

1. Summary of Works

The project scope of works involves the remediation of the former bus depot. This includes excavation of contaminated soils, protection of a number of groundwater monitoring wells and the installation of a cable ducting trench to accommodate future works on site.

1.1 Monitoring Locations

	Welfare	
	Noise (Real Time Monitor)	
	Dust (Real Time Monitor)	
	Dust (Static Frisbee Gauges)	
	Vibration (Real Time Monitor)	

2. Equipment Used

Name	Serial Number	Certificate Number	Calibration Due Date
Turnkey iVIBE Sound and vibration meter	V0023	1248	04/03/2025 In for calibration
Turnkey Osiris Dust monitor	TNO4506	18179	24/04/2025 In for calibration
Turnkey iVIBE Sound and vibration meter	Hire 0112	1292	25/09/2025
Turnkey Osiris Dust monitor	Hire 4326	18181	24/04/2025
Ion Science Cub VOC gas detector	ECL CUB 067 TC201837 (D. Waters)	81160	17/10/2025
Ion Science Cub VOC gas detector	ECL CUB 106 TC103454 (Spare Person)	82158	19/02/2026
Ion Science Cub VOC gas detector	ECL CUB 120 TC202018 (D. Waller)	82157	19/02/2026
Ion Science PID VOC gas detector	Tiger Select T-117634 (West Boundary)	79599	26/04/2025
Ion Science PID VOC gas detector	Tiger Select 136 (North Boundary)	74675	27/06/2025

3. Works Undertaken

The below details the works completed during the week of this report:

- Completion of Remediation Section 1, including geotechnical testing.
- Preparation of the split CDM areas.
- Off hiring of equipment.
- Installation of secondary access gates

4. Noise Monitoring

A Turnkey iVIBE is a sound level meter and is intended for general acoustic measurements, occupational health, and environmental noise measurements.

Noise monitoring was recorded at the locations shown in Section 1.

The monitoring equipment complies with IEC 61326-1 (2005), IEC 61672-1 (2002), ANSI S1.4 (R2006), ANSI S1.43 (R2007), IEC 61260 (2001), ANSI S1.11 (R2009), CE, WEEE, RoHS and is compliant with BS

5228-1:2009 + A1:2014 Code of practice for noise and vibration control on construction and open sites.

Action values are as follows:

- Lower exposure action values:
 - Daily or weekly exposure of 70 dB
 - Peak sound pressure of 130 dB
- Upper exposure action values
 - Daily or weekly exposure of 75 dB
 - Peak sound pressure of 135 dB

L_{Aeq} (15 min) noise levels were recording continuously for 15-minute periods over an 8-hour duration.

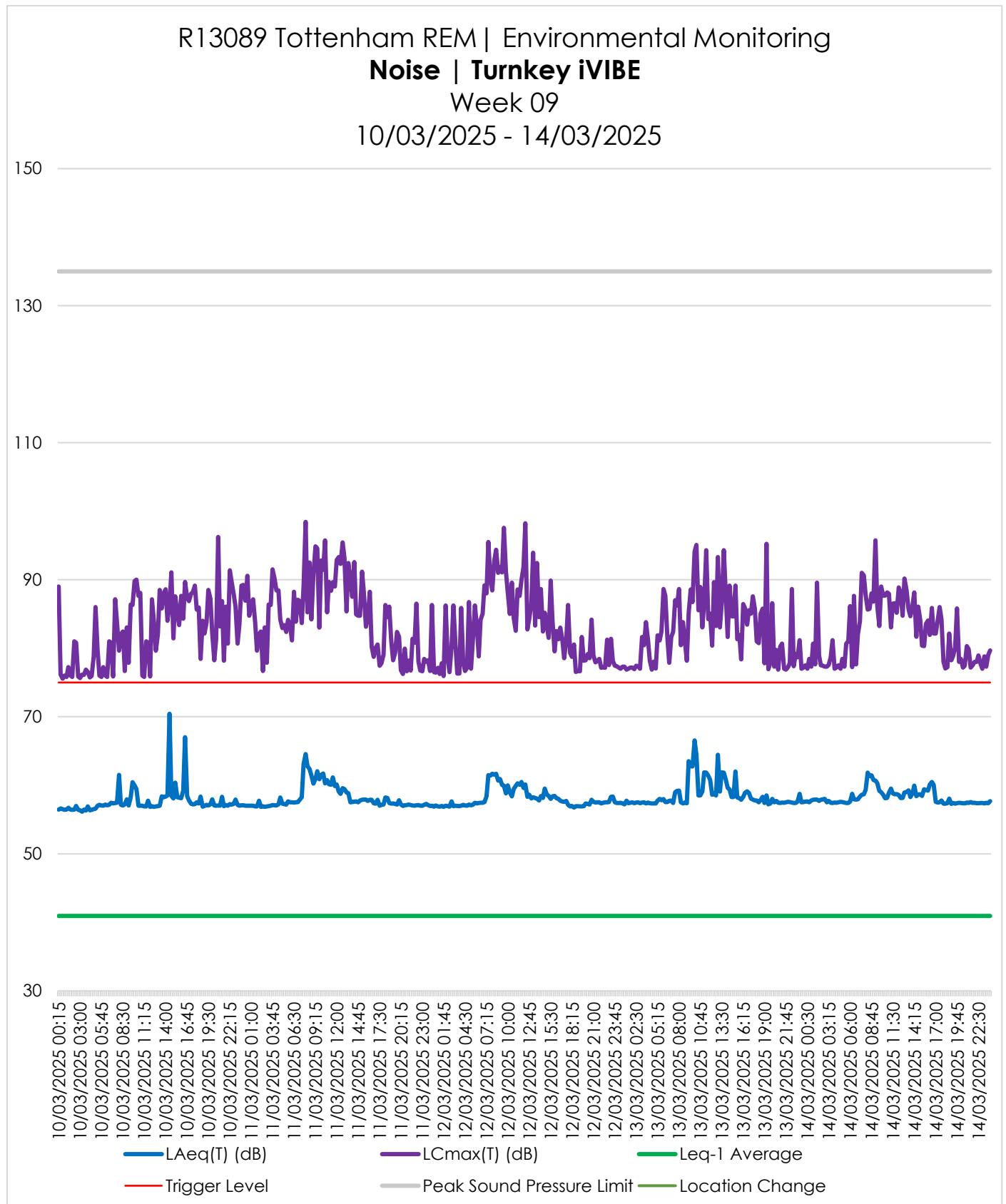
Action values for receptors are taken from the Code of Construction Practice London:

- During normal working hours (08:00 – 18:00), the maximum L_{Aeq}, period noise level measured 1 m from the façade (or boundary of the site if the property is greater than 1 m away) of any occupied or other building used for residential purposes, generated by construction plant and equipment, including the movements of vehicles to and from the site should not exceed the following:

Period	Hours	Residential / Commercial Premises	Schools or Hospitals
Monday - Friday	08:00 – 18:00	75 dB(A)	65 dB(A)
Saturday	08:00 – 13:00	75 dB(A)	65 dB(A)

In every case, control targets for nuisance noise will be agreed by the Contractor with the Local Environment Health Officer (EHO). Should the need arise (for example in the event that substantiated noise complaints are received during the site works in relation to high-risk activities) further detailed noise monitoring and assessment may be required to be undertaken by appropriately qualified persons in accordance with 'BS 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites'.

4.1 Graphical Representation of Logged Noise Data



LAeq - A-weighted equivalent continuous sound level in decibels equivalent to the total sound energy measured over a stated period.

LCmax - C-weighted peak sound pressure measurement.

(T) - Stated measured period of time.

Decibel (dB) - A unit used to measure the intensity of a sound.

4.2 Findings on Noise

Logged noise data for the week is displayed in the above graph.

No exceedances were recorded during the week.

5. Vibration Monitoring

An iVIBE data logger and 3 axis geophone was used for the duration of the works. The equipment is designed for high accuracy vibration monitoring in a construction environment.

Vibration monitoring was recorded at the locations shown in Section 1.

The monitor was set to run in continuous mode and was able to digitally record vibration levels up to 20 mm.s⁻¹, peak particle velocity, for frequencies between 5 Hz and 250 Hz. Weighting filters comply with ISO 2631, BS 6472 and BS 7385, and KB filters according to DIN 4150 and DIN 45669. Results are given in Root Mean Square (RMS) format. Data was exported from the logger and input into an Excel document, from which a graphic in the form a line graph was generated.

The geophone was levelled using the integrated bubble level and adjustable legs. It was loosely orientated by eye so that the axis conformed to the following compass bearings.

Geophone Axis	Bearing	Compass Point
X	51.60593	North
Y	-0.04660	West
Z	N/a	Zenith

Ground-borne vibration is to be undertaken by appropriately qualified persons and assessed using the guidelines provided in accordance with 'BS 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites'.

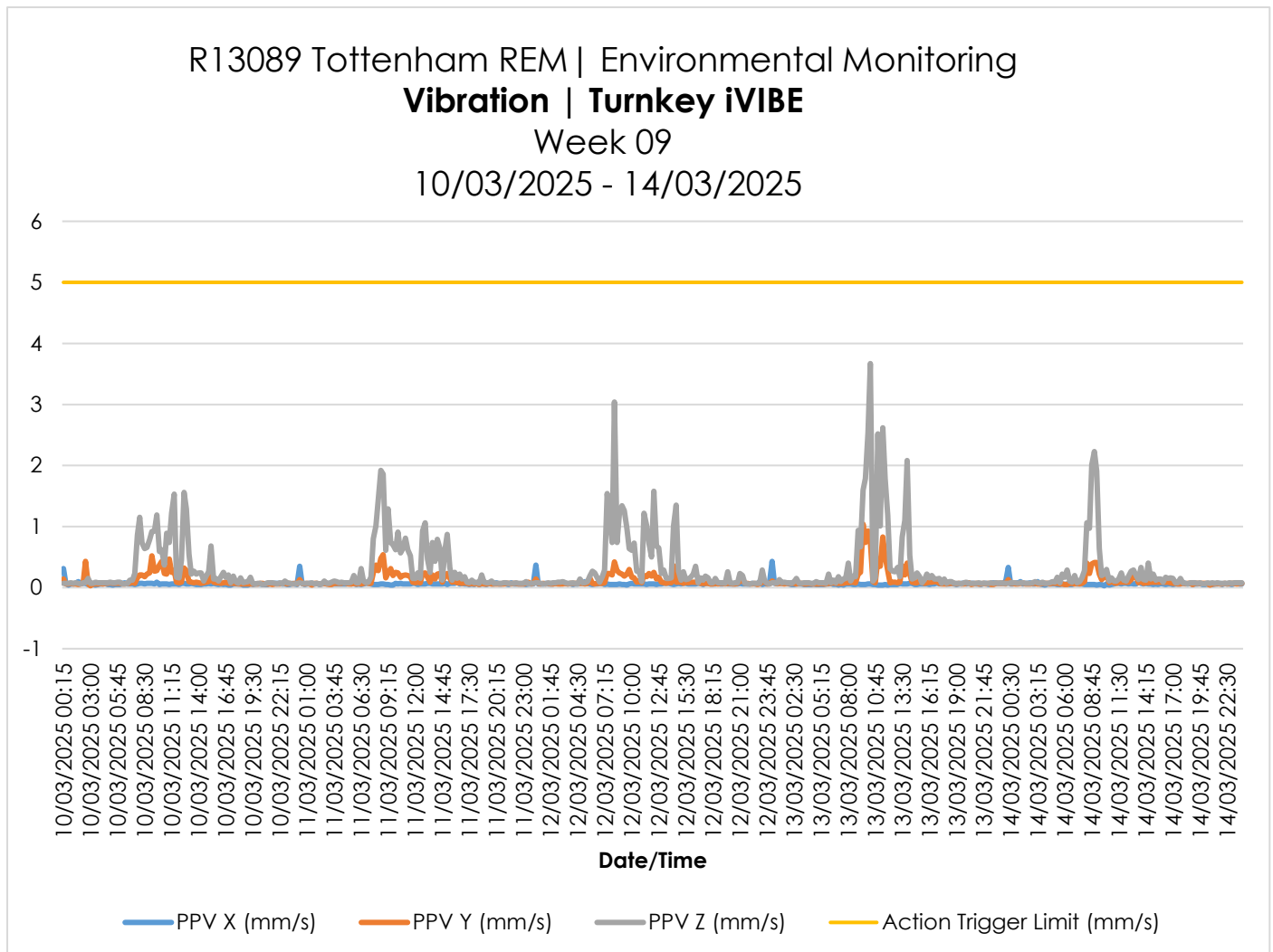
Trigger levels are based upon guidance given in 'BS 7385-2: 1993 Evaluation and measurement for vibration in buildings — Part 2: Guide to damage levels from ground borne vibration'.

Type of building	Peak component particle velocity in frequency of predominant pulse	
	4 Hz to 15 Hz	15 Hz and above
Reinforced or framed structures. Industrial and heavy commercial buildings	50 mm/s at 4 Hz and above	
Unreinforced or light framed structures. Residential or light commercial type buildings	15 mm/s at 4Hz increasing to 20 mm/s at 15 Hz	20 mm/s at 15 Hz increasing to 50 mm/s at 40 Hz and above

Vibration Limits Relating to Minor or Cosmetic Damage to Buildings:

Building Classification	Intermittent Vibration (PPV, mm/s ⁻¹)	Continuous Vibration (PPV, mm/s ⁻¹)
Residential in generally good repair	10	5
Residential where preliminary survey reveals significant defects (party wall)	5	3.5
Industrial/commercial – light and flexible structure	20	15
Industrial/commercial – heavy and stiff structure	30	15

5.1 Graphical Representation of Logged Vibration Data



5.2 Findings on Vibration

Logged vibration data for the week is displayed in the above graphs.

No exceedances were recorded during the week.

6. Dynamic Dust Monitoring

6.1 Dynamic Dust

The Osiris uses a light-scattering laser photometer to measure airborne particle monitors (PM10) in real-time with history data logging capability. The Osiris has been Environment Agency MCERTS certified.

This instrument is designed to measure dust deposition. Action values for personal exposure to Dust for Particulate Matter PM10 are set to a lower action level of 180 µg/m³ averaged over a 15-minute period as our warning trigger but not to exceed 200 µg/m³ averaged over a 15-minute period, as per the 'Institute of Air Quality Management (2018), Guidance on Air Quality Monitoring in the Vicinity of Demolition and Construction Sites'.

Should the action value be exceeded, measures in the Safe System of Work will be implemented including stopping work and an increased dampening down of the site.

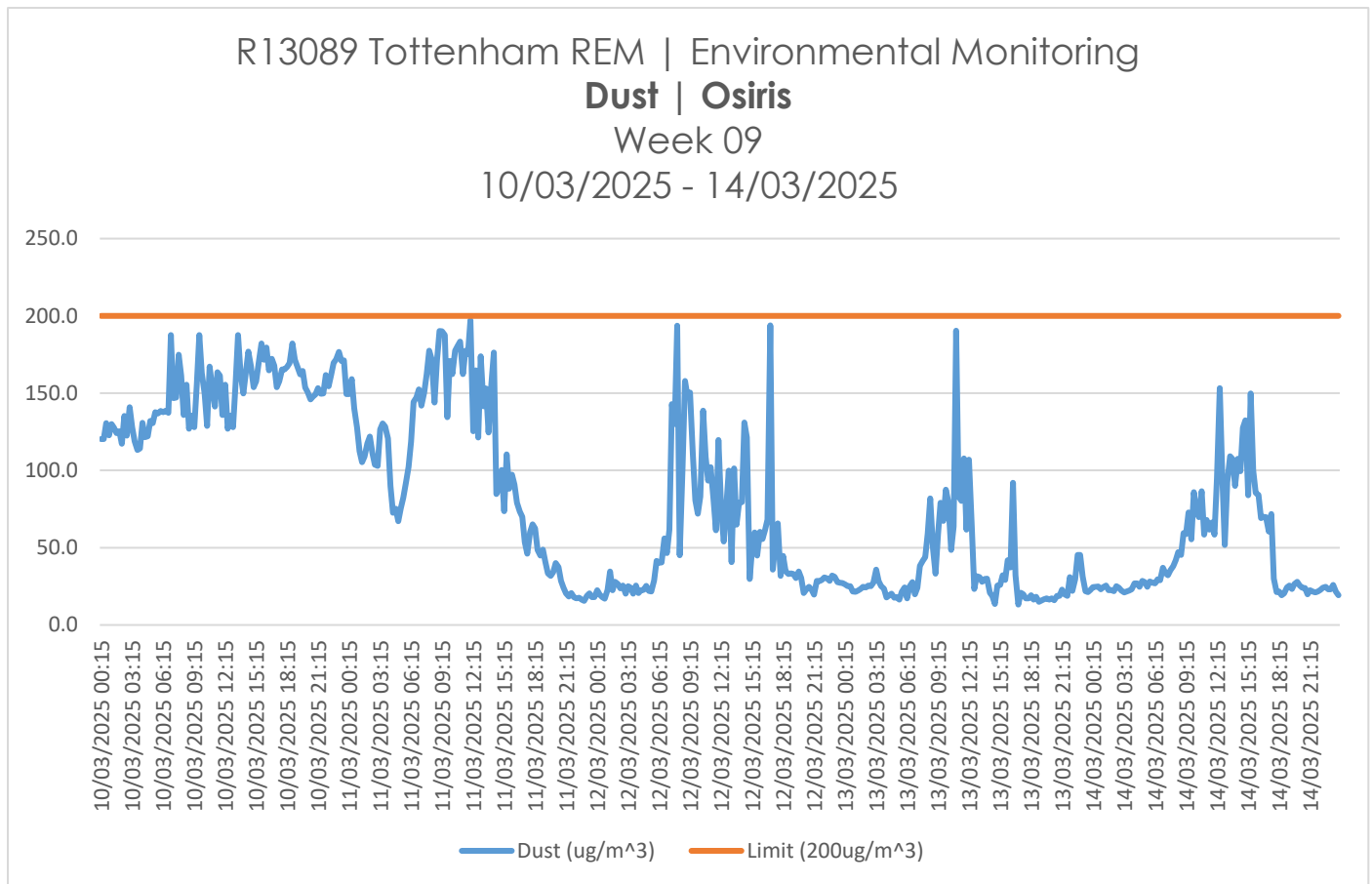
The DEFRA Daily Air Quality Index (DAQ) is numbered 1-10 and divided into four bands. Low (1) to very high (10), to provide detail about air pollution levels in a simple way. For PM10 particles, this based on the daily mean concentration.

Index	1	2	3	4	5	6	7	8	9	10
Band	Low	Low	Low	Moderate	Moderate	Moderate	High	High	High	Very High
µg/m ³	0-16	17-33	34-50	51-58	59-66	67-75	76-83	84-91	92-100	101 or more

The data below was obtained from the onsite monitor and represents the Particulate Matter suspended in the air up to 10 microns (PM10) in size during the period of this report.

Dust monitoring was recorded at the locations shown in Section 1.

6.2 Graphical Representation of Logged Dust Data



6.3 Findings on Dust

Logged dust data for the week is displayed in the above graph.

Action values for personal exposure to dust as defined in the air quality objectives for Particulate matter PM₁₀ are not to exceed 200 µg/m³ averaged over a 15-minute period as per the *Institute of Air Quality Management (2018), Guidance on Air Quality Monitoring in the Vicinity of Demolition and Construction Sites*.

No exceedances were recorded during the week.

7. Volatile Organic Compounds (VOC) Monitoring

Under the Control of Substances Hazardous to Health Regulations, 2002 (COSHH), as amended in 2004), we used Ion Science Cubs, Photo Ionising Detectors (PID) which are capable of data logging and have an audio/visual alarm set to trigger in response to any exceedances of the occupational guideline value of an appropriate organic contaminant (benzene). This device meets the following European standards: ATEX: CE, Ex II 1G, Ex IA IIC T4; $-20^{\circ}\text{C} \leq T_a \leq 55^{\circ}\text{C}$.

Action values for personal exposure to VOC (calibrated to benzene standard) as defined in the COSHH Regulations. VOC readings not to exceed 1 ppm of benzene. Should target limits be exceeded, measures in the SSoW will be implemented.

These are placed with the Site Foreman and Excavator Operator. The following data has been obtained from the onsite Photo Ionising Detectors (PID) and Tiger Select Cubs and represents the potential exposure to Volatile Organic Compounds (calibrated to benzene standard) during the week of this report.

7.1 Graphical Representation of Logged VOC Data

Personal VOC monitors were not deployed during this weeks onsite activities.

7.2 Graphical Representation of Logged PID Data

Boundary PID monitors were not deployed during this weeks onsite activities.

7.3 Findings on VOC

No exceedances of HSE'S document '*EH40: workspace exposure limits*' given workspace exposure limit (WEL) value of 1ppm 8-hour TWA were recorded for the week for either of the two boundary monitors or any of the personal monitors.

8. Applicable Legislation/ Regulations and Guidance

	Current Legislation	Activity	Impacts On
Reference Documents	Environmental Protection Act 1990 Part II	Demolition, asbestos, remediation works.	Air pollution, waste on land, contaminated land, nuisances and clean air, litter, radioactive substances, conservation.
	Pollution Prevention and Control Act 1999 & Pollution Prevention and Control (England & Wales) Regulations as amended 2000	Demolition, asbestos, remediation works.	Oil pollution, clean air, railway.
	Air Quality Standards Regulations 2010	Demolition, asbestos, remediation works.	Public exposure, ozone.
	The Environment Act (Commencements 1-18) Order 1995-1999	All projects.	EA, contaminated land, national parks, air quality, waste, drainage.
	Noise Emissions in the Environment by Equipment for use Outdoors (Amendment Regulations SI 2005/98	All projects, specifically in sensitive areas.	Human health, local noise levels.
	The Clean Air Act	All sites and projects.	Human health, environment.

Guidance:

- Institute of Air Quality Management – Guidance on the Assessment of Dust from Demolition and Construction - February 2014
- Institute of Air Quality Management – Guidance on Air Quality Monitoring in the Vicinity of Demolition and Construction sites – 2014
- BS 5228-1: 2009 + A1: 2014 – Code of Practice for Noise and Vibration Control on Construction and Open Sites.
- BS 7385-2: 1993 Evaluation and Measurement for Vibration in Buildings- Part2: Guide to damage levels from Ground Borne Vibration.
- BS 6742-1: 2008 – Guide to Evaluation of Human Exposure to Vibration in Building.
- DEFRA – Noise database for Prediction of Noise on Construction and Open Sites.
- HSE- EH40: Occupational Exposure Levels

9. Glossary of Terms

Trigger Levels	The limits of which one of the elements (noise/dust/vibration) cannot exceed external to the hoarding. The trigger levels may be agreed with the local council, according to the client requirements.
Baselines	The values recorded pre-works.
A weighting, dB(A)	The unit of sound level weighted according to the A-scale. Is the mechanism who correspond the best to response of the human ear.
LA_{eq}	The equivalent continuous noise level over any specified period.
PM10	The particulate matter of diameter less than or equal to 10 micrometres.
mg/m³	Milligrams of a substance in a cubic meter of air. It is a measure of concentration (weight/volume).
Peak	It is particularly valuable for indicating the level of short duration shocks, etc. (m/s ²).
P-P	Peak-to-Peak, indicates the maximum excursion of the wave, (m/s ²).
m/s²	Metres per second squared. It is a measure of acceleration.
m/s	Metres per second. It is a measure of velocity.

Environmental Monitoring Report

Week 10

NGET REM Tottenham



Prepared For	National Grid Electricity Transmission
Prepared By	Erith Contractors
Project Reference	R13089
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Monitoring Period	17/03/2025 – 21/03/2025

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1. Summary of Works

The project scope of works involves the remediation of the former bus depot. This includes excavation of contaminated soils, protection of a number of groundwater monitoring wells and the installation of a cable ducting trench to accommodate future works on site.

1.1 Monitoring Locations

	Welfare	
	Noise (Real Time Monitor)	
	Dust (Real Time Monitor)	
	Dust (Static Frisbee Gauges)	
	Vibration (Real Time Monitor)	

2. Equipment Used

Name	Serial Number	Certificate Number	Calibration Due Date
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Ion Science PID VOC gas detector	Tiger Select 136 (North Boundary)	74675	27/06/2025

3. Works Undertaken

The below details the works completed during the week of this report:

3.1 Erith Works

- Partial site handover to Morrisons.

3.2 Morrisons Works

- Partial site handover with BNP.
- Installation of trackway.
- Mobilisation of plant and equipment to site.

4. Noise Monitoring

A Turnkey iVIBE is a sound level meter and is intended for general acoustic measurements, occupational health, and environmental noise measurements.

Noise monitoring was recorded at the locations shown in Section 1.

The monitoring equipment complies with IEC 61326-1 (2005), IEC 61672-1 (2002), ANSI S1.4 (R2006), ANSI S1.43 (R2007), IEC 61260 (2001), ANSI S1.11 (R2009), CE, WEEE, RoHS and is compliant with BS 5228-1:2009 + A1:2014 *Code of practice for noise and vibration control on construction and open sites*.

Action values are as follows:

- Lower exposure action values:
 - Daily or weekly exposure of 70 dB
 - Peak sound pressure of 130 dB
- Upper exposure action values
 - Daily or weekly exposure of 75 dB
 - Peak sound pressure of 135 dB

LAeq (15 min) noise levels were recording continuously for 15-minute periods over an 8-hour duration.

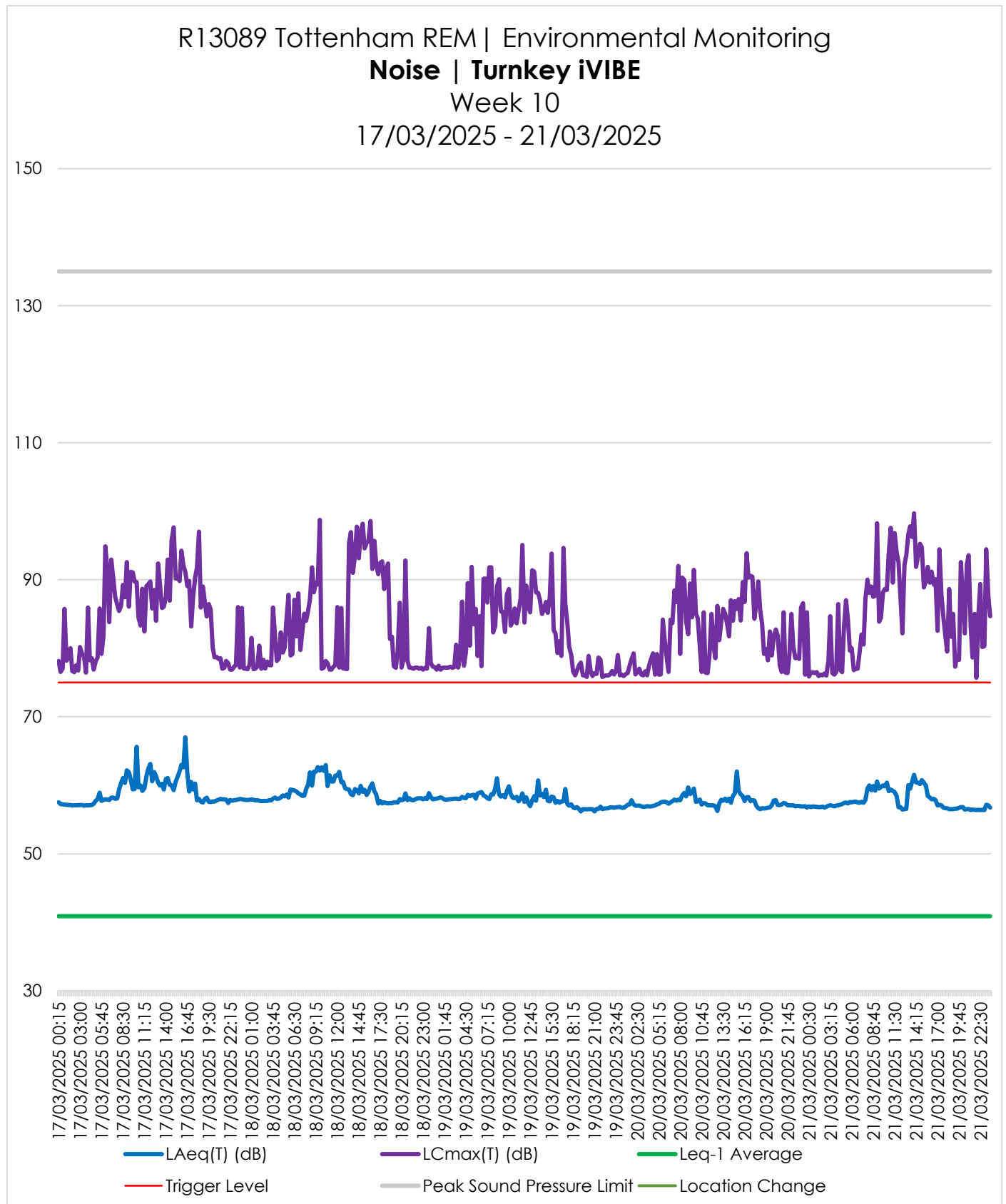
Action values for receptors are taken from the Code of Construction Practice London:

- During normal working hours (08:00 – 18:00), the maximum LAeq, period noise level measured 1 m from the façade (or boundary of the site if the property is greater than 1 m away) of any occupied or other building used for residential purposes, generated by construction plant and equipment, including the movements of vehicles to and from the site should not exceed the following:

Period	Hours	Residential / Commercial Premises	Schools or Hospitals
Monday - Friday	08:00 – 18:00	75 dB(A)	65 dB(A)
Saturday	08:00 – 13:00	75 dB(A)	65 dB(A)

In every case, control targets for nuisance noise will be agreed by the Contractor with the Local Environment Health Officer (EHO). Should the need arise (for example in the event that substantiated noise complaints are received during the site works in relation to high-risk activities) further detailed noise monitoring and assessment may be required to be undertaken by appropriately qualified persons in accordance with 'BS 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites'.

4.1 Graphical Representation of Logged Noise Data



LAeq - A-weighted equivalent continuous sound level in decibels equivalent to the total sound energy measured over a stated period.

LCmax - C-weighted peak sound pressure measurement.

(T) - Stated measured period of time.

Decibel (dB) - A unit used to measure the intensity of a sound.

4.2 Findings on Noise

Logged noise data for the week is displayed in the above graph.

No exceedances were recorded during the week.

5. Vibration Monitoring

An iVIBE data logger and 3 axis geophone was used for the duration of the works. The equipment is designed for high accuracy vibration monitoring in a construction environment.

Vibration monitoring was recorded at the locations shown in Section 1.

The monitor was set to run in continuous mode and was able to digitally record vibration levels up to 20 mm.s⁻¹, peak particle velocity, for frequencies between 5 Hz and 250 Hz. Weighting filters comply with ISO 2631, BS 6472 and BS 7385, and KB filters according to DIN 4150 and DIN 45669. Results are given in Root Mean Square (RMS) format. Data was exported from the logger and input into an Excel document, from which a graphic in the form a line graph was generated.

The geophone was levelled using the integrated bubble level and adjustable legs. It was loosely orientated by eye so that the axis conformed to the following compass bearings.

Geophone Axis	Bearing	Compass Point
X	51.60593	North
Y	-0.04660	West
Z	N/a	Zenith

Ground-borne vibration is to be undertaken by appropriately qualified persons and assessed using the guidelines provided in accordance with 'BS 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites'.

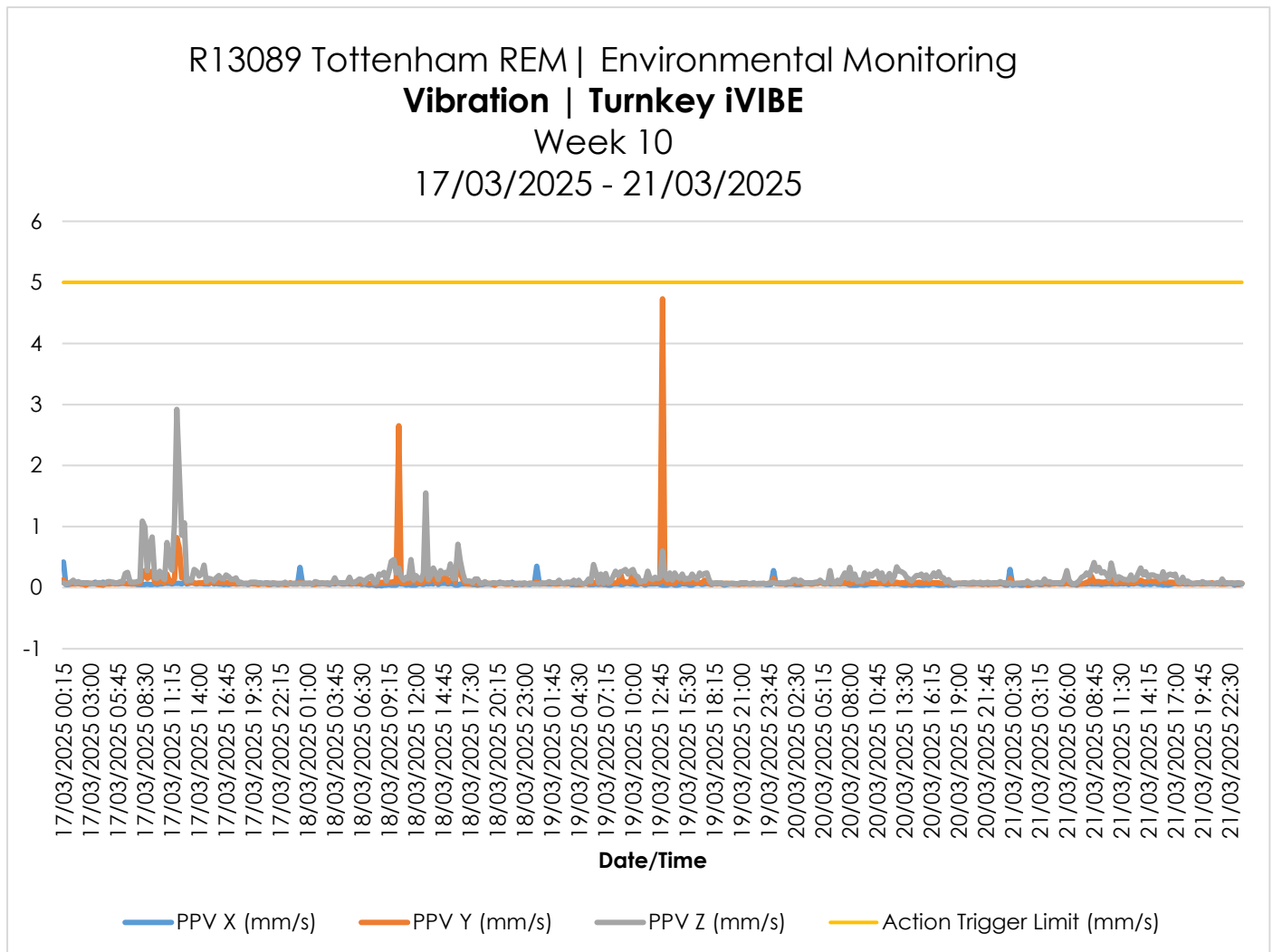
Trigger levels are based upon guidance given in 'BS 7385-2: 1993 Evaluation and measurement for vibration in buildings — Part 2: Guide to damage levels from ground borne vibration'.

Type of building	Peak component particle velocity in frequency of predominant pulse	
	4 Hz to 15 Hz	15 Hz and above
Reinforced or framed structures. Industrial and heavy commercial buildings	50 mm/s at 4 Hz and above	
Unreinforced or light framed structures. Residential or light commercial type buildings	15 mm/s at 4Hz increasing to 20 mm/s at 15 Hz	20 mm/s at 15 Hz increasing to 50 mm/s at 40 Hz and above

Vibration Limits Relating to Minor or Cosmetic Damage to Buildings:

Building Classification	Intermittent Vibration (PPV, mm/s ⁻¹)	Continuous Vibration (PPV, mm/s ⁻¹)
Residential in generally good repair	10	5
Residential where preliminary survey reveals significant defects (party wall)	5	3.5
Industrial/commercial – light and flexible structure	20	15
Industrial/commercial – heavy and stiff structure	30	15

5.1 Graphical Representation of Logged Vibration Data



5.2 Findings on Vibration

Logged vibration data for the week is displayed in the above graphs.

No exceedances were recorded during the week.

6. Dynamic Dust Monitoring

6.1 Dynamic Dust

The Osiris uses a light-scattering laser photometer to measure airborne particle monitors (PM10) in real-time with history data logging capability. The Osiris has been Environment Agency MCERTS certified.

This instrument is designed to measure dust deposition. Action values for personal exposure to Dust for Particulate Matter PM10 are set to a lower action level of 180 µg/m³ averaged over a 15-minute period as our warning trigger but not to exceed 200 µg/m³ averaged over a 15-minute period, as per the 'Institute of Air Quality Management (2018), Guidance on Air Quality Monitoring in the Vicinity of Demolition and Construction Sites'.

Should the action value be exceeded, measures in the Safe System of Work will be implemented including stopping work and an increased dampening down of the site.

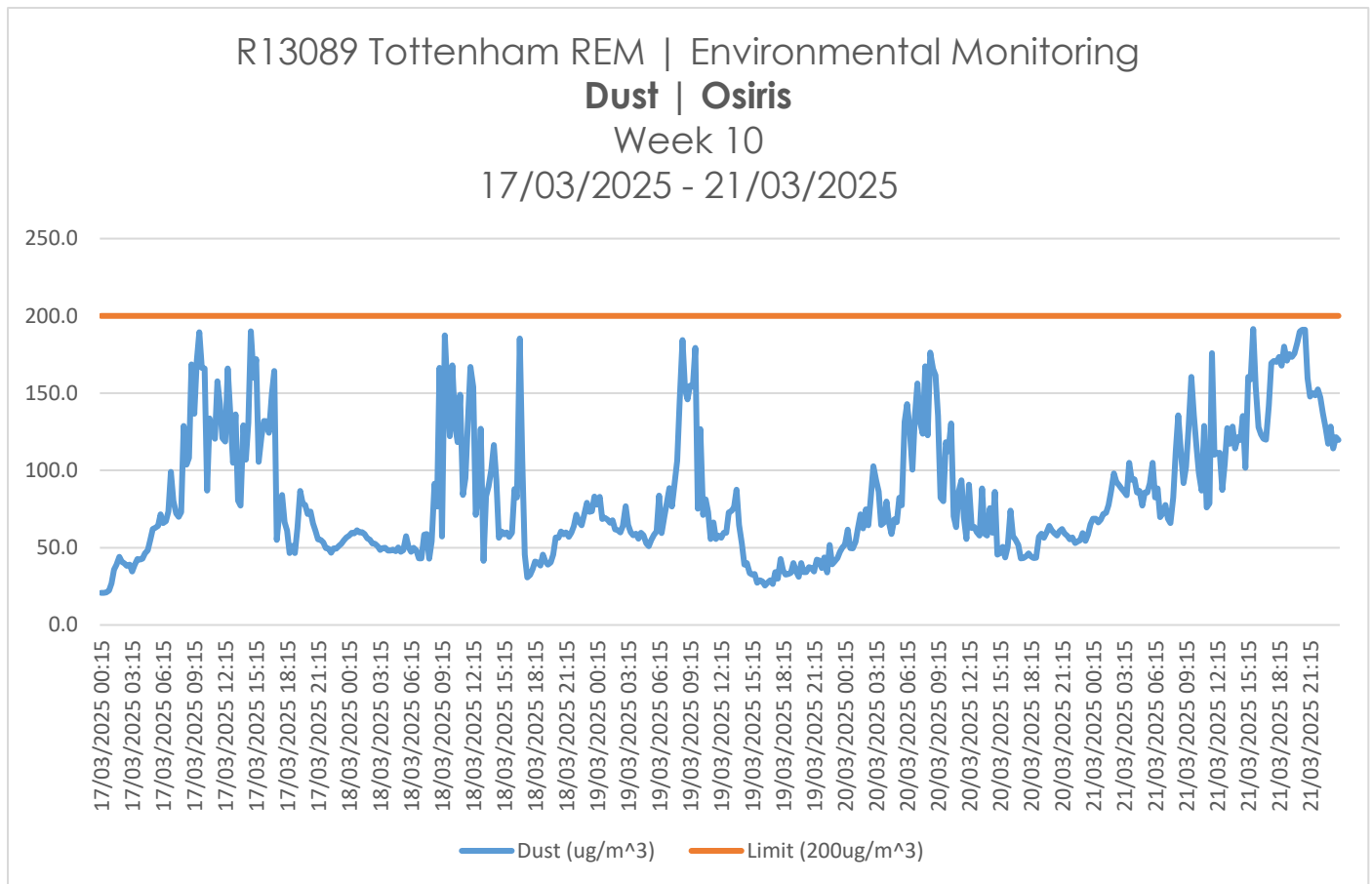
The DEFRA Daily Air Quality Index (DAQ) is numbered 1-10 and divided into four bands. Low (1) to very high (10), to provide detail about air pollution levels in a simple way. For PM10 particles, this based on the daily mean concentration.

Index	1	2	3	4	5	6	7	8	9	10
Band	Low	Low	Low	Moderate	Moderate	Moderate	High	High	High	Very High
µg/m ³	0-16	17-33	34-50	51-58	59-66	67-75	76-83	84-91	92-100	101 or more

The data below was obtained from the onsite monitor and represents the Particulate Matter suspended in the air up to 10 microns (PM10) in size during the period of this report.

Dust monitoring was recorded at the locations shown in Section 1.

6.2 Graphical Representation of Logged Dust Data



6.3 Findings on Dust

Logged dust data for the week is displayed in the above graph.

Action values for personal exposure to dust as defined in the air quality objectives for Particulate matter PM₁₀ are not to exceed 200 µg/m³ averaged over a 15-minute period as per the *Institute of Air Quality Management (2018), Guidance on Air Quality Monitoring in the Vicinity of Demolition and Construction Sites*.

No exceedances were recorded during the week.

7. Volatile Organic Compounds (VOC) Monitoring

Under the Control of Substances Hazardous to Health Regulations, 2002 (COSHH), as amended in 2004), we used Ion Science Cubs, Photo Ionising Detectors (PID) which are capable of data logging and have an audio/visual alarm set to trigger in response to any exceedances of the occupational guideline value of an appropriate organic contaminant (benzene). This device meets the following European standards: ATEX: CE, Ex II 1G, Ex IA IIC T4; $-20^{\circ}\text{C} \leq T_a \leq 55^{\circ}\text{C}$.

Action values for personal exposure to VOC (calibrated to benzene standard) as defined in the COSHH Regulations. VOC readings not to exceed 1 ppm of benzene. Should target limits be exceeded, measures in the SSoW will be implemented.

These are placed with the Site Foreman and Excavator Operator. The following data has been obtained from the onsite Photo Ionising Detectors (PID) and Tiger Select Cubs and represents the potential exposure to Volatile Organic Compounds (calibrated to benzene standard) during the week of this report.

7.1 Graphical Representation of Logged VOC Data

Personal VOC monitors were not deployed during this weeks onsite activities.

7.2 Graphical Representation of Logged PID Data

Boundary PID monitors were not deployed during this weeks onsite activities.

7.3 Findings on VOC

No exceedances of HSE'S document '*EH40: workspace exposure limits*' given workspace exposure limit (WEL) value of 1ppm 8-hour TWA were recorded for the week for either of the two boundary monitors or any of the personal monitors.

8. Applicable Legislation/ Regulations and Guidance

	Current Legislation	Activity	Impacts On
Reference Documents	Environmental Protection Act 1990 Part II	Demolition, asbestos, remediation works.	Air pollution, waste on land, contaminated land, nuisances and clean air, litter, radioactive substances, conservation.
	Pollution Prevention and Control Act 1999 & Pollution Prevention and Control (England & Wales) Regulations as amended 2000	Demolition, asbestos, remediation works.	Oil pollution, clean air, railway.
	Air Quality Standards Regulations 2010	Demolition, asbestos, remediation works.	Public exposure, ozone.
	The Environment Act (Commencements 1-18) Order 1995-1999	All projects.	EA, contaminated land, national parks, air quality, waste, drainage.
	Noise Emissions in the Environment by Equipment for use Outdoors (Amendment Regulations SI 2005/98	All projects, specifically in sensitive areas.	Human health, local noise levels.
	The Clean Air Act	All sites and projects.	Human health, environment.

Guidance:

- Institute of Air Quality Management – Guidance on the Assessment of Dust from Demolition and Construction - February 2014
- Institute of Air Quality Management – Guidance on Air Quality Monitoring in the Vicinity of Demolition and Construction sites – 2014
- BS 5228-1: 2009 + A1: 2014 – Code of Practice for Noise and Vibration Control on Construction and Open Sites.
- BS 7385-2: 1993 Evaluation and Measurement for Vibration in Buildings- Part2: Guide to damage levels from Ground Borne Vibration.
- BS 6742-1: 2008 – Guide to Evaluation of Human Exposure to Vibration in Building.
- DEFRA – Noise database for Prediction of Noise on Construction and Open Sites.
- HSE- EH40: Occupational Exposure Levels

9. Glossary of Terms

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LA_{eq}	The equivalent continuous noise level over any specified period.
PM10	The particulate matter of diameter less than or equal to 10 micrometres.
mg/m³	Milligrams of a substance in a cubic meter of air. It is a measure of concentration (weight/volume).
Peak	It is particularly valuable for indicating the level of short duration shocks, etc. (m/s ²).
P-P	Peak-to-Peak, indicates the maximum excursion of the wave, (m/s ²).
m/s²	Metres per second squared. It is a measure of acceleration.
m/s	Metres per second. It is a measure of velocity.

