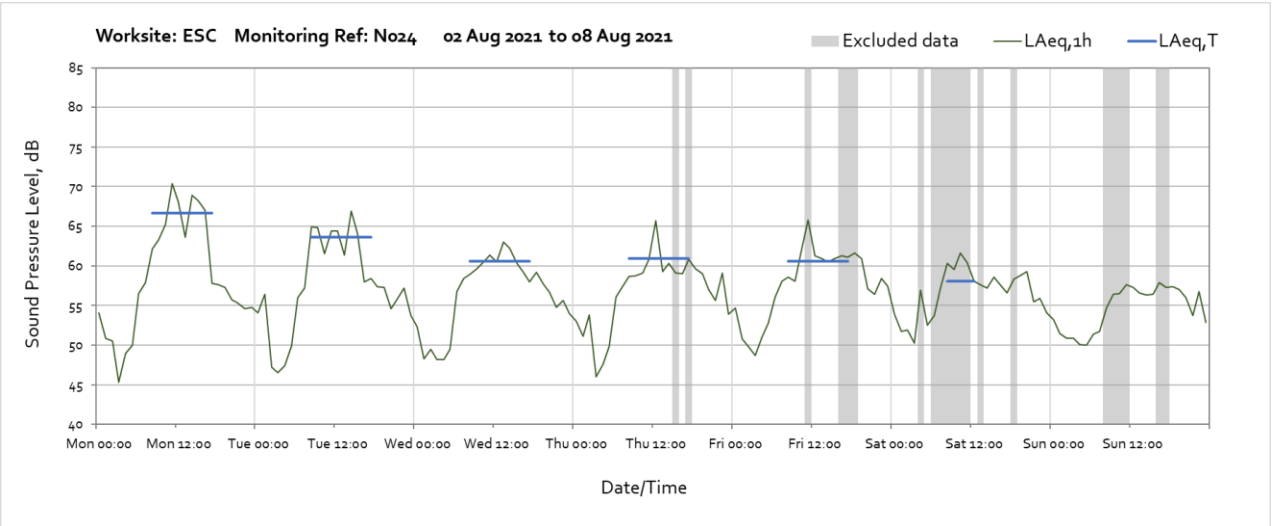
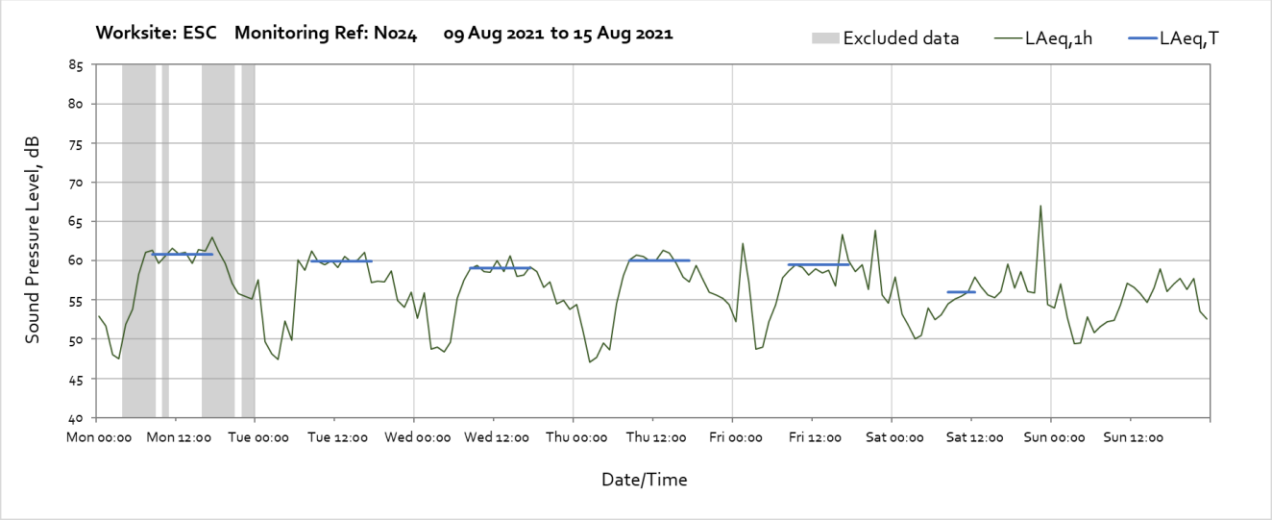


Worksite: ESC – Monitoring Ref: N024



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LAeq,T
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75
70
65
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Mon 12:00
Tue 00:00
Tue 12:00
Wed 00:00
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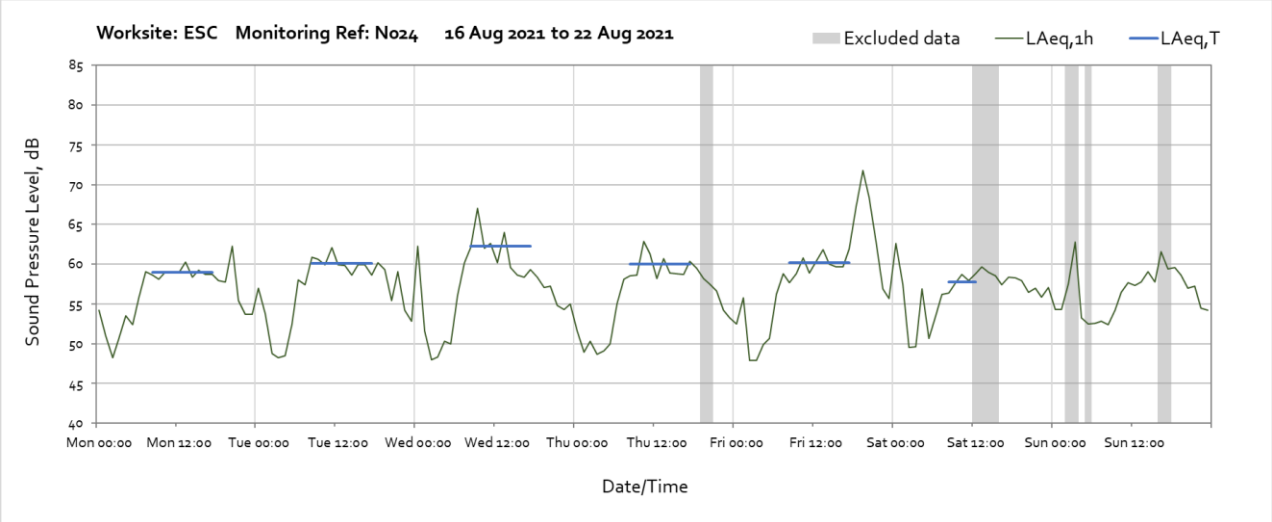
Sun 12:00
Date/Time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Excluded data
LAeq,1h
LAeq,T
Sound Pressure Level, dB
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80
75
70
65
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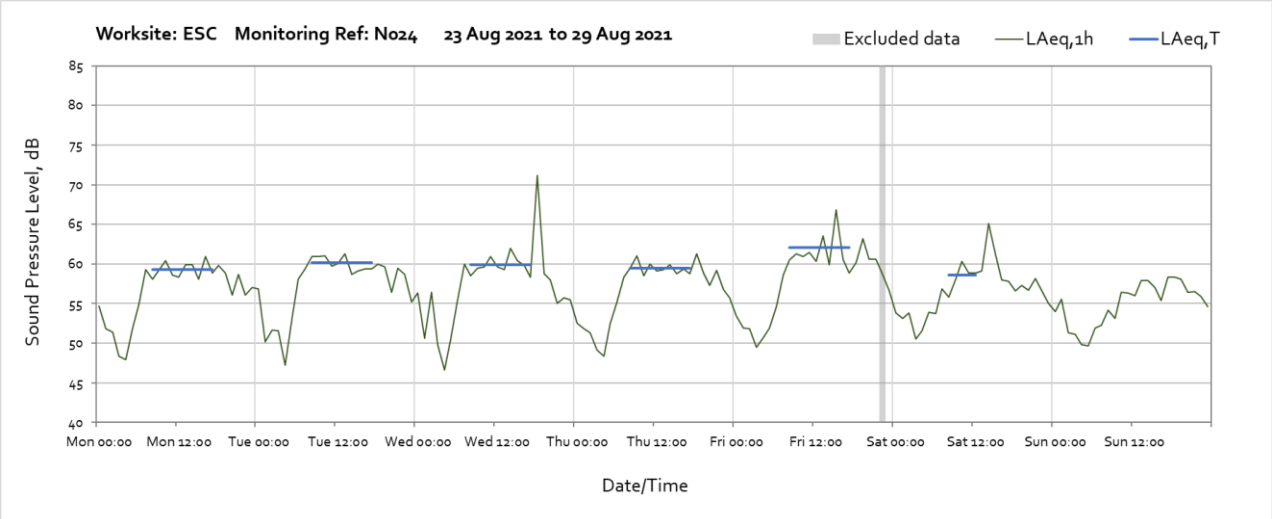
Date/Time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LAeq,1h
LAeq,T
Sound Pressure Level, dB
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80
75
70
65
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Tue 00:00
Tue 12:00
Wed 00:00
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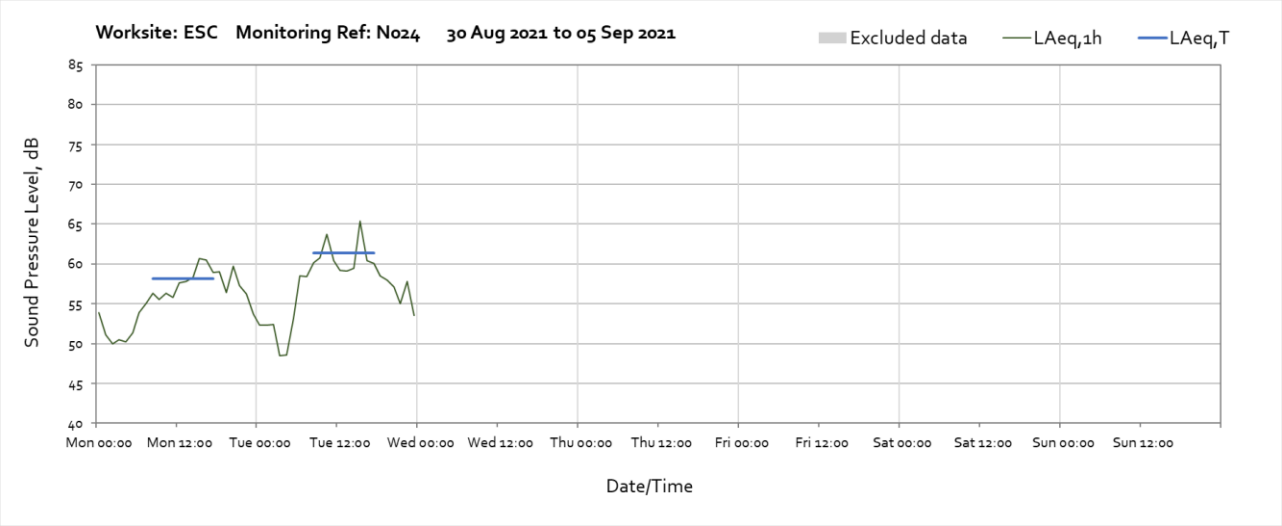
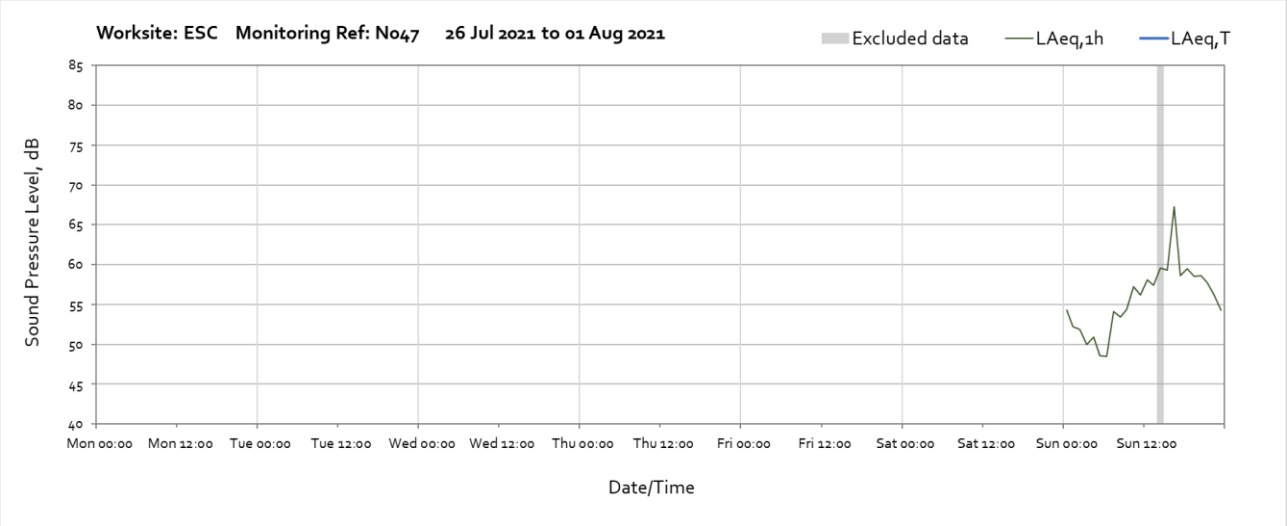
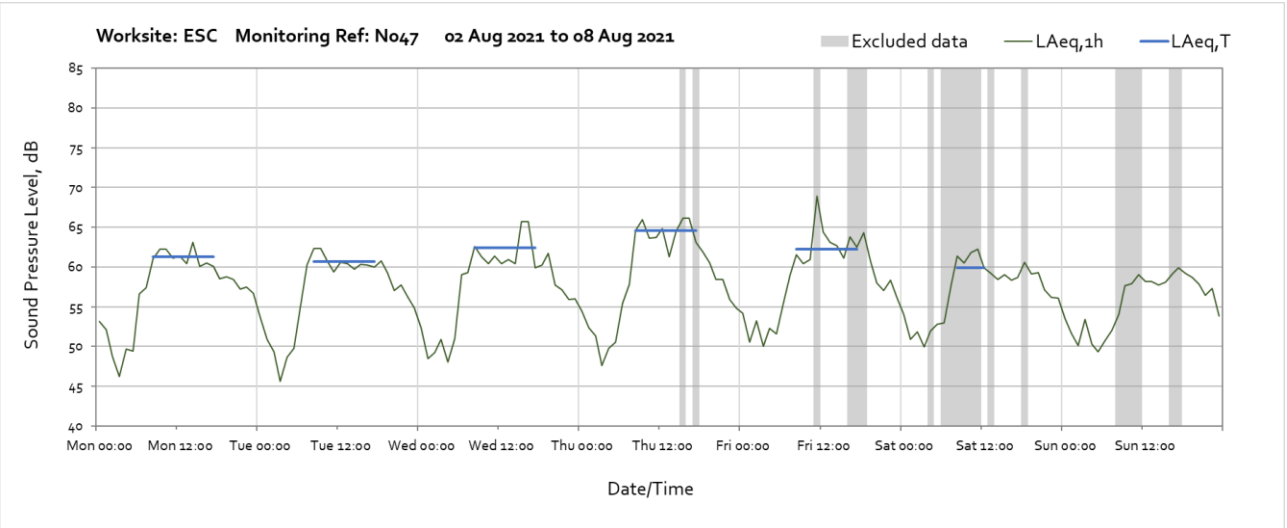
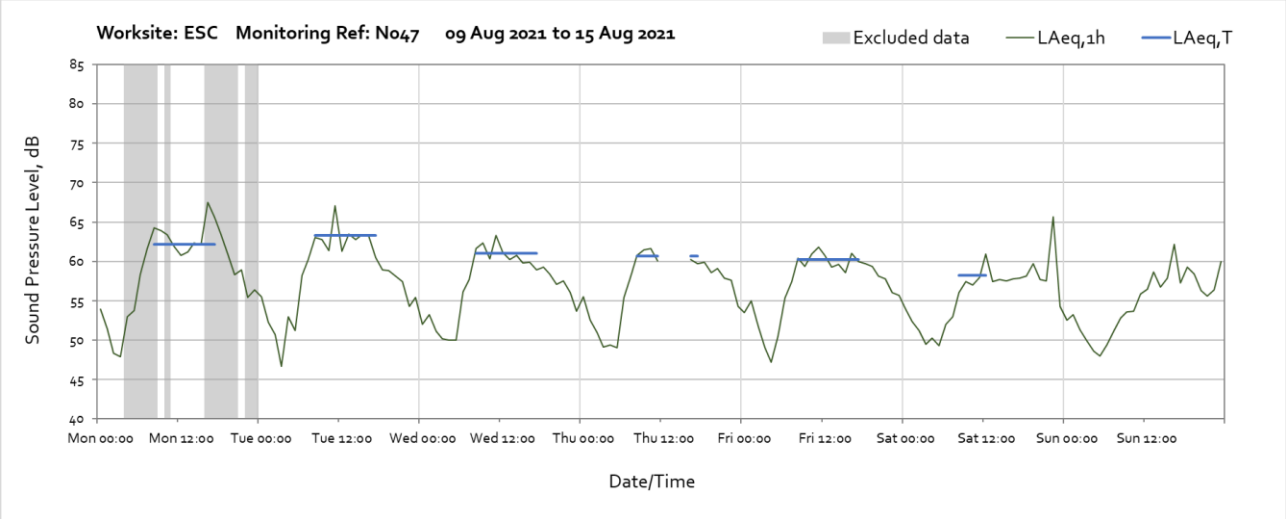
Date/Time



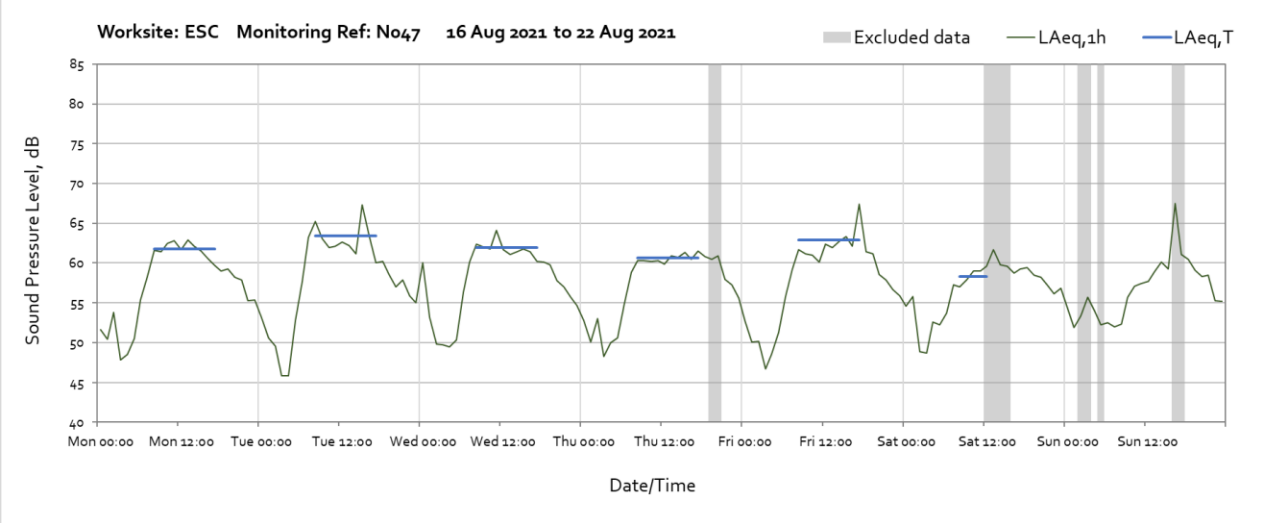
Worksite: ESC – Monitoring Ref: N047

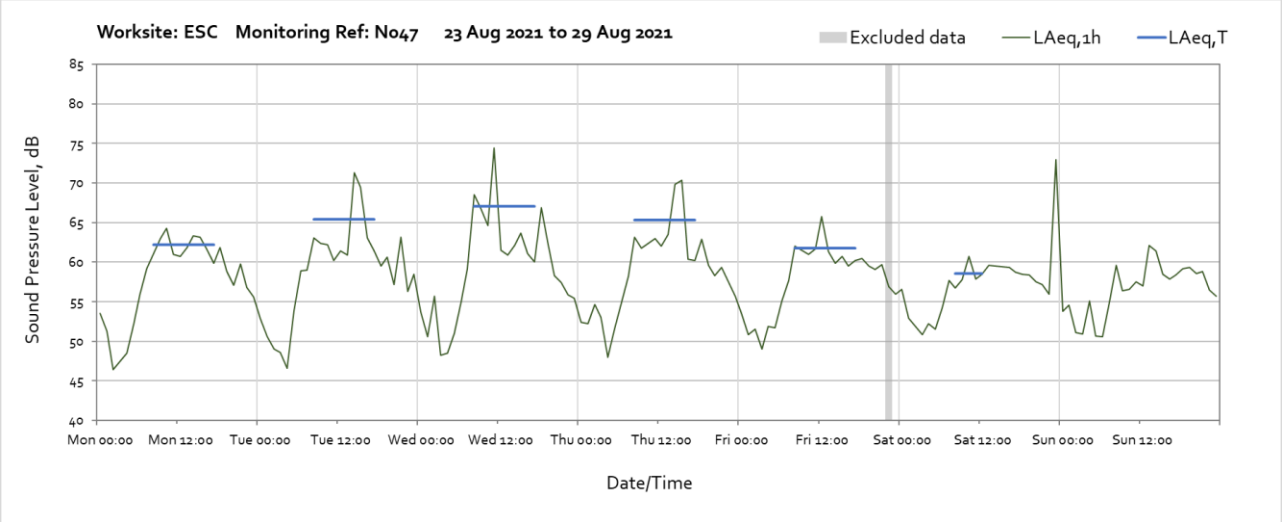




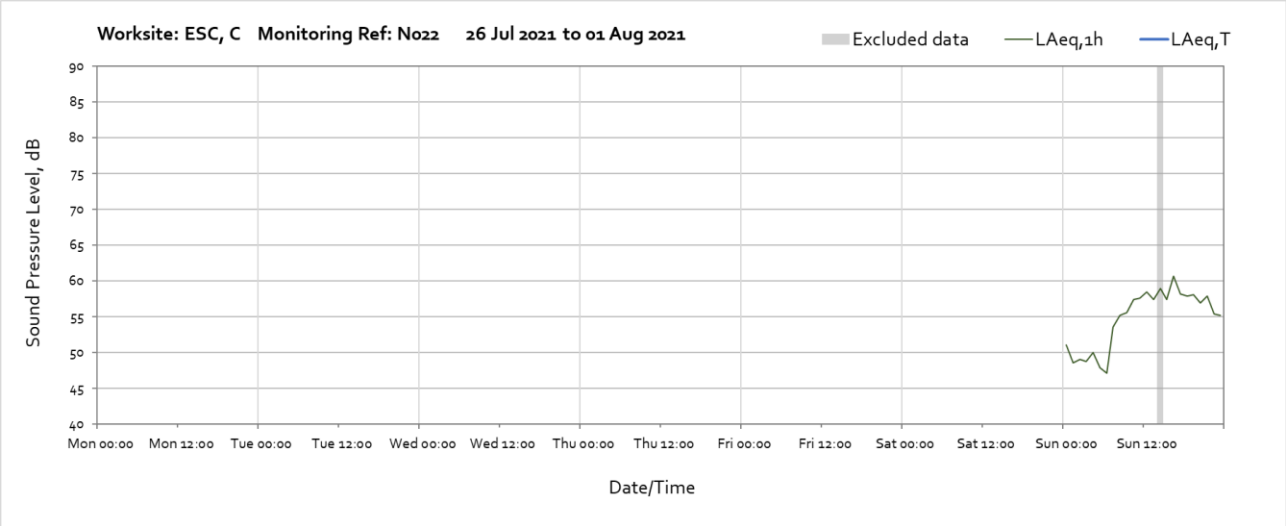


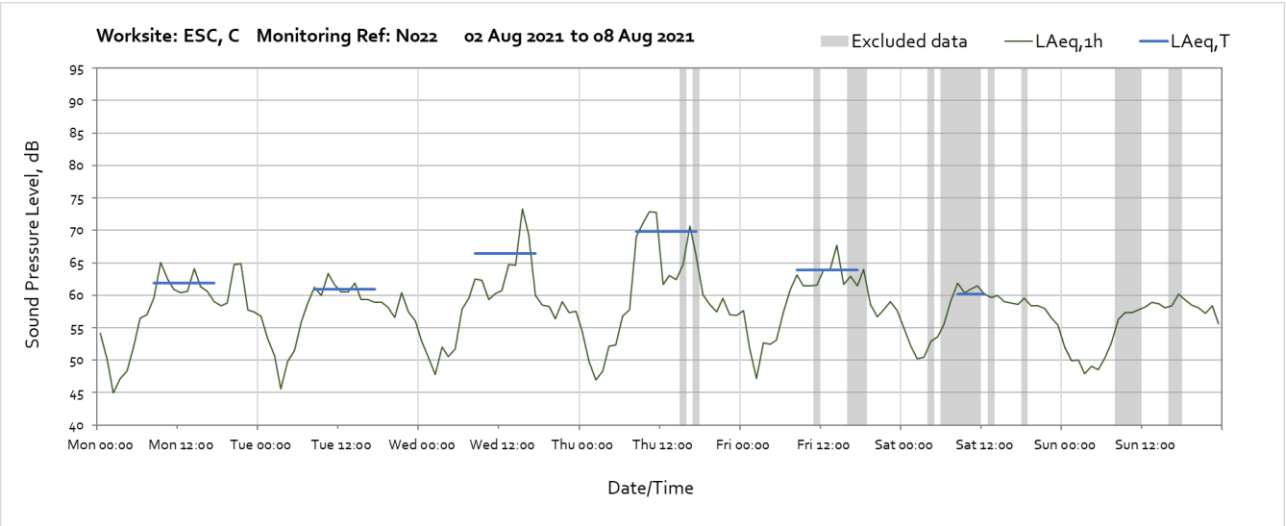
Note: Missing data from 12:00 until 16:00 on Thursday 12th August was due to a fault with the monitoring station server connection. The memory card was reformatted with view of avoiding further loss of data.

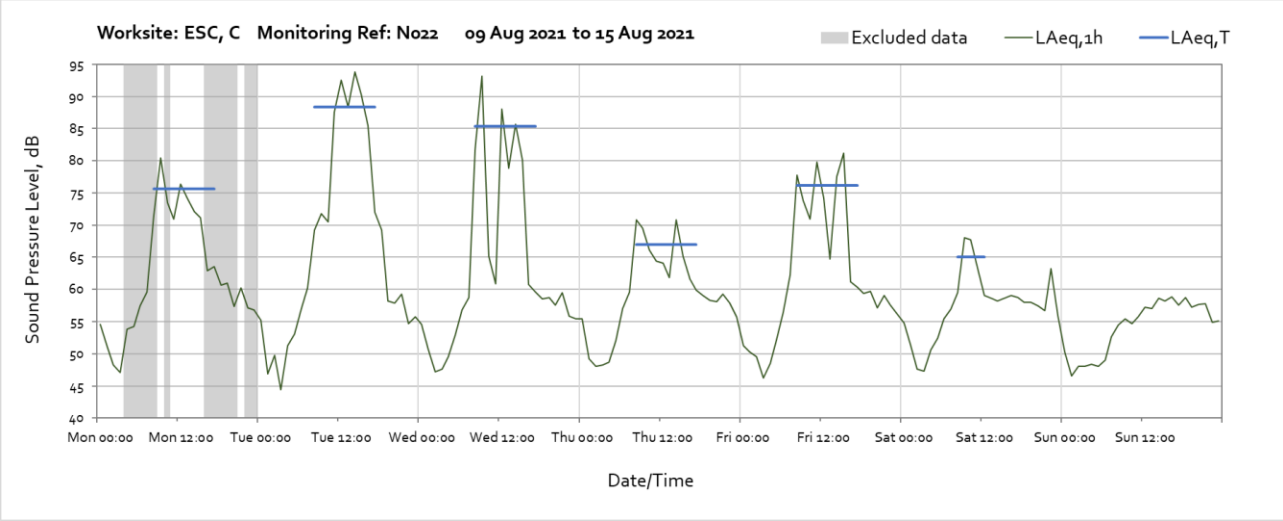




Worksite: ESC, C – Monitoring Ref: N022






Worksite: ESC, C Monitoring Ref: No22 09 Aug 2021 to 15 Aug 2021
Excluded data
LAeq,1h
LAeq,T
Sound Pressure Level, dB
95
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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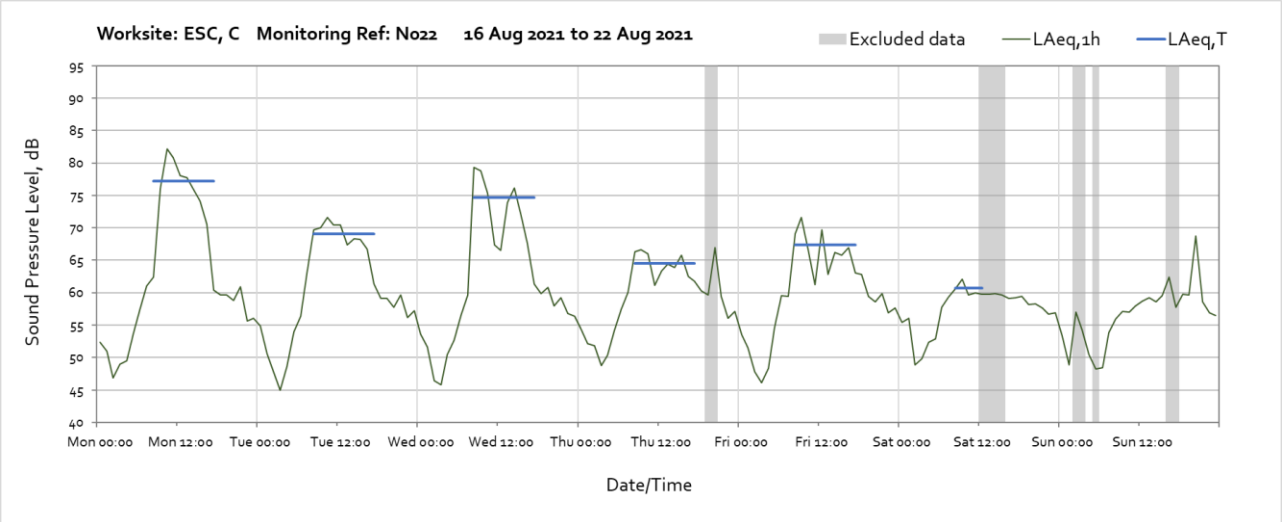
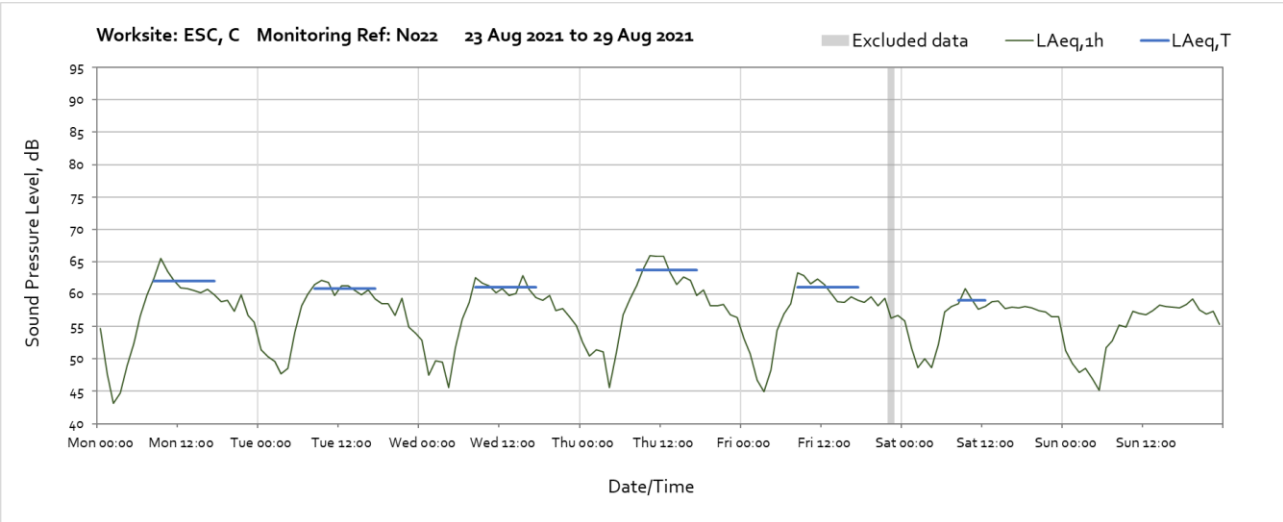
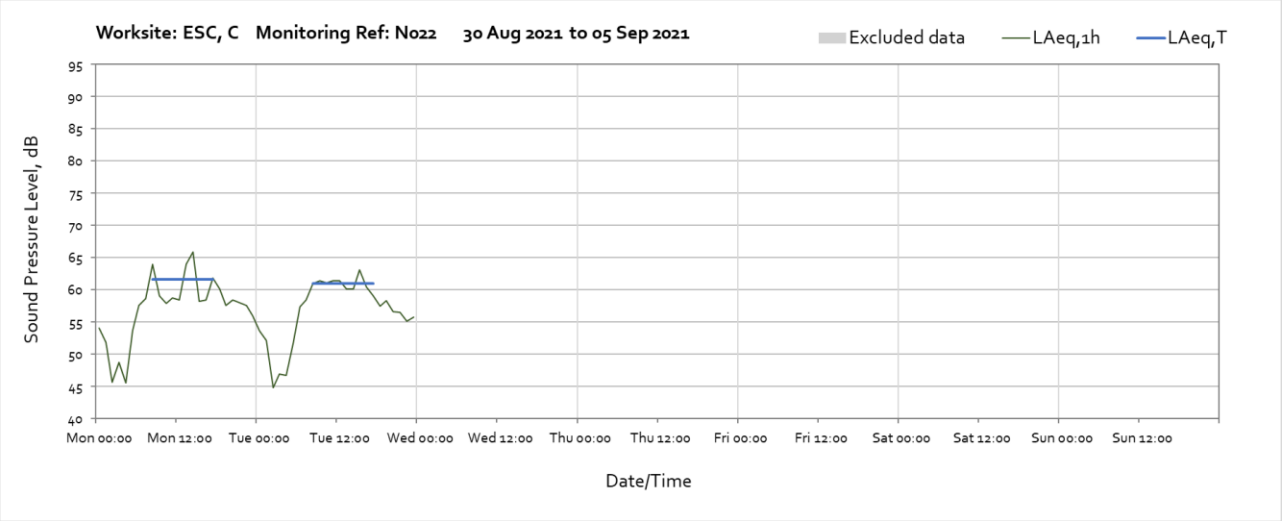
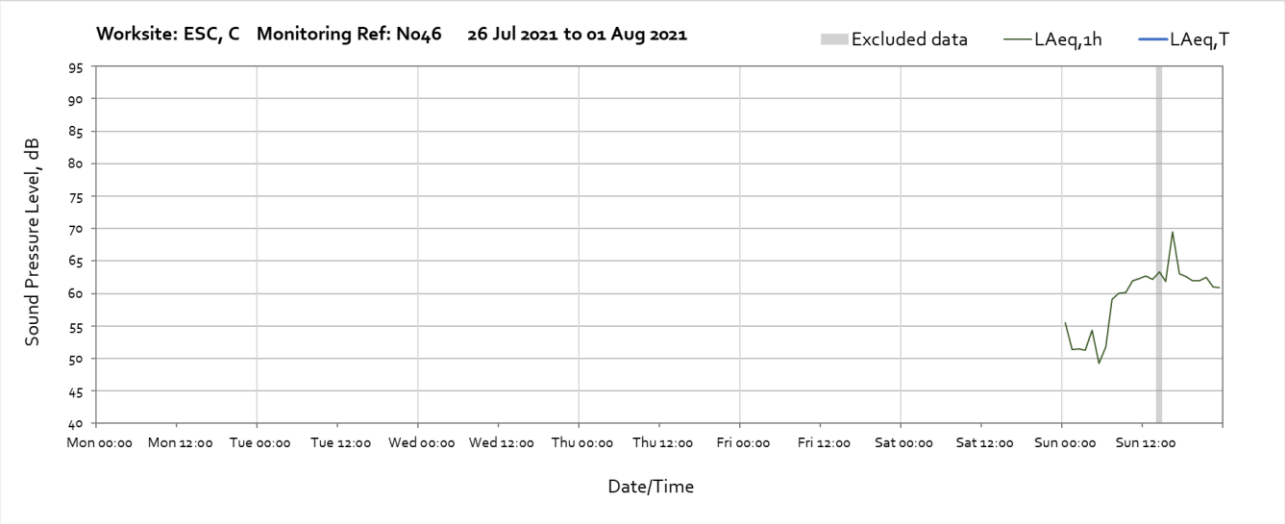
Thu 12:00
Fri 00:00
Fri 12:00
Sat 00:00
Sat 12:00
Sun 00:00
Sun 12:00
Date/Time

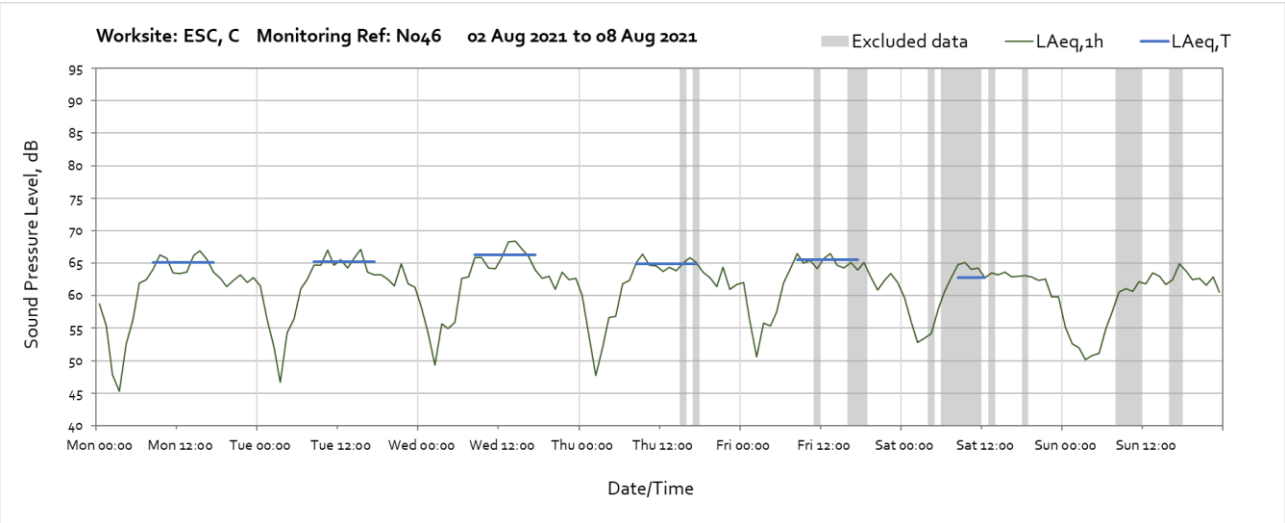

Worksite: ESC, C Monitoring Ref: No22 16 Aug 2021 to 22 Aug 2021
Excluded data
LAeq,1h
LAeq,T
Sound Pressure Level, dB
95
90
85
80
75
70
65
60
55
50
45
40
Mon 00:00
Mon 12:00
Tue 00:00
Tue 12:00
Wed 00:00
Wed 12:00
Thu 00:00
Thu 12:00
Fri 00:00
Fri 12:00
Sat 00:00
Sat 12:00
Sun 00:00
Sun 12:00
Date/Time

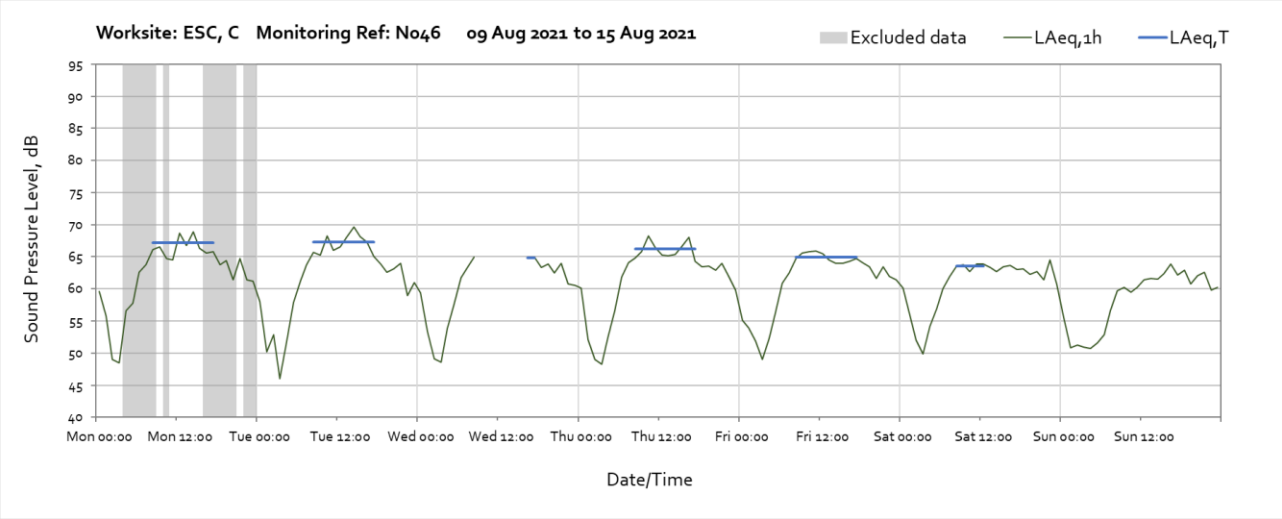

Worksite: ESC, C Monitoring Ref: No22 23 Aug 2021 to 29 Aug 2021
Excluded data
LAeq,1h
LAeq,T
Sound Pressure Level, dB
95
90
85
80
75
70
65
60
55
50
45
40
Mon 00:00
Mon 12:00
Tue 00:00
Tue 12:00
Wed 00:00
Wed 12:00
Thu 00:00
Thu 12:00
Fri 00:00
Fri 12:00
Sat 00:00
Sat 12:00
Sun 00:00
Sun 12:00
Date/Time



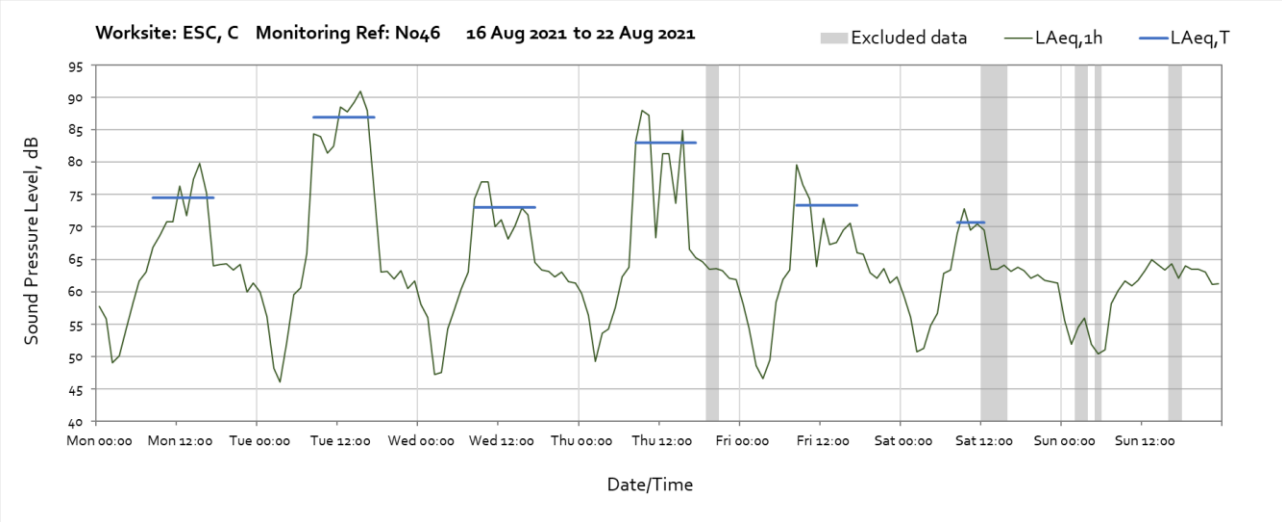
Worksite: ESC, C – Monitoring Ref: N046

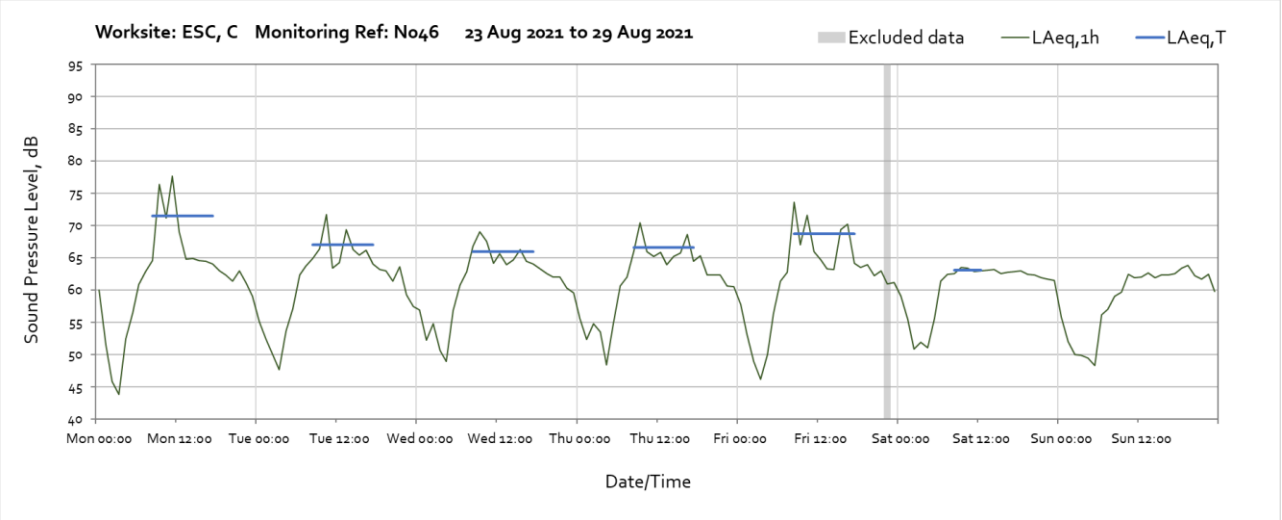


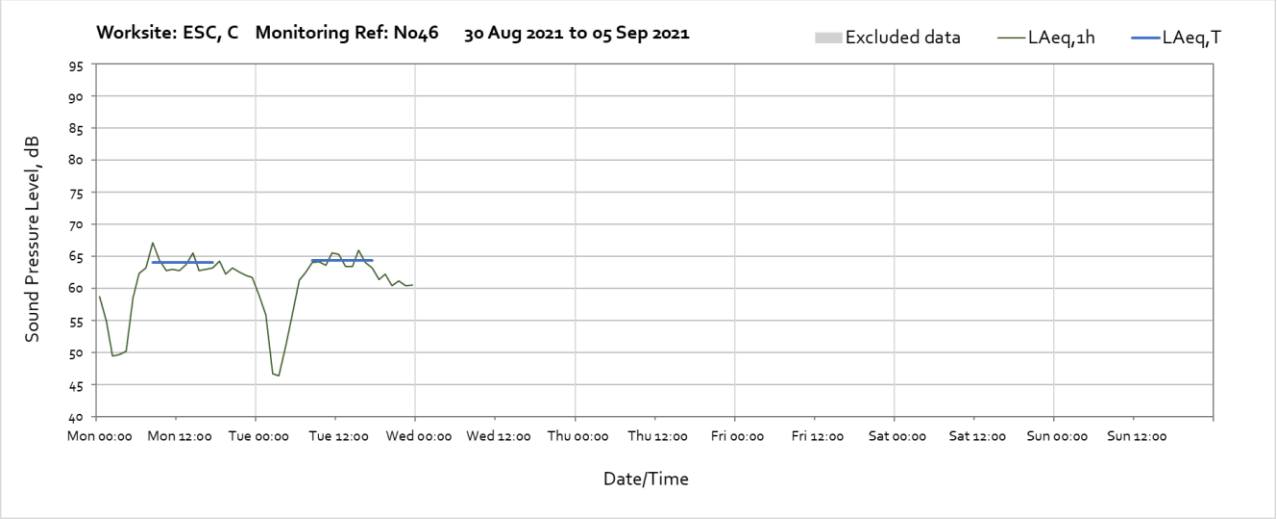




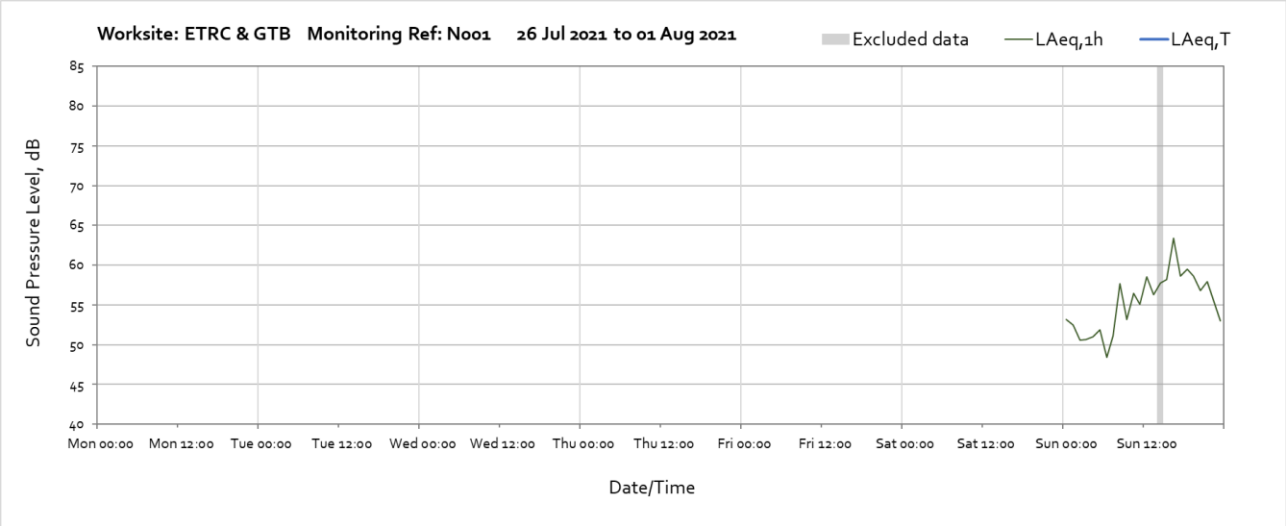
Note: Missing data from 09:00 until 16:00 on Wednesday 11th August was due to a fault with the monitoring station server connection. The memory card was reformatted with view of avoiding further loss of data.

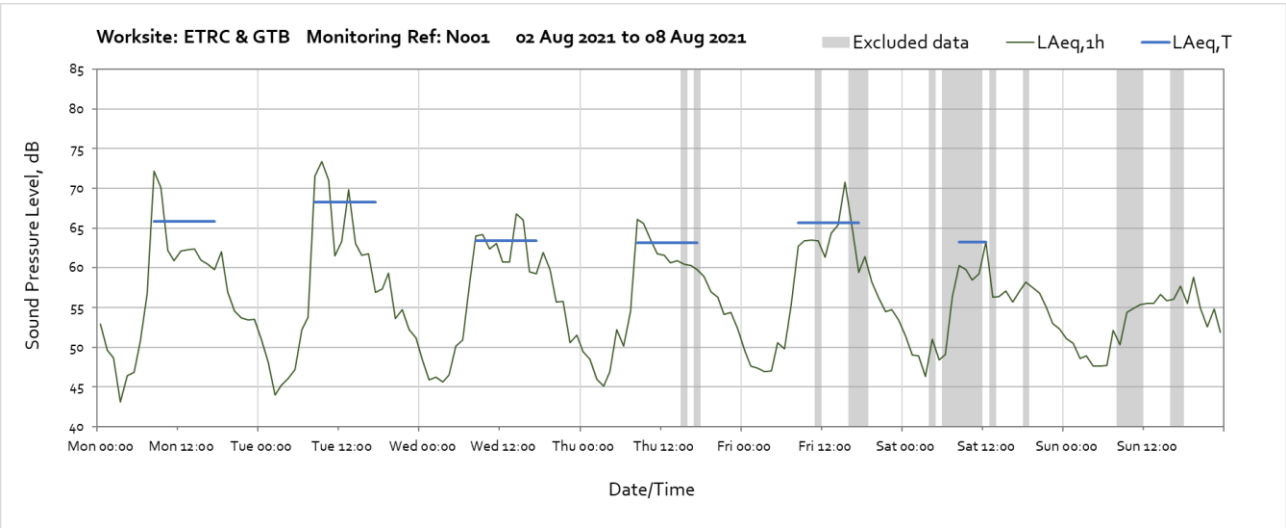


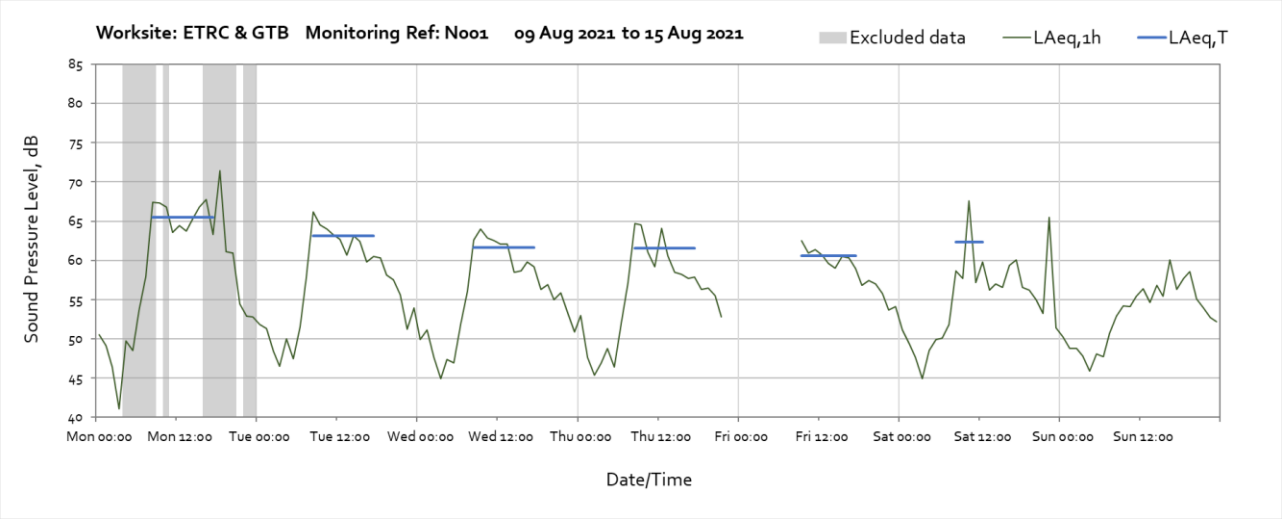




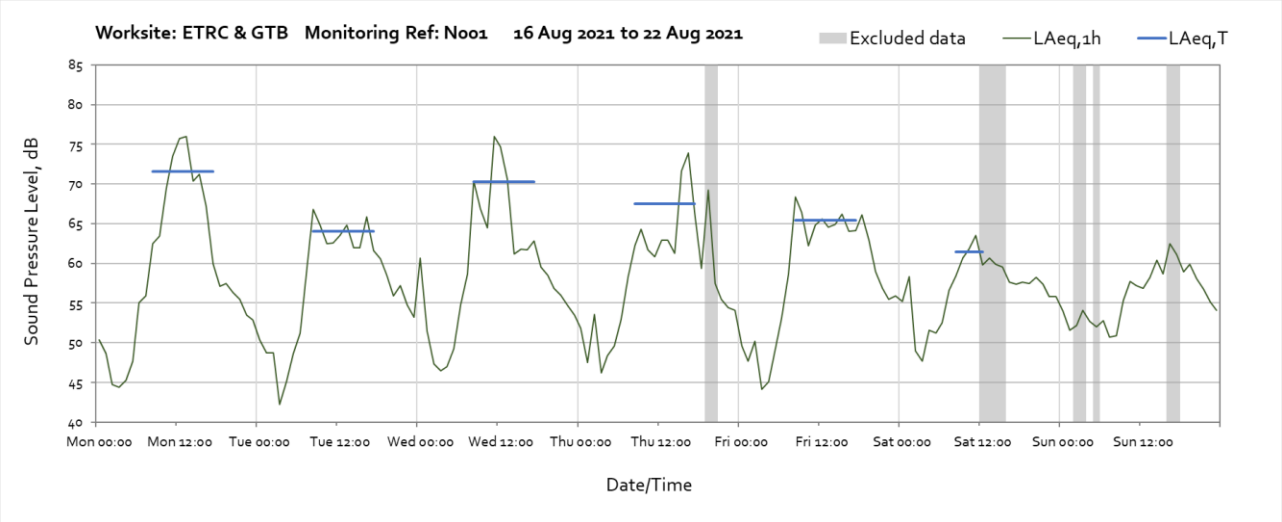
Worksite: ETRC & GTB – Monitoring Ref: N001

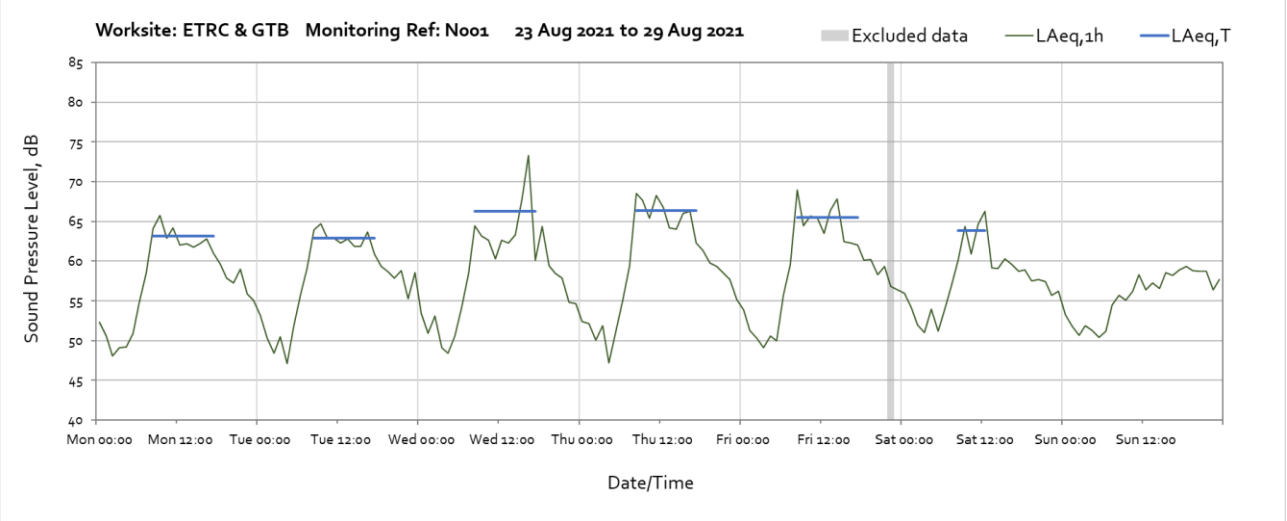


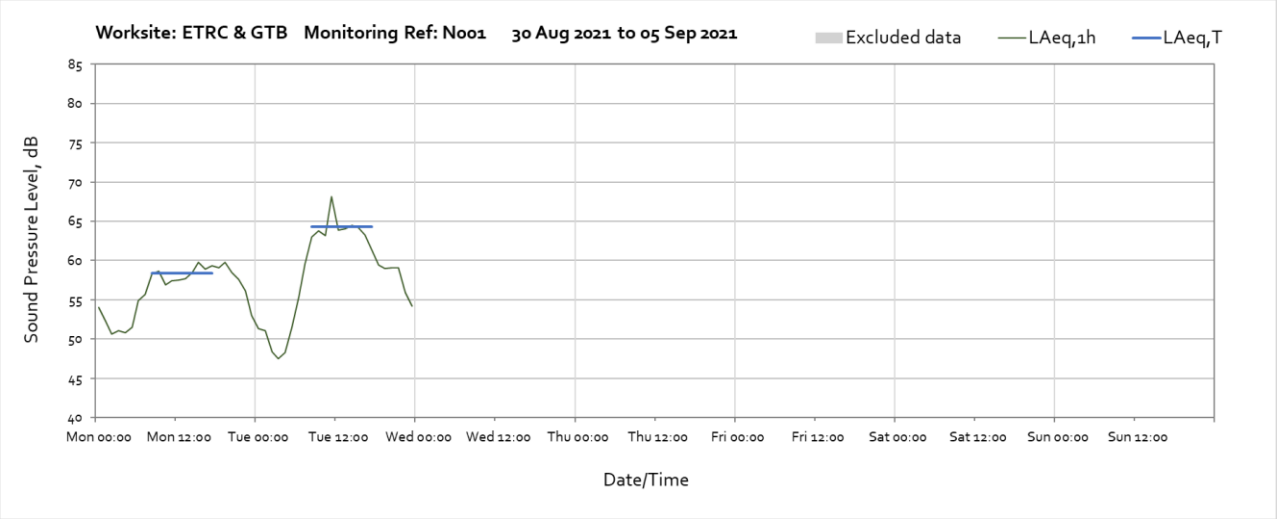




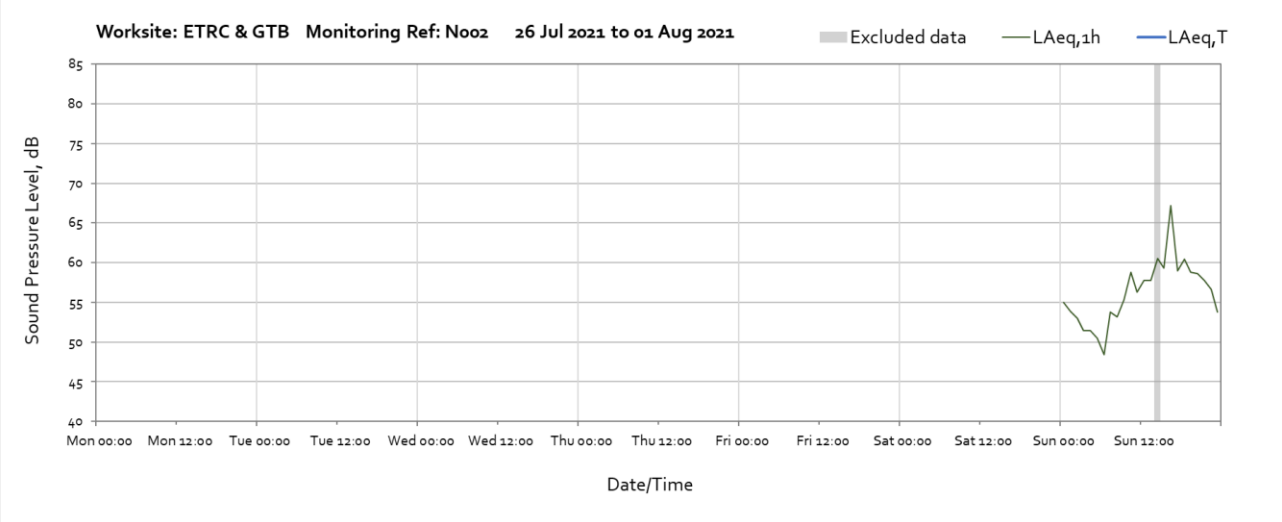
Note: Missing data from 22:00 on Thursday 12th August until 09:00 on Friday 13th August was due to a memory card error. The memory card has been reformatted with view of avoiding further loss of data.