Environmental Monitoring Report

Week 11

NGET REM Tottenham



Prepared For	National Grid Electricity Transmission
Prepared By	Erith Contractors
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1. Summary of Works

The project scope of works involves the remediation of the former bus depot. This includes excavation of contaminated soils, protection of a number of groundwater monitoring wells and the installation of a cable ducting trench to accommodate future works on site.

1.1 Monitoring Locations

	Welfare	
	Noise (Real Time Monitor)	
	Dust (Real Time Monitor)	
	Dust (Static Frisbee Gauges)	
	Vibration (Real Time Monitor)	

2. Equipment Used

Name	Serial Number	Certificate Number	Calibration Due Date
Turnkey iVIBE Sound and vibration meter	V0023	1248	04/03/2025 In for calibration
Turnkey Osiris Dust monitor	INO4506	18179	24/04/2025 In for calibration
Turnkey iVIBE Sound and vibration meter	Hire 0112	1292	25/09/2025
Turnkey Osiris Dust monitor	Hire 4326	18181	24/04/2025
Ion Science Cub VOC gas detector	ECL CUB 067 TC201837 (D. Waters)	81160	17/10/2025
Ion Science Cub VOC gas detector	ECL CUB 106 TC103454 (Spare Person)	82158	19/02/2026
Ion Science Cub VOC gas detector	ECL CUB 120 TC202018 (D. Waller)	82157	19/02/2026
Ion Science PID VOC gas detector	Tiger Select T-117634 (West Boundary)	79599	26/04/2025
Ion Science PID VOC gas detector	Tiger Select 136 (North Boundary)	74675	27/06/2025

3. Works Undertaken

The below details the works completed during the week of this report:

3.1 Erith Works

- Awaiting further instructions to undertake trial pits in the southern CDM area.

3.2 Morrisons Works

- Mobilisation of plant and equipment to site.
- Deliveries, including plant, cable reel, basket and gantry system.
- Undertaking setup works inside and outside of the substation.

4. Noise Monitoring

A Turnkey iVIBE is a sound level meter and is intended for general acoustic measurements, occupational health, and environmental noise measurements.

Noise monitoring was recorded at the locations shown in Section 1.

The monitoring equipment complies with IEC 61326-1 (2005), IEC 61672-1 (2002), ANSI S1.4 (R2006), ANSI S1.43 (R2007), IEC 61260 (2001), ANSI S1.11 (R2009), CE, WEEE, RoHS and is compliant with BS 5228-1:2009 + A1:2014 *Code of practice for noise and vibration control on construction and open sites*.

Action values are as follows:

- Lower exposure action values:
 - Daily or weekly exposure of 70 dB
 - Peak sound pressure of 130 dB
- Upper exposure action values
 - Daily or weekly exposure of 75 dB
 - Peak sound pressure of 135 dB

LAeq (15 min) noise levels were recording continuously for 15-minute periods over an 8-hour duration.

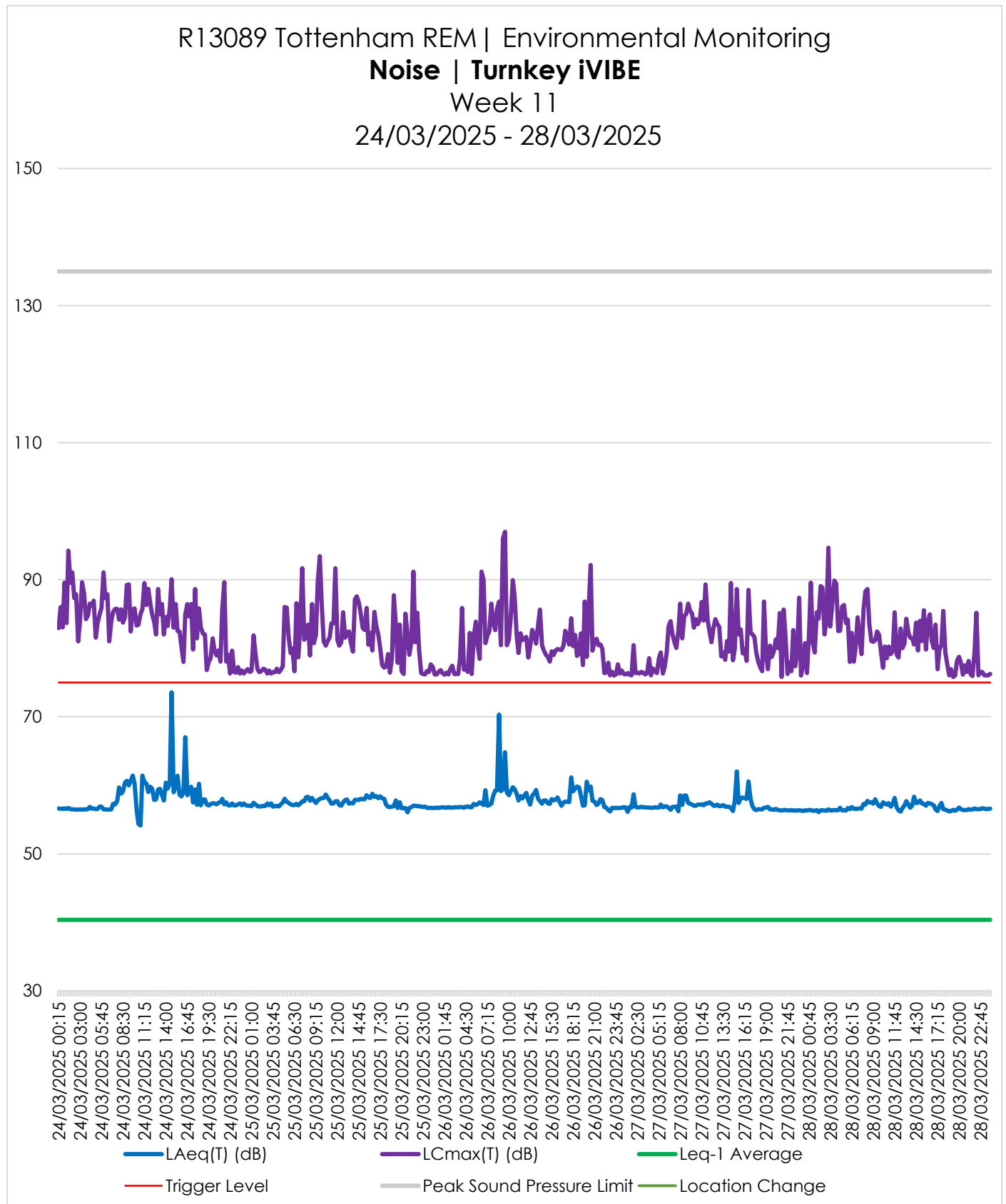
Action values for receptors are taken from the Code of Construction Practice London:

- During normal working hours (08:00 – 18:00), the maximum LAeq, period noise level measured 1 m from the façade (or boundary of the site if the property is greater than 1 m away) of any occupied or other building used for residential purposes, generated by construction plant and equipment, including the movements of vehicles to and from the site should not exceed the following:

Period	Hours	Residential / Commercial Premises	Schools or Hospitals
Monday - Friday	08:00 – 18:00	75 dB(A)	65 dB(A)
Saturday	08:00 – 13:00	75 dB(A)	65 dB(A)

In every case, control targets for nuisance noise will be agreed by the Contractor with the Local Environment Health Officer (EHO). Should the need arise (for example in the event that substantiated noise complaints are received during the site works in relation to high-risk activities) further detailed noise monitoring and assessment may be required to be undertaken by appropriately qualified persons in accordance with 'BS 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites'.

4.1 Graphical Representation of Logged Noise Data



LAeq - A-weighted equivalent continuous sound level in decibels equivalent to the total sound energy measured over a stated period.

LCmax - C-weighted peak sound pressure measurement.

(T) - Stated measured period of time.

Decibel (dB) - A unit used to measure the intensity of a sound.

4.2 Findings on Noise

Logged noise data for the week is displayed in the above graph.

No exceedances were recorded during the week.

5. Vibration Monitoring

An iVIBE data logger and 3 axis geophone was used for the duration of the works. The equipment is designed for high accuracy vibration monitoring in a construction environment.

Vibration monitoring was recorded at the locations shown in Section 1.

The monitor was set to run in continuous mode and was able to digitally record vibration levels up to 20 mm.s⁻¹, peak particle velocity, for frequencies between 5 Hz and 250 Hz. Weighting filters comply with ISO 2631, BS 6472 and BS 7385, and KB filters according to DIN 4150 and DIN 45669. Results are given in Root Mean Square (RMS) format. Data was exported from the logger and input into an Excel document, from which a graphic in the form a line graph was generated.

The geophone was levelled using the integrated bubble level and adjustable legs. It was loosely orientated by eye so that the axis conformed to the following compass bearings.

Geophone Axis	Bearing	Compass Point
X	51.60593	North
Y	-0.04660	West
Z	N/a	Zenith

Ground-borne vibration is to be undertaken by appropriately qualified persons and assessed using the guidelines provided in accordance with 'BS 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites'.

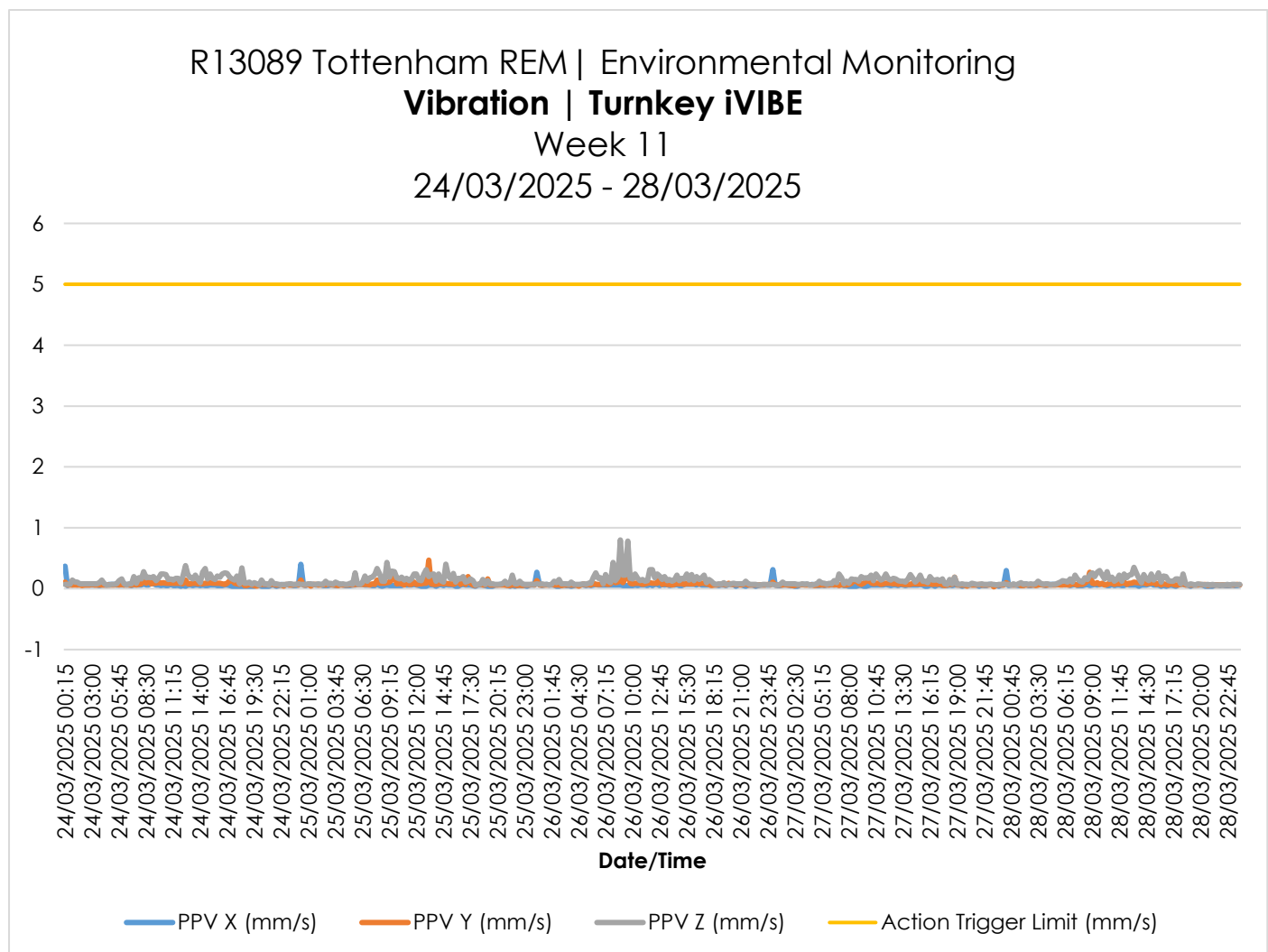
Trigger levels are based upon guidance given in 'BS 7385-2: 1993 Evaluation and measurement for vibration in buildings — Part 2: Guide to damage levels from ground borne vibration'.

Type of building	Peak component particle velocity in frequency of predominant pulse	
	4 Hz to 15 Hz	15 Hz and above
Reinforced or framed structures. Industrial and heavy commercial buildings	50 mm/s at 4 Hz and above	
Unreinforced or light framed structures. Residential or light commercial type buildings	15 mm/s at 4Hz increasing to 20 mm/s at 15 Hz	20 mm/s at 15 Hz increasing to 50 mm/s at 40 Hz and above

Vibration Limits Relating to Minor or Cosmetic Damage to Buildings:

Building Classification	Intermittent Vibration (PPV, mm/s ⁻¹)	Continuous Vibration (PPV, mm/s ⁻¹)
Residential in generally good repair	10	5
Residential where preliminary survey reveals significant defects (party wall)	5	3.5
Industrial/commercial – light and flexible structure	20	15
Industrial/commercial – heavy and stiff structure	30	15

5.1 Graphical Representation of Logged Vibration Data



5.2 Findings on Vibration

Logged vibration data for the week is displayed in the above graphs.

No exceedances were recorded during the week.

6. Dynamic Dust Monitoring

6.1 Dynamic Dust

The Osiris uses a light-scattering laser photometer to measure airborne particle monitors (PM10) in real-time with history data logging capability. The Osiris has been Environment Agency MCERTS certified.

This instrument is designed to measure dust deposition. Action values for personal exposure to Dust for Particulate Matter PM10 are set to a lower action level of 180 µg/m³ averaged over a 15-minute period as our warning trigger but not to exceed 200 µg/m³ averaged over a 15-minute period, as per the 'Institute of Air Quality Management (2018), Guidance on Air Quality Monitoring in the Vicinity of Demolition and Construction Sites'.

Should the action value be exceeded, measures in the Safe System of Work will be implemented including stopping work and an increased dampening down of the site.

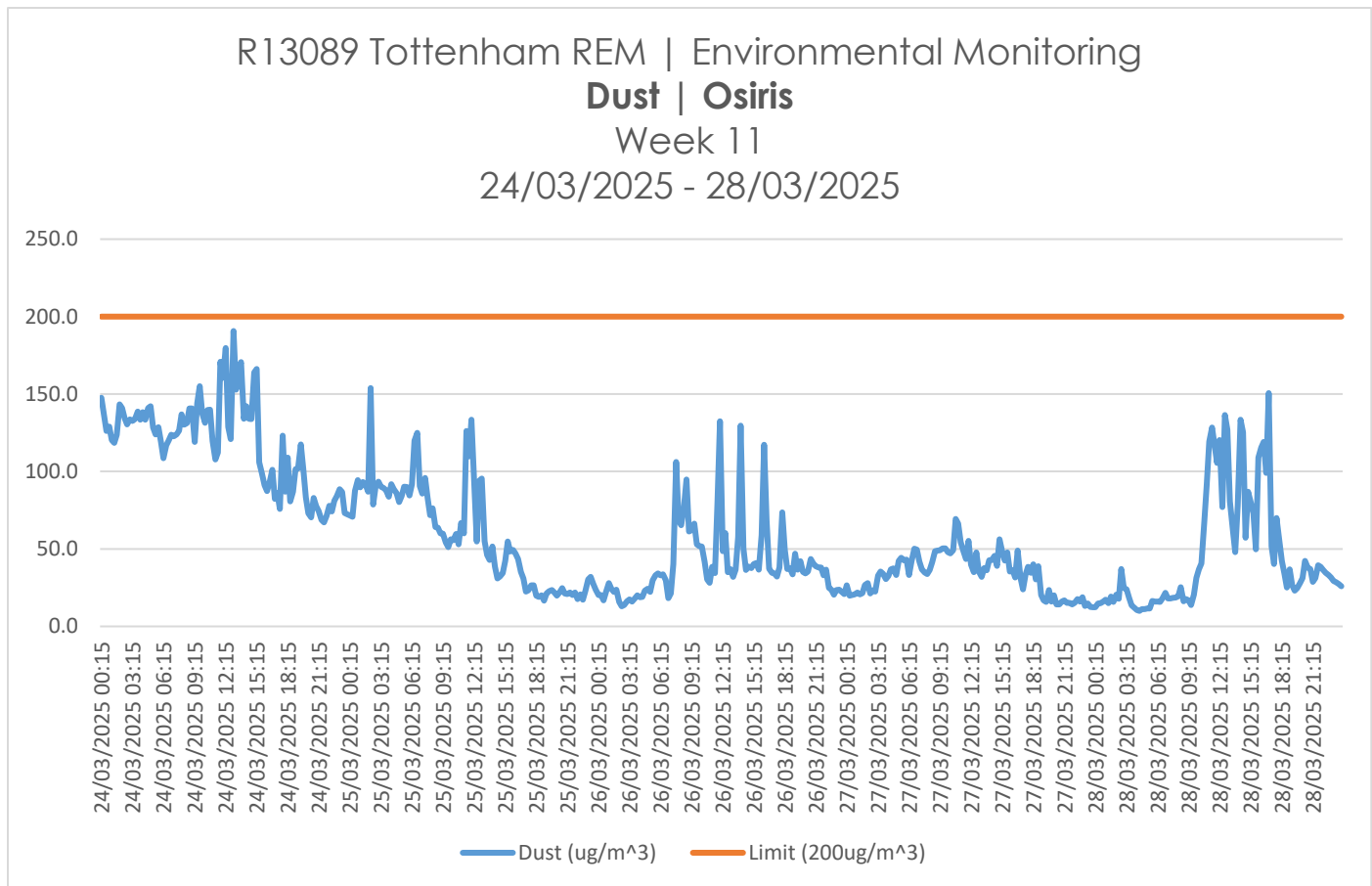
The DEFRA Daily Air Quality Index (DAQ) is numbered 1-10 and divided into four bands. Low (1) to very high (10), to provide detail about air pollution levels in a simple way. For PM10 particles, this based on the daily mean concentration.

Index	1	2	3	4	5	6	7	8	9	10
Band	Low	Low	Low	Moderate	Moderate	Moderate	High	High	High	Very High
µg/m ³	0-16	17-33	34-50	51-58	59-66	67-75	76-83	84-91	92-100	101 or more

The data below was obtained from the onsite monitor and represents the Particulate Matter suspended in the air up to 10 microns (PM10) in size during the period of this report.

Dust monitoring was recorded at the locations shown in Section 1.

6.2 Graphical Representation of Logged Dust Data



6.3 Findings on Dust

Logged dust data for the week is displayed in the above graph.

Action values for personal exposure to dust as defined in the air quality objectives for Particulate matter PM₁₀ are not to exceed 200 µg/m³ averaged over a 15-minute period as per the *Institute of Air Quality Management (2018), Guidance on Air Quality Monitoring in the Vicinity of Demolition and Construction Sites*.

No exceedances were recorded during the week.

7. Volatile Organic Compounds (VOC) Monitoring

Under the Control of Substances Hazardous to Health Regulations, 2002 (COSHH), as amended in 2004), we used Ion Science Cubs, Photo Ionising Detectors (PID) which are capable of data logging and have an audio/visual alarm set to trigger in response to any exceedances of the occupational guideline value of an appropriate organic contaminant (benzene). This device meets the following European standards: ATEX: CE, Ex II 1G, Ex IA IIC T4; $-20^{\circ}\text{C} \leq T_a \leq 55^{\circ}\text{C}$.

Action values for personal exposure to VOC (calibrated to benzene standard) as defined in the COSHH Regulations. VOC readings not to exceed 1 ppm of benzene. Should target limits be exceeded, measures in the SSoW will be implemented.

These are placed with the Site Foreman and Excavator Operator. The following data has been obtained from the onsite Photo Ionising Detectors (PID) and Tiger Select Cubs and represents the potential exposure to Volatile Organic Compounds (calibrated to benzene standard) during the week of this report.

7.1 Graphical Representation of Logged VOC Data

Personal VOC monitors were not deployed during this weeks onsite activities.

7.2 Graphical Representation of Logged PID Data

Boundary PID monitors were not deployed during this weeks onsite activities.

7.3 Findings on VOC

No exceedances of HSE'S document '*EH40: workspace exposure limits*' given workspace exposure limit (WEL) value of 1ppm 8-hour TWA were recorded for the week for either of the two boundary monitors or any of the personal monitors.

8. Applicable Legislation/ Regulations and Guidance

	Current Legislation	Activity	Impacts On
Reference Documents	Environmental Protection Act 1990 Part II	Demolition, asbestos, remediation works.	Air pollution, waste on land, contaminated land, nuisances and clean air, litter, radioactive substances, conservation.
	Pollution Prevention and Control Act 1999 & Pollution Prevention and Control (England & Wales) Regulations as amended 2000	Demolition, asbestos, remediation works.	Oil pollution, clean air, railway.
	Air Quality Standards Regulations 2010	Demolition, asbestos, remediation works.	Public exposure, ozone.
	The Environment Act (Commencements 1-18) Order 1995-1999	All projects.	EA, contaminated land, national parks, air quality, waste, drainage.
	Noise Emissions in the Environment by Equipment for use Outdoors (Amendment Regulations SI 2005/98	All projects, specifically in sensitive areas.	Human health, local noise levels.
	The Clean Air Act	All sites and projects.	Human health, environment.

Guidance:

- Institute of Air Quality Management – Guidance on the Assessment of Dust from Demolition and Construction - February 2014
- Institute of Air Quality Management – Guidance on Air Quality Monitoring in the Vicinity of Demolition and Construction sites – 2014
- BS 5228-1: 2009 + A1: 2014 – Code of Practice for Noise and Vibration Control on Construction and Open Sites.
- BS 7385-2: 1993 Evaluation and Measurement for Vibration in Buildings- Part2: Guide to damage levels from Ground Borne Vibration.
- BS 6742-1: 2008 – Guide to Evaluation of Human Exposure to Vibration in Building.
- DEFRA – Noise database for Prediction of Noise on Construction and Open Sites.
- HSE- EH40: Occupational Exposure Levels

9. Glossary of Terms

Trigger Levels	The limits of which one of the elements (noise/dust/vibration) cannot exceed external to the hoarding. The trigger levels may be agreed with the local council, according to the client requirements.
Baselines	The values recorded pre-works.
A weighting, dB(A)	The unit of sound level weighted according to the A-scale. Is the mechanism who correspond the best to response of the human ear.
LA_{eq}	The equivalent continuous noise level over any specified period.
PM10	The particulate matter of diameter less than or equal to 10 micrometres.
mg/m³	Milligrams of a substance in a cubic meter of air. It is a measure of concentration (weight/volume).
Peak	It is particularly valuable for indicating the level of short duration shocks, etc. (m/s ²).
P-P	Peak-to-Peak, indicates the maximum excursion of the wave, (m/s ²).
m/s²	Metres per second squared. It is a measure of acceleration.
m/s	Metres per second. It is a measure of velocity.

Environmental Monitoring Report

Week 15

NGET REM Tottenham



Prepared For	National Grid Electricity Transmission
Prepared By	Erith Contractors
Project Reference	R13089
Document Reference	Environmental Monitoring Report – Week 15
Monitoring Period	21/04/2025 – 25/04/2025

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1.0	James Hardy Site Manager 28/04/2025	Owain Davey Project Manager	

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1. Summary of Works

The project scope of works involves the remediation of the former bus depot. This includes excavation of contaminated soils, protection of a number of groundwater monitoring wells and the installation of a cable ducting trench to accommodate future works on site.

1.1 Monitoring Locations

	Welfare	
	Noise (Real Time Monitor)	
	Dust (Real Time Monitor)	
	Dust (Static Frisbee Gauges)	
	Vibration (Real Time Monitor)	

2. Equipment Used

Name	Serial Number	Certificate Number	Calibration Due Date
Turnkey iVIBE Sound and vibration meter	V0023	1356	24/03/2027
Turnkey Osiris Dust monitor	TNO4506	19348	17/03/2027
Ion Science Cub VOC gas detector	ECL CUB 067 TC201837 (D. Waters)	81160	17/10/2025
Ion Science Cub VOC gas detector	ECL CUB 120 TC202018 (D. Waller)	82157	19/02/2026
Ion Science PID VOC gas detector	Tiger Select 136 (North Boundary)	74675	27/06/2025

3. Works Undertaken

The below details the works completed during the week of this report:

3.1 Erith Works

- Breaking out of concrete in remediation areas 2 & 3 for trial trench excavations in grids 1, 2, 5, 6, 9 & 10.
- Trial trench excavations and material sampling in the aforementioned grid sections.

3.2 Morrisons Works

- Setup of overhead line gantry and basket systems.

4. Noise Monitoring

A Turnkey iVIBE is a sound level meter and is intended for general acoustic measurements, occupational health, and environmental noise measurements.

Noise monitoring was recorded at the locations shown in Section 1.

The monitoring equipment complies with IEC 61326-1 (2005), IEC 61672-1 (2002), ANSI S1.4 (R2006), ANSI S1.43 (R2007), IEC 61260 (2001), ANSI S1.11 (R2009), CE, WEEE, RoHS and is compliant with BS 5228-1:2009 + A1:2014 *Code of practice for noise and vibration control on construction and open sites*.

Action values are as follows:

- Lower exposure action values:
 - Daily or weekly exposure of 70 dB
 - Peak sound pressure of 130 dB
- Upper exposure action values
 - Daily or weekly exposure of 75 dB
 - Peak sound pressure of 135 dB

L_{Aeq} (15 min) noise levels were recording continuously for 15-minute periods over an 8-hour duration.

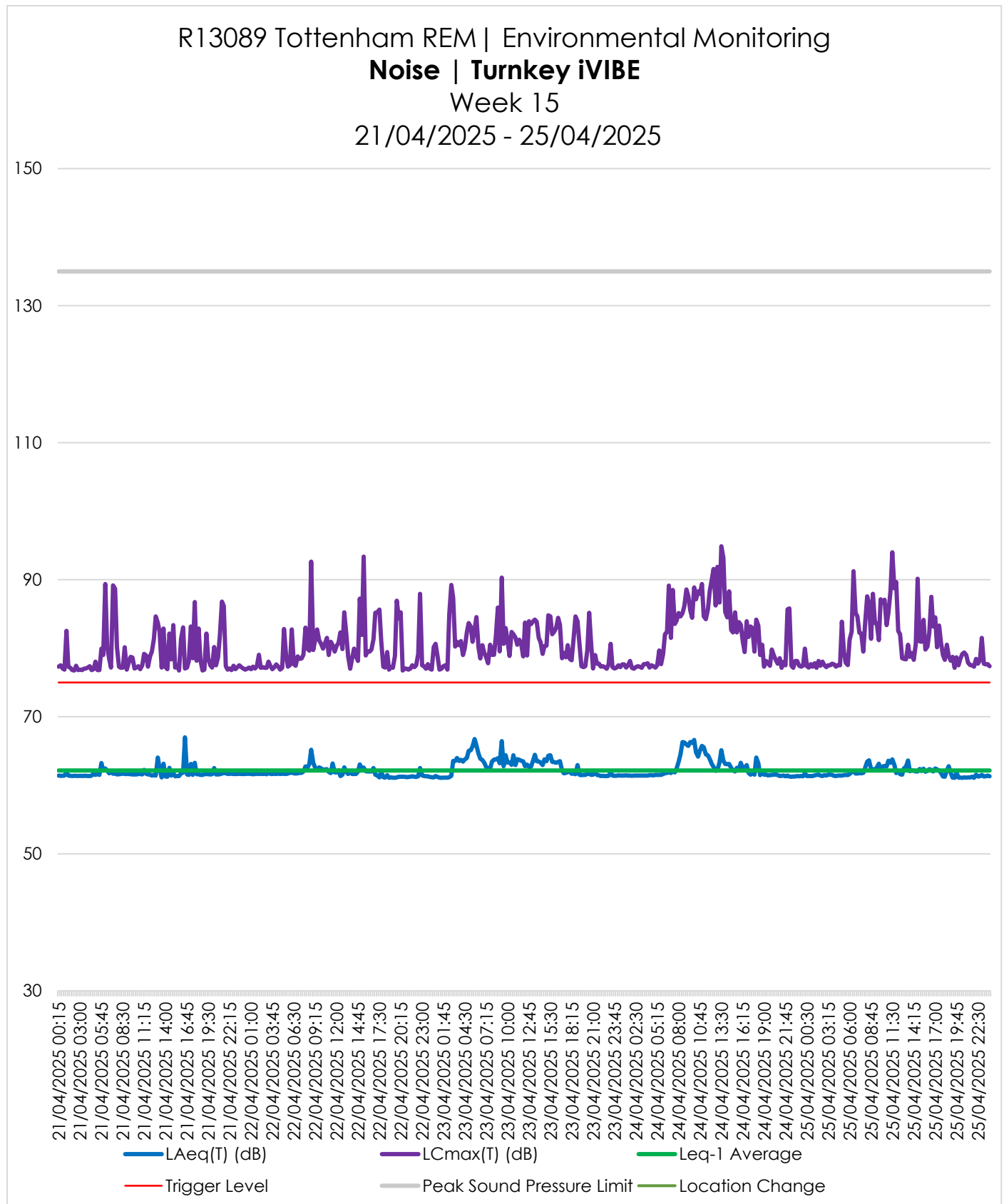
Action values for receptors are taken from the Code of Construction Practice London:

- During normal working hours (08:00 – 18:00), the maximum L_{Aeq}, period noise level measured 1 m from the façade (or boundary of the site if the property is greater than 1 m away) of any occupied or other building used for residential purposes, generated by construction plant and equipment, including the movements of vehicles to and from the site should not exceed the following:

Period	Hours	Residential / Commercial Premises	Schools or Hospitals
Monday - Friday	08:00 – 18:00	75 dB(A)	65 dB(A)
Saturday	08:00 – 13:00	75 dB(A)	65 dB(A)

In every case, control targets for nuisance noise will be agreed by the Contractor with the Local Environment Health Officer (EHO). Should the need arise (for example in the event that substantiated noise complaints are received during the site works in relation to high-risk activities) further detailed noise monitoring and assessment may be required to be undertaken by appropriately qualified persons in accordance with 'BS 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites'.

4.1 Graphical Representation of Logged Noise Data



LAeq - A-weighted equivalent continuous sound level in decibels equivalent to the total sound energy measured over a stated period.

LCmax - C-weighted peak sound pressure measurement.

(T) - Stated measured period of time.

Decibel (dB) - A unit used to measure the intensity of a sound.

4.2 Findings on Noise

Logged noise data for the week is displayed in the above graph.

No exceedances were recorded during the week.

5. Vibration Monitoring

An iVIBE data logger and 3 axis geophone was used for the duration of the works. The equipment is designed for high accuracy vibration monitoring in a construction environment.

Vibration monitoring was recorded at the locations shown in Section 1.

The monitor was set to run in continuous mode and was able to digitally record vibration levels up to 20 mm.s⁻¹, peak particle velocity, for frequencies between 5 Hz and 250 Hz. Weighting filters comply with ISO 2631, BS 6472 and BS 7385, and KB filters according to DIN 4150 and DIN 45669. Results are given in Root Mean Square (RMS) format. Data was exported from the logger and input into an Excel document, from which a graphic in the form a line graph was generated.

The geophone was levelled using the integrated bubble level and adjustable legs. It was loosely orientated by eye so that the axis conformed to the following compass bearings.

Geophone Axis	Bearing	Compass Point
X	51.60593	North
Y	-0.04660	West
Z	N/a	Zenith

Ground-borne vibration is to be undertaken by appropriately qualified persons and assessed using the guidelines provided in accordance with 'BS 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites'.

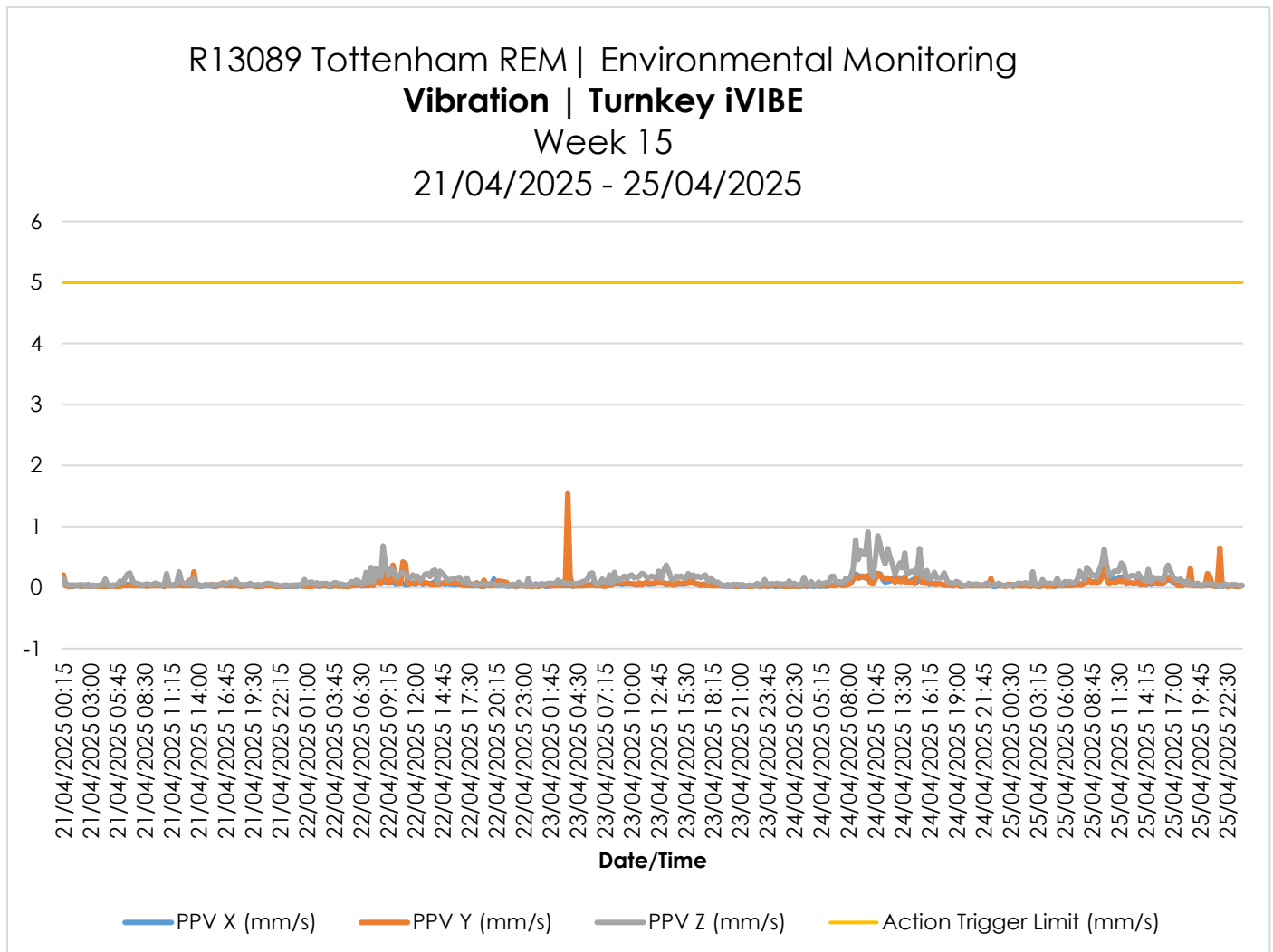
Trigger levels are based upon guidance given in 'BS 7385-2: 1993 Evaluation and measurement for vibration in buildings — Part 2: Guide to damage levels from ground borne vibration'.

Type of building	Peak component particle velocity in frequency of predominant pulse	
	4 Hz to 15 Hz	15 Hz and above
Reinforced or framed structures. Industrial and heavy commercial buildings	50 mm/s at 4 Hz and above	
Unreinforced or light framed structures. Residential or light commercial type buildings	15 mm/s at 4Hz increasing to 20 mm/s at 15 Hz	20 mm/s at 15 Hz increasing to 50 mm/s at 40 Hz and above

Vibration Limits Relating to Minor or Cosmetic Damage to Buildings:

Building Classification	Intermittent Vibration (PPV, mm/s ⁻¹)	Continuous Vibration (PPV, mm/s ⁻¹)
Residential in generally good repair	10	5
Residential where preliminary survey reveals significant defects (party wall)	5	3.5
Industrial/commercial – light and flexible structure	20	15
Industrial/commercial – heavy and stiff structure	30	15

5.1 Graphical Representation of Logged Vibration Data



5.2 Findings on Vibration

Logged vibration data for the week is displayed in the above graphs.

No exceedances were recorded during the week.

6. Dynamic Dust Monitoring

6.1 Dynamic Dust

The Osiris uses a light-scattering laser photometer to measure airborne particle monitors (PM10) in real-time with history data logging capability. The Osiris has been Environment Agency MCERTS certified.

This instrument is designed to measure dust deposition. Action values for personal exposure to Dust for Particulate Matter PM10 are set to a lower action level of 180 $\mu\text{g}/\text{m}^3$ averaged over a 15-minute period as our warning trigger but not to exceed 200 $\mu\text{g}/\text{m}^3$ averaged over a 15-minute period, as per the 'Institute of Air Quality Management (2018), Guidance on Air Quality Monitoring in the Vicinity of Demolition and Construction Sites'.

Should the action value be exceeded, measures in the Safe System of Work will be implemented including stopping work and an increased dampening down of the site.

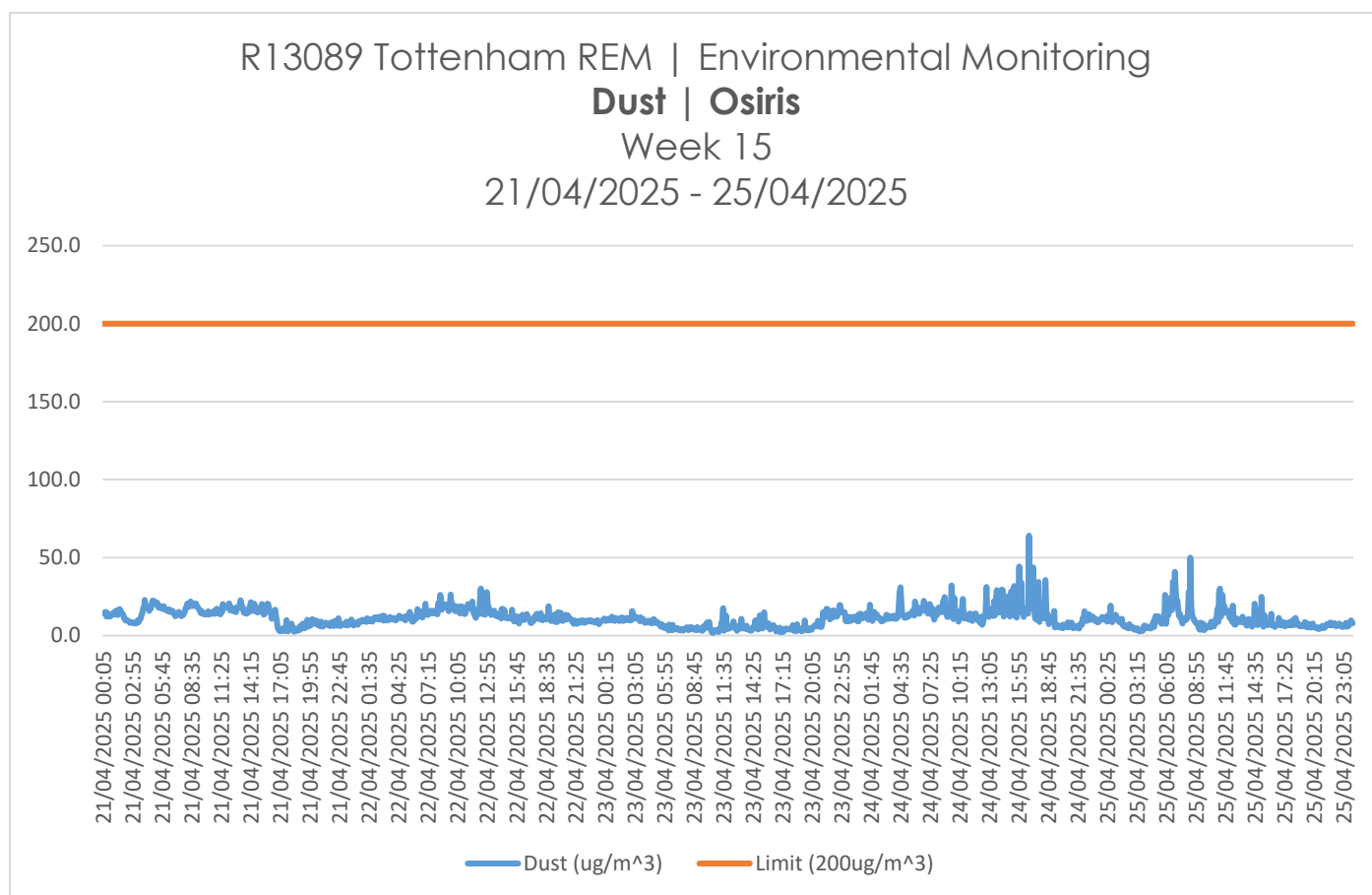
The DEFRA Daily Air Quality Index (DAQ) is numbered 1-10 and divided into four bands. Low (1) to very high (10), to provide detail about air pollution levels in a simple way. For PM10 particles, this based on the daily mean concentration.

Index	1	2	3	4	5	6	7	8	9	10
Band	Low	Low	Low	Moderate	Moderate	Moderate	High	High	High	Very High
$\mu\text{g}/\text{m}^3$	0-16	17-33	34-50	51-58	59-66	67-75	76-83	84-91	92-100	101 or more

The data below was obtained from the onsite monitor and represents the Particulate Matter suspended in the air up to 10 microns (PM10) in size during the period of this report.

Dust monitoring was recorded at the locations shown in Section 1.

6.2 Graphical Representation of Logged Dust Data



6.3 Findings on Dust

Logged dust data for the week is displayed in the above graph.

Action values for personal exposure to dust as defined in the air quality objectives for Particulate matter PM₁₀ are not to exceed 200 $\mu\text{g}/\text{m}^3$ averaged over a 15-minute period as per the *Institute of Air Quality Management (2018), Guidance on Air Quality Monitoring in the Vicinity of Demolition and Construction Sites*.

No exceedances were recorded during the week.

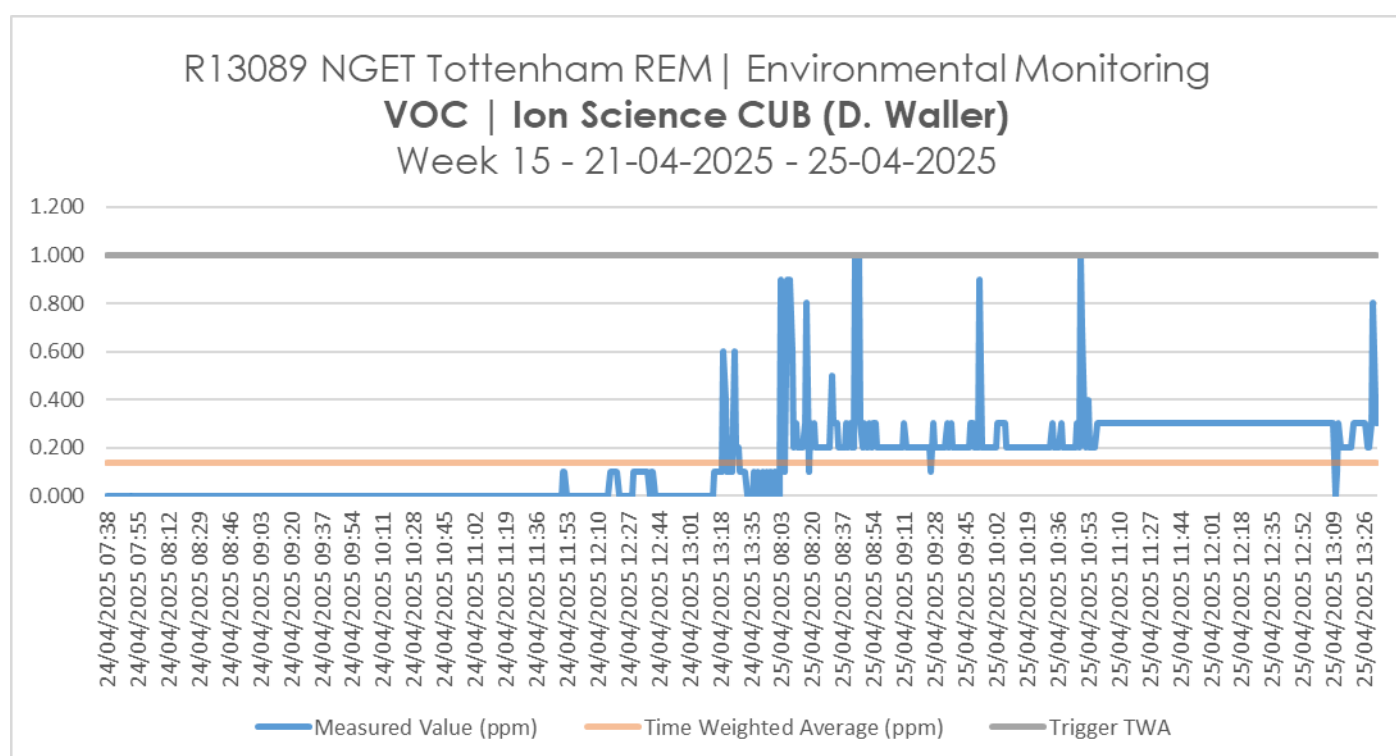
7. Volatile Organic Compounds (VOC) Monitoring

Under the Control of Substances Hazardous to Health Regulations, 2002 (COSHH), as amended in 2004), we used Ion Science Cubs, Photo Ionising Detectors (PID) which are capable of data logging and have an audio/visual alarm set to trigger in response to any exceedances of the occupational guideline value of an appropriate organic contaminant (benzene). This device meets the following European standards: ATEX: CE, Ex II 1G, Ex IA IIC T4; $-20^{\circ}\text{C} \leq T_a \leq 55^{\circ}\text{C}$.