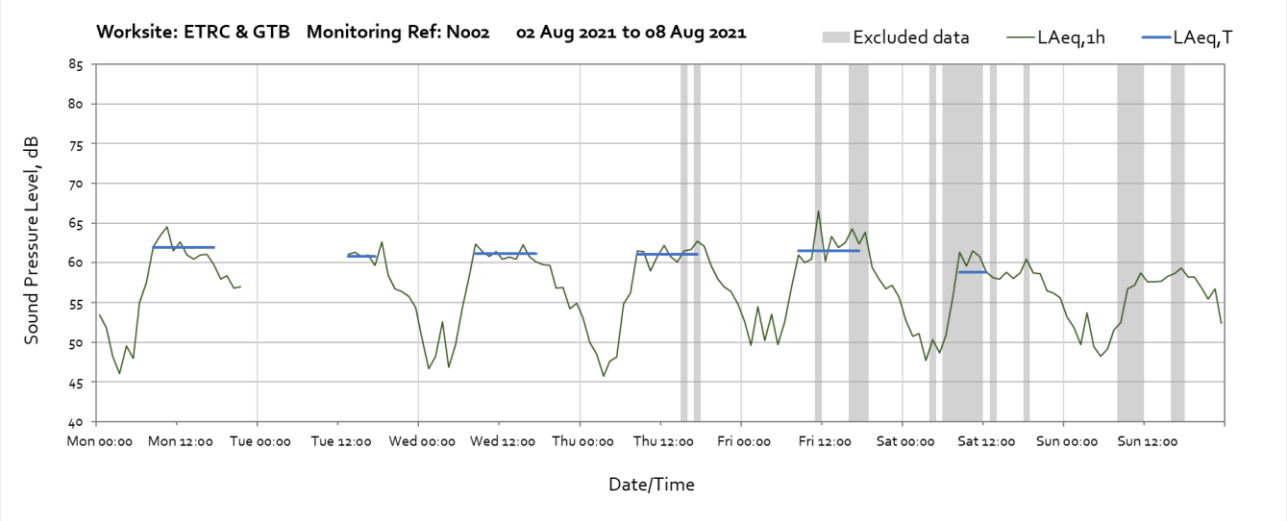




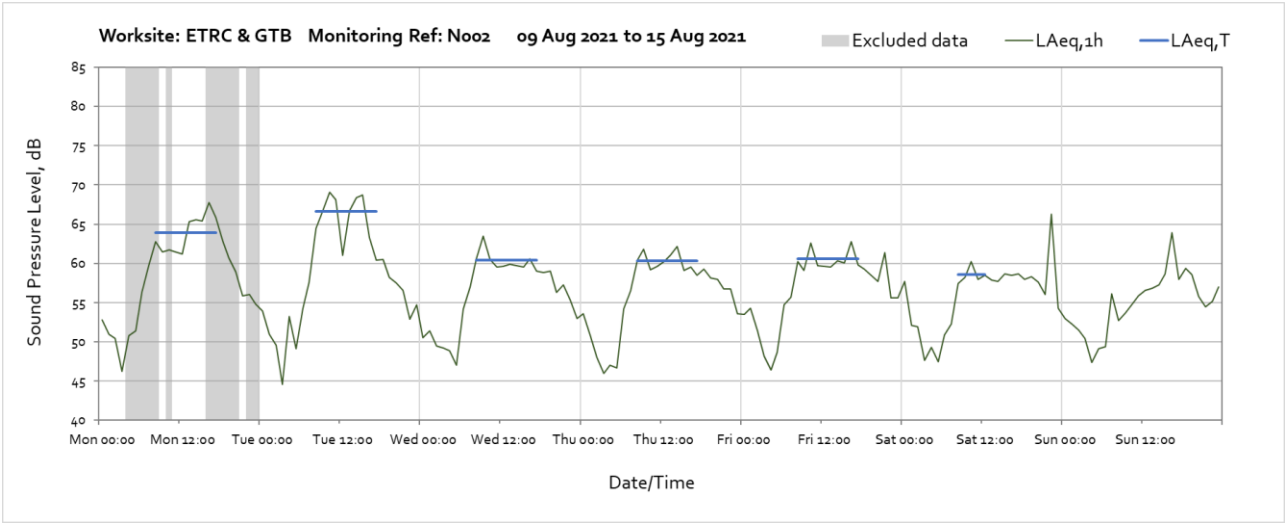


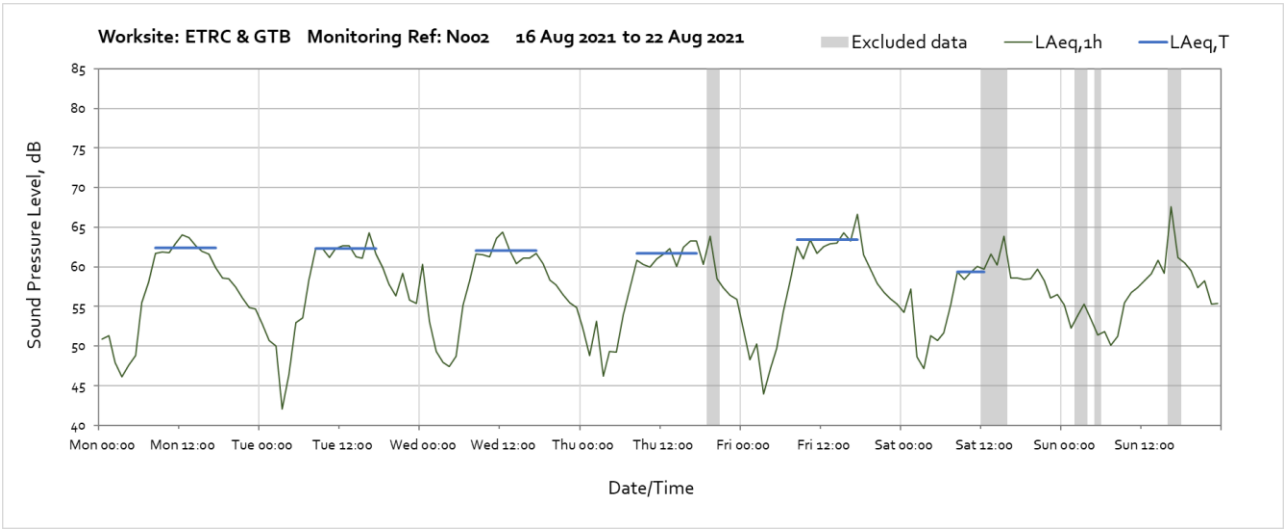
Worksite: ETRC & GTB – Monitoring Ref: N002

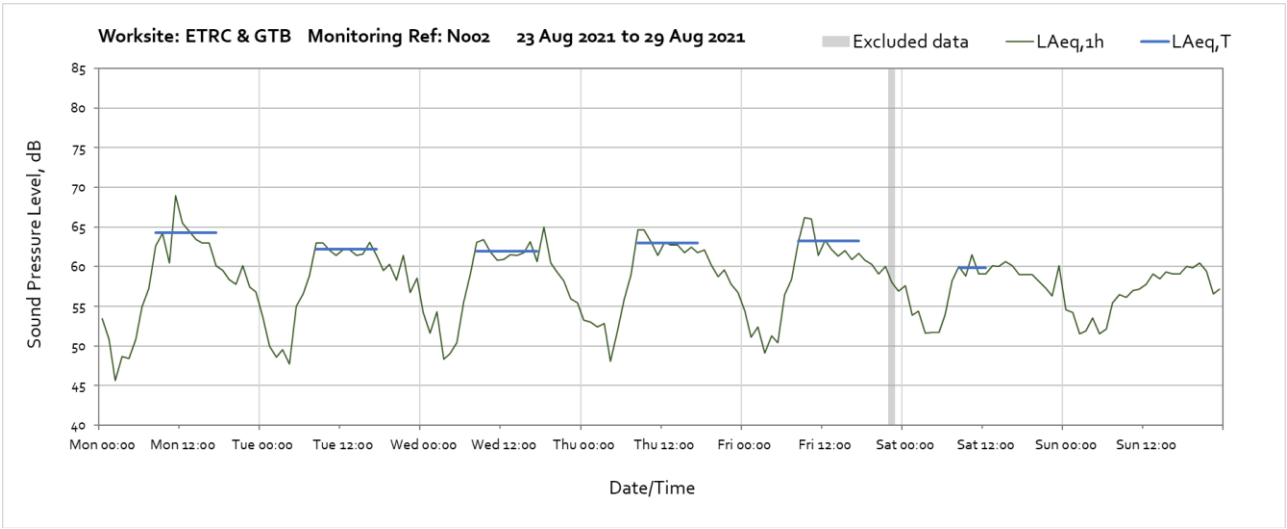


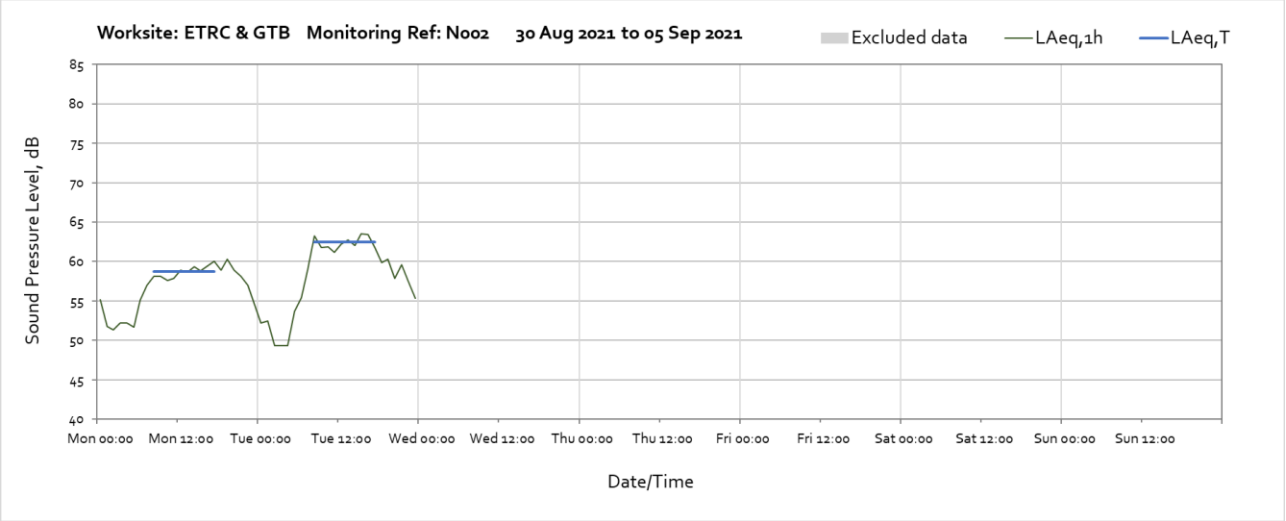


Note: Missing data from 22:00 on Monday 2nd August until 13:00 on Tuesday 3rd August was due to a memory card error. The memory card has been reformatted with view of avoiding further loss of data.

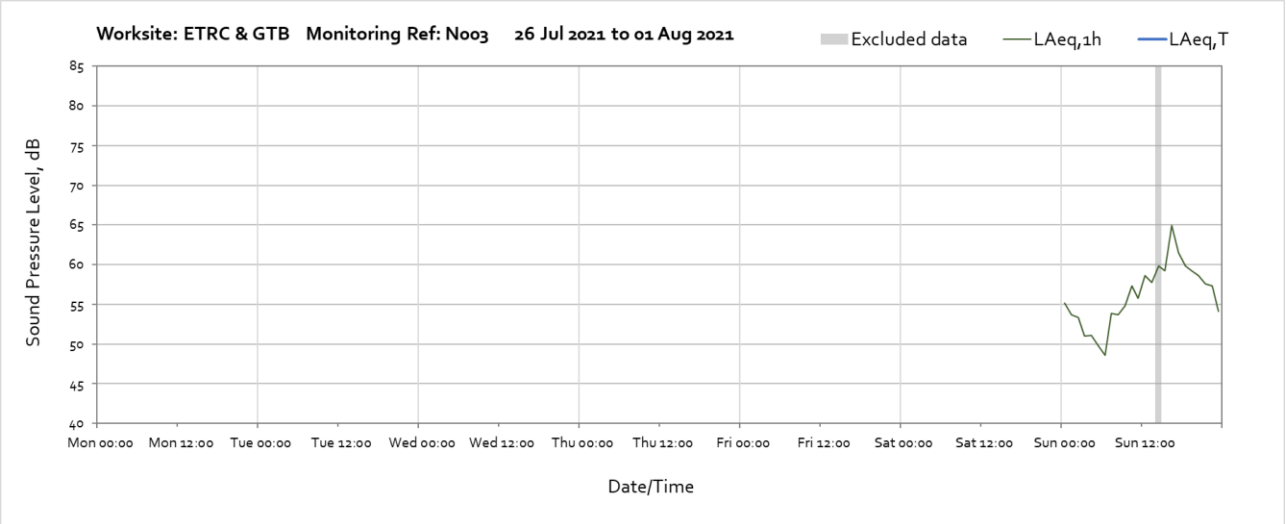

Worksite: ETRC & GTB Monitoring Ref: N002 09 Aug 2021 to 15 Aug 2021
Excluded data
LAeq,1h
LAeq,T
Sound Pressure Level, dB
85
80
75
70
65
60
55
50
45
40
Mon 00:00
Mon 12:00
Tue 00:00
Tue 12:00
Wed 00:00
Wed 12:00
Thu 00:00
Thu 12:00
Fri 00:00
Fri 12:00
Sat 00:00
Sat 12:00
Sun 00:00
Sun 12:00
Date/Time

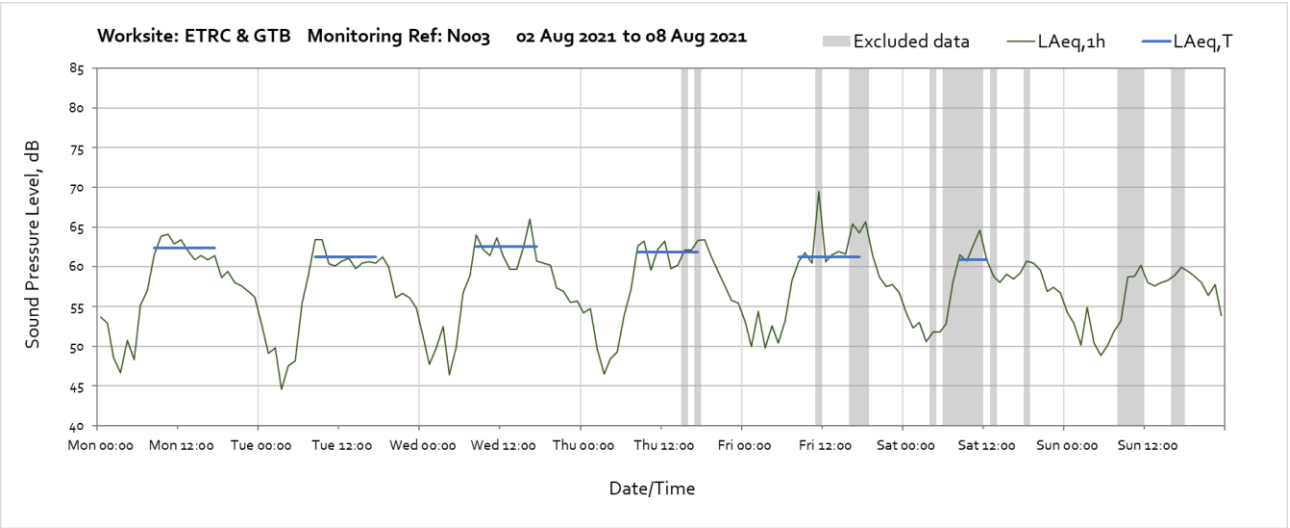

Worksite: ETRC & GTB Monitoring Ref: N002 16 Aug 2021 to 22 Aug 2021
Excluded data
LAeq,1h
LAeq,T
Sound Pressure Level, dB
85
80
75
70
65
60
55
50
45
40
Mon 00:00
Mon 12:00
Tue 00:00
Tue 12:00
Wed 00:00
Wed 12:00
Thu 00:00
Thu 12:00
Fri 00:00
Fri 12:00
Sat 00:00
Sat 12:00
Sun 00:00
Sun 12:00
Date/Time

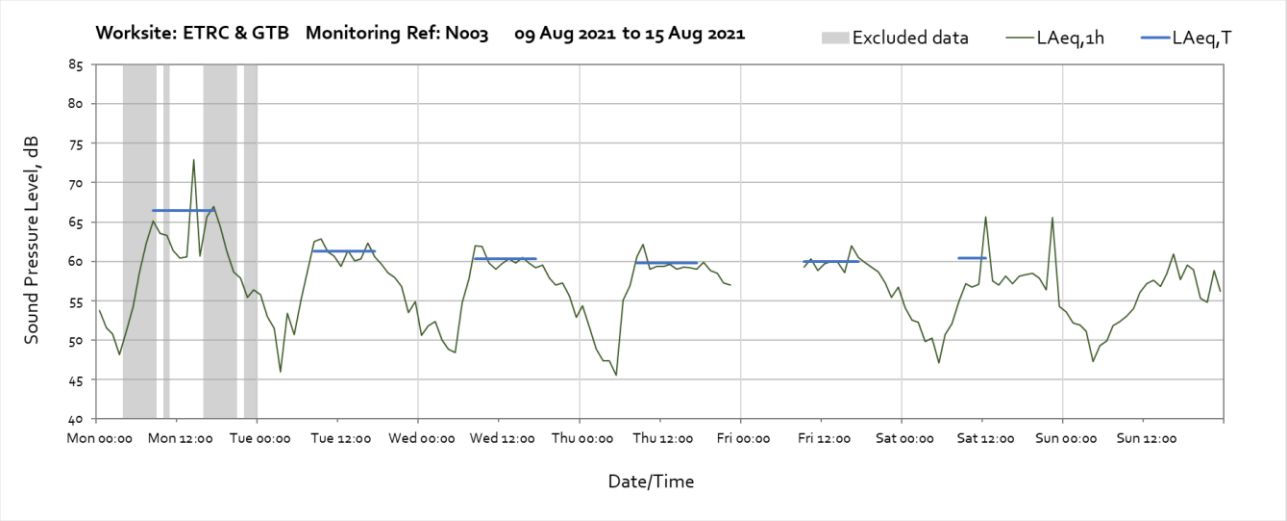

Worksite: ETRC & GTB Monitoring Ref: N002 23 Aug 2021 to 29 Aug 2021
Excluded data
LAeq,1h
LAeq,T
Sound Pressure Level, dB
85
80
75
70
65
60
55
50
45
40
Mon 00:00
Mon 12:00
Tue 00:00
Tue 12:00
Wed 00:00
Wed 12:00
Thu 00:00
Thu 12:00
Fri 00:00
Fri 12:00
Sat 00:00
Sat 12:00
Sun 00:00
Sun 12:00
Date/Time



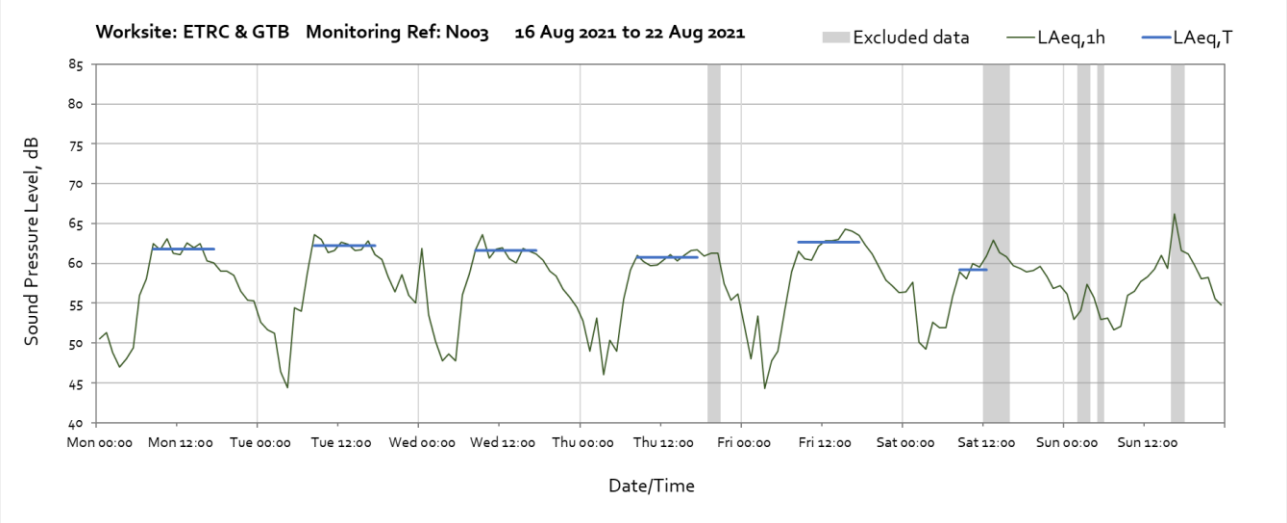
Worksite: ETRC & GTB – Monitoring Ref: N003

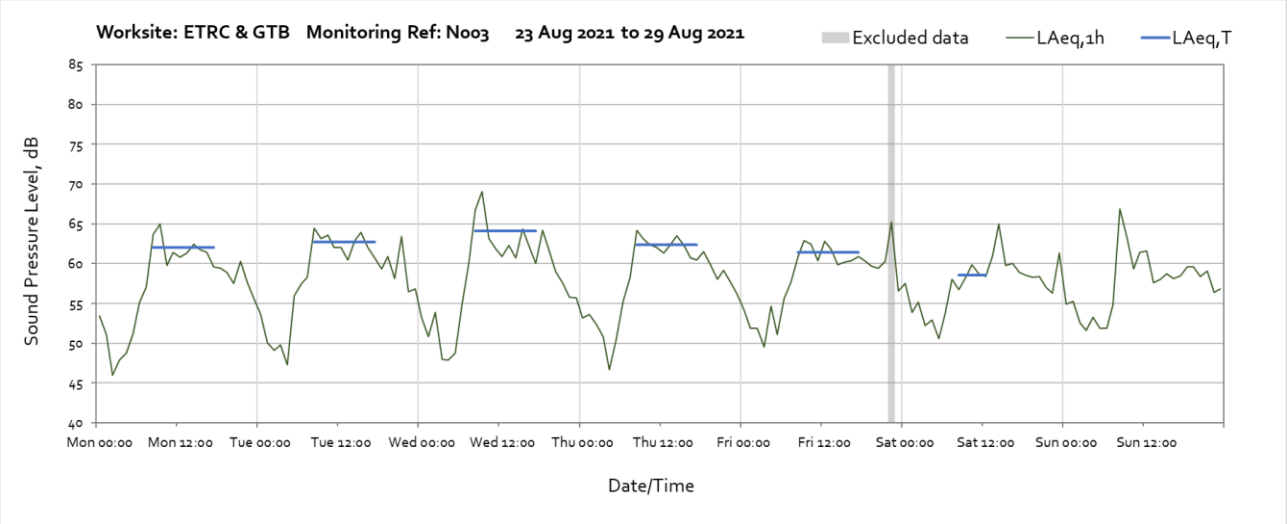


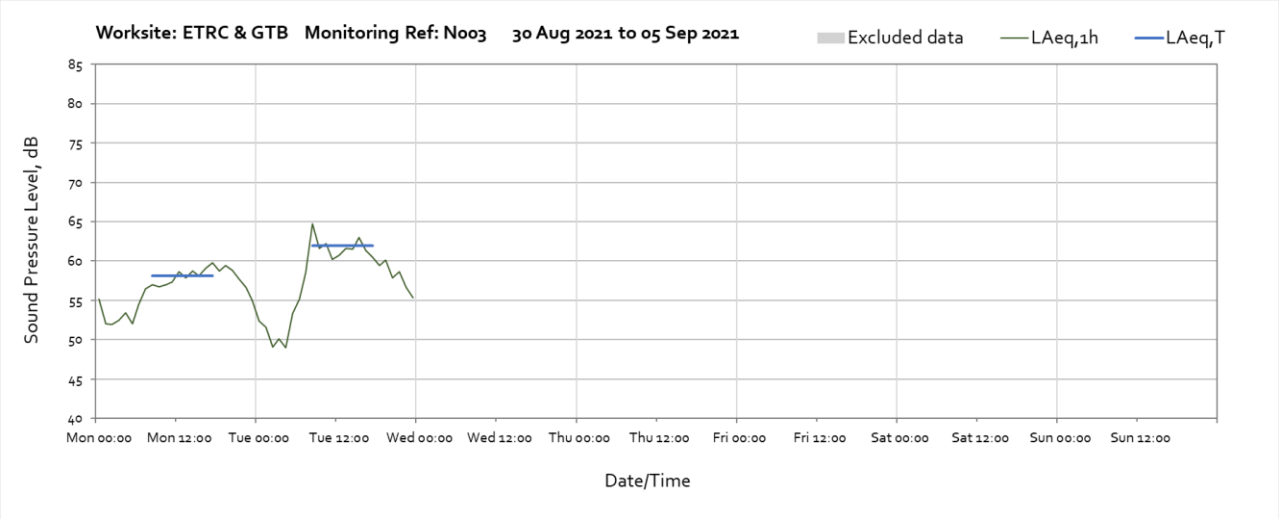




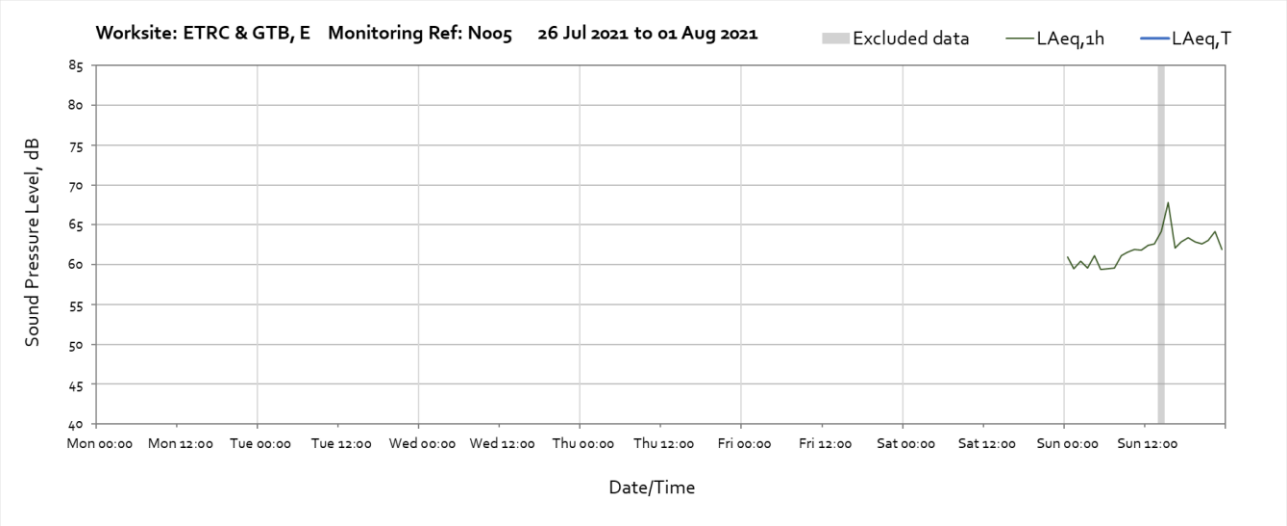
Note: Missing data from 23:00 on Thursday 12th August until 08:00 on Friday 13th August was due to a memory card error. The memory card has been reformatted with view of avoiding further loss of data.

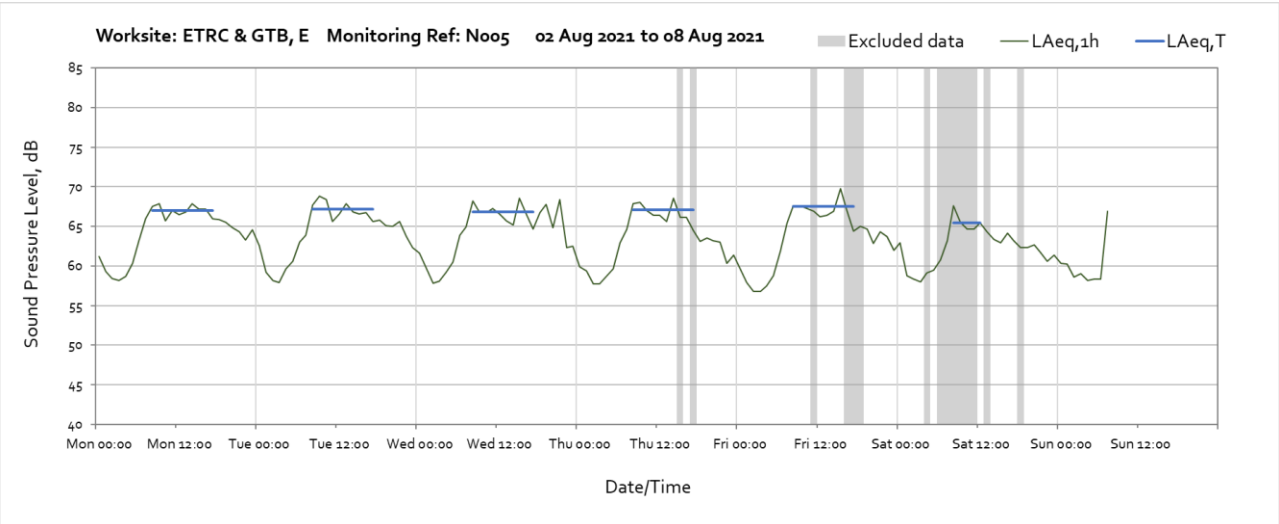




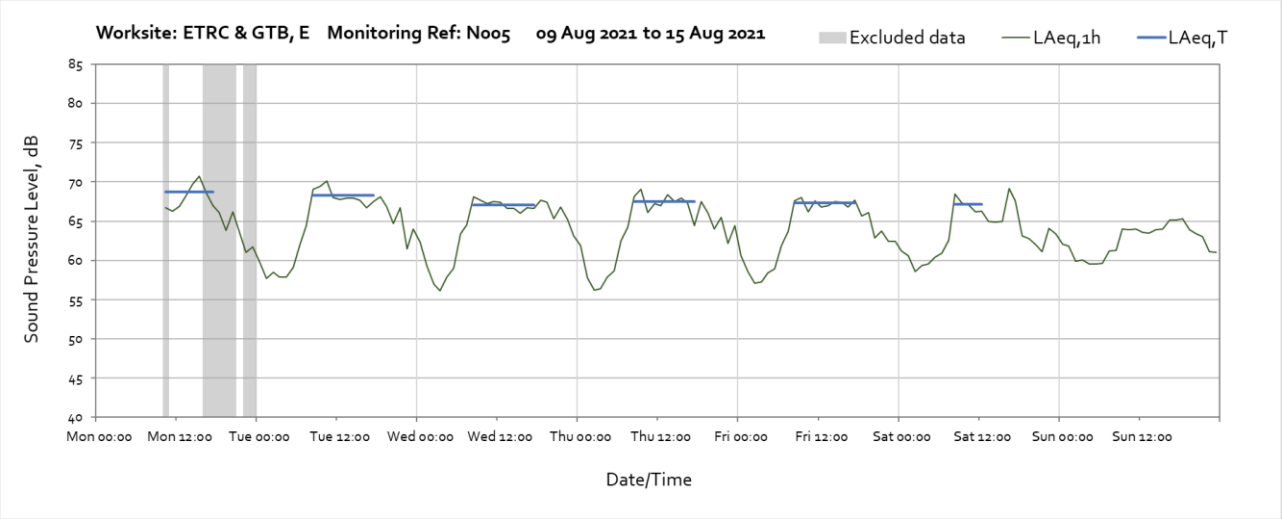


Worksite: ETRC & GTB, E – Monitoring Ref: N005

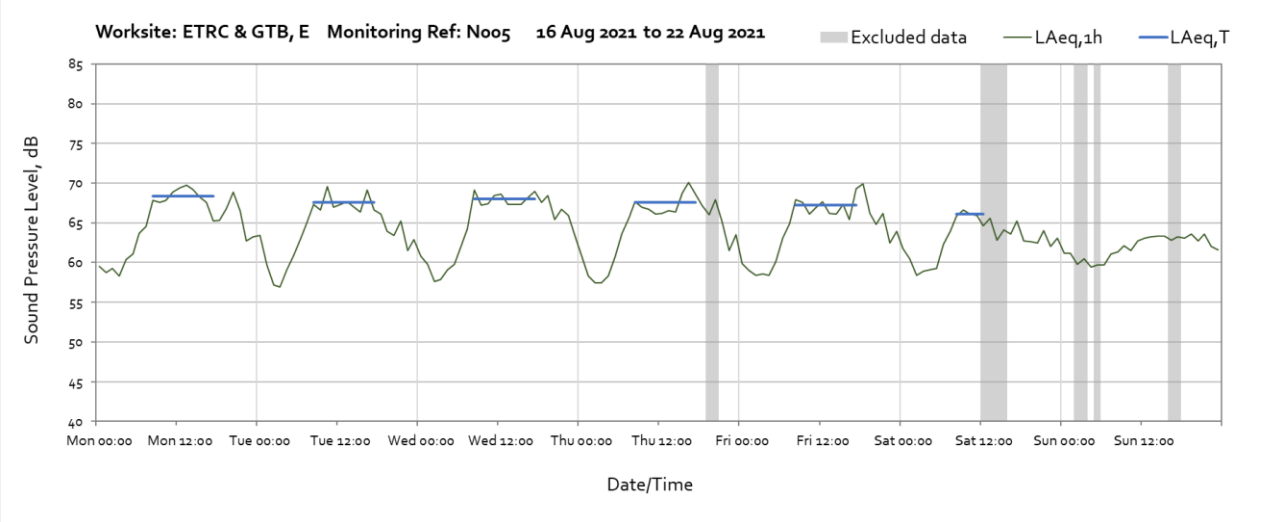


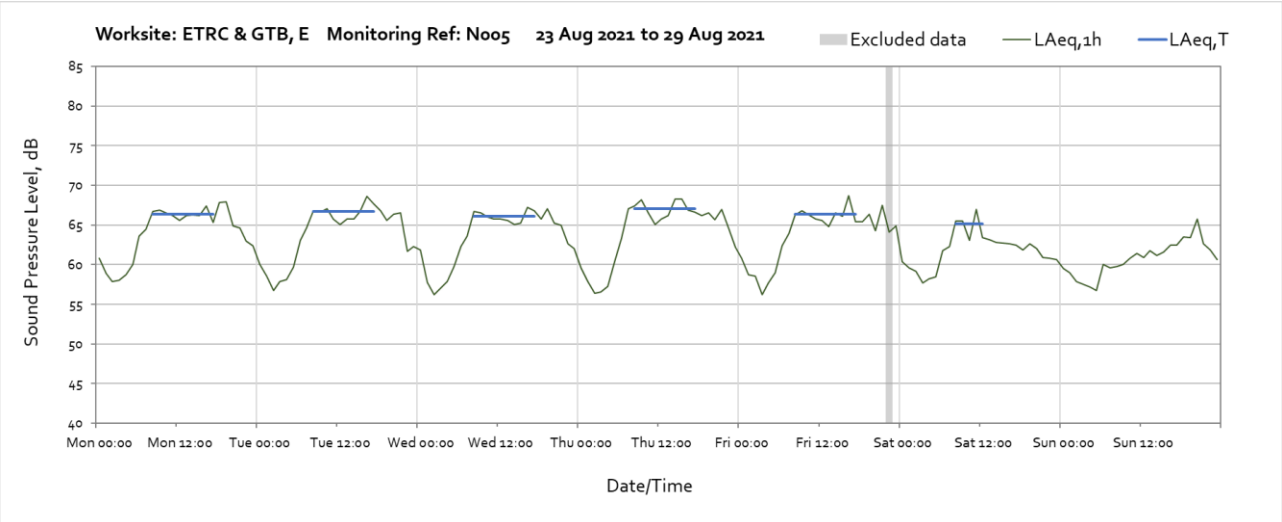


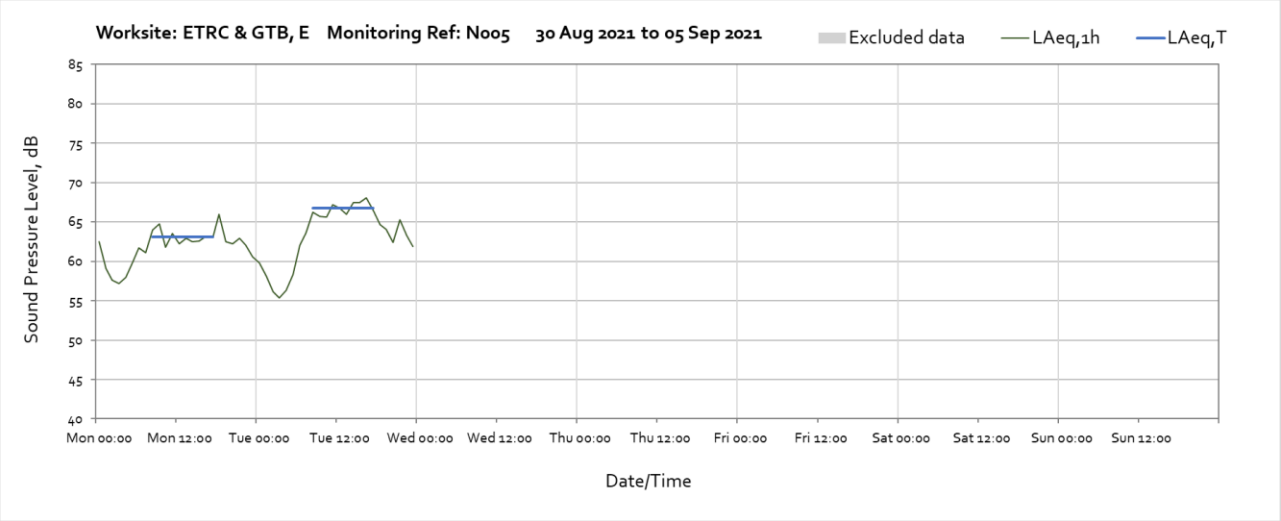
Note: Missing data from 08:00 on Sunday 8th August until 09:00 on Monday 9th August was due to a memory card error. The memory card has been reformatted and monitoring station firmware updated with view of avoiding further loss of data.



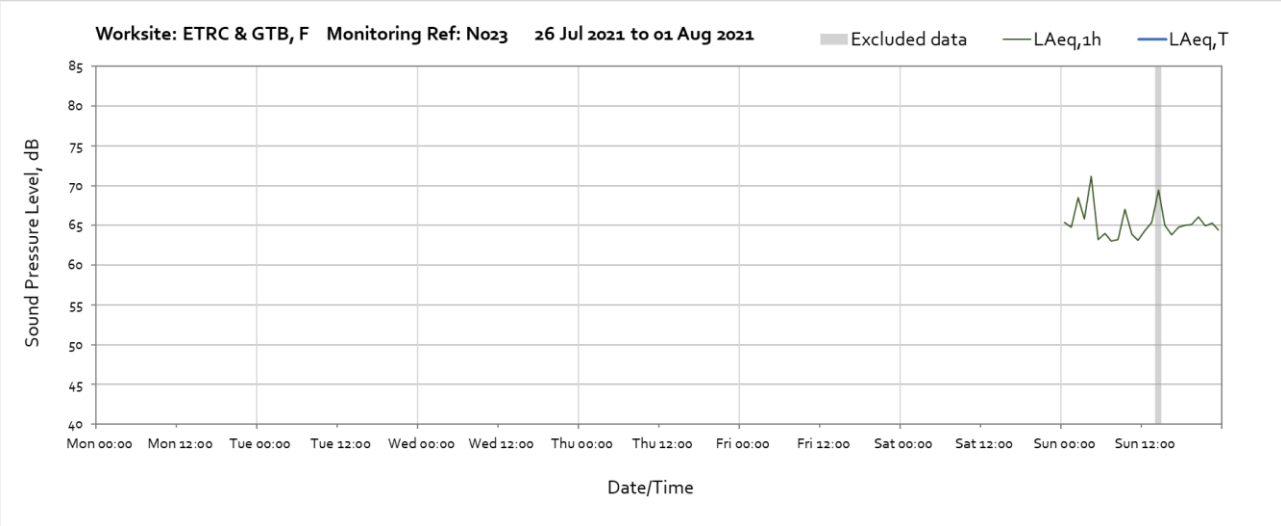
Note: Missing data from 08:00 on Sunday 8th August until 09:00 on Monday 9th August was due to a memory card error. The memory card has been reformatted and monitoring station firmware updated with view of avoiding further loss of data.

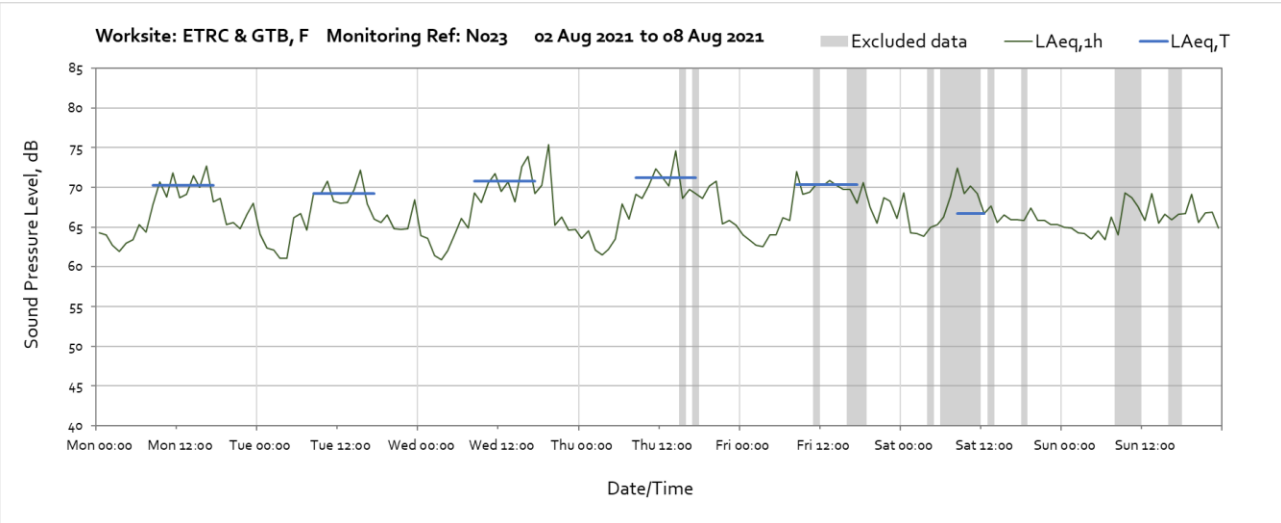


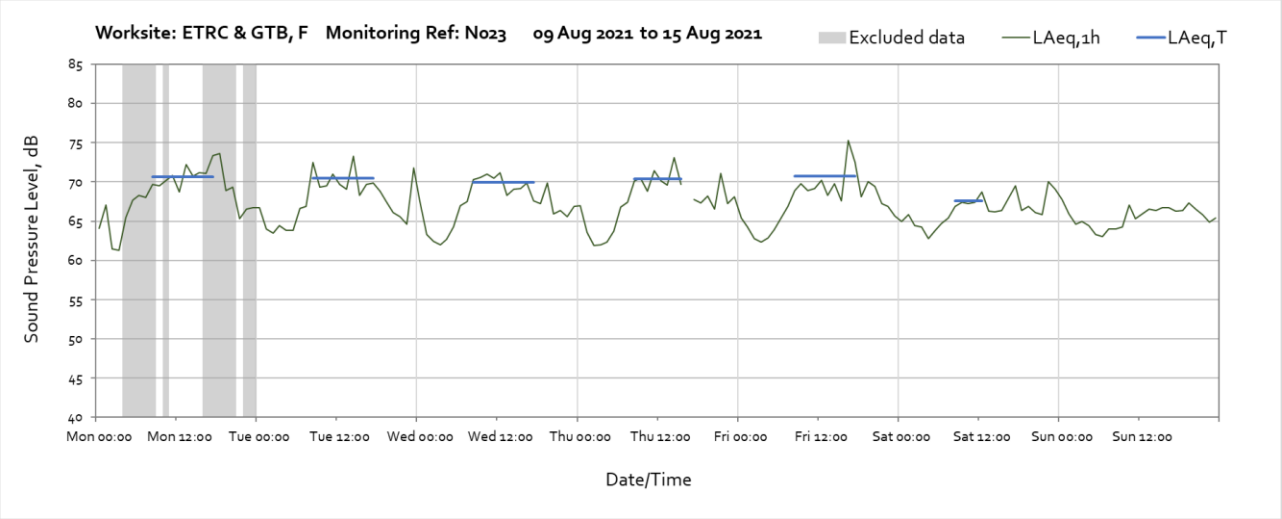




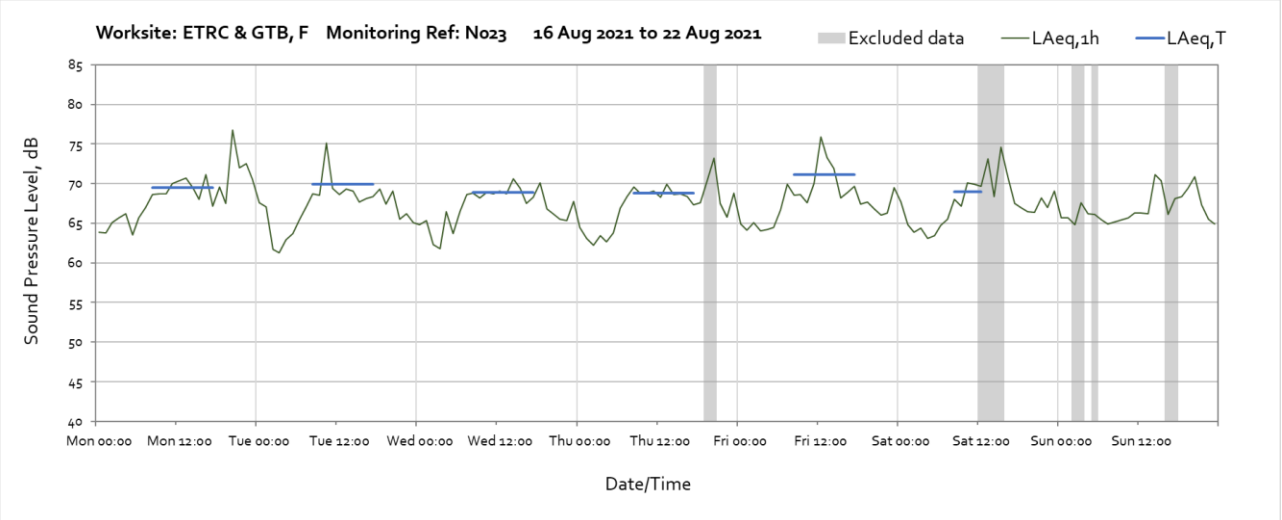
Worksite: ETRC & GTB, F – Monitoring Ref: N023

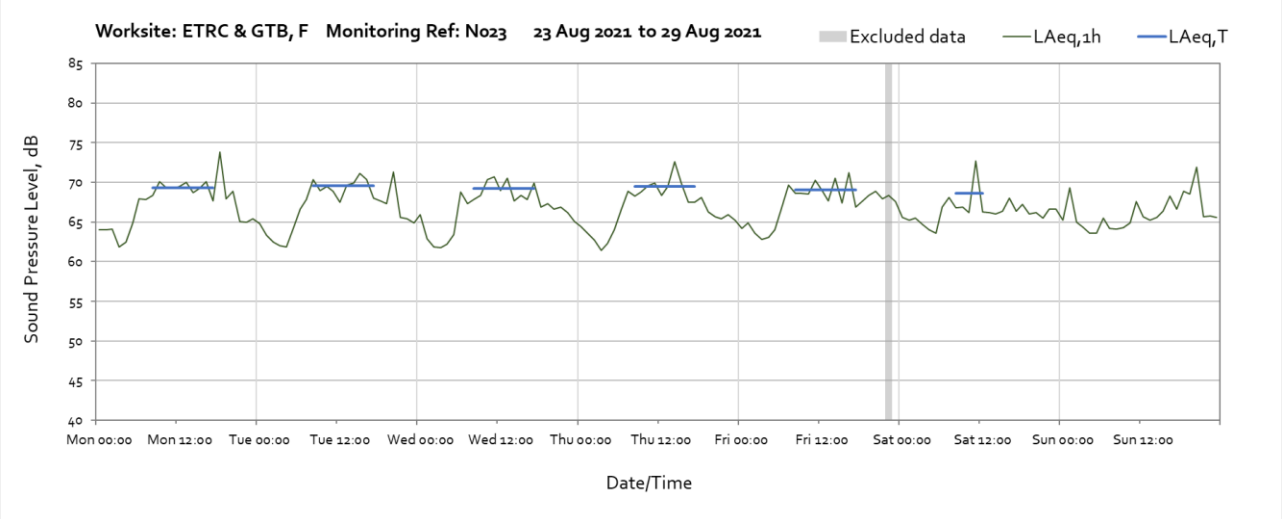


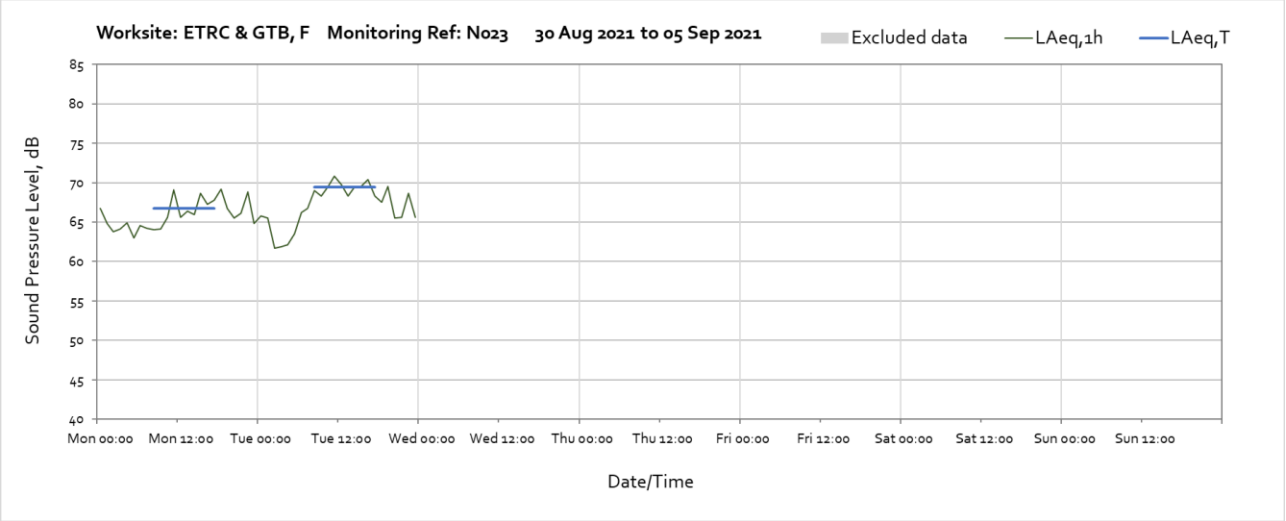




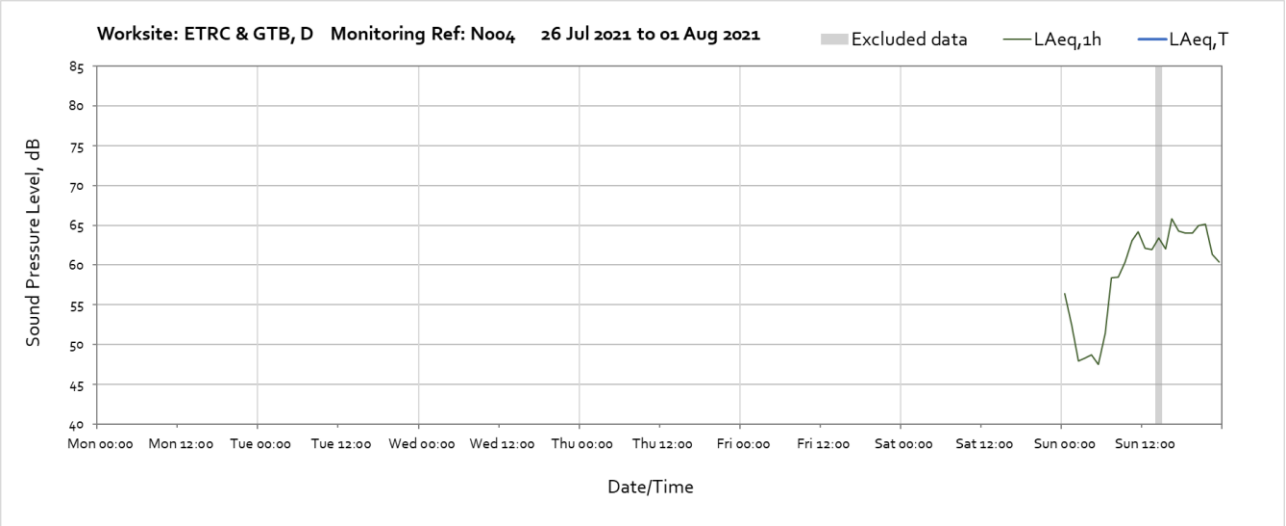
Note: Missing data from 16:00 until 17:00 on Thursday 12th August was due to a memory card error. The memory card has been reformatted with view of avoiding further loss of data.

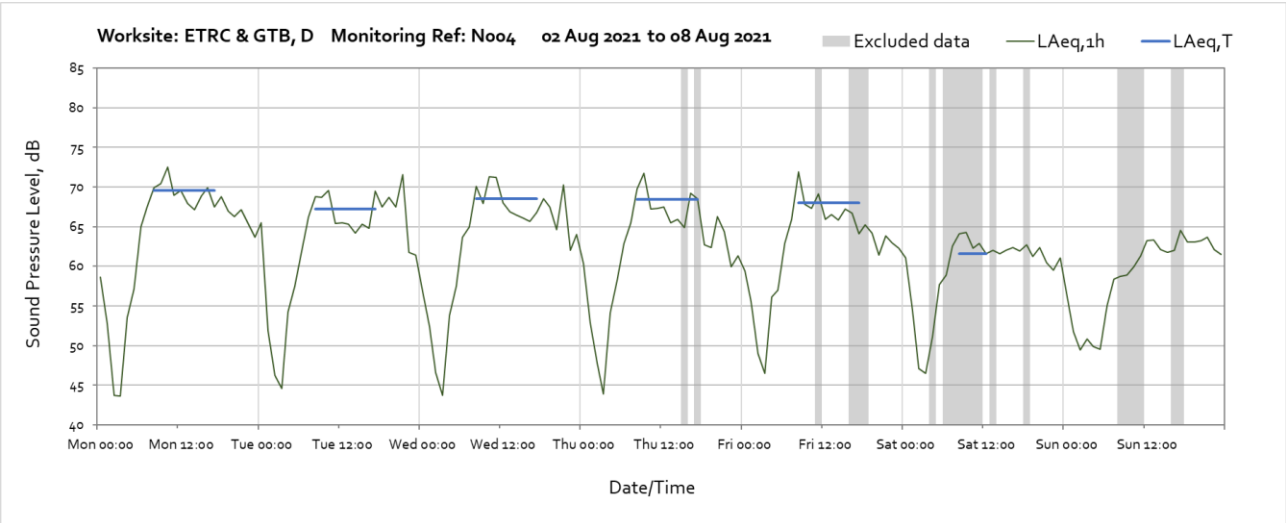


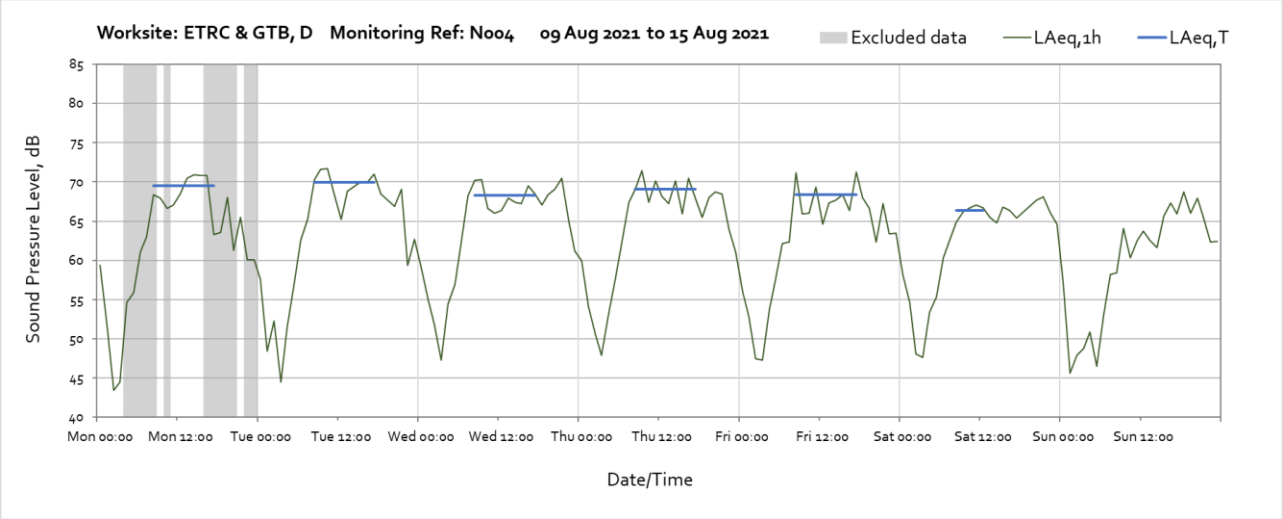


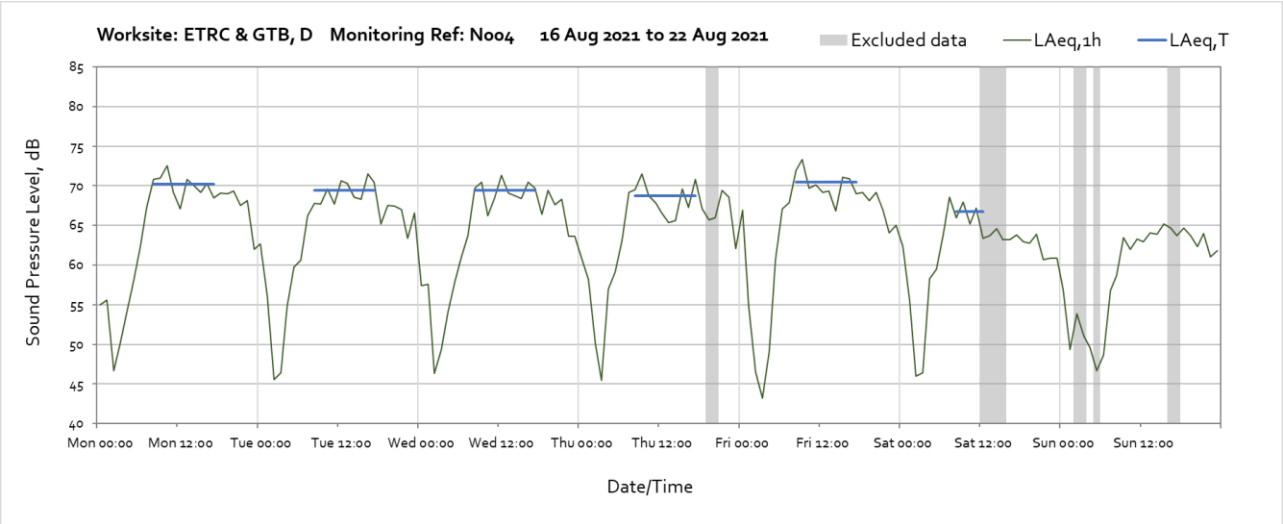


Worksite: ETRC & GTB, D – Monitoring Ref: N004






Worksite: ETRC & GTB, D Monitoring Ref: No04 09 Aug 2021 to 15 Aug 2021
Excluded data
LAeq,1h
LAeq,T
Sound Pressure Level, dB
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
Thu 12:00
Fri 00:00
Fri 12:00
Sat 00:00
Sat 12:00
Sun 00:00
Sun 12:00
Date/Time


Worksite: ETRC & GTB, D Monitoring Ref: No04 16 Aug 2021 to 22 Aug 2021
Excluded data
LAeq,1h
LAeq,T
Sound Pressure Level, dB
85
80
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Mon 00:00
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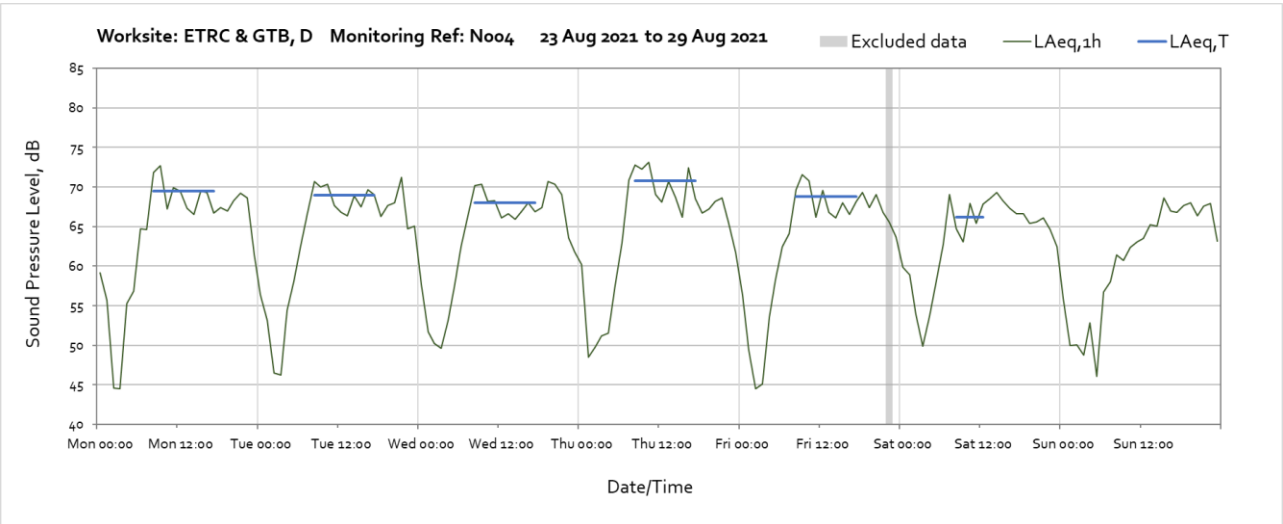
Date/Time


Worksite: ETRC & GTB, D Monitoring Ref: No04 23 Aug 2021 to 29 Aug 2021
Excluded data
LAeq,1h
LAeq,T
Sound Pressure Level, dB
85
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Mon 12:00
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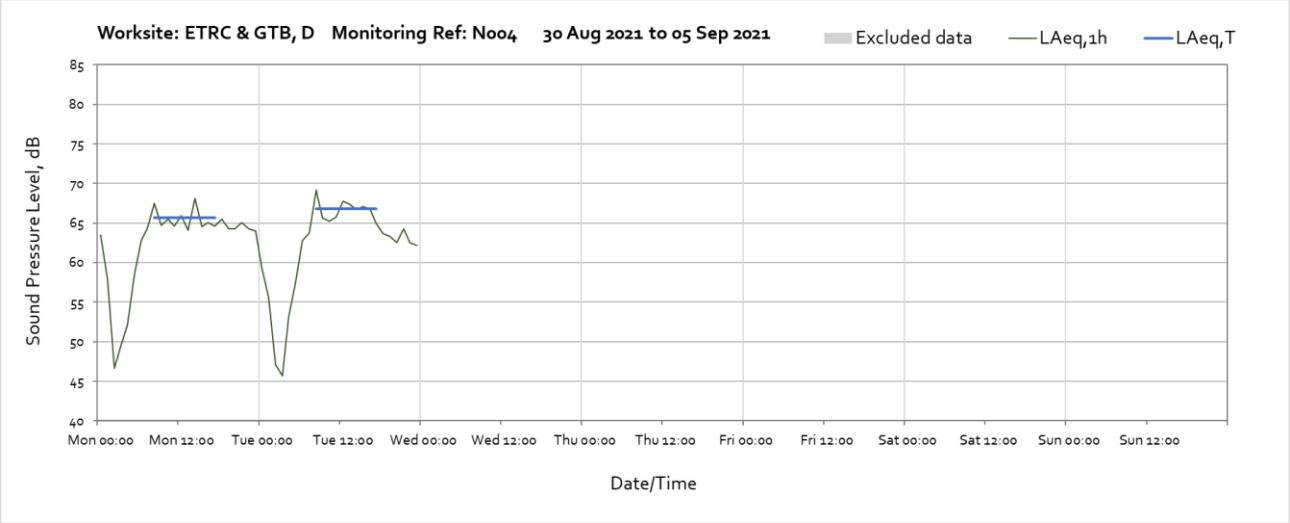
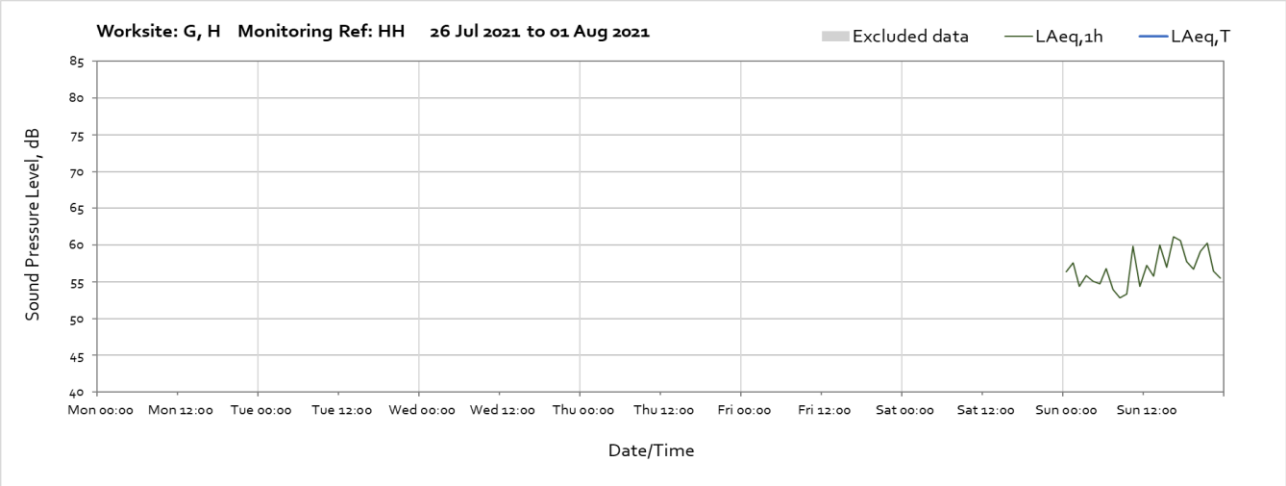
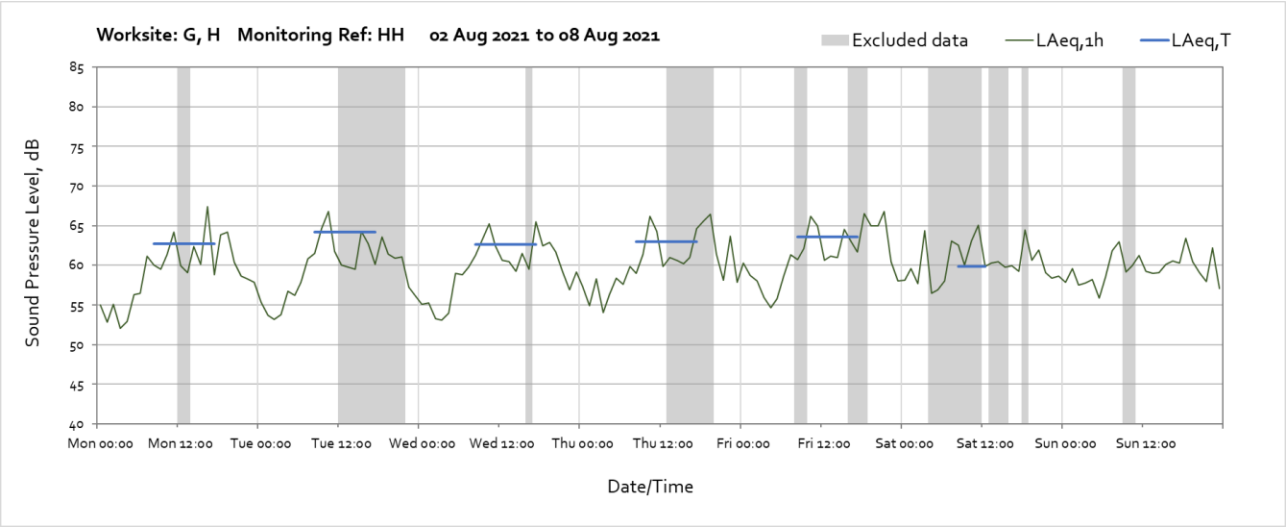
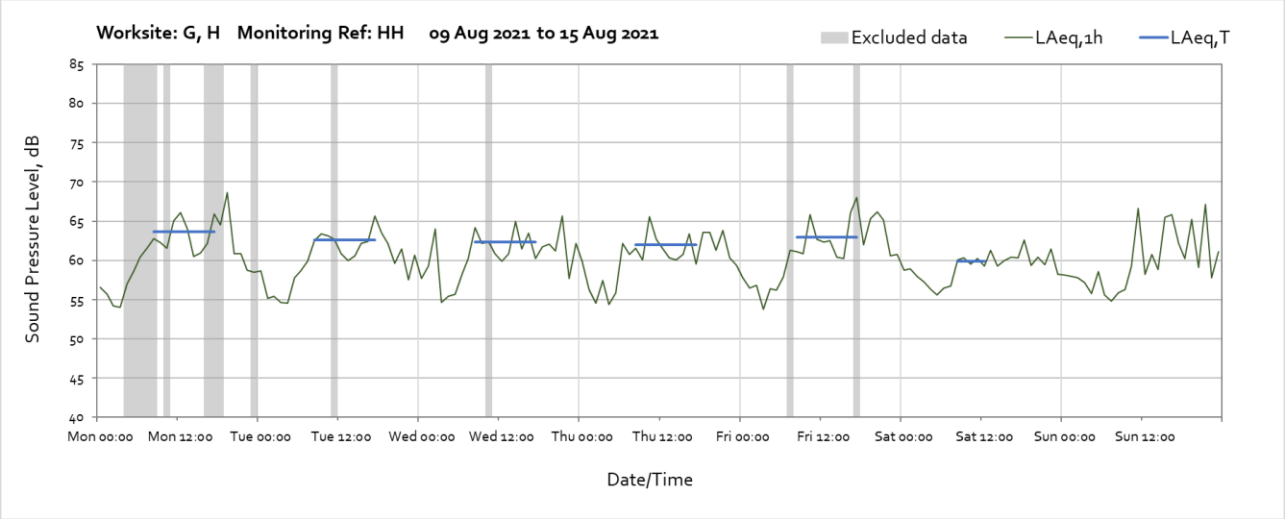
Date/Time



Worksite: G, H – Monitoring Ref: HH






Worksite: G, H Monitoring Ref: HH 09 Aug 2021 to 15 Aug 2021
Excluded data
LAeq,1h
LAeq,T
Sound Pressure Level, dB
85
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Mon 00:00
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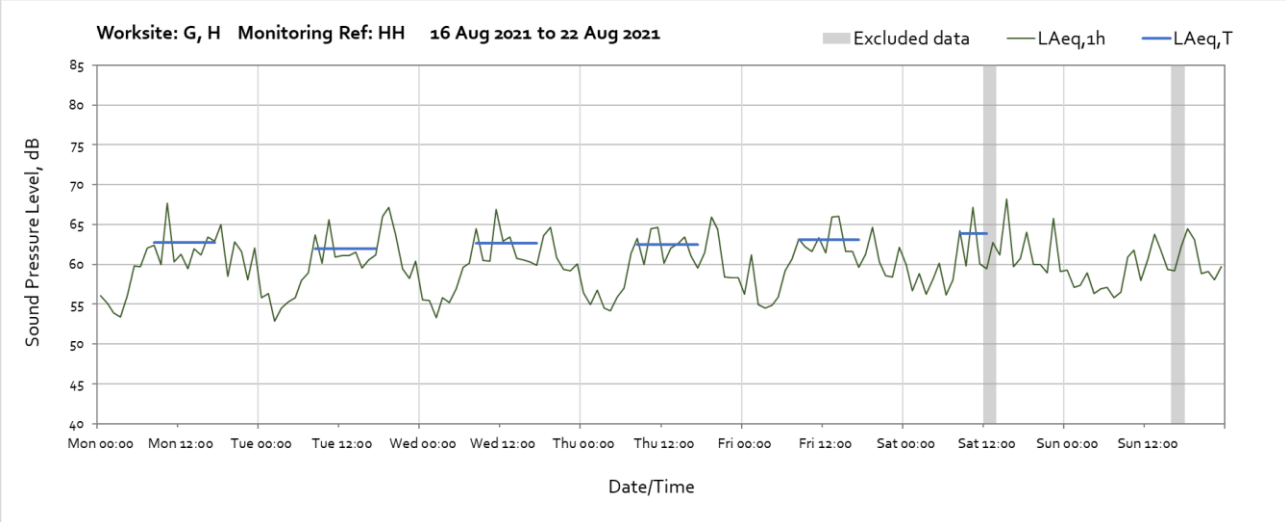
Date/Time


Worksite: G, H Monitoring Ref: HH 16 Aug 2021 to 22 Aug 2021
Excluded data
LAeq,1h
LAeq,T
Sound Pressure Level, dB
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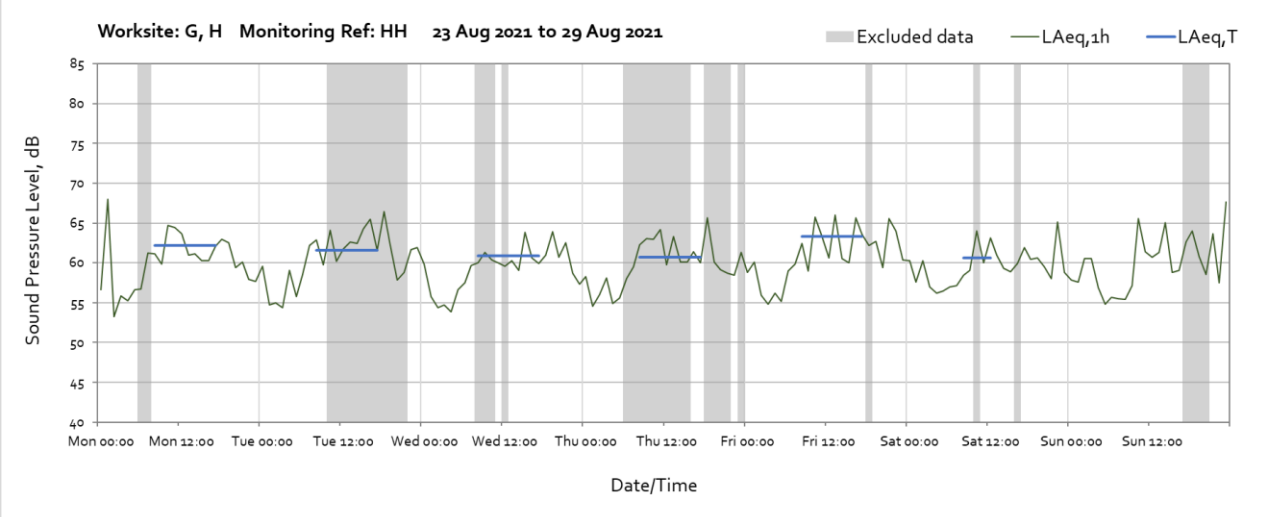
Date/Time


Worksite: G, H Monitoring Ref: HH 23 Aug 2021 to 29 Aug 2021
Excluded data
LAeq,1h
LAeq,T
Sound Pressure Level, dB
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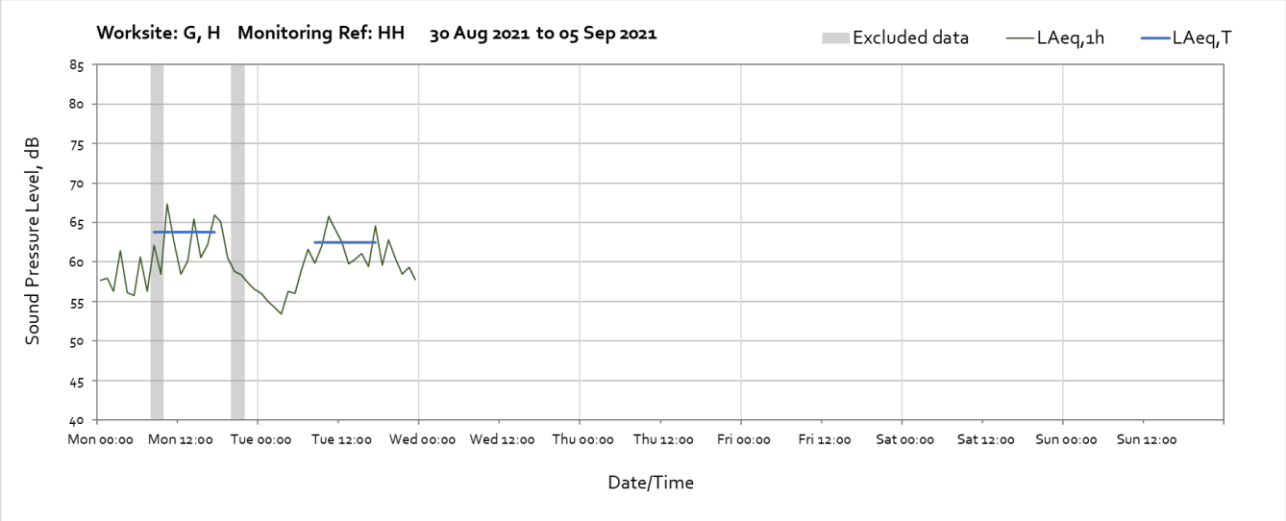
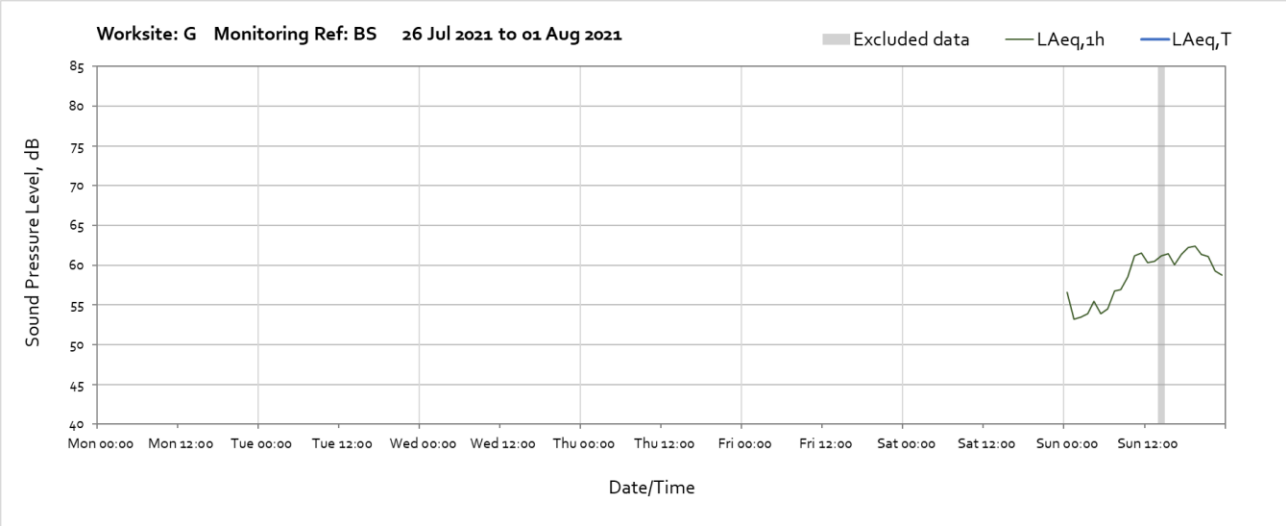
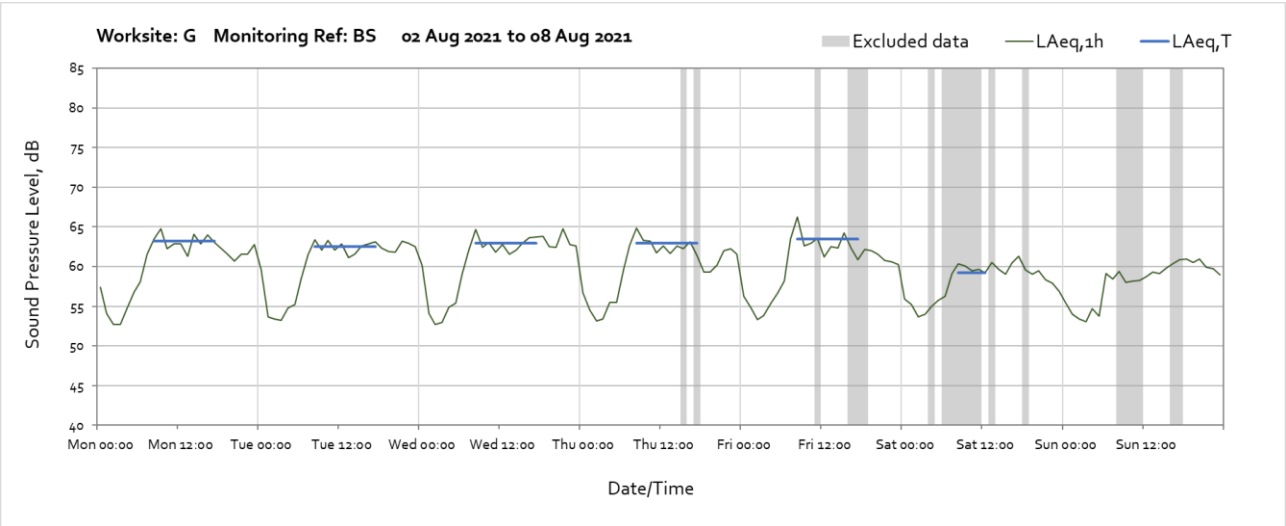
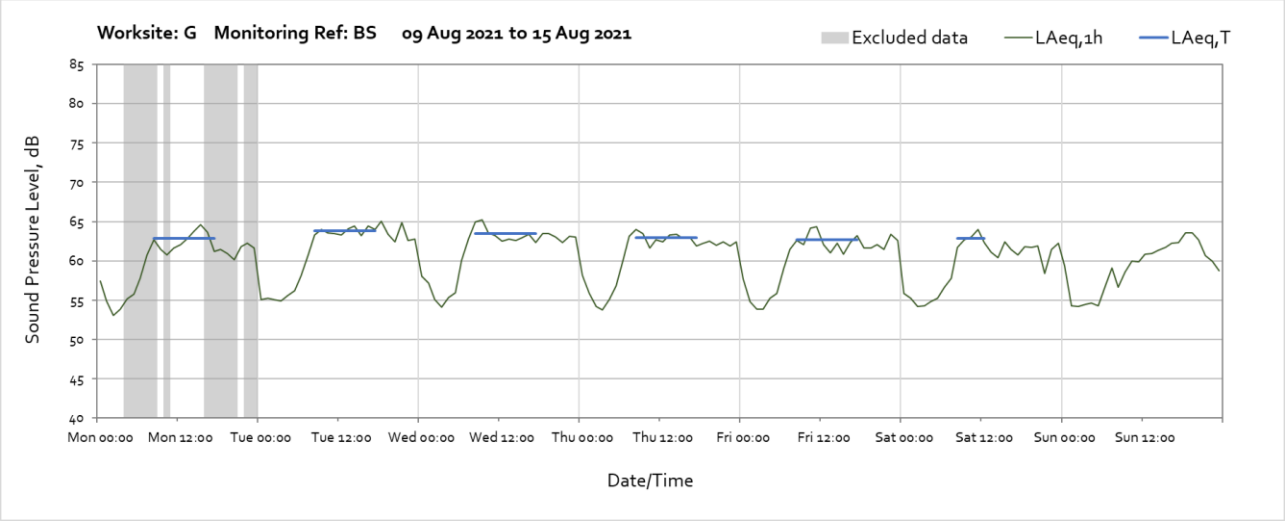
Date/Time



Worksite: G – Monitoring Ref: BS






Worksite: G Monitoring Ref: BS 09 Aug 2021 to 15 Aug 2021
Excluded data
LAeq,1h
LAeq,T
Sound Pressure Level, dB
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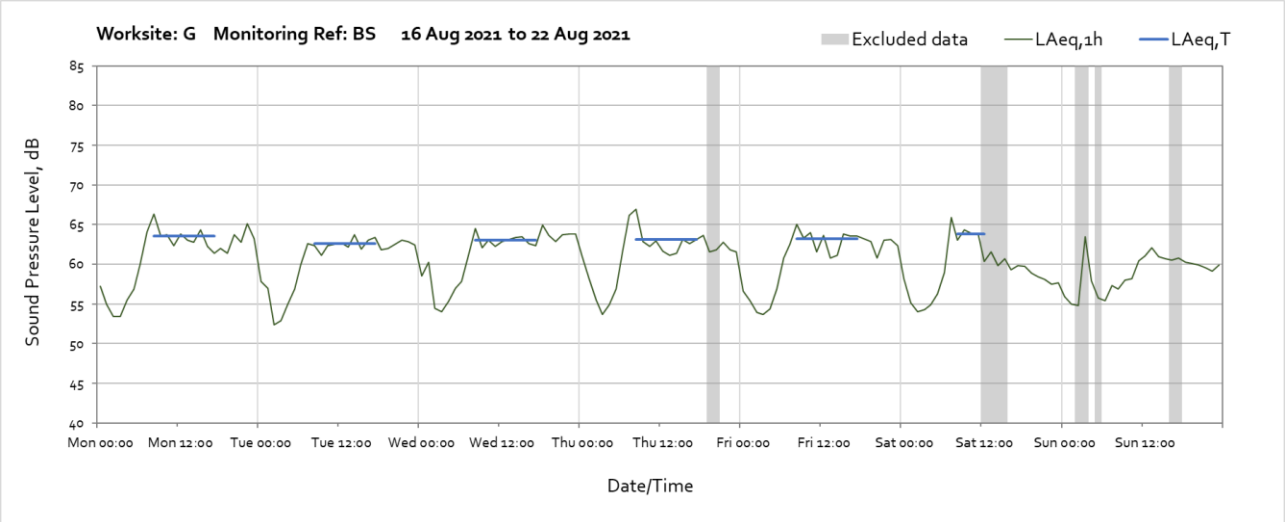
Date/Time


Worksite: G Monitoring Ref: BS 16 Aug 2021 to 22 Aug 2021
Excluded data
LAeq,1h
LAeq,T
Sound Pressure Level, dB
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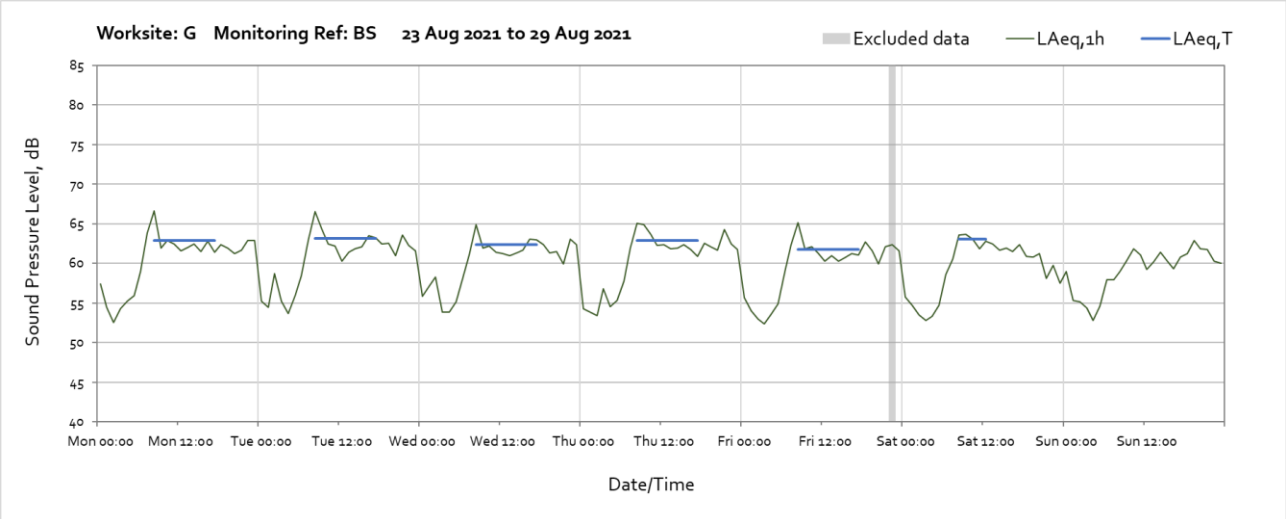
Date/Time


Worksite: G Monitoring Ref: BS 23 Aug 2021 to 29 Aug 2021
Excluded data
LAeq,1h
LAeq,T
Sound Pressure Level, dB
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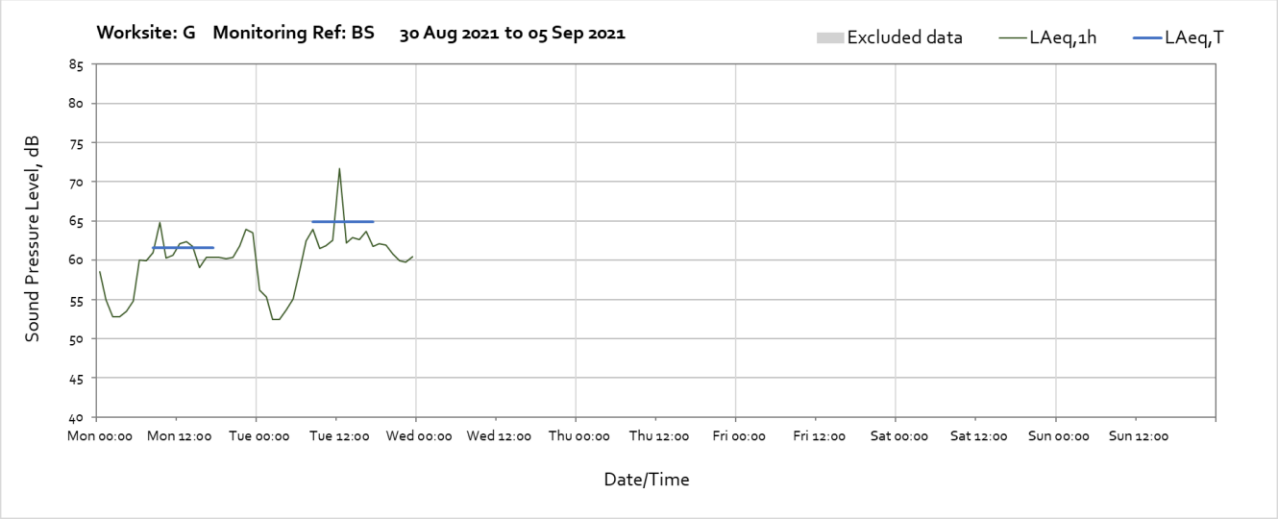
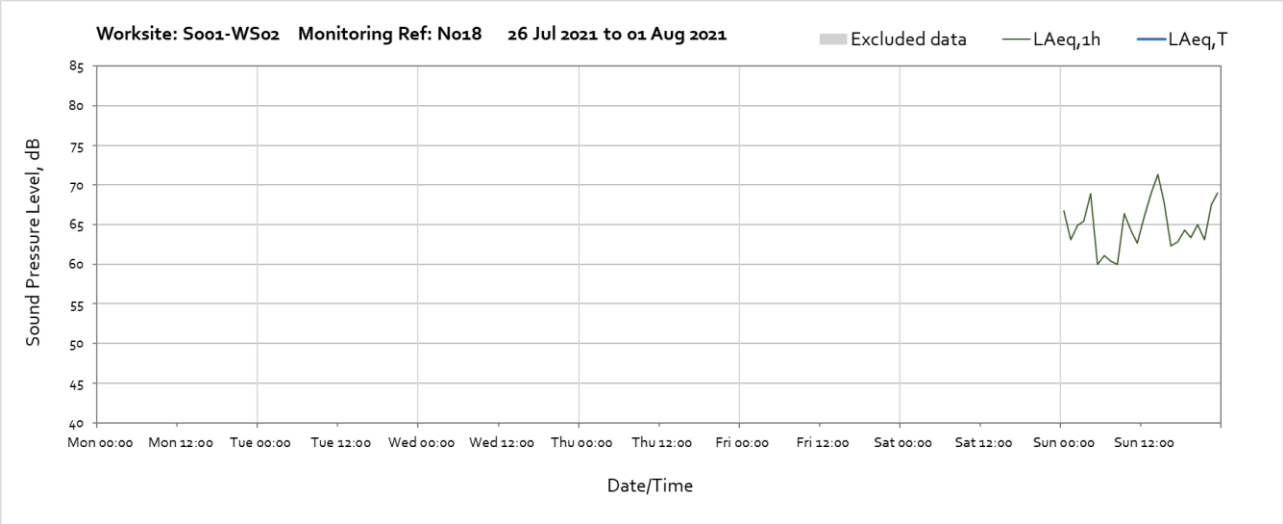
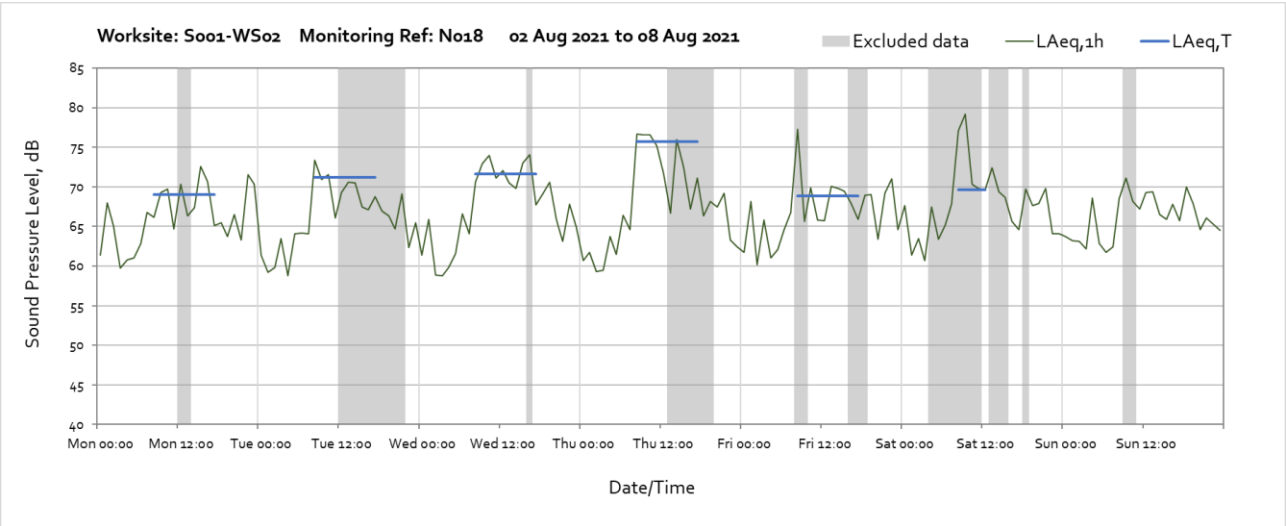
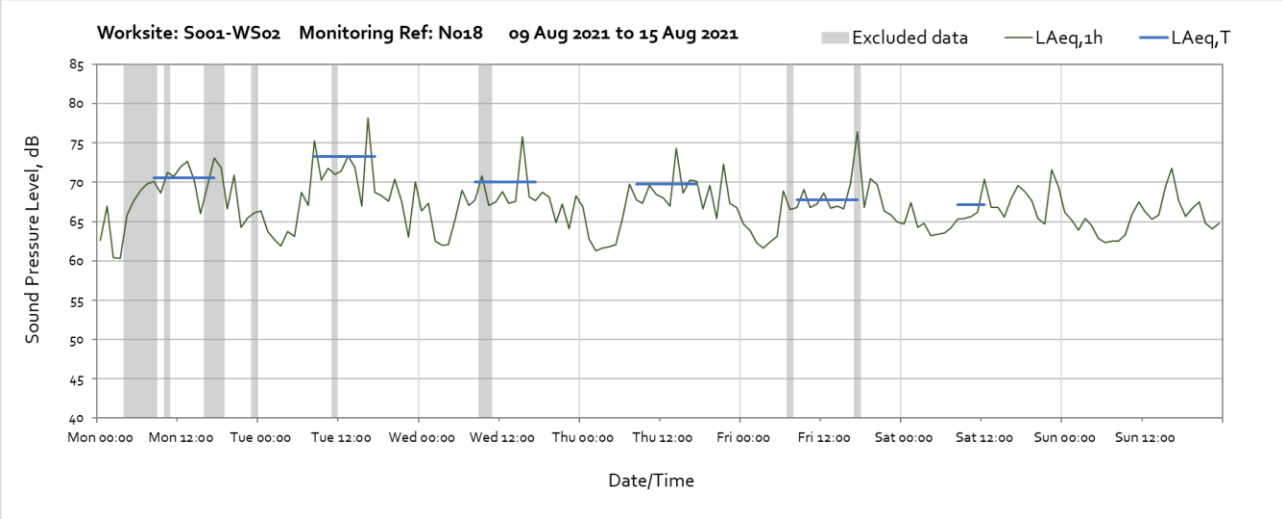
Date/Time



Worksite: S001-WS02 – Monitoring Ref: N018






Worksite: S001-WS02 Monitoring Ref: N018 09 Aug 2021 to 15 Aug 2021
Excluded data
LAeq,1h
LAeq,T
Sound Pressure Level, dB
85
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Mon 00:00
Mon 12:00
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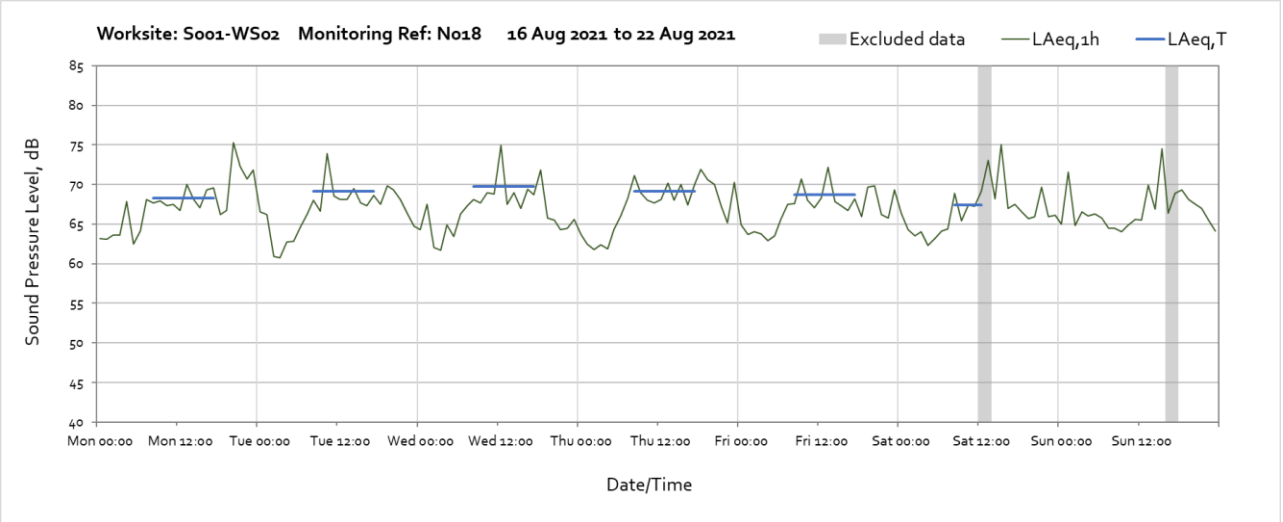
Date/Time


Worksite: S001-WS02 Monitoring Ref: N018 16 Aug 2021 to 22 Aug 2021
Excluded data
LAeq,1h
LAeq,T
Sound Pressure Level, dB
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Mon 00:00
Mon 12:00
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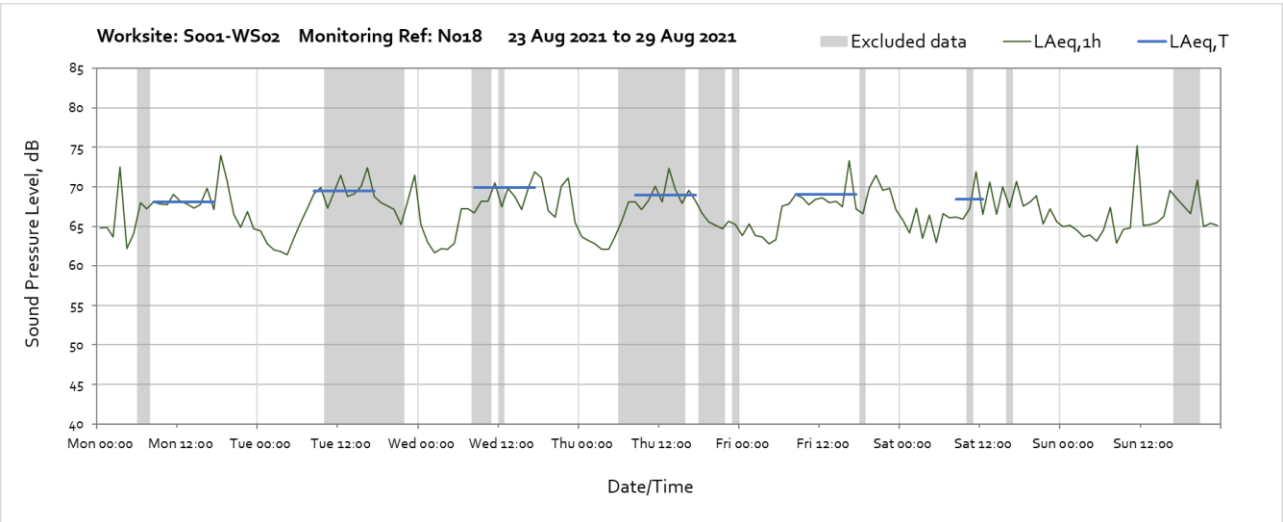
Date/Time


Worksite: S001-WS02 Monitoring Ref: N018 23 Aug 2021 to 29 Aug 2021
Excluded data
LAeq,1h
LAeq,T
Sound Pressure Level, dB
85
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65
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Mon 00:00
Mon 12:00
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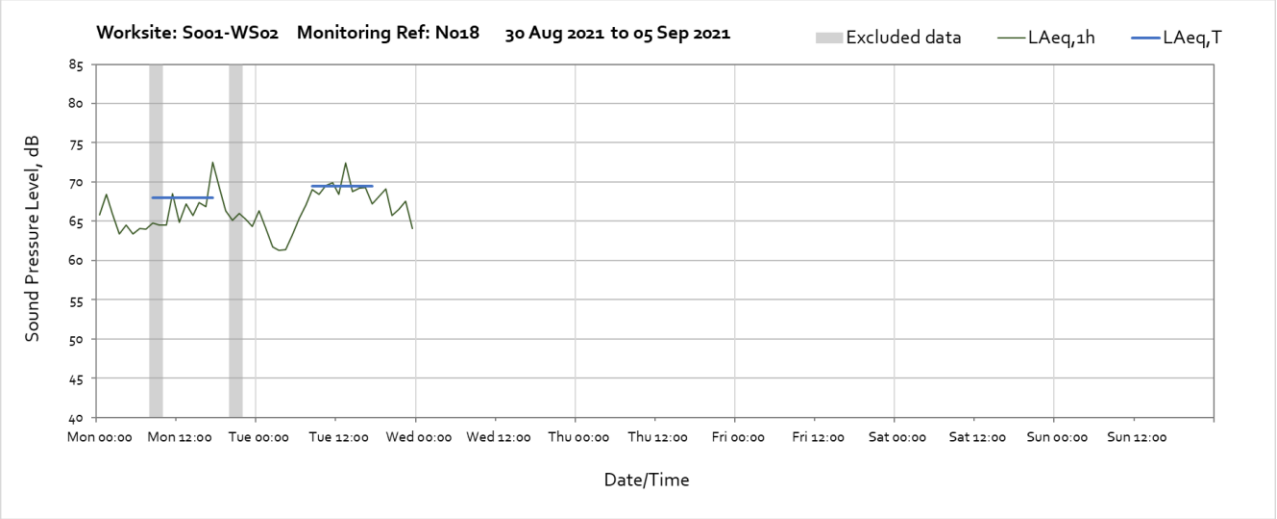
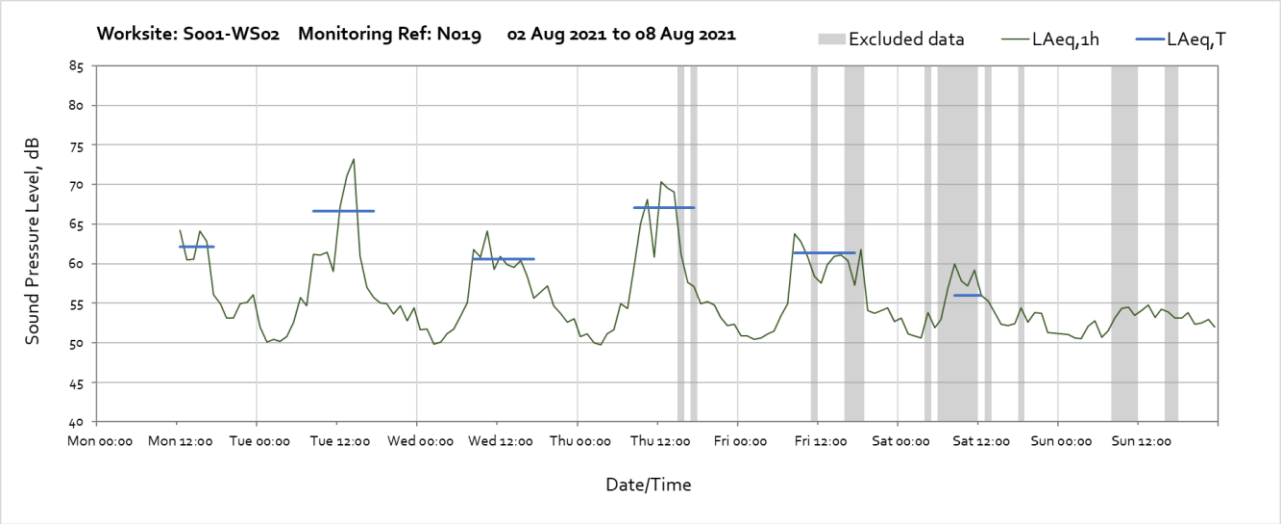
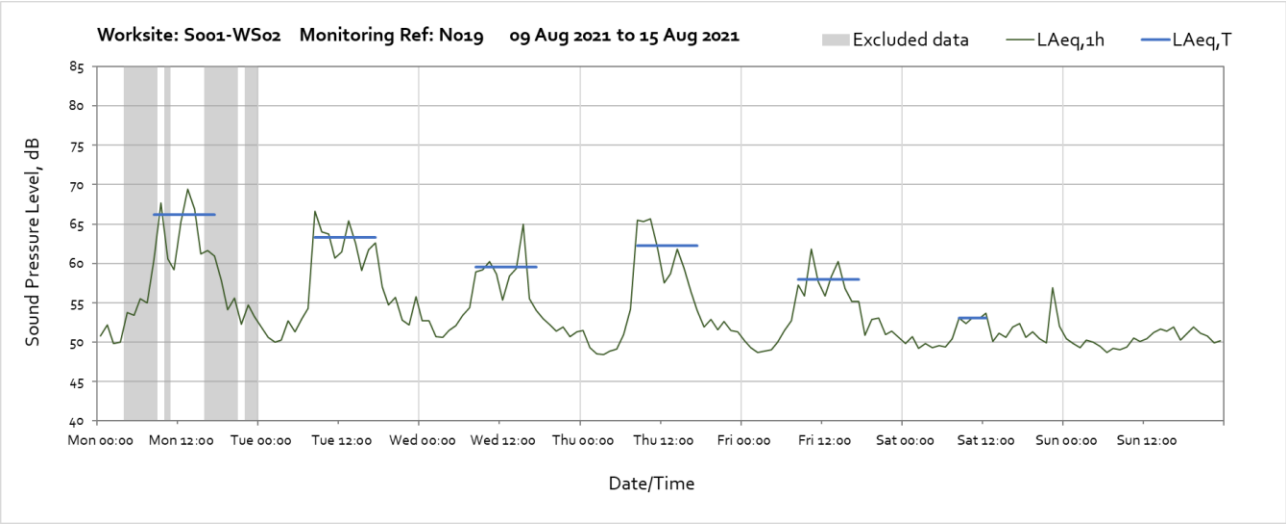
Date/Time

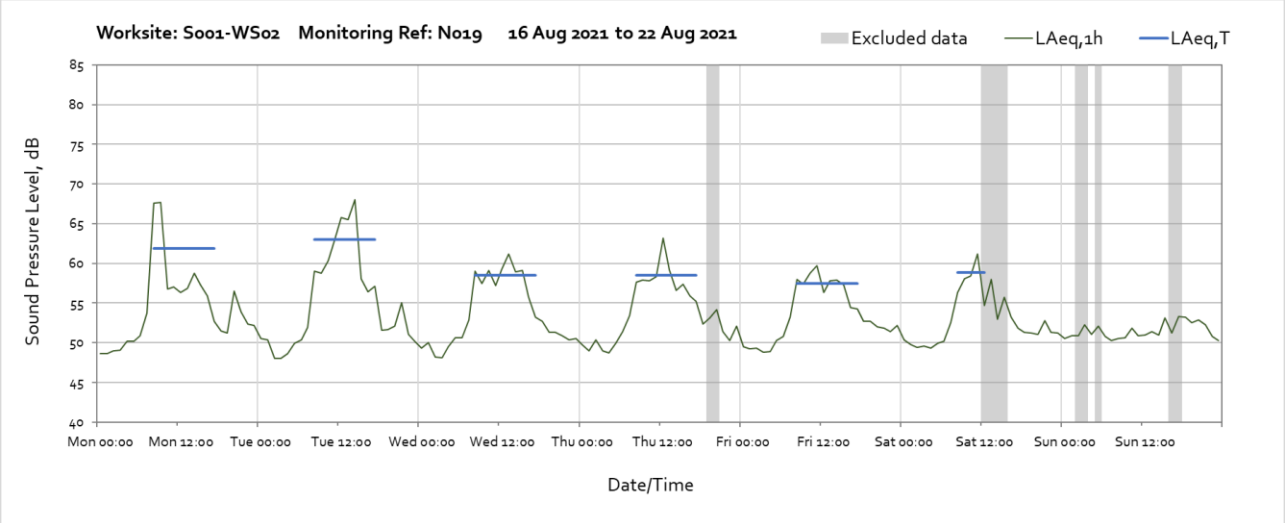


Worksite: S001-WS02 – Monitoring Ref: N019



Note: Missing data from the start of the month until 12:00 on Monday 2nd August was due to loss of power to the monitoring station.




Worksite: S001-WS02 Monitoring Ref: N019 16 Aug 2021 to 22 Aug 2021
Excluded data
LAeq,1h
LAeq,T
Sound Pressure Level, dB
85
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65
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45
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Mon 00:00
Mon 12:00
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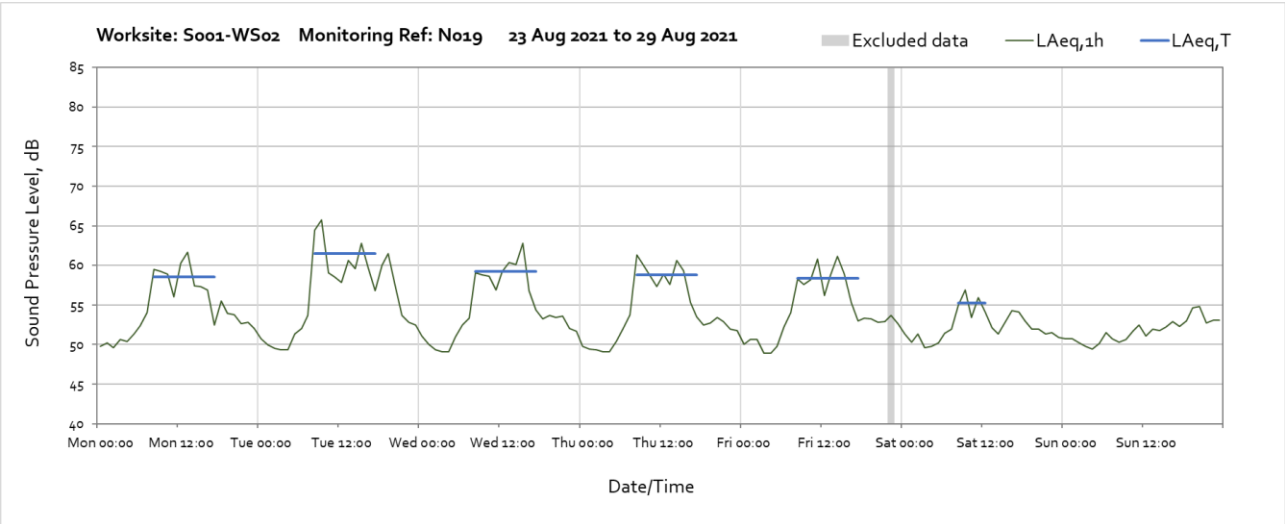
Date/Time


Worksite: S001-WS02 Monitoring Ref: N019 23 Aug 2021 to 29 Aug 2021
Excluded data
LAeq,1h
LAeq,T
Sound Pressure Level, dB
85
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Mon 00:00
Mon 12:00
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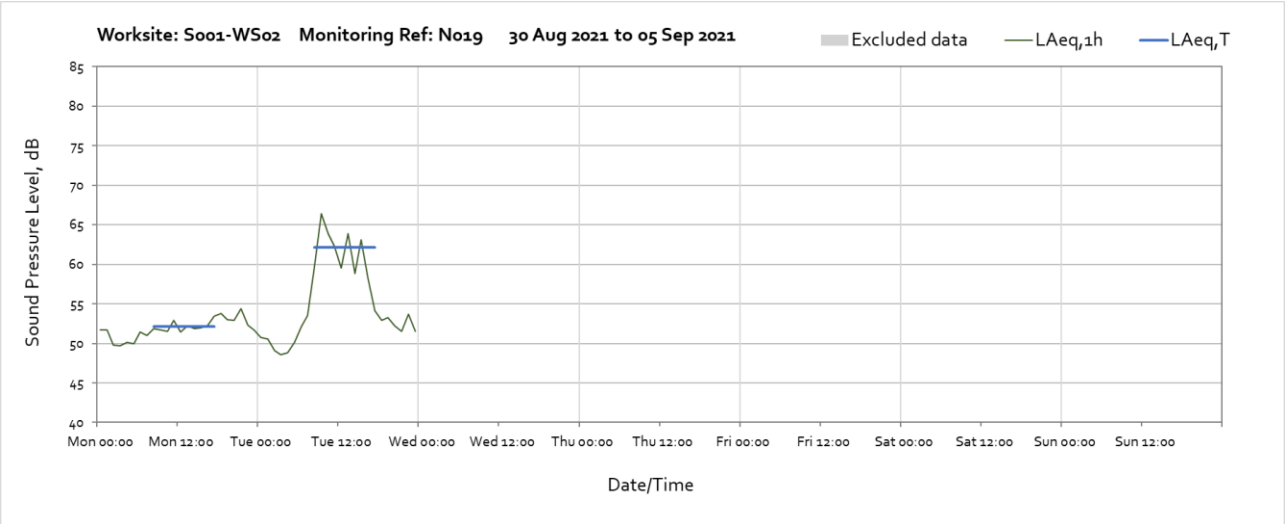
Date/Time


Worksite: S001-WS02 Monitoring Ref: N019 30 Aug 2021 to 05 Sep 2021
Excluded data
LAeq,1h
LAeq,T
Sound Pressure Level, dB
85
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Mon 00:00
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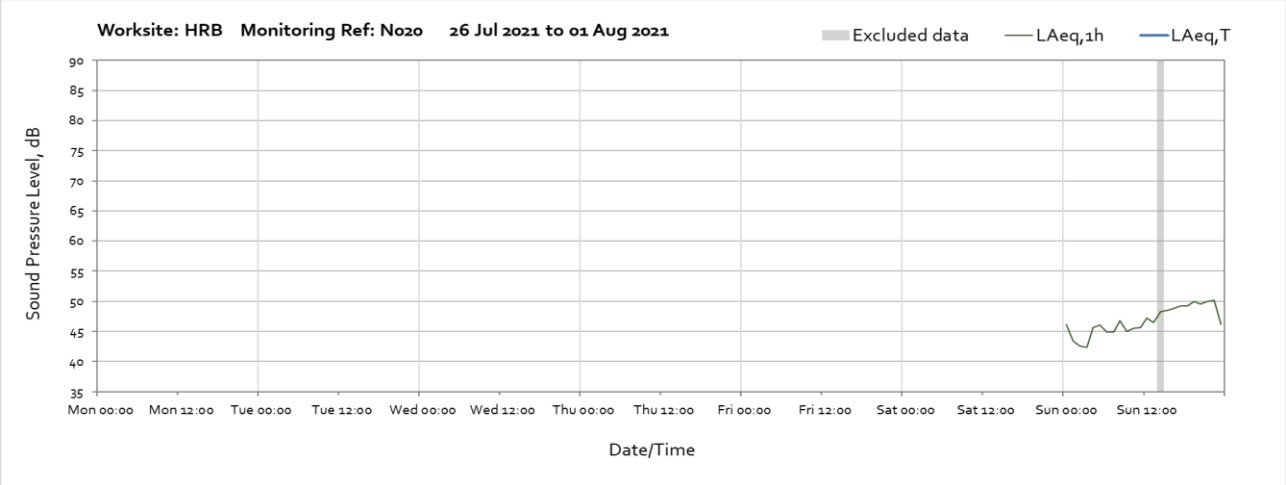
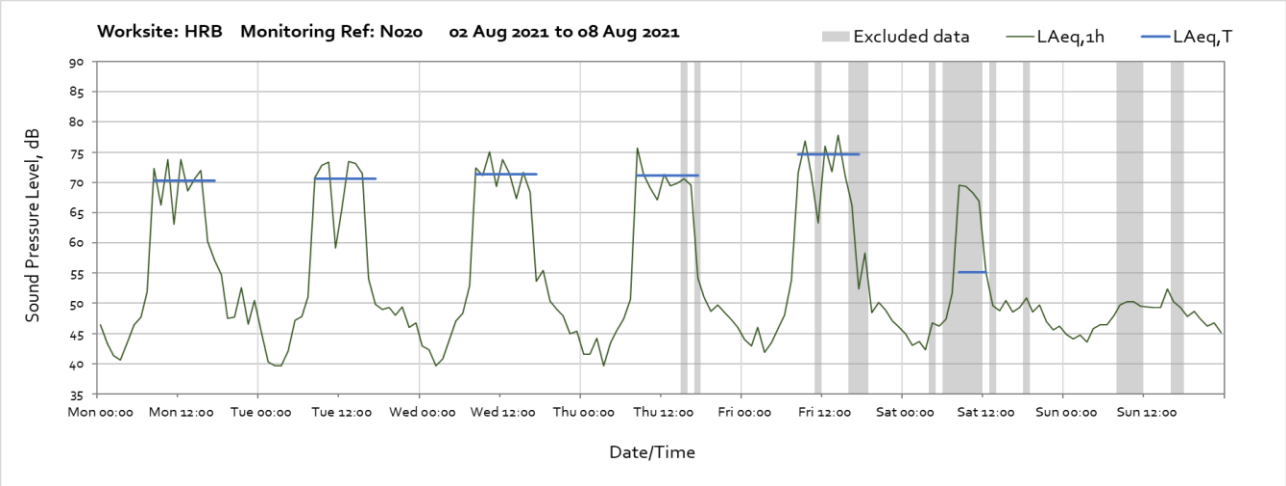
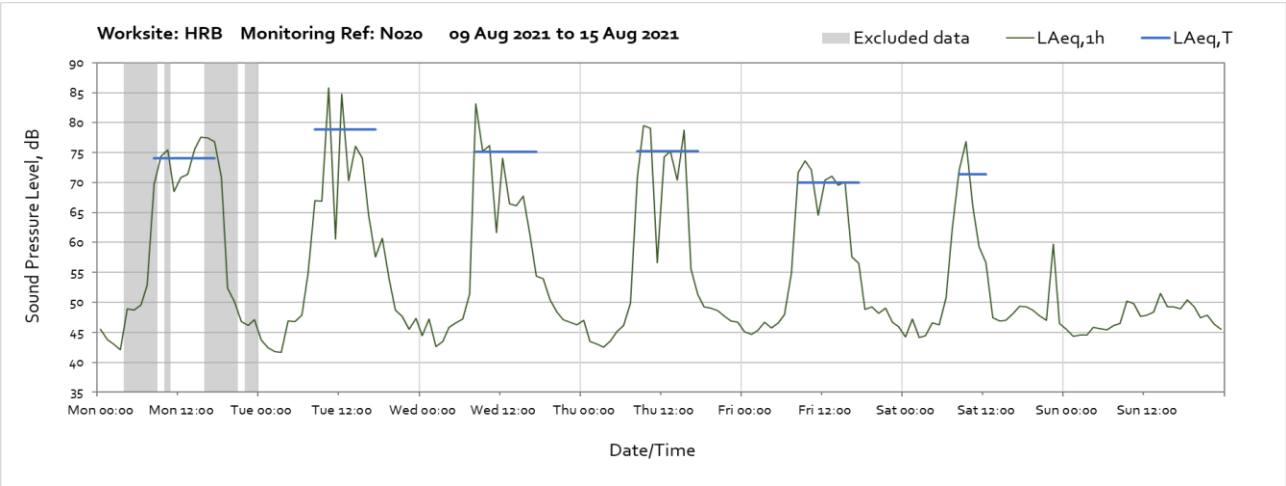
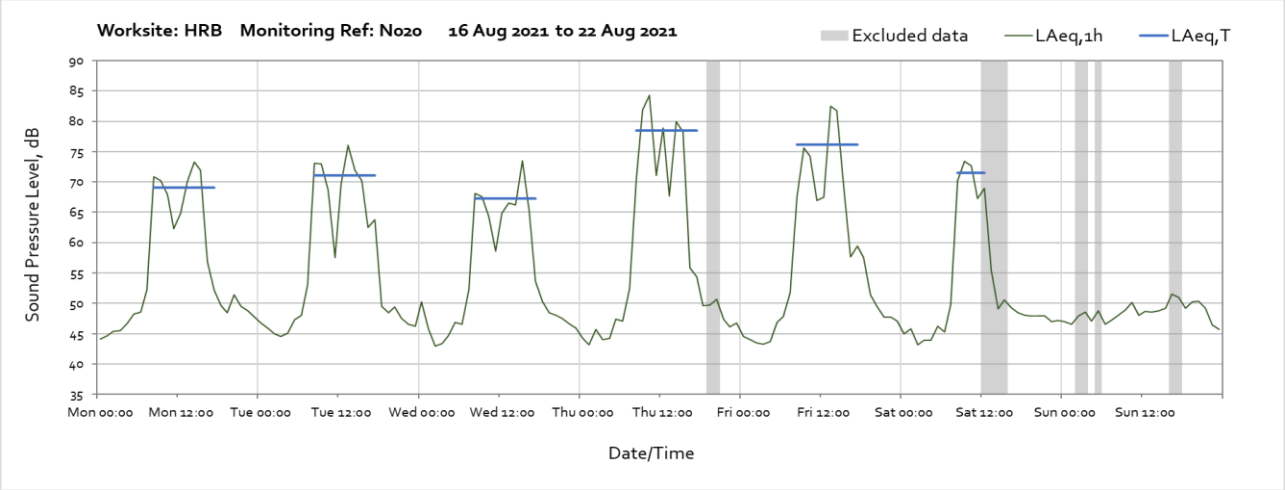
Date/Time

Worksite: HRB – Monitoring Ref: N020








Worksite: HRB Monitoring Ref: No20 16 Aug 2021 to 22 Aug 2021
Excluded data
LAeq,1h
LAeq,T
Sound Pressure Level, dB
90
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Mon 00:00
Mon 12:00
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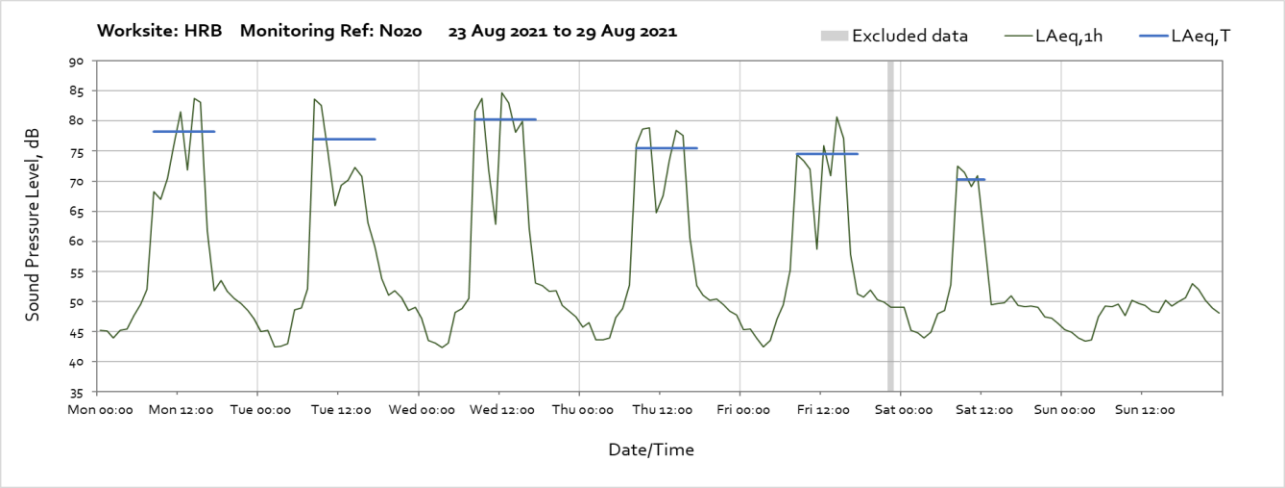
Date/Time


Worksite: HRB Monitoring Ref: No20 23 Aug 2021 to 29 Aug 2021
Excluded data
LAeq,1h
LAeq,T
Sound Pressure Level, dB
90
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Mon 00:00
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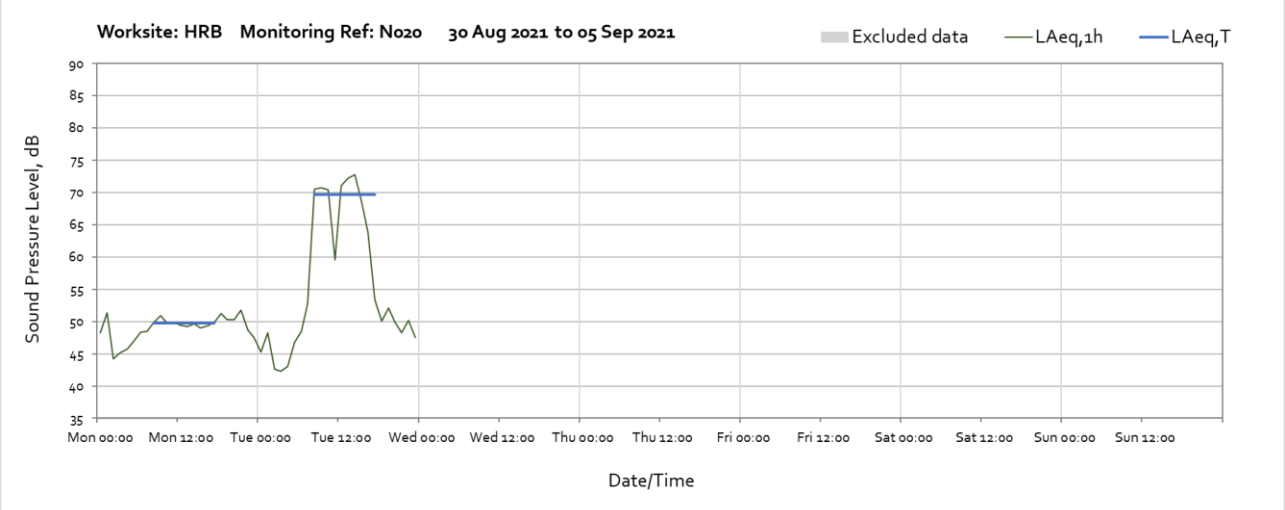
Date/Time


Worksite: HRB Monitoring Ref: No20 30 Aug 2021 to 05 Sep 2021
Excluded data
LAeq,1h
LAeq,T
Sound Pressure Level, dB
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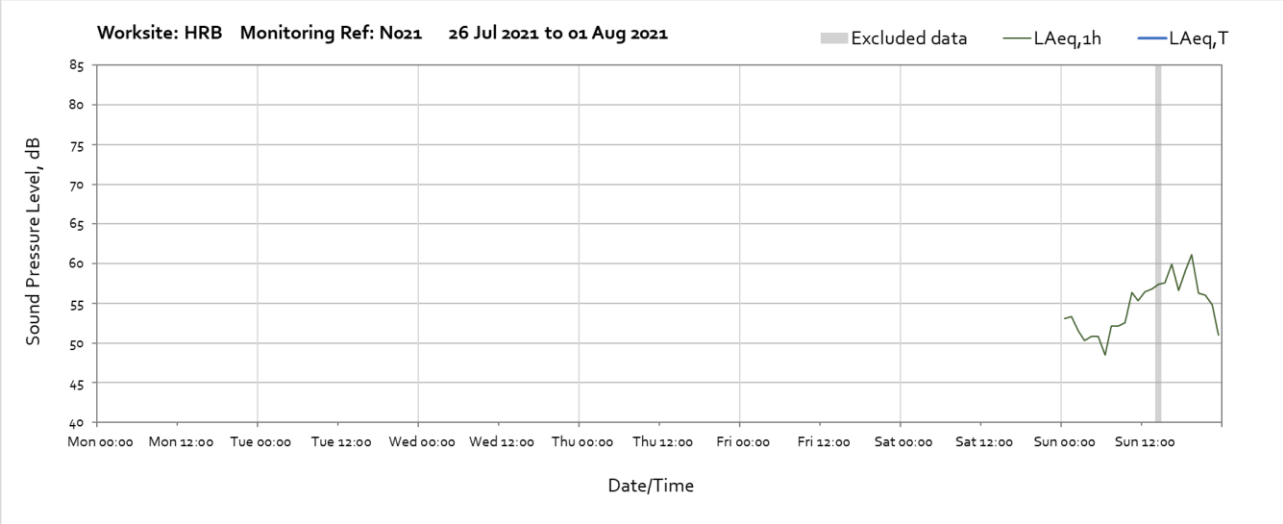
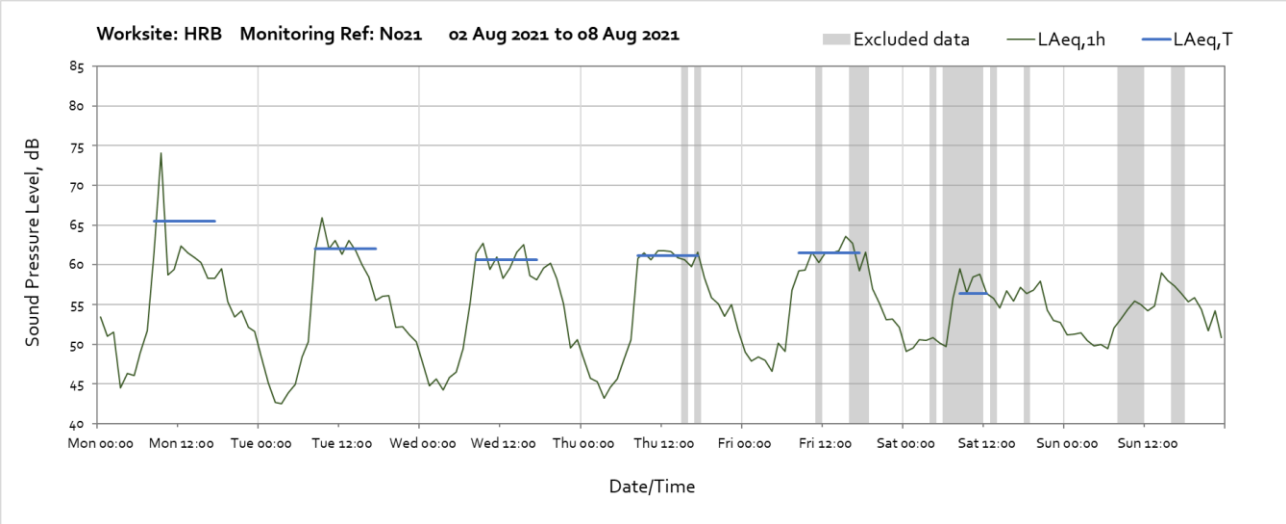
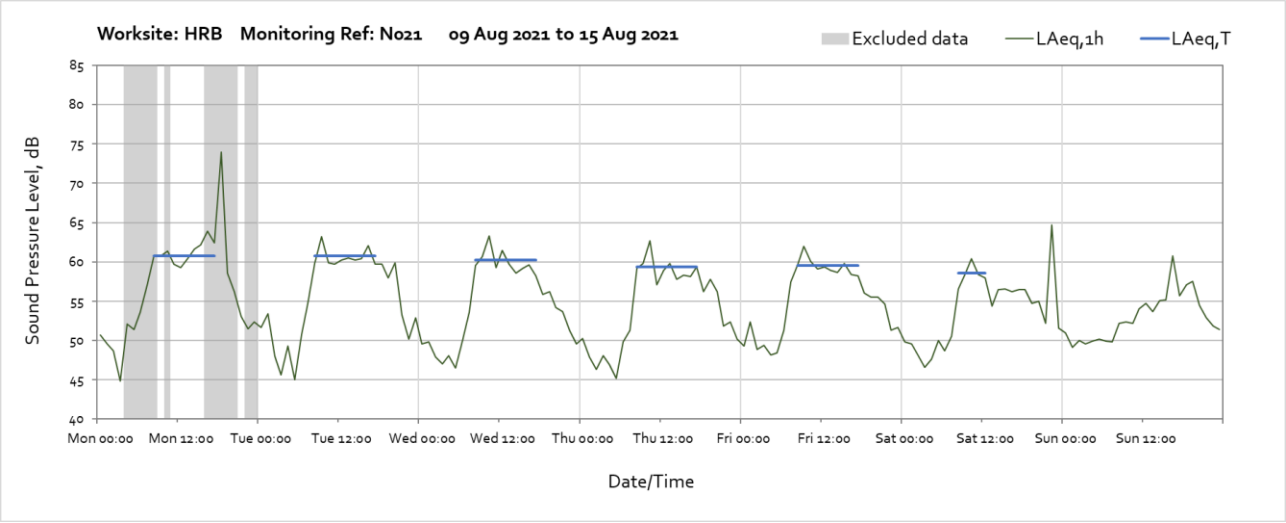
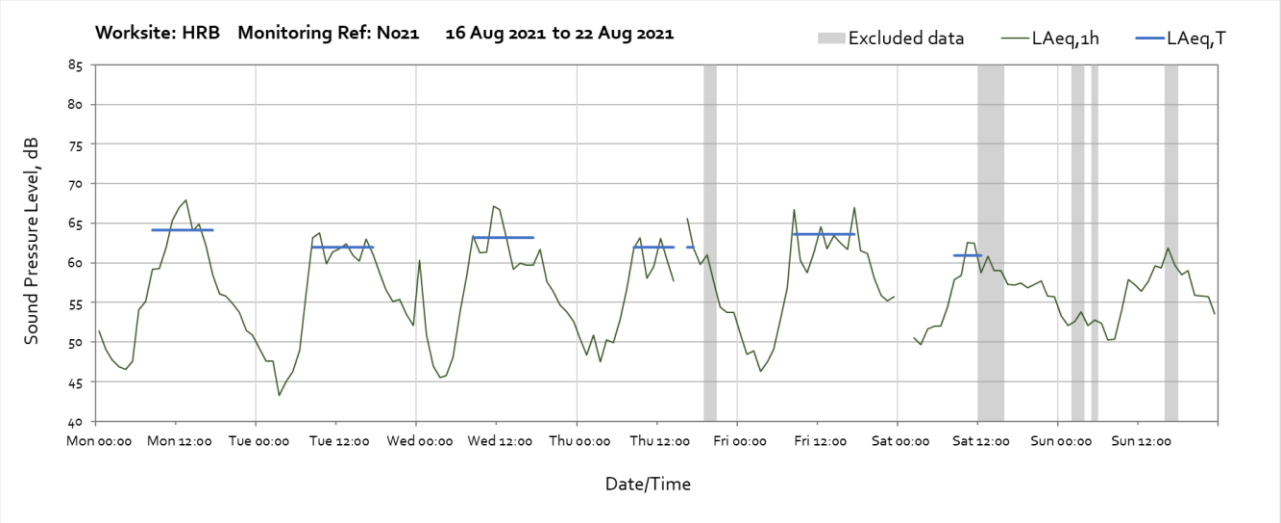
Worksite: HRB – Monitoring Ref: N021