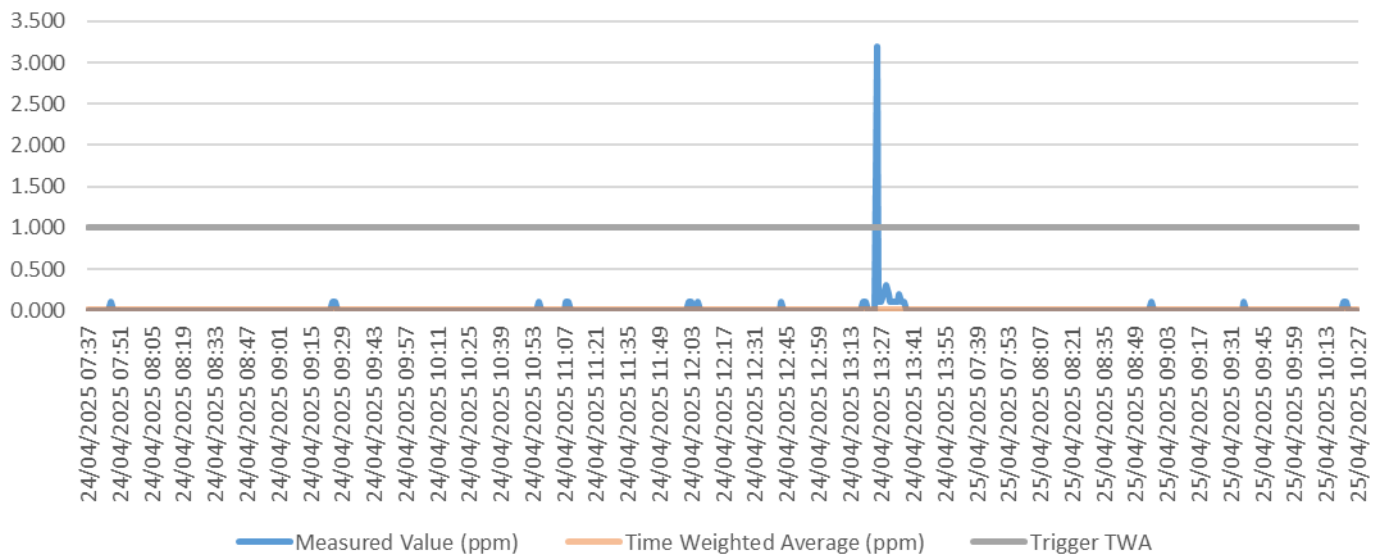
Action values for personal exposure to VOC (calibrated to benzene standard) as defined in the COSHH Regulations. VOC readings not to exceed 1 ppm of benzene. Should target limits be exceeded, measures in the SSoW will be implemented.

These are placed with the Site Foreman and Excavator Operator. The following data has been obtained from the onsite Photo Ionising Detectors (PID) and Tiger Select Cubs and represents the potential exposure to Volatile Organic Compounds (calibrated to benzene standard) during the week of this report.

7.1 Graphical Representation of Logged VOC Data

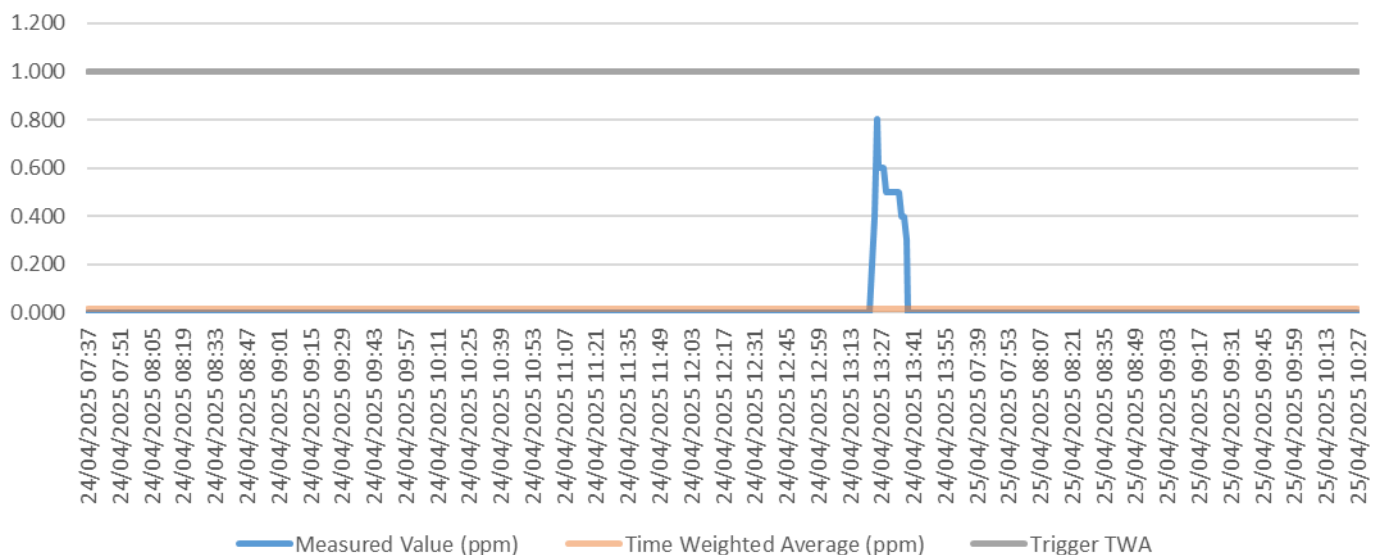


R13089 NGET Tottenham REM | Environmental Monitoring
VOC | Ion Science CUB (D. Waters)
 Week 15 - 21-04-2025 - 25-04-2025



7.2 Graphical Representation of Logged PID Data

R13089 NGET Tottenham REM | Environmental Monitoring
VOC | Ion Science PID (Northern Boundary)
 Week 15 - 21-04-2025 - 25-04-2025



8. Applicable Legislation/ Regulations and Guidance

	Current Legislation	Activity	Impacts On
Reference Documents	Environmental Protection Act 1990 Part II	Demolition, asbestos, remediation works.	Air pollution, waste on land, contaminated land, nuisances and clean air, litter, radioactive substances, conservation.
	Pollution Prevention and Control Act 1999 & Pollution Prevention and Control (England & Wales) Regulations as amended 2000	Demolition, asbestos, remediation works.	Oil pollution, clean air, railway.
	Air Quality Standards Regulations 2010	Demolition, asbestos, remediation works.	Public exposure, ozone.
	The Environment Act (Commencements 1-18) Order 1995-1999	All projects.	EA, contaminated land, national parks, air quality, waste, drainage.
	Noise Emissions in the Environment by Equipment for use Outdoors (Amendment Regulations SI 2005/98	All projects, specifically in sensitive areas.	Human health, local noise levels.
	The Clean Air Act	All sites and projects.	Human health, environment.

Guidance:

- Institute of Air Quality Management – Guidance on the Assessment of Dust from Demolition and Construction - February 2014
- Institute of Air Quality Management – Guidance on Air Quality Monitoring in the Vicinity of Demolition and Construction sites – 2014
- BS 5228-1: 2009 + A1: 2014 – Code of Practice for Noise and Vibration Control on Construction and Open Sites.
- BS 7385-2: 1993 Evaluation and Measurement for Vibration in Buildings- Part2: Guide to damage levels from Ground Borne Vibration.
- BS 6742-1: 2008 – Guide to Evaluation of Human Exposure to Vibration in Building.
- DEFRA – Noise database for Prediction of Noise on Construction and Open Sites.
- HSE- EH40: Occupational Exposure Levels

9. Glossary of Terms

Trigger Levels	The limits of which one of the elements (noise/dust/vibration) cannot exceed external to the hoarding. The trigger levels may be agreed with the local council, according to the client requirements.
Baselines	The values recorded pre-works.
A weighting, dB(A)	The unit of sound level weighted according to the A-scale. Is the mechanism who correspond the best to response of the human ear.
LA_{eq}	The equivalent continuous noise level over any specified period.
PM10	The particulate matter of diameter less than or equal to 10 micrometres.
mg/m³	Milligrams of a substance in a cubic meter of air. It is a measure of concentration (weight/volume).
Peak	It is particularly valuable for indicating the level of short duration shocks, etc. (m/s ²).
P-P	Peak-to-Peak, indicates the maximum excursion of the wave, (m/s ²).
m/s²	Metres per second squared. It is a measure of acceleration.
m/s	Metres per second. It is a measure of velocity.

Environmental Monitoring Report

Week 16

NGET REM Tottenham



Prepared For	National Grid Electricity Transmission
Prepared By	Erith Contractors
Project Reference	R13089
Document Reference	Environmental Monitoring Report – Week 16
Monitoring Period	28/04/2025 – 02/05/2025

Document Revision / Authorisation Record

Rev No.	Prepared by Position Date	Authorised By Position	Details
1.0	James Hardy Site Manager 06/05/2025	Owain Davey Project Manager	

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1. Summary of Works

The project scope of works involves the remediation of the former bus depot. This includes excavation of contaminated soils, protection of a number of groundwater monitoring wells and the installation of a cable ducting trench to accommodate future works on site.

1.1 Monitoring Locations

	Welfare	
	Noise (Real Time Monitor)	
	Dust (Real Time Monitor)	
	Dust (Static Frisbee Gauges)	
	Vibration (Real Time Monitor)	

2. Equipment Used

Name	Serial Number	Certificate Number	Calibration Due Date
Turnkey iVIBE Sound and vibration meter	V0023	1356	24/03/2027
Turnkey Osiris Dust monitor	TNO4506	19348	17/03/2027
Ion Science Cub VOC gas detector	ECL CUB 067 TC201837 (D. Waters)	81160	17/10/2025
Ion Science Cub VOC gas detector	ECL CUB 120 TC202018 (D. Waller)	82157	19/02/2026
Ion Science PID VOC gas detector	Tiger Select 136 (North Boundary)	74675	27/06/2025

3. Works Undertaken

The below details the works completed during the week of this report:

3.1 Erith Works

- Breaking out of concrete in remediation areas 2 & 3 for trial trench excavations.
- Trial trench excavations and material sampling in the breakout sections.

3.2 Morrisons Works

- Overhead line works.

4. Noise Monitoring

A Turnkey iVIBE is a sound level meter and is intended for general acoustic measurements, occupational health, and environmental noise measurements.

Noise monitoring was recorded at the locations shown in Section 1.

The monitoring equipment complies with IEC 61326-1 (2005), IEC 61672-1 (2002), ANSI S1.4 (R2006), ANSI S1.43 (R2007), IEC 61260 (2001), ANSI S1.11 (R2009), CE, WEEE, RoHS and is compliant with BS 5228-1:2009 + A1:2014 *Code of practice for noise and vibration control on construction and open sites*.

Action values are as follows:

- Lower exposure action values:
 - Daily or weekly exposure of 70 dB
 - Peak sound pressure of 130 dB
- Upper exposure action values
 - Daily or weekly exposure of 75 dB
 - Peak sound pressure of 135 dB

LAeq (15 min) noise levels were recording continuously for 15-minute periods over an 8-hour duration.

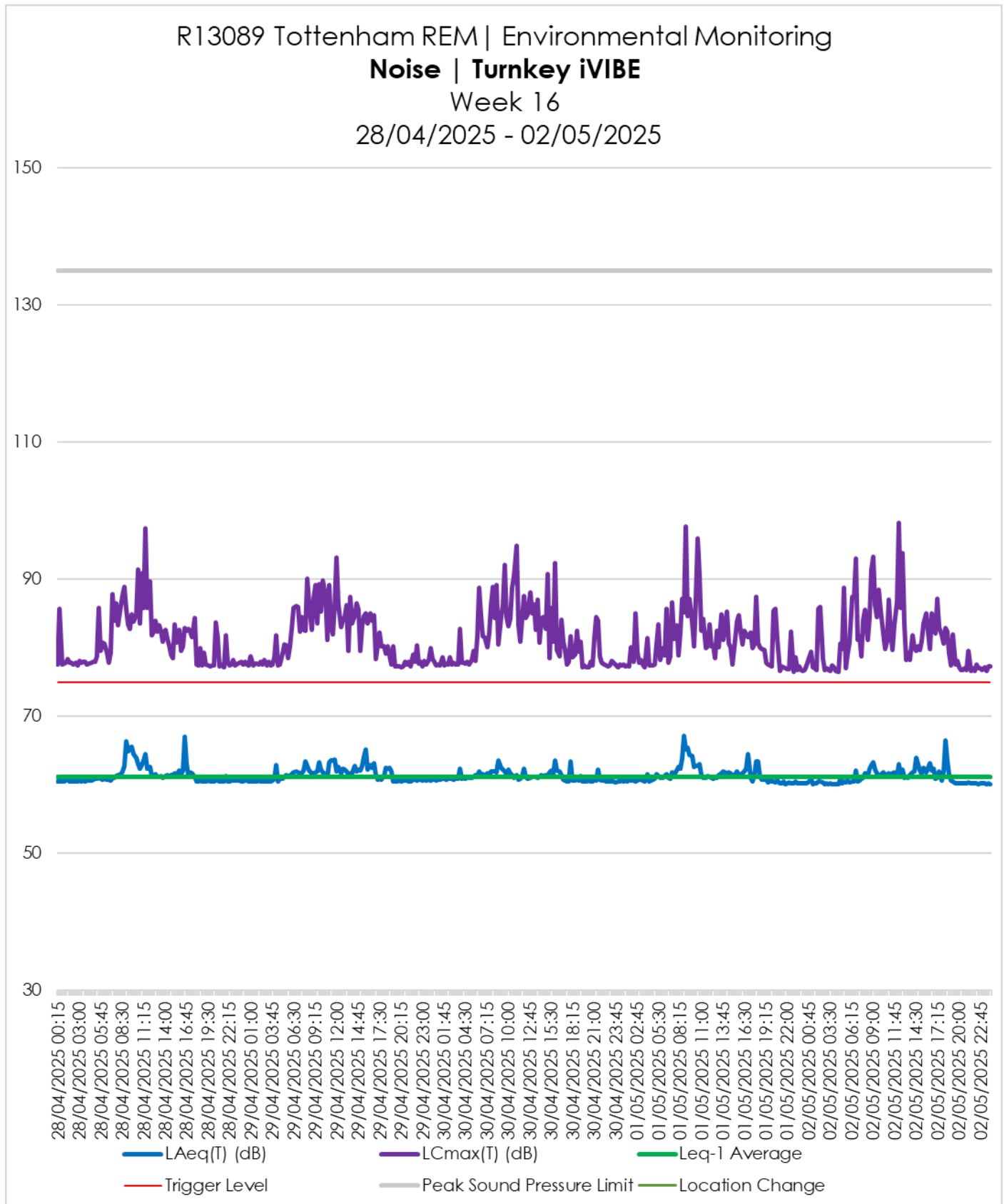
Action values for receptors are taken from the Code of Construction Practice London:

- During normal working hours (08:00 – 18:00), the maximum LAeq, period noise level measured 1 m from the façade (or boundary of the site if the property is greater than 1 m away) of any occupied or other building used for residential purposes, generated by construction plant and equipment, including the movements of vehicles to and from the site should not exceed the following:

Period	Hours	Residential / Commercial Premises	Schools or Hospitals
Monday - Friday	08:00 – 18:00	75 dB(A)	65 dB(A)
Saturday	08:00 – 13:00	75 dB(A)	65 dB(A)

In every case, control targets for nuisance noise will be agreed by the Contractor with the Local Environment Health Officer (EHO). Should the need arise (for example in the event that substantiated noise complaints are received during the site works in relation to high-risk activities) further detailed noise monitoring and assessment may be required to be undertaken by appropriately qualified persons in accordance with 'BS 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites'.

4.1 Graphical Representation of Logged Noise Data



LAeq - A-weighted equivalent continuous sound level in decibels equivalent to the total sound energy measured over a stated period.

LCmax - C-weighted peak sound pressure measurement.

(T) - Stated measured period of time.

Decibel (dB) - A unit used to measure the intensity of a sound.

4.2 Findings on Noise

Logged noise data for the week is displayed in the above graph.

No exceedances were recorded during the week.

5. Vibration Monitoring

An iVIBE data logger and 3 axis geophone was used for the duration of the works. The equipment is designed for high accuracy vibration monitoring in a construction environment.

Vibration monitoring was recorded at the locations shown in Section 1.

The monitor was set to run in continuous mode and was able to digitally record vibration levels up to 20 mm.s⁻¹, peak particle velocity, for frequencies between 5 Hz and 250 Hz. Weighting filters comply with ISO 2631, BS 6472 and BS 7385, and KB filters according to DIN 4150 and DIN 45669. Results are given in Root Mean Square (RMS) format. Data was exported from the logger and input into an Excel document, from which a graphic in the form a line graph was generated.

The geophone was levelled using the integrated bubble level and adjustable legs. It was loosely orientated by eye so that the axis conformed to the following compass bearings.

Geophone Axis	Bearing	Compass Point
X	51.60593	North
Y	-0.04660	West
Z	N/a	Zenith

Ground-borne vibration is to be undertaken by appropriately qualified persons and assessed using the guidelines provided in accordance with 'BS 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites'.

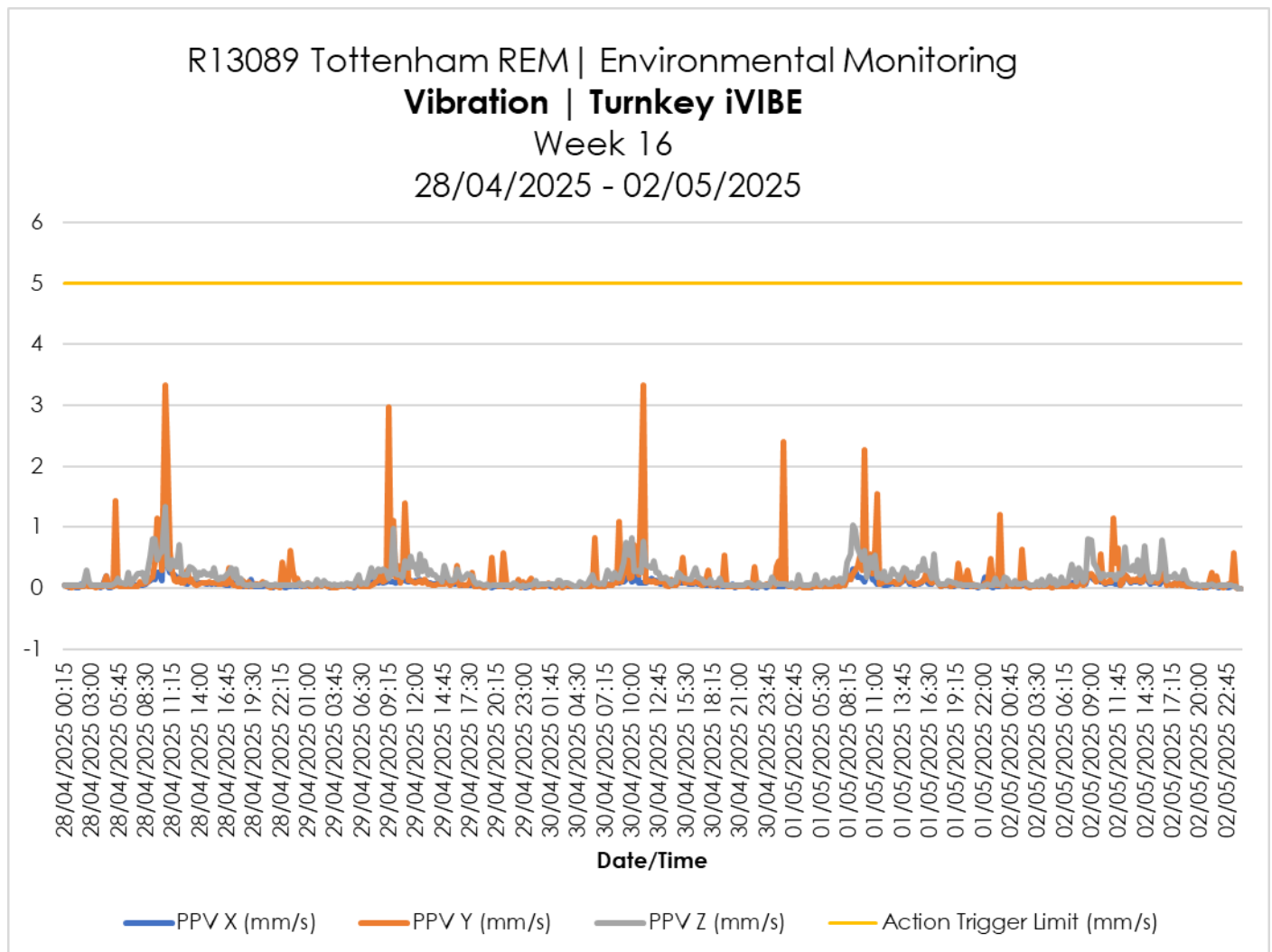
Trigger levels are based upon guidance given in 'BS 7385-2: 1993 Evaluation and measurement for vibration in buildings — Part 2: Guide to damage levels from ground borne vibration'.

Type of building	Peak component particle velocity in frequency of predominant pulse	
	4 Hz to 15 Hz	15 Hz and above
Reinforced or framed structures. Industrial and heavy commercial buildings	50 mm/s at 4 Hz and above	
Unreinforced or light framed structures. Residential or light commercial type buildings	15 mm/s at 4Hz increasing to 20 mm/s at 15 Hz	20 mm/s at 15 Hz increasing to 50 mm/s at 40 Hz and above

Vibration Limits Relating to Minor or Cosmetic Damage to Buildings:

Building Classification	Intermittent Vibration (PPV, mm/s ⁻¹)	Continuous Vibration (PPV, mm/s ⁻¹)
Residential in generally good repair	10	5
Residential where preliminary survey reveals significant defects (party wall)	5	3.5
Industrial/commercial – light and flexible structure	20	15
Industrial/commercial – heavy and stiff structure	30	15

5.1 Graphical Representation of Logged Vibration Data



5.2 Findings on Vibration

Logged vibration data for the week is displayed in the above graphs.

No exceedances were recorded during the week.

6. Dynamic Dust Monitoring

6.1 Dynamic Dust

The Osiris uses a light-scattering laser photometer to measure airborne particle monitors (PM10) in real-time with history data logging capability. The Osiris has been Environment Agency MCERTS certified.

This instrument is designed to measure dust deposition. Action values for personal exposure to Dust for Particulate Matter PM10 are set to a lower action level of 180 µg/m³ averaged over a 15-minute period as our warning trigger but not to exceed 200 µg/m³ averaged over a 15-minute period, as per the 'Institute of Air Quality Management (2018), Guidance on Air Quality Monitoring in the Vicinity of Demolition and Construction Sites'.

Should the action value be exceeded, measures in the Safe System of Work will be implemented including stopping work and an increased dampening down of the site.

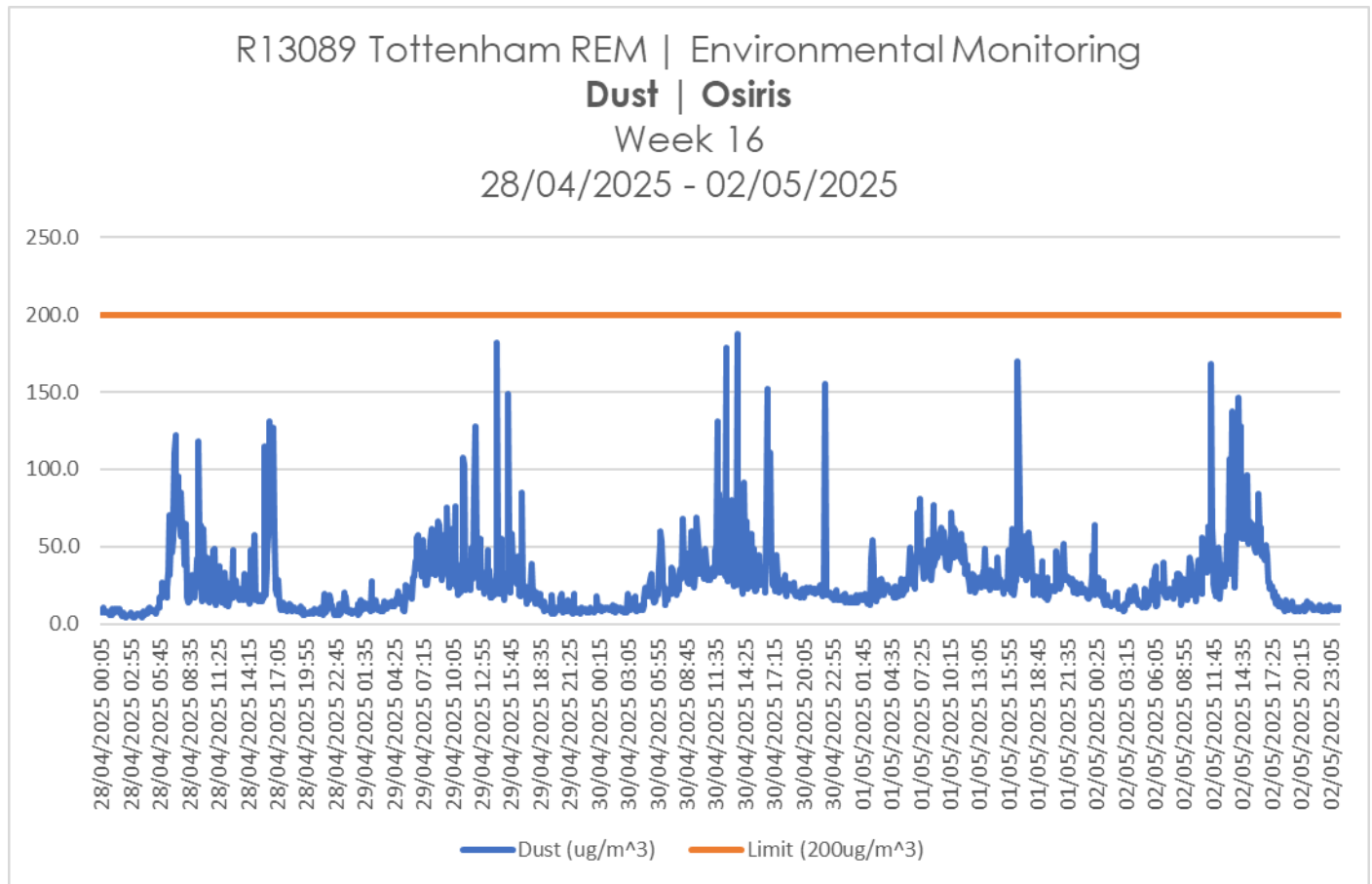
The DEFRA Daily Air Quality Index (DAQ) is numbered 1-10 and divided into four bands. Low (1) to very high (10), to provide detail about air pollution levels in a simple way. For PM10 particles, this based on the daily mean concentration.

Index	1	2	3	4	5	6	7	8	9	10
Band	Low	Low	Low	Moderate	Moderate	Moderate	High	High	High	Very High
µg/m ³	0-16	17-33	34-50	51-58	59-66	67-75	76-83	84-91	92-100	101 or more

The data below was obtained from the onsite monitor and represents the Particulate Matter suspended in the air up to 10 microns (PM10) in size during the period of this report.

Dust monitoring was recorded at the locations shown in Section 1.

6.2 Graphical Representation of Logged Dust Data



6.3 Findings on Dust

Logged dust data for the week is displayed in the above graph.

Action values for personal exposure to dust as defined in the air quality objectives for Particulate matter PM₁₀ are not to exceed 200 $\mu\text{g}/\text{m}^3$ averaged over a 15-minute period as per the *Institute of Air Quality Management (2018), Guidance on Air Quality Monitoring in the Vicinity of Demolition and Construction Sites*.

No exceedances were recorded during the week.

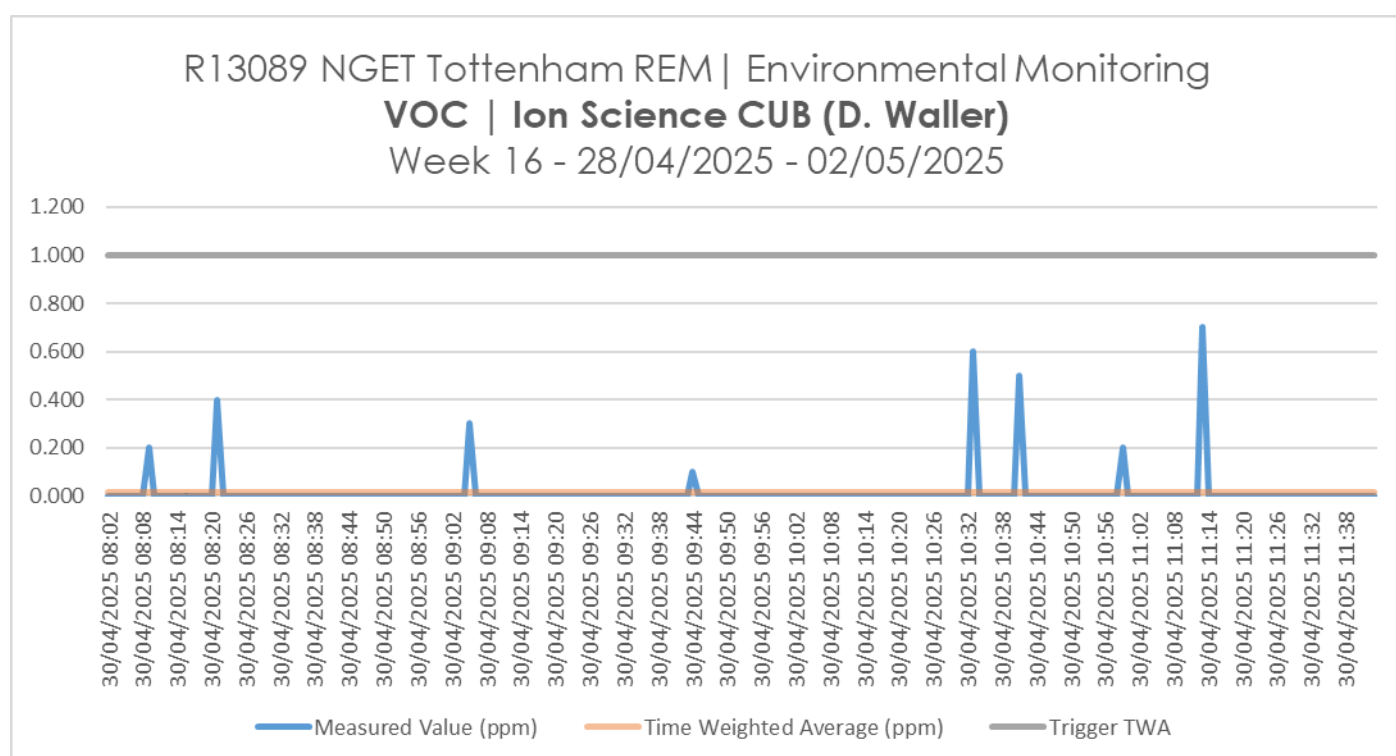
7. Volatile Organic Compounds (VOC) Monitoring

Under the Control of Substances Hazardous to Health Regulations, 2002 (COSHH), as amended in 2004), we used Ion Science Cubs, Photo Ionising Detectors (PID) which are capable of data logging and have an audio/visual alarm set to trigger in response to any exceedances of the occupational guideline value of an appropriate organic contaminant (benzene). This device meets the following European standards: ATEX: CE, Ex II 1G, Ex IA IIC T4; $-20^{\circ}\text{C} \leq T_a \leq 55^{\circ}\text{C}$.

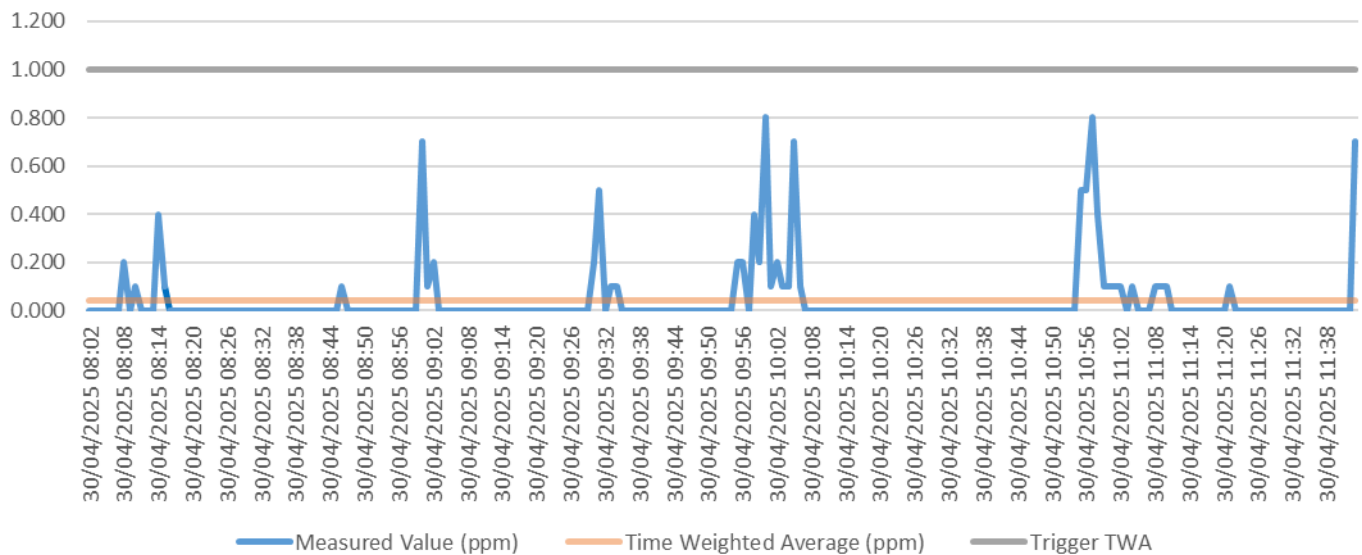
Action values for personal exposure to VOC (calibrated to benzene standard) as defined in the COSHH Regulations. VOC readings not to exceed 1 ppm of benzene. Should target limits be exceeded, measures in the SSoW will be implemented.

These are placed with the Site Foreman and Excavator Operator. The following data has been obtained from the onsite Photo Ionising Detectors (PID) and Tiger Select Cubs and represents the potential exposure to Volatile Organic Compounds (calibrated to benzene standard) during the week of this report.

7.1 Graphical Representation of Logged VOC Data

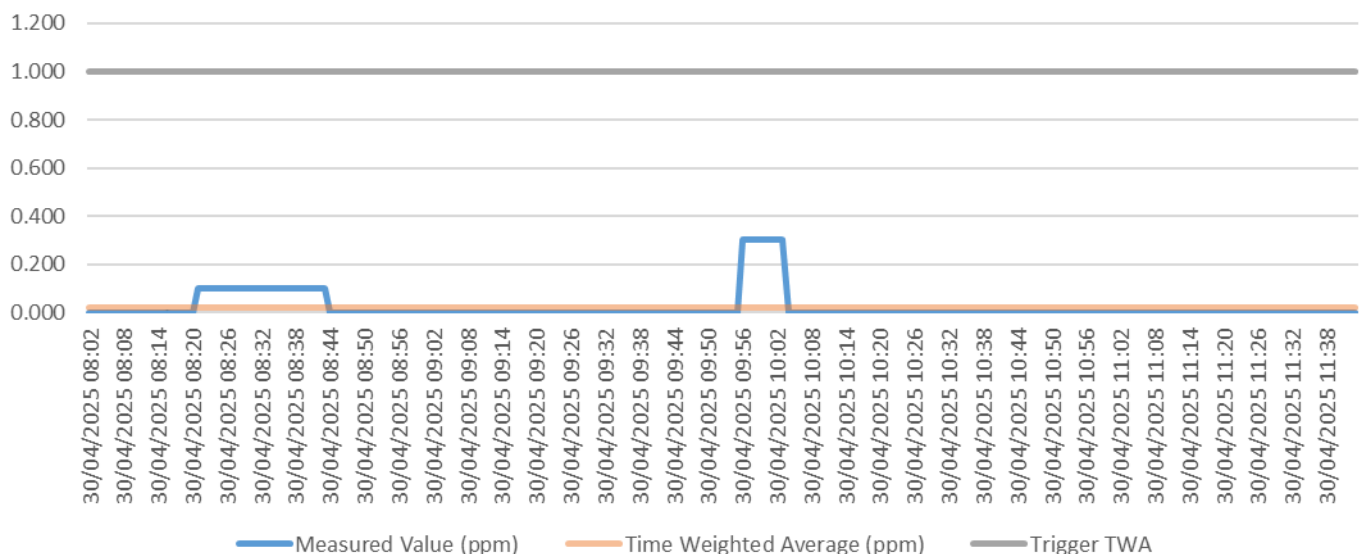


R13089 NGET Tottenham REM | Environmental Monitoring VOC | Ion Science CUB (D. Waters) Week 16 - 28/04/2025 - 02/05/2025



7.2 Graphical Representation of Logged PID Data

R13089 NGET Tottenham REM | Environmental Monitoring VOC | Ion Science PID (Northern Boundary) Week 16 - 28/04/2025 - 02/05/2025



7.3 Findings on VOC

No exceedances of HSE'S document '*EH40: workspace exposure limits*' given workspace exposure limit (WEL) value of 1ppm 8-hour TWA were recorded for the week for either of the two boundary monitors or any of the personal monitors.

8. Applicable Legislation/ Regulations and Guidance

	Current Legislation	Activity	Impacts On
Reference Documents	Environmental Protection Act 1990 Part II	Demolition, asbestos, remediation works.	Air pollution, waste on land, contaminated land, nuisances and clean air, litter, radioactive substances, conservation.
	Pollution Prevention and Control Act 1999 & Pollution Prevention and Control (England & Wales) Regulations as amended 2000	Demolition, asbestos, remediation works.	Oil pollution, clean air, railway.
	Air Quality Standards Regulations 2010	Demolition, asbestos, remediation works.	Public exposure, ozone.
	The Environment Act (Commencements 1-18) Order 1995-1999	All projects.	EA, contaminated land, national parks, air quality, waste, drainage.
	Noise Emissions in the Environment by Equipment for use Outdoors (Amendment Regulations SI 2005/98	All projects, specifically in sensitive areas.	Human health, local noise levels.
	The Clean Air Act	All sites and projects.	Human health, environment.

Guidance:

- Institute of Air Quality Management – Guidance on the Assessment of Dust from Demolition and Construction - February 2014
- Institute of Air Quality Management – Guidance on Air Quality Monitoring in the Vicinity of Demolition and Construction sites – 2014
- BS 5228-1: 2009 + A1: 2014 – Code of Practice for Noise and Vibration Control on Construction and Open Sites.
- BS 7385-2: 1993 Evaluation and Measurement for Vibration in Buildings- Part2: Guide to damage levels from Ground Borne Vibration.
- BS 6742-1: 2008 – Guide to Evaluation of Human Exposure to Vibration in Building.
- DEFRA – Noise database for Prediction of Noise on Construction and Open Sites.
- HSE- EH40: Occupational Exposure Levels

9. Glossary of Terms

Trigger Levels	The limits of which one of the elements (noise/dust/vibration) cannot exceed external to the hoarding. The trigger levels may be agreed with the local council, according to the client requirements.
Baselines	The values recorded pre-works.
A weighting, dB(A)	The unit of sound level weighted according to the A-scale. Is the mechanism who correspond the best to response of the human ear.
LA_{eq}	The equivalent continuous noise level over any specified period.
PM10	The particulate matter of diameter less than or equal to 10 micrometres.
mg/m³	Milligrams of a substance in a cubic meter of air. It is a measure of concentration (weight/volume).
Peak	It is particularly valuable for indicating the level of short duration shocks, etc. (m/s ²).
P-P	Peak-to-Peak, indicates the maximum excursion of the wave, (m/s ²).
m/s²	Metres per second squared. It is a measure of acceleration.
m/s	Metres per second. It is a measure of velocity.

Environmental Monitoring Report

Week 17

NGET REM Tottenham



Prepared For	National Grid Electricity Transmission
Prepared By	Erith Contractors
Project Reference	R13089
Document Reference	Environmental Monitoring Report – Week 17
Monitoring Period	05/05/2025 – 09/05/2025

Document Revision / Authorisation Record

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1.0	James Hardy Site Manager 14/05/2025	Owain Davey Project Manager	

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Project Manager	Owain Davey	Email	owain.davey@erith.com
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1. Summary of Works

The project scope of works involves the remediation of the former bus depot. This includes excavation of contaminated soils, protection of a number of groundwater monitoring wells and the installation of a cable ducting trench to accommodate future works on site.

1.1 Monitoring Locations

	Welfare	
	Noise (Real Time Monitor)	
	Dust (Real Time Monitor)	
	Dust (Static Frisbee Gauges)	
	Vibration (Real Time Monitor)	

2. Equipment Used

Name	Serial Number	Certificate Number	Calibration Due Date
Turnkey iVIBE Sound and vibration meter	V0023	1356	24/03/2027
Turnkey Osiris Dust monitor	TNO4506	19348	17/03/2027
Ion Science Cub VOC gas detector	ECL CUB 067 TC201837 (D. Waters)	81160	17/10/2025
Ion Science Cub VOC gas detector	ECL CUB 120 TC202018 (D. Waller)	82157	19/02/2026
Ion Science PID VOC gas detector	Tiger Select 136 (North Boundary)	74675	27/06/2025

3. Works Undertaken

The below details the works completed during the week of this report:

3.1 Erith Works

- Trial trench excavations and material sampling in the breakout sections.

3.2 Morrisons Works

- Overhead line works.

4. Noise Monitoring

A Turnkey iVIBE is a sound level meter and is intended for general acoustic measurements, occupational health, and environmental noise measurements.

Noise monitoring was recorded at the locations shown in Section 1.

The monitoring equipment complies with IEC 61326-1 (2005), IEC 61672-1 (2002), ANSI S1.4 (R2006), ANSI S1.43 (R2007), IEC 61260 (2001), ANSI S1.11 (R2009), CE, WEEE, RoHS and is compliant with BS 5228-1:2009 + A1:2014 *Code of practice for noise and vibration control on construction and open sites*.

Action values are as follows:

- Lower exposure action values:
 - Daily or weekly exposure of 70 dB
 - Peak sound pressure of 130 dB
- Upper exposure action values
 - Daily or weekly exposure of 75 dB
 - Peak sound pressure of 135 dB

L_{Aeq} (15 min) noise levels were recording continuously for 15-minute periods over an 8-hour duration.

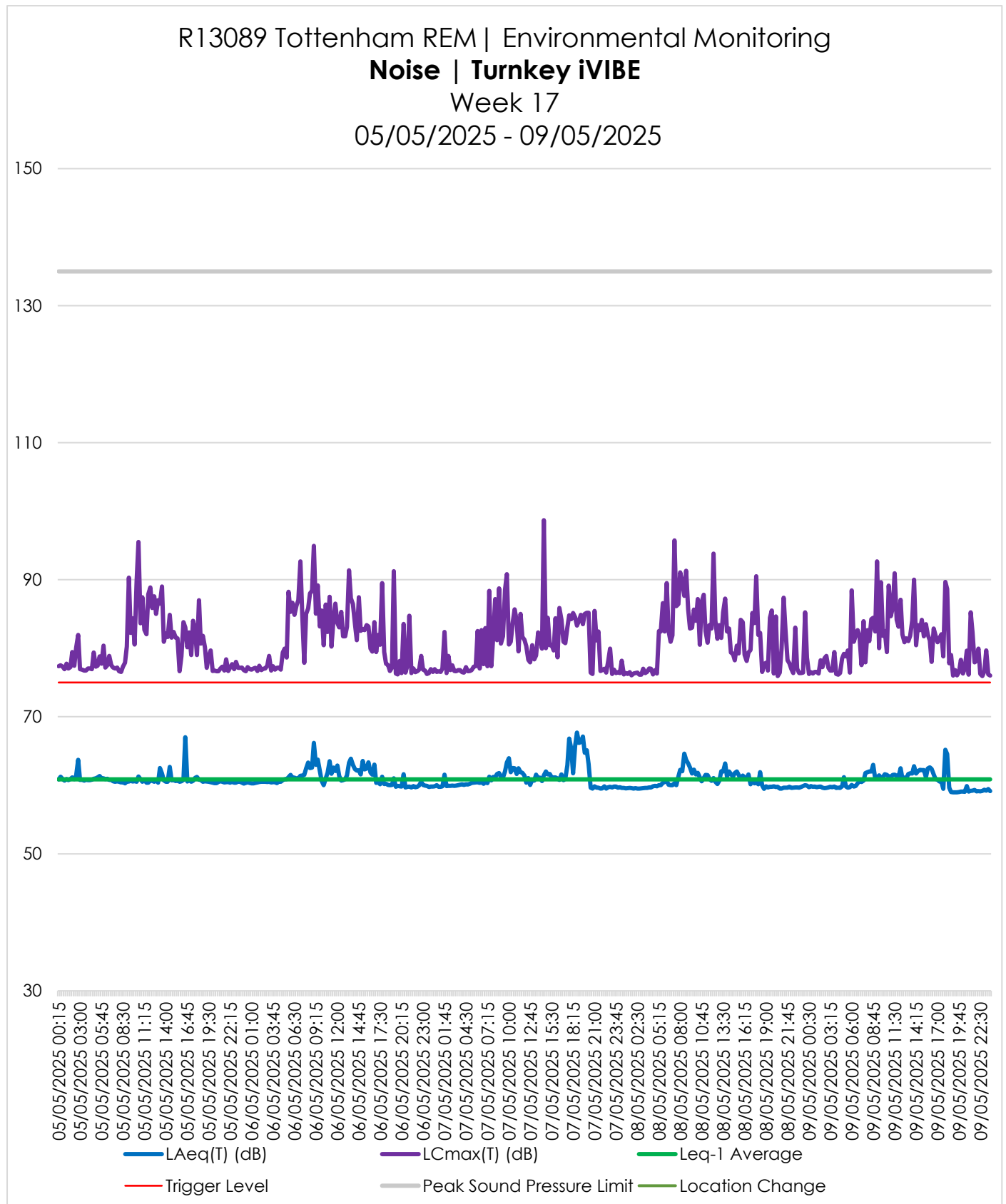
Action values for receptors are taken from the Code of Construction Practice London:

- During normal working hours (08:00 – 18:00), the maximum L_{Aeq}, period noise level measured 1 m from the façade (or boundary of the site if the property is greater than 1 m away) of any occupied or other building used for residential purposes, generated by construction plant and equipment, including the movements of vehicles to and from the site should not exceed the following:

Period	Hours	Residential / Commercial Premises	Schools or Hospitals
Monday - Friday	08:00 – 18:00	75 dB(A)	65 dB(A)
Saturday	08:00 – 13:00	75 dB(A)	65 dB(A)

In every case, control targets for nuisance noise will be agreed by the Contractor with the Local Environment Health Officer (EHO). Should the need arise (for example in the event that substantiated noise complaints are received during the site works in relation to high-risk activities) further detailed noise monitoring and assessment may be required to be undertaken by appropriately qualified persons in accordance with 'BS 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites'.

4.1 Graphical Representation of Logged Noise Data



LAeq - A-weighted equivalent continuous sound level in decibels equivalent to the total sound energy measured over a stated period.

LCmax - C-weighted peak sound pressure measurement.

(T) - Stated measured period of time.

Decibel (dB) - A unit used to measure the intensity of a sound.

4.2 Findings on Noise

Logged noise data for the week is displayed in the above graph.

No exceedances were recorded during the week.

5. Vibration Monitoring

An iVIBE data logger and 3 axis geophone was used for the duration of the works. The equipment is designed for high accuracy vibration monitoring in a construction environment.

Vibration monitoring was recorded at the locations shown in Section 1.

The monitor was set to run in continuous mode and was able to digitally record vibration levels up to 20 mm.s⁻¹, peak particle velocity, for frequencies between 5 Hz and 250 Hz. Weighting filters comply with ISO 2631, BS 6472 and BS 7385, and KB filters according to DIN 4150 and DIN 45669. Results are given in Root Mean Square (RMS) format. Data was exported from the logger and input into an Excel document, from which a graphic in the form a line graph was generated.

The geophone was levelled using the integrated bubble level and adjustable legs. It was loosely orientated by eye so that the axis conformed to the following compass bearings.

Geophone Axis	Bearing	Compass Point
X	51.60593	North
Y	-0.04660	West
Z	N/a	Zenith

Ground-borne vibration is to be undertaken by appropriately qualified persons and assessed using the guidelines provided in accordance with 'BS 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites'.

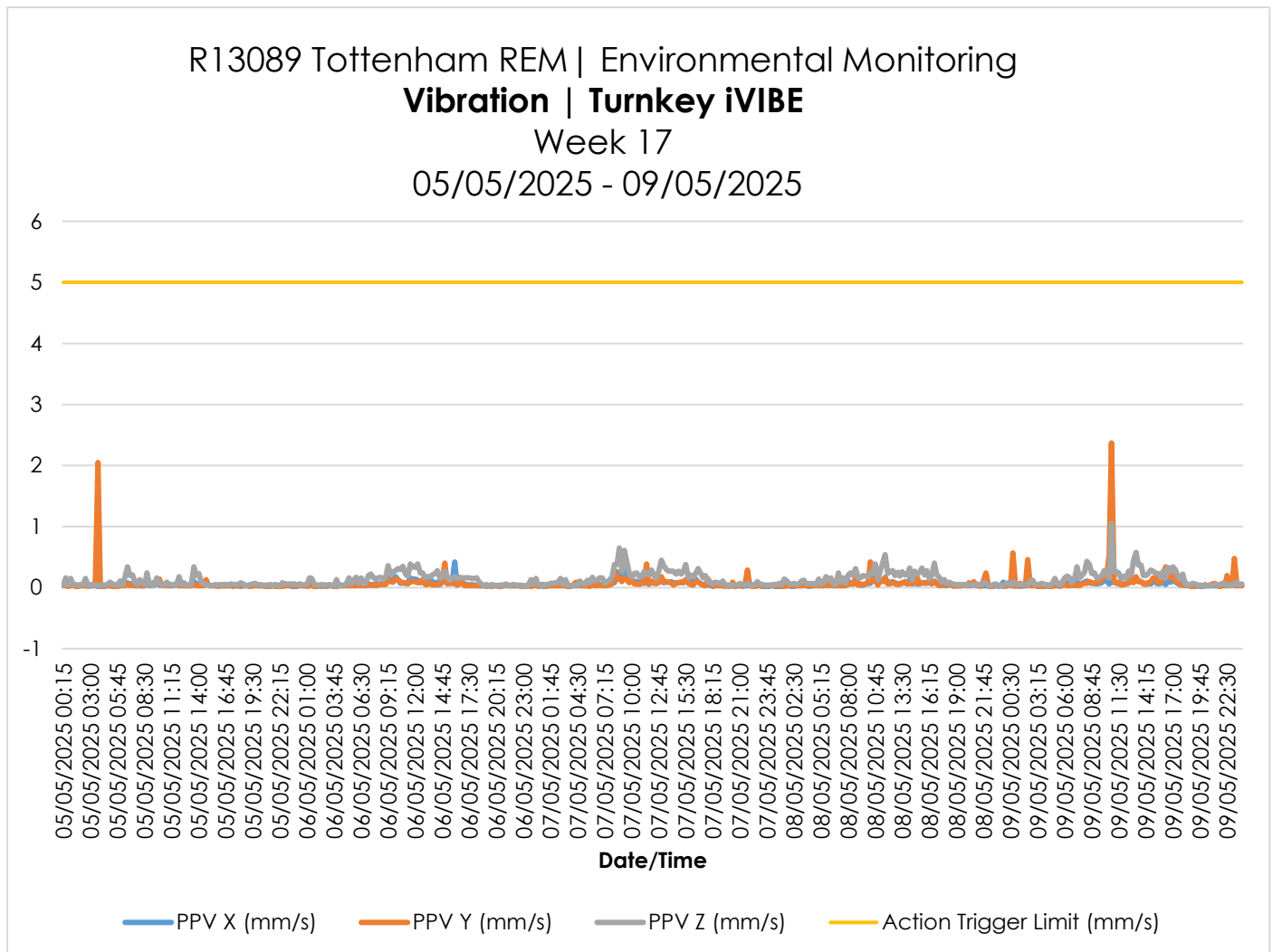
Trigger levels are based upon guidance given in 'BS 7385-2: 1993 Evaluation and measurement for vibration in buildings — Part 2: Guide to damage levels from ground borne vibration'.

Type of building	Peak component particle velocity in frequency of predominant pulse	
	4 Hz to 15 Hz	15 Hz and above
Reinforced or framed structures. Industrial and heavy commercial buildings	50 mm/s at 4 Hz and above	
Unreinforced or light framed structures. Residential or light commercial type buildings	15 mm/s at 4Hz increasing to 20 mm/s at 15 Hz	20 mm/s at 15 Hz increasing to 50 mm/s at 40 Hz and above

Vibration Limits Relating to Minor or Cosmetic Damage to Buildings:

Building Classification	Intermittent Vibration (PPV, mm/s ⁻¹)	Continuous Vibration (PPV, mm/s ⁻¹)
Residential in generally good repair	10	5
Residential where preliminary survey reveals significant defects (party wall)	5	3.5
Industrial/commercial – light and flexible structure	20	15
Industrial/commercial – heavy and stiff structure	30	15

5.1 Graphical Representation of Logged Vibration Data



5.2 Findings on Vibration

Logged vibration data for the week is displayed in the above graphs.

No exceedances were recorded during the week.

6. Dynamic Dust Monitoring

6.1 Dynamic Dust

The Osiris uses a light-scattering laser photometer to measure airborne particle monitors (PM10) in real-time with history data logging capability. The Osiris has been Environment Agency MCERTS certified.

This instrument is designed to measure dust deposition. Action values for personal exposure to Dust for Particulate Matter PM10 are set to a lower action level of 180 µg/m³ averaged over a 15-minute period as our warning trigger but not to exceed 200 µg/m³ averaged over a 15-minute period, as per the 'Institute of Air Quality Management (2018), Guidance on Air Quality Monitoring in the Vicinity of Demolition and Construction Sites'.

Should the action value be exceeded, measures in the Safe System of Work will be implemented including stopping work and an increased dampening down of the site.

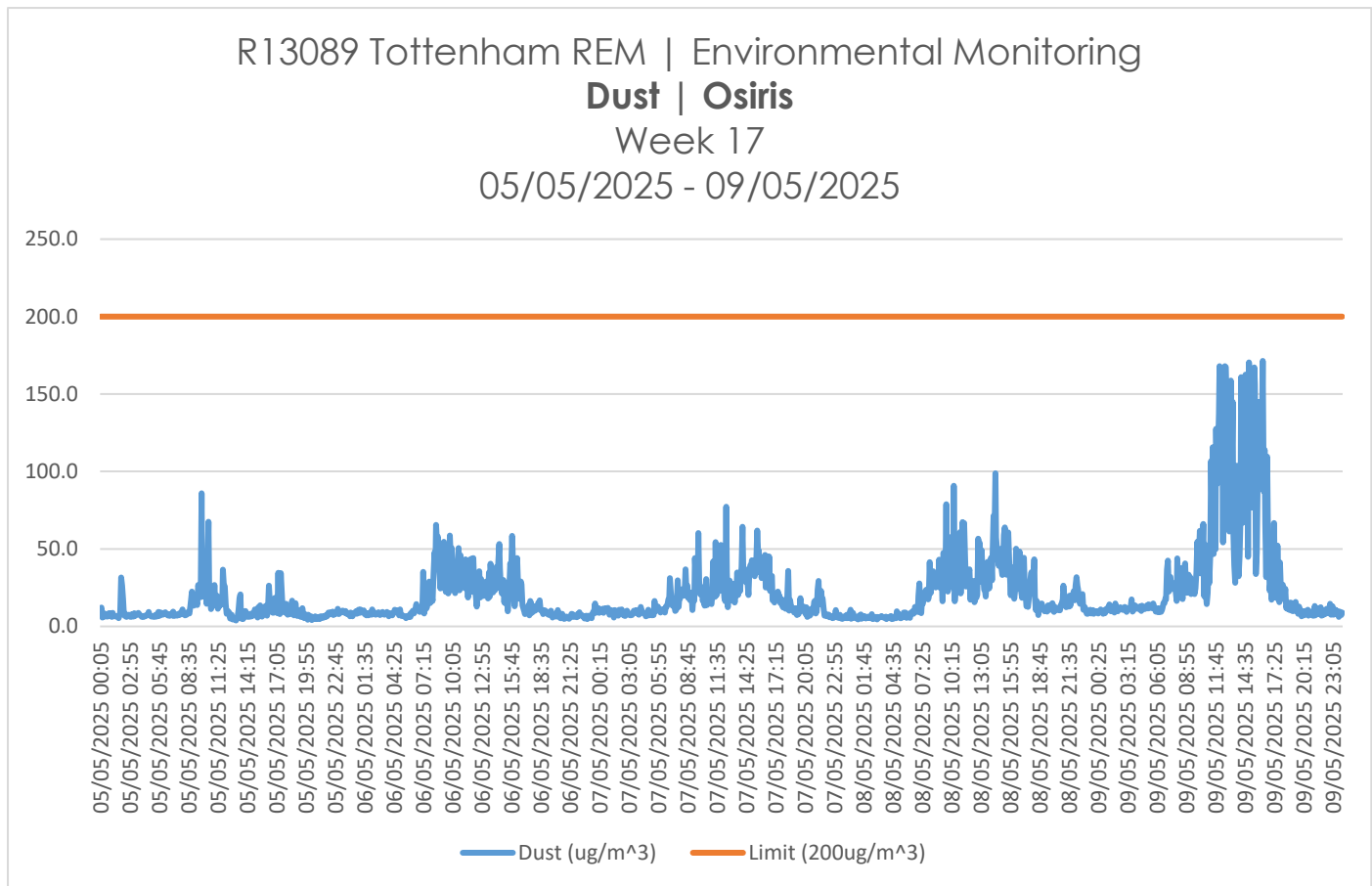
The DEFRA Daily Air Quality Index (DAQ) is numbered 1-10 and divided into four bands. Low (1) to very high (10), to provide detail about air pollution levels in a simple way. For PM10 particles, this based on the daily mean concentration.

Index	1	2	3	4	5	6	7	8	9	10
Band	Low	Low	Low	Moderate	Moderate	Moderate	High	High	High	Very High
µg/m ³	0-16	17-33	34-50	51-58	59-66	67-75	76-83	84-91	92-100	101 or more

The data below was obtained from the onsite monitor and represents the Particulate Matter suspended in the air up to 10 microns (PM10) in size during the period of this report.

Dust monitoring was recorded at the locations shown in Section 1.

6.2 Graphical Representation of Logged Dust Data



6.3 Findings on Dust

Logged dust data for the week is displayed in the above graph.

Action values for personal exposure to dust as defined in the air quality objectives for Particulate matter PM₁₀ are not to exceed 200 $\mu\text{g}/\text{m}^3$ averaged over a 15-minute period as per the *Institute of Air Quality Management (2018), Guidance on Air Quality Monitoring in the Vicinity of Demolition and Construction Sites*.

No exceedances were recorded during the week.

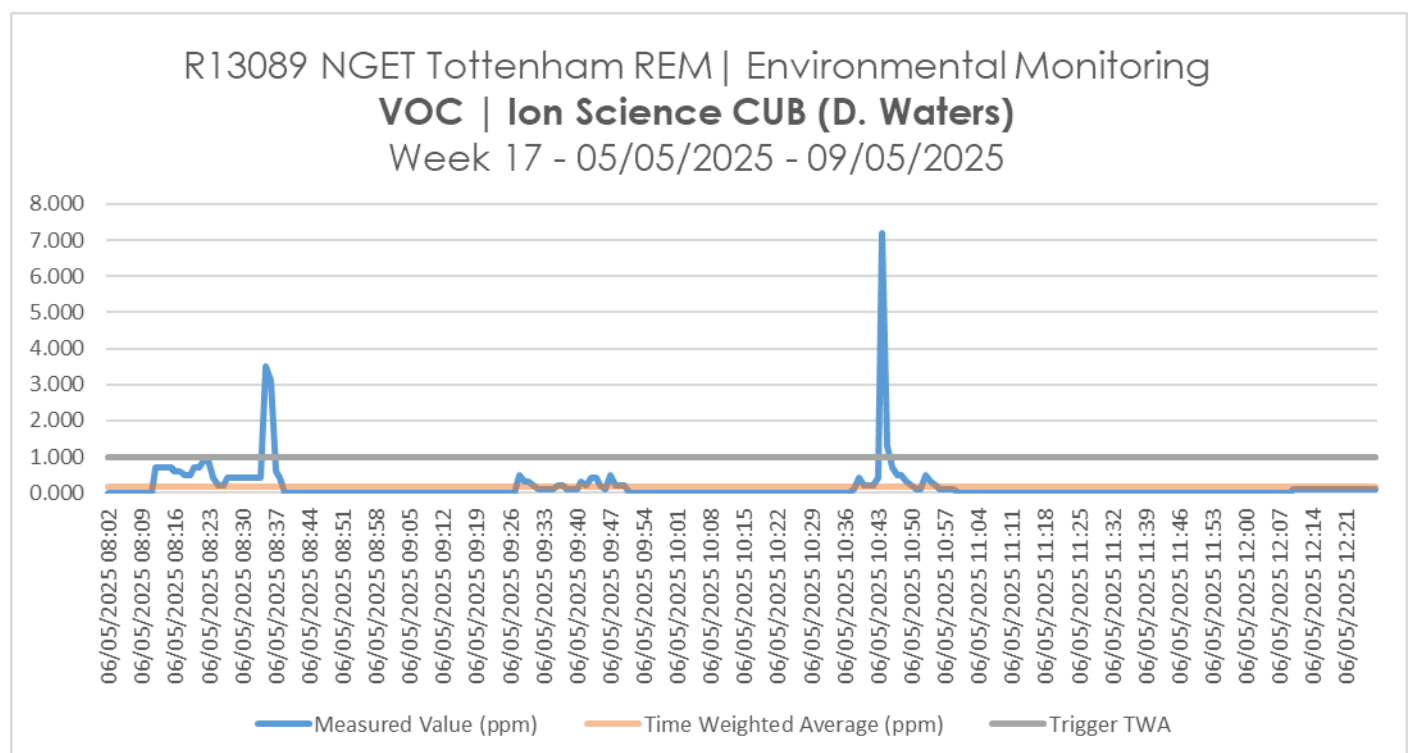
7. Volatile Organic Compounds (VOC) Monitoring

Under the Control of Substances Hazardous to Health Regulations, 2002 (COSHH), as amended in 2004), we used Ion Science Cubs, Photo Ionising Detectors (PID) which are capable of data logging and have an audio/visual alarm set to trigger in response to any exceedances of the occupational guideline value of an appropriate organic contaminant (benzene). This device meets the following European standards: ATEX: CE, Ex II 1G, Ex IA IIC T4; $-20^{\circ}\text{C} \leq T_a \leq 55^{\circ}\text{C}$.

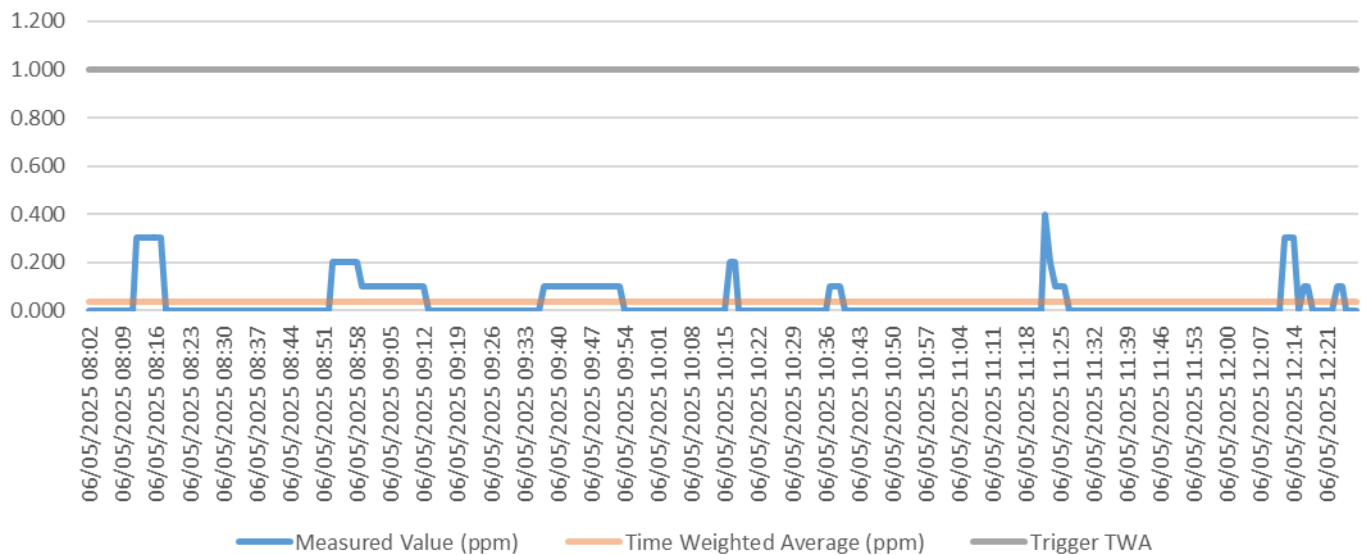
Action values for personal exposure to VOC (calibrated to benzene standard) as defined in the COSHH Regulations. VOC readings not to exceed 1 ppm of benzene. Should target limits be exceeded, measures in the SSoW will be implemented.

These are placed with the Site Foreman and Excavator Operator. The following data has been obtained from the onsite Photo Ionising Detectors (PID) and Tiger Select Cubs and represents the potential exposure to Volatile Organic Compounds (calibrated to benzene standard) during the week of this report.

7.1 Graphical Representation of Logged VOC Data

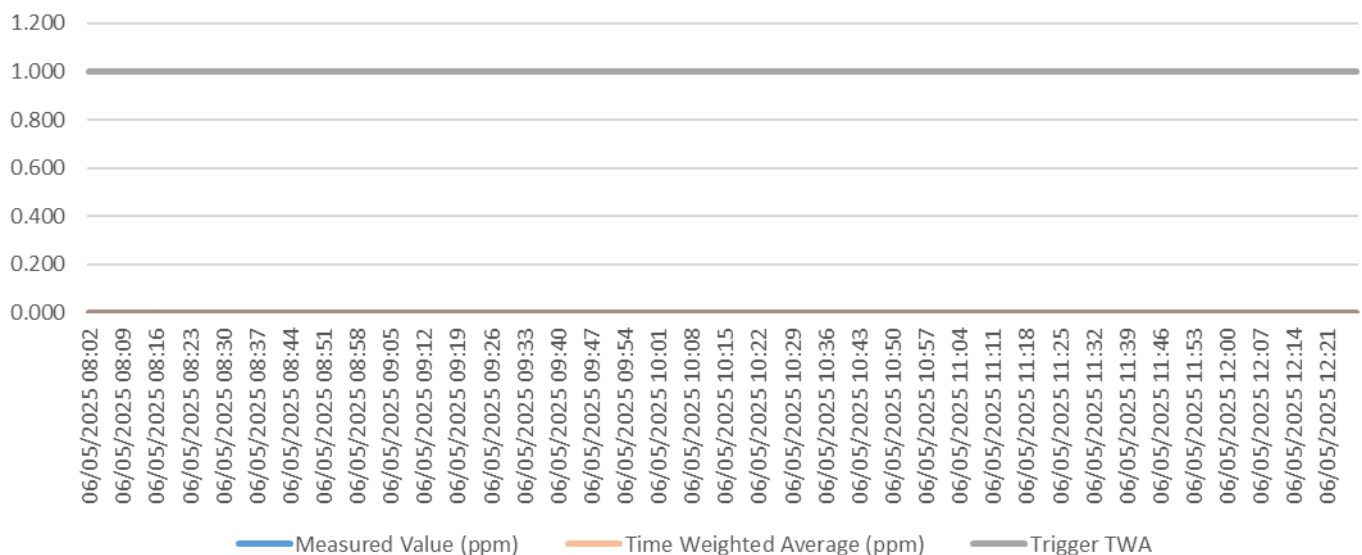


R13089 NGET Tottenham REM | Environmental Monitoring
VOC | Ion Science CUB (D. Waller)
 Week 17 - 05/05/2025 - 09/05/2025



7.2 Graphical Representation of Logged PID Data

R13089 NGET Tottenham REM | Environmental Monitoring
VOC | Ion Science PID (Northern Boundary)
 Week 17 - 05/05/2025 - 09/05/2025



7.3 Findings on VOC

2 exceedance events were recorded on the personal monitor of the Site Foreman during trial pit excavation works. During both exceedances, the Foreman evacuated the area, allowing any VOC's in the atmosphere to disperse before returning to the excavation.

No exceedances of HSE'S document '*EH40: workspace exposure limits*' given workspace exposure limit (WEL) value of 1ppm 8-hour TWA were recorded for the week for either of the boundary monitor or the personal monitors of the Excavator Operator.

8. Applicable Legislation/ Regulations and Guidance

	Current Legislation	Activity	Impacts On
Reference Documents	Environmental Protection Act 1990 Part II	Demolition, asbestos, remediation works.	Air pollution, waste on land, contaminated land, nuisances and clean air, litter, radioactive substances, conservation.
	Pollution Prevention and Control Act 1999 & Pollution Prevention and Control (England & Wales) Regulations as amended 2000	Demolition, asbestos, remediation works.	Oil pollution, clean air, railway.
	Air Quality Standards Regulations 2010	Demolition, asbestos, remediation works.	Public exposure, ozone.
	The Environment Act (Commencements 1-18) Order 1995-1999	All projects.	EA, contaminated land, national parks, air quality, waste, drainage.
	Noise Emissions in the Environment by Equipment for use Outdoors (Amendment Regulations SI 2005/98	All projects, specifically in sensitive areas.	Human health, local noise levels.
	The Clean Air Act	All sites and projects.	Human health, environment.

Guidance:

- Institute of Air Quality Management – Guidance on the Assessment of Dust from Demolition and Construction - February 2014
- Institute of Air Quality Management – Guidance on Air Quality Monitoring in the Vicinity of Demolition and Construction sites – 2014
- BS 5228-1: 2009 + A1: 2014 – Code of Practice for Noise and Vibration Control on Construction and Open Sites.
- BS 7385-2: 1993 Evaluation and Measurement for Vibration in Buildings- Part2: Guide to damage levels from Ground Borne Vibration.
- BS 6742-1: 2008 – Guide to Evaluation of Human Exposure to Vibration in Building.
- DEFRA – Noise database for Prediction of Noise on Construction and Open Sites.
- HSE- EH40: Occupational Exposure Levels

9. Glossary of Terms

Trigger Levels	The limits of which one of the elements (noise/dust/vibration) cannot exceed external to the hoarding. The trigger levels may be agreed with the local council, according to the client requirements.
Baselines	The values recorded pre-works.
A weighting, dB(A)	The unit of sound level weighted according to the A-scale. Is the mechanism who correspond the best to response of the human ear.
LA_{eq}	The equivalent continuous noise level over any specified period.
PM10	The particulate matter of diameter less than or equal to 10 micrometres.
mg/m³	Milligrams of a substance in a cubic meter of air. It is a measure of concentration (weight/volume).
Peak	It is particularly valuable for indicating the level of short duration shocks, etc. (m/s ²).
P-P	Peak-to-Peak, indicates the maximum excursion of the wave, (m/s ²).
m/s²	Metres per second squared. It is a measure of acceleration.
m/s	Metres per second. It is a measure of velocity.

Environmental Monitoring Report

Week 18

NGET REM Tottenham



Prepared For	National Grid Electricity Transmission
Prepared By	Erith Contractors
Project Reference	R13089
Document Reference	Environmental Monitoring Report – Week 18
Monitoring Period	12/05/2025 – 16/05/2025

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1.0	James Hardy Site Manager 02/06/2025	Owain Davey Project Manager	

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Site Manager	James Hardy	Email	James.hardy@erith.com

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1. Summary of Works

The project scope of works involves the remediation of the former bus depot. This includes excavation of contaminated soils, protection of a number of groundwater monitoring wells and the installation of a cable ducting trench to accommodate future works on site.

1.1 Monitoring Locations

	Welfare	
	Noise (Real Time Monitor)	
	Dust (Real Time Monitor)	
	Dust (Static Frisbee Gauges)	
	Vibration (Real Time Monitor)	

2. Equipment Used

Name	Serial Number	Certificate Number	Calibration Due Date
Turnkey iVIBE Sound and vibration meter	V0023	1356	24/03/2027
Turnkey Osiris Dust monitor	TNO4506	19348	17/03/2027
Ion Science Cub VOC gas detector	ECL CUB 067 TC201837 (D. Waters)	81160	17/10/2025
Ion Science Cub VOC gas detector	ECL CUB 120 TC202018 (D. Waller)	82157	19/02/2026
Ion Science PID VOC gas detector	Tiger Select 136 (North Boundary)	74675	27/06/2025

3. Works Undertaken

The below details the works completed during the week of this report:

3.1 Erith Works

- Trial trench excavations and material sampling in trial pits 21-25

3.2 Morrisons Works

- Overhead line works.

4. Noise Monitoring

A Turnkey iVIBE is a sound level meter and is intended for general acoustic measurements, occupational health, and environmental noise measurements.

Noise monitoring was recorded at the locations shown in Section 1.

The monitoring equipment complies with IEC 61326-1 (2005), IEC 61672-1 (2002), ANSI S1.4 (R2006), ANSI S1.43 (R2007), IEC 61260 (2001), ANSI S1.11 (R2009), CE, WEEE, RoHS and is compliant with BS 5228-1:2009 + A1:2014 *Code of practice for noise and vibration control on construction and open sites*.

Action values are as follows:

- Lower exposure action values:
 - Daily or weekly exposure of 70 dB
 - Peak sound pressure of 130 dB
- Upper exposure action values
 - Daily or weekly exposure of 75 dB
 - Peak sound pressure of 135 dB

L_{Aeq} (15 min) noise levels were recording continuously for 15-minute periods over an 8-hour duration.

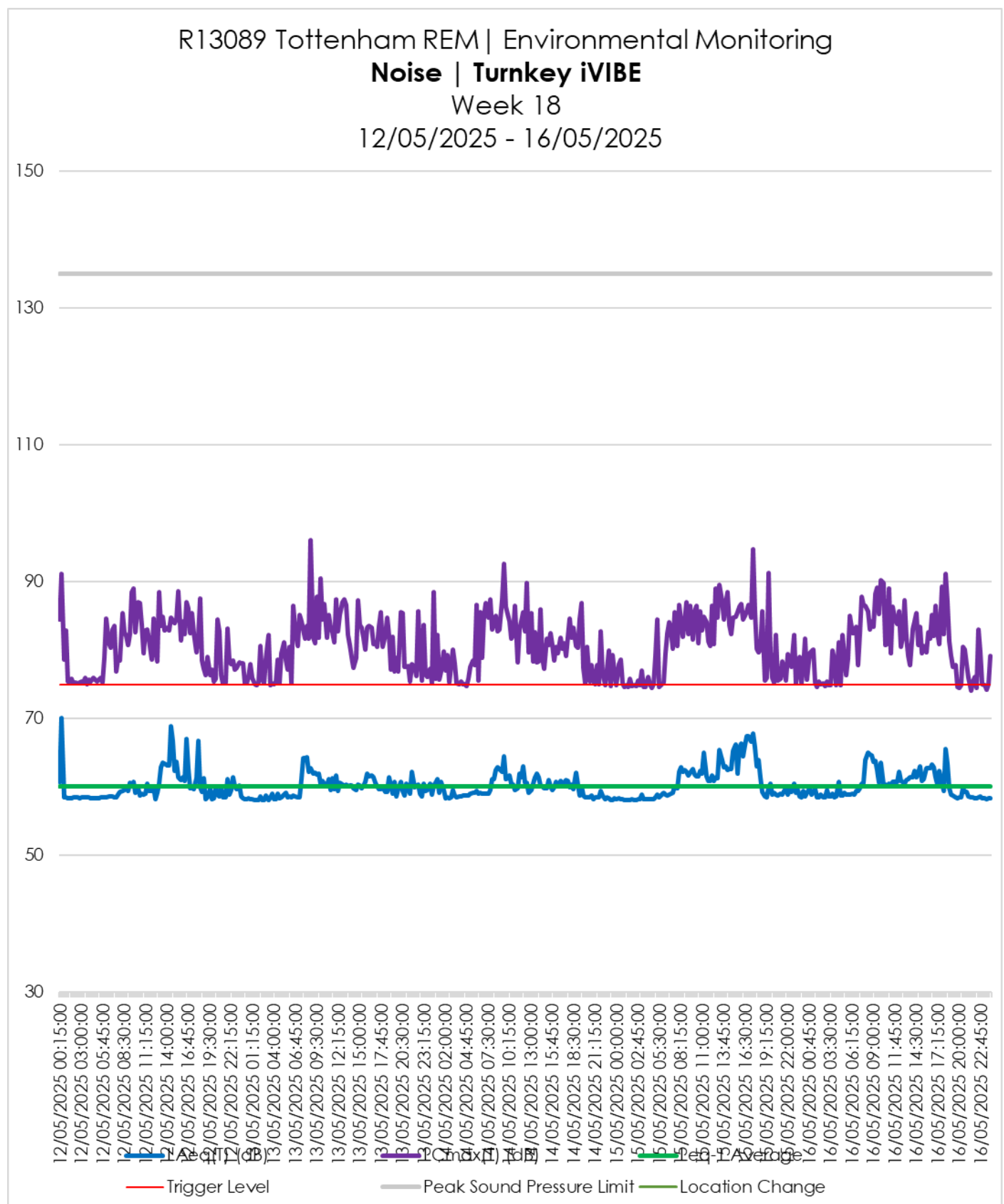
Action values for receptors are taken from the Code of Construction Practice London:

- During normal working hours (08:00 – 18:00), the maximum L_{Aeq}, period noise level measured 1 m from the façade (or boundary of the site if the property is greater than 1 m away) of any occupied or other building used for residential purposes, generated by construction plant and equipment, including the movements of vehicles to and from the site should not exceed the following:

Period	Hours	Residential / Commercial Premises	Schools or Hospitals
Monday - Friday	08:00 – 18:00	75 dB(A)	65 dB(A)
Saturday	08:00 – 13:00	75 dB(A)	65 dB(A)

In every case, control targets for nuisance noise will be agreed by the Contractor with the Local Environment Health Officer (EHO). Should the need arise (for example in the event that substantiated noise complaints are received during the site works in relation to high-risk activities) further detailed noise monitoring and assessment may be required to be undertaken by appropriately qualified persons in accordance with 'BS 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites'.

4.1 Graphical Representation of Logged Noise Data



LAeq - A-weighted equivalent continuous sound level in decibels equivalent to the total sound energy measured over a stated period.

LCmax - C-weighted peak sound pressure measurement.

(T) - Stated measured period of time.

Decibel (dB) - A unit used to measure the intensity of a sound.

4.2 Findings on Noise

Logged noise data for the week is displayed in the above graph.

No exceedances were recorded during the week.

5. Vibration Monitoring

An iVIBE data logger and 3 axis geophone was used for the duration of the works. The equipment is designed for high accuracy vibration monitoring in a construction environment.

Vibration monitoring was recorded at the locations shown in Section 1.

The monitor was set to run in continuous mode and was able to digitally record vibration levels up to 20 mm.s⁻¹, peak particle velocity, for frequencies between 5 Hz and 250 Hz. Weighting filters comply with ISO 2631, BS 6472 and BS 7385, and KB filters according to DIN 4150 and DIN 45669. Results are given in Root Mean Square (RMS) format. Data was exported from the logger and input into an Excel document, from which a graphic in the form a line graph was generated.

The geophone was levelled using the integrated bubble level and adjustable legs. It was loosely orientated by eye so that the axis conformed to the following compass bearings.

Geophone Axis	Bearing	Compass Point
X	51.60593	North
Y	-0.04660	West
Z	N/a	Zenith

Ground-borne vibration is to be undertaken by appropriately qualified persons and assessed using the guidelines provided in accordance with 'BS 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites'.

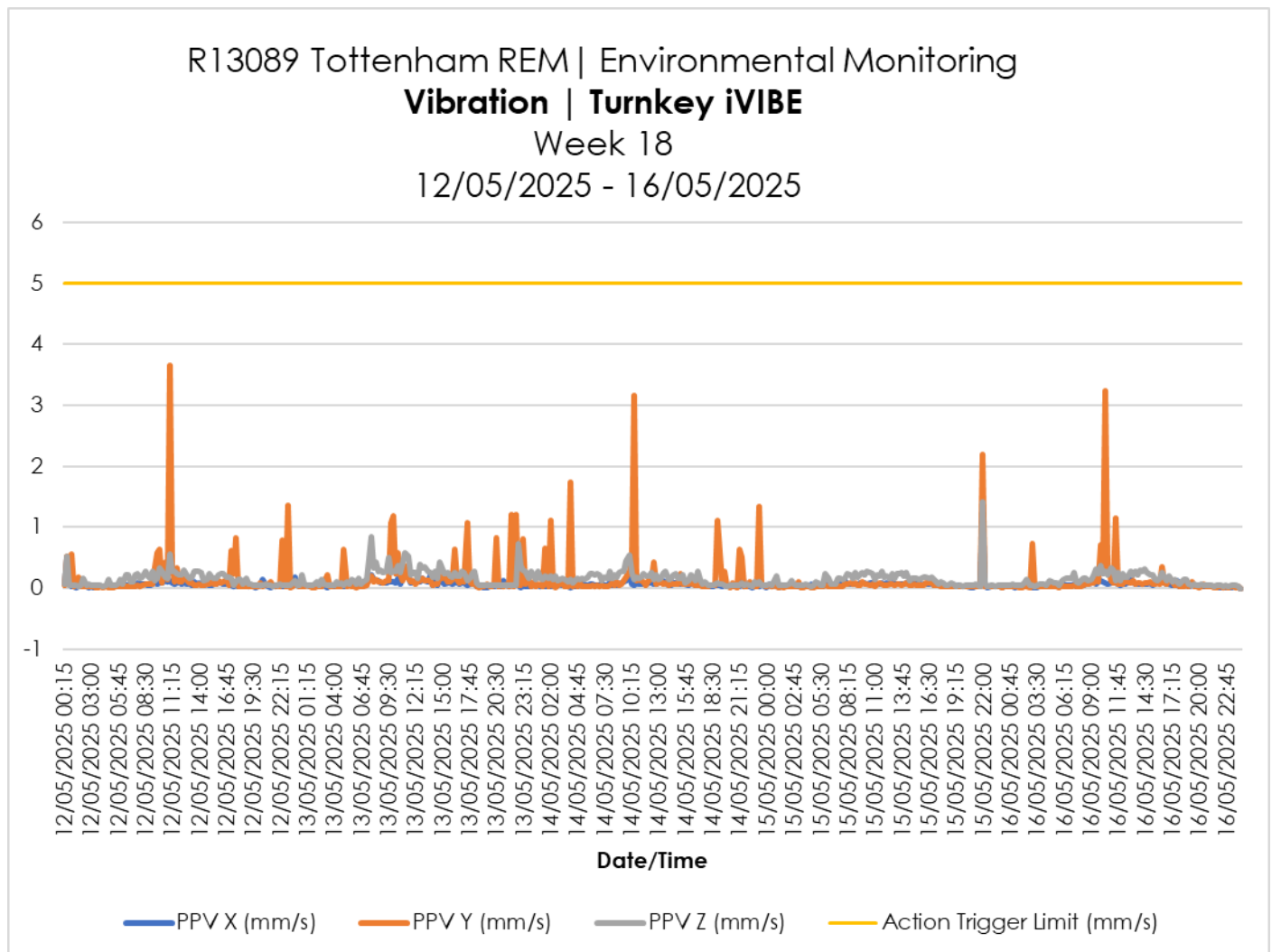
Trigger levels are based upon guidance given in 'BS 7385-2: 1993 Evaluation and measurement for vibration in buildings — Part 2: Guide to damage levels from ground borne vibration'.

Type of building	Peak component particle velocity in frequency of predominant pulse	
	4 Hz to 15 Hz	15 Hz and above
Reinforced or framed structures. Industrial and heavy commercial buildings	50 mm/s at 4 Hz and above	
Unreinforced or light framed structures. Residential or light commercial type buildings	15 mm/s at 4Hz increasing to 20 mm/s at 15 Hz	20 mm/s at 15 Hz increasing to 50 mm/s at 40 Hz and above

Vibration Limits Relating to Minor or Cosmetic Damage to Buildings:

Building Classification	Intermittent Vibration (PPV, mm/s ⁻¹)	Continuous Vibration (PPV, mm/s ⁻¹)
Residential in generally good repair	10	5
Residential where preliminary survey reveals significant defects (party wall)	5	3.5
Industrial/commercial – light and flexible structure	20	15
Industrial/commercial – heavy and stiff structure	30	15

5.1 Graphical Representation of Logged Vibration Data



5.2 Findings on Vibration

Logged vibration data for the week is displayed in the above graphs.

No exceedances were recorded during the week.

6. Dynamic Dust Monitoring

6.1 Dynamic Dust

The Osiris uses a light-scattering laser photometer to measure airborne particle monitors (PM10) in real-time with history data logging capability. The Osiris has been Environment Agency MCERTS certified.

This instrument is designed to measure dust deposition. Action values for personal exposure to Dust for Particulate Matter PM10 are set to a lower action level of 180 µg/m³ averaged over a 15-minute period as our warning trigger but not to exceed 200 µg/m³ averaged over a 15-minute period, as per the 'Institute of Air Quality Management (2018), Guidance on Air Quality Monitoring in the Vicinity of Demolition and Construction Sites'.

Should the action value be exceeded, measures in the Safe System of Work will be implemented including stopping work and an increased dampening down of the site.

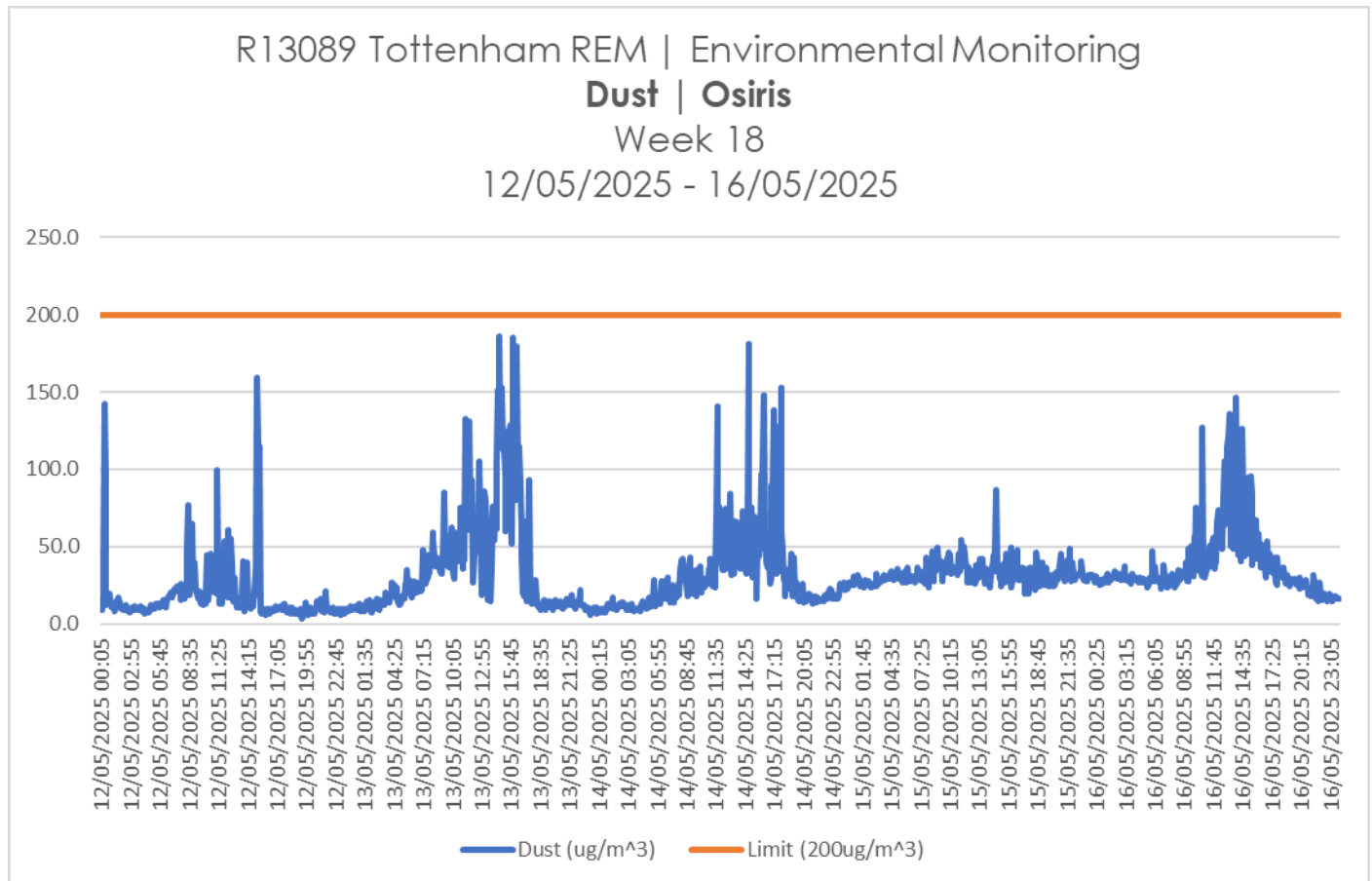
The DEFRA Daily Air Quality Index (DAQ) is numbered 1-10 and divided into four bands. Low (1) to very high (10), to provide detail about air pollution levels in a simple way. For PM10 particles, this based on the daily mean concentration.