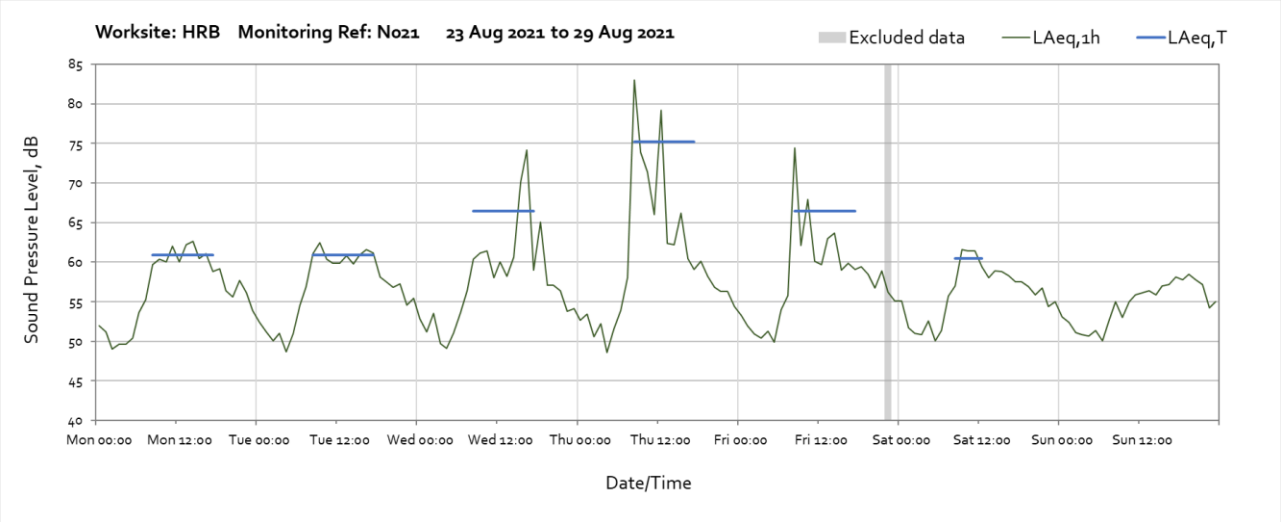


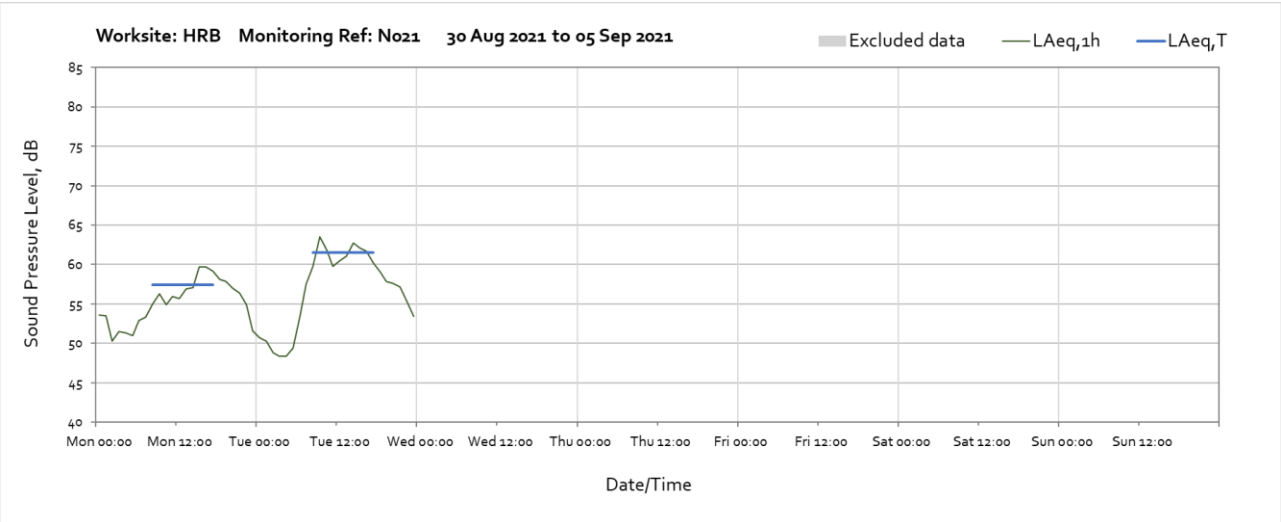




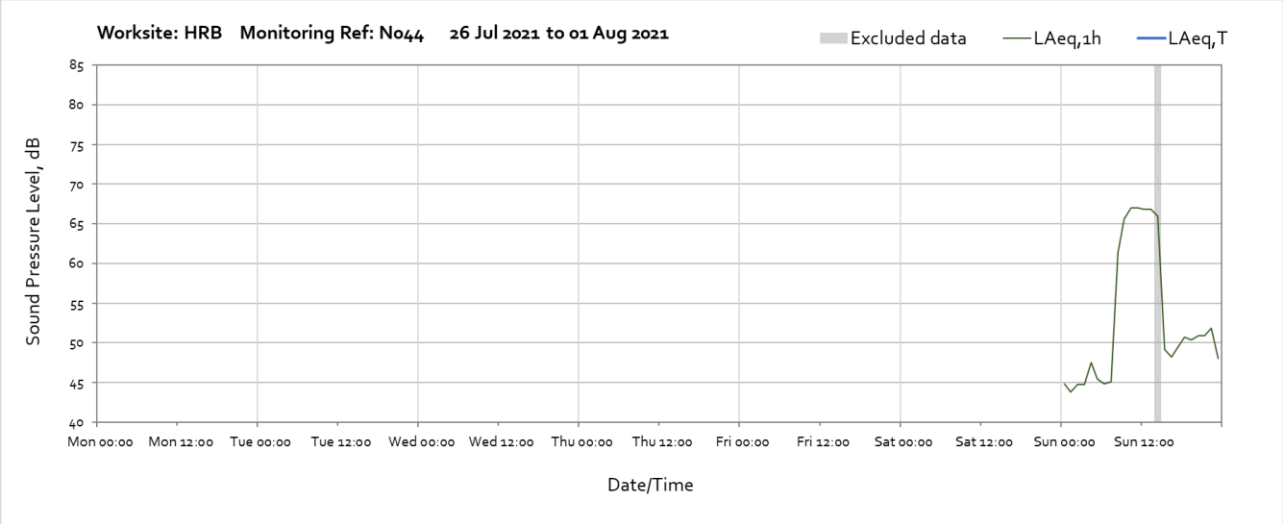


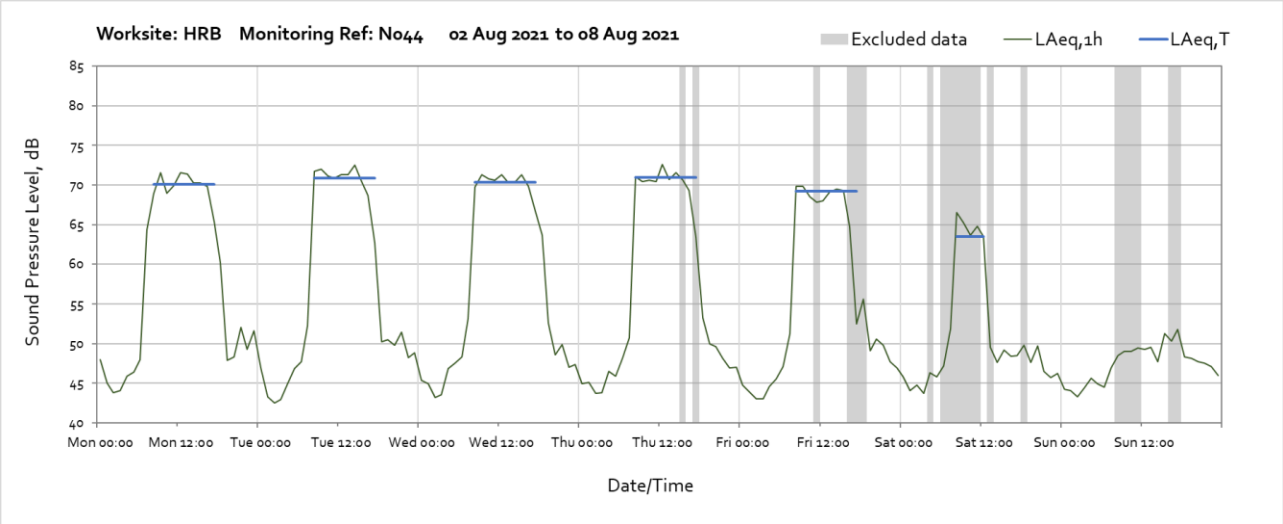
Note: Missing data from 15:00 until 16:00 on Thursday 19th August and from 00:00 unril 02:00 on Saturday 21st August was due to a memory card error. The memory card has been reformatted with view of avoiding further loss of data.

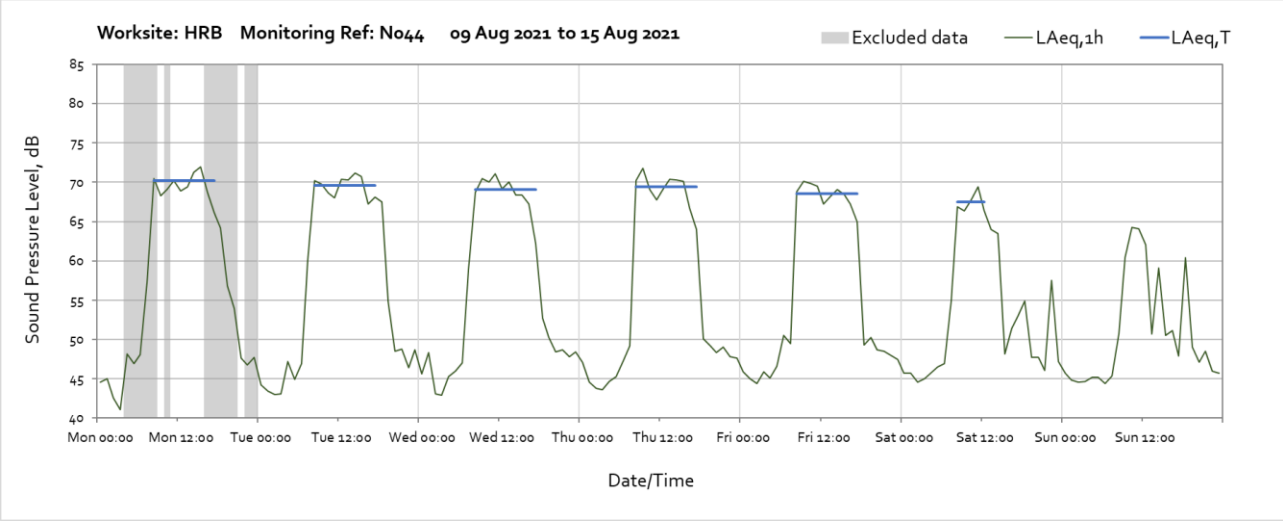


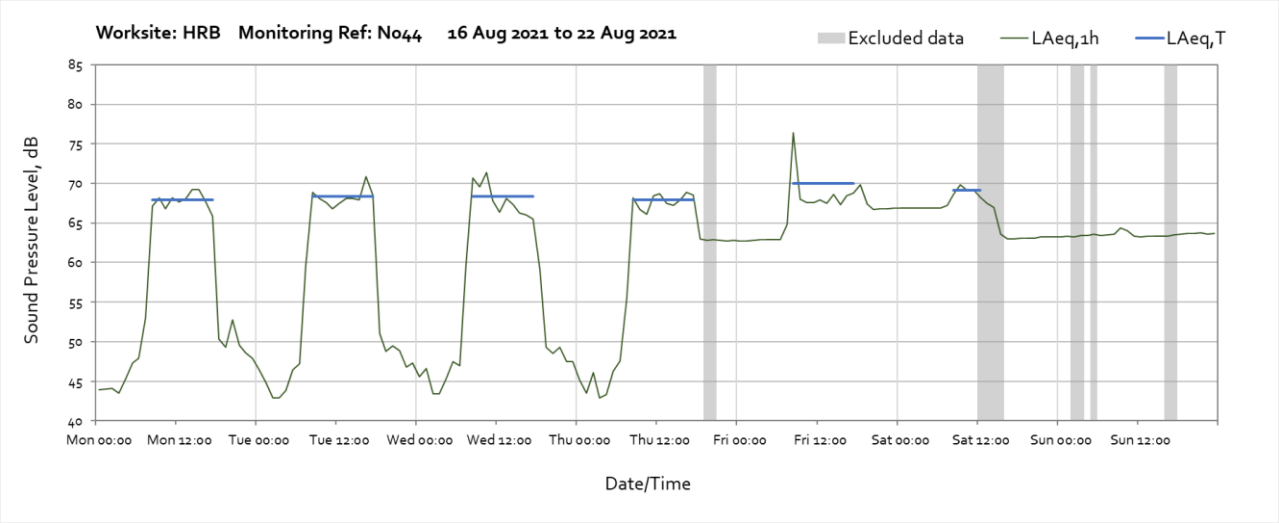


Worksite: HRB – Monitoring Ref: N044

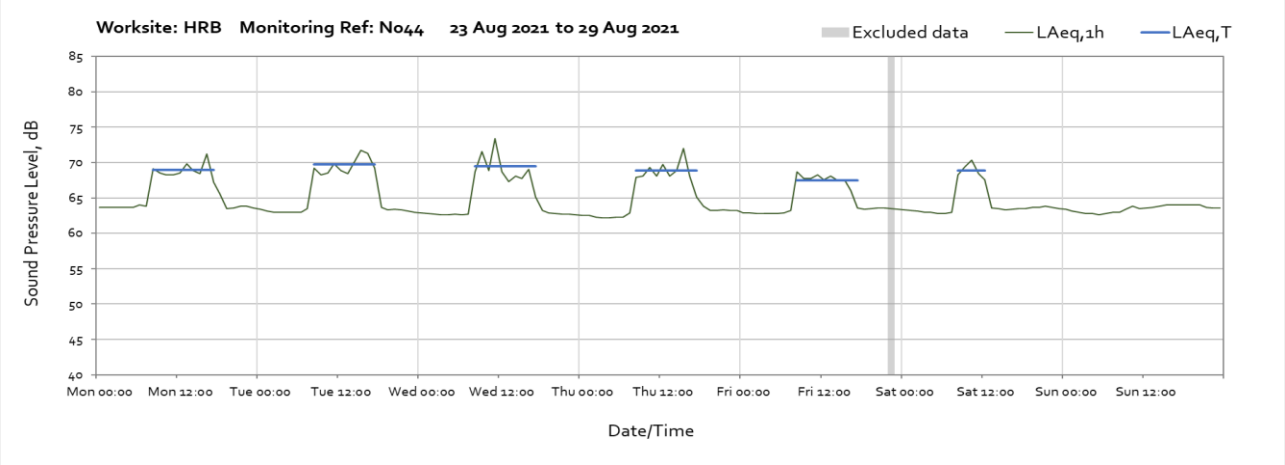




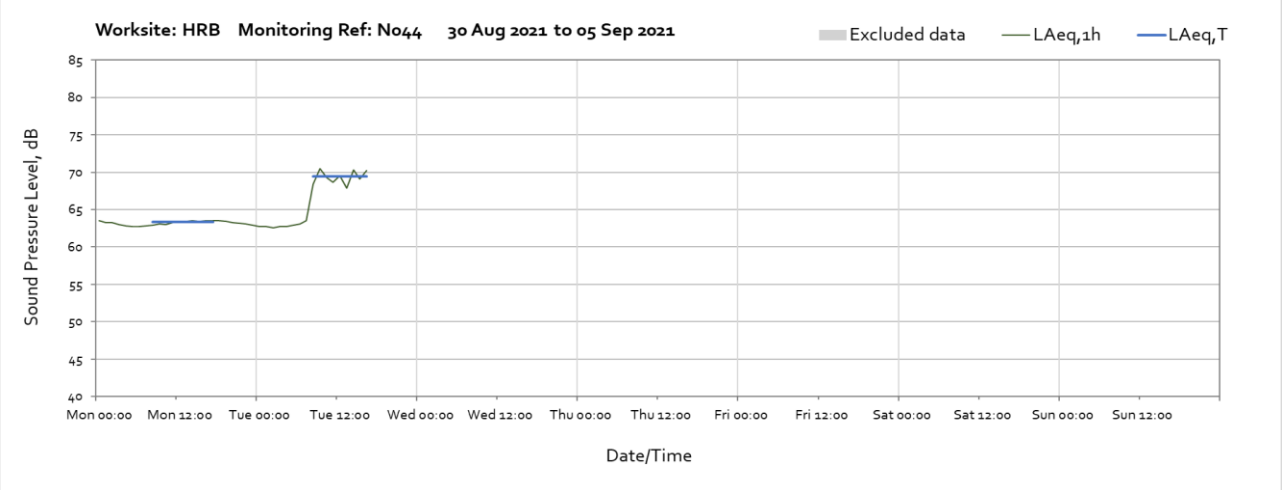




Note: Continuous noise levels measured throughout the week were caused an operational generator near to the monitor.

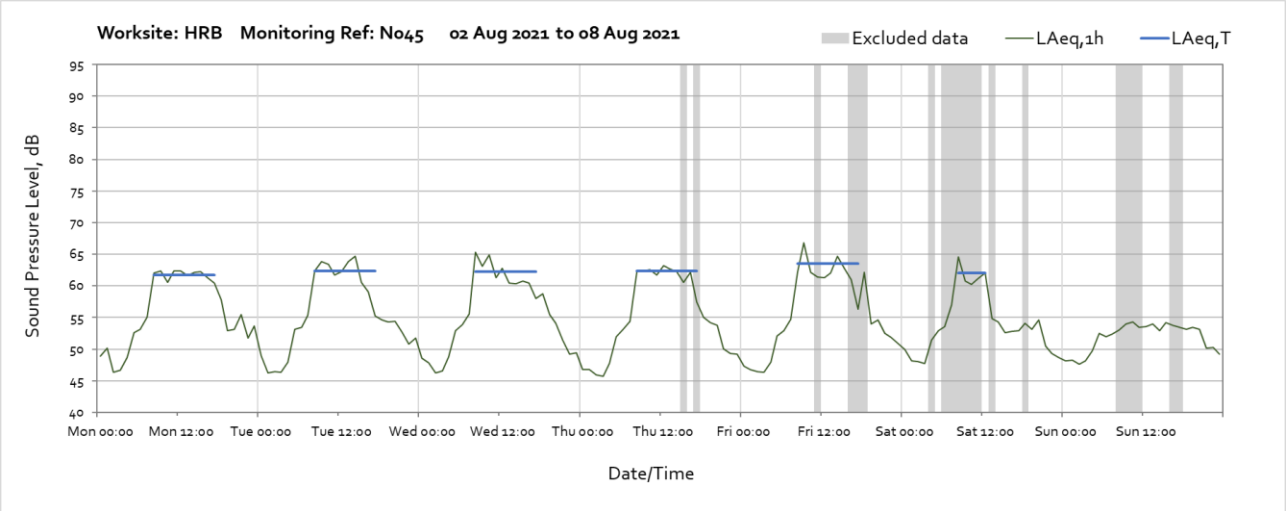


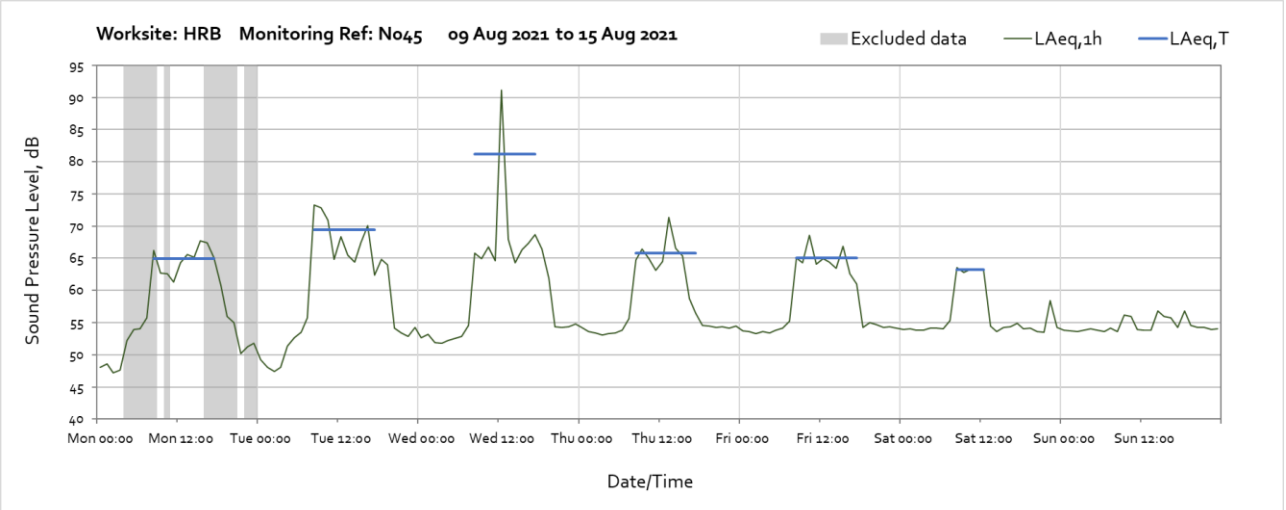
Note: Continuous noise levels measured throughout the week were caused an operational generator near to the monitor.

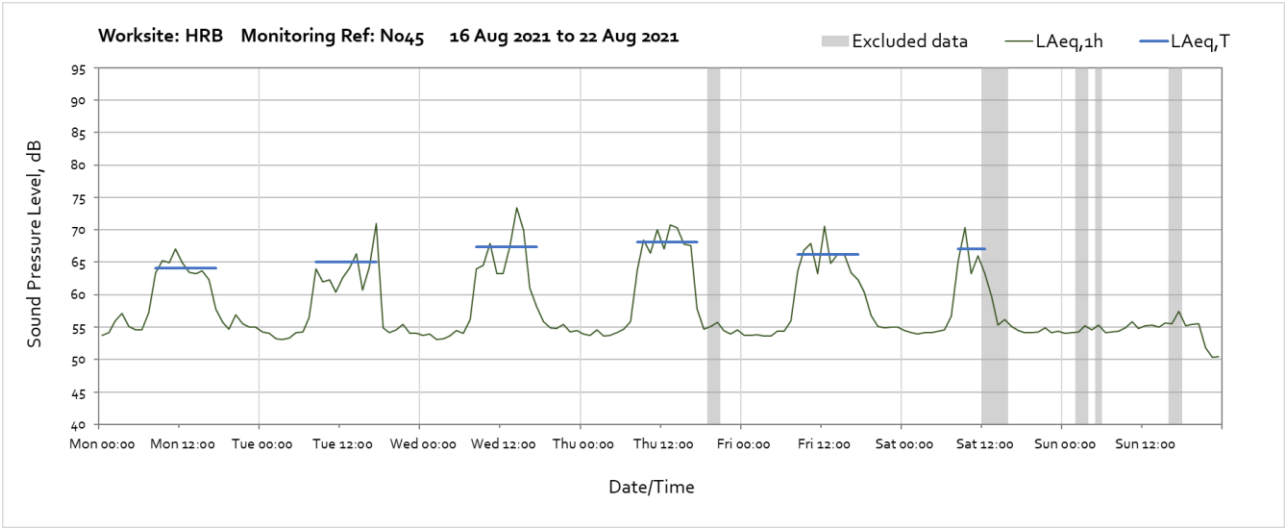


Note: Continuous noise levels measured throughout the week were caused an operational generator near to the monitor.

Worksite: HRB – Monitoring Ref: N045






Worksite: HRB Monitoring Ref: No45 16 Aug 2021 to 22 Aug 2021
Excluded data
LAeq,1h
LAeq,T
Sound Pressure Level, dB
95
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85
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Mon 00:00
Mon 12:00
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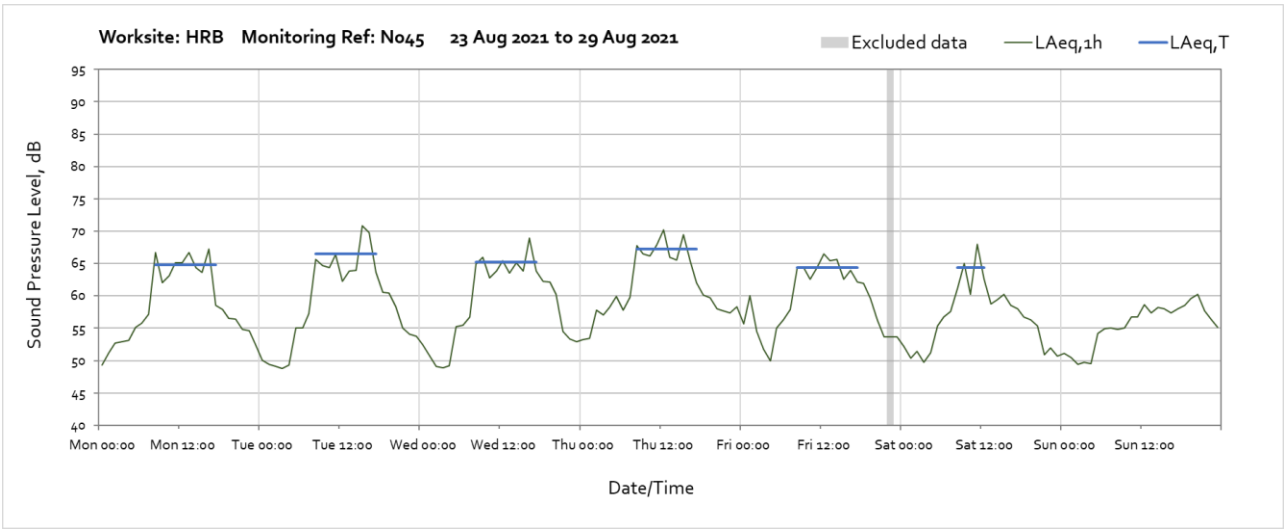
Date/Time


Worksite: HRB Monitoring Ref: No45 23 Aug 2021 to 29 Aug 2021
Excluded data
LAeq,1h
LAeq,T
Sound Pressure Level, dB
95
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75
70
65
60
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Mon 00:00
Mon 12:00
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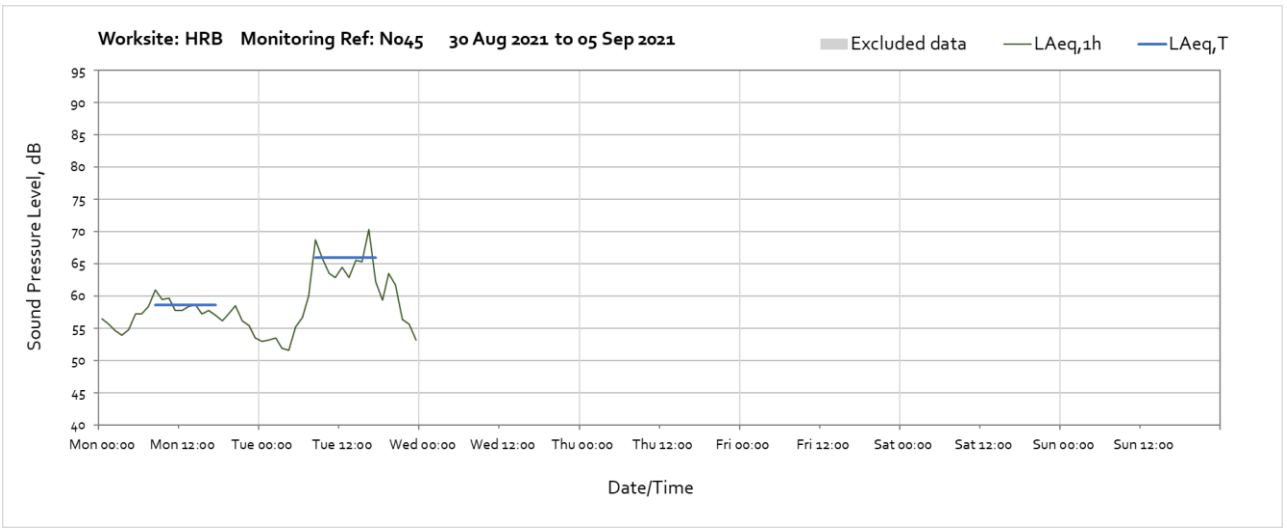
Date/Time


Worksite: HRB Monitoring Ref: No45 30 Aug 2021 to 05 Sep 2021
Excluded data
LAeq,1h
LAeq,T
Sound Pressure Level, dB
95
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65
60
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Mon 00:00
Mon 12:00
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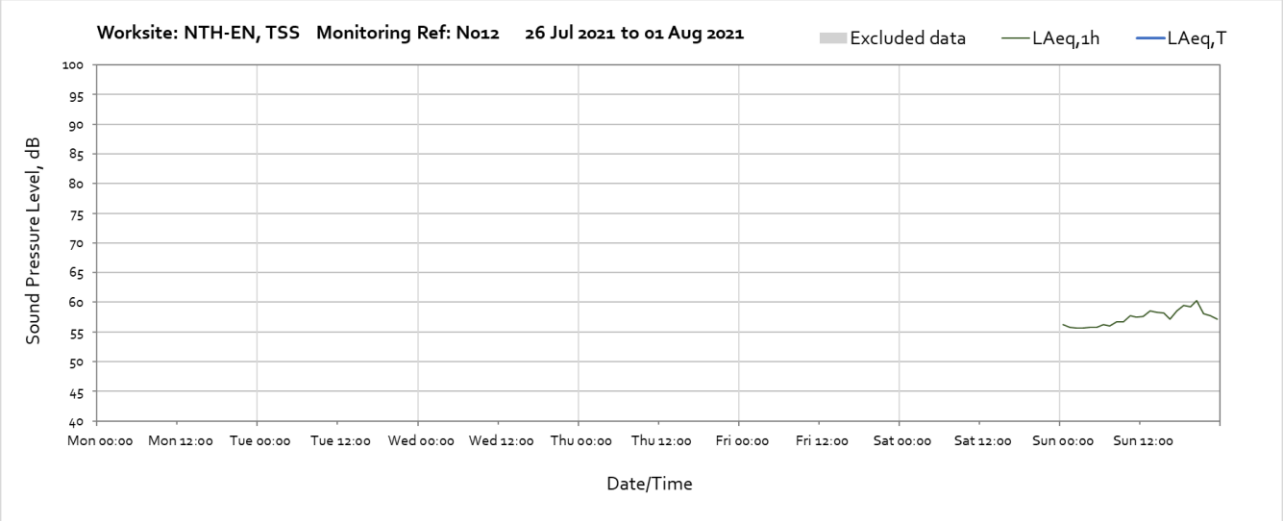
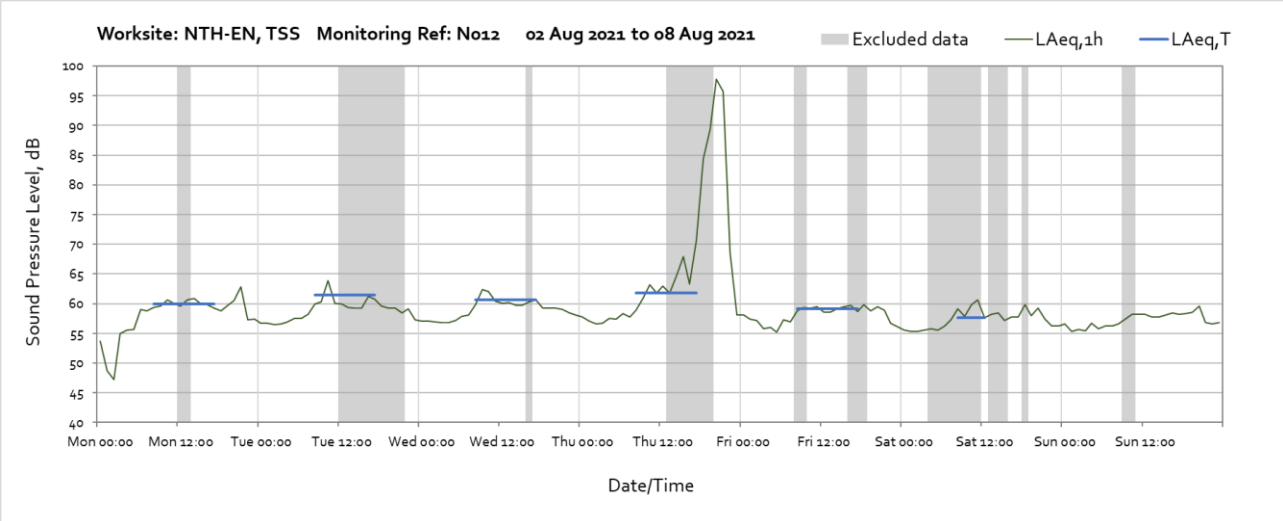
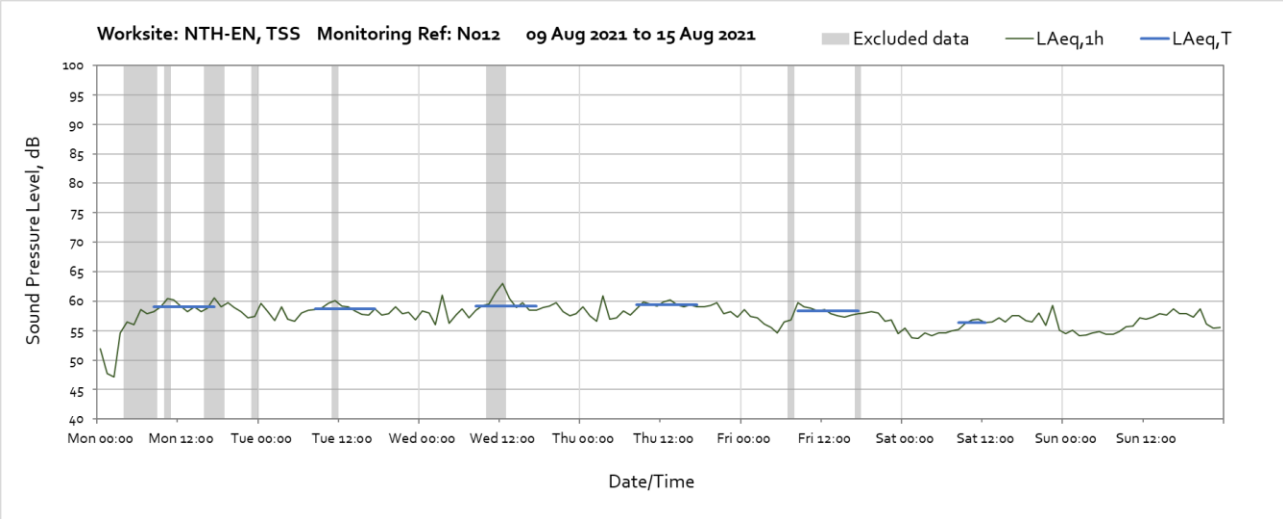
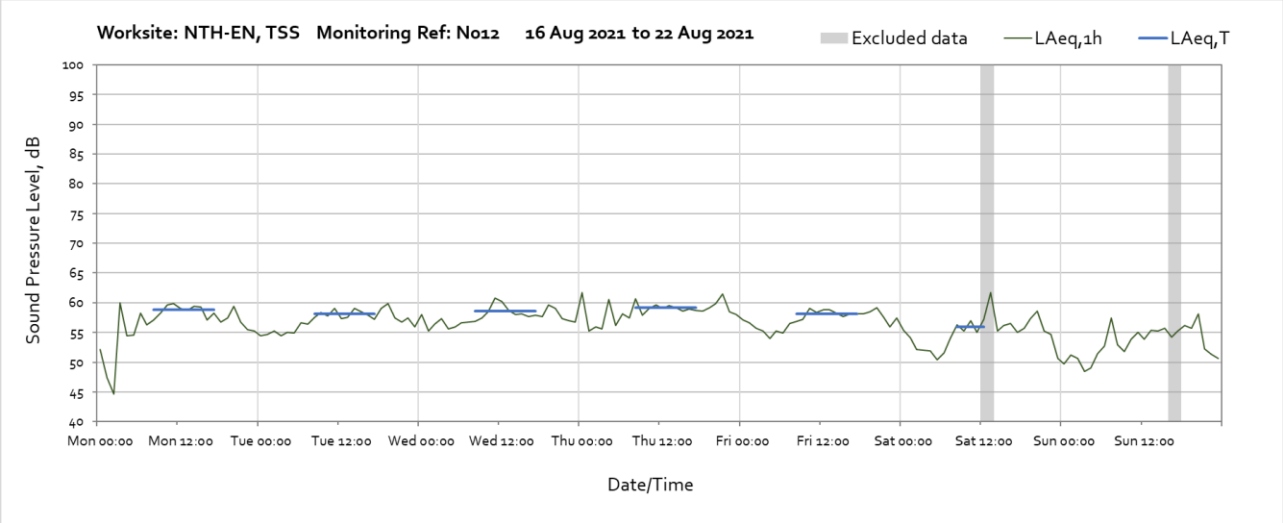
Date/Time

Worksite: NTH-EN, TSS – Monitoring Ref: N012








Worksite: NTH-EN, TSS Monitoring Ref: No12 16 Aug 2021 to 22 Aug 2021
Excluded data
LAeq,1h
LAeq,T
Sound Pressure Level, dB
100
95
90
85
80
75
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Mon 00:00
Mon 12:00
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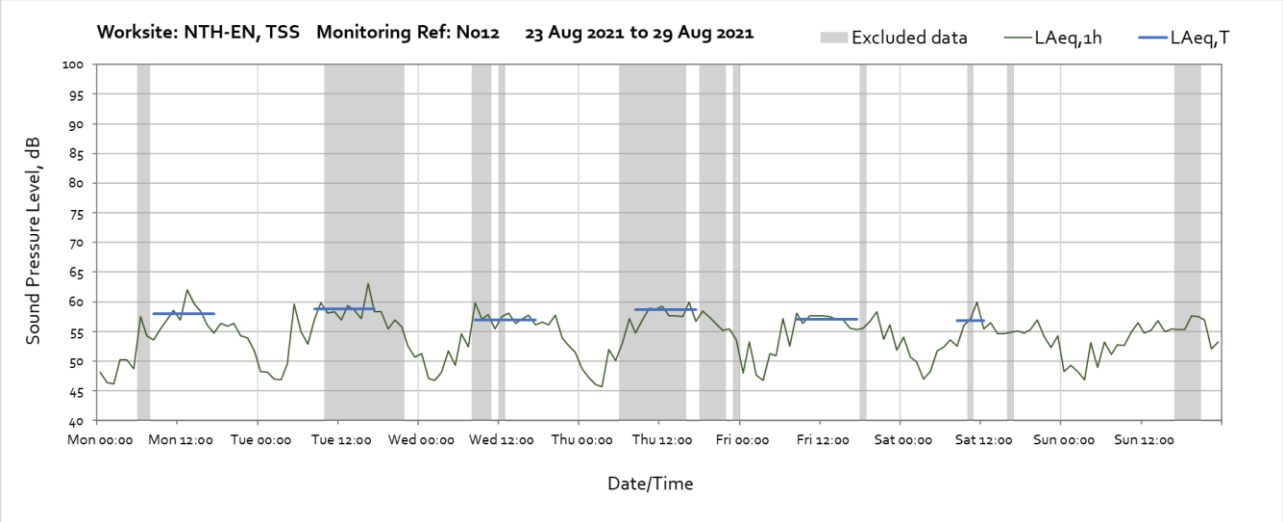
Date/Time


Worksite: NTH-EN, TSS Monitoring Ref: No12 23 Aug 2021 to 29 Aug 2021
Excluded data
LAeq,1h
LAeq,T
Sound Pressure Level, dB
100
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80
75
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Mon 00:00
Mon 12:00
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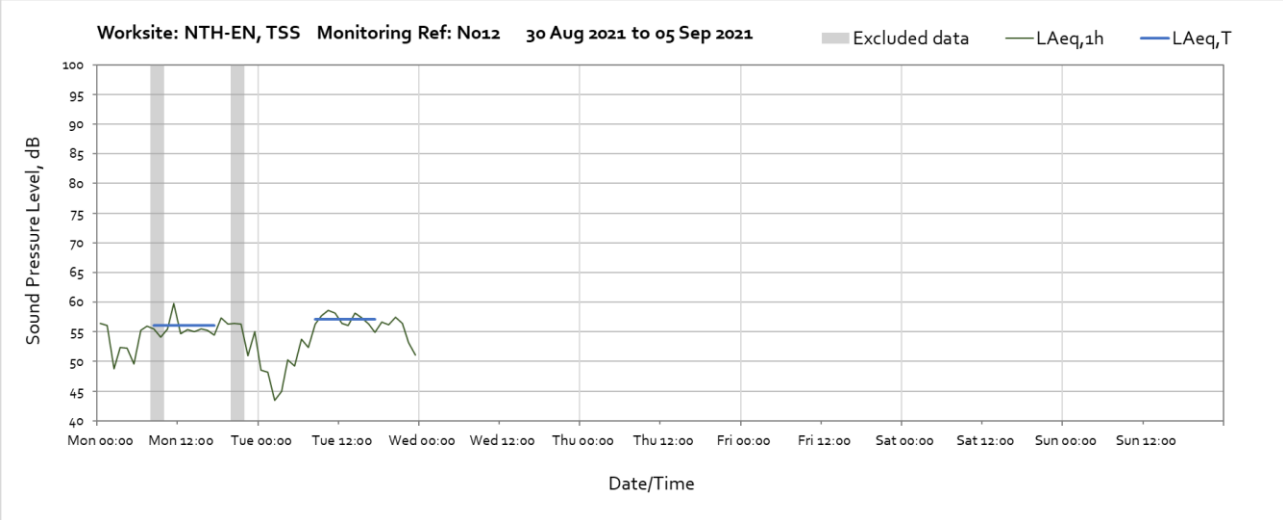
Date/Time


Worksite: NTH-EN, TSS Monitoring Ref: No12 30 Aug 2021 to 05 Sep 2021
Excluded data
LAeq,1h
LAeq,T
Sound Pressure Level, dB
100
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85
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Mon 00:00
Mon 12:00
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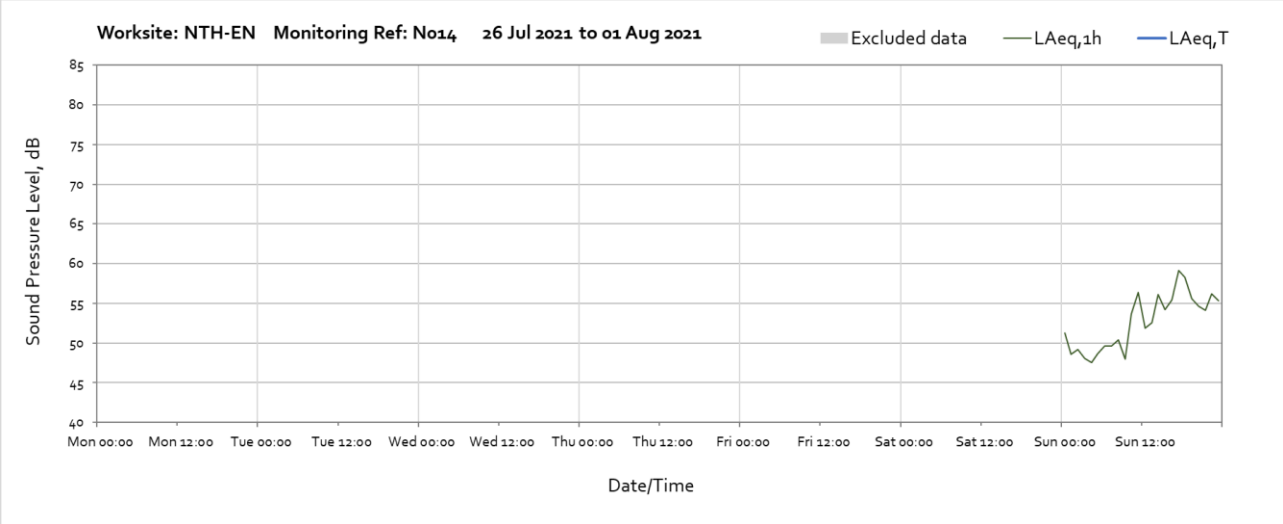
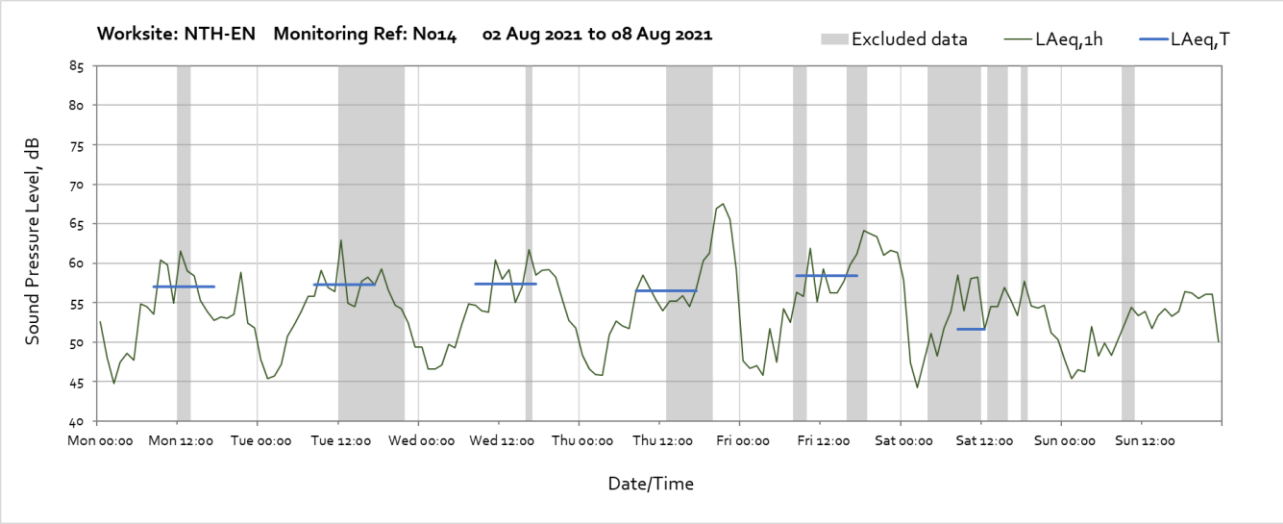
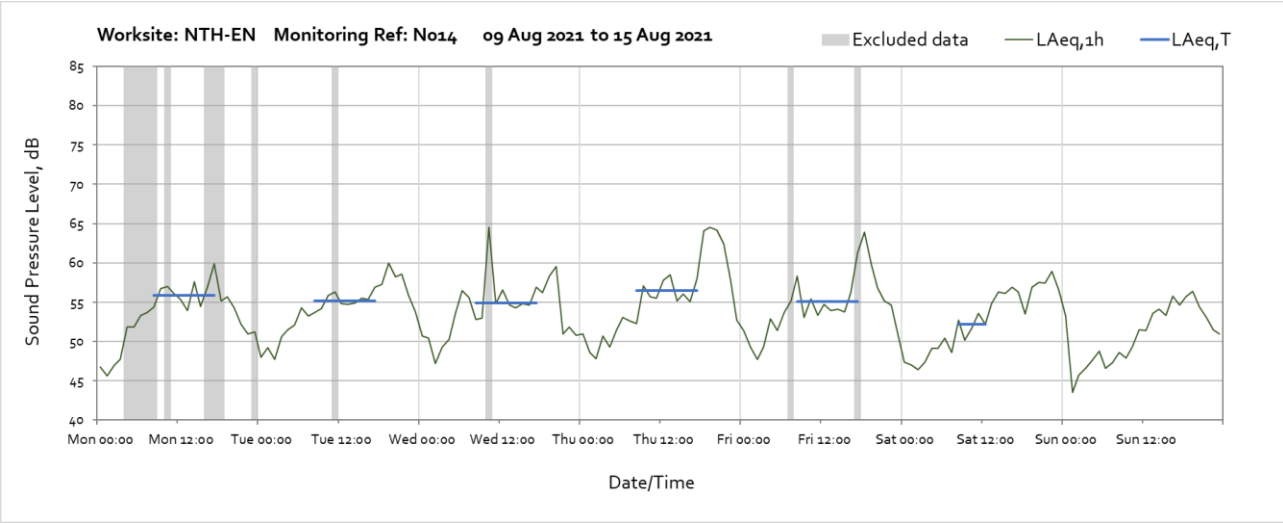
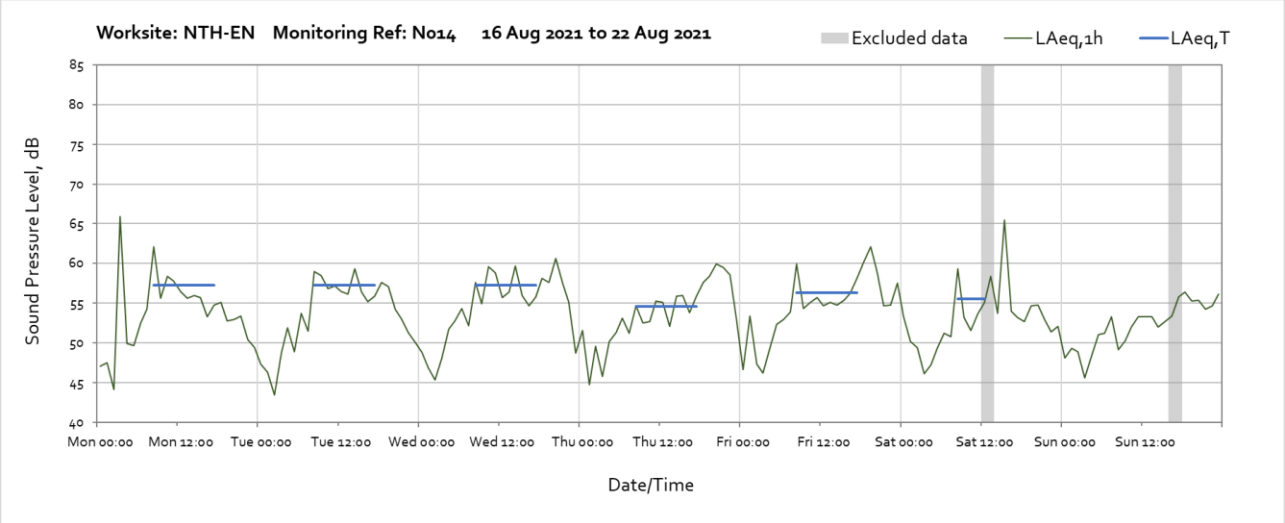
Date/Time

Worksite: NTH-EN – Monitoring Ref: N014








Worksite: NTH-EN Monitoring Ref: No14 16 Aug 2021 to 22 Aug 2021
Excluded data
LAeq,1h
LAeq,T
Sound Pressure Level, dB
85
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Mon 00:00
Mon 12:00
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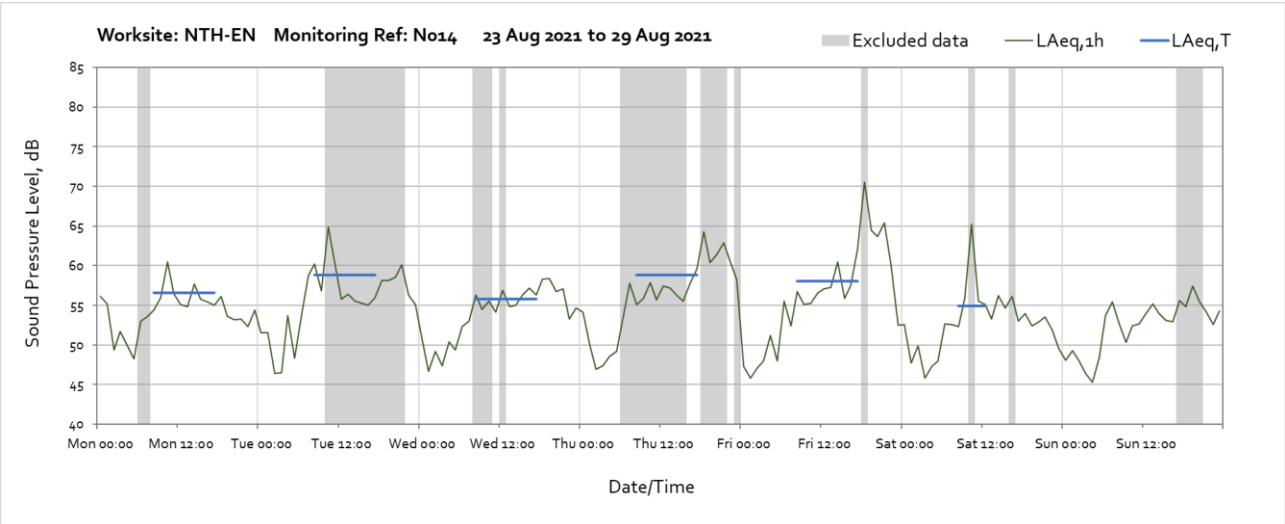
Date/Time


Worksite: NTH-EN Monitoring Ref: No14 23 Aug 2021 to 29 Aug 2021
Excluded data
LAeq,1h
LAeq,T
Sound Pressure Level, dB
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Mon 00:00
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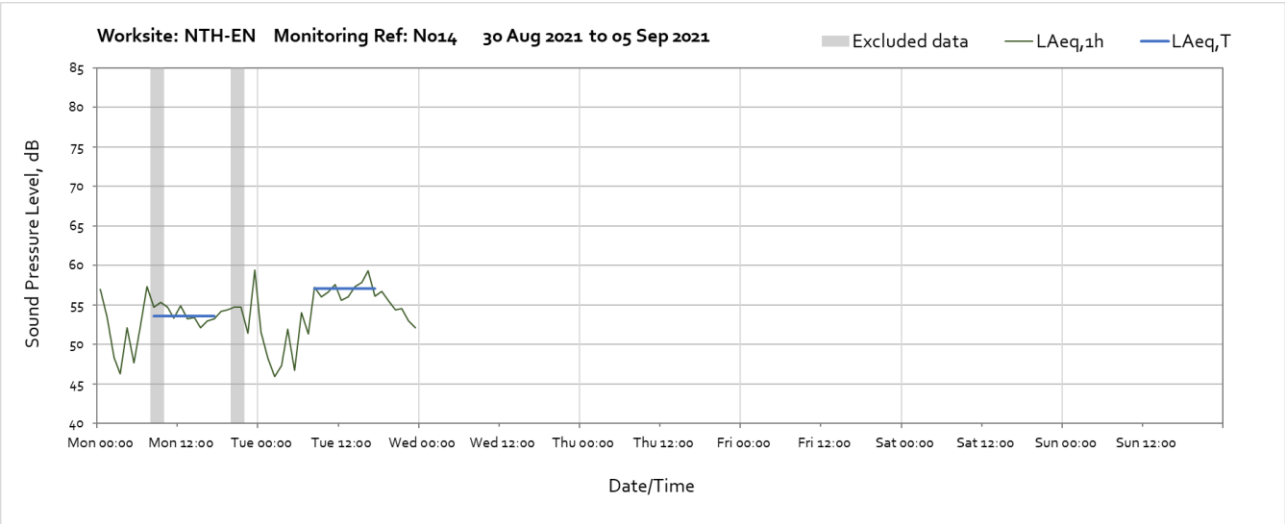
Date/Time


Worksite: NTH-EN Monitoring Ref: No14 30 Aug 2021 to 05 Sep 2021
Excluded data
LAeq,1h
LAeq,T
Sound Pressure Level, dB
85
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60
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40
Mon 00:00
Mon 12:00
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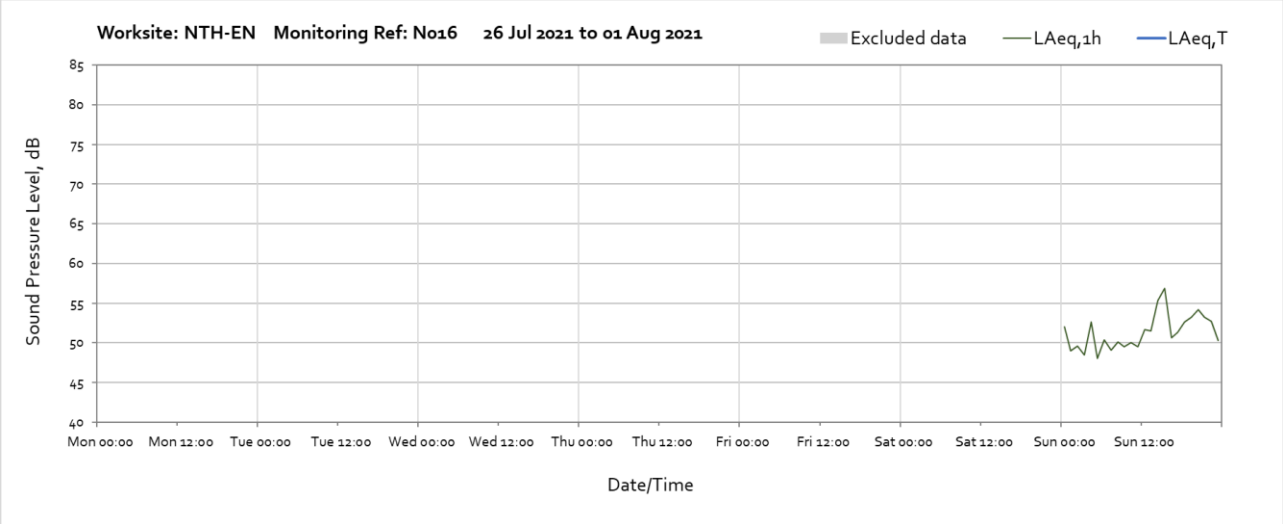
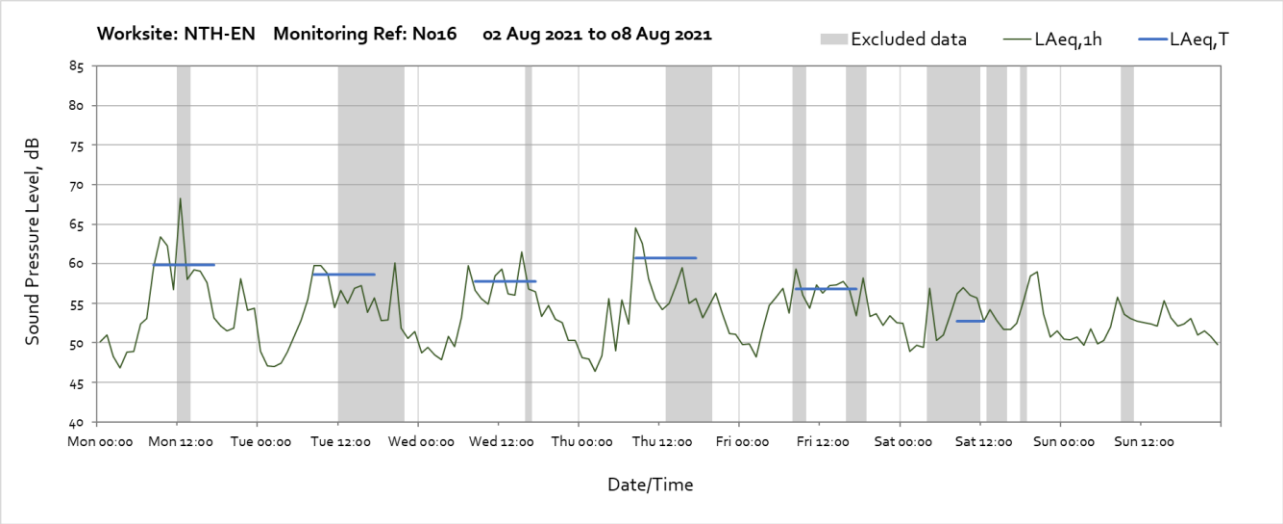
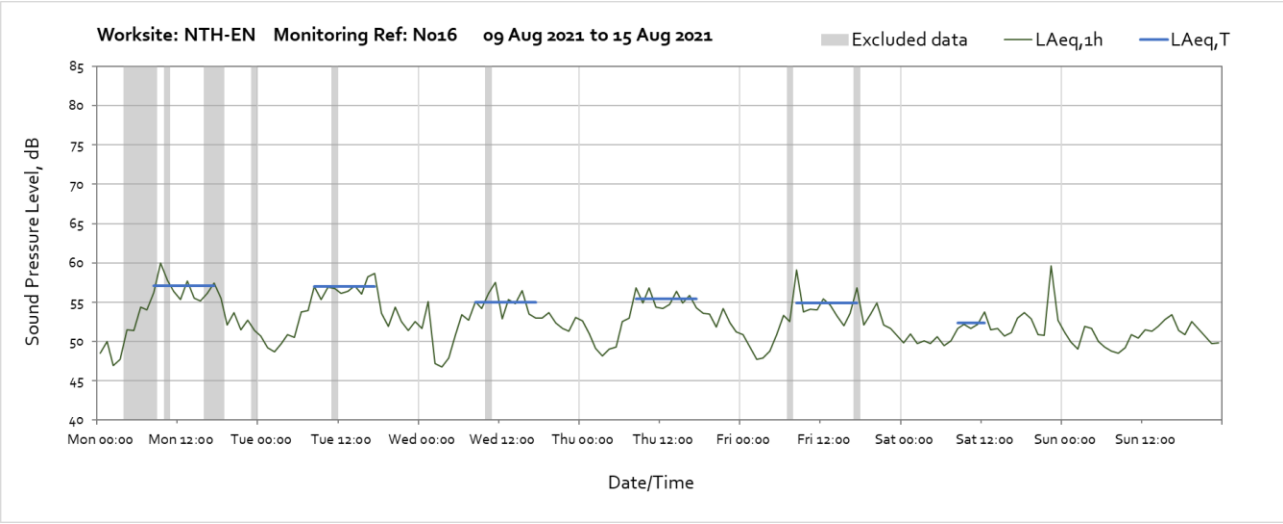
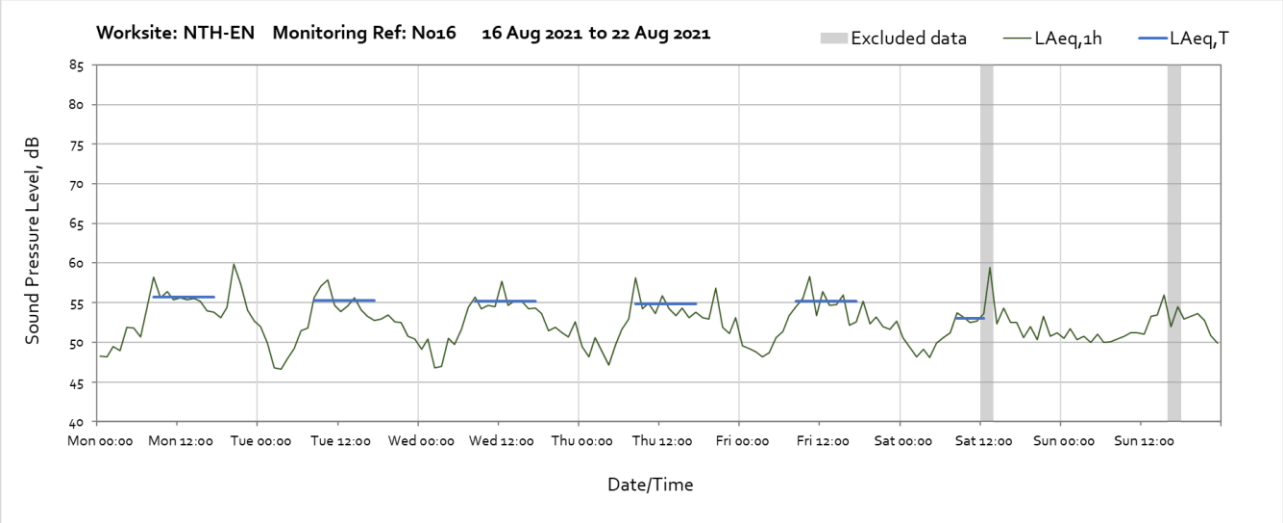
Date/Time