Index	1	2	3	4	5	6	7	8	9	10
Band	Low	Low	Low	Moderate	Moderate	Moderate	High	High	High	Very High
µg/m ³	0-16	17-33	34-50	51-58	59-66	67-75	76-83	84-91	92-100	101 or more

The data below was obtained from the onsite monitor and represents the Particulate Matter suspended in the air up to 10 microns (PM10) in size during the period of this report.

Dust monitoring was recorded at the locations shown in Section 1.

6.2 Graphical Representation of Logged Dust Data



6.3 Findings on Dust

Logged dust data for the week is displayed in the above graph.

Action values for personal exposure to dust as defined in the air quality objectives for Particulate matter PM₁₀ are not to exceed 200 µg/m³ averaged over a 15-minute period as per the *Institute of Air Quality Management (2018), Guidance on Air Quality Monitoring in the Vicinity of Demolition and Construction Sites*.

No exceedances were recorded during the week.

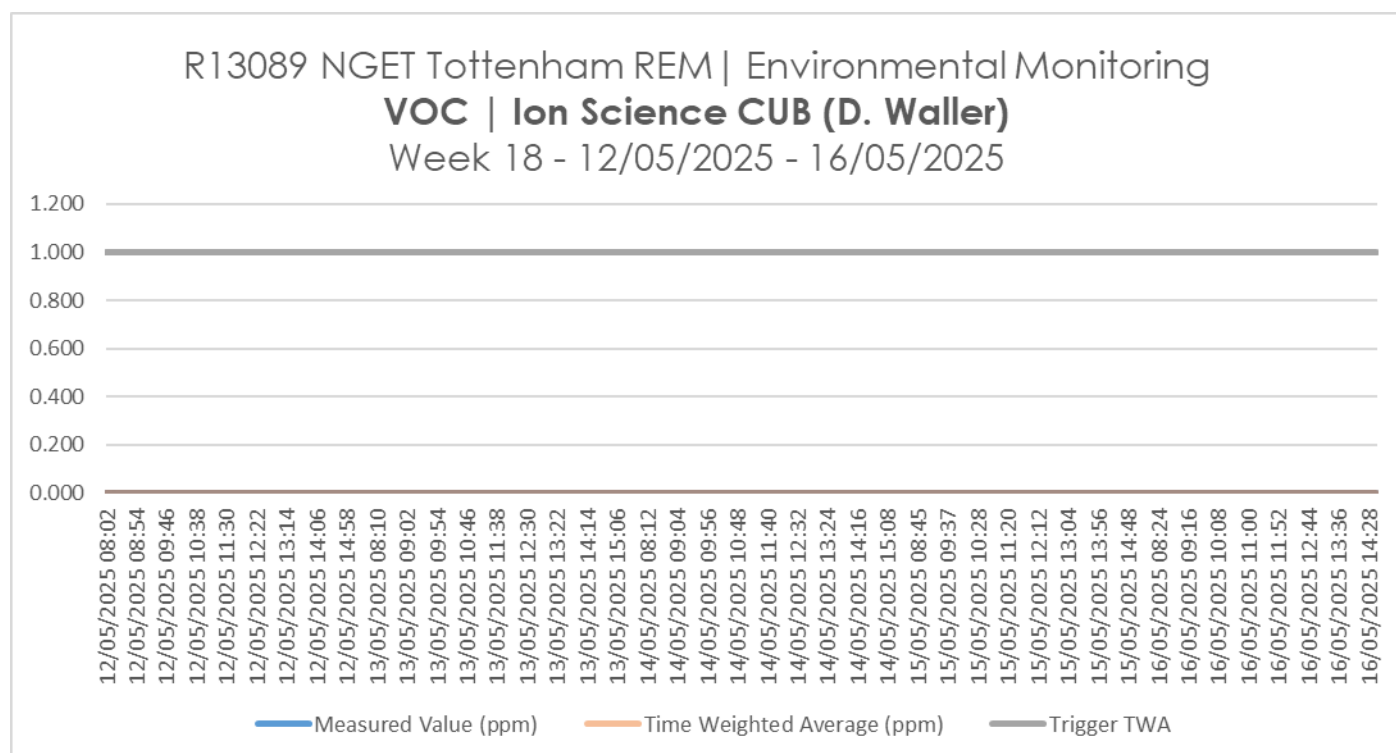
7. Volatile Organic Compounds (VOC) Monitoring

Under the Control of Substances Hazardous to Health Regulations, 2002 (COSHH), as amended in 2004), we used Ion Science Cubs, Photo Ionising Detectors (PID) which are capable of data logging and have an audio/visual alarm set to trigger in response to any exceedances of the occupational guideline value of an appropriate organic contaminant (benzene). This device meets the following European standards: ATEX: CE, Ex II 1G, Ex IA IIC T4; $-20^{\circ}\text{C} \leq T_a \leq 55^{\circ}\text{C}$.

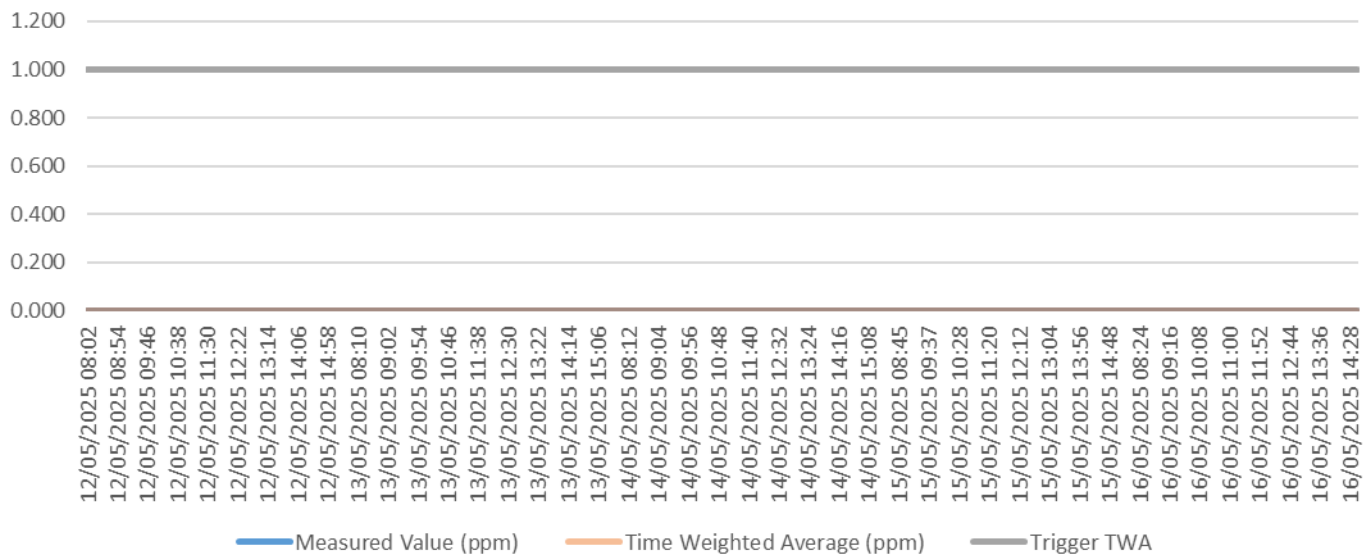
Action values for personal exposure to VOC (calibrated to benzene standard) as defined in the COSHH Regulations. VOC readings not to exceed 1 ppm of benzene. Should target limits be exceeded, measures in the SSoW will be implemented.

These are placed with the Site Foreman and Excavator Operator. The following data has been obtained from the onsite Photo Ionising Detectors (PID) and Tiger Select Cubs and represents the potential exposure to Volatile Organic Compounds (calibrated to benzene standard) during the week of this report.

7.1 Graphical Representation of Logged VOC Data

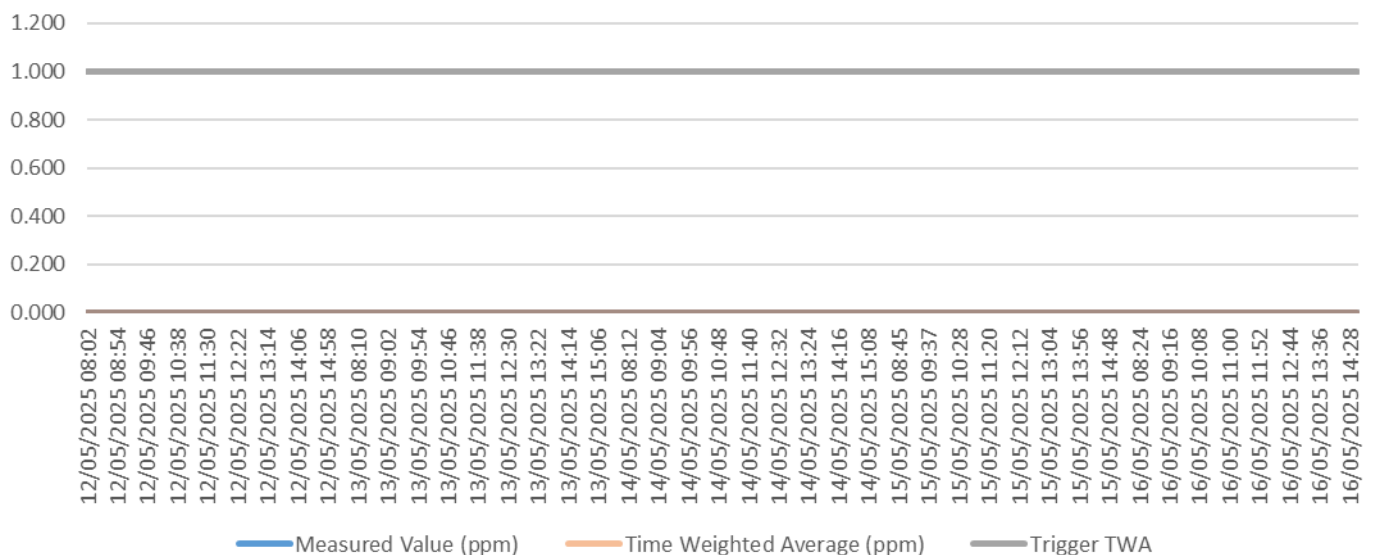


R13089 NGET Tottenham REM | Environmental Monitoring
VOC | Ion Science CUB (D. Waters)
 Week 18 - 12/05/2025 - 16/05/2025



7.2 Graphical Representation of Logged PID Data

R13089 NGET Tottenham REM | Environmental Monitoring
VOC | Ion Science PID (Northern Boundary)
 Week 18 - 12/05/2025 - 16/05/2025



7.3 Findings on VOC

No exceedances of HSE'S document 'EH40: workspace exposure limits' given workspace exposure limit (WEL) value of 1ppm 8-hour TWA were recorded for the week for either of the two boundary monitors or any of the personal monitors.

8. Applicable Legislation/ Regulations and Guidance

	Current Legislation	Activity	Impacts On
Reference Documents	Environmental Protection Act 1990 Part II	Demolition, asbestos, remediation works.	Air pollution, waste on land, contaminated land, nuisances and clean air, litter, radioactive substances, conservation.
	Pollution Prevention and Control Act 1999 & Pollution Prevention and Control (England & Wales) Regulations as amended 2000	Demolition, asbestos, remediation works.	Oil pollution, clean air, railway.
	Air Quality Standards Regulations 2010	Demolition, asbestos, remediation works.	Public exposure, ozone.
	The Environment Act (Commencements 1-18) Order 1995-1999	All projects.	EA, contaminated land, national parks, air quality, waste, drainage.
	Noise Emissions in the Environment by Equipment for use Outdoors (Amendment Regulations SI 2005/98	All projects, specifically in sensitive areas.	Human health, local noise levels.
	The Clean Air Act	All sites and projects.	Human health, environment.

Guidance:

- Institute of Air Quality Management – Guidance on the Assessment of Dust from Demolition and Construction - February 2014
- Institute of Air Quality Management – Guidance on Air Quality Monitoring in the Vicinity of Demolition and Construction sites – 2014
- BS 5228-1: 2009 + A1: 2014 – Code of Practice for Noise and Vibration Control on Construction and Open Sites.
- BS 7385-2: 1993 Evaluation and Measurement for Vibration in Buildings- Part2: Guide to damage levels from Ground Borne Vibration.
- BS 6742-1: 2008 – Guide to Evaluation of Human Exposure to Vibration in Building.
- DEFRA – Noise database for Prediction of Noise on Construction and Open Sites.
- HSE- EH40: Occupational Exposure Levels

9. Glossary of Terms

Trigger Levels	The limits of which one of the elements (noise/dust/vibration) cannot exceed external to the hoarding. The trigger levels may be agreed with the local council, according to the client requirements.
Baselines	The values recorded pre-works.
A weighting, dB(A)	The unit of sound level weighted according to the A-scale. Is the mechanism who correspond the best to response of the human ear.
LA_{eq}	The equivalent continuous noise level over any specified period.
PM10	The particulate matter of diameter less than or equal to 10 micrometres.
mg/m³	Milligrams of a substance in a cubic meter of air. It is a measure of concentration (weight/volume).
Peak	It is particularly valuable for indicating the level of short duration shocks, etc. (m/s ²).
P-P	Peak-to-Peak, indicates the maximum excursion of the wave, (m/s ²).
m/s²	Metres per second squared. It is a measure of acceleration.
m/s	Metres per second. It is a measure of velocity.

Environmental Monitoring Report

Week 19

NGET REM Tottenham



Prepared For	National Grid Electricity Transmission
Prepared By	Erith Contractors
Project Reference	R13089
Document Reference	Environmental Monitoring Report – Week 19
Monitoring Period	19/05/2025 – 23/05/2025

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7.1 Graphical Representation of Logged VOC Data	10
7.2 Graphical Representation of Logged PID Data	11
7.3 Findings on VOC	12
8. APPLICABLE LEGISLATION/ REGULATIONS AND GUIDANCE	12
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1. Summary of Works

The project scope of works involves the remediation of the former bus depot. This includes excavation of contaminated soils, protection of a number of groundwater monitoring wells and the installation of a cable ducting trench to accommodate future works on site.

1.1 Monitoring Locations

	Welfare	
	Noise (Real Time Monitor)	
	Dust (Real Time Monitor)	
	Dust (Static Frisbee Gauges)	
	Vibration (Real Time Monitor)	

2. Equipment Used

Name	Serial Number	Certificate Number	Calibration Due Date
Turnkey iVIBE Sound and vibration meter	V0023	1356	24/03/2027
Turnkey Osiris Dust monitor	TNO4506	19348	17/03/2027
Ion Science Cub VOC gas detector	ECL CUB 067 TC201837 (D. Waters)	81160	17/10/2025
Ion Science Cub VOC gas detector	ECL CUB 120 TC202018 (D. Waller)	82157	19/02/2026
Ion Science PID VOC gas detector	Tiger Select 136 (North Boundary)	74675	27/06/2025

3. Works Undertaken

The below details the works completed during the week of this report:

3.1 Erith Works

- Re-open trial pits for inspection by prospective disposal location
- Move equipment for remobilisation
- Generator service
- Site hand-back

3.2 Morrisons Works

- Demobilisation and site hand-back

4. Noise Monitoring

A Turnkey iVIBE is a sound level meter and is intended for general acoustic measurements, occupational health, and environmental noise measurements.

Noise monitoring was recorded at the locations shown in Section 1.

The monitoring equipment complies with IEC 61326-1 (2005), IEC 61672-1 (2002), ANSI S1.4 (R2006), ANSI S1.43 (R2007), IEC 61260 (2001), ANSI S1.11 (R2009), CE, WEEE, RoHS and is compliant with BS 5228-1:2009 + A1:2014 Code of practice for noise and vibration control on construction and open sites.

Action values are as follows:

- Lower exposure action values:
 - Daily or weekly exposure of 70 dB
 - Peak sound pressure of 130 dB
- Upper exposure action values
 - Daily or weekly exposure of 75 dB
 - Peak sound pressure of 135 dB

LAeq (15 min) noise levels were recording continuously for 15-minute periods over an 8-hour duration.

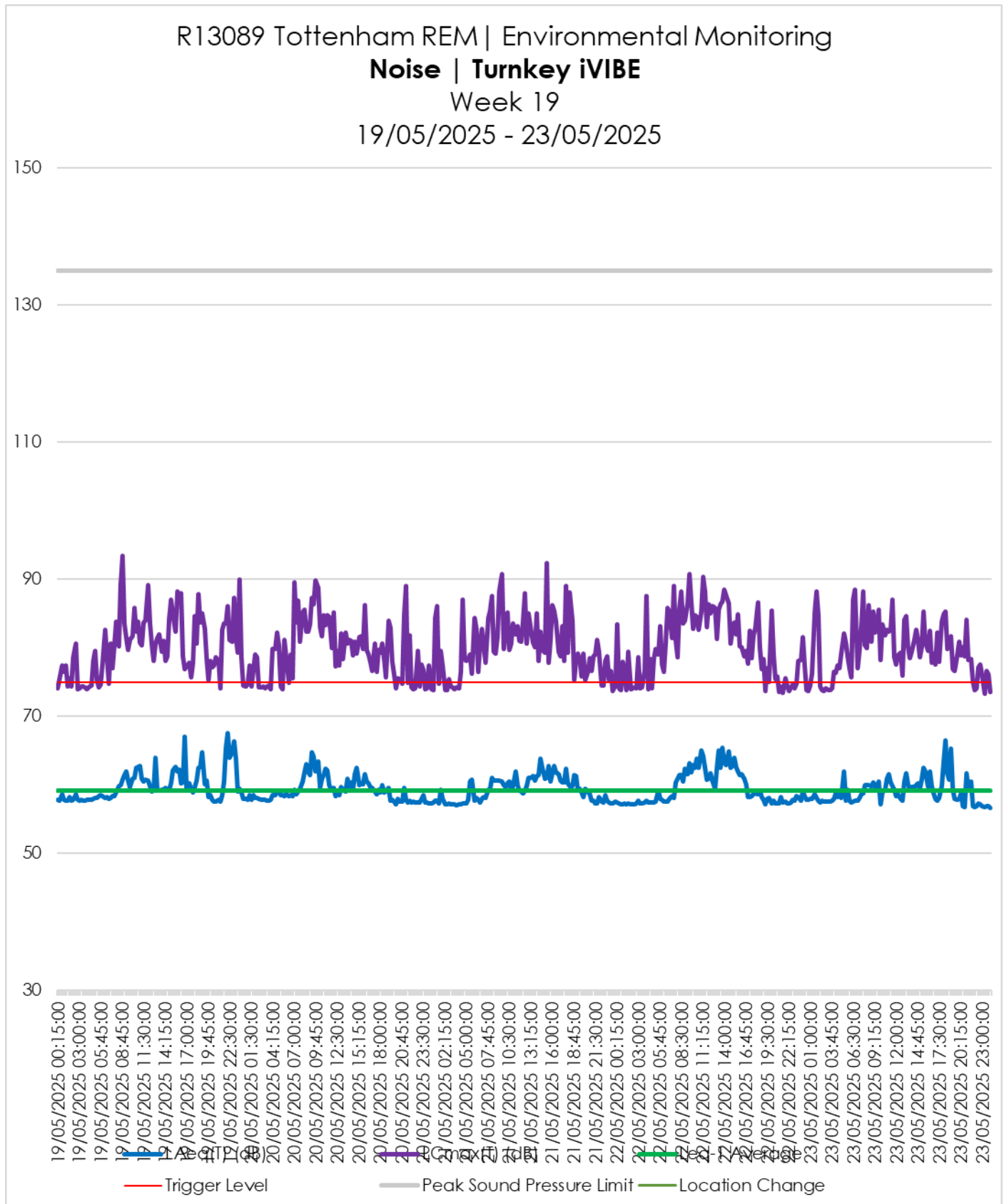
Action values for receptors are taken from the Code of Construction Practice London:

- During normal working hours (08:00 – 18:00), the maximum LAeq, period noise level measured 1 m from the façade (or boundary of the site if the property is greater than 1 m away) of any occupied or other building used for residential purposes, generated by construction plant and equipment, including the movements of vehicles to and from the site should not exceed the following:

Period	Hours	Residential / Commercial Premises	Schools or Hospitals
Monday - Friday	08:00 – 18:00	75 dB(A)	65 dB(A)
Saturday	08:00 – 13:00	75 dB(A)	65 dB(A)

In every case, control targets for nuisance noise will be agreed by the Contractor with the Local Environment Health Officer (EHO). Should the need arise (for example in the event that substantiated noise complaints are received during the site works in relation to high-risk activities) further detailed noise monitoring and assessment may be required to be undertaken by appropriately qualified persons in accordance with 'BS 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites'.

4.1 Graphical Representation of Logged Noise Data



LAeq - A-weighted equivalent continuous sound level in decibels equivalent to the total sound energy measured over a stated period.

LCmax - C-weighted peak sound pressure measurement.

(T) - Stated measured period of time.

Decibel (dB) - A unit used to measure the intensity of a sound.

4.2 Findings on Noise

Logged noise data for the week is displayed in the above graph.

No exceedances were recorded during the week.

5. Vibration Monitoring

An iVIBE data logger and 3 axis geophone was used for the duration of the works. The equipment is designed for high accuracy vibration monitoring in a construction environment.

Vibration monitoring was recorded at the locations shown in Section 1.

The monitor was set to run in continuous mode and was able to digitally record vibration levels up to 20 mm.s⁻¹, peak particle velocity, for frequencies between 5 Hz and 250 Hz. Weighting filters comply with ISO 2631, BS 6472 and BS 7385, and KB filters according to DIN 4150 and DIN 45669. Results are given in Root Mean Square (RMS) format. Data was exported from the logger and input into an Excel document, from which a graphic in the form a line graph was generated.

The geophone was levelled using the integrated bubble level and adjustable legs. It was loosely orientated by eye so that the axis conformed to the following compass bearings.

Geophone Axis	Bearing	Compass Point
X	51.60593	North
Y	-0.04660	West
Z	N/a	Zenith

Ground-borne vibration is to be undertaken by appropriately qualified persons and assessed using the guidelines provided in accordance with 'BS 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites'.

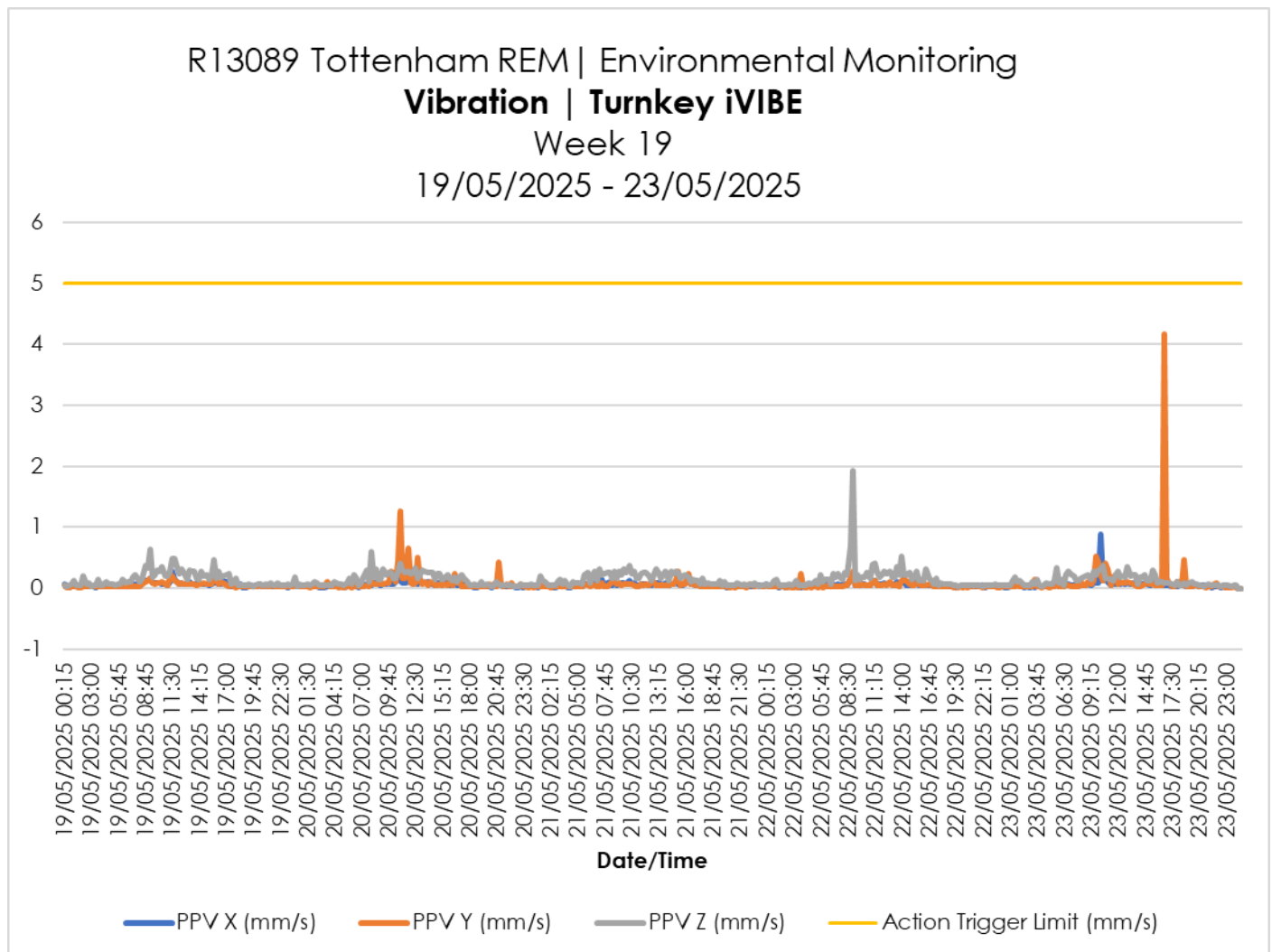
Trigger levels are based upon guidance given in 'BS 7385-2: 1993 Evaluation and measurement for vibration in buildings — Part 2: Guide to damage levels from ground borne vibration'.

Type of building	Peak component particle velocity in frequency of predominant pulse	
	4 Hz to 15 Hz	15 Hz and above
Reinforced or framed structures. Industrial and heavy commercial buildings	50 mm/s at 4 Hz and above	
Unreinforced or light framed structures. Residential or light commercial type buildings	15 mm/s at 4Hz increasing to 20 mm/s at 15 Hz	20 mm/s at 15 Hz increasing to 50 mm/s at 40 Hz and above

Vibration Limits Relating to Minor or Cosmetic Damage to Buildings:

Building Classification	Intermittent Vibration (PPV, mm/s ⁻¹)	Continuous Vibration (PPV, mm/s ⁻¹)
Residential in generally good repair	10	5
Residential where preliminary survey reveals significant defects (party wall)	5	3.5
Industrial/commercial – light and flexible structure	20	15
Industrial/commercial – heavy and stiff structure	30	15

5.1 Graphical Representation of Logged Vibration Data



5.2 Findings on Vibration

Logged vibration data for the week is displayed in the above graphs.

No exceedances were recorded during the week.

6. Dynamic Dust Monitoring

6.1 Dynamic Dust

The Osiris uses a light-scattering laser photometer to measure airborne particle monitors (PM10) in real-time with history data logging capability. The Osiris has been Environment Agency MCERTS certified.

This instrument is designed to measure dust deposition. Action values for personal exposure to Dust for Particulate Matter PM10 are set to a lower action level of 180 µg/m³ averaged over a 15-minute period as our warning trigger but not to exceed 200 µg/m³ averaged over a 15-minute period, as per the '*Institute of Air Quality Management (2018), Guidance on Air Quality Monitoring in the Vicinity of Demolition and Construction Sites*'.

Should the action value be exceeded, measures in the *Safe System of Work* will be implemented including stopping work and an increased dampening down of the site.

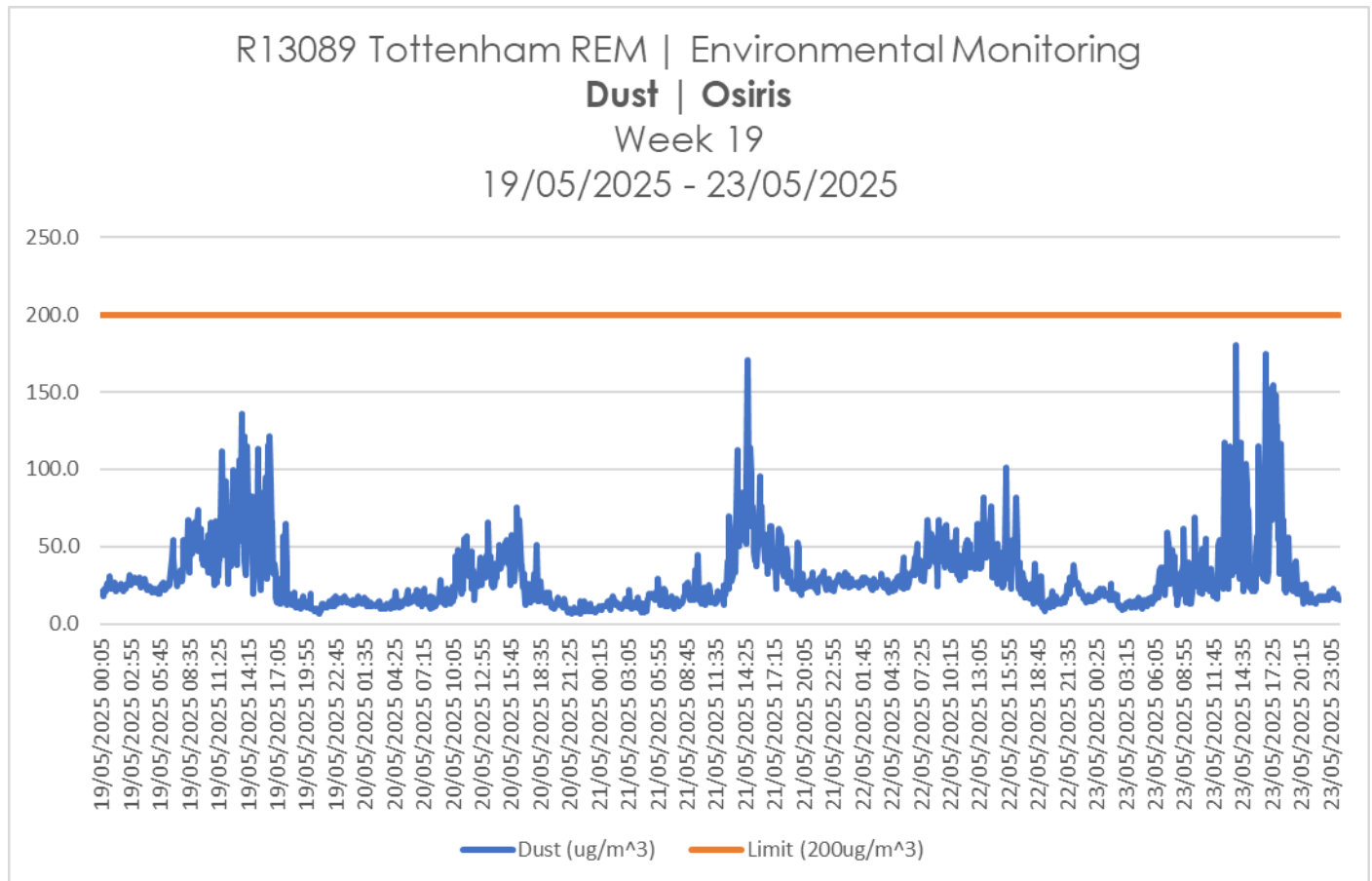
The DEFRA Daily Air Quality Index (DAQ) is numbered 1-10 and divided into four bands. Low (1) to very high (10), to provide detail about air pollution levels in a simple way. For PM10 particles, this based on the daily mean concentration.

Index	1	2	3	4	5	6	7	8	9	10
Band	Low	Low	Low	Moderate	Moderate	Moderate	High	High	High	Very High
µg/m ³	0-16	17-33	34-50	51-58	59-66	67-75	76-83	84-91	92-100	101 or more

The data below was obtained from the onsite monitor and represents the Particulate Matter suspended in the air up to 10 microns (PM10) in size during the period of this report.

Dust monitoring was recorded at the locations shown in Section 1.

6.2 Graphical Representation of Logged Dust Data



6.3 Findings on Dust

Logged dust data for the week is displayed in the above graph.

Action values for personal exposure to dust as defined in the air quality objectives for Particulate matter PM₁₀ are not to exceed 200 µg/m³ averaged over a 15-minute period as per the *Institute of Air Quality Management (2018), Guidance on Air Quality Monitoring in the Vicinity of Demolition and Construction Sites*.

No exceedances were recorded during the week.

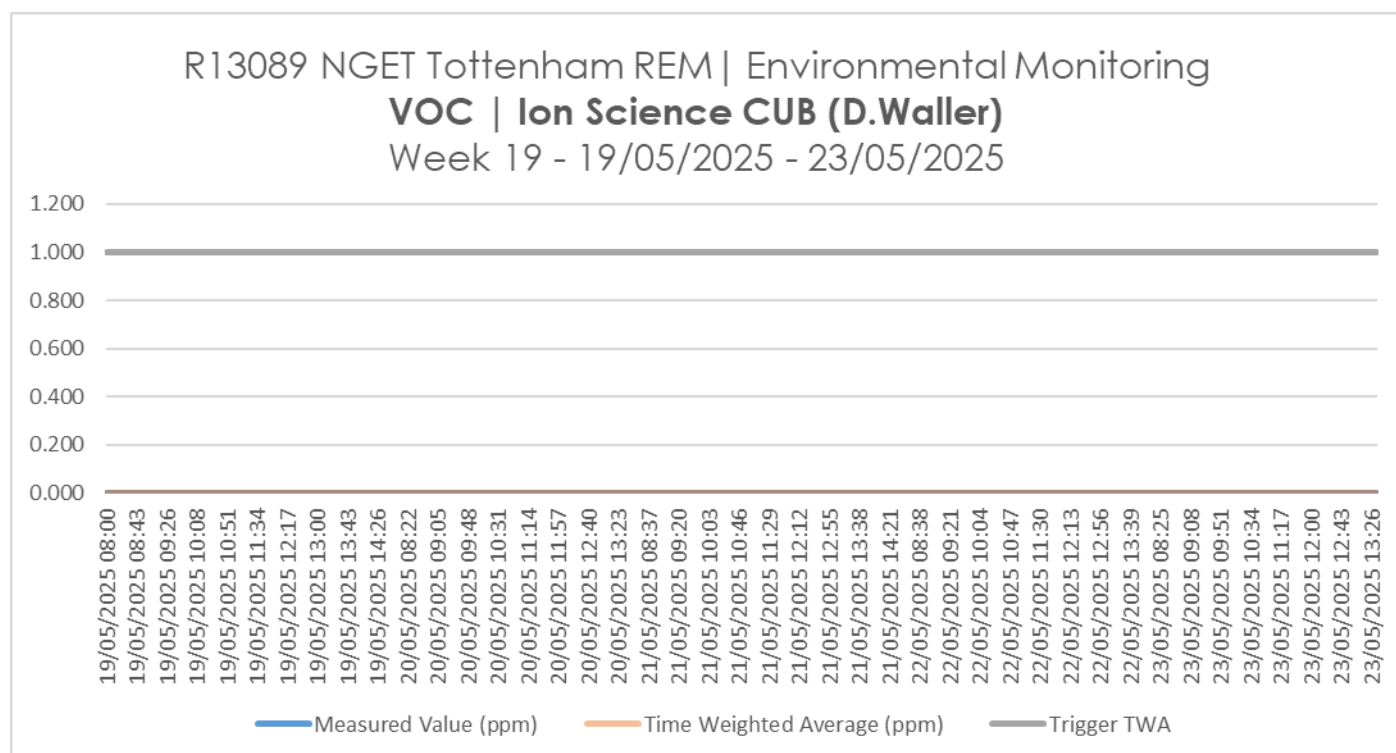
7. Volatile Organic Compounds (VOC) Monitoring

Under the Control of Substances Hazardous to Health Regulations, 2002 (COSHH), as amended in 2004), we used Ion Science Cubs, Photo Ionising Detectors (PID) which are capable of data logging and have an audio/visual alarm set to trigger in response to any exceedances of the occupational guideline value of an appropriate organic contaminant (benzene). This device meets the following European standards: ATEX: CE, Ex II 1G, Ex IA IIC T4; $-20^{\circ}\text{C} \leq T_a \leq 55^{\circ}\text{C}$.

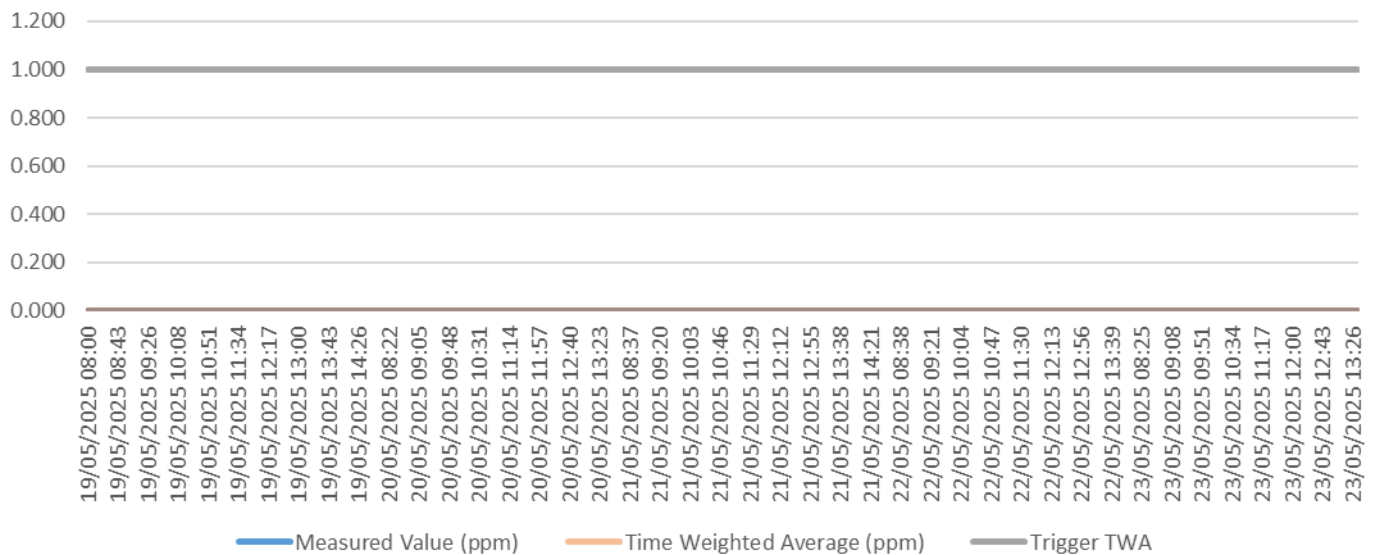
Action values for personal exposure to VOC (calibrated to benzene standard) as defined in the COSHH Regulations. VOC readings not to exceed 1 ppm of benzene. Should target limits be exceeded, measures in the SSoW will be implemented.

These are placed with the Site Foreman and Excavator Operator. The following data has been obtained from the onsite Photo Ionising Detectors (PID) and Tiger Select Cubs and represents the potential exposure to Volatile Organic Compounds (calibrated to benzene standard) during the week of this report.

7.1 Graphical Representation of Logged VOC Data

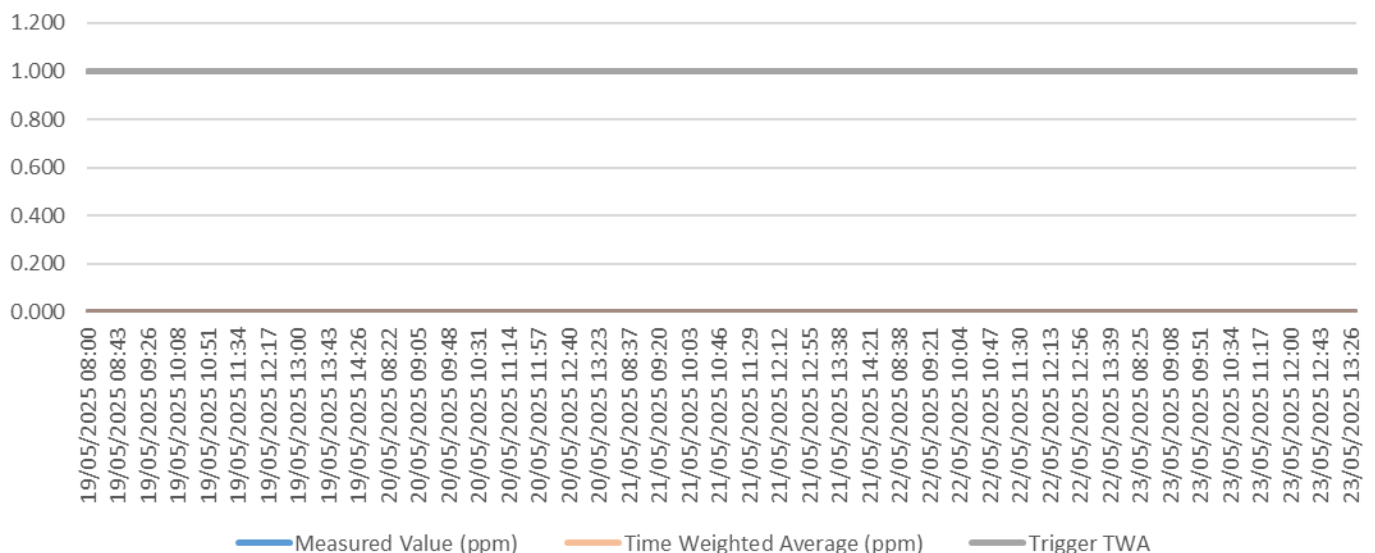


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VOC | Ion Science CUB (D.Waters)
 Week 19 - 19/05/2025 - 23/05/2025



7.2 Graphical Representation of Logged PID Data

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VOC | Ion Science PID (Northern Boundary)
 Week 19 - 19/05/2025 - 23/05/2025



7.3 Findings on VOC

No exceedances of HSE'S document 'EH40: workspace exposure limits' given workspace exposure limit (WEL) value of 1ppm 8-hour TWA were recorded for the week for either of the two boundary monitors or any of the personal monitors.

8. Applicable Legislation/ Regulations and Guidance

	Current Legislation	Activity	Impacts On
Reference Documents	Environmental Protection Act 1990 Part II	Demolition, asbestos, remediation works.	Air pollution, waste on land, contaminated land, nuisances and clean air, litter, radioactive substances, conservation.
	Pollution Prevention and Control Act 1999 & Pollution Prevention and Control (England & Wales) Regulations as amended 2000	Demolition, asbestos, remediation works.	Oil pollution, clean air, railway.
	Air Quality Standards Regulations 2010	Demolition, asbestos, remediation works.	Public exposure, ozone.
	The Environment Act (Commencements 1-18) Order 1995-1999	All projects.	EA, contaminated land, national parks, air quality, waste, drainage.
	Noise Emissions in the Environment by Equipment for use Outdoors (Amendment Regulations SI 2005/98	All projects, specifically in sensitive areas.	Human health, local noise levels.
	The Clean Air Act	All sites and projects.	Human health, environment.

Guidance:

- Institute of Air Quality Management – Guidance on the Assessment of Dust from Demolition and Construction - February 2014
- Institute of Air Quality Management – Guidance on Air Quality Monitoring in the Vicinity of Demolition and Construction sites – 2014
- BS 5228-1: 2009 + A1: 2014 – Code of Practice for Noise and Vibration Control on Construction and Open Sites.
- BS 7385-2: 1993 Evaluation and Measurement for Vibration in Buildings- Part2: Guide to damage levels from Ground Borne Vibration.
- BS 6742-1: 2008 – Guide to Evaluation of Human Exposure to Vibration in Building.
- DEFRA – Noise database for Prediction of Noise on Construction and Open Sites.
- HSE- EH40: Occupational Exposure Levels

9. Glossary of Terms

Trigger Levels	The limits of which one of the elements (noise/dust/vibration) cannot exceed external to the hoarding. The trigger levels may be agreed with the local council, according to the client requirements.
Baselines	The values recorded pre-works.
A weighting, dB(A)	The unit of sound level weighted according to the A-scale. Is the mechanism who correspond the best to response of the human ear.
LA_{eq}	The equivalent continuous noise level over any specified period.
PM10	The particulate matter of diameter less than or equal to 10 micrometres.
mg/m³	Milligrams of a substance in a cubic meter of air. It is a measure of concentration (weight/volume).
Peak	It is particularly valuable for indicating the level of short duration shocks, etc. (m/s ²).
P-P	Peak-to-Peak, indicates the maximum excursion of the wave, (m/s ²).
m/s²	Metres per second squared. It is a measure of acceleration.
m/s	Metres per second. It is a measure of velocity.

Environmental Monitoring Report

Week 20

NGET REM Tottenham



Prepared For	National Grid Electricity Transmission
Prepared By	Erith Contractors
Project Reference	R13089
Document Reference	Environmental Monitoring Report – Week 20
Monitoring Period	26/05/2025 – 30/05/2025

Document Revision / Authorisation Record

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1.0	James Hardy Site Manager 02/06/2025	Owain Davey Project Manager	

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Project Manager	Owain Davey	Email	owain.davey@erith.com
Site Manager	James Hardy	Email	James.hardy@erith.com

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1. Summary of Works

The project scope of works involves the remediation of the former bus depot. This includes excavation of contaminated soils, protection of a number of groundwater monitoring wells and the installation of a cable ducting trench to accommodate future works on site.

1.1 Monitoring Locations

	Welfare	
	Noise (Real Time Monitor)	
	Dust (Real Time Monitor)	
	Dust (Static Frisbee Gauges)	
	Vibration (Real Time Monitor)	

2. Equipment Used

Name	Serial Number	Certificate Number	Calibration Due Date
Turnkey iVIBE Sound and vibration meter	V0023	1356	24/03/2027
Turnkey Osiris Dust monitor	TNO4506	19348	17/03/2027
Ion Science Cub VOC gas detector	ECL CUB 067 TC201837 (D. Waters)	81160	17/10/2025
Ion Science Cub VOC gas detector	ECL CUB 120 TC202018 (D. Waller)	82157	19/02/2026
Ion Science PID VOC gas detector	Tiger Select 136 (North Boundary)	74675	27/06/2025

3. Works Undertaken

The below details the works completed during the week of this report:

3.1 Erith Works

- Remobilisation
- Import of 7J Clay
- Breaking out of concrete in the pylon footprint.

3.2 Morrisons Works

- Works on the lower sections of the pylon and substation works.

4. Noise Monitoring

A Turnkey iVIBE is a sound level meter and is intended for general acoustic measurements, occupational health, and environmental noise measurements.

Noise monitoring was recorded at the locations shown in Section 1.

The monitoring equipment complies with IEC 61326-1 (2005), IEC 61672-1 (2002), ANSI S1.4 (R2006), ANSI S1.43 (R2007), IEC 61260 (2001), ANSI S1.11 (R2009), CE, WEEE, RoHS and is compliant with BS 5228-1:2009 + A1:2014 *Code of practice for noise and vibration control on construction and open sites*.

Action values are as follows:

- Lower exposure action values:
 - Daily or weekly exposure of 70 dB
 - Peak sound pressure of 130 dB
- Upper exposure action values
 - Daily or weekly exposure of 75 dB
 - Peak sound pressure of 135 dB

LAeq (15 min) noise levels were recording continuously for 15-minute periods over an 8-hour duration.

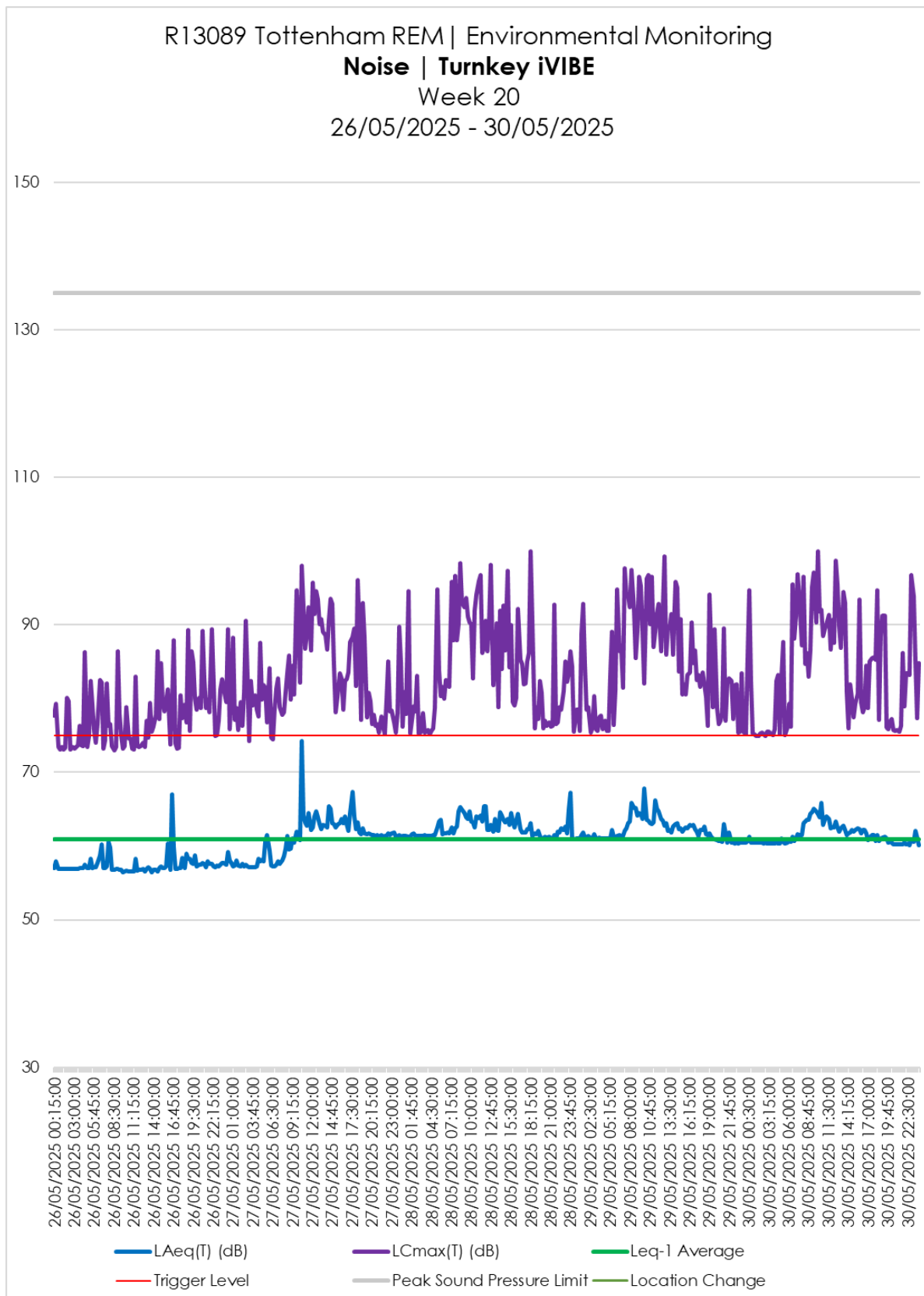
Action values for receptors are taken from the Code of Construction Practice London:

- During normal working hours (08:00 – 18:00), the maximum LAeq, period noise level measured 1 m from the façade (or boundary of the site if the property is greater than 1 m away) of any occupied or other building used for residential purposes, generated by construction plant and equipment, including the movements of vehicles to and from the site should not exceed the following:

Period	Hours	Residential / Commercial Premises	Schools or Hospitals
Monday - Friday	08:00 – 18:00	75 dB(A)	65 dB(A)
Saturday	08:00 – 13:00	75 dB(A)	65 dB(A)

In every case, control targets for nuisance noise will be agreed by the Contractor with the Local Environment Health Officer (EHO). Should the need arise (for example in the event that substantiated noise complaints are received during the site works in relation to high-risk activities) further detailed noise monitoring and assessment may be required to be undertaken by appropriately qualified persons in accordance with 'BS 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites'.

4.1 Graphical Representation of Logged Noise Data



LAeq - A-weighted equivalent continuous sound level in decibels equivalent to the total sound energy measured over a stated period.

LCmax - C-weighted peak sound pressure measurement.

(T) - Stated measured period of time.

Decibel (dB) - A unit used to measure the intensity of a sound.

4.2 Findings on Noise

Logged noise data for the week is displayed in the above graph.

No exceedances were recorded during the week.

5. Vibration Monitoring

An iVIBE data logger and 3 axis geophone was used for the duration of the works. The equipment is designed for high accuracy vibration monitoring in a construction environment.

Vibration monitoring was recorded at the locations shown in Section 1.

The monitor was set to run in continuous mode and was able to digitally record vibration levels up to 20 mm.s⁻¹, peak particle velocity, for frequencies between 5 Hz and 250 Hz. Weighting filters comply with ISO 2631, BS 6472 and BS 7385, and KB filters according to DIN 4150 and DIN 45669. Results are given in Root Mean Square (RMS) format. Data was exported from the logger and input into an Excel document, from which a graphic in the form a line graph was generated.

The geophone was levelled using the integrated bubble level and adjustable legs. It was loosely orientated by eye so that the axis conformed to the following compass bearings.

Geophone Axis	Bearing	Compass Point
X	51.60593	North
Y	-0.04660	West
Z	N/a	Zenith

Ground-borne vibration is to be undertaken by appropriately qualified persons and assessed using the guidelines provided in accordance with 'BS 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites'.

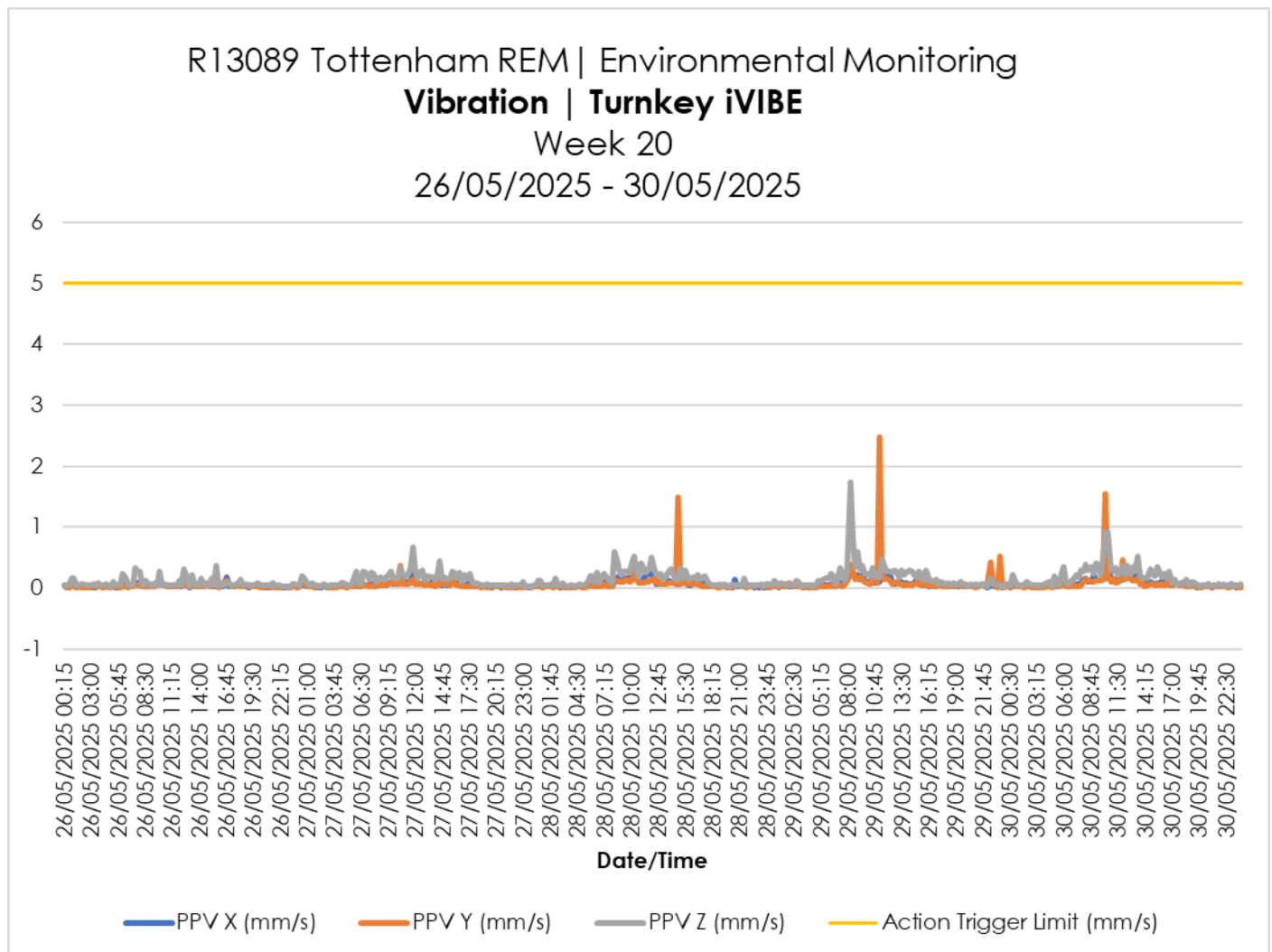
Trigger levels are based upon guidance given in 'BS 7385-2: 1993 Evaluation and measurement for vibration in buildings — Part 2: Guide to damage levels from ground borne vibration'.

Type of building	Peak component particle velocity in frequency of predominant pulse	
	4 Hz to 15 Hz	15 Hz and above
Reinforced or framed structures. Industrial and heavy commercial buildings	50 mm/s at 4 Hz and above	
Unreinforced or light framed structures. Residential or light commercial type buildings	15 mm/s at 4Hz increasing to 20 mm/s at 15 Hz	20 mm/s at 15 Hz increasing to 50 mm/s at 40 Hz and above

Vibration Limits Relating to Minor or Cosmetic Damage to Buildings:

Building Classification	Intermittent Vibration (PPV, mm/s ⁻¹)	Continuous Vibration (PPV, mm/s ⁻¹)
Residential in generally good repair	10	5
Residential where preliminary survey reveals significant defects (party wall)	5	3.5
Industrial/commercial – light and flexible structure	20	15
Industrial/commercial – heavy and stiff structure	30	15

5.1 Graphical Representation of Logged Vibration Data



5.2 Findings on Vibration

Logged vibration data for the week is displayed in the above graphs.

No exceedances were recorded during the week.

6. Dynamic Dust Monitoring

6.1 Dynamic Dust

The Osiris uses a light-scattering laser photometer to measure airborne particle monitors (PM10) in real-time with history data logging capability. The Osiris has been Environment Agency MCERTS certified.

This instrument is designed to measure dust deposition. Action values for personal exposure to Dust for Particulate Matter PM10 are set to a lower action level of 180 µg/m³ averaged over a 15-minute period as our warning trigger but not to exceed 200 µg/m³ averaged over a 15-minute period, as per the 'Institute of Air Quality Management (2018), Guidance on Air Quality Monitoring in the Vicinity of Demolition and Construction Sites'.

Should the action value be exceeded, measures in the Safe System of Work will be implemented including stopping work and an increased dampening down of the site.

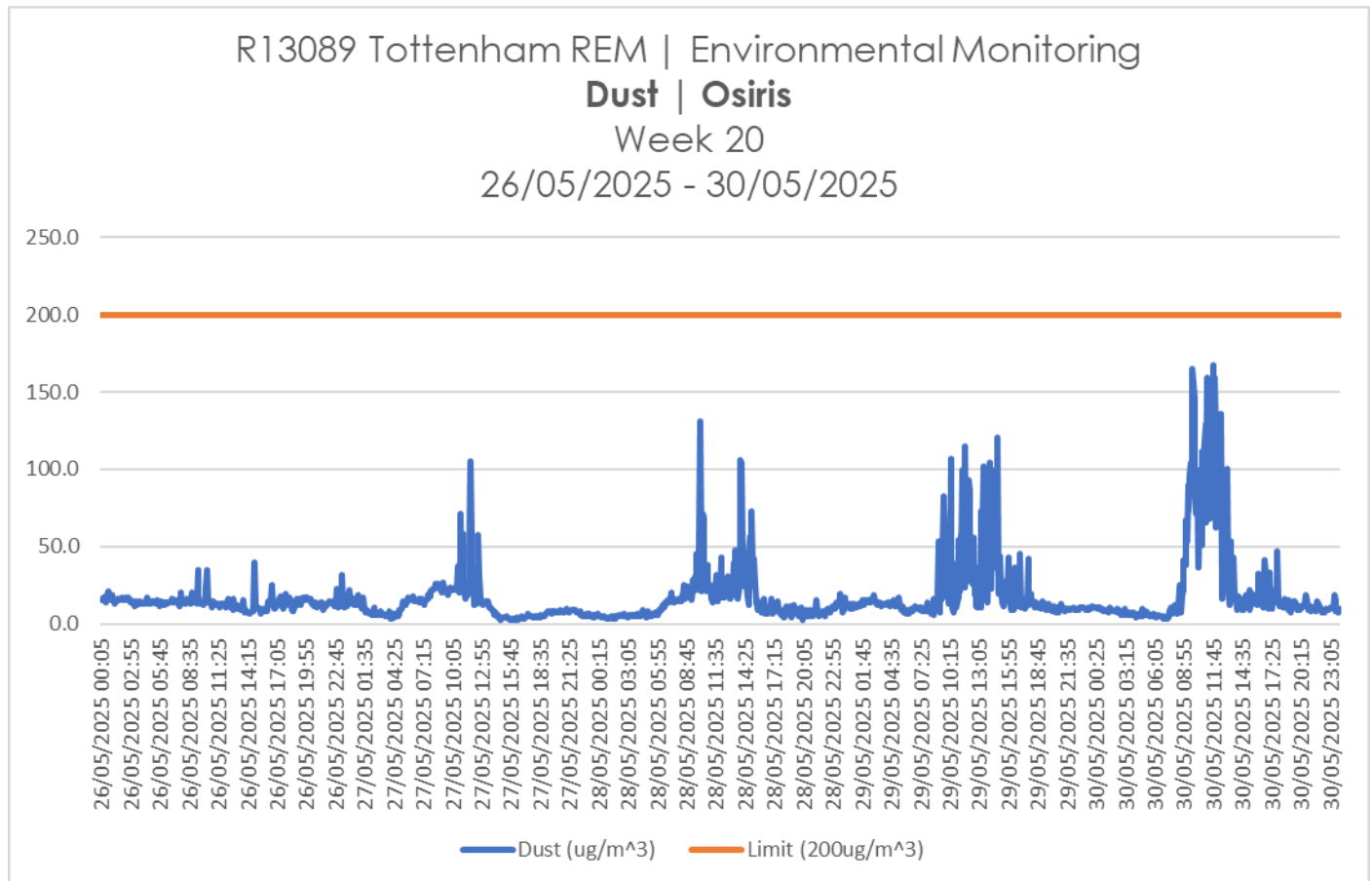
The DEFRA Daily Air Quality Index (DAQ) is numbered 1-10 and divided into four bands. Low (1) to very high (10), to provide detail about air pollution levels in a simple way. For PM10 particles, this based on the daily mean concentration.

Index	1	2	3	4	5	6	7	8	9	10
Band	Low	Low	Low	Moderate	Moderate	Moderate	High	High	High	Very High
µg/m ³	0-16	17-33	34-50	51-58	59-66	67-75	76-83	84-91	92-100	101 or more

The data below was obtained from the onsite monitor and represents the Particulate Matter suspended in the air up to 10 microns (PM10) in size during the period of this report.

Dust monitoring was recorded at the locations shown in Section 1.

6.2 Graphical Representation of Logged Dust Data



6.3 Findings on Dust

Logged dust data for the week is displayed in the above graph.

Action values for personal exposure to dust as defined in the air quality objectives for Particulate matter PM₁₀ are not to exceed 200 µg/m³ averaged over a 15-minute period as per the *Institute of Air Quality Management (2018), Guidance on Air Quality Monitoring in the Vicinity of Demolition and Construction Sites*.

No exceedances were recorded during the week.

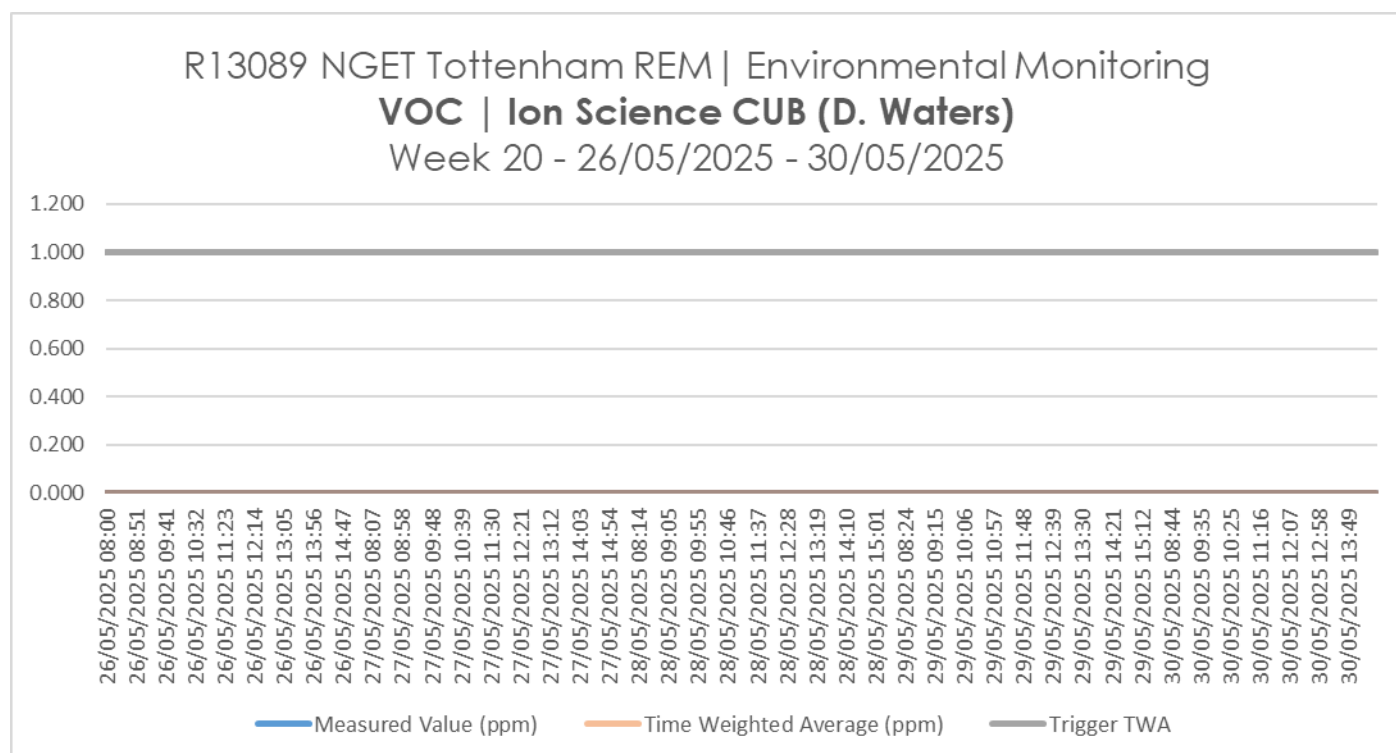
7. Volatile Organic Compounds (VOC) Monitoring

Under the Control of Substances Hazardous to Health Regulations, 2002 (COSHH), as amended in 2004), we used Ion Science Cubs, Photo Ionising Detectors (PID) which are capable of data logging and have an audio/visual alarm set to trigger in response to any exceedances of the occupational guideline value of an appropriate organic contaminant (benzene). This device meets the following European standards: ATEX: CE, Ex II 1G, Ex IA IIC T4; $-20^{\circ}\text{C} \leq T_a \leq 55^{\circ}\text{C}$.

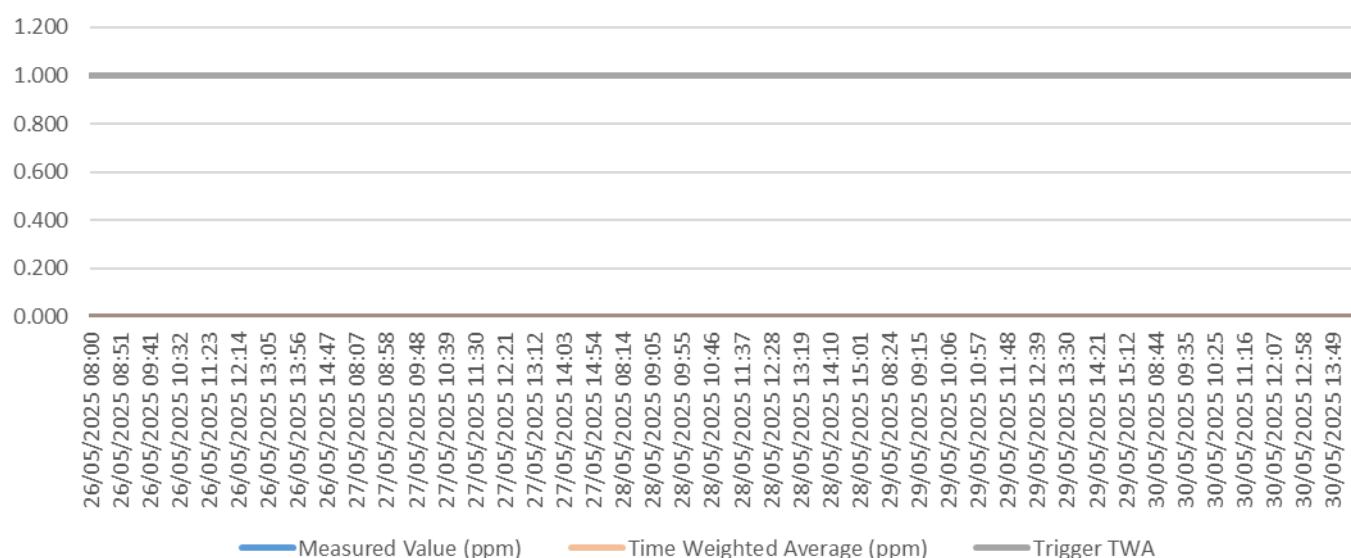
Action values for personal exposure to VOC (calibrated to benzene standard) as defined in the COSHH Regulations. VOC readings not to exceed 1 ppm of benzene. Should target limits be exceeded, measures in the SSoW will be implemented.

These are placed with the Site Foreman and Excavator Operator. The following data has been obtained from the onsite Photo Ionising Detectors (PID) and Tiger Select Cubs and represents the potential exposure to Volatile Organic Compounds (calibrated to benzene standard) during the week of this report.

7.1 Graphical Representation of Logged VOC Data

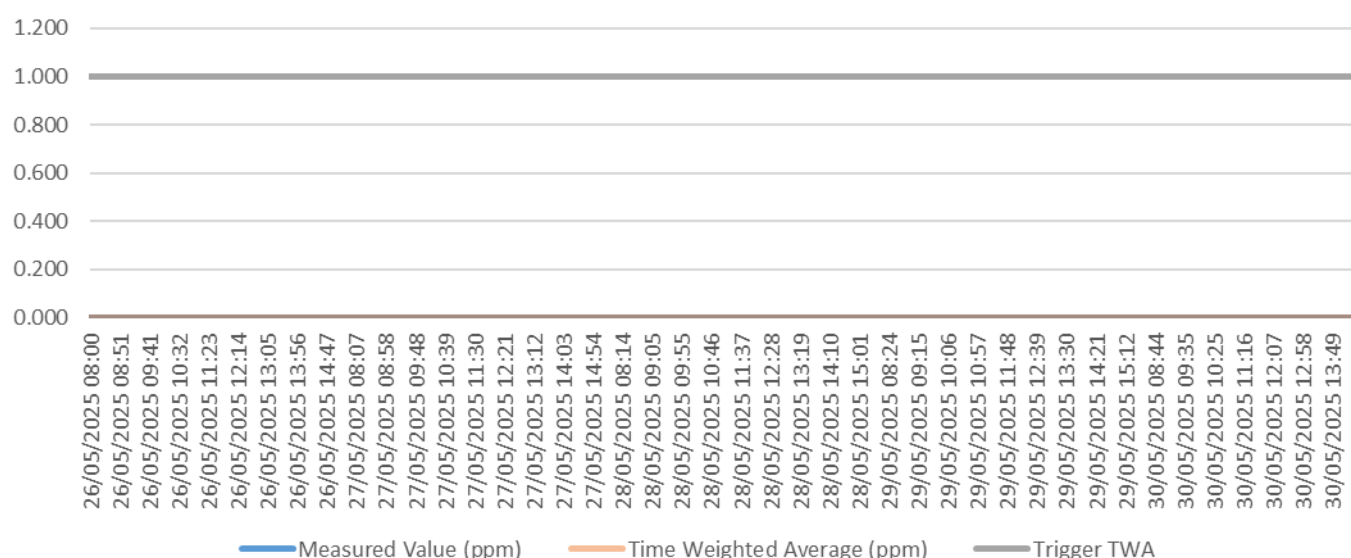


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VOC | Ion Science CUB (D. Waller)
 Week 20 - 26/05/2025 - 30/05/2025



7.2 Graphical Representation of Logged PID Data

R13089 NGET Tottenham REM | Environmental Monitoring
VOC | Ion Science PID (Northern Boundary)
 Week 20 - 26/05/2025 - 30/05/2025



7.3 Findings on VOC

No exceedances of HSE'S document 'EH40: workspace exposure limits' given workspace exposure limit (WEL) value of 1ppm 8-hour TWA were recorded for the week for either of the two boundary monitors or any of the personal monitors.

8. Applicable Legislation/ Regulations and Guidance

	Current Legislation	Activity	Impacts On
Reference Documents	Environmental Protection Act 1990 Part II	Demolition, asbestos, remediation works.	Air pollution, waste on land, contaminated land, nuisances and clean air, litter, radioactive substances, conservation.
	Pollution Prevention and Control Act 1999 & Pollution Prevention and Control (England & Wales) Regulations as amended 2000	Demolition, asbestos, remediation works.	Oil pollution, clean air, railway.
	Air Quality Standards Regulations 2010	Demolition, asbestos, remediation works.	Public exposure, ozone.
	The Environment Act (Commencements 1-18) Order 1995-1999	All projects.	EA, contaminated land, national parks, air quality, waste, drainage.
	Noise Emissions in the Environment by Equipment for use Outdoors (Amendment Regulations SI 2005/98	All projects, specifically in sensitive areas.	Human health, local noise levels.
	The Clean Air Act	All sites and projects.	Human health, environment.

Guidance:

- Institute of Air Quality Management – Guidance on the Assessment of Dust from Demolition and Construction - February 2014
- Institute of Air Quality Management – Guidance on Air Quality Monitoring in the Vicinity of Demolition and Construction sites – 2014
- BS 5228-1: 2009 + A1: 2014 – Code of Practice for Noise and Vibration Control on Construction and Open Sites.
- BS 7385-2: 1993 Evaluation and Measurement for Vibration in Buildings- Part2: Guide to damage levels from Ground Borne Vibration.
- BS 6742-1: 2008 – Guide to Evaluation of Human Exposure to Vibration in Building.
- DEFRA – Noise database for Prediction of Noise on Construction and Open Sites.
- HSE- EH40: Occupational Exposure Levels

9. Glossary of Terms

Trigger Levels	The limits of which one of the elements (noise/dust/vibration) cannot exceed external to the hoarding. The trigger levels may be agreed with the local council, according to the client requirements.
Baselines	The values recorded pre-works.
A weighting, dB(A)	The unit of sound level weighted according to the A-scale. Is the mechanism who correspond the best to response of the human ear.
LA_{eq}	The equivalent continuous noise level over any specified period.
PM10	The particulate matter of diameter less than or equal to 10 micrometres.
mg/m³	Milligrams of a substance in a cubic meter of air. It is a measure of concentration (weight/volume).
Peak	It is particularly valuable for indicating the level of short duration shocks, etc. (m/s ²).
P-P	Peak-to-Peak, indicates the maximum excursion of the wave, (m/s ²).
m/s²	Metres per second squared. It is a measure of acceleration.
m/s	Metres per second. It is a measure of velocity.

Environmental Monitoring Report

Week 21

NGET REM Tottenham



Prepared For	National Grid Electricity Transmission
Prepared By	Erith Contractors
Project Reference	R13089
Document Reference	Environmental Monitoring Report – Week 21
Monitoring Period	02/06/2025 – 06/06/2025

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Project Manager	Owain Davey	Email	owain.davey@erith.com
Site Manager	James Hardy	Email	James.hardy@erith.com

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1. Summary of Works

The project scope of works involves the remediation of the former bus depot. This includes excavation of contaminated soils, protection of a number of groundwater monitoring wells and the installation of a cable ducting trench to accommodate future works on site.

1.1 Monitoring Locations

	Welfare	
	Noise (Real Time Monitor)	
	Dust (Real Time Monitor)	
	Dust (Static Frisbee Gauges)	
	Vibration (Real Time Monitor)	

2. Equipment Used

Name	Serial Number	Certificate Number	Calibration Due Date
Turnkey iVIBE Sound and vibration meter	V0023	1356	24/03/2027
Turnkey Osiris Dust monitor	TNO4506	19348	17/03/2027
Ion Science Cub VOC gas detector	ECL CUB 067 TC201837 (D. Waters)	81160	17/10/2025
Ion Science Cub VOC gas detector	ECL CUB 120 TC202018 (D. Waller)	82157	19/02/2026
Ion Science PID VOC gas detector	Tiger Select 136 (North Boundary)	74675	27/06/2025
Ion Science PID VOC gas detector	Tiger Select (Bakery/ West Boundary) T106974	81521	16/05/2026

3. Works Undertaken

The below details the works completed during the week of this report:

3.1 Erith Works

- Excavation of the pylon footprint
- Backfill of the pylon footprint

3.1.1 Morrisons Works

- Works on the lower sections of the pylon and substation works.

4. Noise Monitoring

A Turnkey iVIBE is a sound level meter and is intended for general acoustic measurements, occupational health, and environmental noise measurements.

Noise monitoring was recorded at the locations shown in Section 1.

The monitoring equipment complies with IEC 61326-1 (2005), IEC 61672-1 (2002), ANSI S1.4 (R2006), ANSI S1.43 (R2007), IEC 61260 (2001), ANSI S1.11 (R2009), CE, WEEE, RoHS and is compliant with BS

5228-1:2009 + A1:2014 Code of practice for noise and vibration control on construction and open sites.

Action values are as follows:

- Lower exposure action values:
 - Daily or weekly exposure of 70 dB
 - Peak sound pressure of 130 dB
- Upper exposure action values
 - Daily or weekly exposure of 75 dB
 - Peak sound pressure of 135 dB

L_{Aeq} (15 min) noise levels were recording continuously for 15-minute periods over an 8-hour duration.

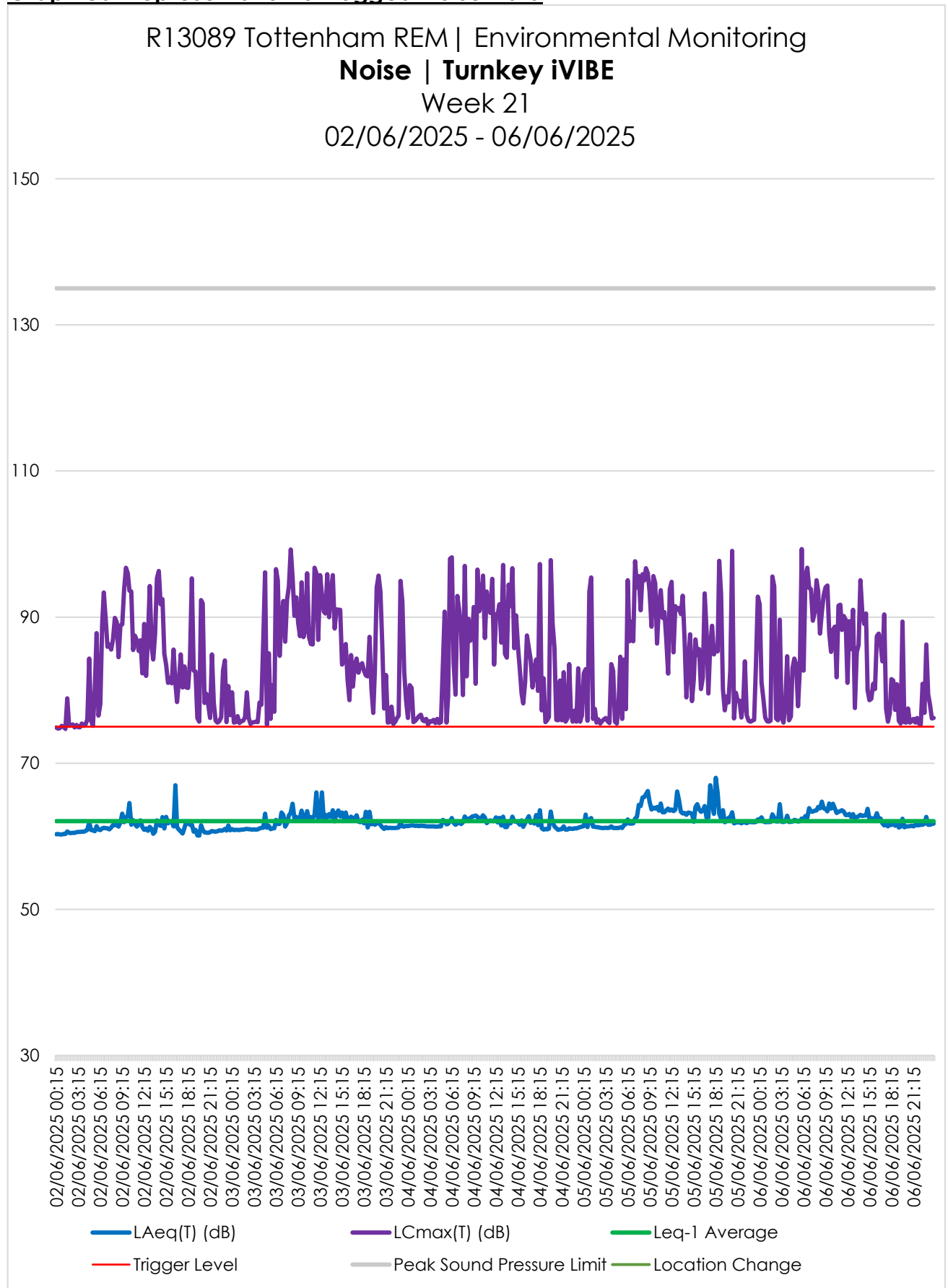
Action values for receptors are taken from the Code of Construction Practice London:

- During normal working hours (08:00 – 18:00), the maximum L_{Aeq}, period noise level measured 1 m from the façade (or boundary of the site if the property is greater than 1 m away) of any occupied or other building used for residential purposes, generated by construction plant and equipment, including the movements of vehicles to and from the site should not exceed the following:

Period	Hours	Residential / Commercial Premises	Schools or Hospitals
Monday - Friday	08:00 – 18:00	75 dB(A)	65 dB(A)
Saturday	08:00 – 13:00	75 dB(A)	65 dB(A)

In every case, control targets for nuisance noise will be agreed by the Contractor with the Local Environment Health Officer (EHO). Should the need arise (for example in the event that substantiated noise complaints are received during the site works in relation to high-risk activities) further detailed noise monitoring and assessment may be required to be undertaken by appropriately qualified persons in accordance with 'BS 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites'.

4.1 Graphical Representation of Logged Noise Data



LAeq - A-weighted equivalent continuous sound level in decibels equivalent to the total sound energy measured over a stated period.

LCmax - C-weighted peak sound pressure measurement.

(T) - Stated measured period of time.

Decibel (dB) - A unit used to measure the intensity of a sound.

4.2 Findings on Noise

Logged noise data for the week is displayed in the above graph.

No exceedances were recorded during the week.

5. Vibration Monitoring

An iVIBE data logger and 3 axis geophone was used for the duration of the works. The equipment is designed for high accuracy vibration monitoring in a construction environment.

Vibration monitoring was recorded at the locations shown in Section 1.

The monitor was set to run in continuous mode and was able to digitally record vibration levels up to 20 mm.s⁻¹, peak particle velocity, for frequencies between 5 Hz and 250 Hz. Weighting filters comply with ISO 2631, BS 6472 and BS 7385, and KB filters according to DIN 4150 and DIN 45669. Results are given in Root Mean Square (RMS) format. Data was exported from the logger and input into an Excel document, from which a graphic in the form a line graph was generated.

The geophone was levelled using the integrated bubble level and adjustable legs. It was loosely orientated by eye so that the axis conformed to the following compass bearings.

Geophone Axis	Bearing	Compass Point
X	51.60593	North
Y	-0.04660	West
Z	N/a	Zenith

Ground-borne vibration is to be undertaken by appropriately qualified persons and assessed using the guidelines provided in accordance with 'BS 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites'.

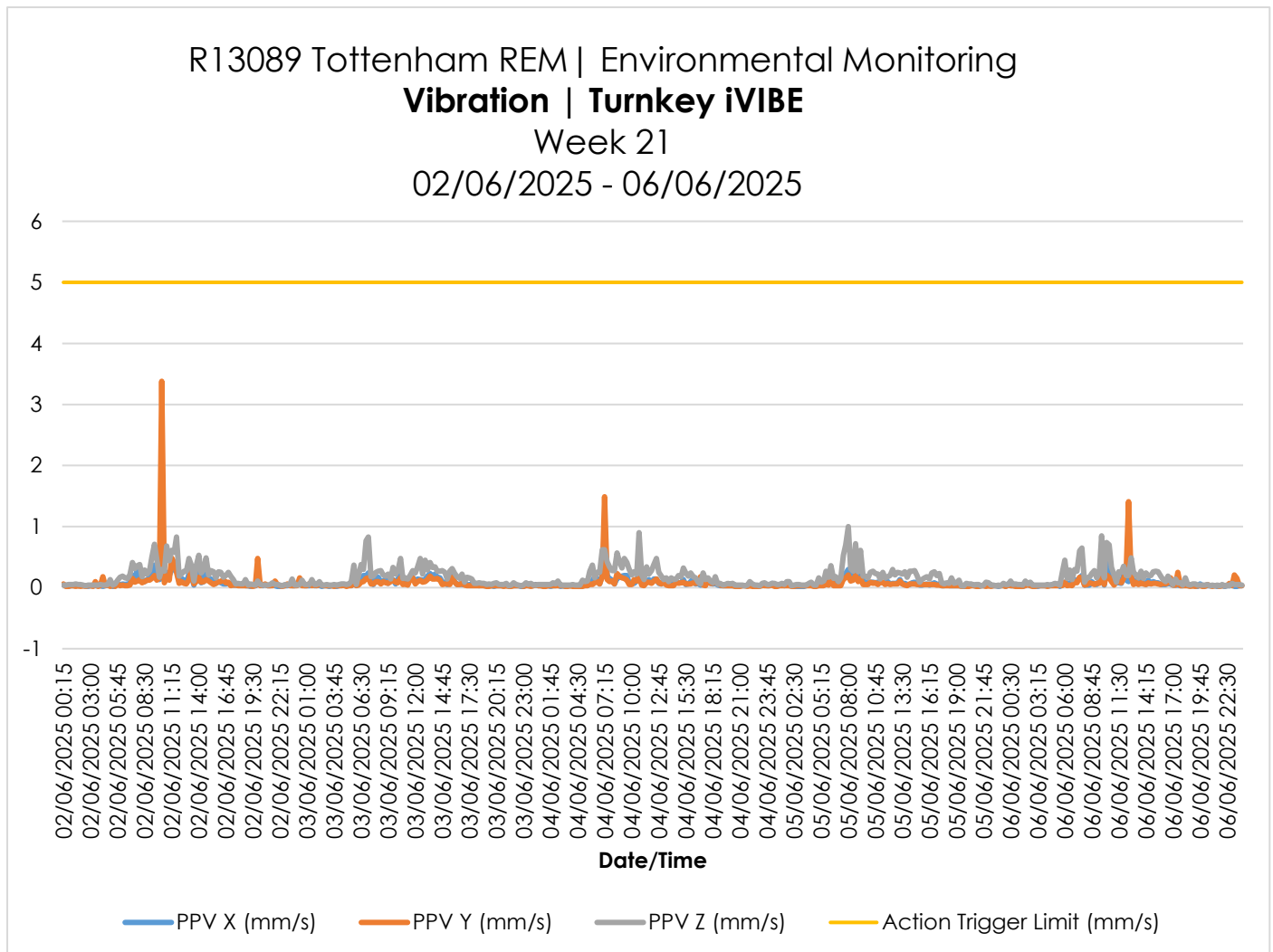
Trigger levels are based upon guidance given in 'BS 7385-2: 1993 Evaluation and measurement for vibration in buildings — Part 2: Guide to damage levels from ground borne vibration'.

Type of building	Peak component particle velocity in frequency of predominant pulse	
	4 Hz to 15 Hz	15 Hz and above
Reinforced or framed structures. Industrial and heavy commercial buildings	50 mm/s at 4 Hz and above	
Unreinforced or light framed structures. Residential or light commercial type buildings	15 mm/s at 4Hz increasing to 20 mm/s at 15 Hz	20 mm/s at 15 Hz increasing to 50 mm/s at 40 Hz and above

Vibration Limits Relating to Minor or Cosmetic Damage to Buildings:

Building Classification	Intermittent Vibration (PPV, mm/s ⁻¹)	Continuous Vibration (PPV, mm/s ⁻¹)
Residential in generally good repair	10	5
Residential where preliminary survey reveals significant defects (party wall)	5	3.5
Industrial/commercial – light and flexible structure	20	15
Industrial/commercial – heavy and stiff structure	30	15

5.1 Graphical Representation of Logged Vibration Data



5.2 Findings on Vibration

Logged vibration data for the week is displayed in the above graphs.