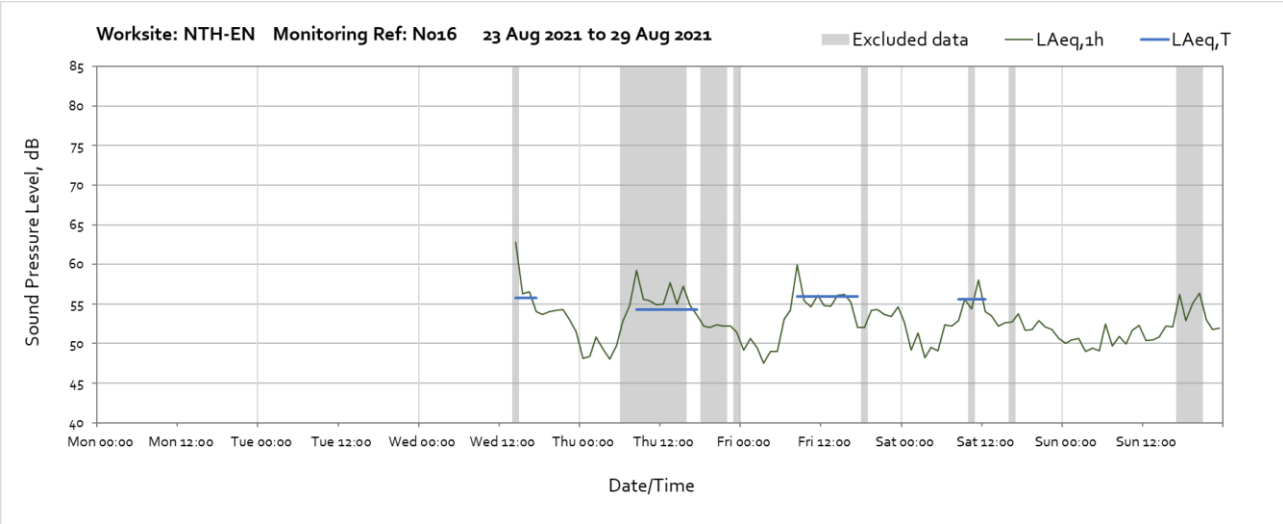
Worksite: NTH-EN – Monitoring Ref: N016



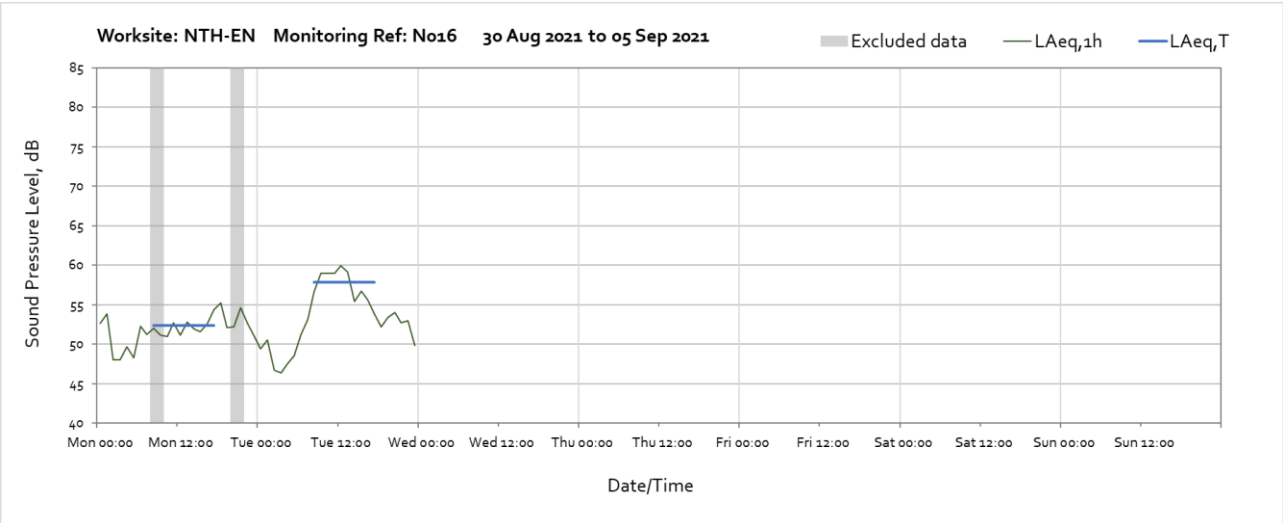




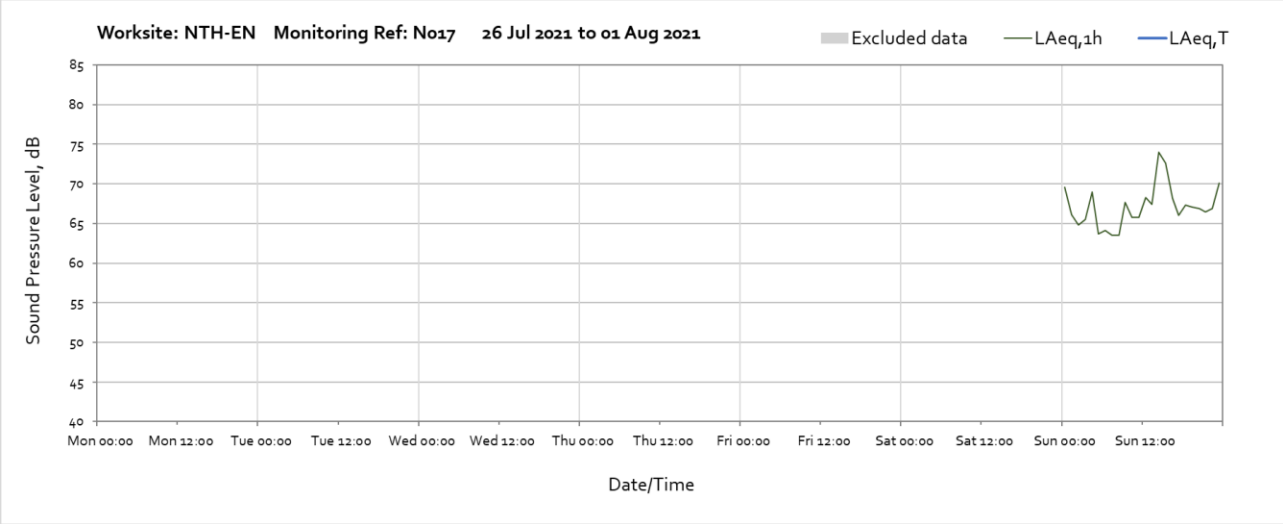


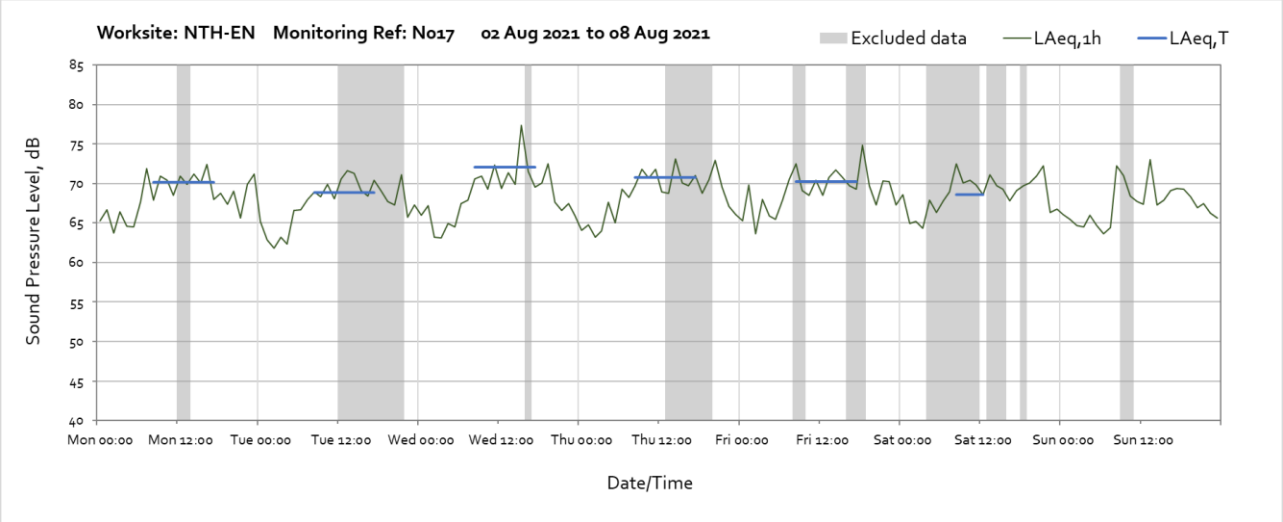


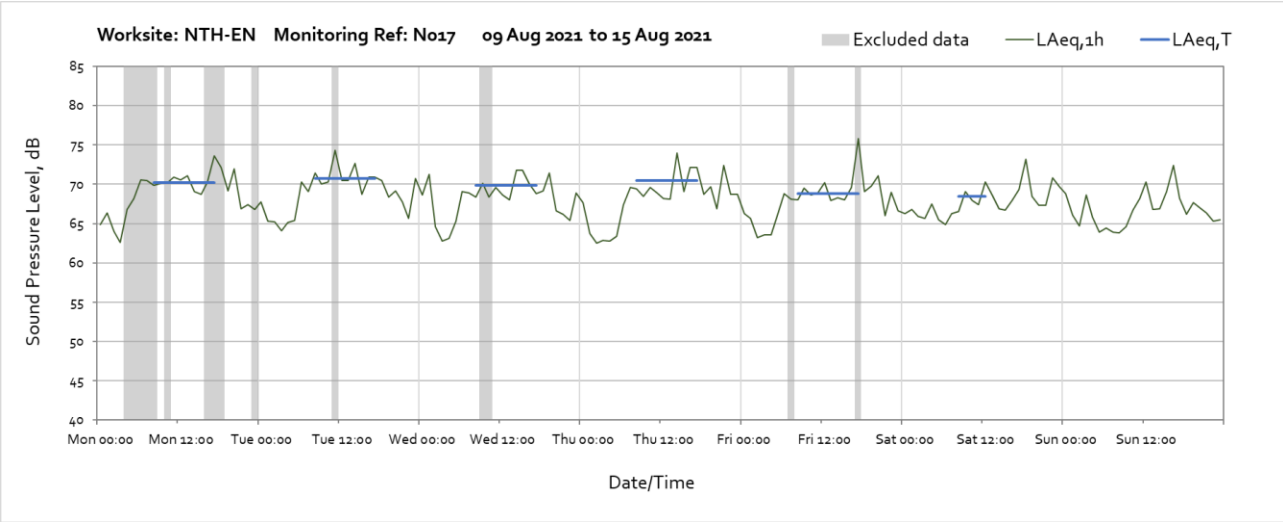
Note: Missing data from 01:00 on Monday 23rd August until 14:00 on Wednesday 25th August was due to loss of power to the monitoring station.

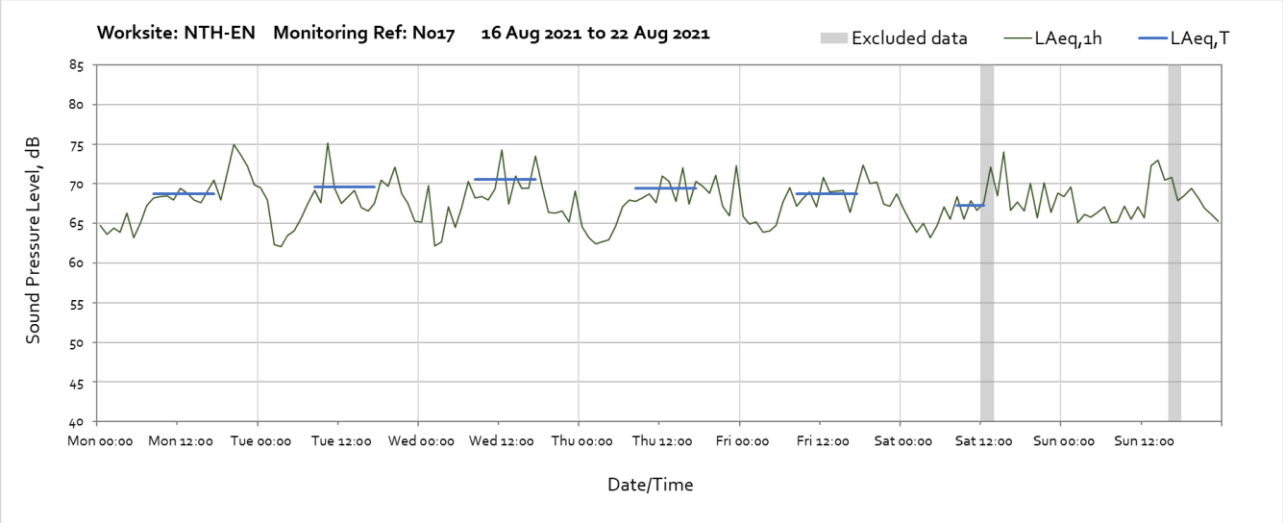


Worksite: NTH-EN – Monitoring Ref: N017








Worksite: NTH-EN Monitoring Ref: No17 16 Aug 2021 to 22 Aug 2021
Excluded data
LAeq,1h
LAeq,T
Sound Pressure Level, dB
85
80
75
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60
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Mon 00:00
Mon 12:00
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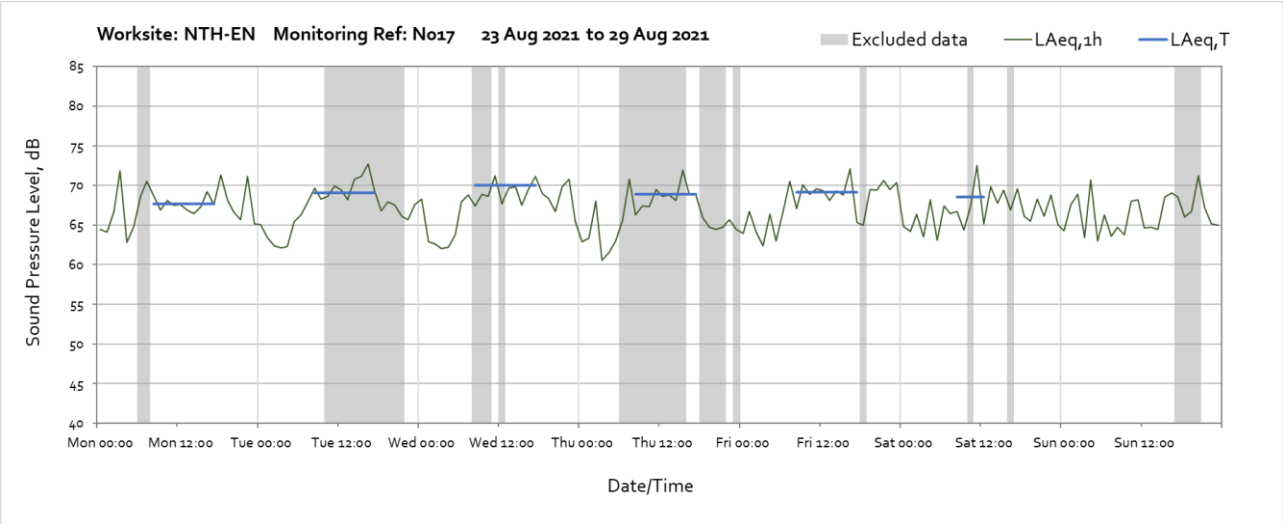
Date/Time


Worksite: NTH-EN Monitoring Ref: No17 23 Aug 2021 to 29 Aug 2021
Excluded data
LAeq,1h
LAeq,T
Sound Pressure Level, dB
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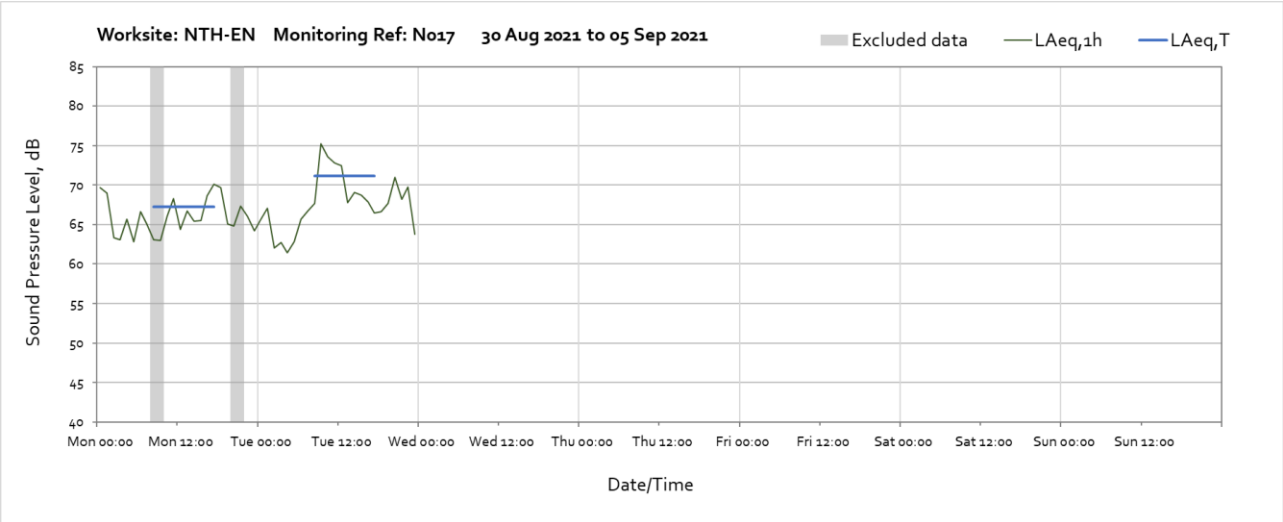
Date/Time


Worksite: NTH-EN Monitoring Ref: No17 30 Aug 2021 to 05 Sep 2021
Excluded data
LAeq,1h
LAeq,T
Sound Pressure Level, dB
85
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Mon 12:00
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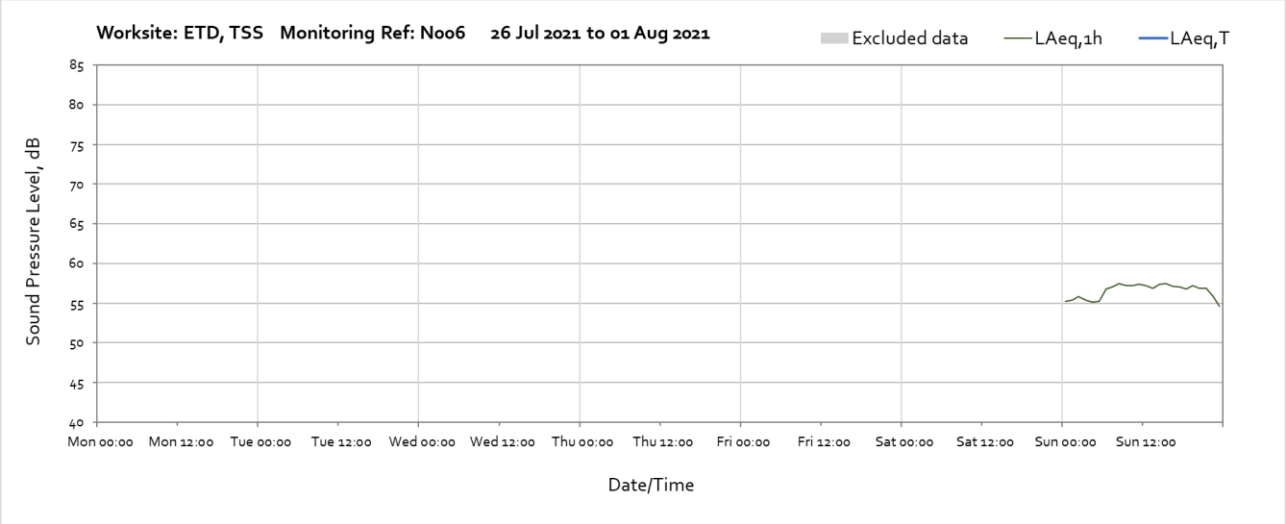
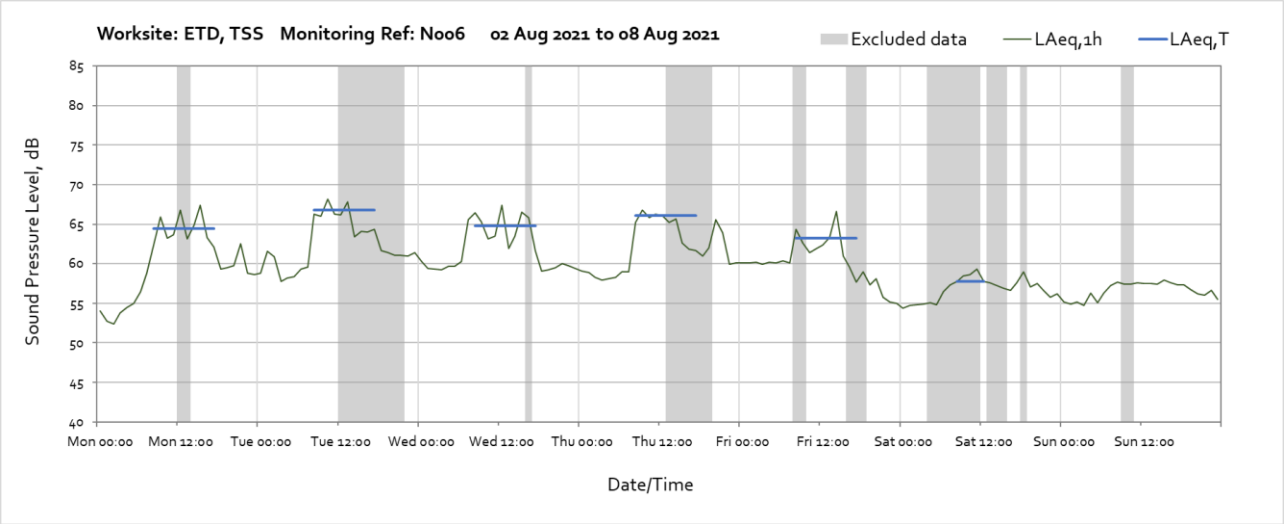
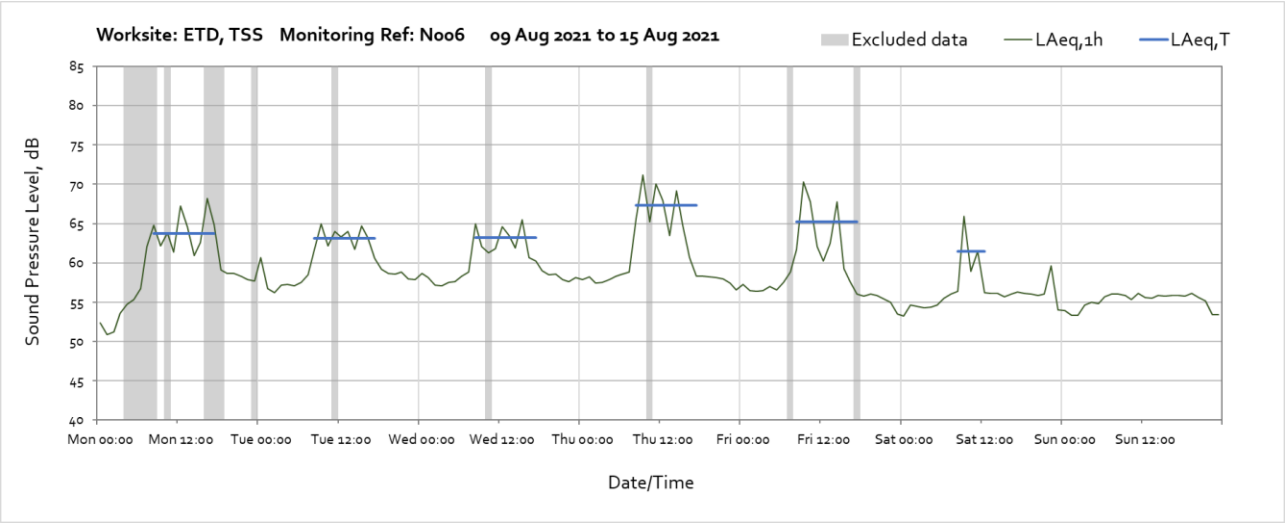
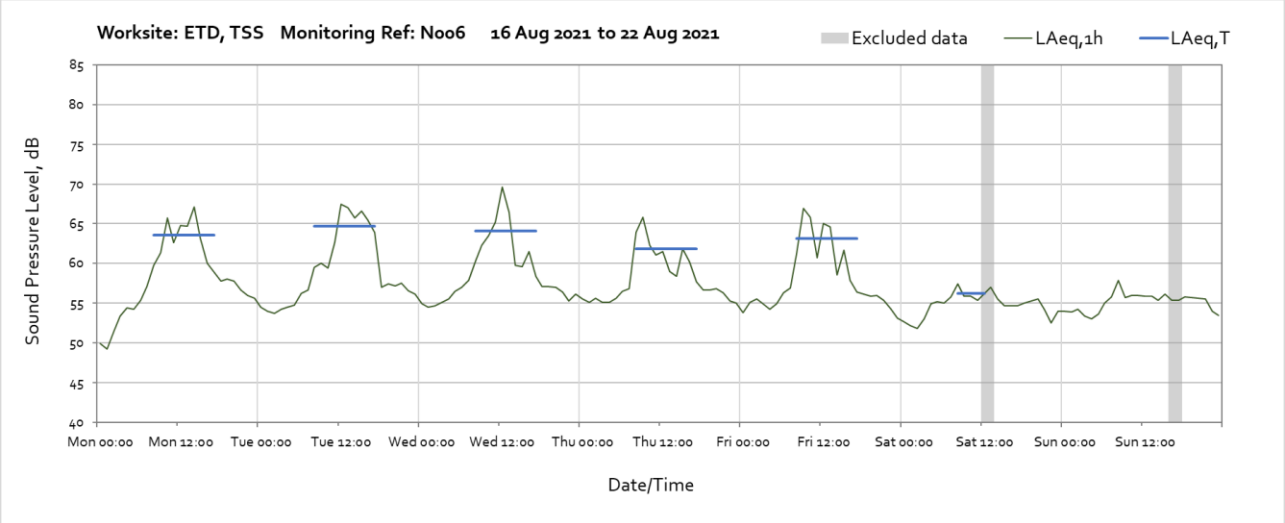
Date/Time

Worksite: ETD, TSS – Monitoring Ref: N006








Worksite: ETD, TSS Monitoring Ref: No06 16 Aug 2021 to 22 Aug 2021
Excluded data
LAeq,1h
LAeq,T
Sound Pressure Level, dB
85
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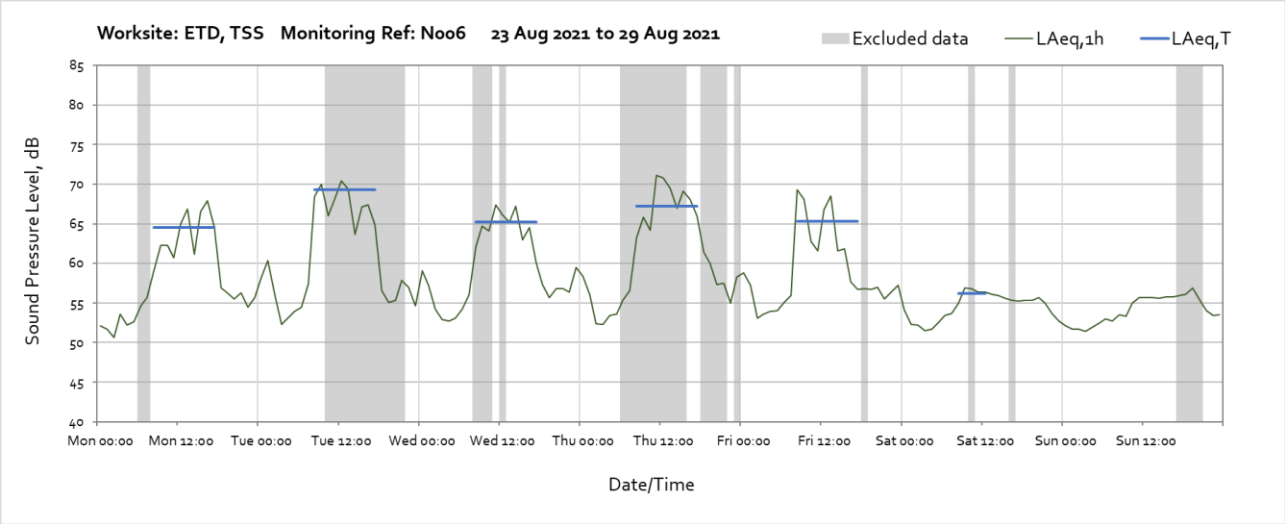
Date/Time


Worksite: ETD, TSS Monitoring Ref: No06 23 Aug 2021 to 29 Aug 2021
Excluded data
LAeq,1h
LAeq,T
Sound Pressure Level, dB
85
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Mon 12:00
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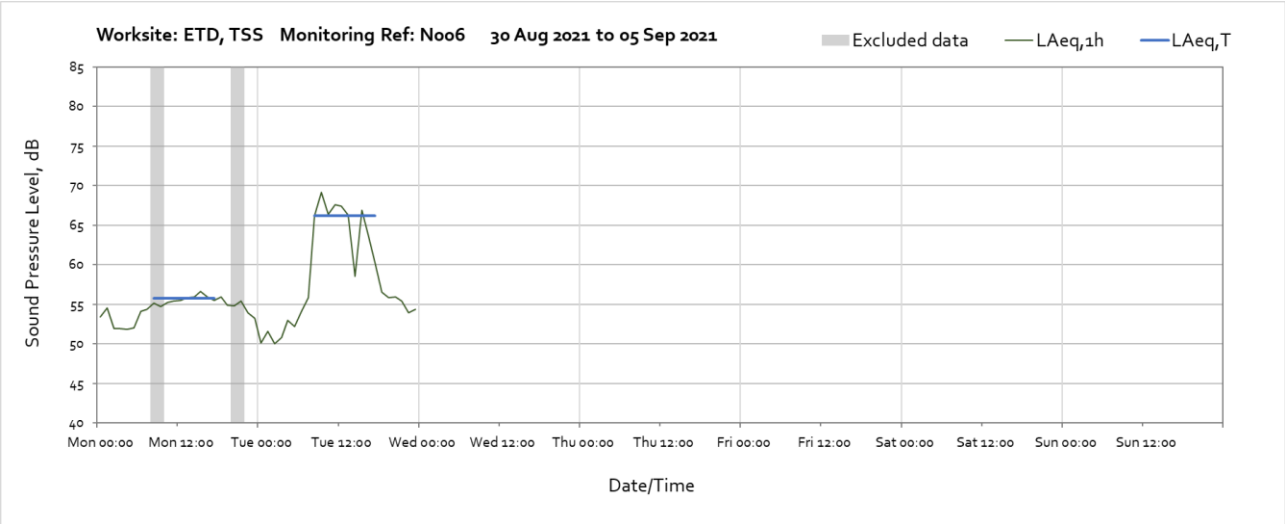
Date/Time


Worksite: ETD, TSS Monitoring Ref: No06 30 Aug 2021 to 05 Sep 2021
Excluded data
LAeq,1h
LAeq,T
Sound Pressure Level, dB
85
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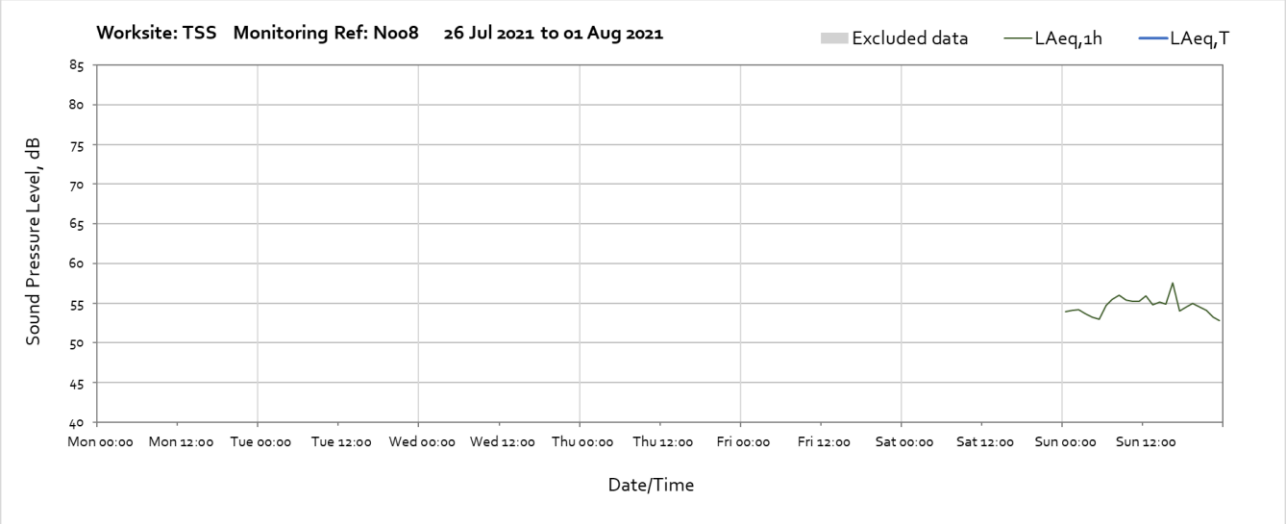
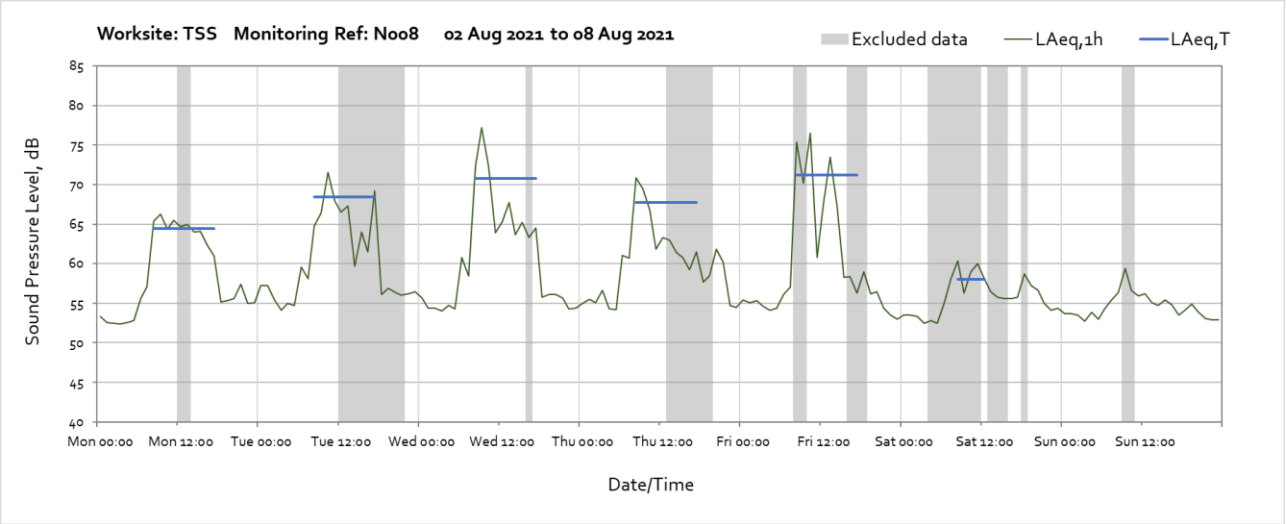
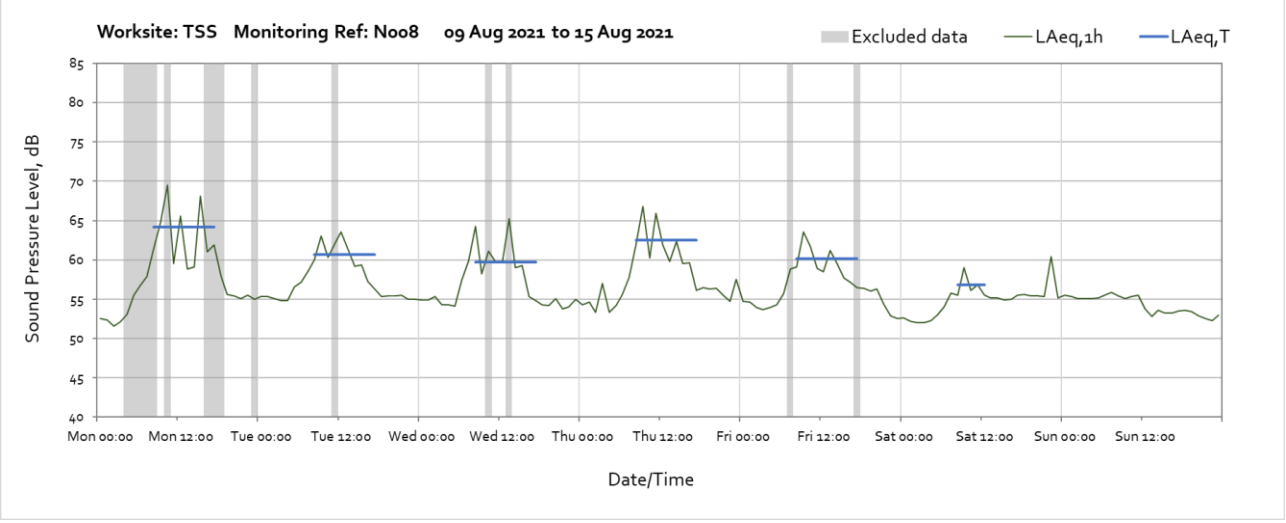
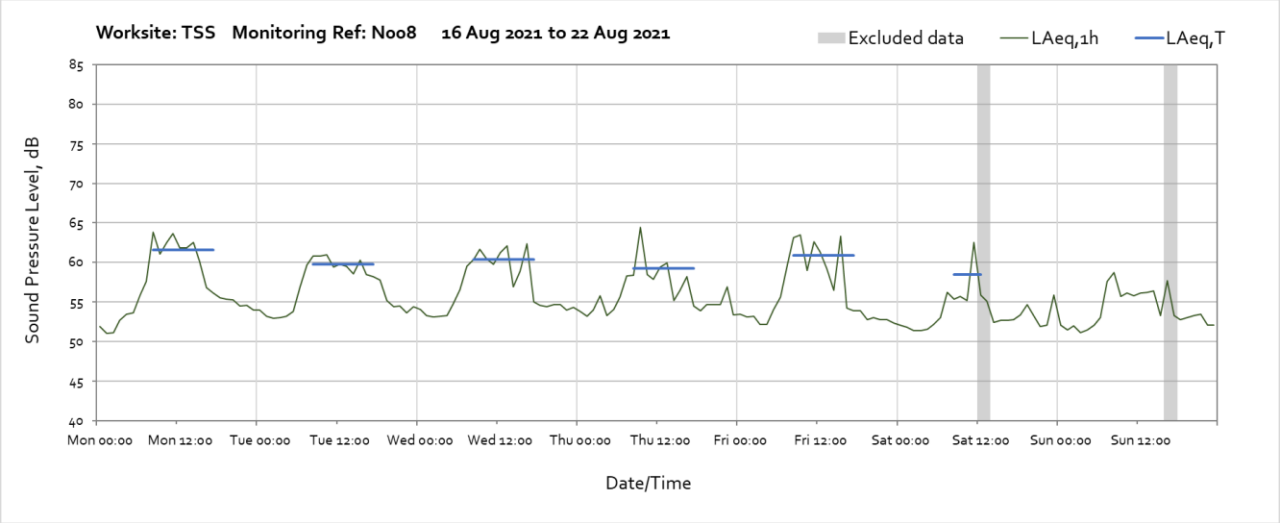
Date/Time

Worksite: TSS – Monitoring Ref: N008








Worksite: TSS Monitoring Ref: Noo8 16 Aug 2021 to 22 Aug 2021
Excluded data
LAeq,1h
LAeq,T
Sound Pressure Level, dB
85
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75
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Mon 00:00
Mon 12:00
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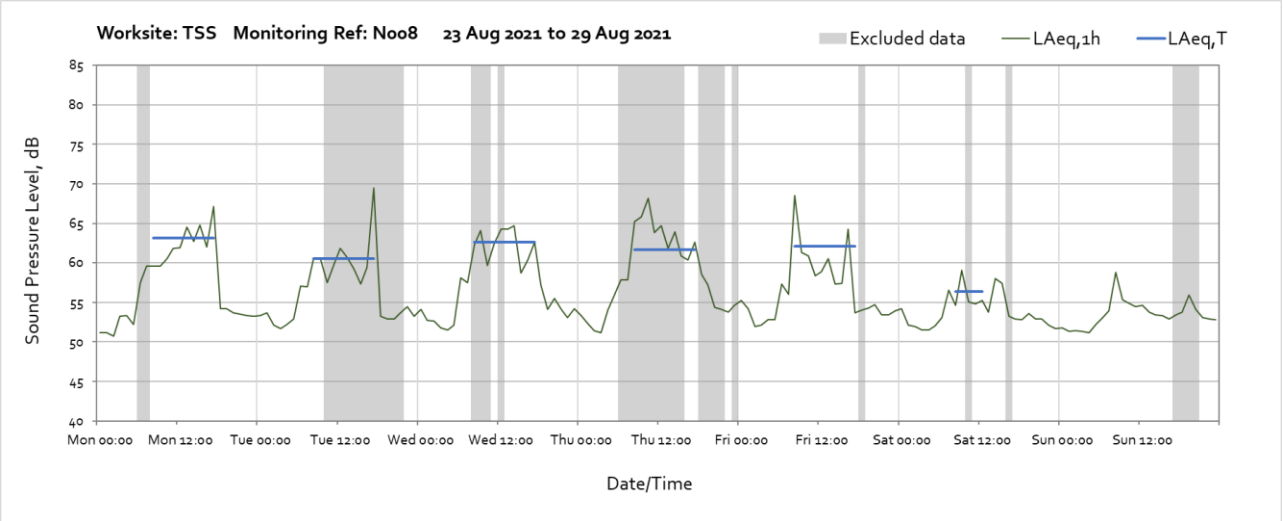
Date/Time


Worksite: TSS Monitoring Ref: Noo8 23 Aug 2021 to 29 Aug 2021
Excluded data
LAeq,1h
LAeq,T
Sound Pressure Level, dB
85
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Mon 00:00
Mon 12:00
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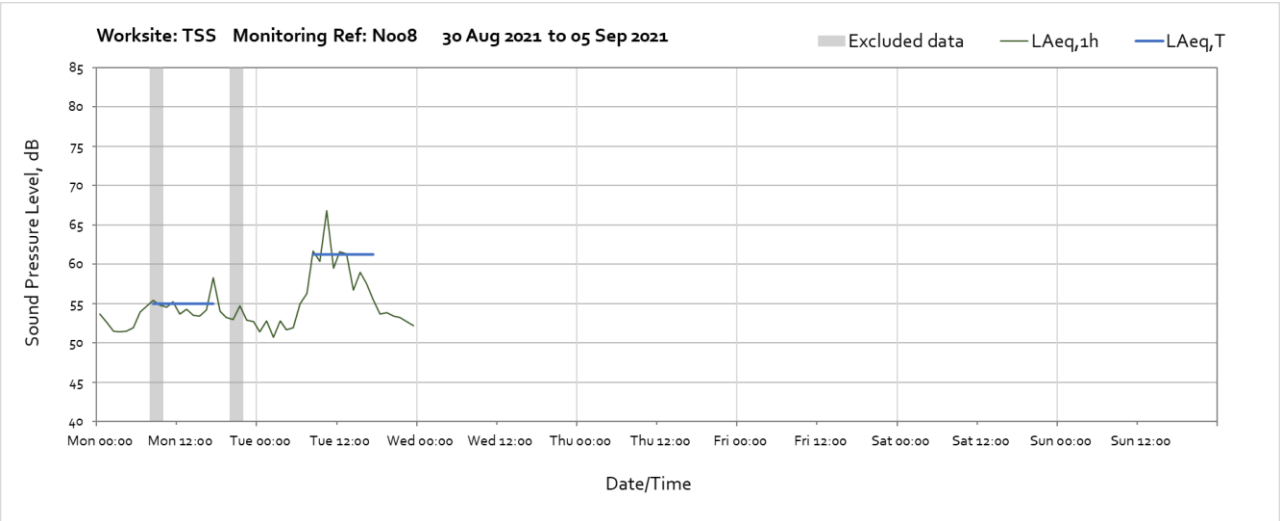
Date/Time


Worksite: TSS Monitoring Ref: Noo8 30 Aug 2021 to 05 Sep 2021
Excluded data
LAeq,1h
LAeq,T
Sound Pressure Level, dB
85
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Mon 00:00
Mon 12:00
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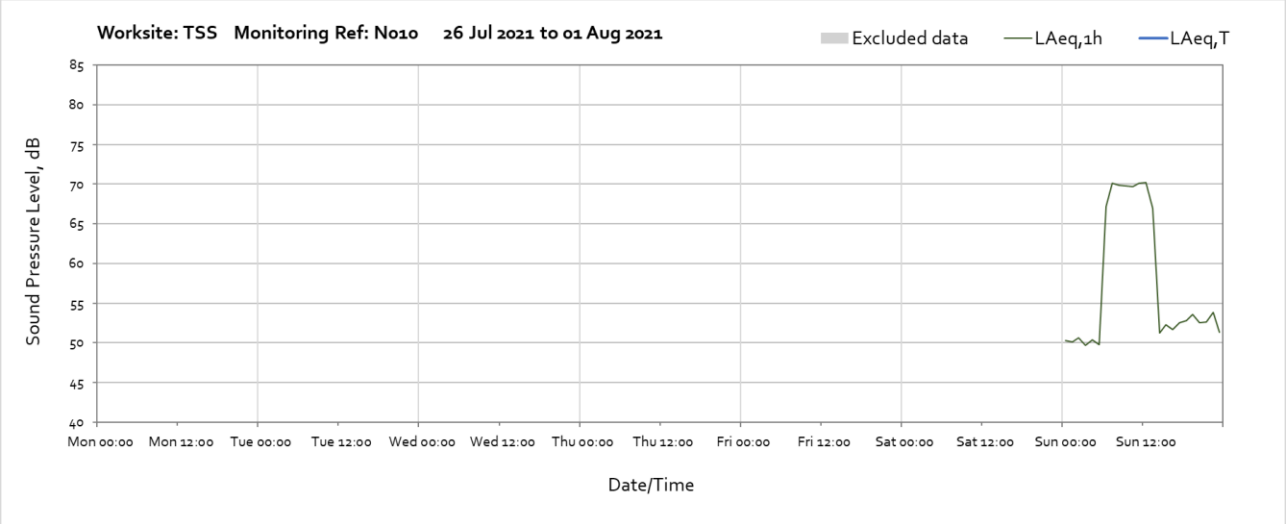
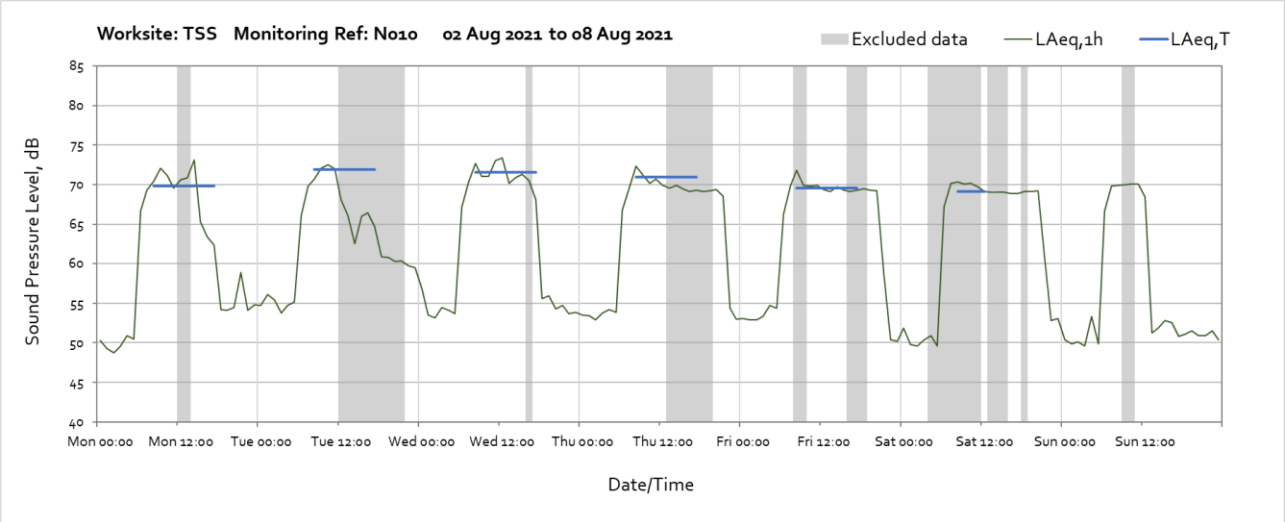
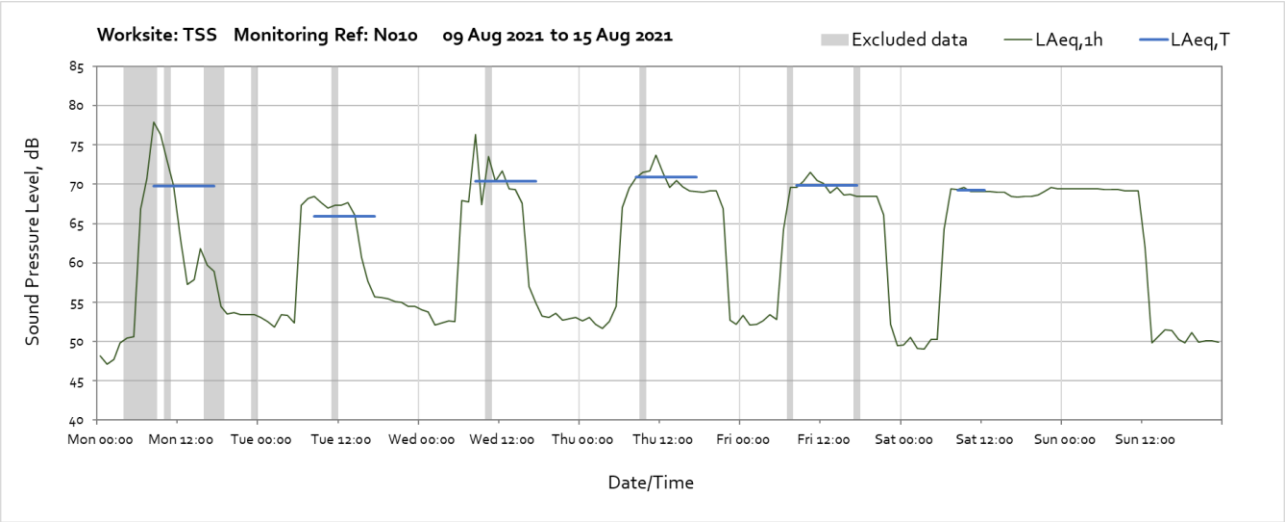
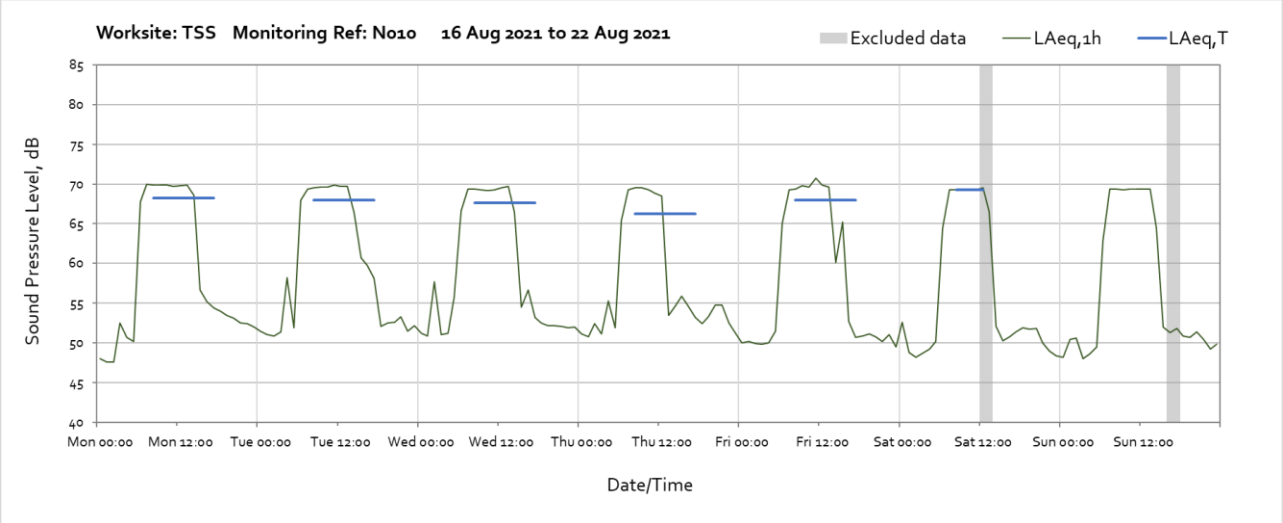
Date/Time

Worksite: TSS – Monitoring Ref: N010








Worksite: TSS Monitoring Ref: No10 16 Aug 2021 to 22 Aug 2021
Excluded data
LAeq,1h
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Sound Pressure Level, dB
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Mon 00:00
Mon 12:00
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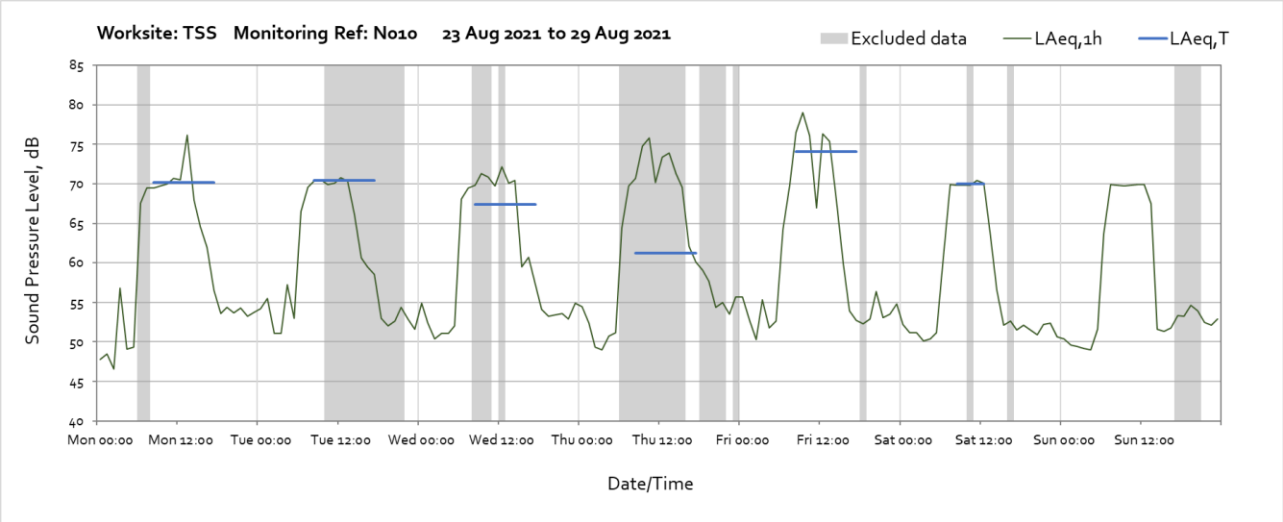
Date/Time


Worksite: TSS Monitoring Ref: No10 23 Aug 2021 to 29 Aug 2021
Excluded data
LAeq,1h
LAeq,T
Sound Pressure Level, dB
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Date/Time


Worksite: TSS Monitoring Ref: No10 30 Aug 2021 to 05 Sep 2021
Excluded data
LAeq,1h
LAeq,T
Sound Pressure Level, dB
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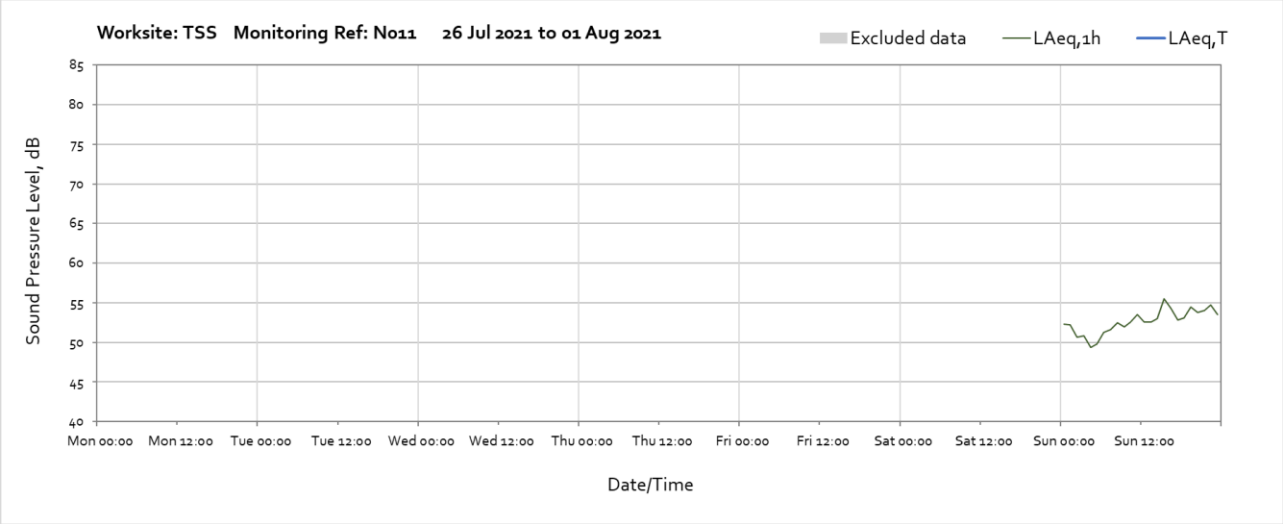
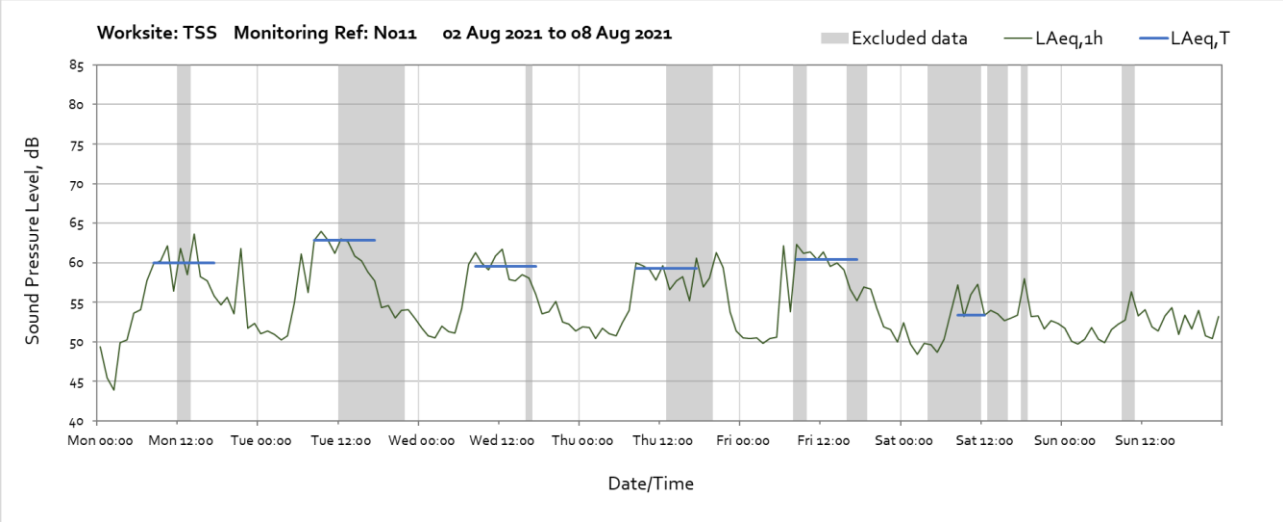
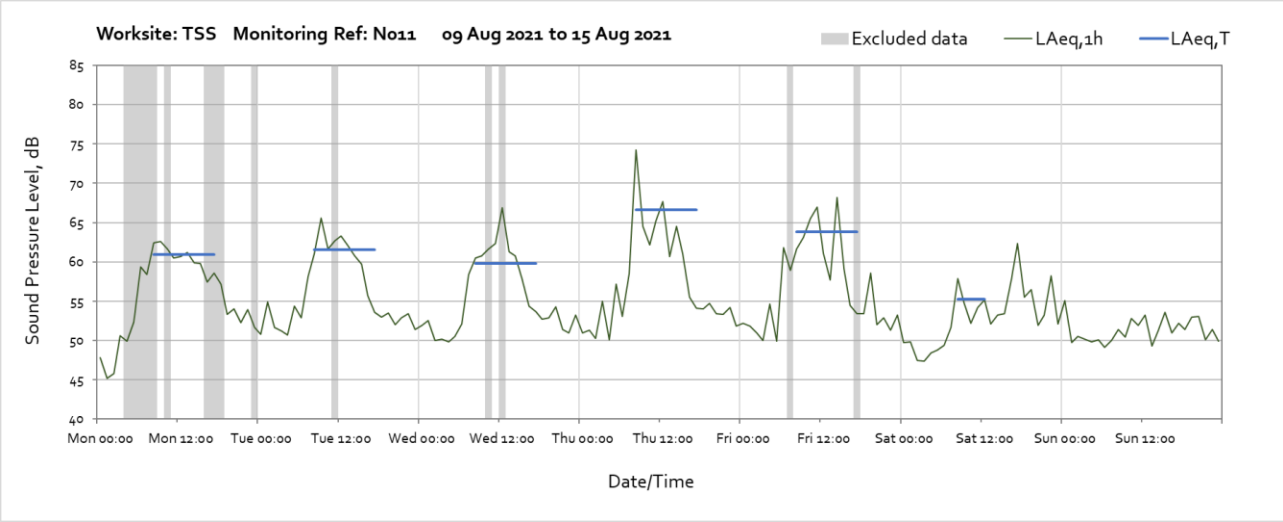
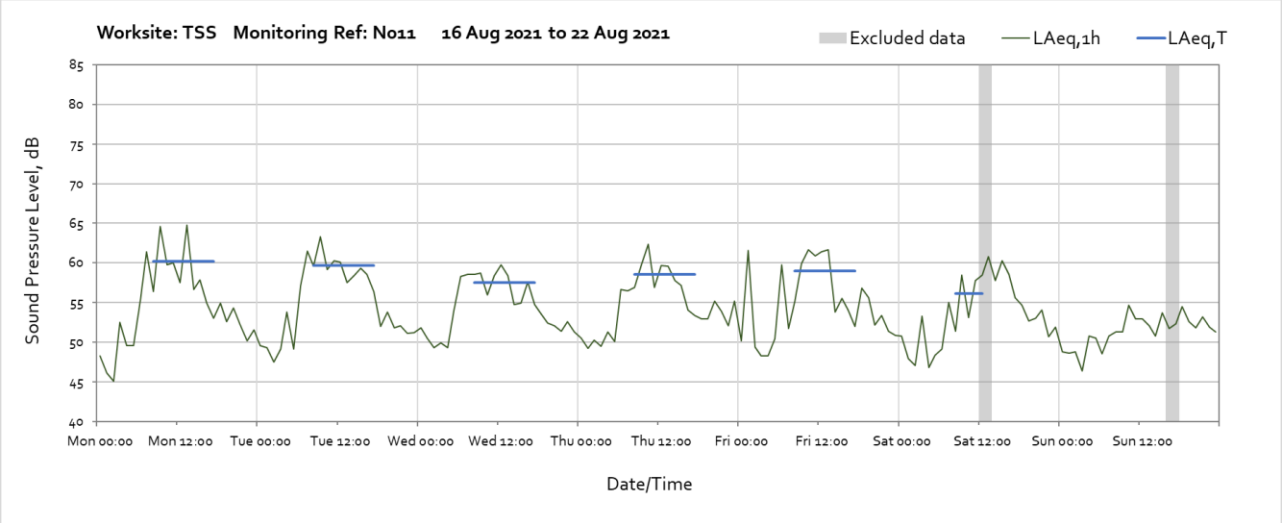
Date/Time

Worksite: S003-WS03 – Monitoring Ref: N011








Worksite: TSS Monitoring Ref: No11 16 Aug 2021 to 22 Aug 2021
Excluded data
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Sound Pressure Level, dB
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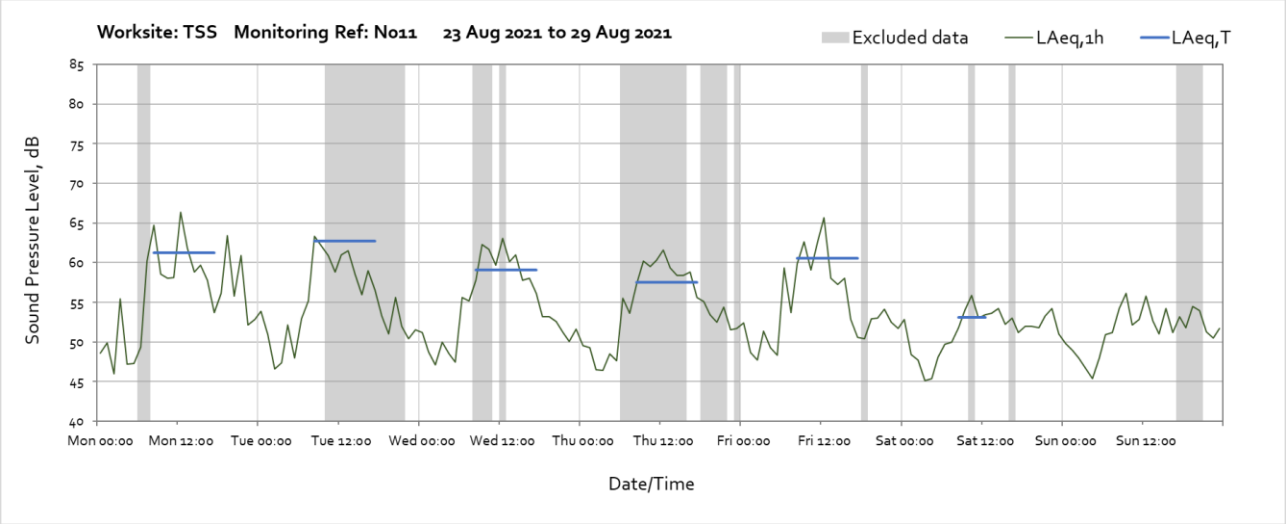
Date/Time


Worksite: TSS Monitoring Ref: No11 23 Aug 2021 to 29 Aug 2021
Excluded data
LAeq,1h
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Sound Pressure Level, dB
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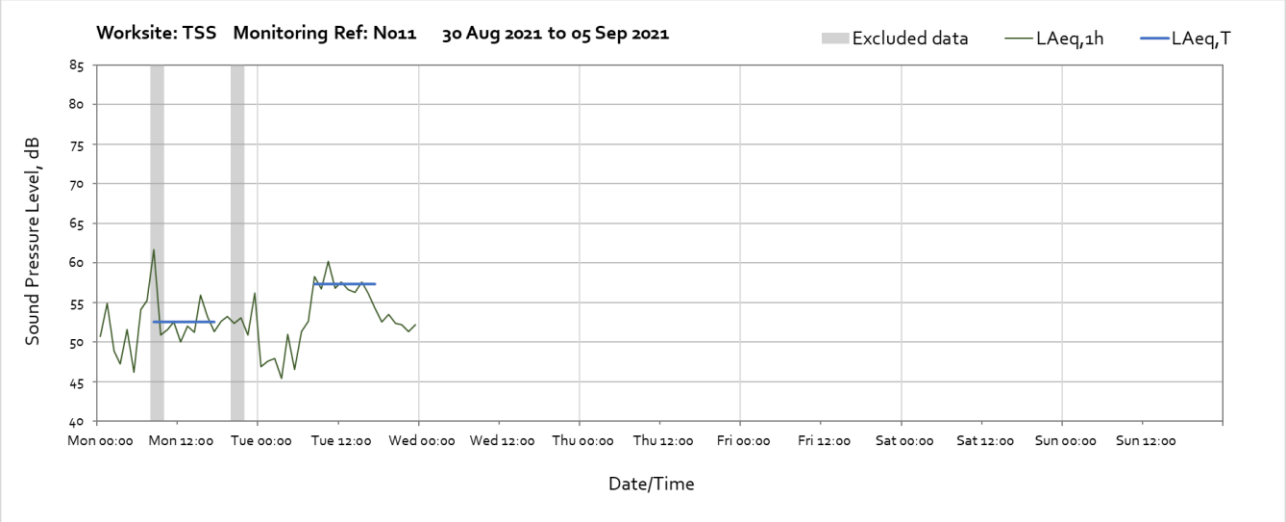
Date/Time


Worksite: TSS Monitoring Ref: No11 30 Aug 2021 to 05 Sep 2021
Excluded data
LAeq,1h
LAeq,T
Sound Pressure Level, dB
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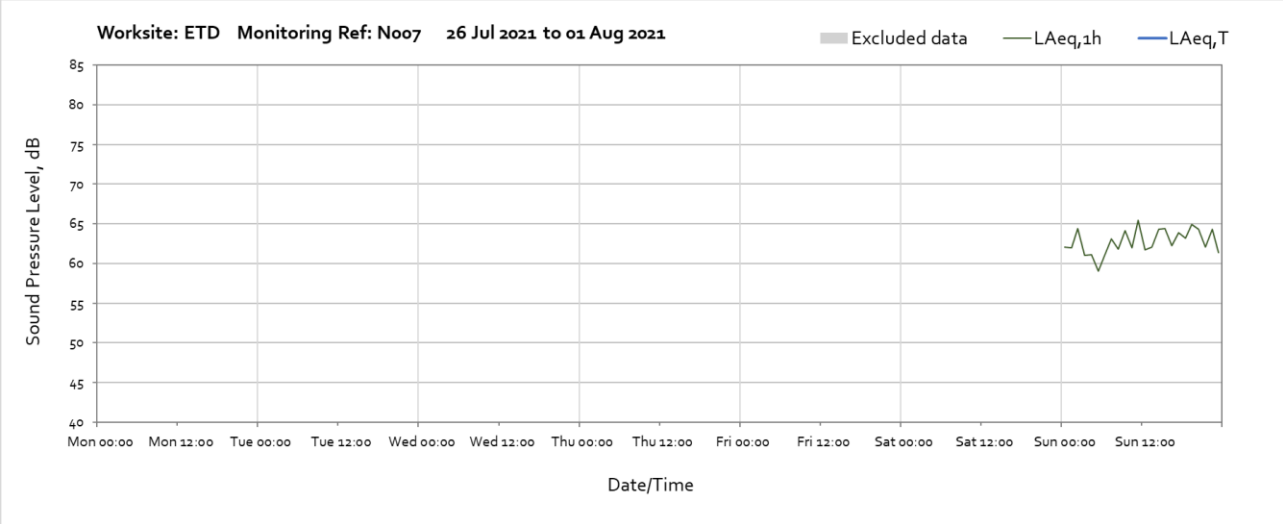
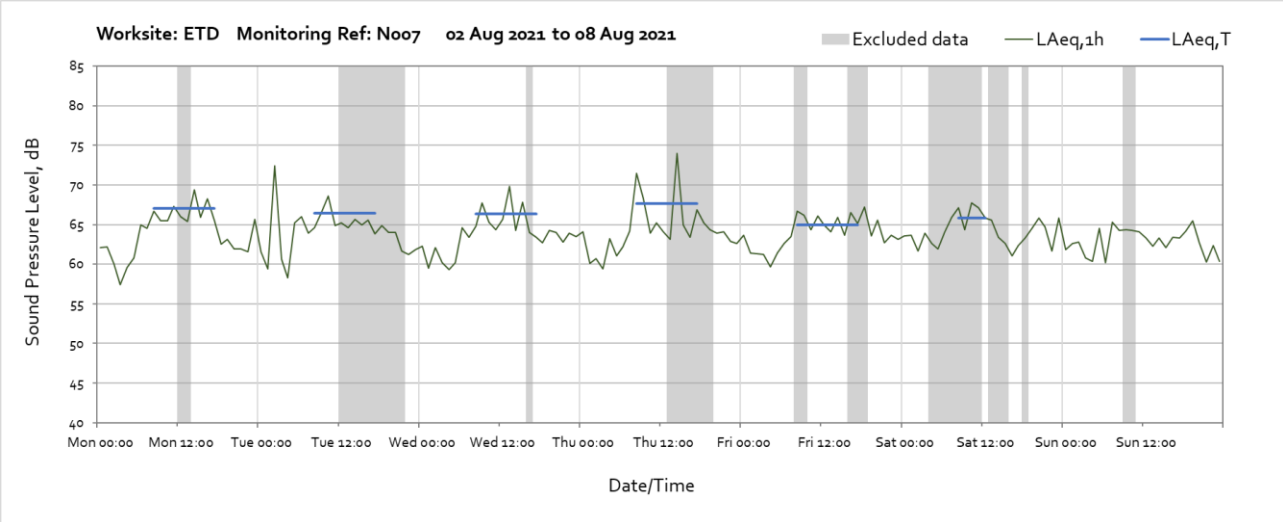
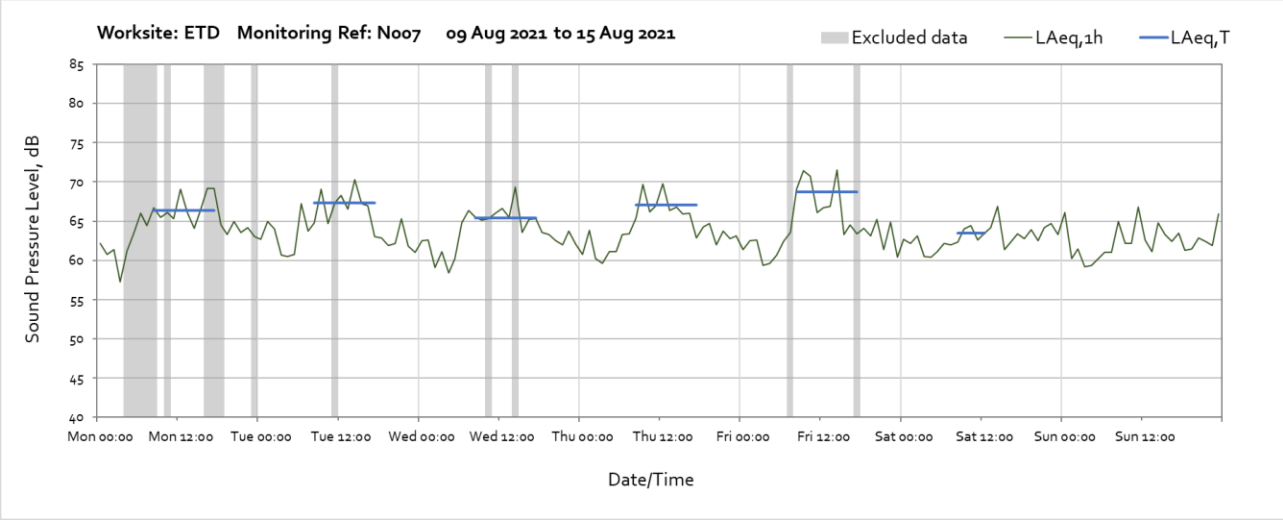
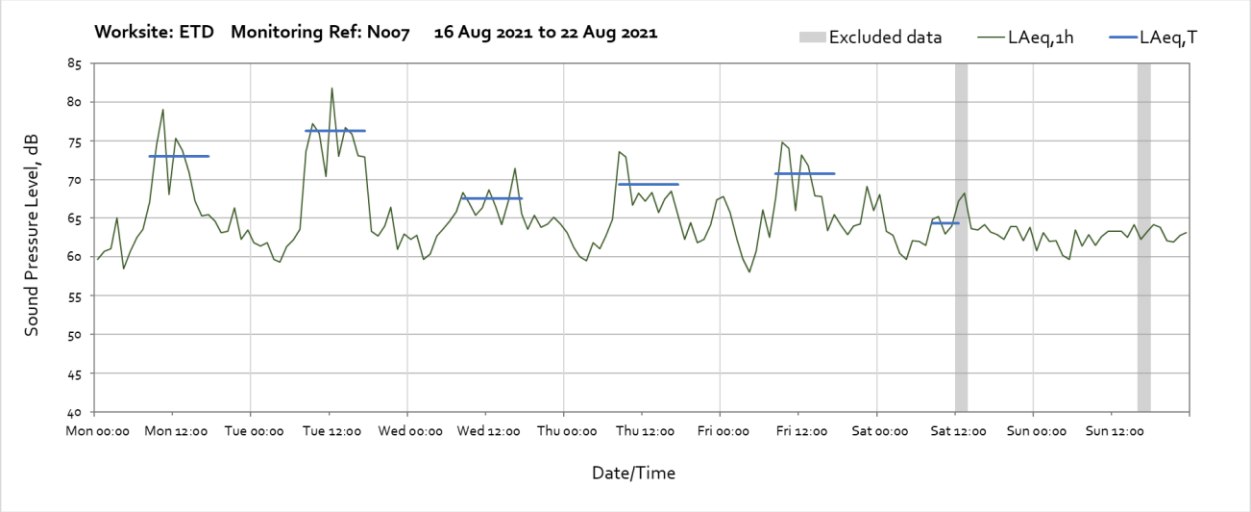
Date/Time

Worksite: ETD – Monitoring Ref: N007








Worksite: ETD Monitoring Ref: No07 16 Aug 2021 to 22 Aug 2021
Excluded data
LAeq,1h
LAeq,T
Sound Pressure Level, dB
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Mon 00:00
Mon 12:00
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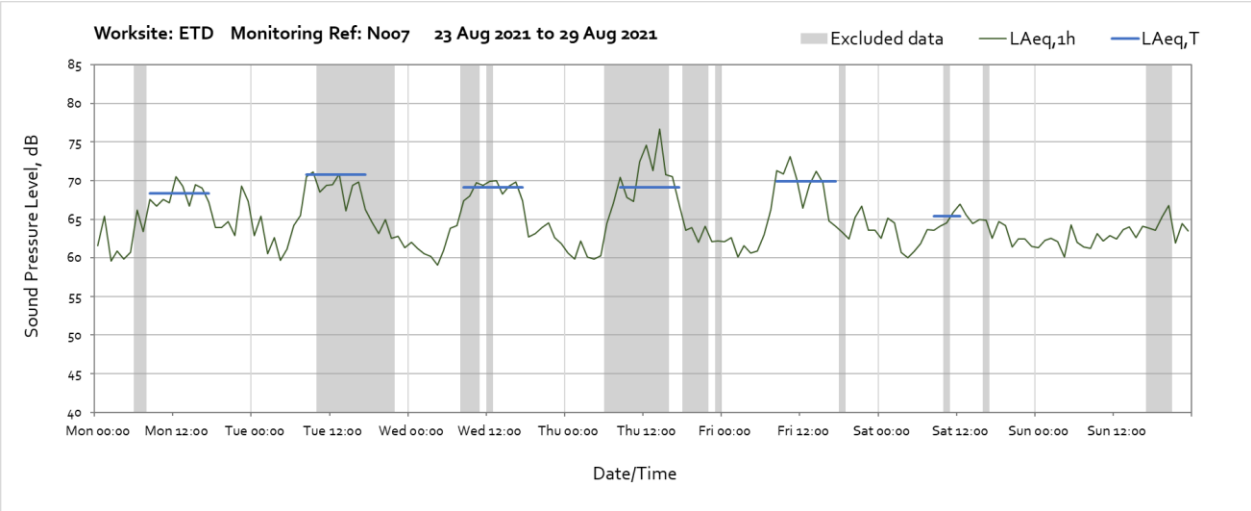
Date/Time


Worksite: ETD Monitoring Ref: No07 23 Aug 2021 to 29 Aug 2021
Excluded data
LAeq,1h
LAeq,T
Sound Pressure Level, dB
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Date/Time


Worksite: ETD Monitoring Ref: No07 30 Aug 2021 to 05 Sep 2021
Excluded data
LAeq,1h
LAeq,T
Sound Pressure Level, dB
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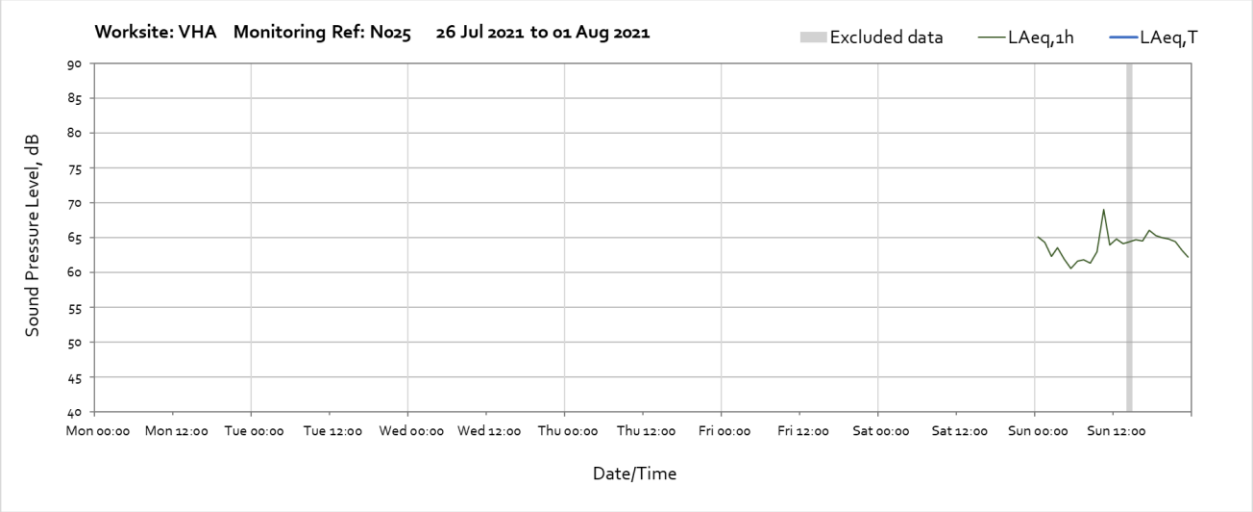
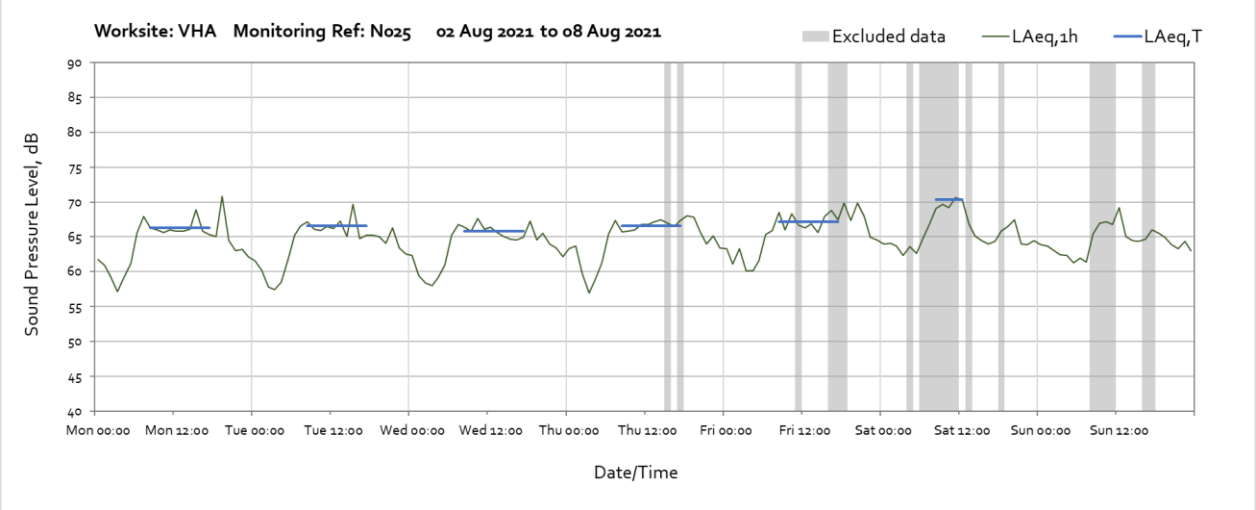
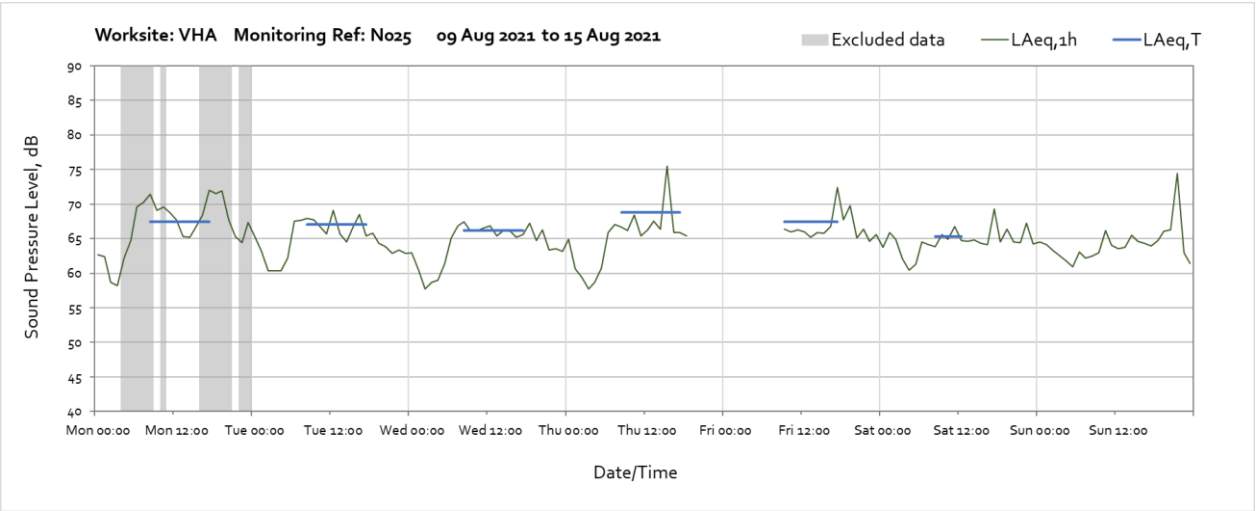
Date/Time

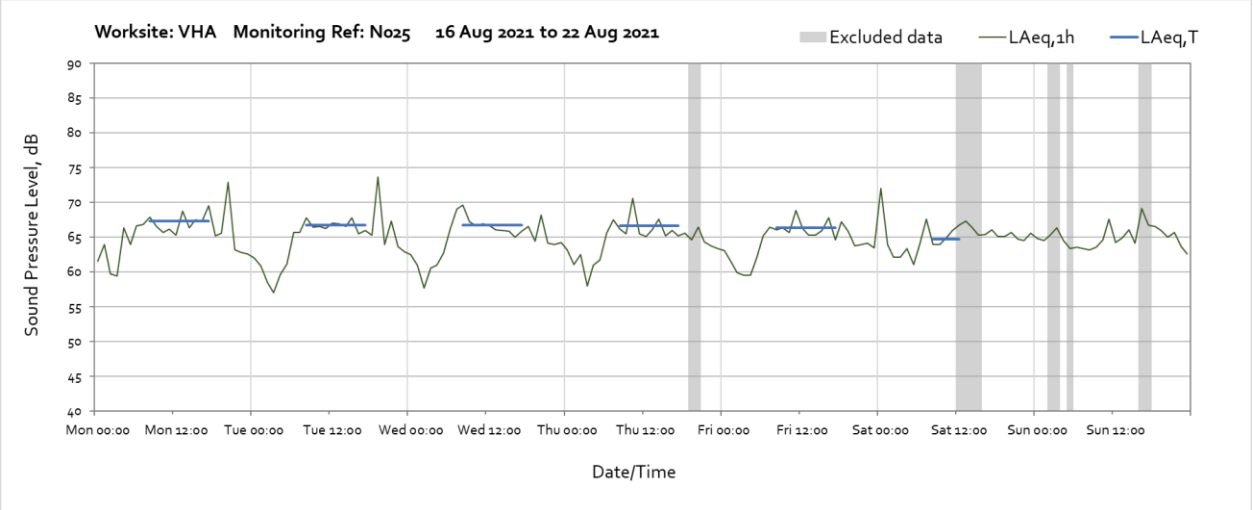
Vehicle Holding Area (VHA) – Monitoring Ref: N025







Note: Missing data from 19:00 on Thursday 12th August until 09:00 on Friday 13th August was due to a memory card error. The memory card has been reformatted with view of avoiding further loss of data.


Worksite: VHA Monitoring Ref: No25 16 Aug 2021 to 22 Aug 2021
Excluded data
LAeq,1h
LAeq,T
Sound Pressure Level, dB
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Mon 00:00
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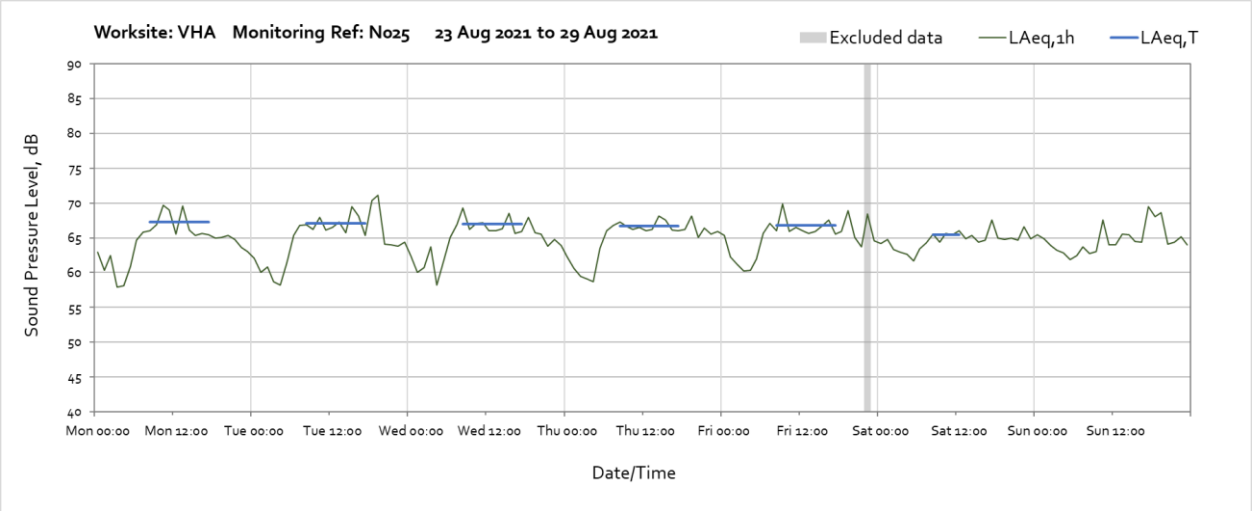
Date/Time


Worksite: VHA Monitoring Ref: No25 23 Aug 2021 to 29 Aug 2021
Excluded data
LAeq,1h
LAeq,T
Sound Pressure Level, dB
90
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Mon 00:00
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Sun 12:00
Date/Time


Worksite: VHA Monitoring Ref: No25 30 Aug 2021 to 05 Sep 2021
Excluded data
LAeq,1h
LAeq,T
Sound Pressure Level, dB
90
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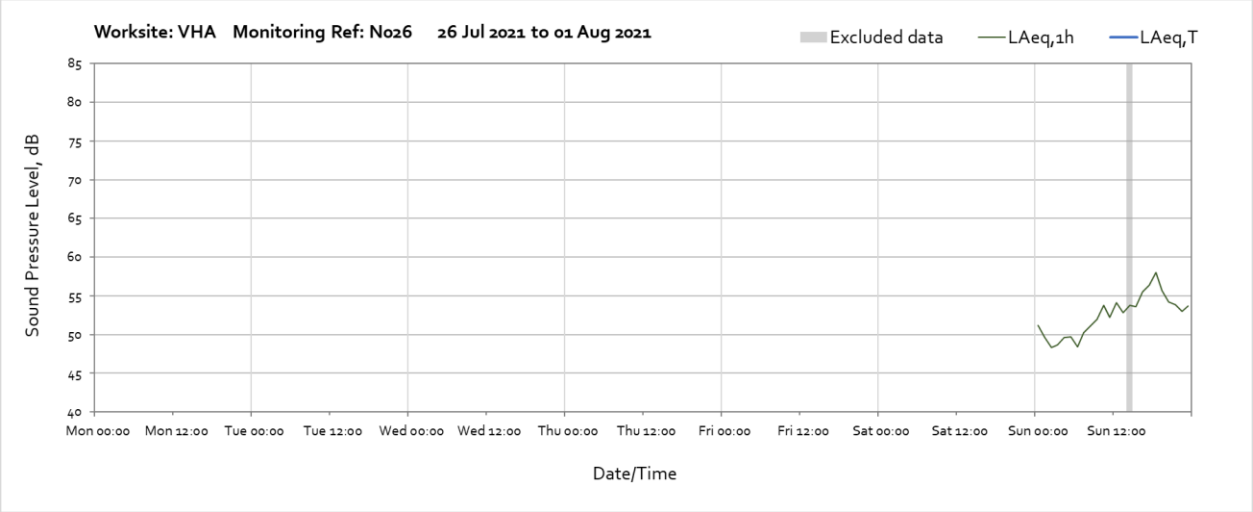
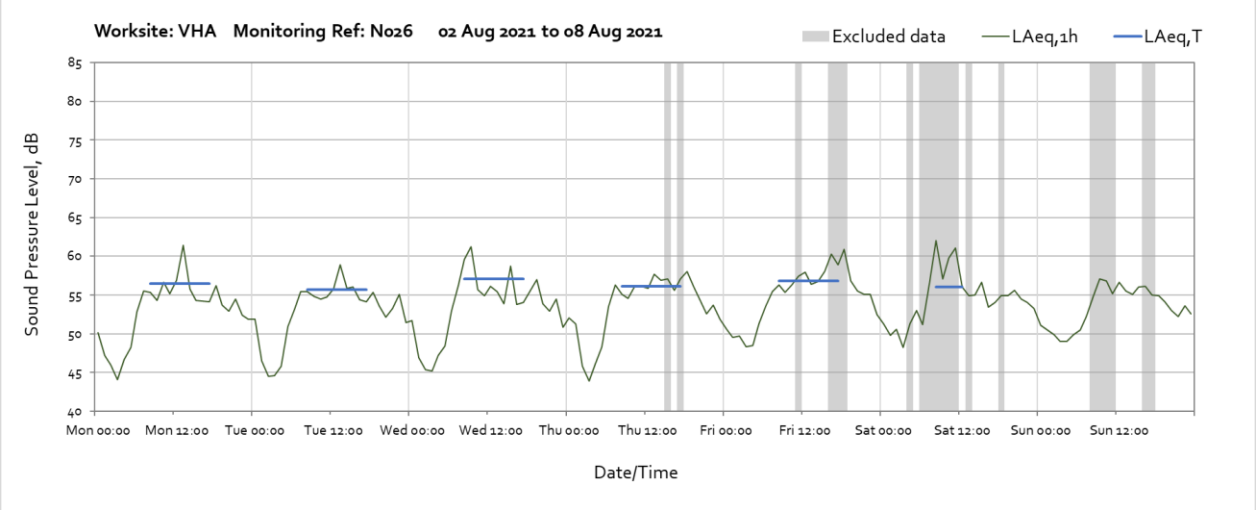
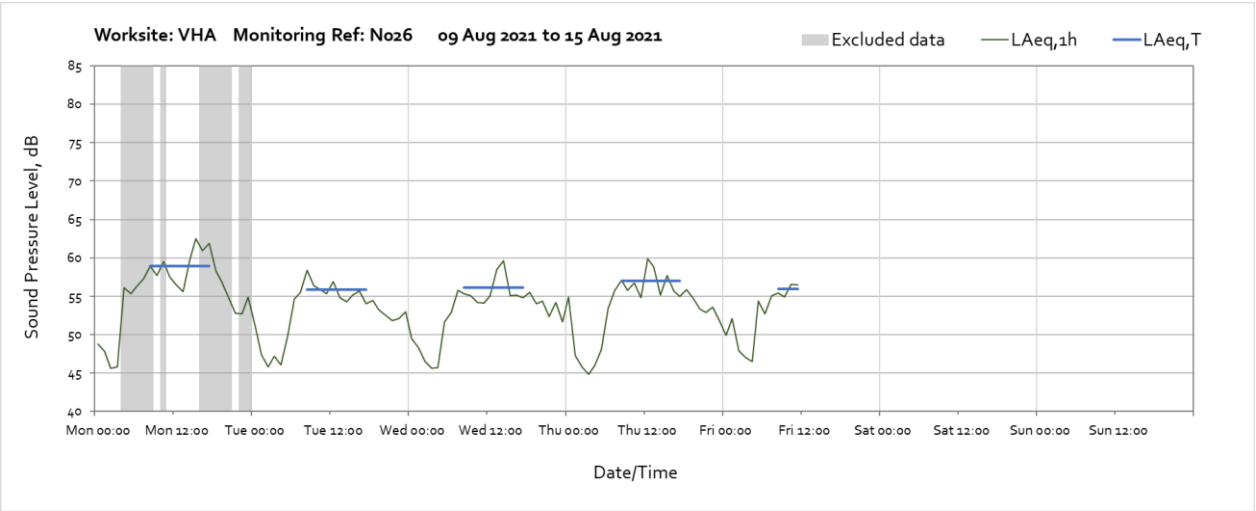
Date/Time

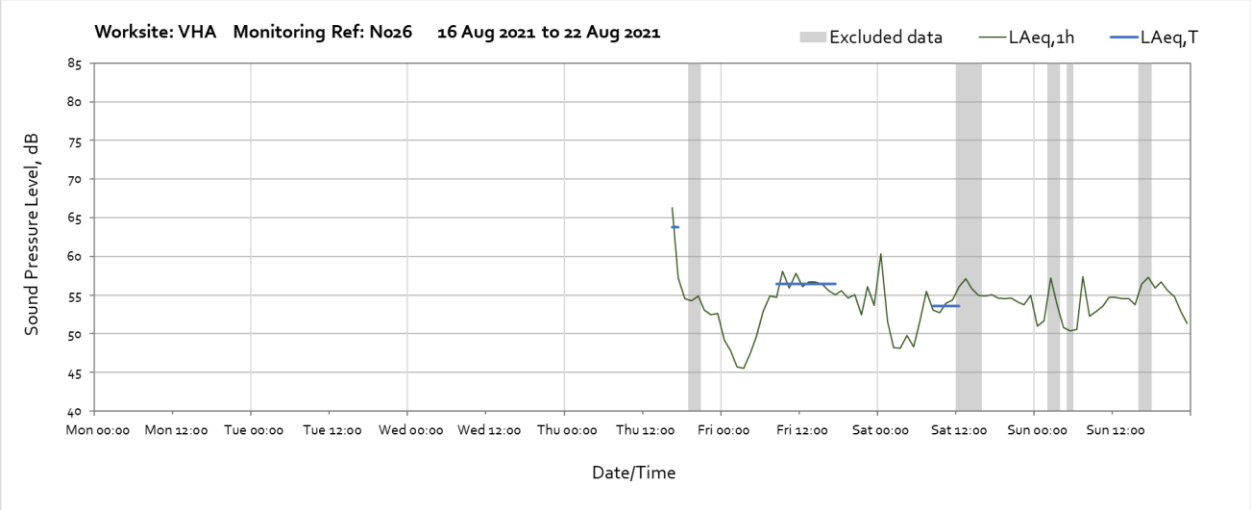
Vehicle Holding Area (VHA) – Monitoring Ref: N026



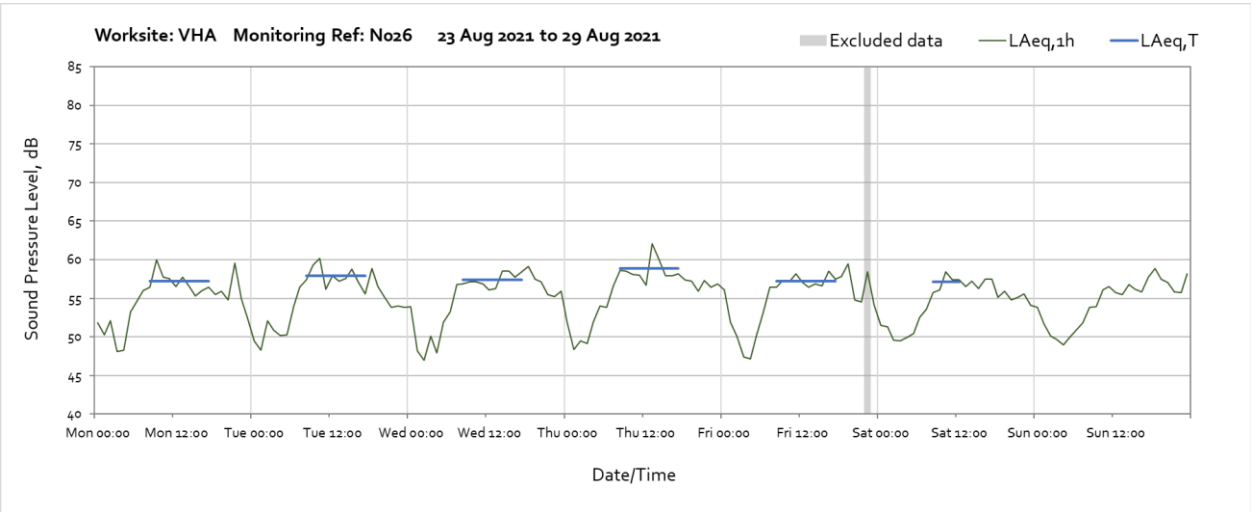


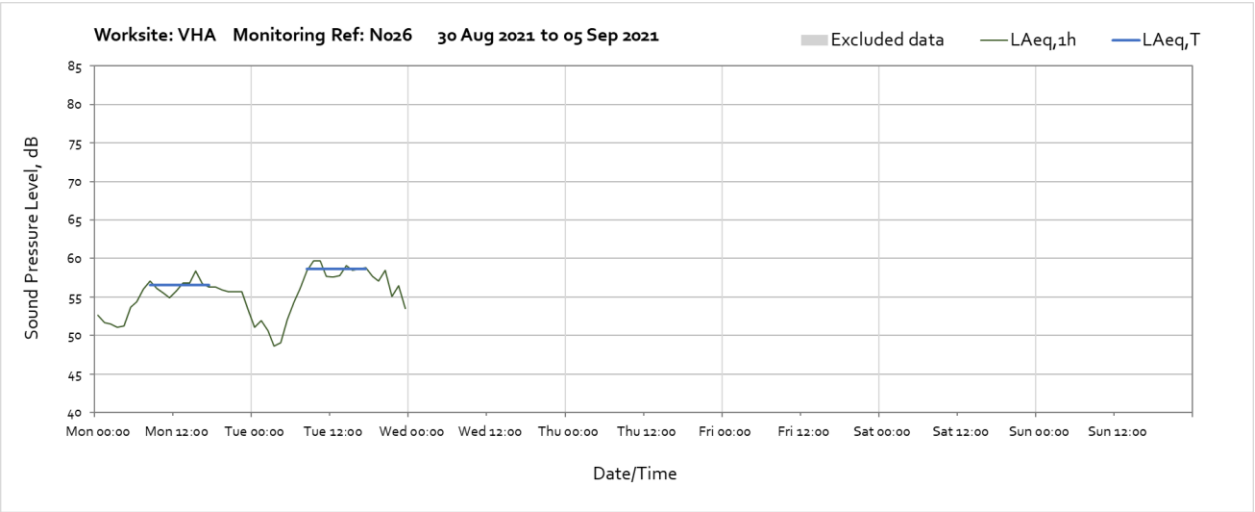


Note: Missing data from 12:00 on Friday 13th August until 15:00 on Thursday 19th August was due to a memory card error. The memory card was reformatted however the memory subsequently failed. The monitor was replaced with view of minimising further loss of data.

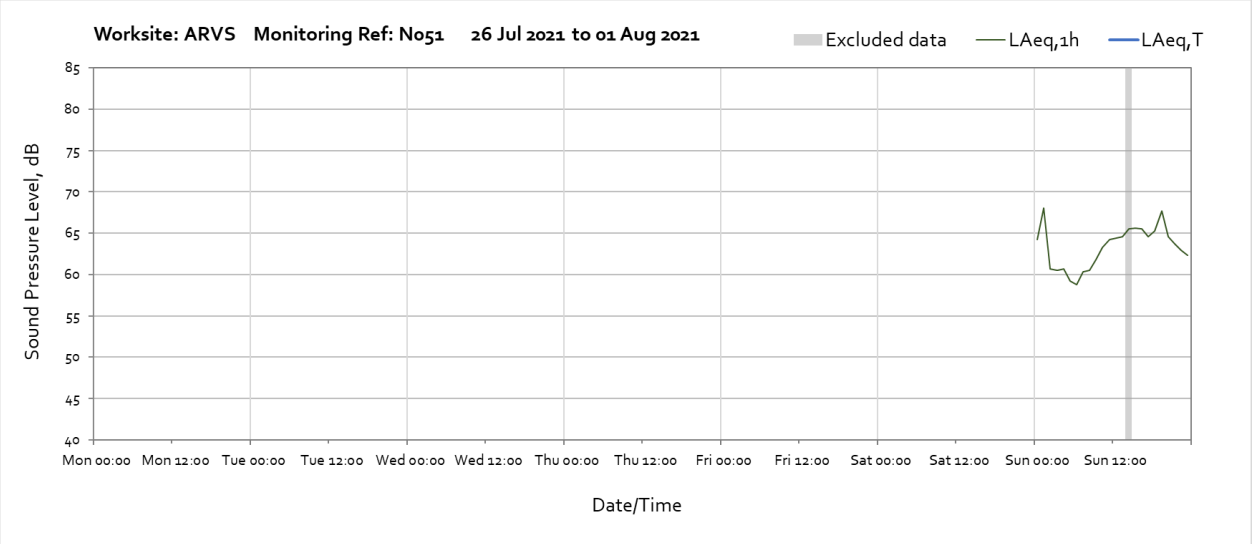


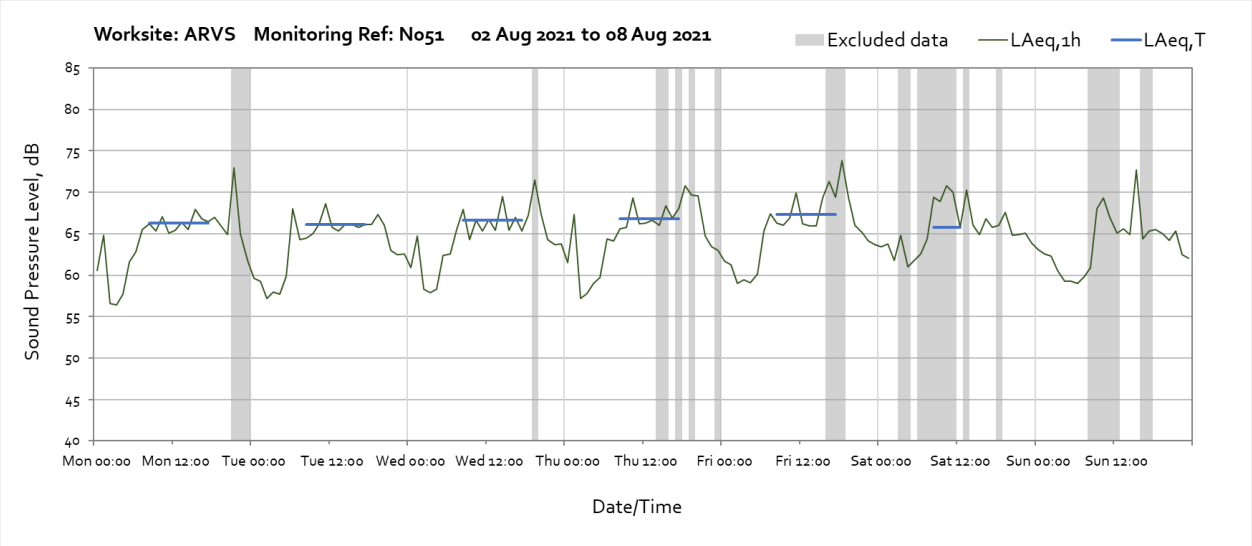
Note: Missing data from 12:00 on Friday 13th August until 15:00 on Thursday 19th August was due to a memory card error. The memory card was reformatted however the memory subsequently failed. The monitor was replaced with view of minimising further loss of data.

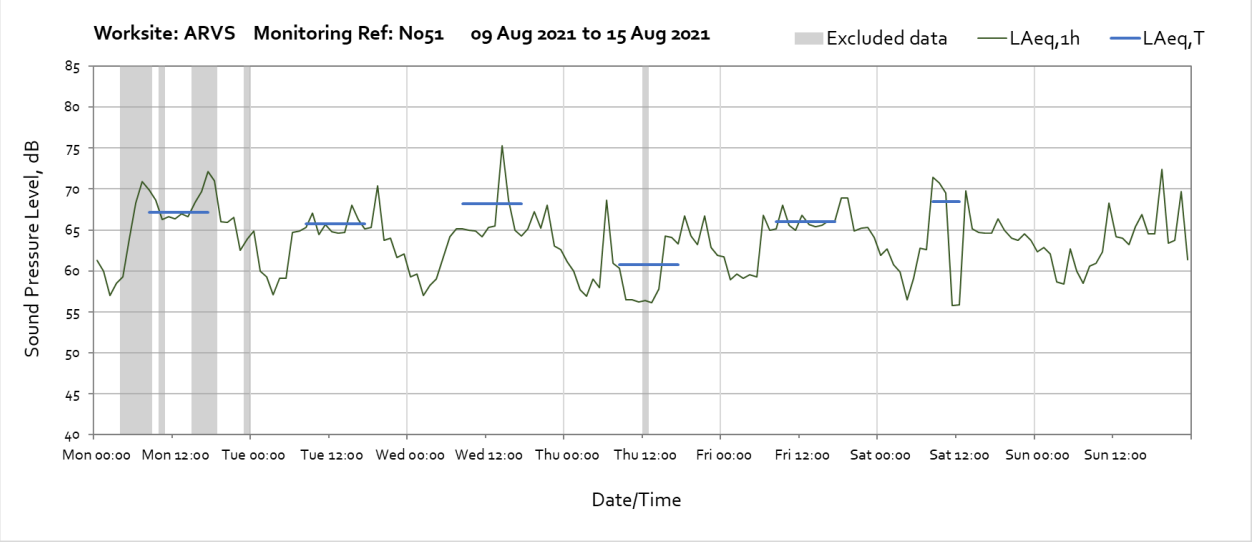


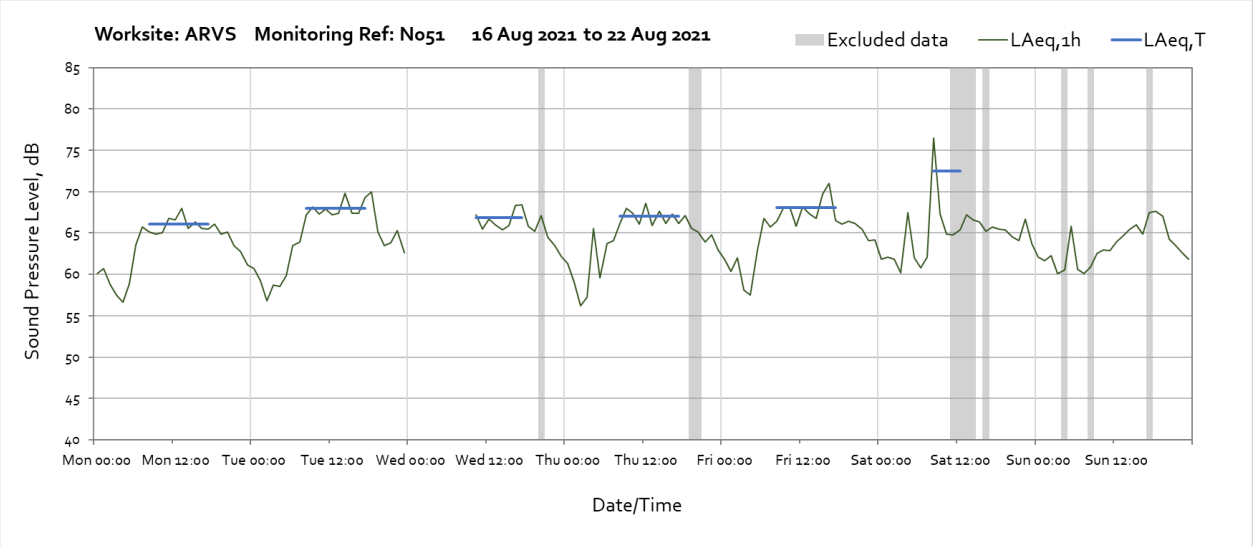


Adelaide Road Ventilation Shaft (ARVS) – Monitoring Ref: N051

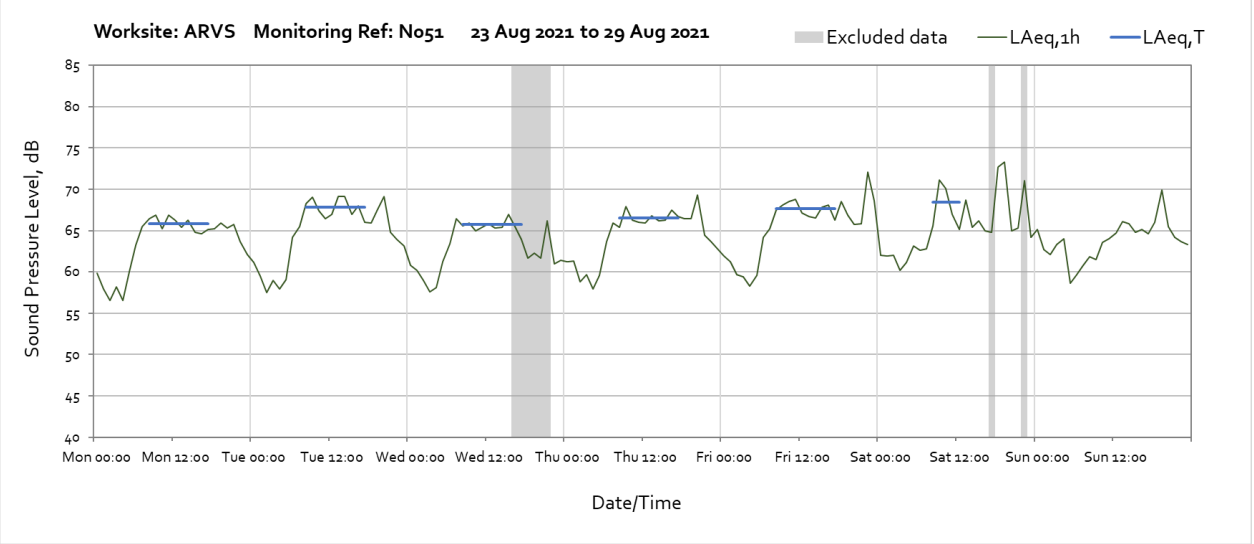


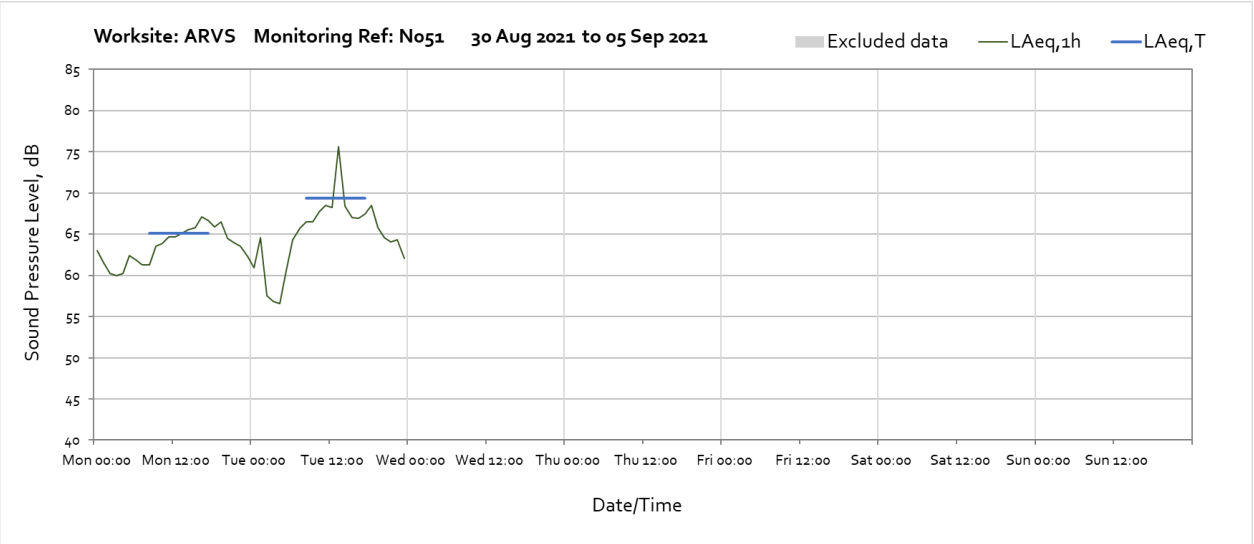




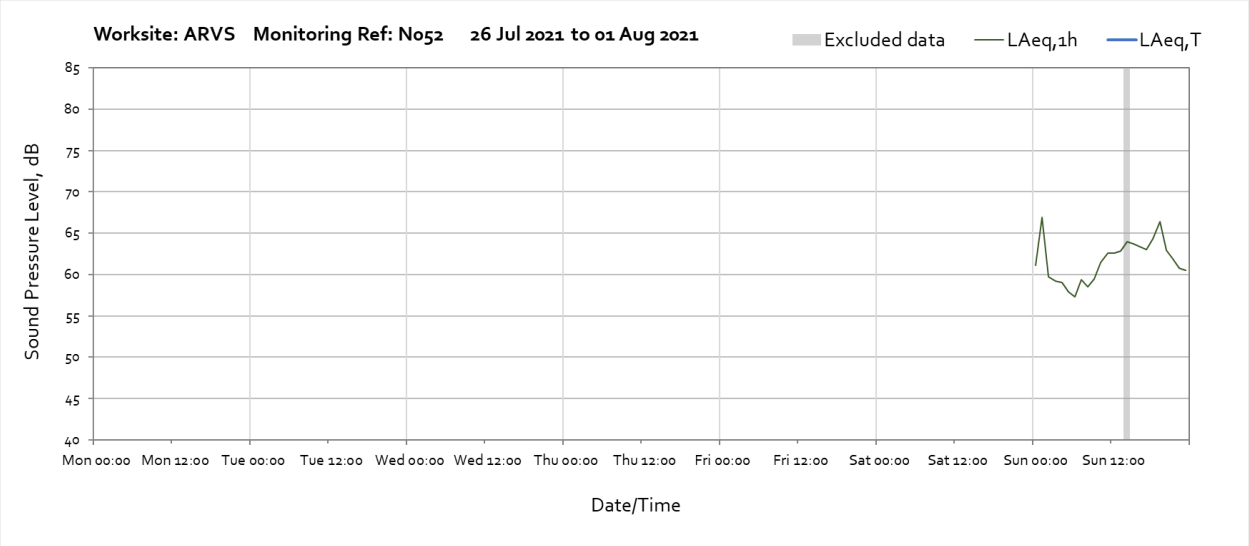


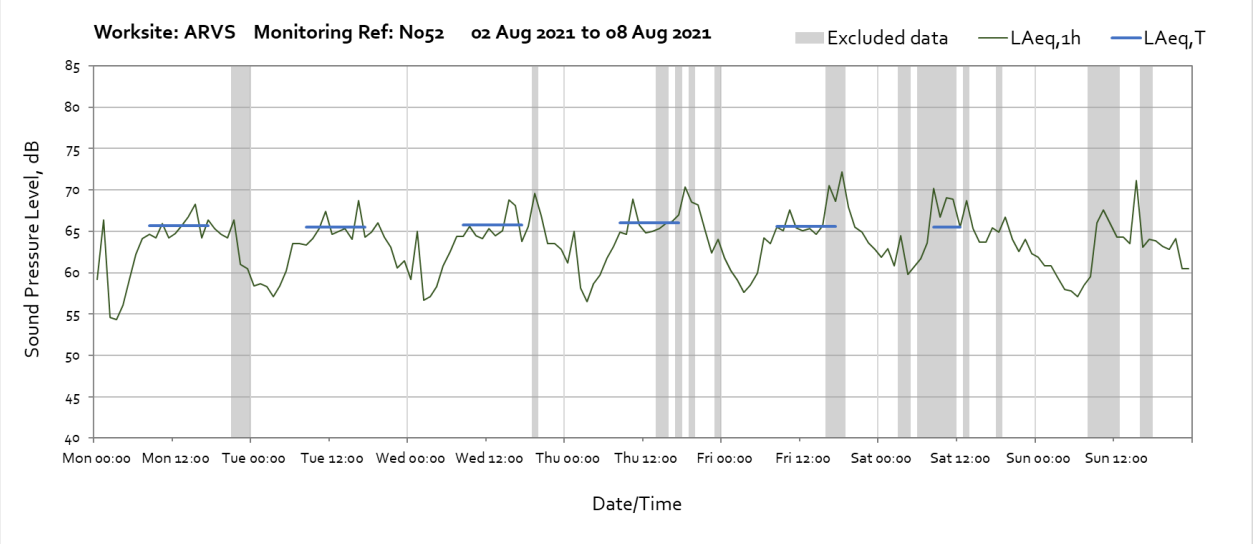
Note: Missing data from 00:00 until 10:00 on Wednesday 18th August was due to a memory card error. The memory card has been reformatted with view of avoiding further loss of data.

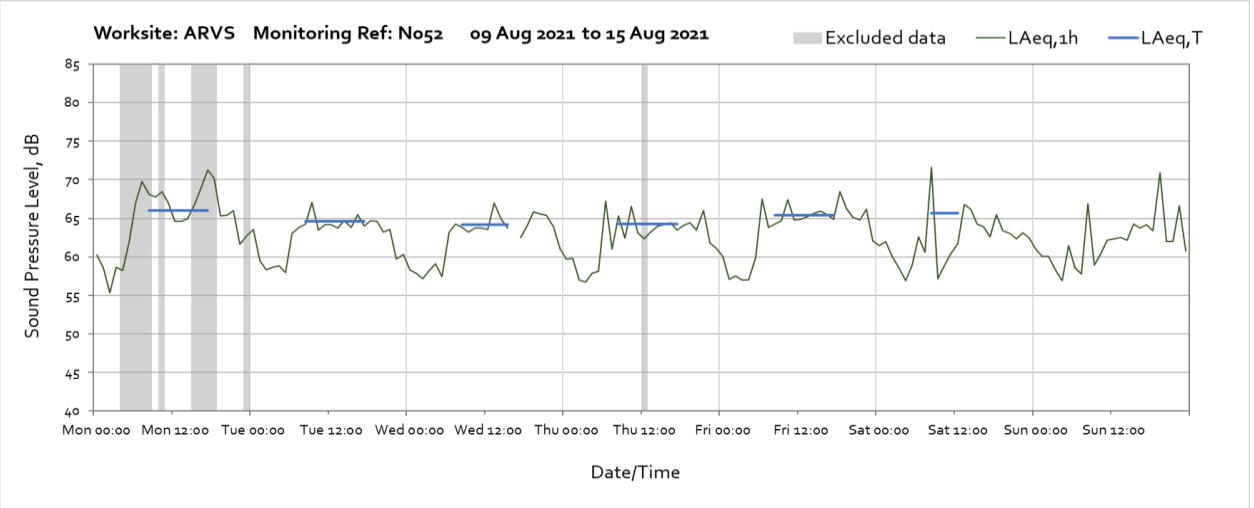




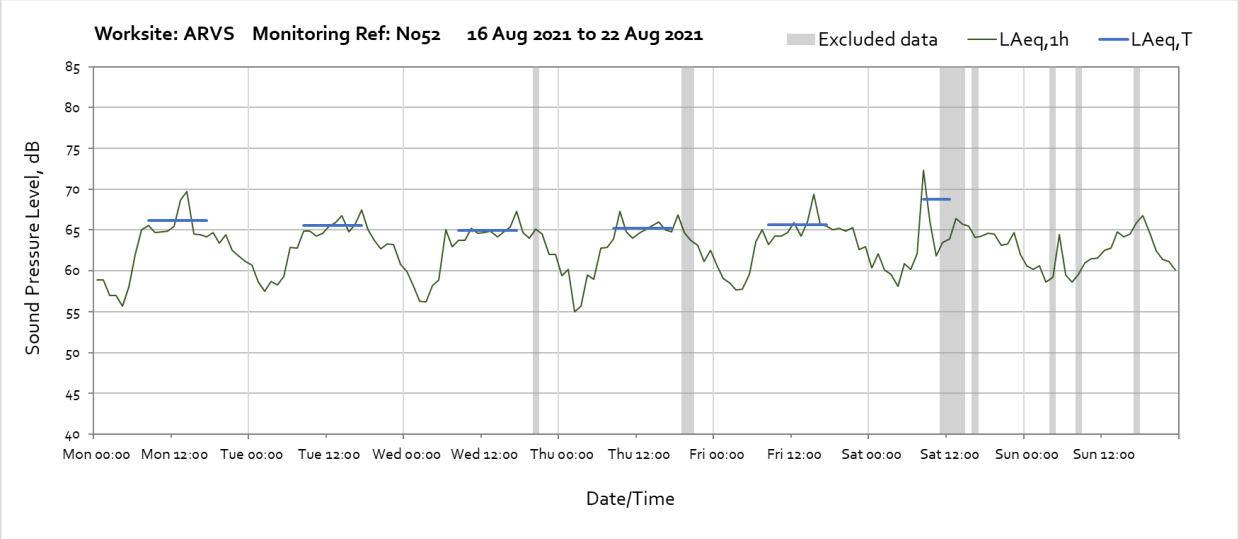
Adelaide Road Ventilation Shaft (ARVS) – Monitoring Ref: N052

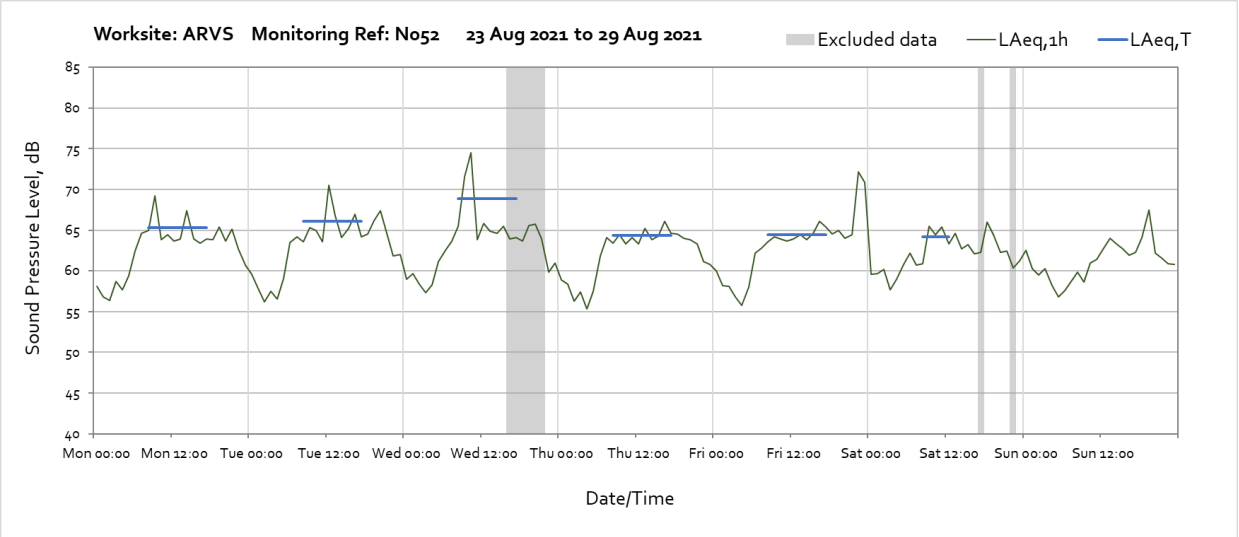


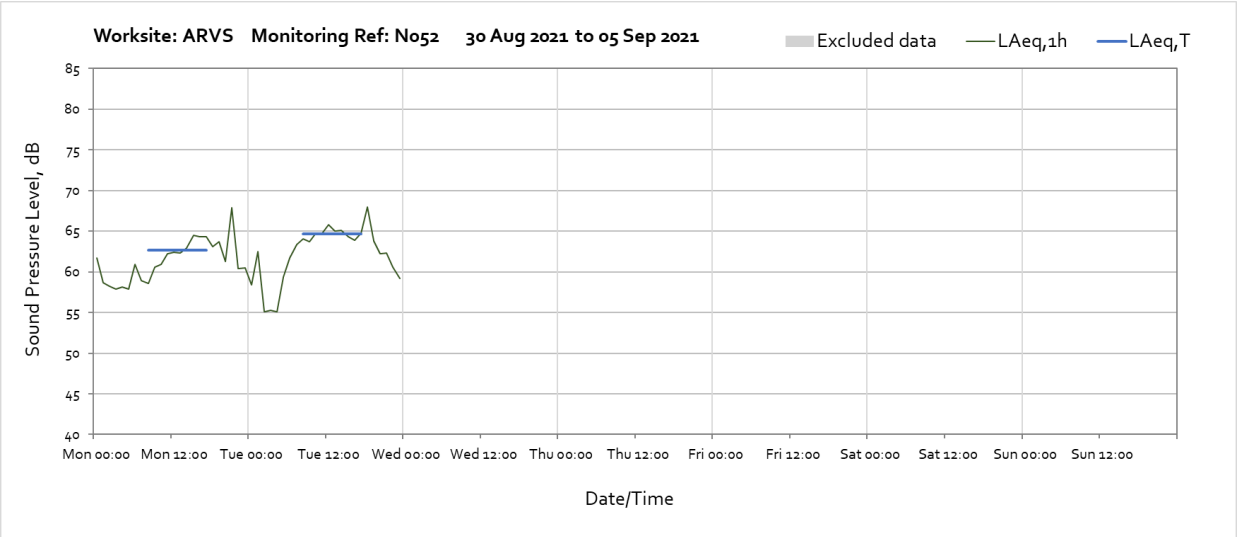




Note: Missing data from 16:00 until 17:00 on Wednesday 11th August was due to a memory card error. The memory card has been reformatted with view of avoiding further loss of data.