No exceedances were recorded during the week.

6. Dynamic Dust Monitoring

6.1 Dynamic Dust

The Osiris uses a light-scattering laser photometer to measure airborne particle monitors (PM10) in real-time with history data logging capability. The Osiris has been Environment Agency MCERTS certified.

This instrument is designed to measure dust deposition. Action values for personal exposure to Dust for Particulate Matter PM10 are set to a lower action level of 180 µg/m³ averaged over a 15-minute period as our warning trigger but not to exceed 200 µg/m³ averaged over a 15-minute period, as per the 'Institute of Air Quality Management (2018), Guidance on Air Quality Monitoring in the Vicinity of Demolition and Construction Sites'.

Should the action value be exceeded, measures in the Safe System of Work will be implemented including stopping work and an increased dampening down of the site.

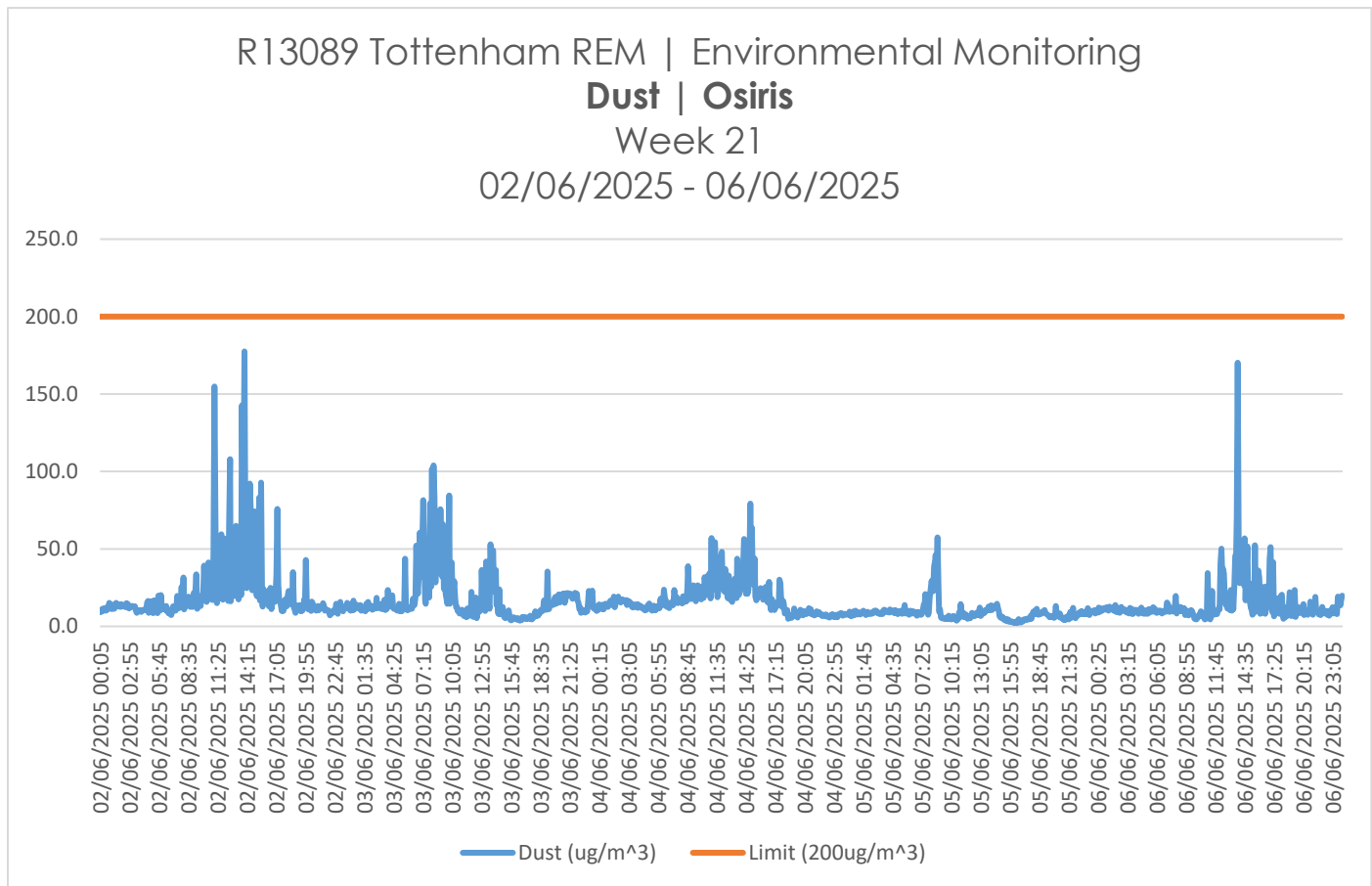
The DEFRA Daily Air Quality Index (DAQ) is numbered 1-10 and divided into four bands. Low (1) to very high (10), to provide detail about air pollution levels in a simple way. For PM10 particles, this based on the daily mean concentration.

Index	1	2	3	4	5	6	7	8	9	10
Band	Low	Low	Low	Moderate	Moderate	Moderate	High	High	High	Very High
µg/m ³	0-16	17-33	34-50	51-58	59-66	67-75	76-83	84-91	92-100	101 or more

The data below was obtained from the onsite monitor and represents the Particulate Matter suspended in the air up to 10 microns (PM10) in size during the period of this report.

Dust monitoring was recorded at the locations shown in Section 1.

6.2 Graphical Representation of Logged Dust Data



6.3 Findings on Dust

Logged dust data for the week is displayed in the above graph.

Action values for personal exposure to dust as defined in the air quality objectives for Particulate matter PM₁₀ are not to exceed 200 µg/m³ averaged over a 15-minute period as per the *Institute of Air Quality Management (2018), Guidance on Air Quality Monitoring in the Vicinity of Demolition and Construction Sites*.

No exceedances were recorded during the week.

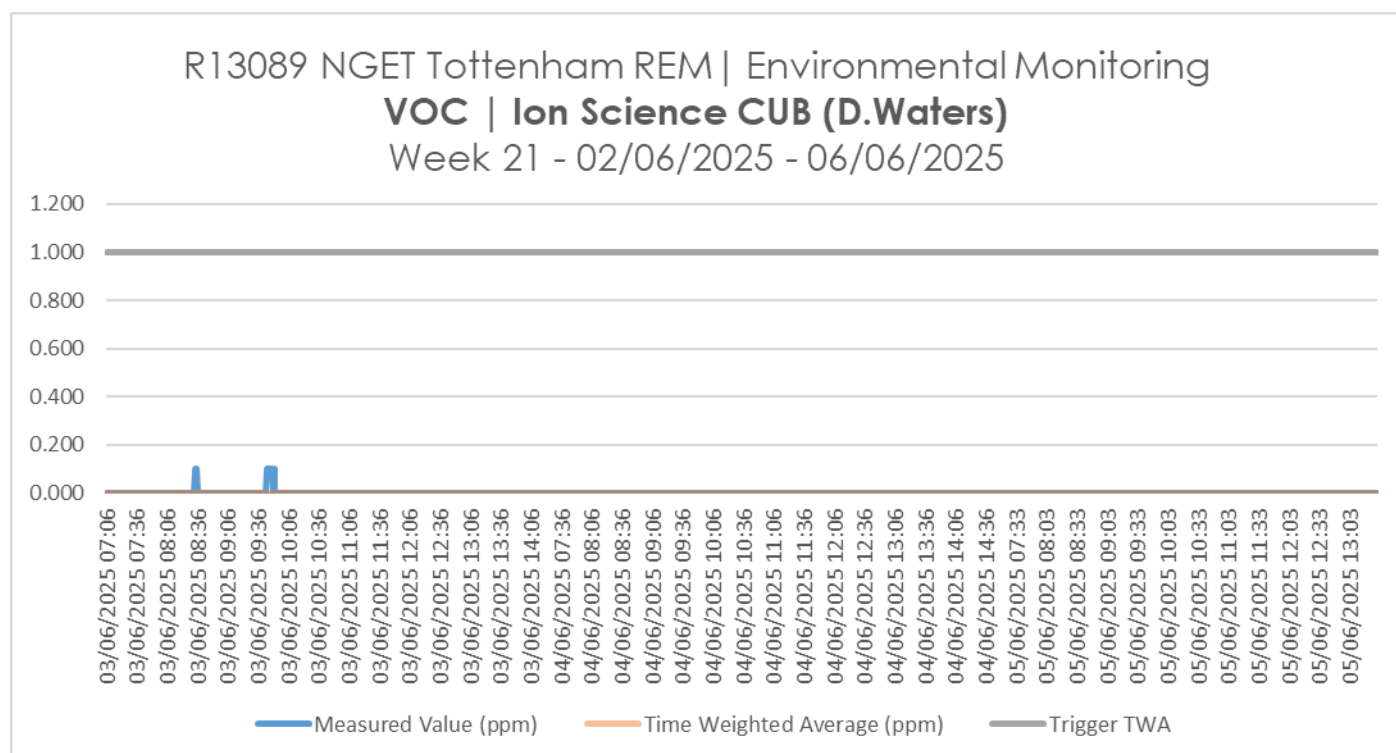
7. Volatile Organic Compounds (VOC) Monitoring

Under the Control of Substances Hazardous to Health Regulations, 2002 (COSHH), as amended in 2004), we used Ion Science Cubs, Photo Ionising Detectors (PID) which are capable of data logging and have an audio/visual alarm set to trigger in response to any exceedances of the occupational guideline value of an appropriate organic contaminant (benzene). This device meets the following European standards: ATEX: CE, Ex II 1G, Ex IA IIC T4; $-20^{\circ}\text{C} \leq T_a \leq 55^{\circ}\text{C}$.

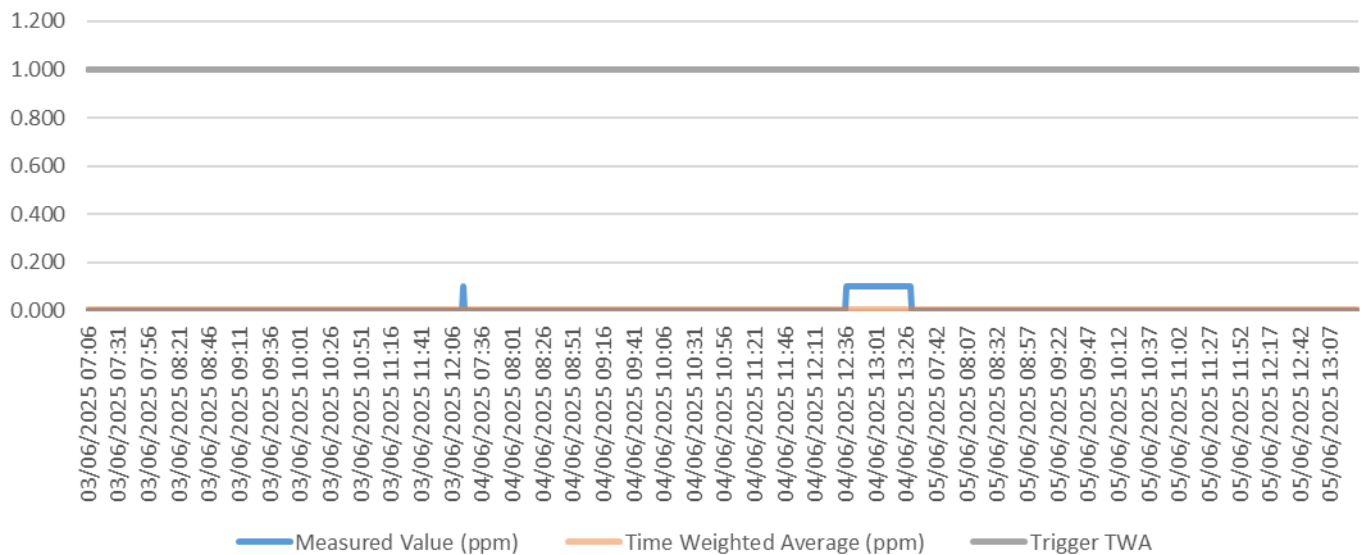
Action values for personal exposure to VOC (calibrated to benzene standard) as defined in the COSHH Regulations. VOC readings not to exceed 1 ppm of benzene. Should target limits be exceeded, measures in the SSoW will be implemented.

These are placed with the Site Foreman and Excavator Operator. The following data has been obtained from the onsite Photo Ionising Detectors (PID) and Tiger Select Cubs and represents the potential exposure to Volatile Organic Compounds (calibrated to benzene standard) during the week of this report.

7.1 Graphical Representation of Logged VOC Data

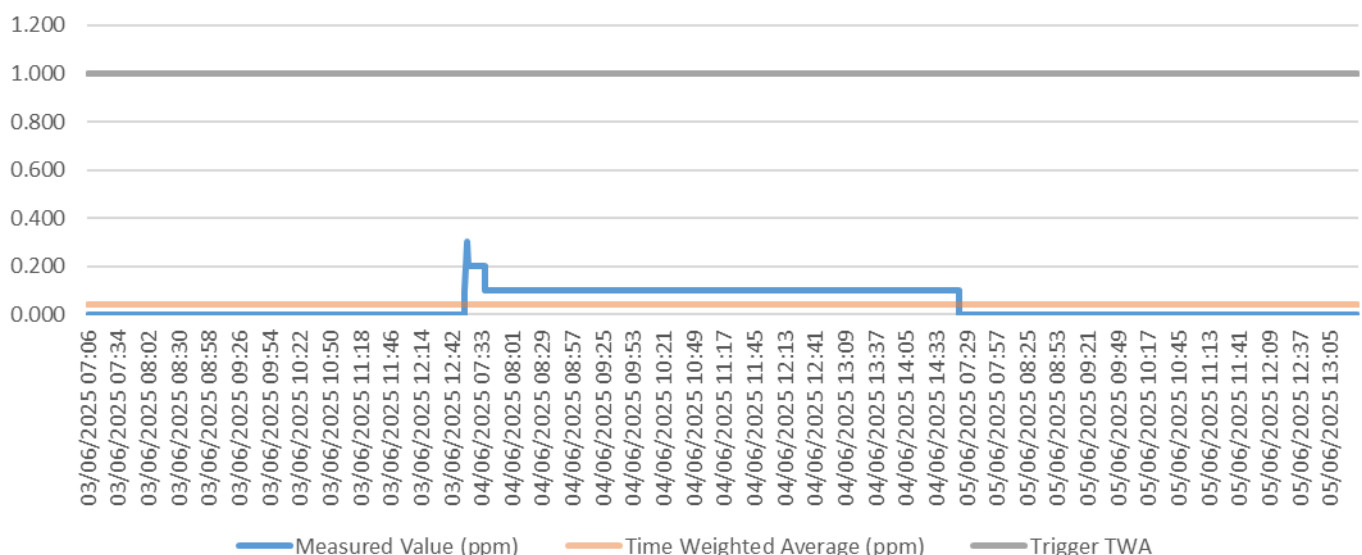


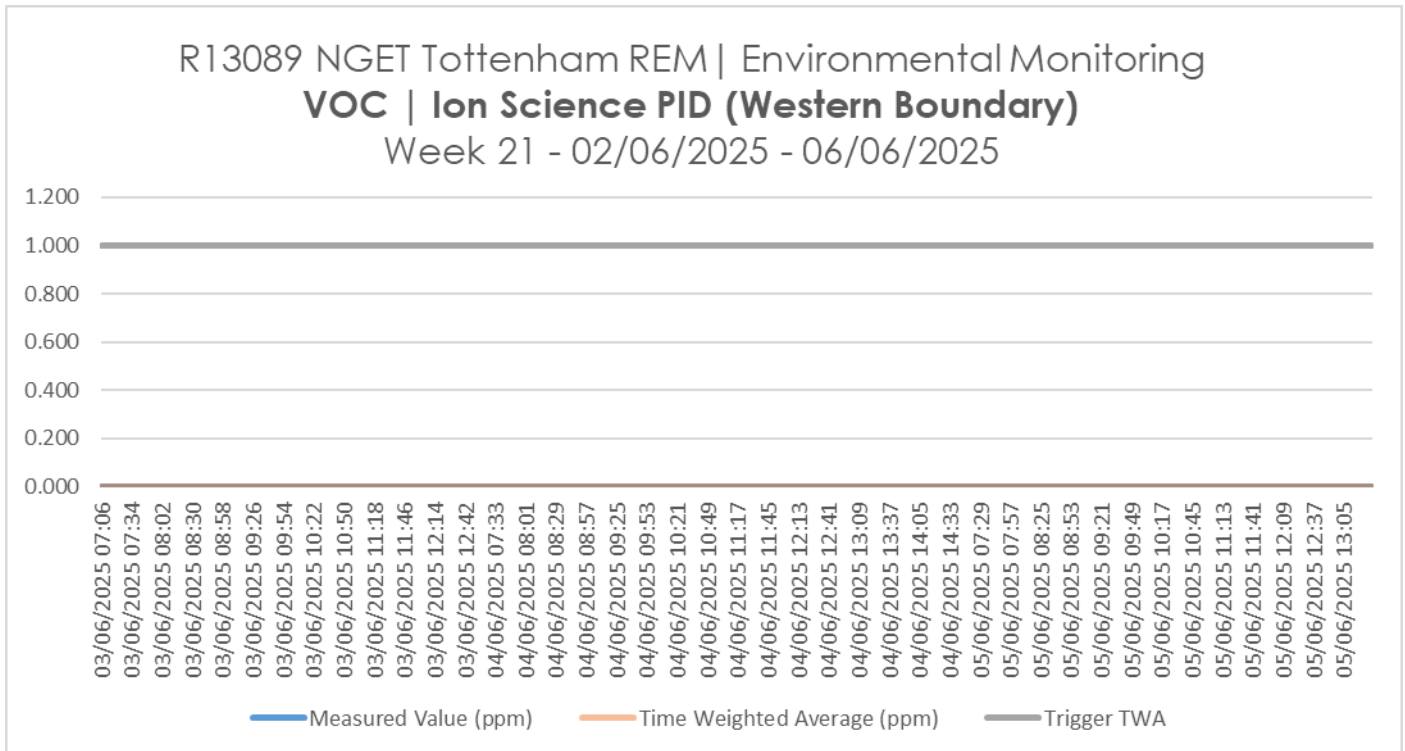
R13089 NGET Tottenham REM | Environmental Monitoring
VOC | Ion Science CUB (D.Waller)
 Week 21 - 02/06/2025 - 06/06/2025



7.2 Graphical Representation of Logged PID Data

R13089 NGET Tottenham REM | Environmental Monitoring
VOC | Ion Science PID (Northern Boundary)
 Week 21 - 02/06/2025 - 06/06/2025





7.3 Findings on VOC

No exceedances of HSE'S document '*EH40: workspace exposure limits*' given workspace exposure limit (WEL) value of 1ppm 8-hour TWA were recorded for the week for either of the two boundary monitors or any of the personal monitors.

8. Applicable Legislation/ Regulations and Guidance

	Current Legislation	Activity	Impacts On
Reference Documents	Environmental Protection Act 1990 Part II	Demolition, asbestos, remediation works.	Air pollution, waste on land, contaminated land, nuisances and clean air, litter, radioactive substances, conservation.
	Pollution Prevention and Control Act 1999 & Pollution Prevention and Control (England & Wales) Regulations as amended 2000	Demolition, asbestos, remediation works.	Oil pollution, clean air, railway.
	Air Quality Standards Regulations 2010	Demolition, asbestos, remediation works.	Public exposure, ozone.
	The Environment Act (Commencements 1-18) Order 1995-1999	All projects.	EA, contaminated land, national parks, air quality, waste, drainage.
	Noise Emissions in the Environment by Equipment for use Outdoors (Amendment Regulations SI 2005/98	All projects, specifically in sensitive areas.	Human health, local noise levels.
	The Clean Air Act	All sites and projects.	Human health, environment.

Guidance:

- Institute of Air Quality Management – Guidance on the Assessment of Dust from Demolition and Construction - February 2014
- Institute of Air Quality Management – Guidance on Air Quality Monitoring in the Vicinity of Demolition and Construction sites – 2014
- BS 5228-1: 2009 + A1: 2014 – Code of Practice for Noise and Vibration Control on Construction and Open Sites.
- BS 7385-2: 1993 Evaluation and Measurement for Vibration in Buildings- Part2: Guide to damage levels from Ground Borne Vibration.
- BS 6742-1: 2008 – Guide to Evaluation of Human Exposure to Vibration in Building.
- DEFRA – Noise database for Prediction of Noise on Construction and Open Sites.
- HSE- EH40: Occupational Exposure Levels

9. Glossary of Terms

Trigger Levels	The limits of which one of the elements (noise/dust/vibration) cannot exceed external to the hoarding. The trigger levels may be agreed with the local council, according to the client requirements.
Baselines	The values recorded pre-works.
A weighting, dB(A)	The unit of sound level weighted according to the A-scale. Is the mechanism who correspond the best to response of the human ear.
LA_{eq}	The equivalent continuous noise level over any specified period.
PM₁₀	The particulate matter of diameter less than or equal to 10 micrometres.
mg/m³	Milligrams of a substance in a cubic meter of air. It is a measure of concentration (weight/volume).
Peak	It is particularly valuable for indicating the level of short duration shocks, etc. (m/s ²).
P-P	Peak-to-Peak, indicates the maximum excursion of the wave, (m/s ²).
m/s²	Metres per second squared. It is a measure of acceleration.
m/s	Metres per second. It is a measure of velocity.

Environmental Monitoring Report

Week 22

NGET REM Tottenham



Prepared For	National Grid Electricity Transmission
Prepared By	Erith Contractors
Project Reference	R13089
Document Reference	Environmental Monitoring Report – Week 22
Monitoring Period	09/06/2025 – 13/06/2025

Document Revision / Authorisation Record

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1. Summary of Works

The project scope of works involves the remediation of the former bus depot. This includes excavation of contaminated soils, protection of a number of groundwater monitoring wells and the installation of a cable ducting trench to accommodate future works on site.

1.1 Monitoring Locations

	Welfare	
	Noise (Real Time Monitor)	
	Dust (Real Time Monitor)	
	Dust (Static Frisbee Gauges)	
	Vibration (Real Time Monitor)	

2. Equipment Used

Name	Serial Number	Certificate Number	Calibration Due Date
Turnkey iVIBE Sound and vibration meter	V0023	1356	24/03/2027
Turnkey Osiris Dust monitor	TNO4506	19348	17/03/2027
Ion Science Cub VOC gas detector	ECL CUB 067 TC201837 (D. Waters)	81160	17/10/2025
Ion Science Cub VOC gas detector	ECL CUB 120 TC202018 (D. Waller)	82157	19/02/2026
~~Ion Science PID VOC gas detector~~	~~Tiger Select 136 (North Boundary)~~	~~74675~~	~~27/06/2025~~
Ion Science PID VOC gas detector	Tiger Select (Bakery/ West Boundary) T106974	81521	16/05/2026
Ion Science PID VOC gas detector	Tiger Select (North Boundary) T117635	78135	23/06/2026

3. Works Undertaken

The below details the works completed during the week of this report:

3.1 Erith Works

- Excavation of the pylon footprint
- Backfill of the pylon footprint

3.1.1 Morrisons Works

- Works on the lower sections of the pylon and substation works.

4. Noise Monitoring

A Turnkey iVIBE is a sound level meter and is intended for general acoustic measurements, occupational health, and environmental noise measurements.

Noise monitoring was recorded at the locations shown in Section 1.

The monitoring equipment complies with IEC 61326-1 (2005), IEC 61672-1 (2002), ANSI S1.4 (R2006), ANSI S1.43 (R2007), IEC 61260 (2001), ANSI S1.11 (R2009), CE, WEEE, RoHS and is compliant with BS 5228-1:2009 + A1:2014 Code of practice for noise and vibration control on construction and open sites.

Action values are as follows:

- Lower exposure action values:
 - Daily or weekly exposure of 70 dB
 - Peak sound pressure of 130 dB
- Upper exposure action values
 - Daily or weekly exposure of 75 dB
 - Peak sound pressure of 135 dB

LAeq (15 min) noise levels were recording continuously for 15-minute periods over an 8-hour duration.

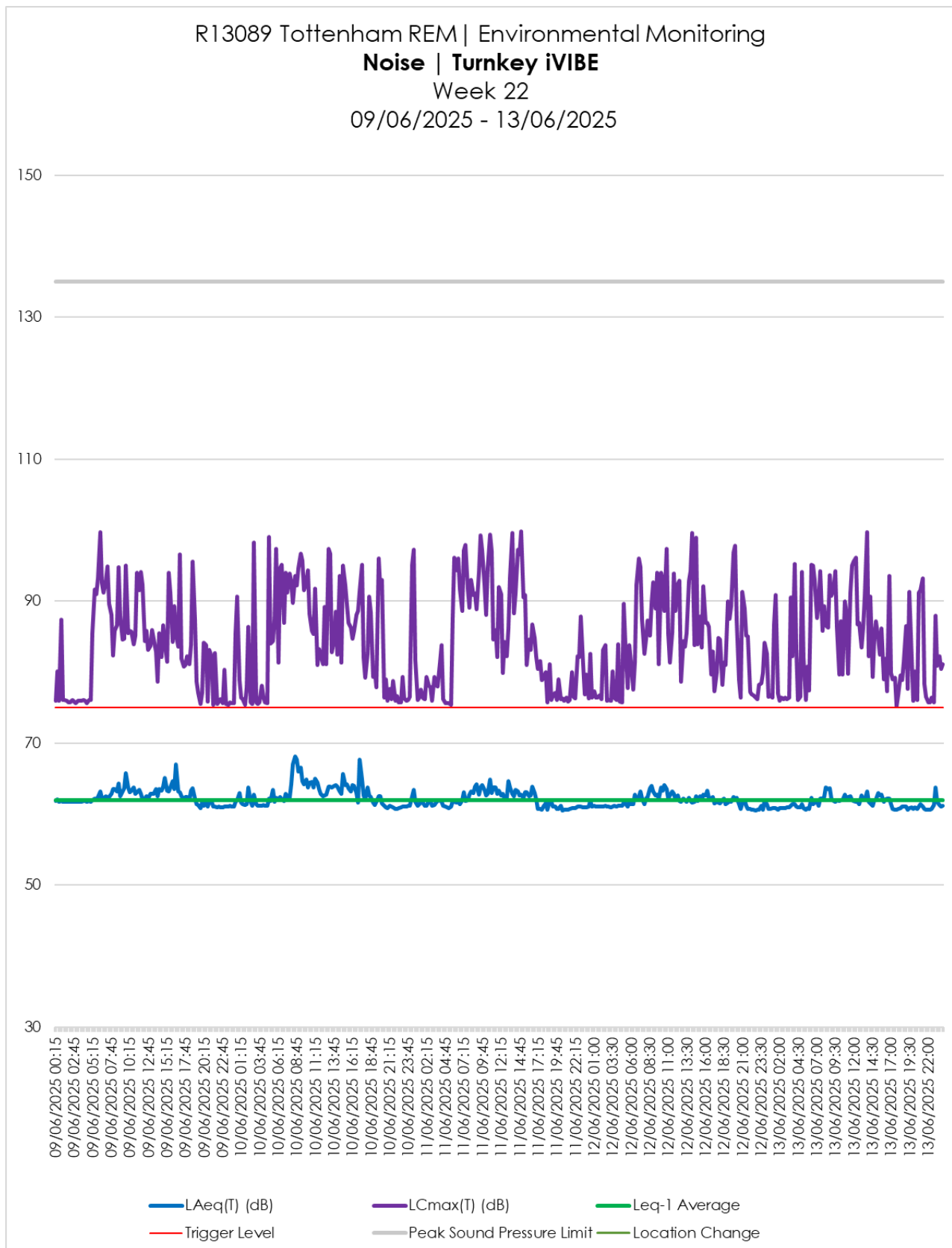
Action values for receptors are taken from the Code of Construction Practice London:

- During normal working hours (08:00 – 18:00), the maximum LAeq, period noise level measured 1 m from the façade (or boundary of the site if the property is greater than 1 m away) of any occupied or other building used for residential purposes, generated by construction plant and equipment, including the movements of vehicles to and from the site should not exceed the following:

Period	Hours	Residential / Commercial Premises	Schools or Hospitals
Monday - Friday	08:00 – 18:00	75 dB(A)	65 dB(A)
Saturday	08:00 – 13:00	75 dB(A)	65 dB(A)

In every case, control targets for nuisance noise will be agreed by the Contractor with the Local Environment Health Officer (EHO). Should the need arise (for example in the event that substantiated noise complaints are received during the site works in relation to high-risk activities) further detailed noise monitoring and assessment may be required to be undertaken by appropriately qualified persons in accordance with 'BS 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites'.

4.1 Graphical Representation of Logged Noise Data



LAeq - A-weighted equivalent continuous sound level in decibels equivalent to the total sound energy measured over a stated period.

LCmax - C-weighted peak sound pressure measurement.

(T) - Stated measured period of time.

Decibel (dB) - A unit used to measure the intensity of a sound.

4.2 Findings on Noise

Logged noise data for the week is displayed in the above graph.

No exceedances were recorded during the week.

5. Vibration Monitoring

An iVIBE data logger and 3 axis geophone was used for the duration of the works. The equipment is designed for high accuracy vibration monitoring in a construction environment.

Vibration monitoring was recorded at the locations shown in Section 1.

The monitor was set to run in continuous mode and was able to digitally record vibration levels up to 20 mm.s⁻¹, peak particle velocity, for frequencies between 5 Hz and 250 Hz. Weighting filters comply with ISO 2631, BS 6472 and BS 7385, and KB filters according to DIN 4150 and DIN 45669. Results are given in Root Mean Square (RMS) format. Data was exported from the logger and input into an Excel document, from which a graphic in the form a line graph was generated.

The geophone was levelled using the integrated bubble level and adjustable legs. It was loosely orientated by eye so that the axis conformed to the following compass bearings.

Geophone Axis	Bearing	Compass Point
X	51.60593	North
Y	-0.04660	West
Z	N/a	Zenith

Ground-borne vibration is to be undertaken by appropriately qualified persons and assessed using the guidelines provided in accordance with 'BS 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites'.

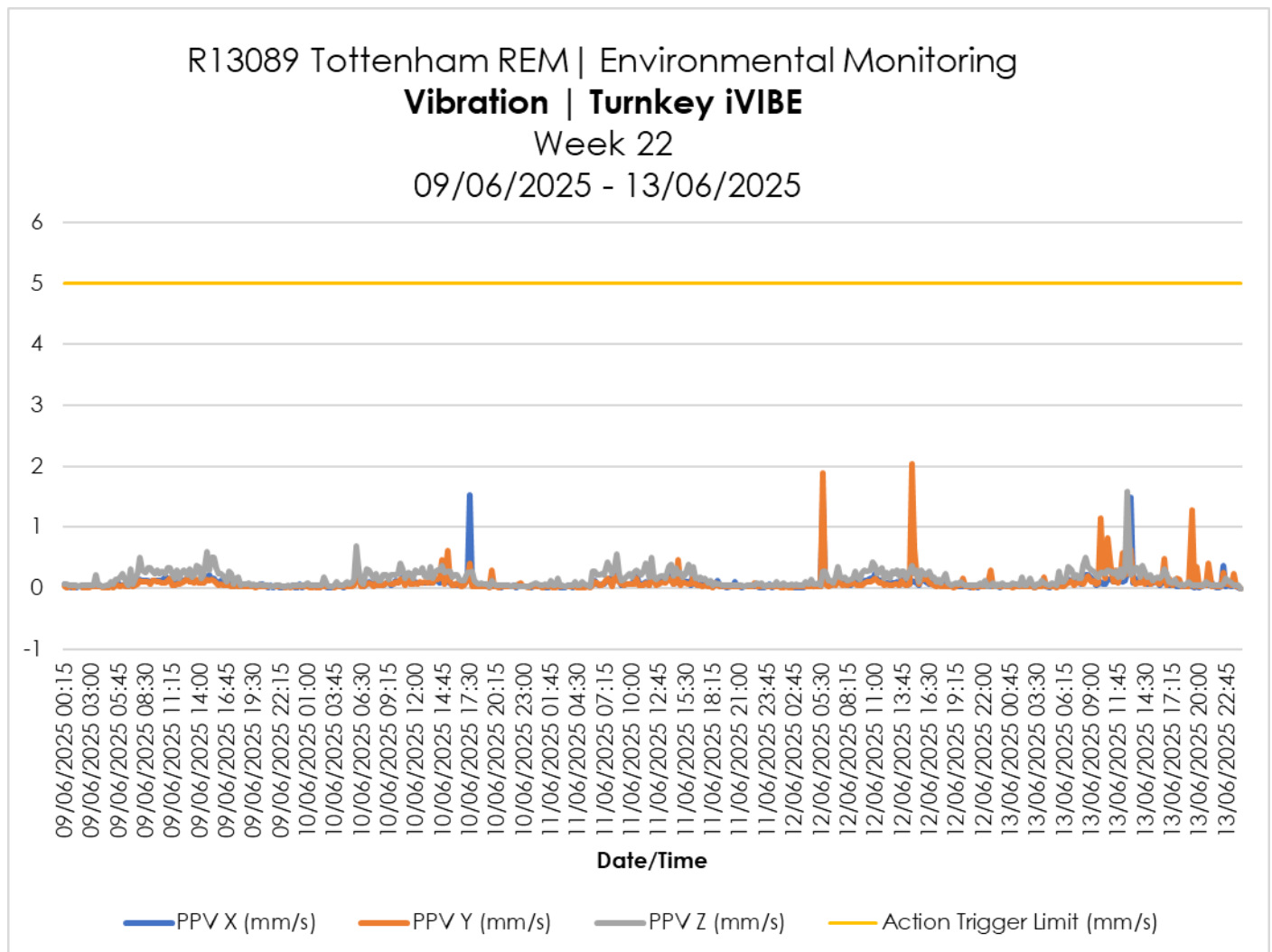
Trigger levels are based upon guidance given in 'BS 7385-2: 1993 Evaluation and measurement for vibration in buildings — Part 2: Guide to damage levels from ground borne vibration'.

Type of building	Peak component particle velocity in frequency of predominant pulse	
	4 Hz to 15 Hz	15 Hz and above
Reinforced or framed structures. Industrial and heavy commercial buildings	50 mm/s at 4 Hz and above	
Unreinforced or light framed structures. Residential or light commercial type buildings	15 mm/s at 4Hz increasing to 20 mm/s at 15 Hz	20 mm/s at 15 Hz increasing to 50 mm/s at 40 Hz and above

Vibration Limits Relating to Minor or Cosmetic Damage to Buildings:

Building Classification	Intermittent Vibration (PPV, mm/s ⁻¹)	Continuous Vibration (PPV, mm/s ⁻¹)
Residential in generally good repair	10	5
Residential where preliminary survey reveals significant defects (party wall)	5	3.5
Industrial/commercial – light and flexible structure	20	15
Industrial/commercial – heavy and stiff structure	30	15

5.1 Graphical Representation of Logged Vibration Data



5.2 Findings on Vibration

Logged vibration data for the week is displayed in the above graphs.

No exceedances were recorded during the week.

6. Dynamic Dust Monitoring

6.1 Dynamic Dust

The Osiris uses a light-scattering laser photometer to measure airborne particle monitors (PM10) in real-time with history data logging capability. The Osiris has been Environment Agency MCERTS certified.

This instrument is designed to measure dust deposition. Action values for personal exposure to Dust for Particulate Matter PM10 are set to a lower action level of 180 µg/m³ averaged over a 15-minute period as our warning trigger but not to exceed 200 µg/m³ averaged over a 15-minute period, as per the '*Institute of Air Quality Management (2018), Guidance on Air Quality Monitoring in the Vicinity of Demolition and Construction Sites*'.

Should the action value be exceeded, measures in the *Safe System of Work* will be implemented including stopping work and an increased dampening down of the site.

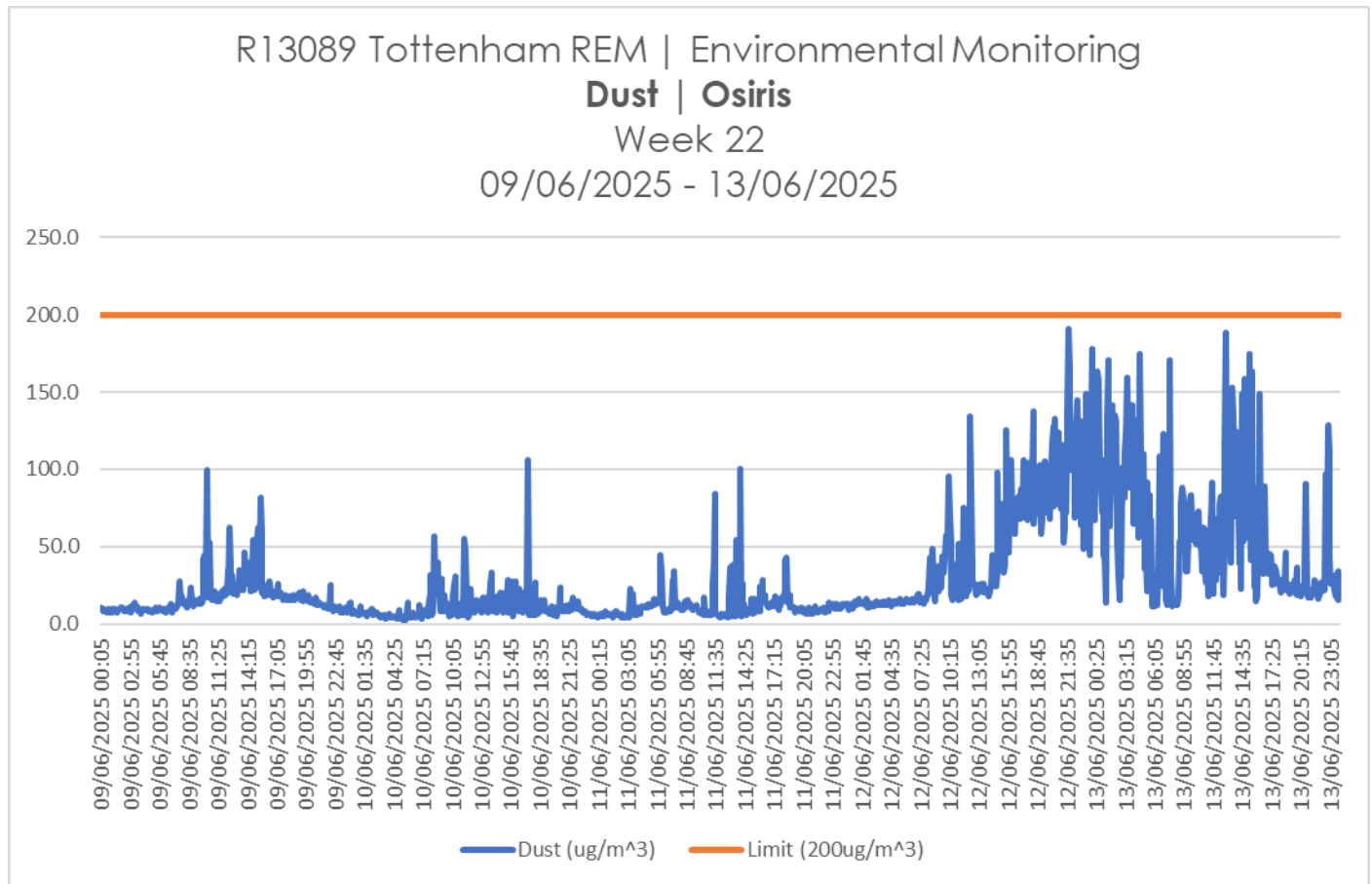
The DEFRA Daily Air Quality Index (DAQ) is numbered 1-10 and divided into four bands. Low (1) to very high (10), to provide detail about air pollution levels in a simple way. For PM10 particles, this based on the daily mean concentration.

Index	1	2	3	4	5	6	7	8	9	10
Band	Low	Low	Low	Moderate	Moderate	Moderate	High	High	High	Very High
µg/m ³	0-16	17-33	34-50	51-58	59-66	67-75	76-83	84-91	92-100	101 or more

The data below was obtained from the onsite monitor and represents the Particulate Matter suspended in the air up to 10 microns (PM10) in size during the period of this report.

Dust monitoring was recorded at the locations shown in Section 1.

6.2 Graphical Representation of Logged Dust Data



6.3 Findings on Dust

Logged dust data for the week is displayed in the above graph.

Action values for personal exposure to dust as defined in the air quality objectives for Particulate matter PM₁₀ are not to exceed 200 $\mu\text{g}/\text{m}^3$ averaged over a 15-minute period as per the *Institute of Air Quality Management (2018), Guidance on Air Quality Monitoring in the Vicinity of Demolition and Construction Sites*.

No exceedances were recorded during the week.

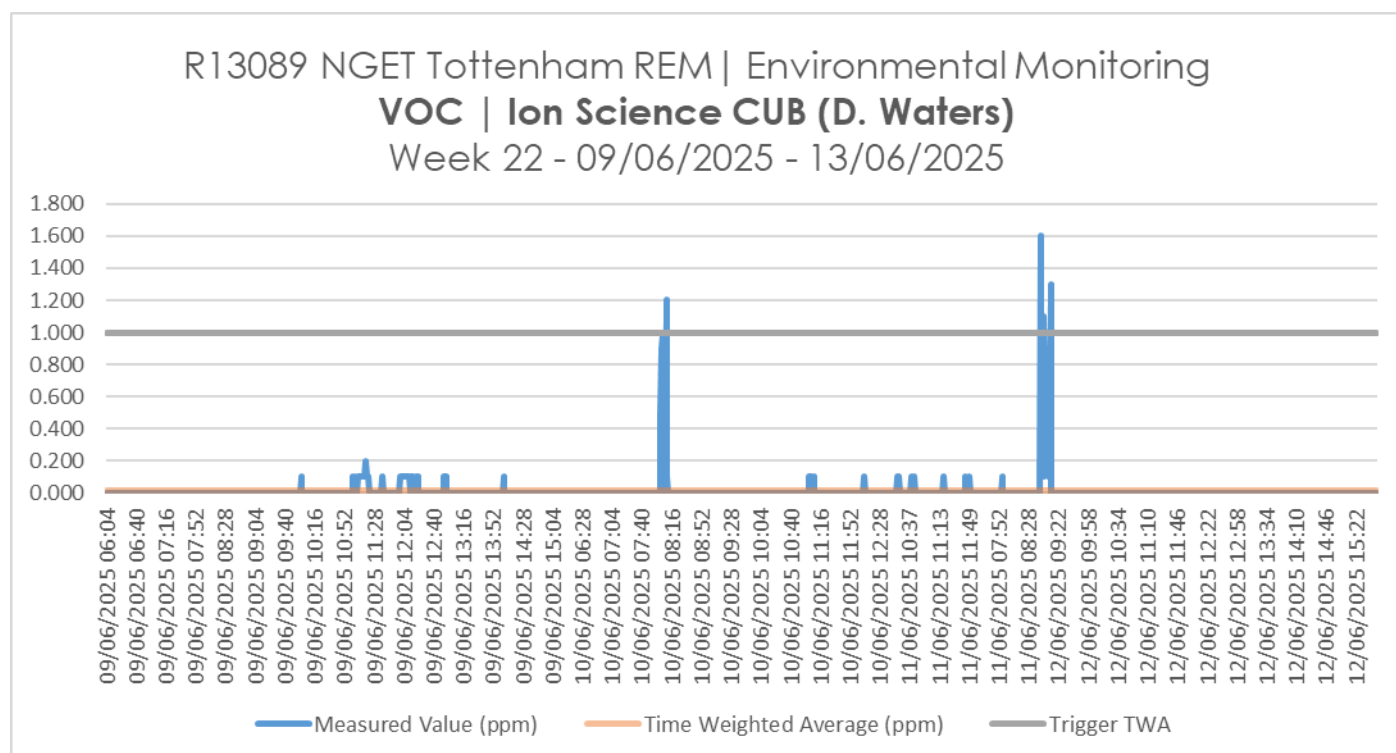
7. Volatile Organic Compounds (VOC) Monitoring

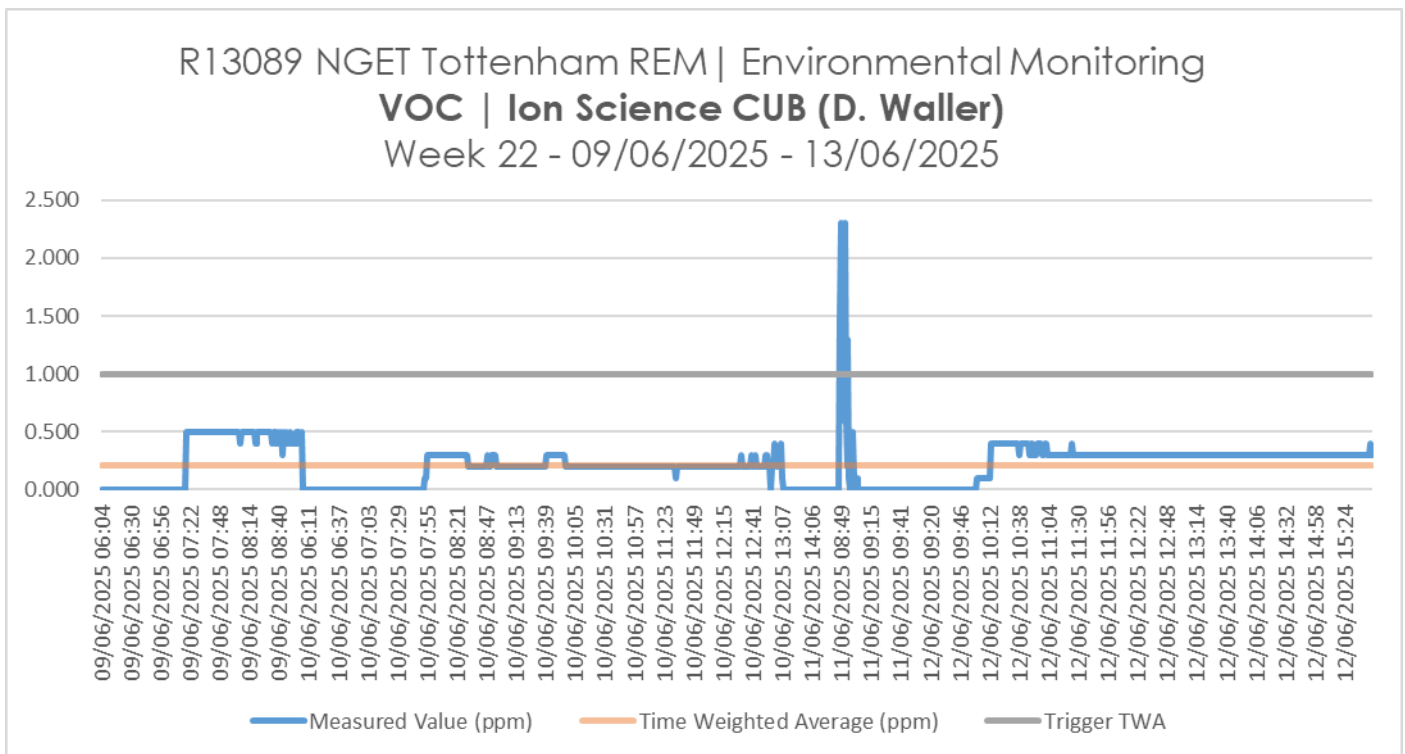
Under the Control of Substances Hazardous to Health Regulations, 2002 (COSHH), as amended in 2004), we used Ion Science Cubs, Photo Ionising Detectors (PID) which are capable of data logging and have an audio/visual alarm set to trigger in response to any exceedances of the occupational guideline value of an appropriate organic contaminant (benzene). This device meets the following European standards: ATEX: CE, Ex II 1G, Ex IA IIC T4; $-20^{\circ}\text{C} \leq T_a \leq 55^{\circ}\text{C}$.