Worksite: ARVS Monitoring Ref: No52 16 Aug 2021 to 22 Aug 2021
Excluded data
LAeq,1h
LAeq,T
Sound Pressure Level, dB
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
Thu 12:00
Fri 00:00
Fri 12:00
Sat 00:00
Sat 12:00
Sun 00:00
Sun 12:00
Date/Time

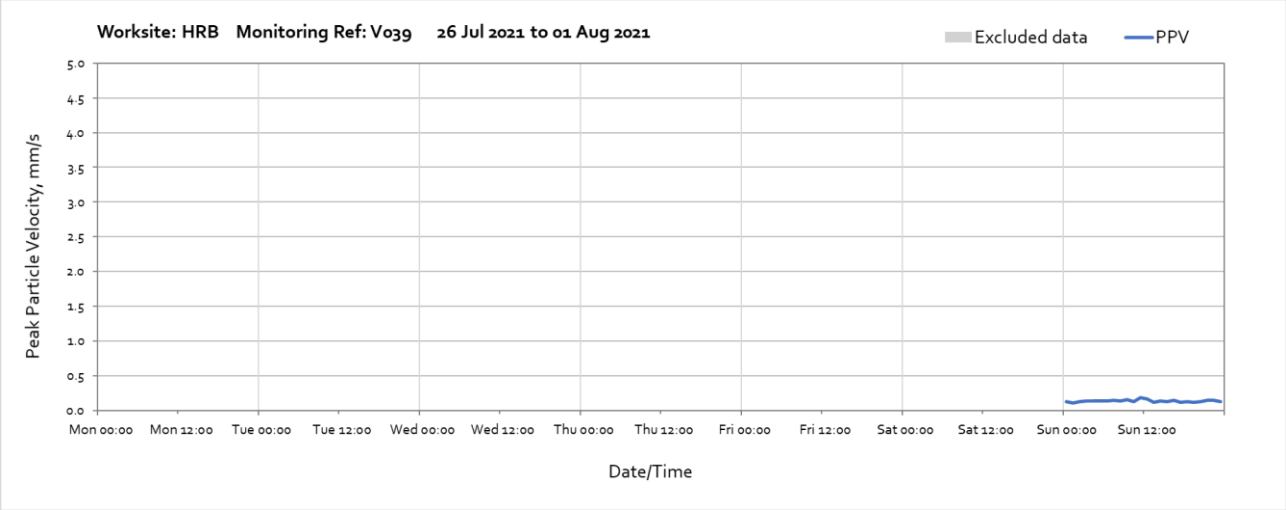

Worksite: ARVS Monitoring Ref: No52 23 Aug 2021 to 29 Aug 2021
Excluded data
LAeq,1h
LAeq,T
Sound Pressure Level, dB
85
80
75
70
65
60
55
50
45
40
Mon 00:00
Mon 12:00
Tue 00:00
Tue 12:00
Wed 00:00
Wed 12:00
Thu 00:00
Thu 12:00
Fri 00:00
Fri 12:00
Sat 00:00
Sat 12:00
Sun 00:00
Sun 12:00
Date/Time

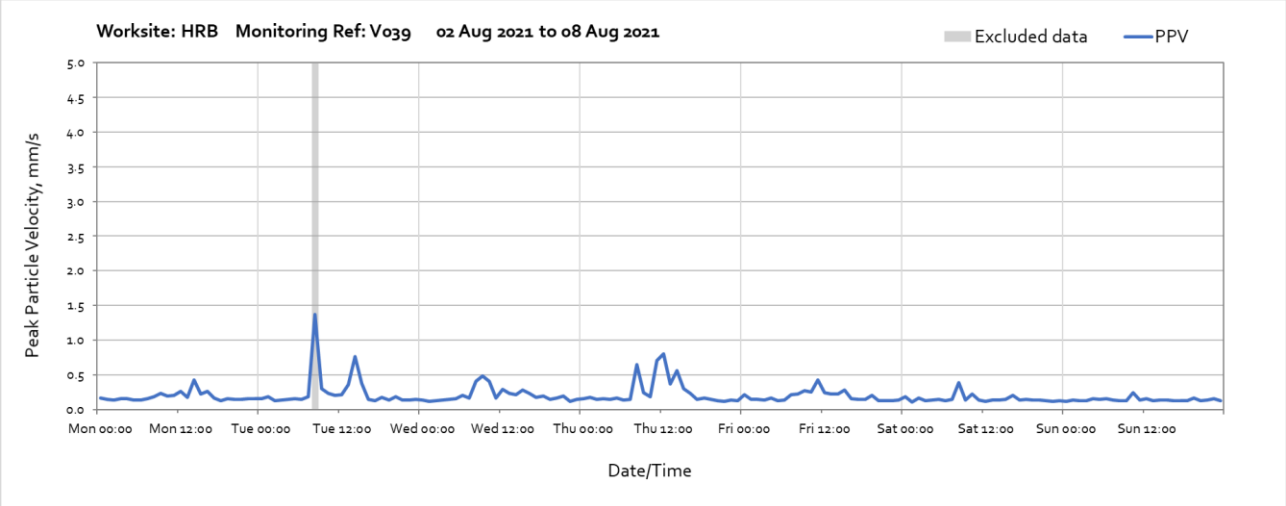

Worksite: ARVS Monitoring Ref: No52 30 Aug 2021 to 05 Sep 2021
Excluded data
LAeq,1h
LAeq,T
Sound Pressure Level, dB
85
80
75
70
65
60
55
50
45
40
Mon 00:00
Mon 12:00
Tue 00:00
Tue 12:00
Wed 00:00
Wed 12:00
Thu 00:00
Thu 12:00
Fri 00:00
Fri 12:00
Sat 00:00
Sat 12:00
Sun 00:00
Sun 12:00
Date/Time

Vibration

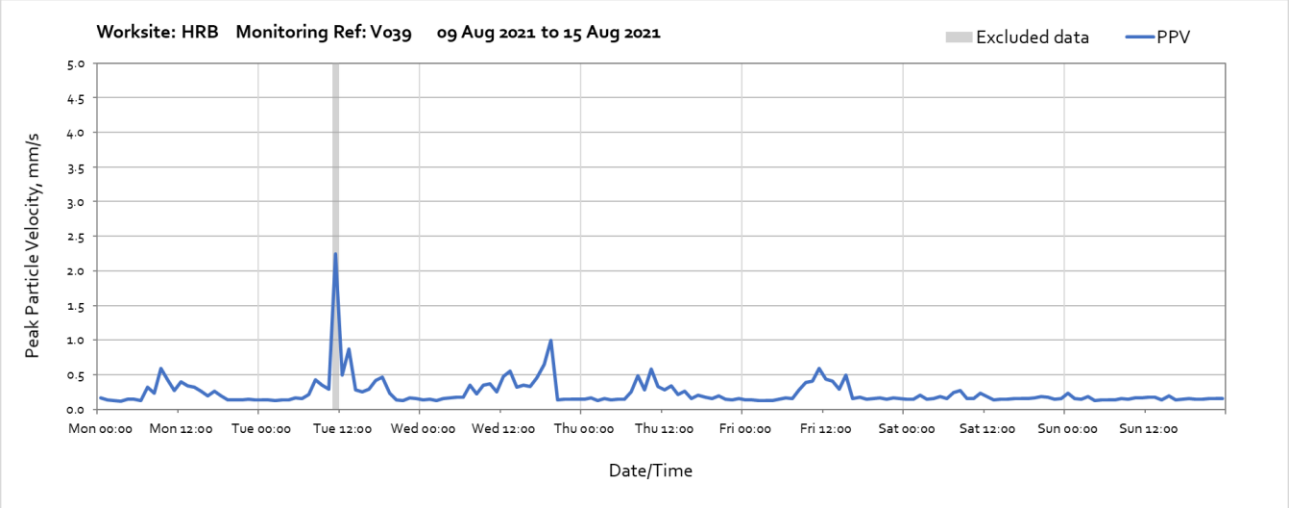
The following graphs show the hourly measured peak particle velocity PPV recorded during the monitoring period. The graphs show the resultant PPV due to vibration components on three orthogonal axes x, y and z. Where resultant PPV data is not available (monitors V039 and V043), the highest vibration component in either of the three axes is presented for each 1hr measurement period respectively. 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: HRB – Monitoring Ref: V039

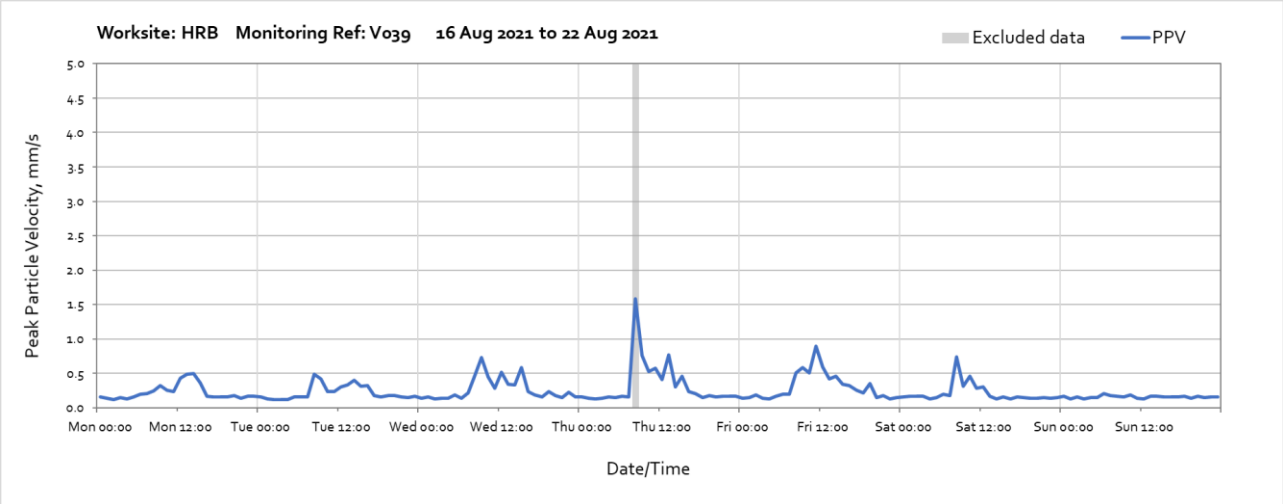




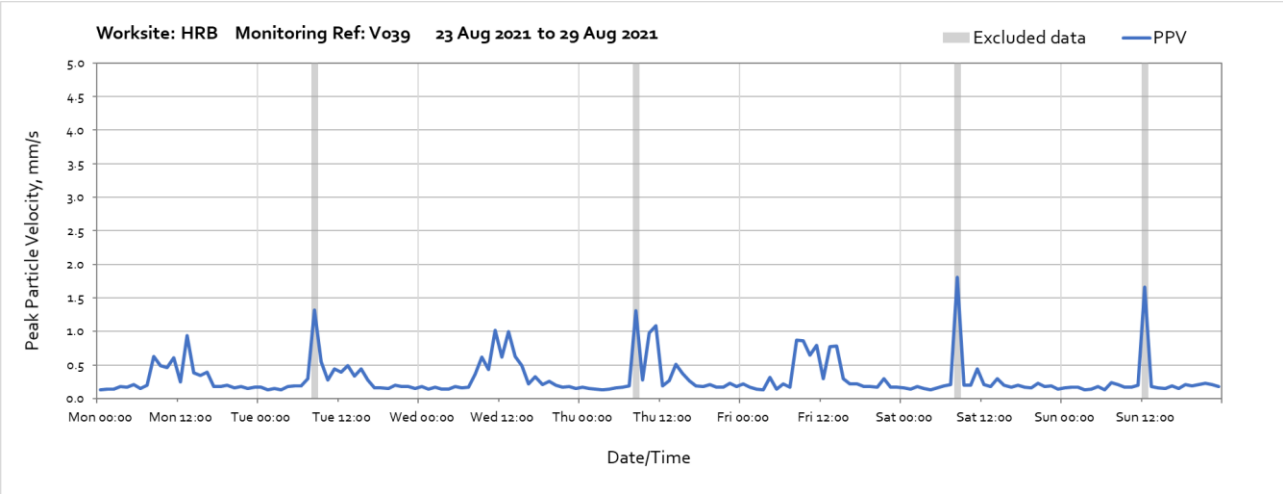
Note: High vibraton levels measured from 08:00 until 09:00 on Tuesday 3rd August were due to local interference of the monitor and are not representative of HS2 vibration levels at the receptor.



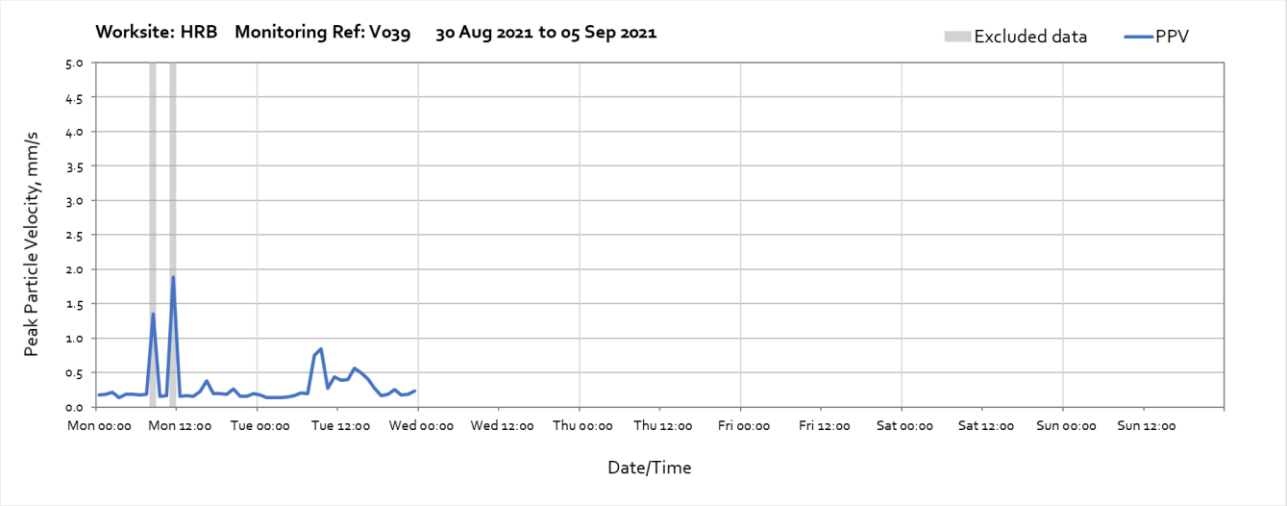
Note: High vibraton levels measured from 11:00 until 12:00 on Tuesday 10th August were due to local interference of the monitor and are not representative of HS2 vibration levels at the receptor.



Note: High vibraton levels measured from 08:00 until 09:00 on Thursday 19th August were due to local interference of the monitor and are not representative of HS2 vibration levels at the receptor.

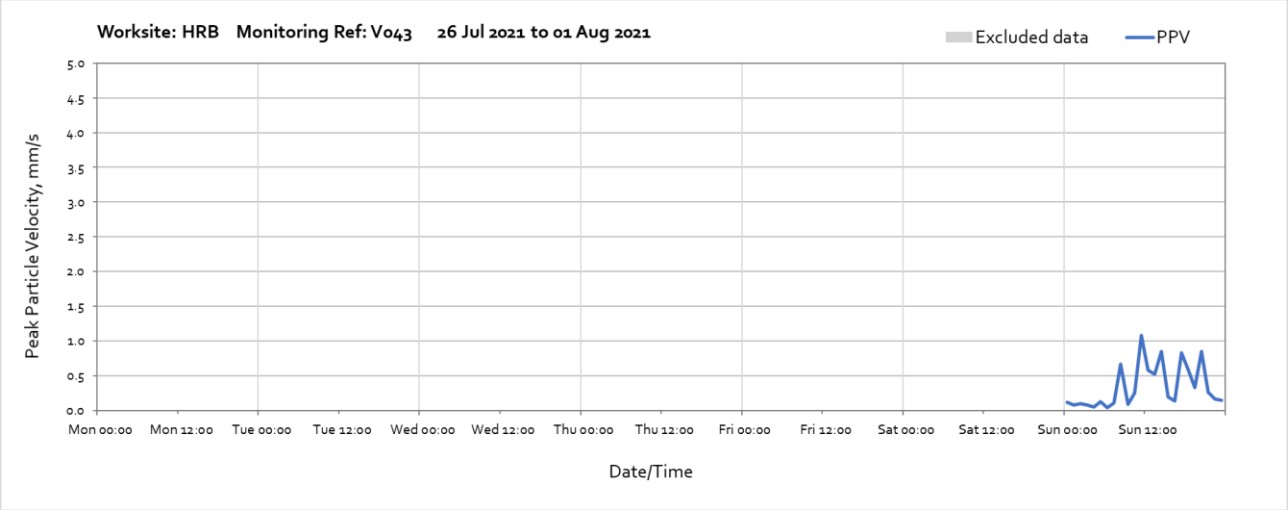


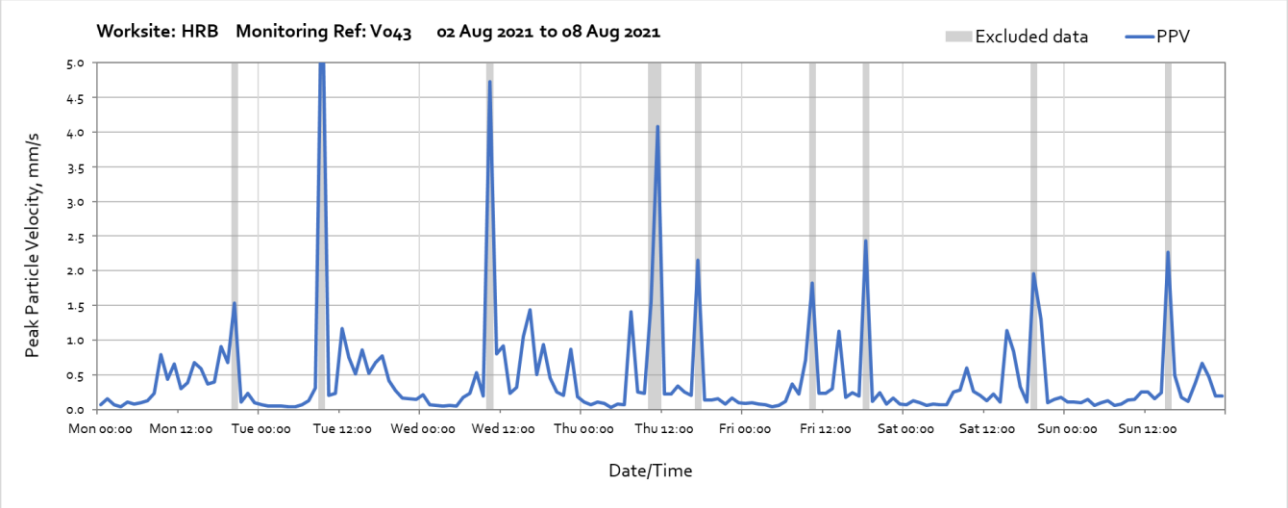
Note: High vibraton levels measured throughout the week were due to local interference of the monitor and are not representative of HS2 vibration levels at the receptor.



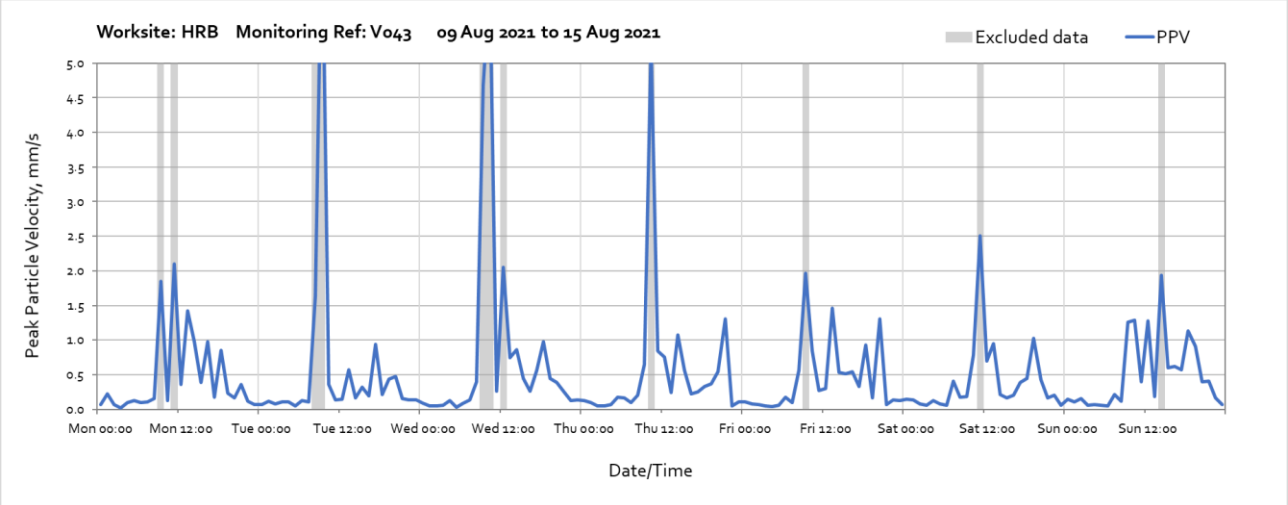
Note: High vibraton levels measured from 08:00 until 09:00 and 11:00 until 12:00 on Monday 30th August were due to local interference of the monitor and are not representative of HS2 vibration levels at the receptor.

Worksite: HRB – Monitoring Ref: V043

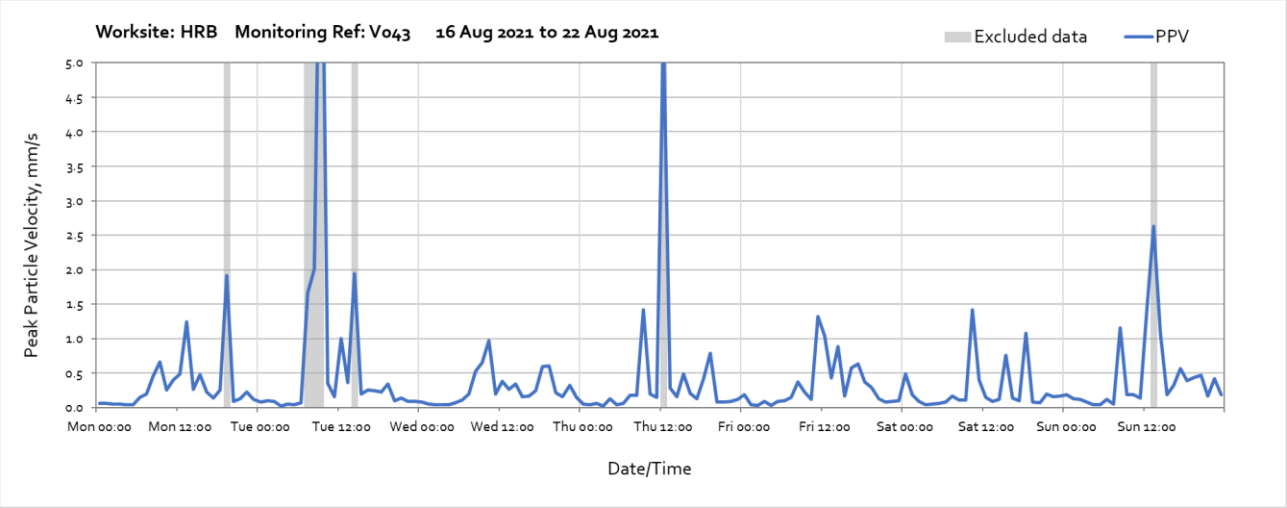




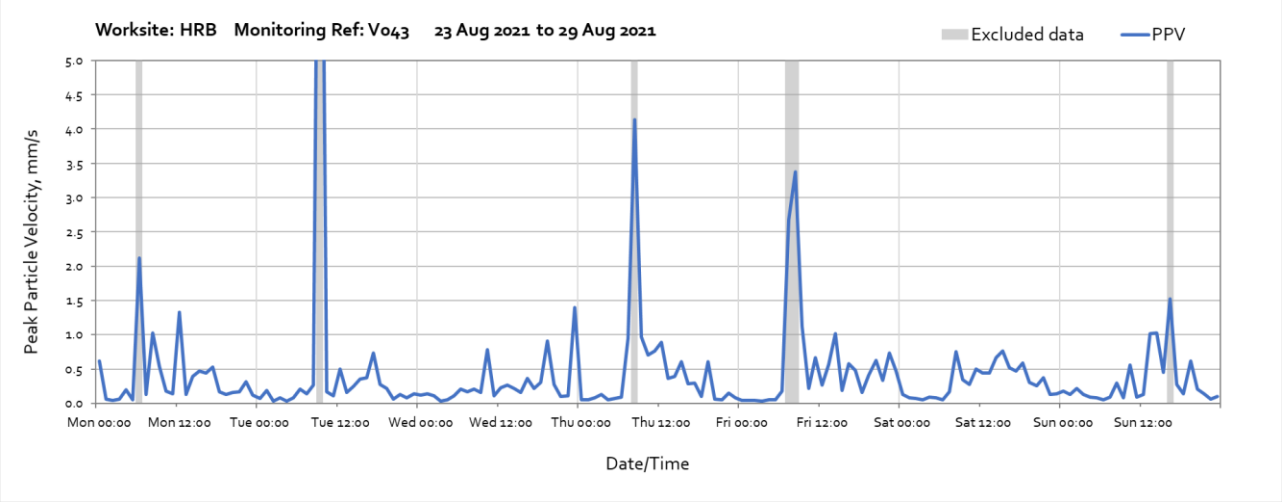
Note: High vibration levels measured throughout the week were due to local interference of the monitor and are not representative of HS2 vibration levels at the receptor .



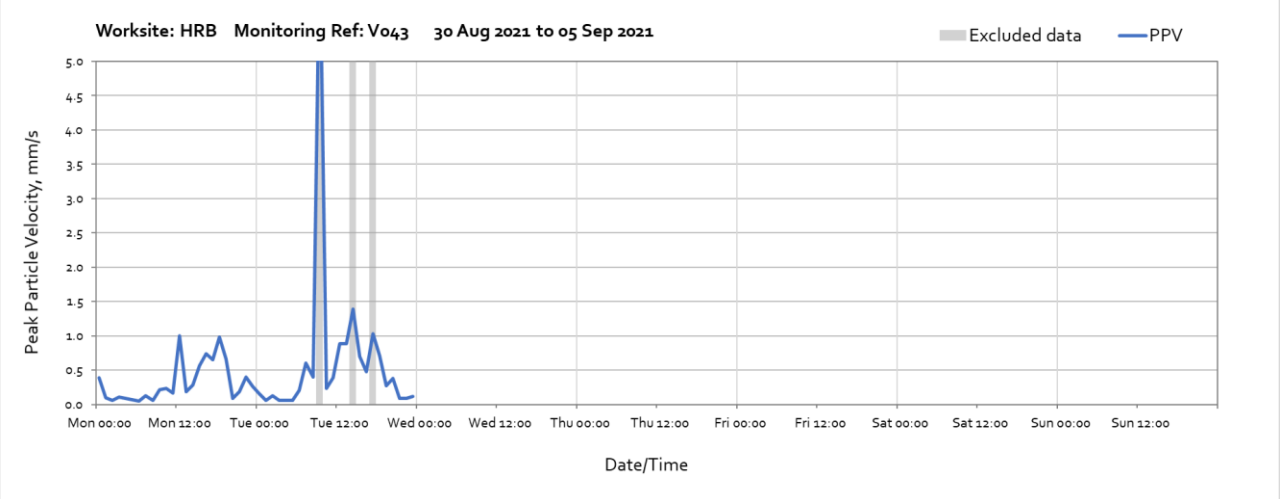
Note: High vibration levels measured throughout the week were due to local interference of the monitor and are not representative of HS2 vibration levels at the receptor.



Note: High vibration levels measured throughout the week were due to local interference of the monitor and are not representative of HS2 vibration levels at the receptor.

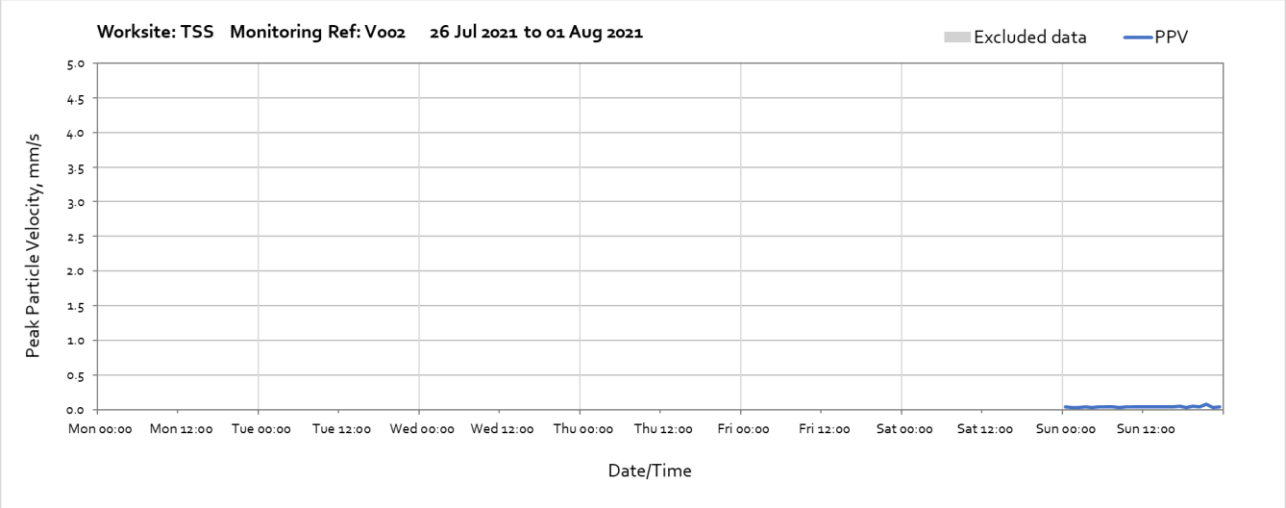


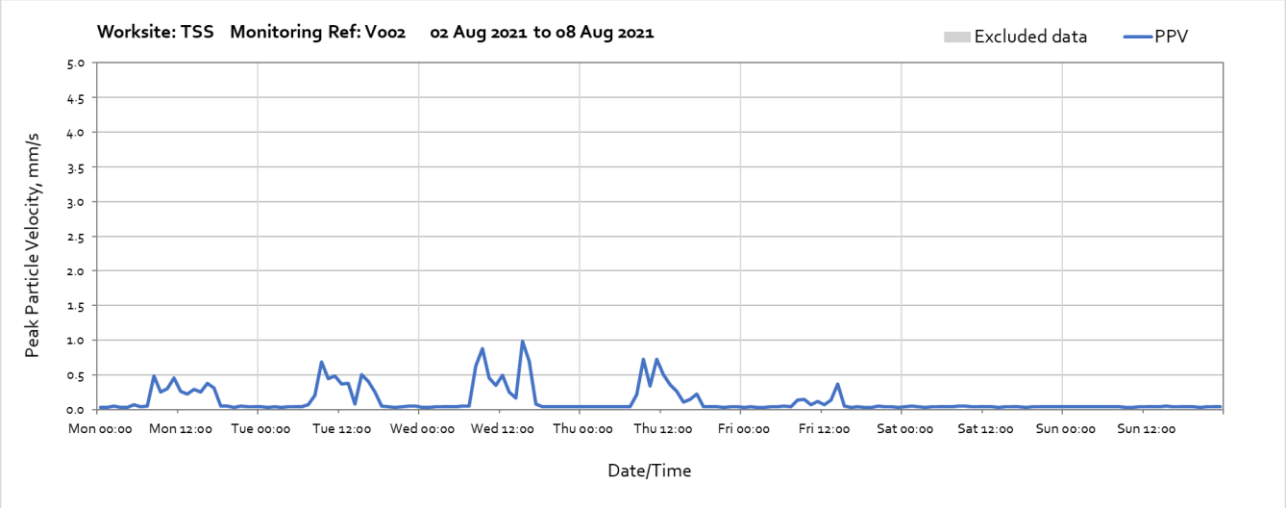
Note: High vibration levels measured throughout the week were due to local interference of the monitor and are not representative of HS2 vibration levels at the receptor.

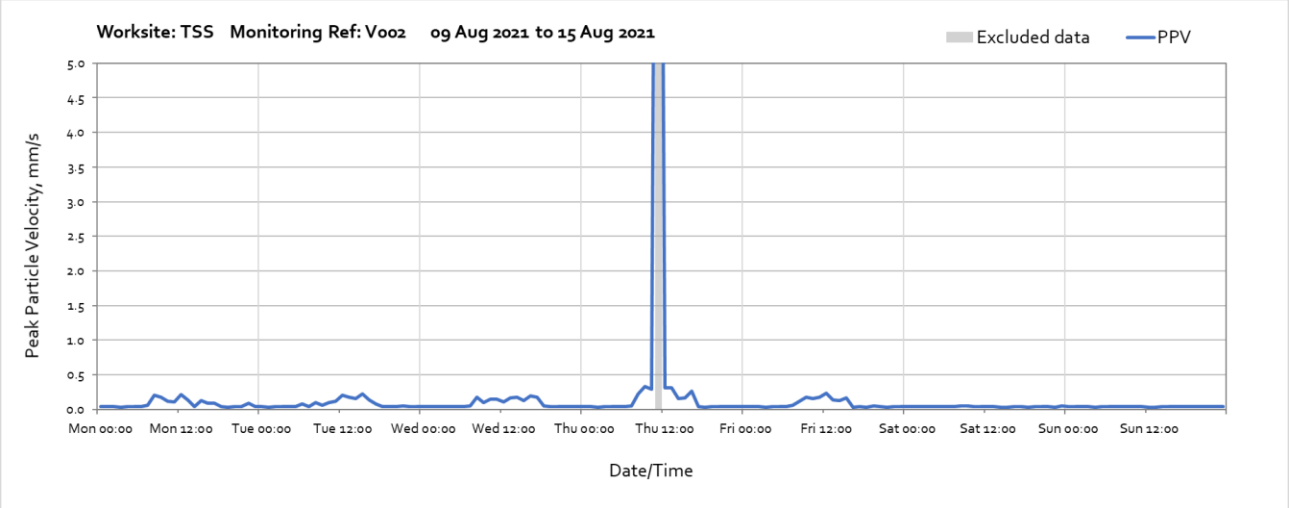


Note: High vibration levels measured throughout the week were due to local interference of the monitor and are not representative of HS2 vibration levels at the receptor.

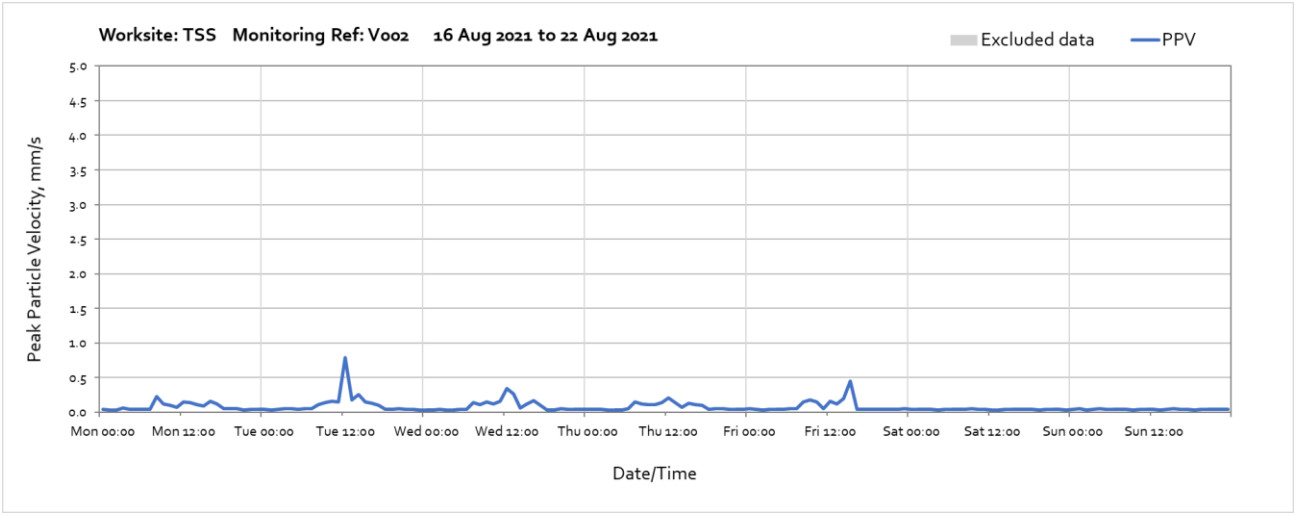
Worksite: TSS – Monitoring Ref: V002

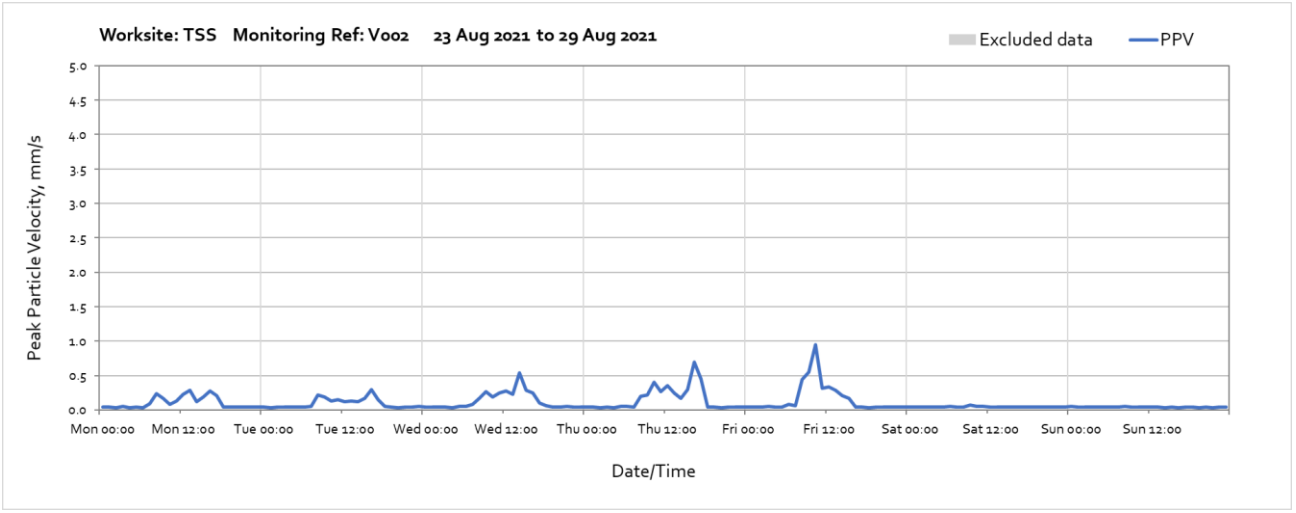


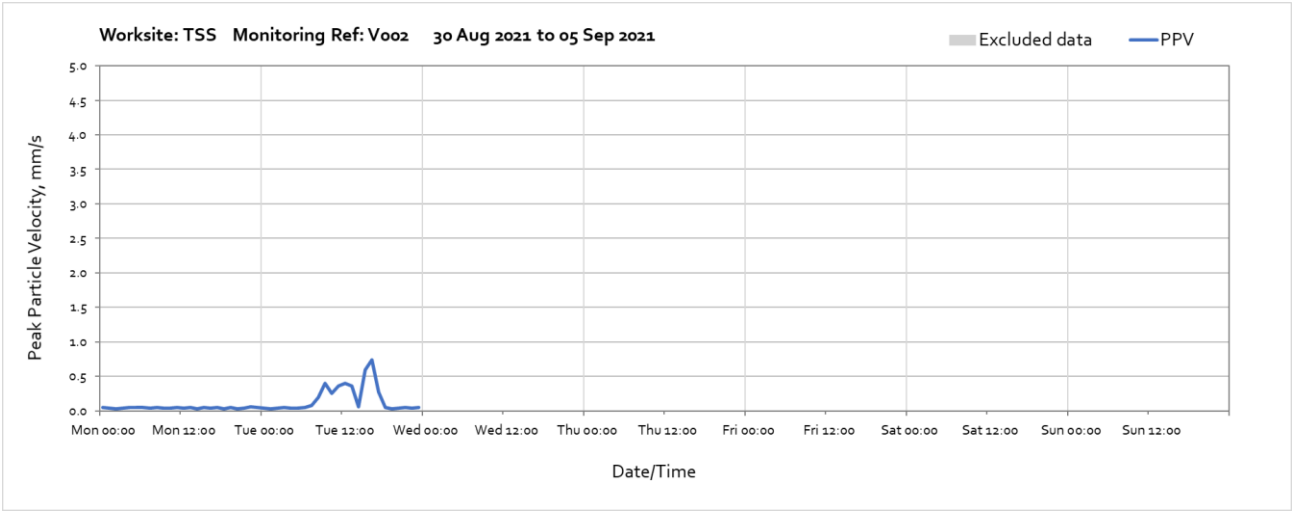




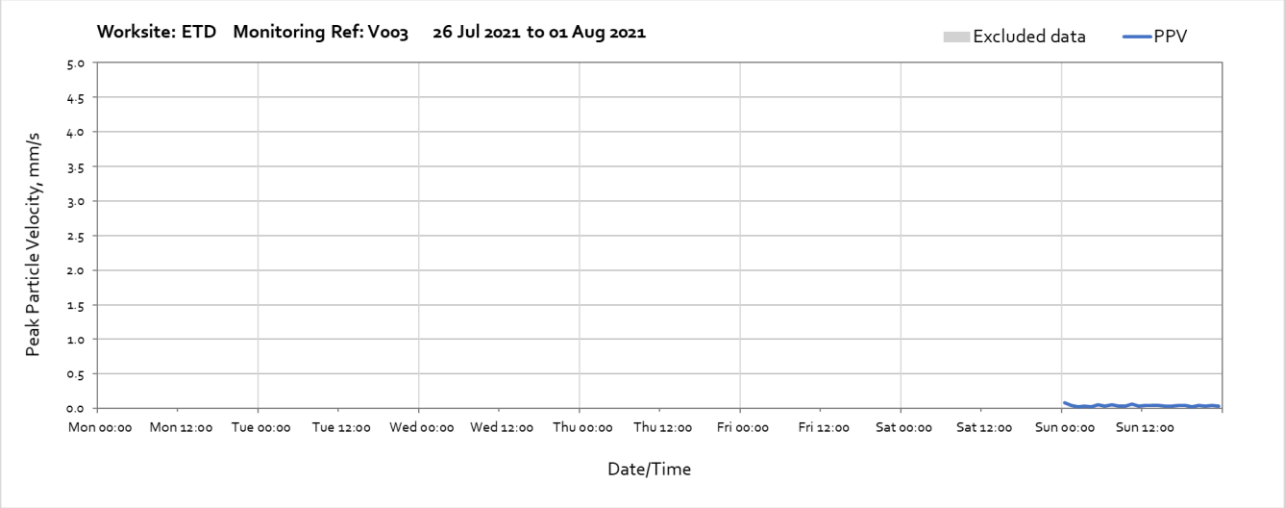
Note: High vibration levels measured from 11:00 until 12:00 on Thursday 12th August were due to local interference during routine maintenance of the monitor.

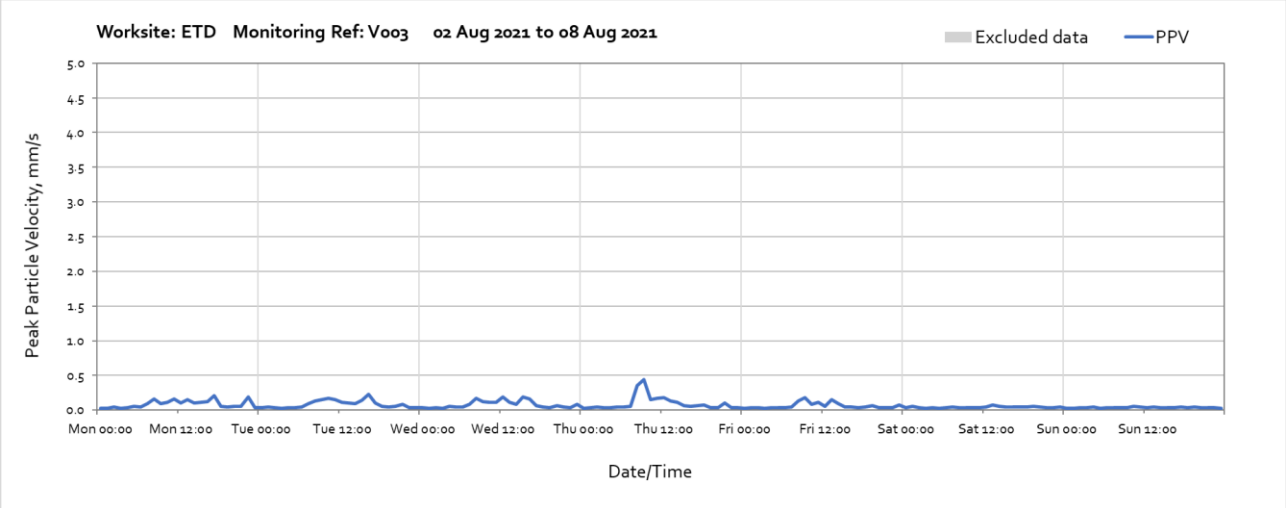

Worksite: TSS Monitoring Ref: V002 16 Aug 2021 to 22 Aug 2021
Excluded data
PPV
Peak Particle Velocity, mm/s
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
Mon 00:00
Mon 12:00
Tue 00:00
Tue 12:00
Wed 00:00
Wed 12:00
Thu 00:00
Thu 12:00
Fri 00:00
Fri 12:00
Sat 00:00
Sat 12:00
Sun 00:00
Sun 12:00
Date/Time

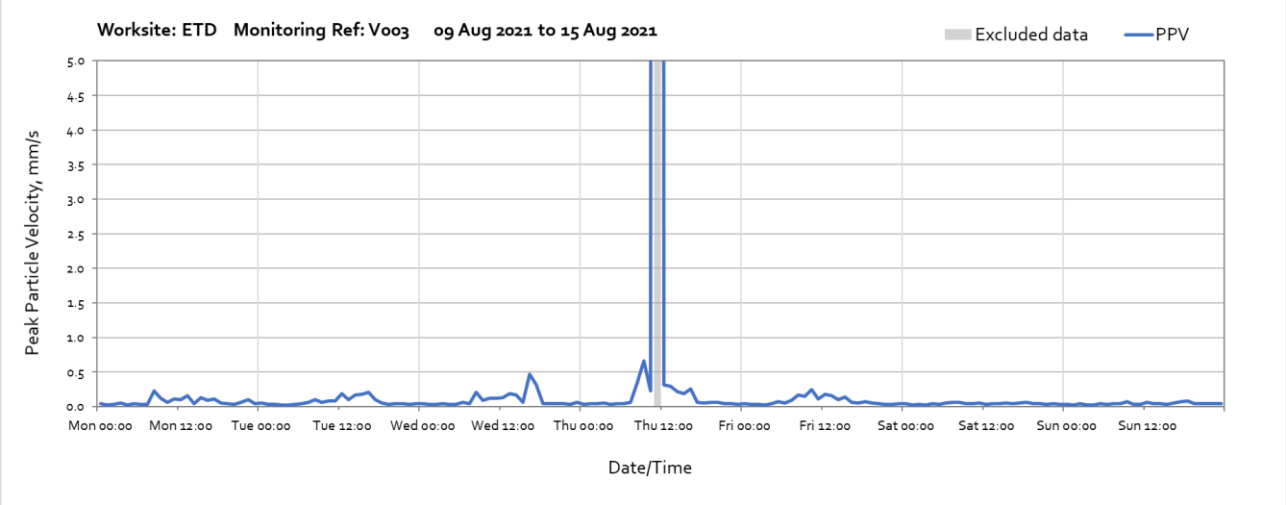

Worksite: TSS Monitoring Ref: V002 23 Aug 2021 to 29 Aug 2021
Excluded data
PPV
Peak Particle Velocity, mm/s
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
Mon 00:00
Mon 12:00
Tue 00:00
Tue 12:00
Wed 00:00
Wed 12:00
Thu 00:00
Thu 12:00
Fri 00:00
Fri 12:00
Sat 00:00
Sat 12:00
Sun 00:00
Sun 12:00
Date/Time


Worksite: TSS Monitoring Ref: V002 30 Aug 2021 to 05 Sep 2021
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

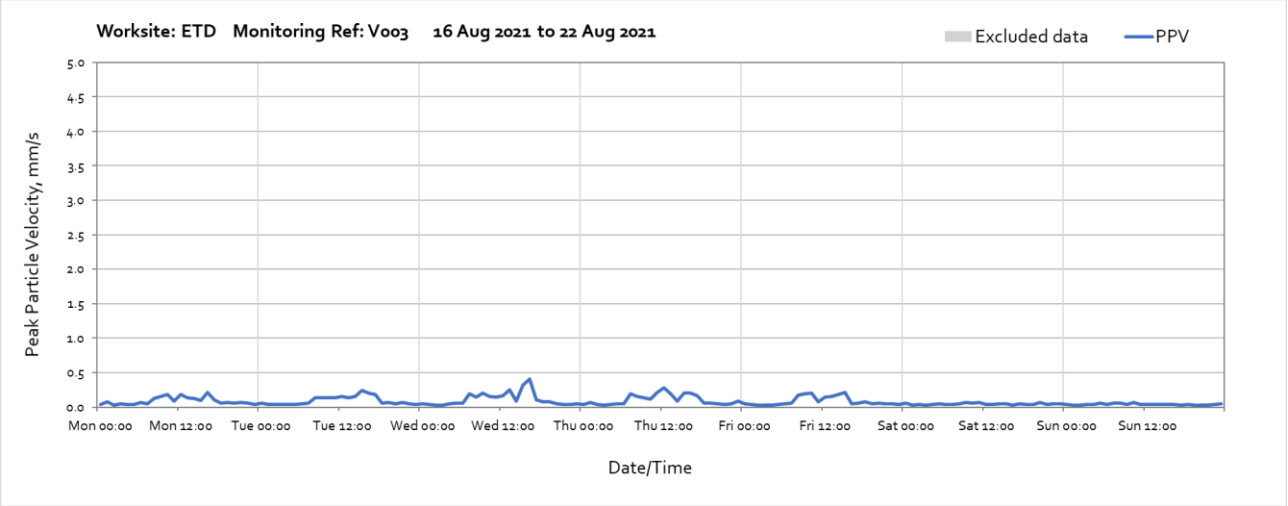
Worksite: ETD – Monitoring Ref: V003

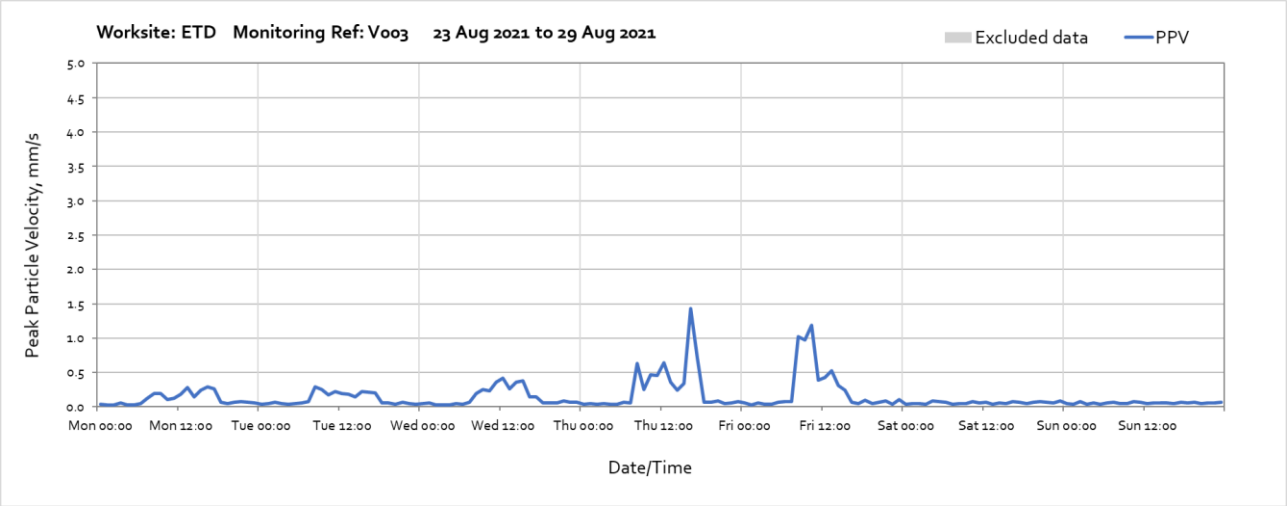


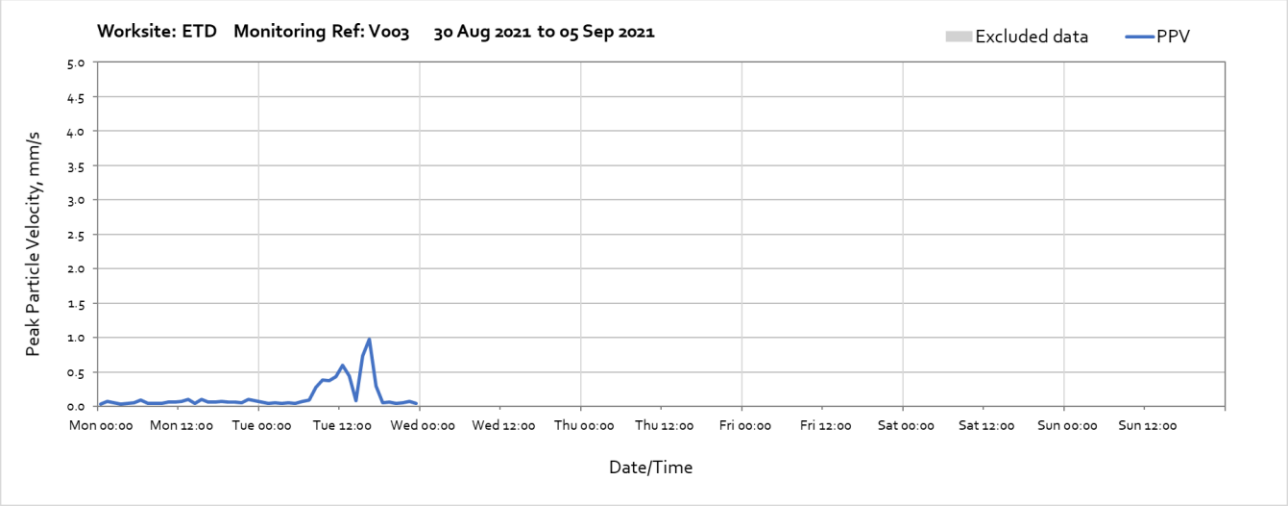




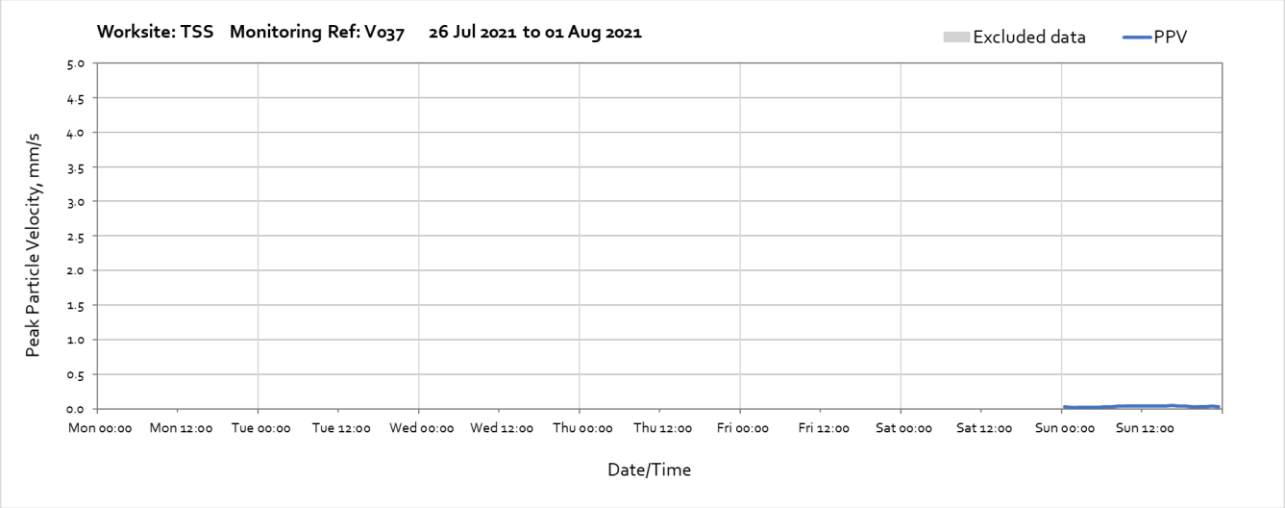
Note: High vibration levels measured from 11:00 until 12:00 on Thursday 12th August were due to local interference during routine maintenance of the monitor.

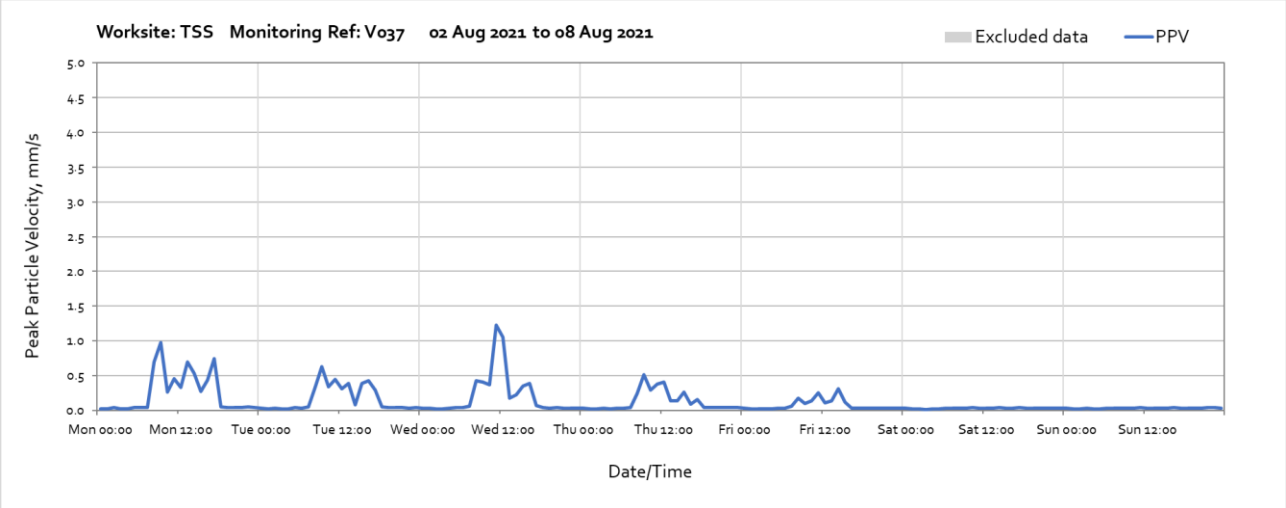

Worksite: ETD Monitoring Ref: V003 16 Aug 2021 to 22 Aug 2021
Excluded data
PPV
Peak Particle Velocity, mm/s
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
Mon 00:00
Mon 12:00
Tue 00:00
Tue 12:00
Wed 00:00
Wed 12:00
Thu 00:00
Thu 12:00
Fri 00:00
Fri 12:00
Sat 00:00
Sat 12:00
Sun 00:00
Sun 12:00
Date/Time

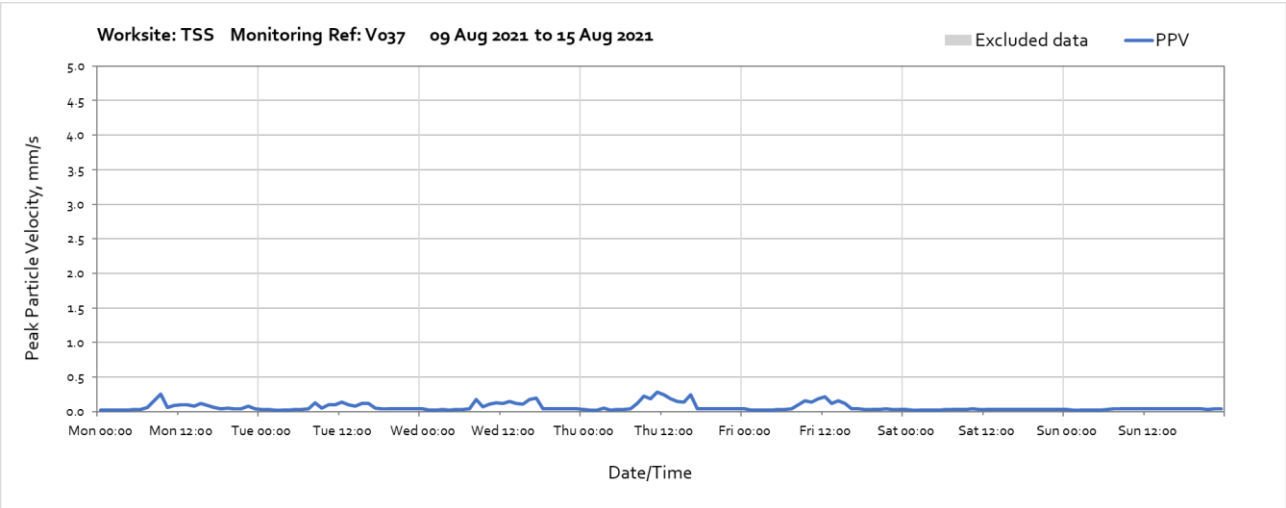

Worksite: ETD Monitoring Ref: V003 23 Aug 2021 to 29 Aug 2021
Excluded data
PPV
Peak Particle Velocity, mm/s
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
Mon 00:00
Mon 12:00
Tue 00:00
Tue 12:00
Wed 00:00
Wed 12:00
Thu 00:00
Thu 12:00
Fri 00:00
Fri 12:00
Sat 00:00
Sat 12:00
Sun 00:00
Sun 12:00
Date/Time

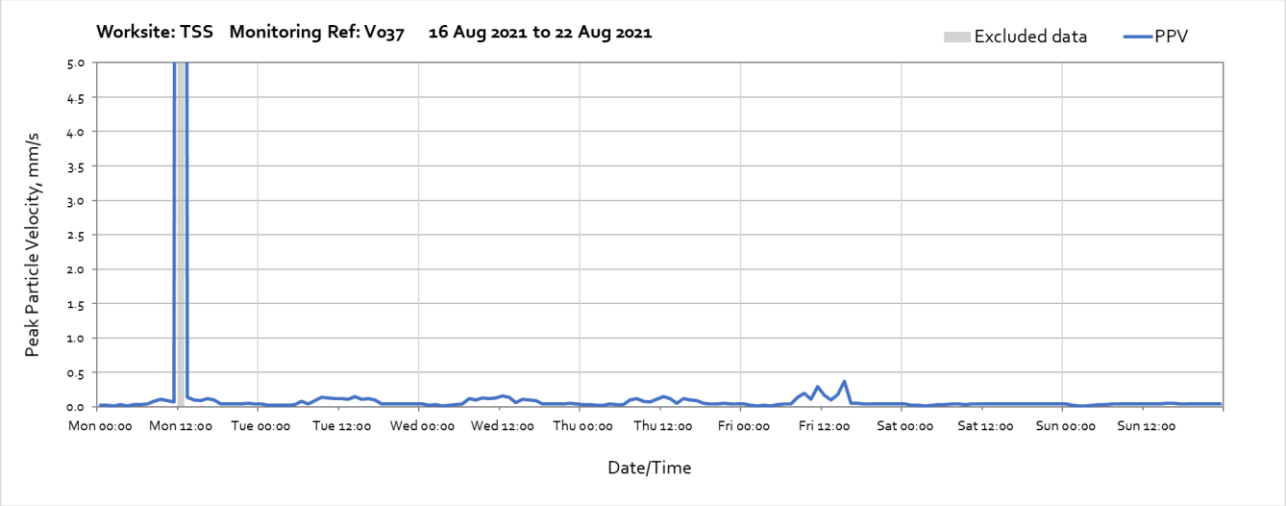

Worksite: ETD Monitoring Ref: V003 30 Aug 2021 to 05 Sep 2021
Excluded data
PPV
Peak Particle Velocity, mm/s
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
Mon 00:00
Mon 12:00
Tue 00:00
Tue 12:00
Wed 00:00
Wed 12:00
Thu 00:00
Thu 12:00
Fri 00:00
Fri 12:00
Sat 00:00
Sat 12:00
Sun 00:00
Sun 12:00
Date/Time

Worksite: TSS – Monitoring Ref: V037

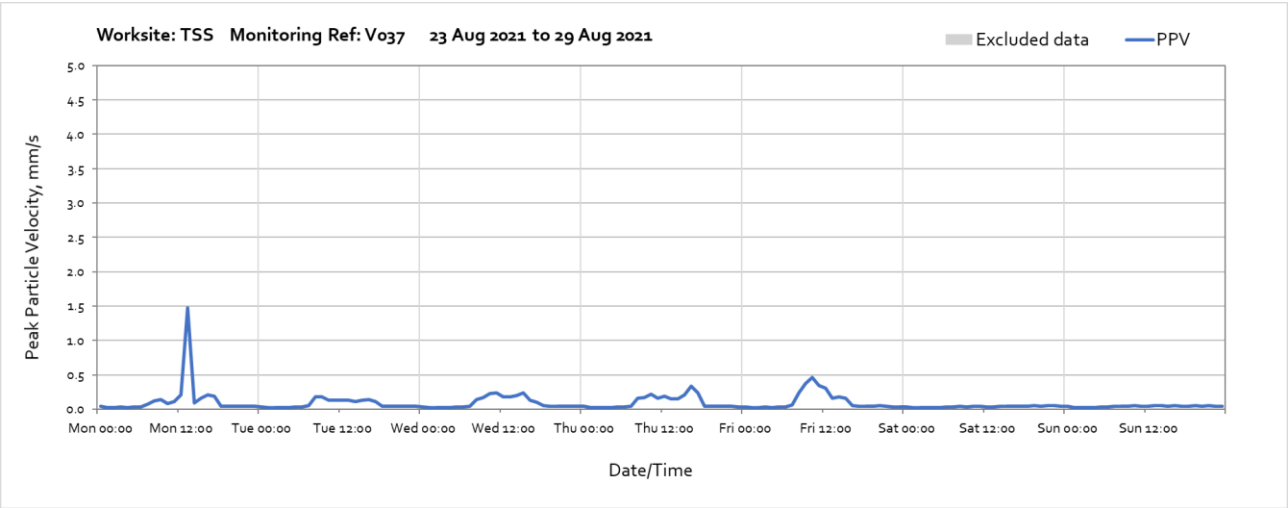


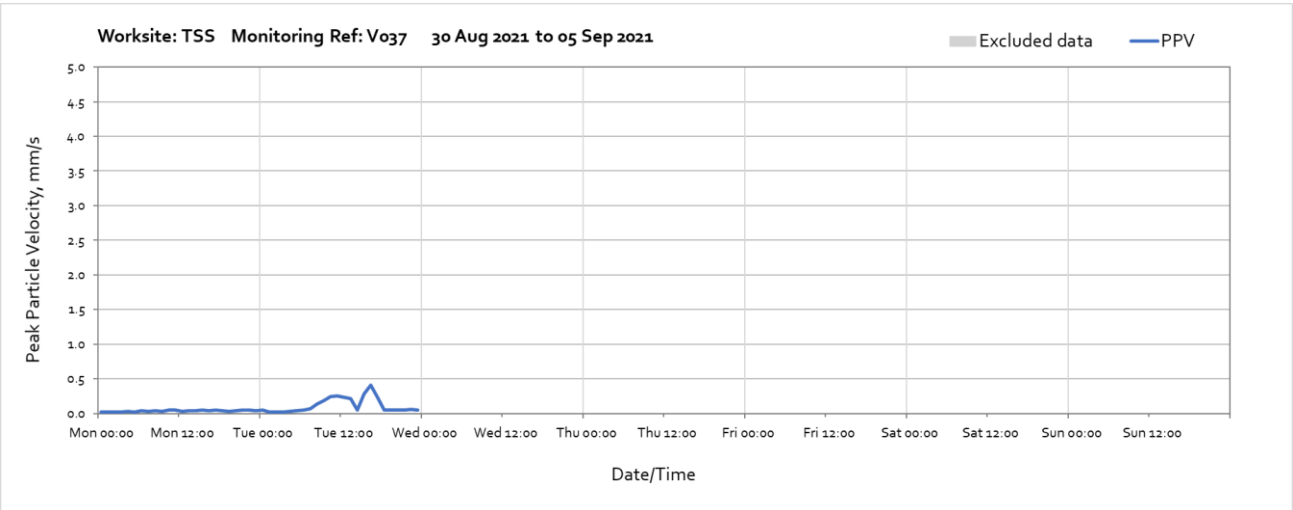




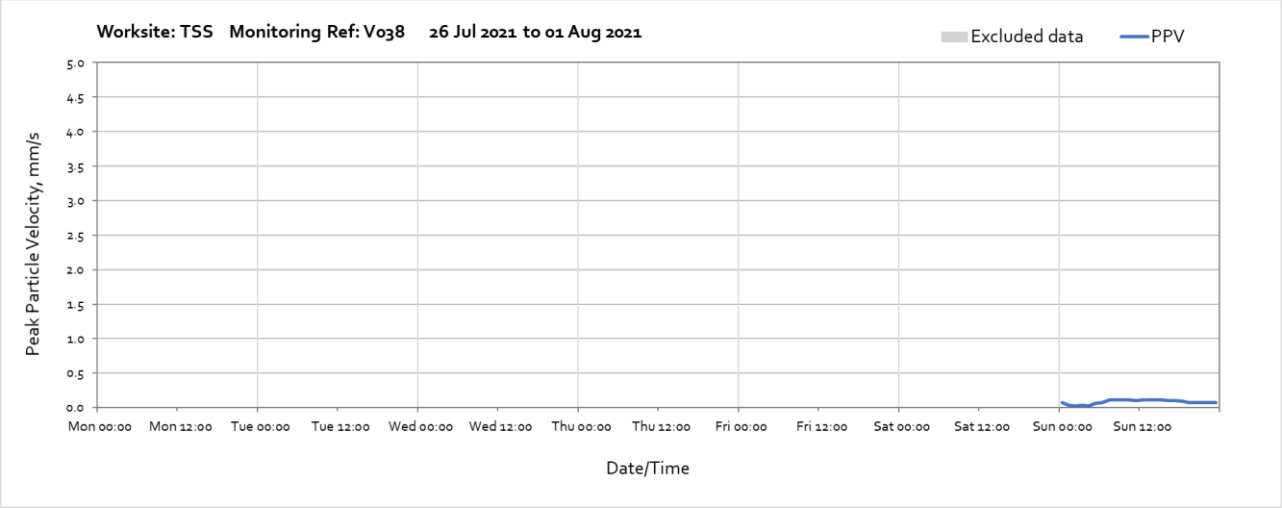


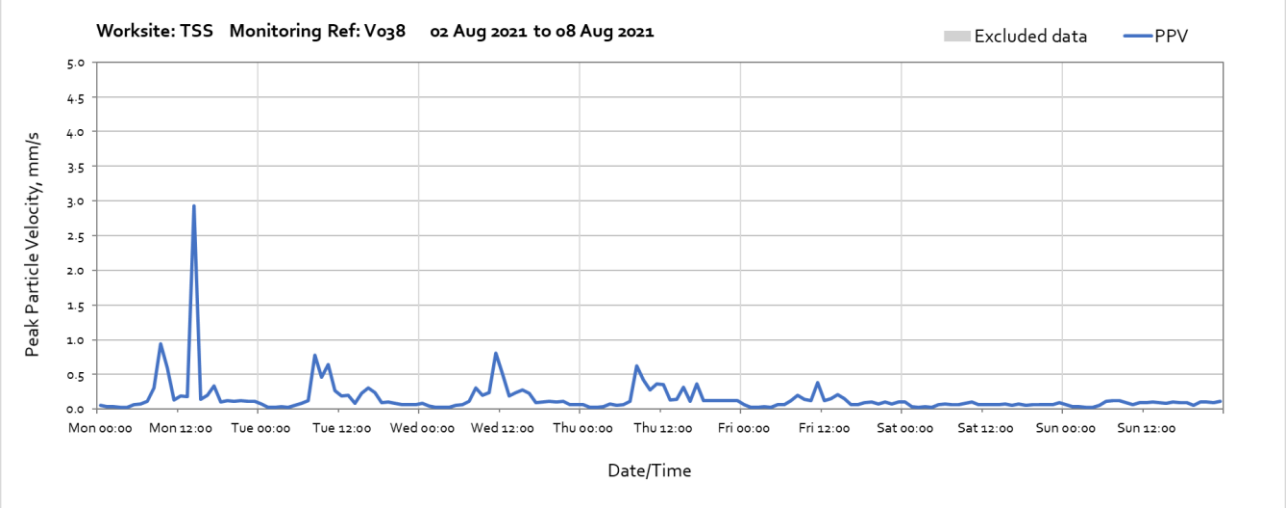
Note: High vibration levels measured from 12:00 until 13:00 on Monday 16th August were due to local interference during routine maintenance of the monitor.

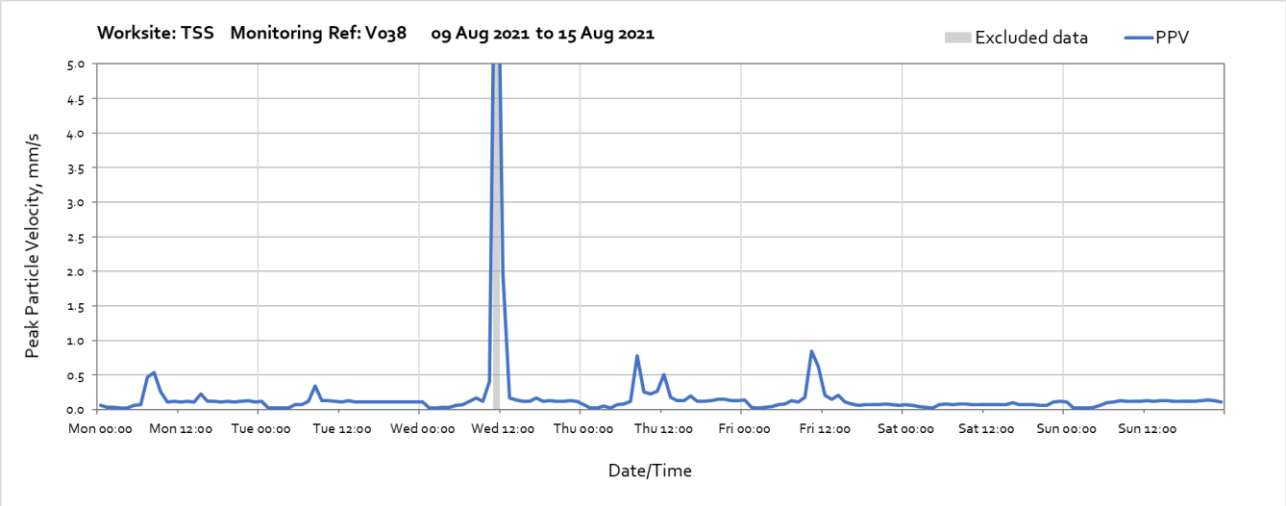




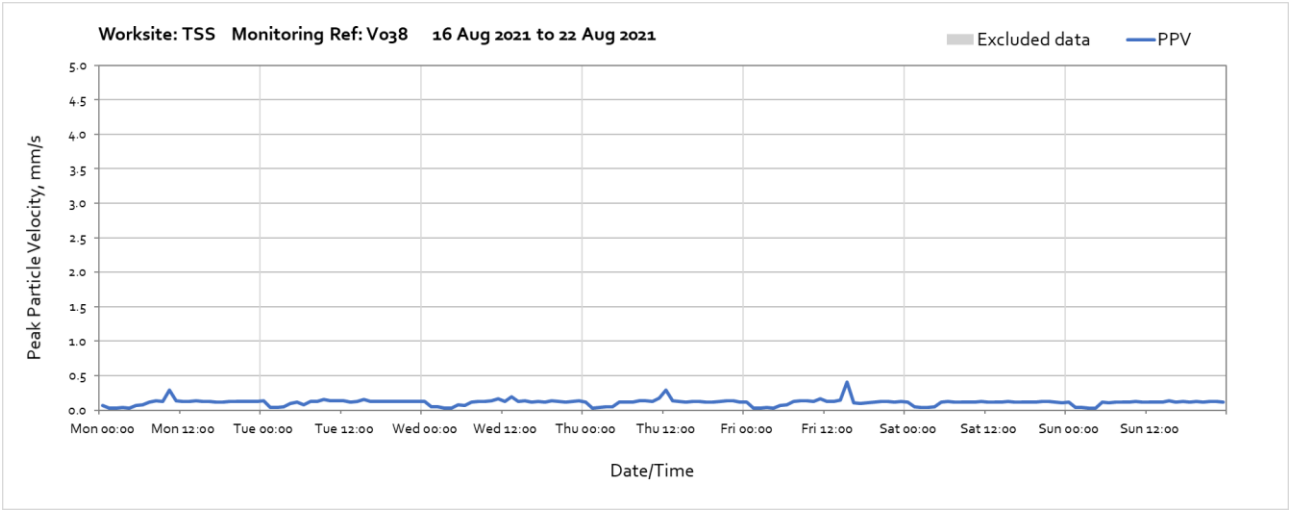
Worksite: TSS – Monitoring Ref: V038

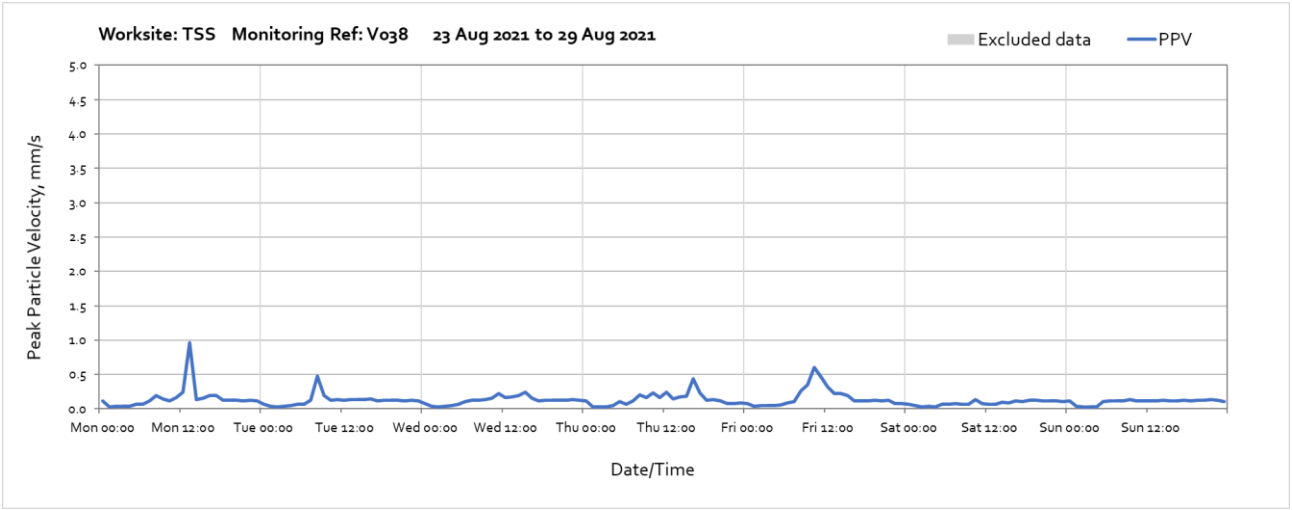


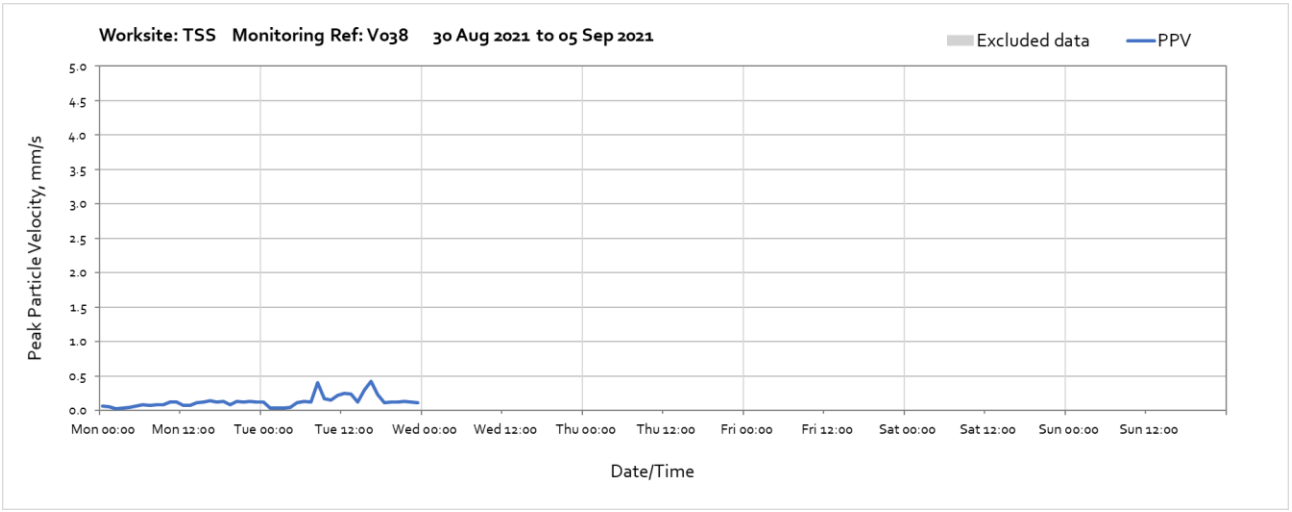




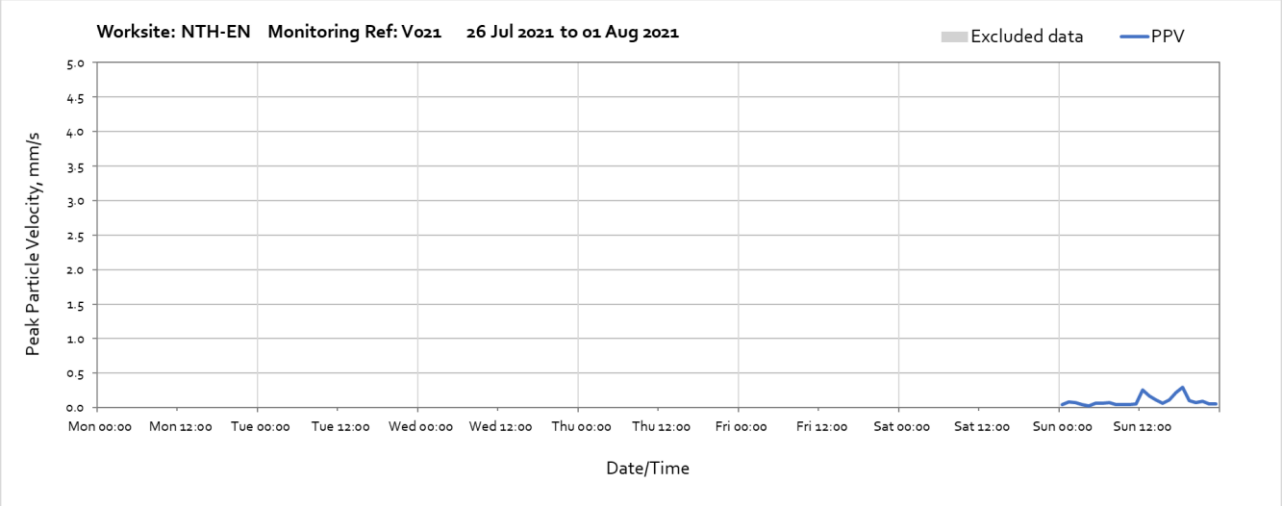
Note: High vibration levels measured from 11:00 until 12:00 on Wednesday 11th August were due to local interference during routine maintenance of the monitor.

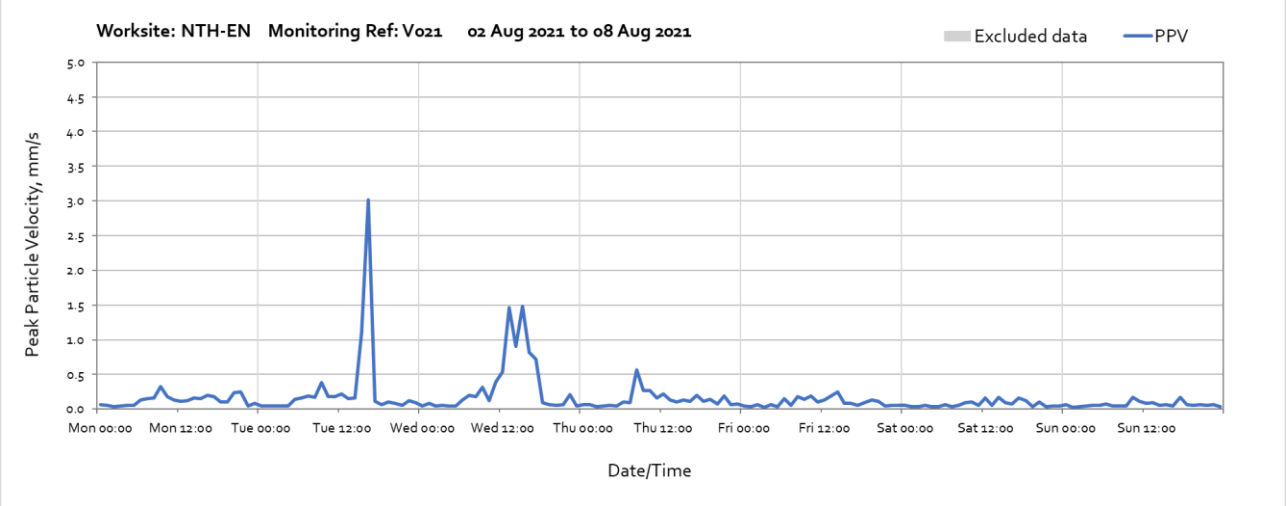

Worksite: TSS Monitoring Ref: V038 16 Aug 2021 to 22 Aug 2021
Excluded data
PPV
Peak Particle Velocity, mm/s
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
Mon 00:00
Mon 12:00
Tue 00:00
Tue 12:00
Wed 00:00
Wed 12:00
Thu 00:00
Thu 12:00
Fri 00:00
Fri 12:00
Sat 00:00
Sat 12:00
Sun 00:00
Sun 12:00
Date/Time

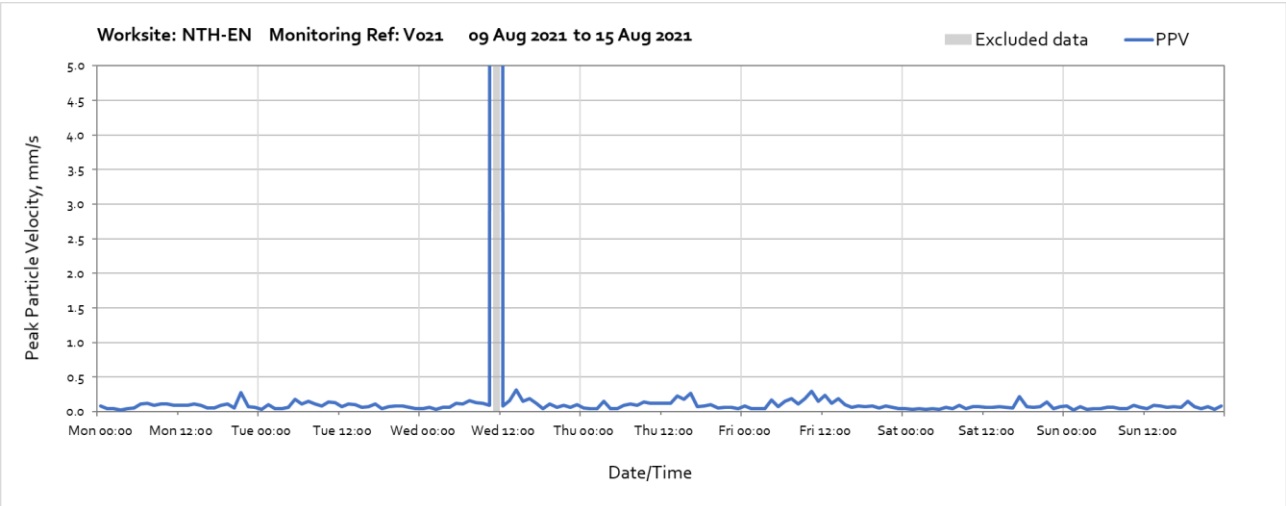

Worksite: TSS Monitoring Ref: V038 23 Aug 2021 to 29 Aug 2021
Excluded data
PPV
Peak Particle Velocity, mm/s
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
Mon 00:00
Mon 12:00
Tue 00:00
Tue 12:00
Wed 00:00
Wed 12:00
Thu 00:00
Thu 12:00
Fri 00:00
Fri 12:00
Sat 00:00
Sat 12:00
Sun 00:00
Sun 12:00
Date/Time


Worksite: TSS Monitoring Ref: V038 30 Aug 2021 to 05 Sep 2021
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

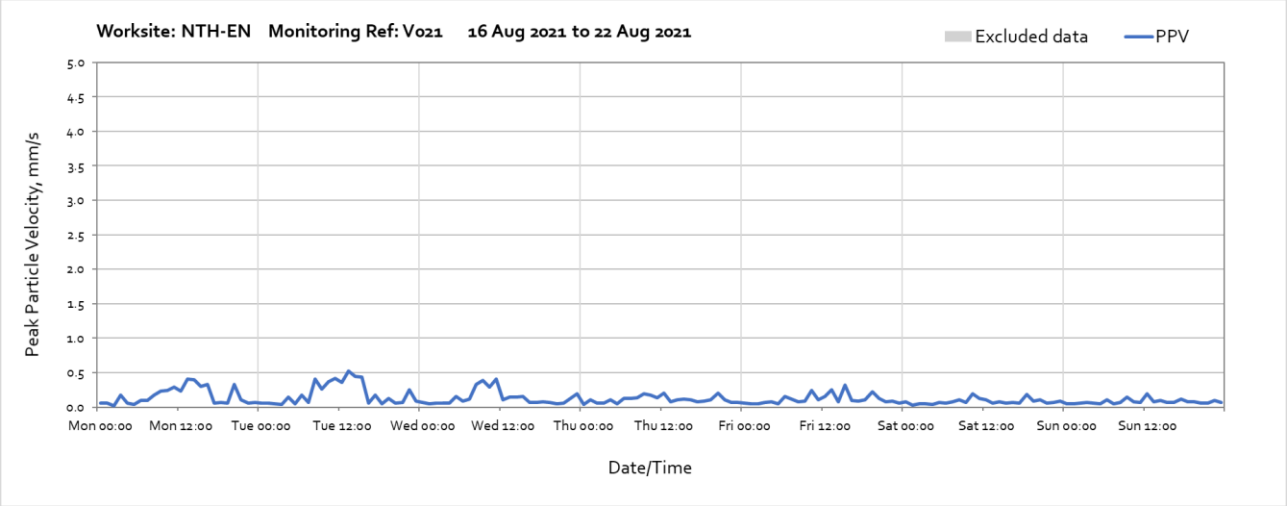
Worksite: NTH-EN – Monitoring Ref: V021

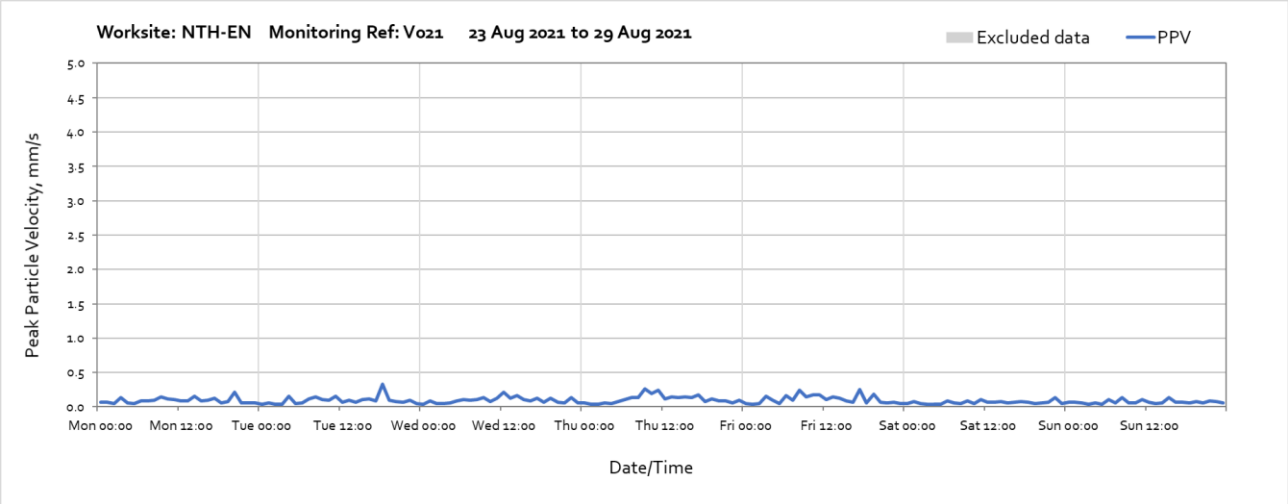


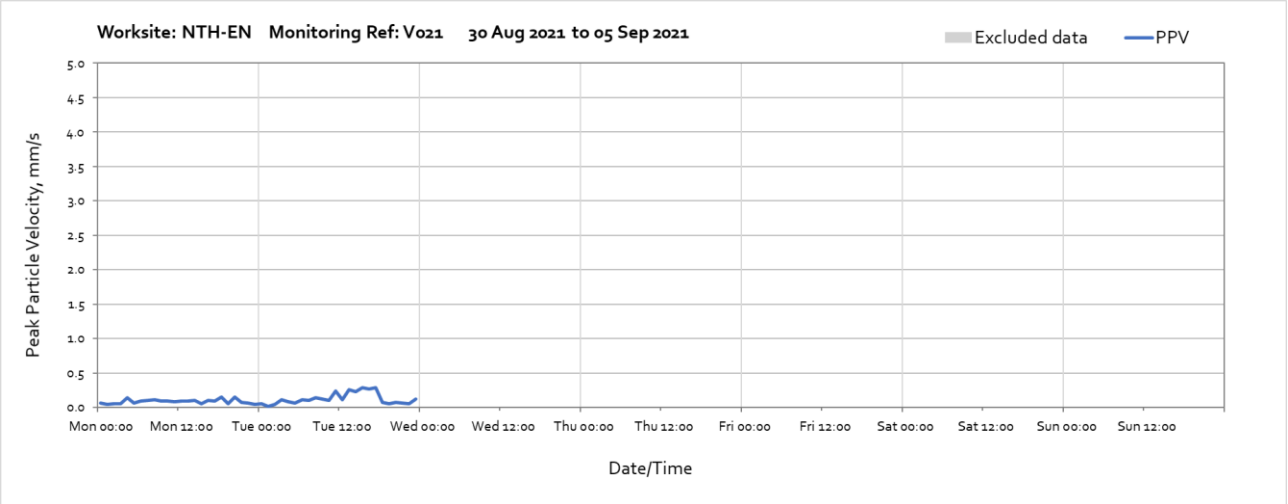




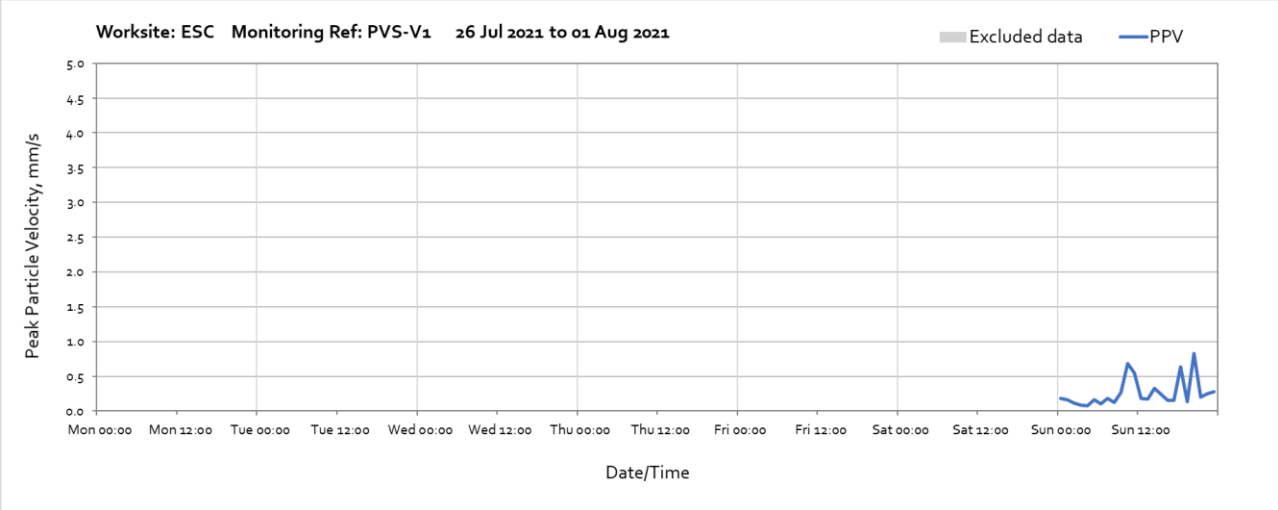
Note: High vibration levels measured from 11:00 until 12:00 on Wednesday 11th August were due to local interference during routine maintenance of the monitor.

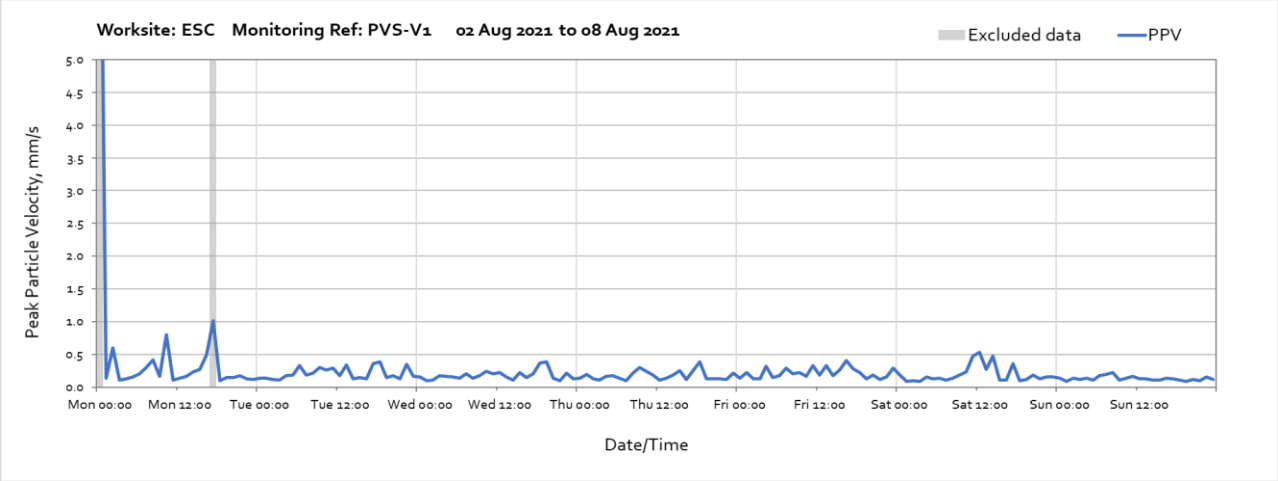

Worksite: NTH-EN Monitoring Ref: V021 16 Aug 2021 to 22 Aug 2021
Excluded data
PPV
Peak Particle Velocity, mm/s
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
Mon 00:00 Mon 12:00 Tue 00:00 Tue 12:00 Wed 00:00 Wed 12:00 Thu 00:00 Thu 12:00 Fri 00:00 Fri 12:00 Sat 00:00 Sat 12:00 Sun 00:00 Sun 12:00
Date/Time


Worksite: NTH-EN Monitoring Ref: V021 23 Aug 2021 to 29 Aug 2021
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

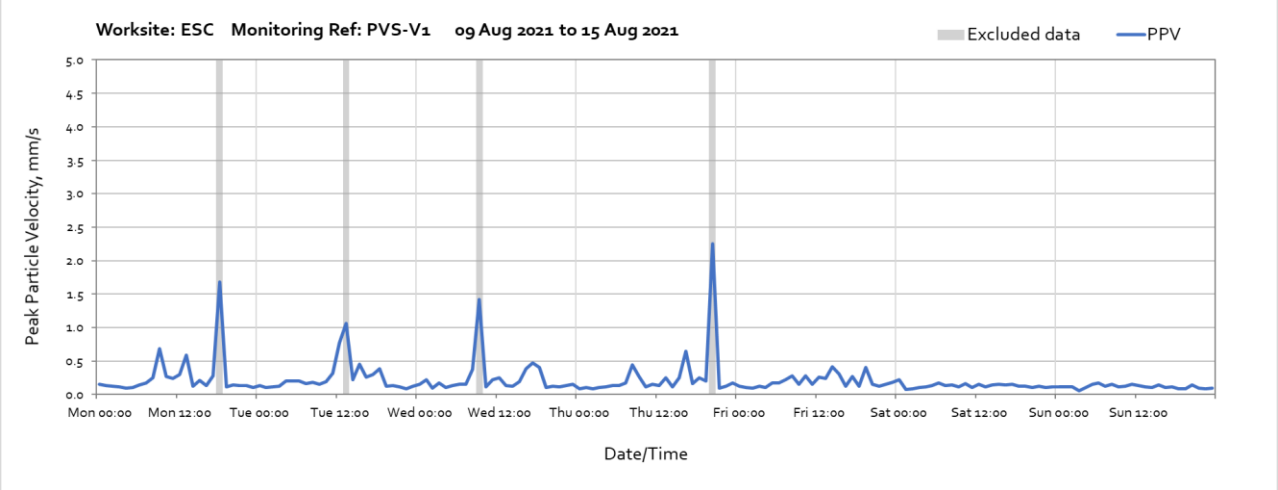

Worksite: NTH-EN Monitoring Ref: V021 30 Aug 2021 to 05 Sep 2021
Excluded data
PPV
Peak Particle Velocity, mm/s
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
Mon 00:00 Mon 12:00 Tue 00:00 Tue 12:00 Wed 00:00 Wed 12:00 Thu 00:00 Thu 12:00 Fri 00:00 Fri 12:00 Sat 00:00 Sat 12:00 Sun 00:00 Sun 12:00
Date/Time

Worksite: ESC – Monitoring Ref: PVS-V1

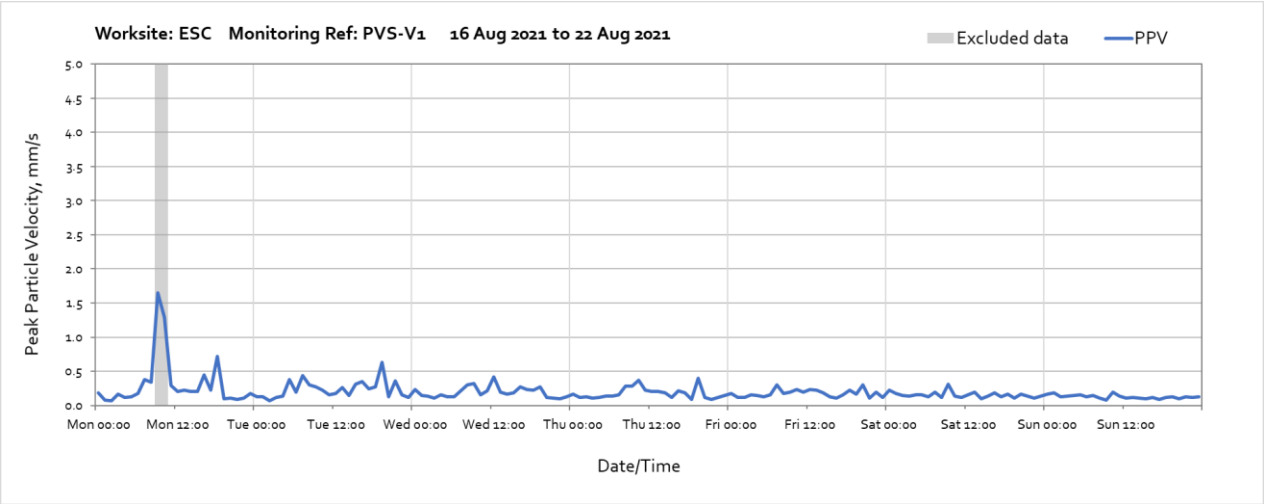




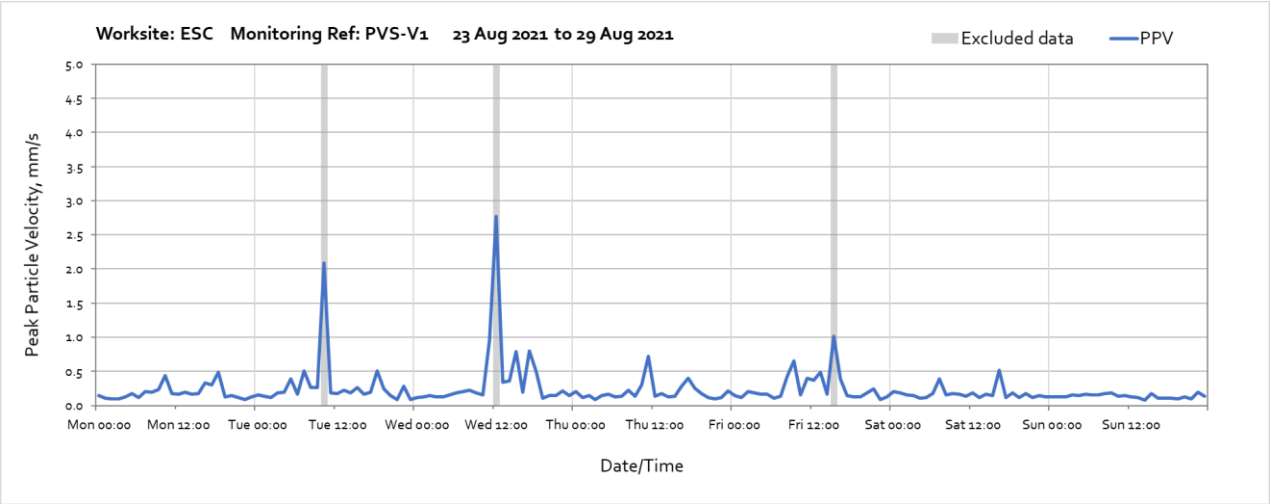
Note: High vibraton levels measured from 00:00 until 01:00 and 17:00 until 18:00 on Monday 2nd August were due to local interference of the monitor and are not representative of HS2 vibration levels at the receptor.



Note: High vibration levels measured throughout the week were due to local interference of the monitor and are not representative of HS2 vibration levels at the receptor.

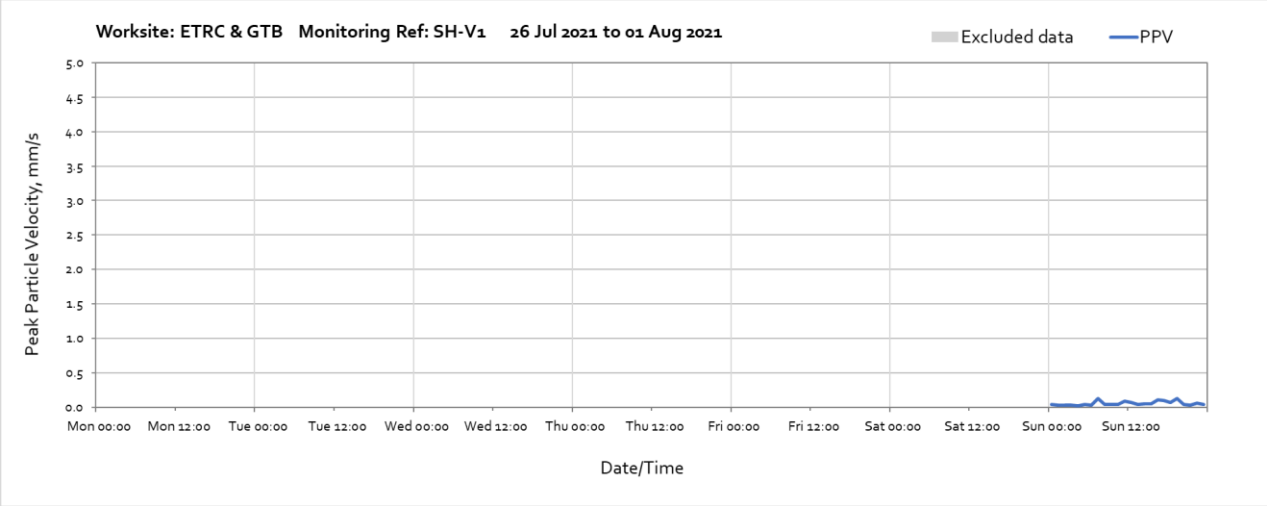


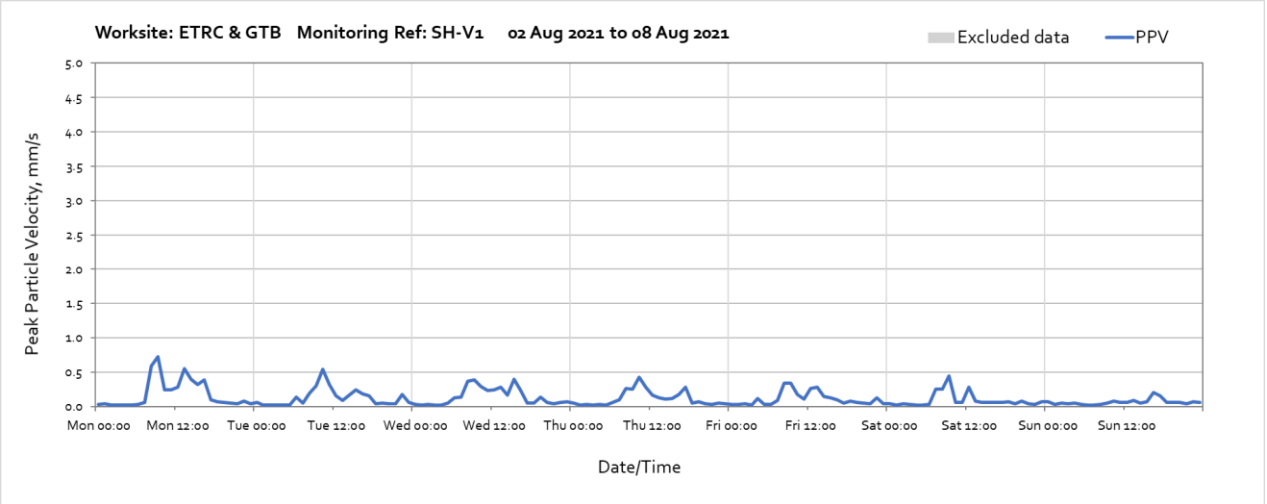
Note: High vibraton levels measured from 09:00 until 11:00 on Monday 16th August were due to local interference of the monitor and are not representative of HS2 vibration levels at the receptor.

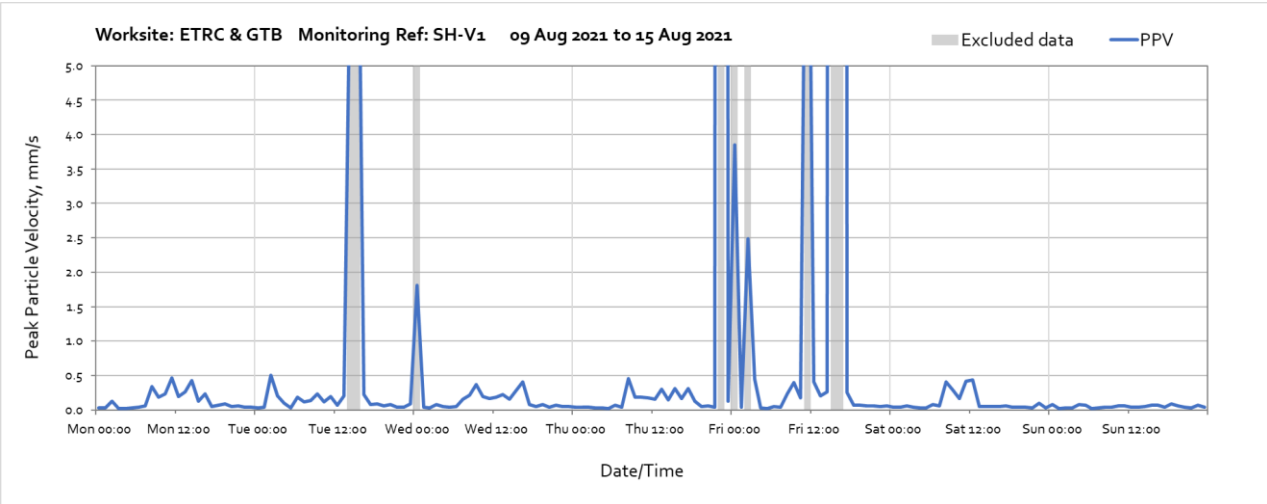


Note: High vibration levels measured throughout the week were due to local interference of the monitor and are not representative of HS2 vibration levels at the receptor.

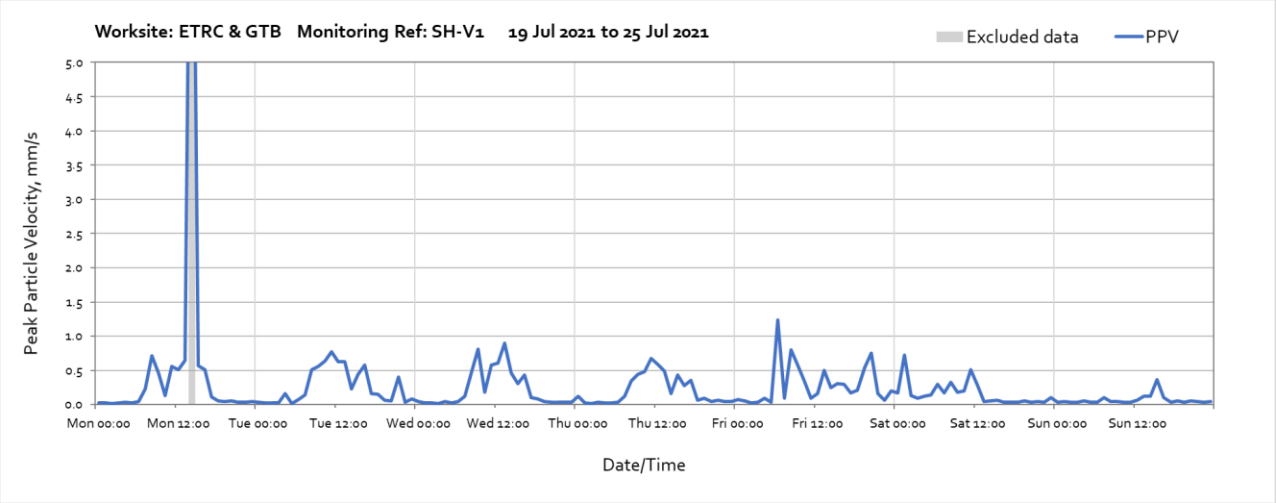
Worksite: ETRC & GTB – Monitoring Ref: SH-V1



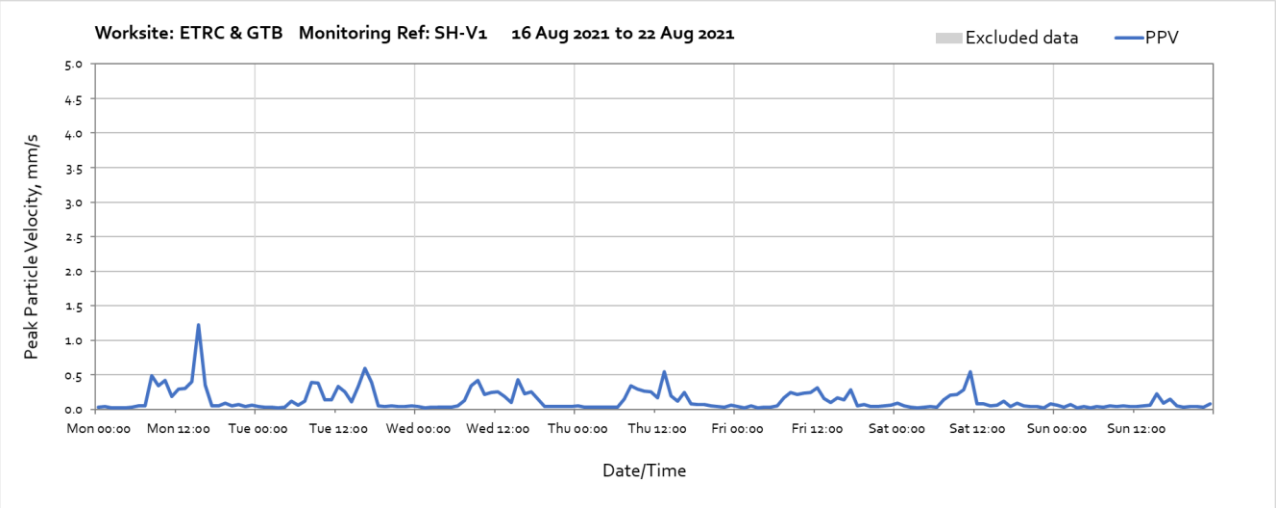


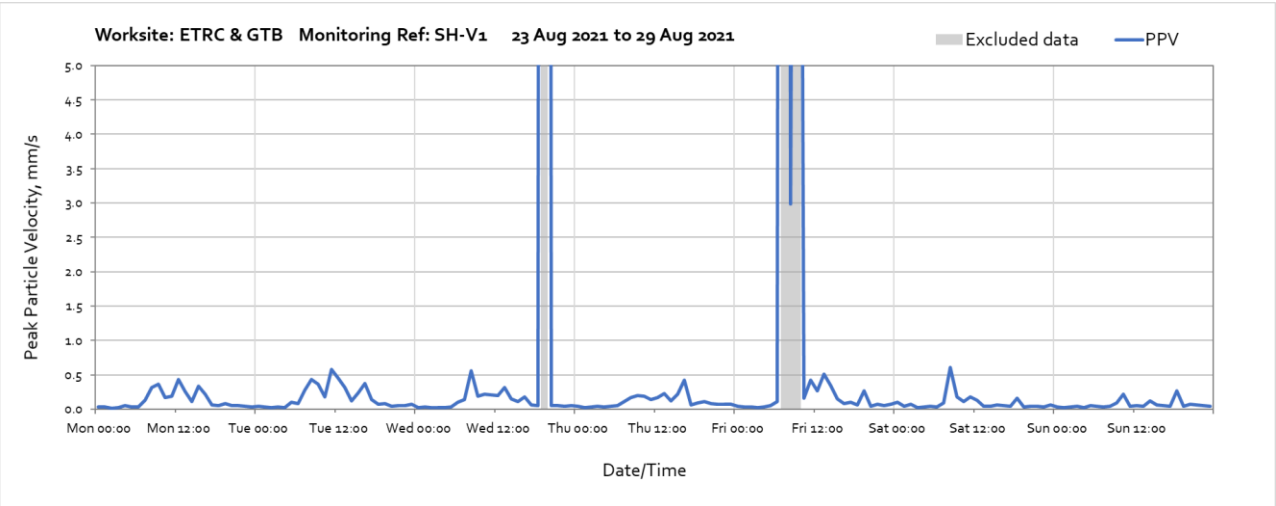


Note: High vibration levels measured throughout the week were due to local interference of the monitor and are not representative of HS2 vibration levels at the receptor.



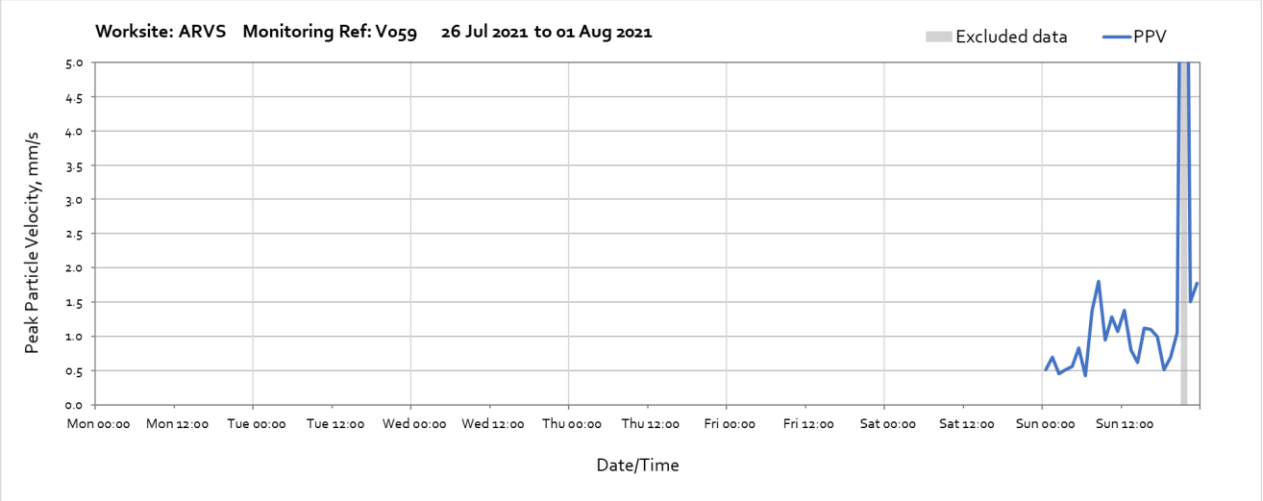
Note: High vibration levels measured from 14:00 until 15:00 on Monday 19th July were due to local interference of the monitor and are not representative of HS2 vibration levels at the receptor.



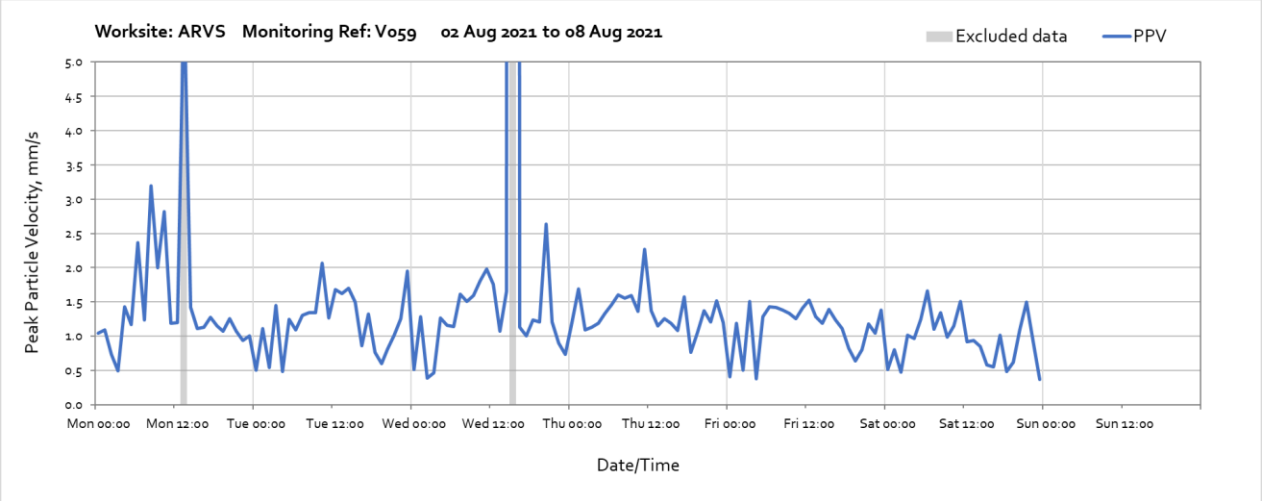


Note: High vibration levels measured from 19:00 until 20:00 on Wednesday 25th August and from 07:00 until 10:00 on Friday 27th August were due to local interference of the monitor and are not representative of HS2 vibration levels at the receptor.

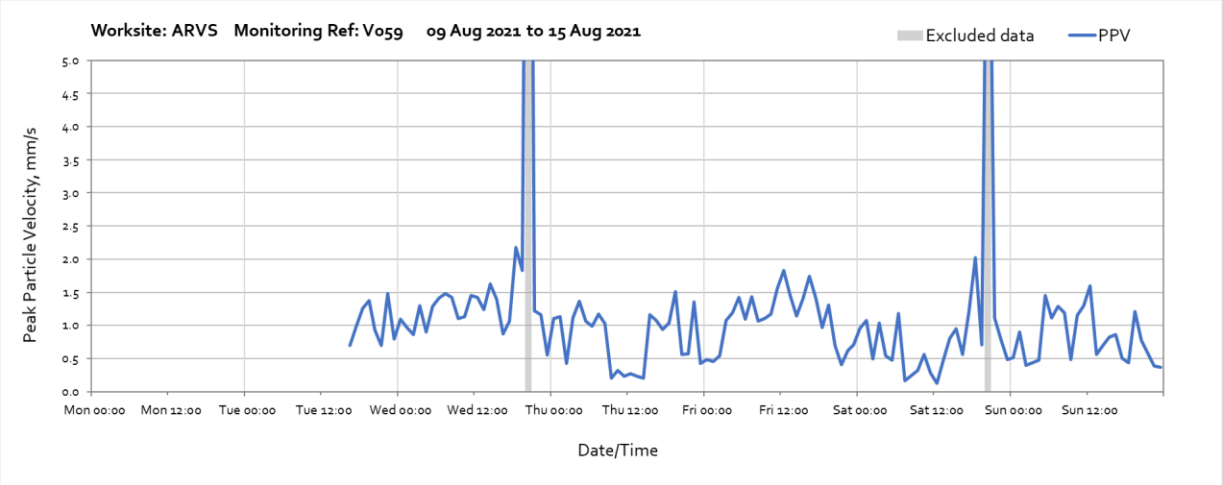
Worksite: ARVS – Monitoring Ref: V059



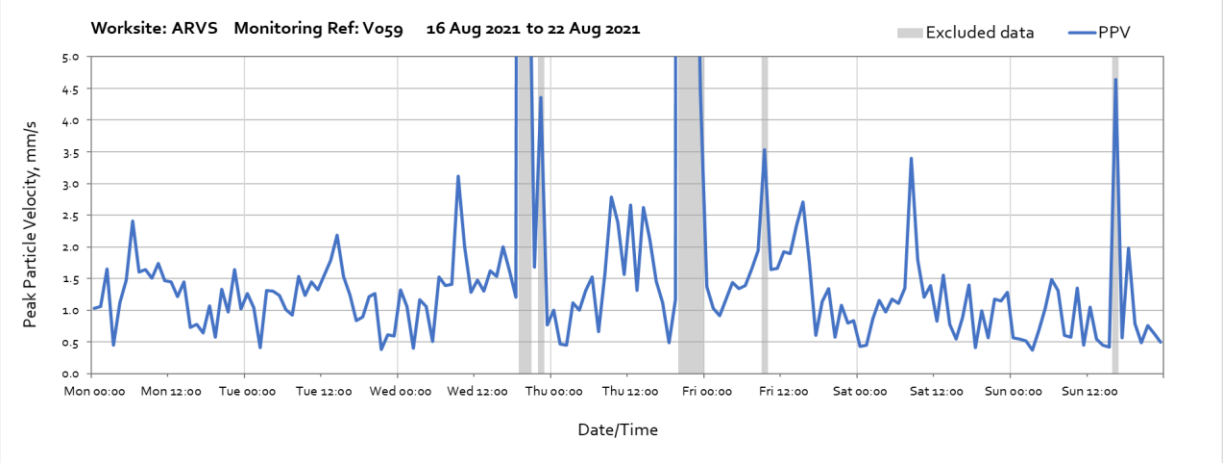
Note: High vibration levels measured from 21:00 until 22:00 on Sunday 1st August were due to local interference of the monitor and are not representative of HS2 vibration levels at the receptor.



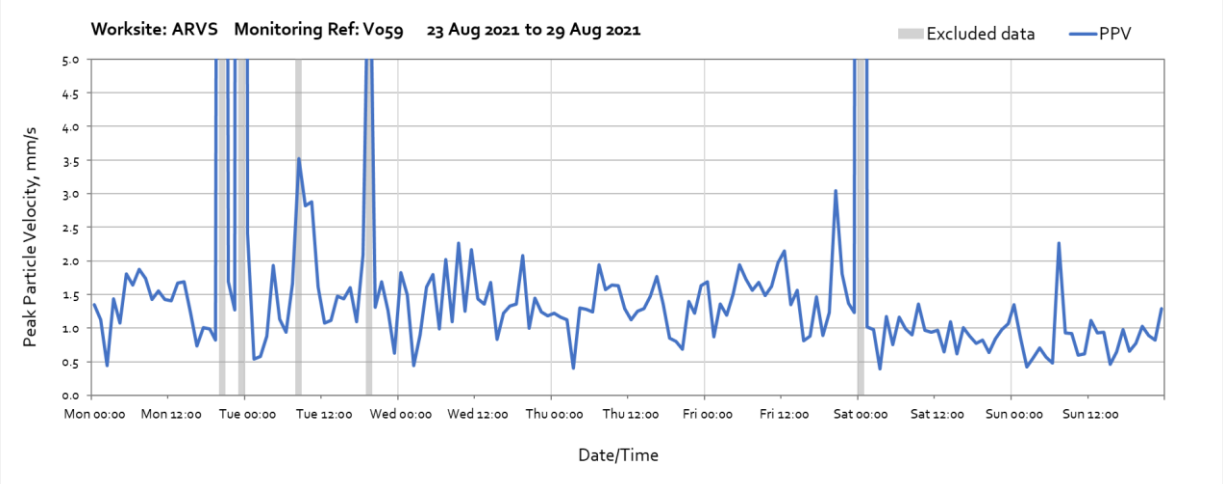
Note: High vibration levels measured from 13:00 until 14:00 on Monday 2nd August and from 15:00 until 16:00 on Wednesday 4th August were due to local interference of the monitor and are not representative of HS2 vibration levels at the receptor. Missing data from 00:00 on Sunday 8th August until 16:00 on Tuesday 10th August was due to depletion of the monitoring station battery caused by a delay in conformation of access to replace the battery.



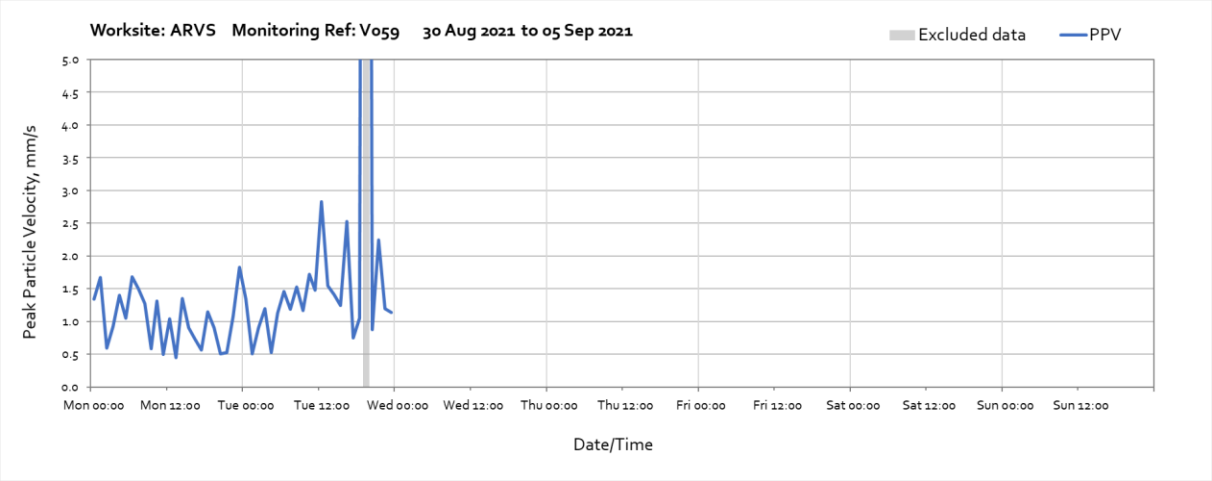
Note: High vibration levels measured from 20:00 until 21:00 on Wednesday 11th August and from 20:00 until 21:00 on Saturday 14th August were due to local interference of the monitor and are not representative of HS2 vibration levels at the receptor. Missing data from 00:00 on Sunday 8th August until 16:00 on Tuesday 10th August was due to depletion of the monitoring station battery caused by a delay in confirmation of access to replace the battery.



Note: High vibration levels measured throughout the week were due to local interference of the monitor and are not representative of HS2 vibration levels at the receptor.



Note: High vibration levels measured throughout the week were due to local interference of the monitor and are not representative of HS2 vibration levels at the receptor.



Note: High vibration levels measured from 19:00 until 20:00 on Wednesday 30th August were due to local interference of the monitor and are not representative of HS2 vibration levels at the receptor.