Action values for personal exposure to VOC (calibrated to benzene standard) as defined in the COSHH Regulations. VOC readings not to exceed 1 ppm of benzene. Should target limits be exceeded, measures in the SSoW will be implemented.

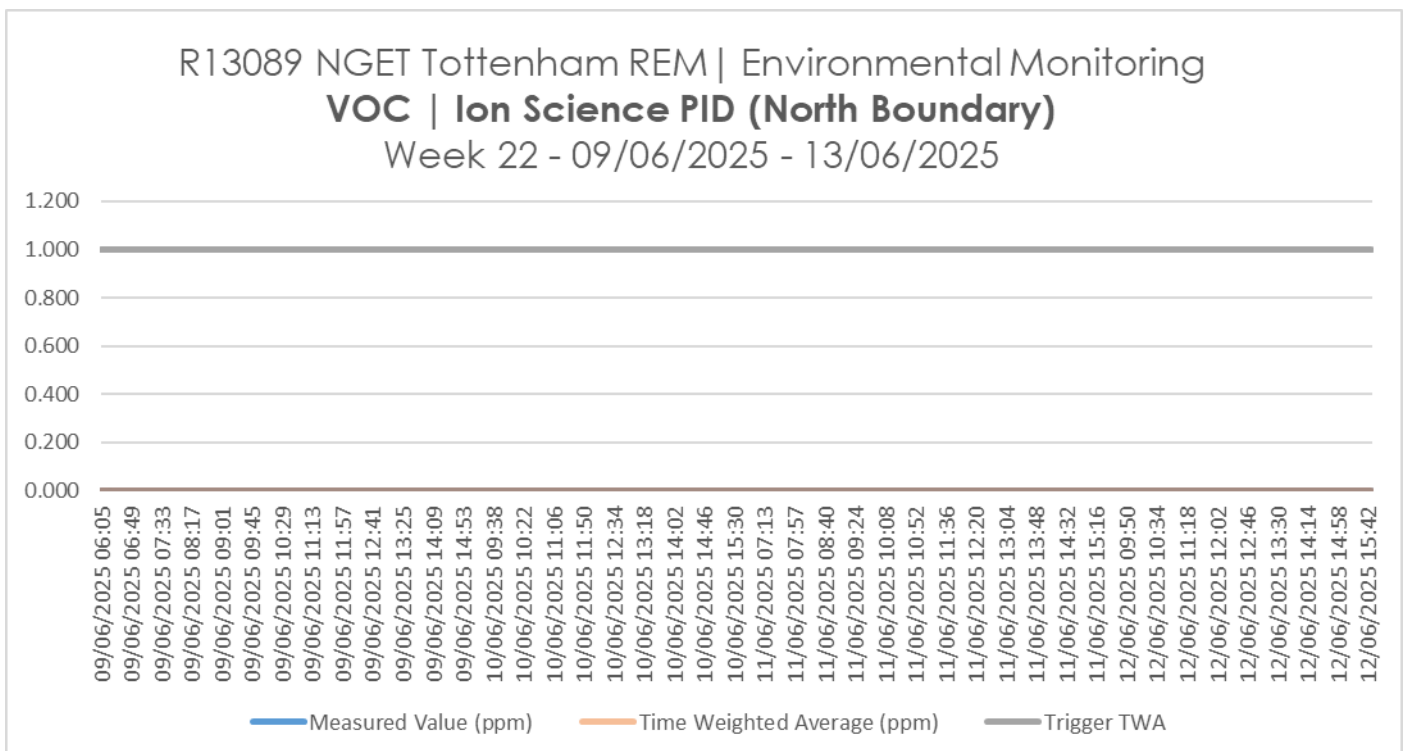
These are placed with the Site Foreman and Excavator Operator. The following data has been obtained from the onsite Photo Ionising Detectors (PID) and Tiger Select Cubs and represents the potential exposure to Volatile Organic Compounds (calibrated to benzene standard) during the week of this report.

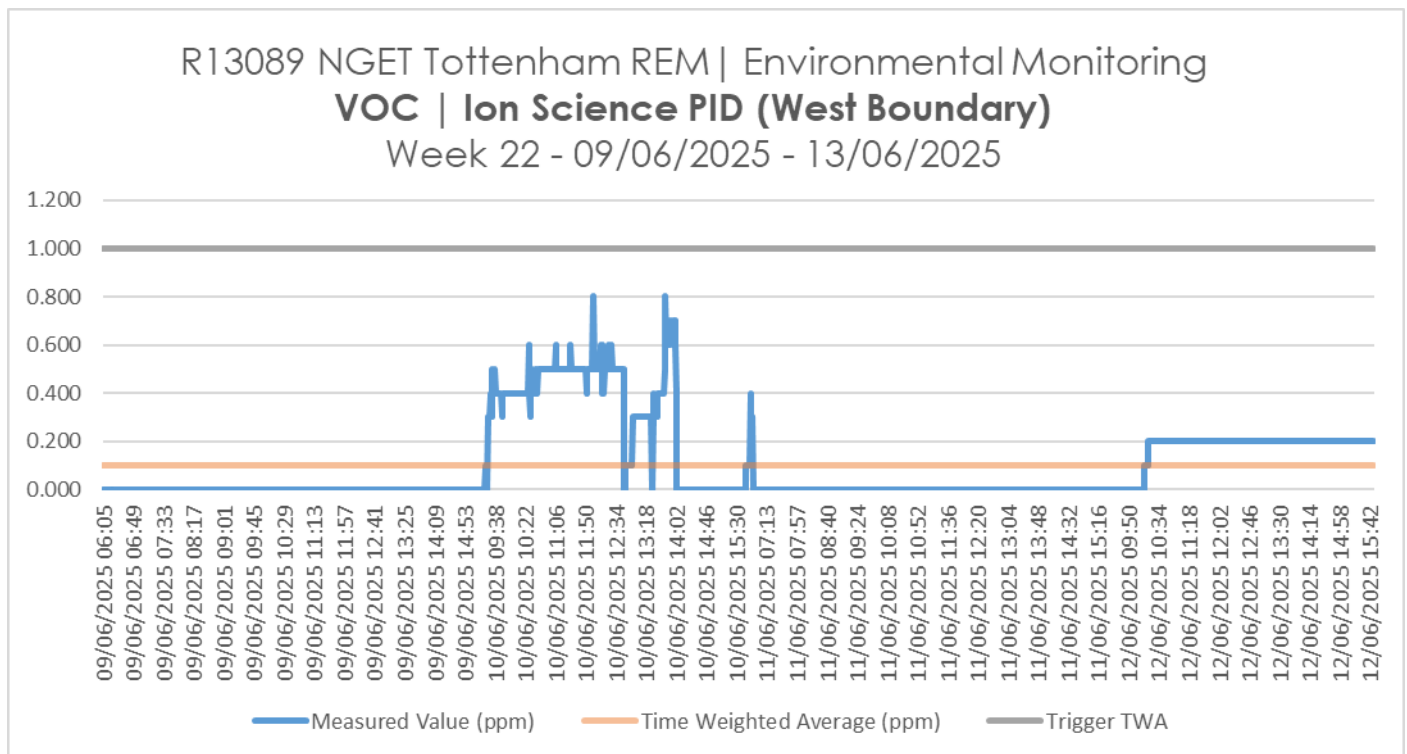
7.1 Graphical Representation of Logged VOC Data





7.2 Graphical Representation of Logged PID Data





7.3 Findings on VOC

Exceedances were noted on the two personal monitors of the Site Foreman and Excavator Operator on the 10/06/2025 and 11/06/2025. During all 'exceedance events', contaminated material was being loaded into awaiting lorries for disposal and it is understood that disturbing the material to load it away caused the release of VOC's.

When exceedances occurred, both operatives moved away from the working area until the readings on the CUBs returned to a safe level.

No exceedances of HSE'S document '*EH40: workspace exposure limits*' given workspace exposure limit (WEL) value of 1ppm 8-hour TWA were recorded for the week for either of the two boundary monitors.

8. Applicable Legislation/ Regulations and Guidance

	Current Legislation	Activity	Impacts On
Reference Documents	Environmental Protection Act 1990 Part II	Demolition, asbestos, remediation works.	Air pollution, waste on land, contaminated land, nuisances and clean air, litter, radioactive substances, conservation.
	Pollution Prevention and Control Act 1999 & Pollution Prevention and Control (England & Wales) Regulations as amended 2000	Demolition, asbestos, remediation works.	Oil pollution, clean air, railway.
	Air Quality Standards Regulations 2010	Demolition, asbestos, remediation works.	Public exposure, ozone.
	The Environment Act (Commencements 1-18) Order 1995-1999	All projects.	EA, contaminated land, national parks, air quality, waste, drainage.
	Noise Emissions in the Environment by Equipment for use Outdoors (Amendment Regulations SI 2005/98	All projects, specifically in sensitive areas.	Human health, local noise levels.
	The Clean Air Act	All sites and projects.	Human health, environment.

Guidance:

- Institute of Air Quality Management – Guidance on the Assessment of Dust from Demolition and Construction - February 2014
- Institute of Air Quality Management – Guidance on Air Quality Monitoring in the Vicinity of Demolition and Construction sites – 2014
- BS 5228-1: 2009 + A1: 2014 – Code of Practice for Noise and Vibration Control on Construction and Open Sites.
- BS 7385-2: 1993 Evaluation and Measurement for Vibration in Buildings- Part2: Guide to damage levels from Ground Borne Vibration.
- BS 6742-1: 2008 – Guide to Evaluation of Human Exposure to Vibration in Building.
- DEFRA – Noise database for Prediction of Noise on Construction and Open Sites.
- HSE- EH40: Occupational Exposure Levels

9. Glossary of Terms

Trigger Levels	The limits of which one of the elements (noise/dust/vibration) cannot exceed external to the hoarding. The trigger levels may be agreed with the local council, according to the client requirements.
Baselines	The values recorded pre-works.
A weighting, dB(A)	The unit of sound level weighted according to the A-scale. Is the mechanism who correspond the best to response of the human ear.
LA_{eq}	The equivalent continuous noise level over any specified period.
PM10	The particulate matter of diameter less than or equal to 10 micrometres.
mg/m³	Milligrams of a substance in a cubic meter of air. It is a measure of concentration (weight/volume).
Peak	It is particularly valuable for indicating the level of short duration shocks, etc. (m/s ²).
P-P	Peak-to-Peak, indicates the maximum excursion of the wave, (m/s ²).
m/s²	Metres per second squared. It is a measure of acceleration.
m/s	Metres per second. It is a measure of velocity.

Environmental Monitoring Report

Week 23

NGET REM Tottenham



Prepared For	National Grid Electricity Transmission
Prepared By	Erith Contractors
Project Reference	R13089
Document Reference	Environmental Monitoring Report – Week 23
Monitoring Period	16/06/2025 – 20/06/2025

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1. Summary of Works

The project scope of works involves the remediation of the former bus depot. This includes excavation of contaminated soils, protection of a number of groundwater monitoring wells and the installation of a cable ducting trench to accommodate future works on site.

1.1 Monitoring Locations

	Welfare	
	Noise (Real Time Monitor)	
	Dust (Real Time Monitor)	
	Dust (Static Frisbee Gauges)	
	Vibration (Real Time Monitor)	

2. Equipment Used

Name	Serial Number	Certificate Number	Calibration Due Date
Turnkey iVIBE Sound and vibration meter	V0023	1356	24/03/2027
Turnkey Osiris Dust monitor	TNO4506	19348	17/03/2027
Ion Science Cub VOC gas detector	ECL CUB 067 TC201837 (D. Waters)	81160	17/10/2025
Ion Science Cub VOC gas detector	ECL CUB 120 TC202018 (D. Waller)	82157	19/02/2026
~~Ion Science PID VOC gas detector~~	~~Tiger Select 136 (North Boundary)~~	~~74675~~	~~27/06/2025~~
Ion Science PID VOC gas detector	Tiger Select (Bakery/ West Boundary) T106974	81521	16/05/2026
Ion Science PID VOC gas detector	Tiger Select (North Boundary) T117635	78135	23/06/2026

3. Works Undertaken

The below details the works completed during the week of this report:

3.1 Erith Works

- Excavation of the pylon footprint
- Backfill of the pylon footprint

3.1.1 Morrisons Works

- No works undertaken on site this week.

4. Noise Monitoring

A Turnkey iVIBE is a sound level meter and is intended for general acoustic measurements, occupational health, and environmental noise measurements.

Noise monitoring was recorded at the locations shown in Section 1.

The monitoring equipment complies with IEC 61326-1 (2005), IEC 61672-1 (2002), ANSI S1.4 (R2006), ANSI S1.43 (R2007), IEC 61260 (2001), ANSI S1.11 (R2009), CE, WEEE, RoHS and is compliant with BS 5228-1:2009 + A1:2014 *Code of practice for noise and vibration control on construction and open sites*.

Action values are as follows:

- Lower exposure action values:
 - Daily or weekly exposure of 70 dB
 - Peak sound pressure of 130 dB
- Upper exposure action values
 - Daily or weekly exposure of 75 dB
 - Peak sound pressure of 135 dB

L_{Aeq} (15 min) noise levels were recording continuously for 15-minute periods over an 8-hour duration.

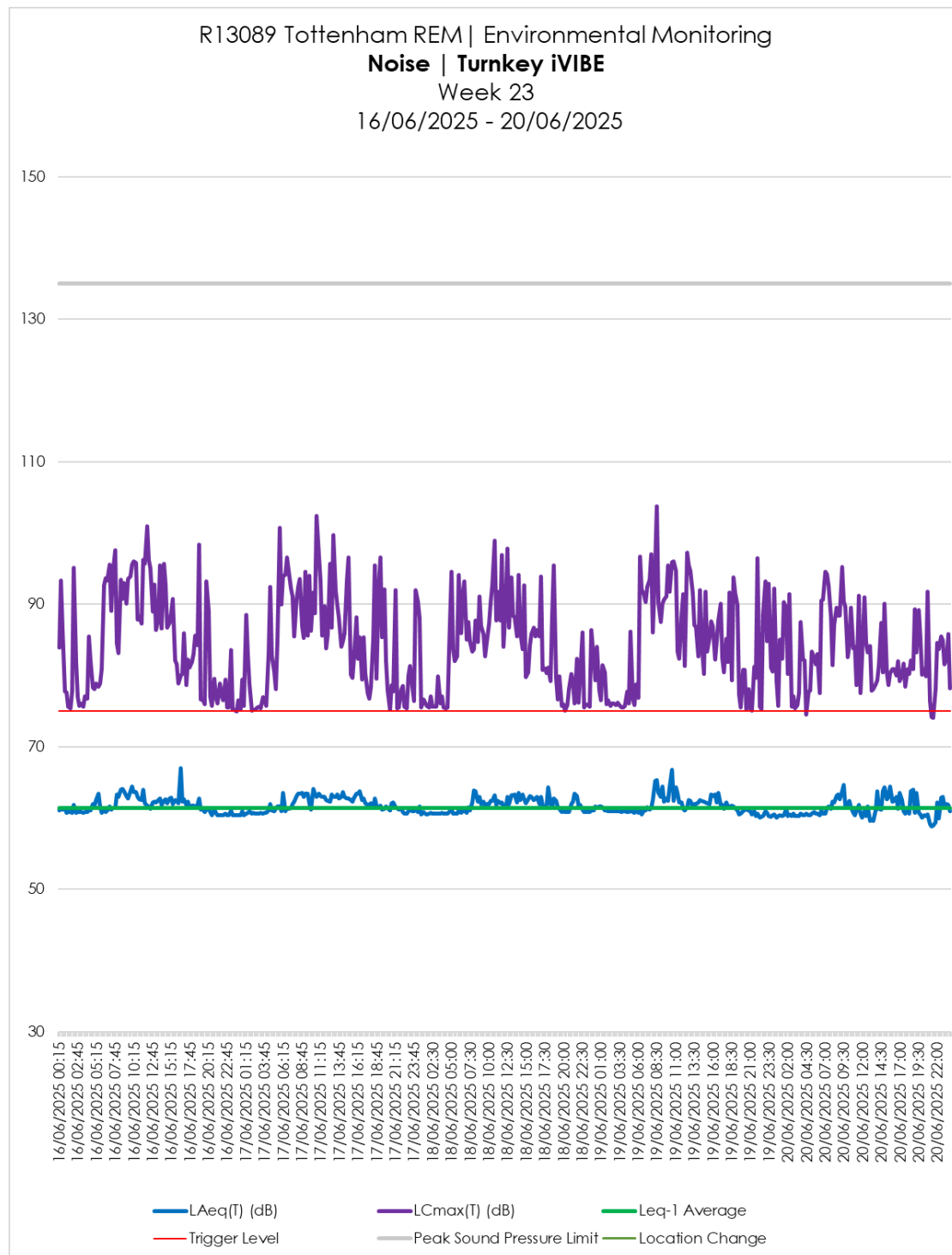
Action values for receptors are taken from the Code of Construction Practice London:

- During normal working hours (08:00 – 18:00), the maximum L_{Aeq}, period noise level measured 1 m from the façade (or boundary of the site if the property is greater than 1 m away) of any occupied or other building used for residential purposes, generated by construction plant and equipment, including the movements of vehicles to and from the site should not exceed the following:

Period	Hours	Residential / Commercial Premises	Schools or Hospitals
Monday - Friday	08:00 – 18:00	75 dB(A)	65 dB(A)
Saturday	08:00 – 13:00	75 dB(A)	65 dB(A)

In every case, control targets for nuisance noise will be agreed by the Contractor with the Local Environment Health Officer (EHO). Should the need arise (for example in the event that substantiated noise complaints are received during the site works in relation to high-risk activities) further detailed noise monitoring and assessment may be required to be undertaken by appropriately qualified persons in accordance with 'BS 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites'.

4.1 Graphical Representation of Logged Noise Data



LAeq - A-weighted equivalent continuous sound level in decibels equivalent to the total sound energy measured over a stated period.

LCmax - C-weighted peak sound pressure measurement.

(T) - Stated measured period of time.

Decibel (dB) - A unit used to measure the intensity of a sound.

4.2 Findings on Noise

Logged noise data for the week is displayed in the above graph.

No exceedances were recorded during the week.

5. Vibration Monitoring

An iVIBE data logger and 3 axis geophone was used for the duration of the works. The equipment is designed for high accuracy vibration monitoring in a construction environment.

Vibration monitoring was recorded at the locations shown in Section 1.

The monitor was set to run in continuous mode and was able to digitally record vibration levels up to 20 mm.s⁻¹, peak particle velocity, for frequencies between 5 Hz and 250 Hz. Weighting filters comply with ISO 2631, BS 6472 and BS 7385, and KB filters according to DIN 4150 and DIN 45669. Results are given in Root Mean Square (RMS) format. Data was exported from the logger and input into an Excel document, from which a graphic in the form a line graph was generated.

The geophone was levelled using the integrated bubble level and adjustable legs. It was loosely orientated by eye so that the axis conformed to the following compass bearings.

Geophone Axis	Bearing	Compass Point
X	51.60593	North
Y	-0.04660	West
Z	N/a	Zenith

Ground-borne vibration is to be undertaken by appropriately qualified persons and assessed using the guidelines provided in accordance with 'BS 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites'.

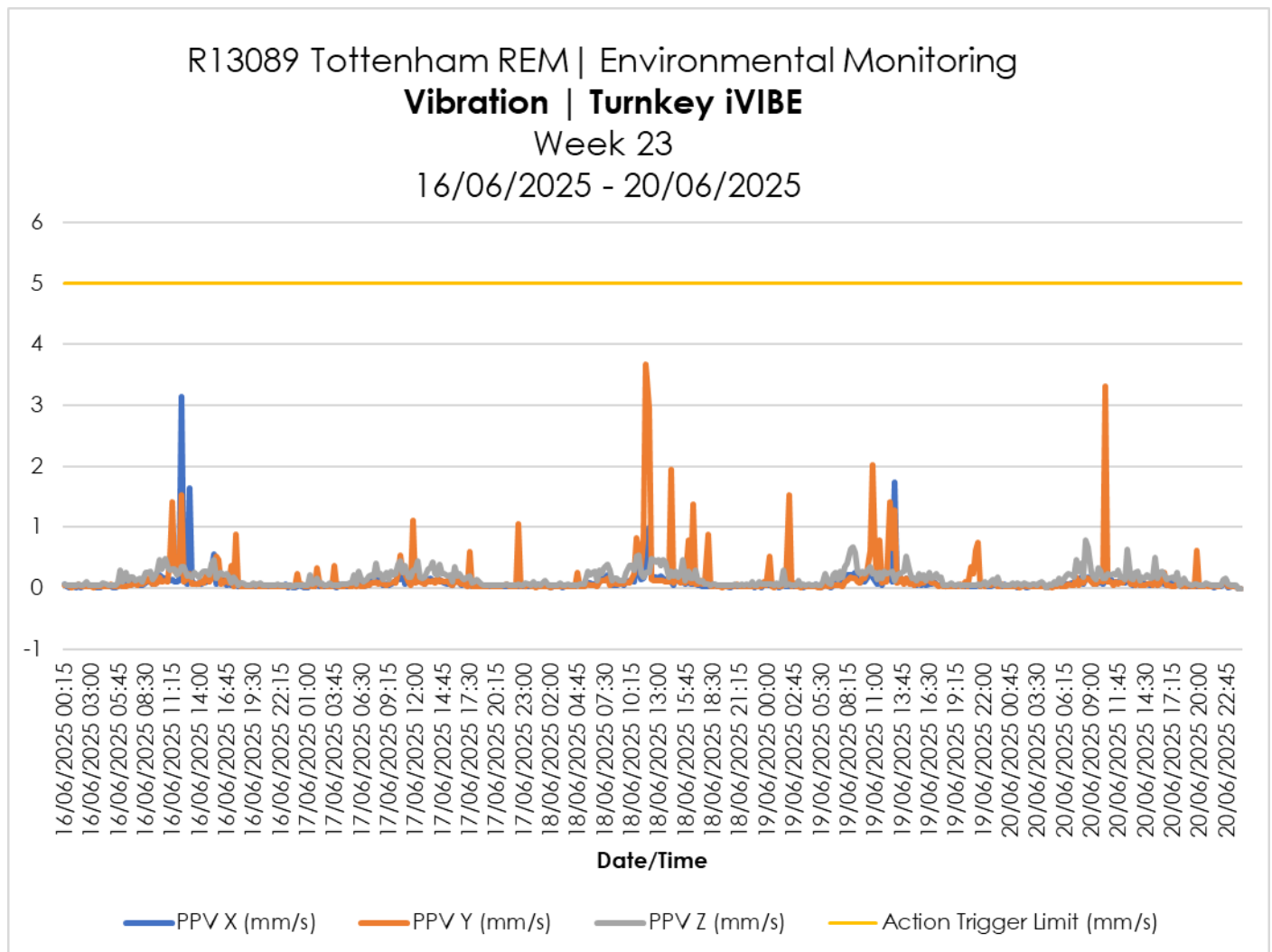
Trigger levels are based upon guidance given in 'BS 7385-2: 1993 Evaluation and measurement for vibration in buildings — Part 2: Guide to damage levels from ground borne vibration'.

Type of building	Peak component particle velocity in frequency of predominant pulse	
	4 Hz to 15 Hz	15 Hz and above
Reinforced or framed structures. Industrial and heavy commercial buildings	50 mm/s at 4 Hz and above	
Unreinforced or light framed structures. Residential or light commercial type buildings	15 mm/s at 4Hz increasing to 20 mm/s at 15 Hz	20 mm/s at 15 Hz increasing to 50 mm/s at 40 Hz and above

Vibration Limits Relating to Minor or Cosmetic Damage to Buildings:

Building Classification	Intermittent Vibration (PPV, mm/s ⁻¹)	Continuous Vibration (PPV, mm/s ⁻¹)
Residential in generally good repair	10	5
Residential where preliminary survey reveals significant defects (party wall)	5	3.5
Industrial/commercial – light and flexible structure	20	15
Industrial/commercial – heavy and stiff structure	30	15

5.1 Graphical Representation of Logged Vibration Data



5.2 Findings on Vibration

Logged vibration data for the week is displayed in the above graphs.

No exceedances were recorded during the week.

6. Dynamic Dust Monitoring

6.1 Dynamic Dust

The Osiris uses a light-scattering laser photometer to measure airborne particle monitors (PM10) in real-time with history data logging capability. The Osiris has been Environment Agency MCERTS certified.

This instrument is designed to measure dust deposition. Action values for personal exposure to Dust for Particulate Matter PM10 are set to a lower action level of 180 µg/m³ averaged over a 15-minute period as our warning trigger but not to exceed 200 µg/m³ averaged over a 15-minute period, as per the '*Institute of Air Quality Management (2018), Guidance on Air Quality Monitoring in the Vicinity of Demolition and Construction Sites*'.

Should the action value be exceeded, measures in the *Safe System of Work* will be implemented including stopping work and an increased dampening down of the site.

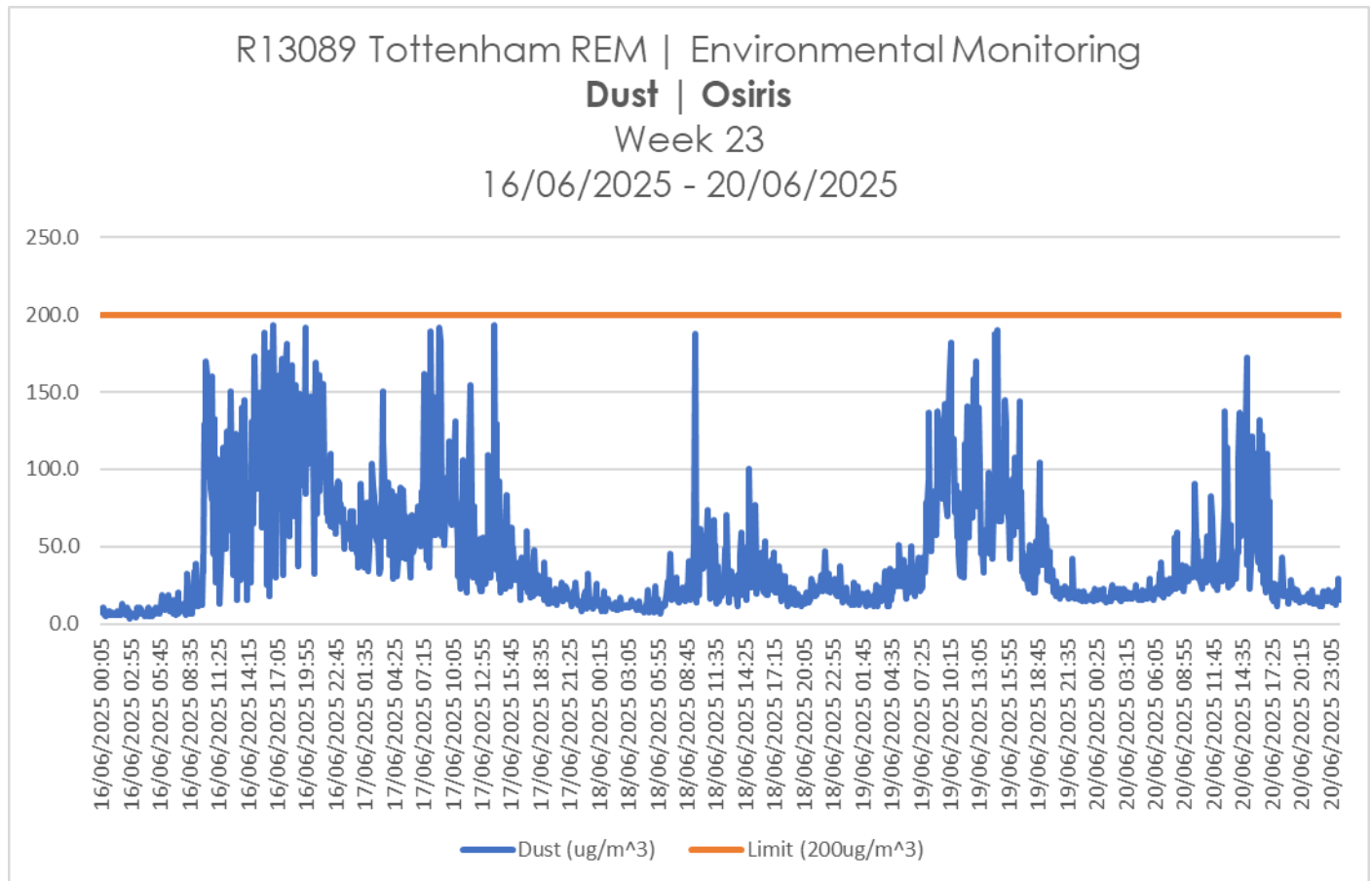
The DEFRA Daily Air Quality Index (DAQ) is numbered 1-10 and divided into four bands. Low (1) to very high (10), to provide detail about air pollution levels in a simple way. For PM10 particles, this based on the daily mean concentration.

Index	1	2	3	4	5	6	7	8	9	10
Band	Low	Low	Low	Moderate	Moderate	Moderate	High	High	High	Very High
µg/m ³	0-16	17-33	34-50	51-58	59-66	67-75	76-83	84-91	92-100	101 or more

The data below was obtained from the onsite monitor and represents the Particulate Matter suspended in the air up to 10 microns (PM10) in size during the period of this report.

Dust monitoring was recorded at the locations shown in Section 1.

6.2 Graphical Representation of Logged Dust Data



6.3 Findings on Dust

Logged dust data for the week is displayed in the above graph.

Action values for personal exposure to dust as defined in the air quality objectives for Particulate matter PM₁₀ are not to exceed 200 µg/m³ averaged over a 15-minute period as per the *Institute of Air Quality Management (2018), Guidance on Air Quality Monitoring in the Vicinity of Demolition and Construction Sites*.

No exceedances were recorded during the week.

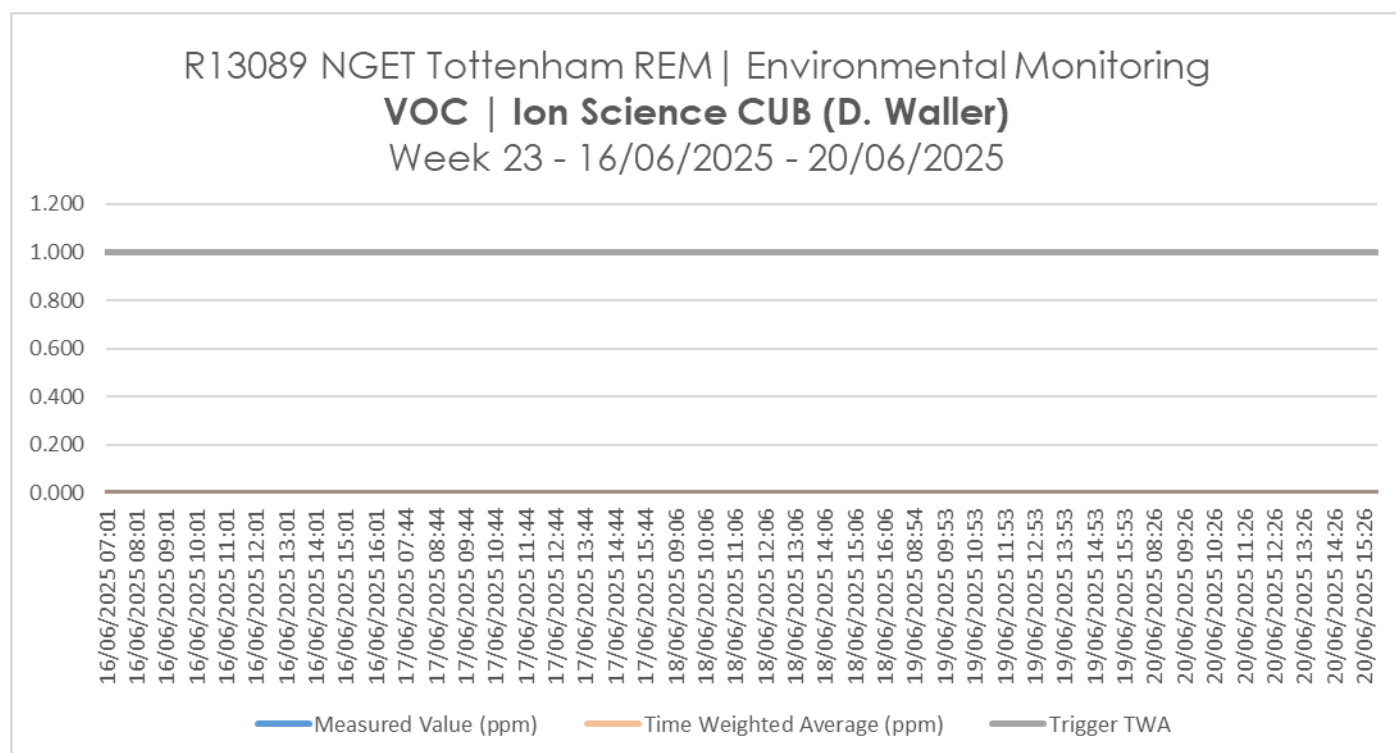
7. Volatile Organic Compounds (VOC) Monitoring

Under the Control of Substances Hazardous to Health Regulations, 2002 (COSHH), as amended in 2004), we used Ion Science Cubs, Photo Ionising Detectors (PID) which are capable of data logging and have an audio/visual alarm set to trigger in response to any exceedances of the occupational guideline value of an appropriate organic contaminant (benzene). This device meets the following European standards: ATEX: CE, Ex II 1G, Ex IA IIC T4; $-20^{\circ}\text{C} \leq T_a \leq 55^{\circ}\text{C}$.

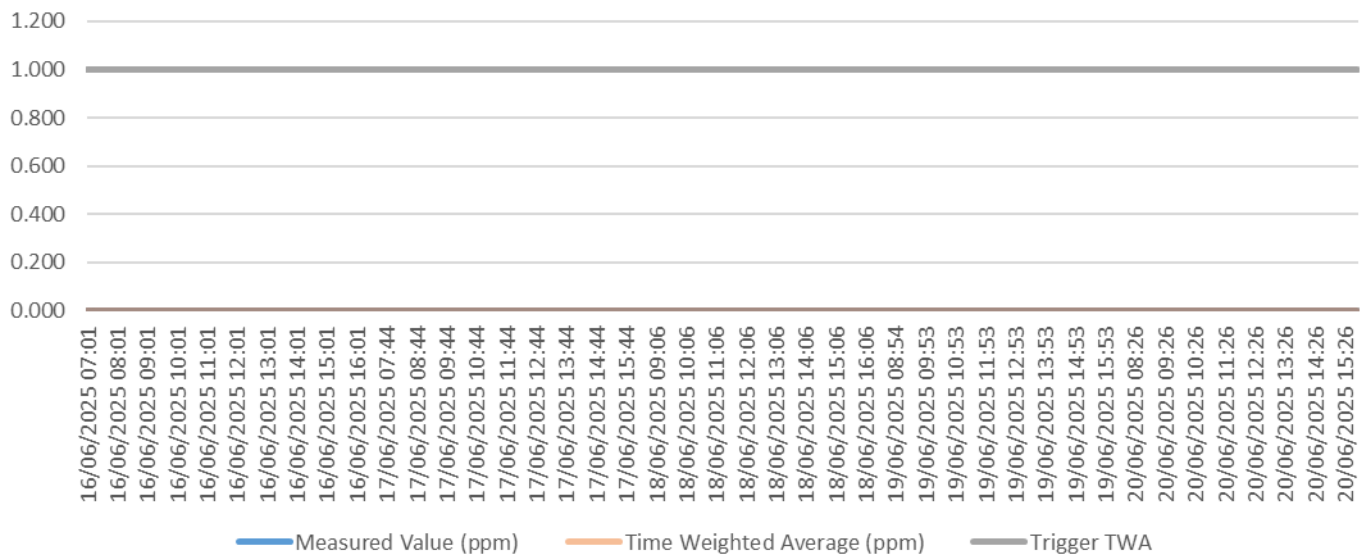
Action values for personal exposure to VOC (calibrated to benzene standard) as defined in the COSHH Regulations. VOC readings not to exceed 1 ppm of benzene. Should target limits be exceeded, measures in the SSoW will be implemented.

These are placed with the Site Foreman and Excavator Operator. The following data has been obtained from the onsite Photo Ionising Detectors (PID) and Tiger Select Cubs and represents the potential exposure to Volatile Organic Compounds (calibrated to benzene standard) during the week of this report.

7.1 Graphical Representation of Logged VOC Data

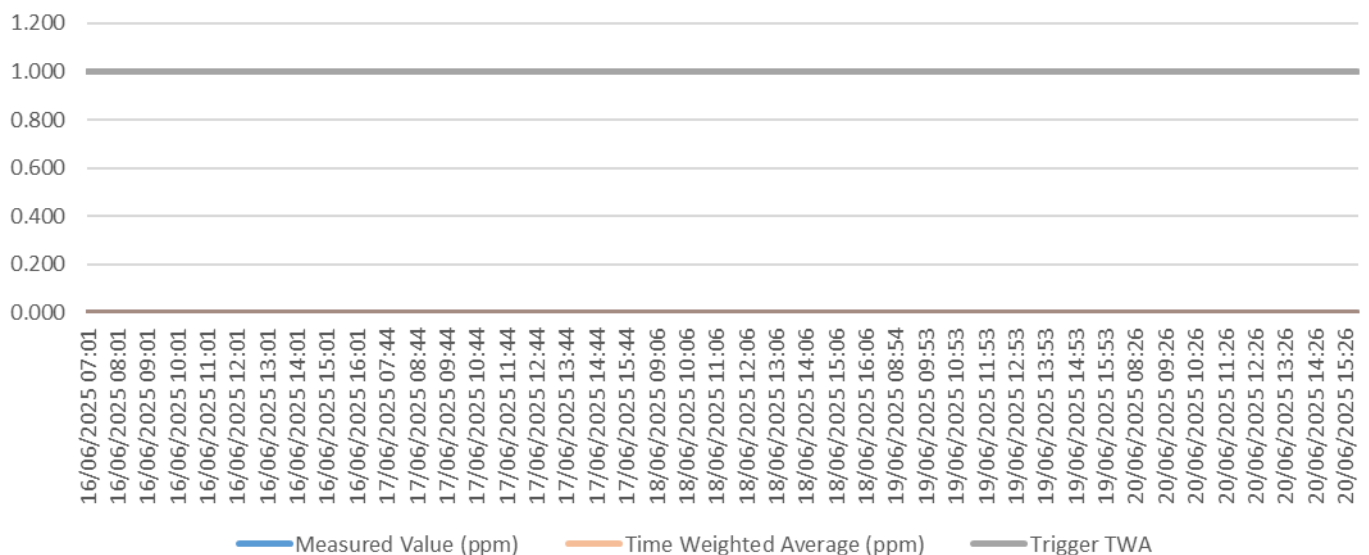


R13089 NGET Tottenham REM | Environmental Monitoring
VOC | Ion Science CUB (D. Waters)
 Week 23 - 16/06/2025 - 20/06/2025

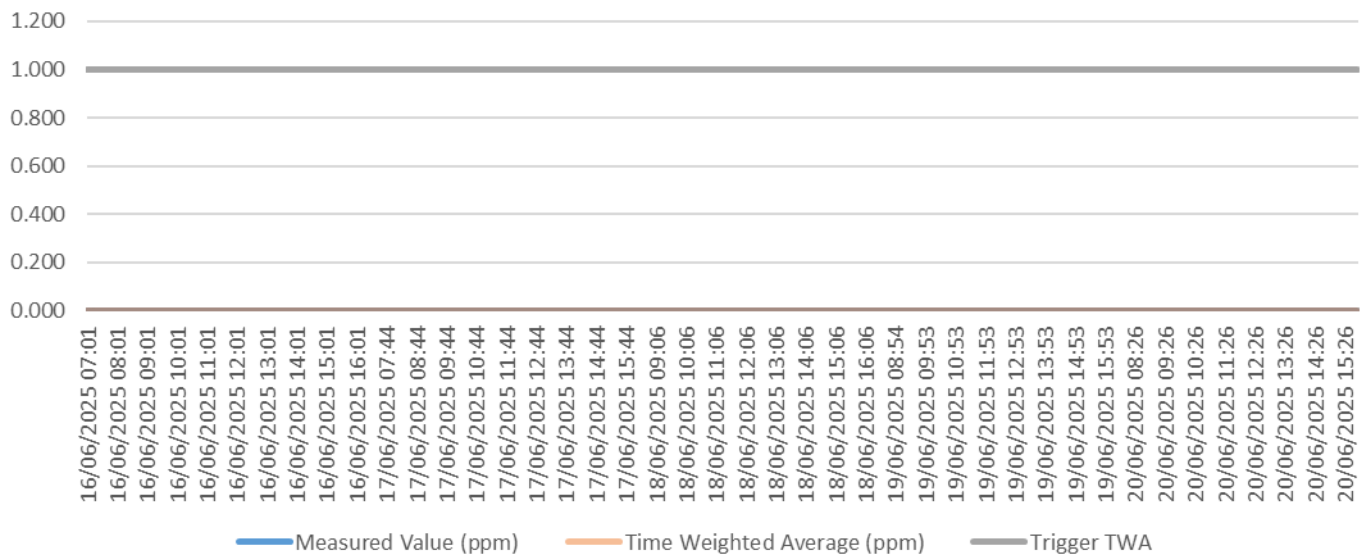


7.2 Graphical Representation of Logged PID Data

R13089 NGET Tottenham REM | Environmental Monitoring
VOC | Ion Science PID (North Boundary)
 Week 23 - 16/06/2025 - 20/06/2025



R13089 NGET Tottenham REM | Environmental Monitoring
VOC | Ion Science PID (West Boundary)
 Week 23 - 16/06/2025 - 20/06/2025



7.3 Findings on VOC

No exceedances of HSE'S document '*EH40: workspace exposure limits*' given workspace exposure limit (WEL) value of 1ppm 8-hour TWA were recorded for the week.

8. Applicable Legislation/ Regulations and Guidance

	Current Legislation	Activity	Impacts On
Reference Documents	Environmental Protection Act 1990 Part II	Demolition, asbestos, remediation works.	Air pollution, waste on land, contaminated land, nuisances and clean air, litter, radioactive substances, conservation.
	Pollution Prevention and Control Act 1999 & Pollution Prevention and Control (England & Wales) Regulations as amended 2000	Demolition, asbestos, remediation works.	Oil pollution, clean air, railway.
	Air Quality Standards Regulations 2010	Demolition, asbestos, remediation works.	Public exposure, ozone.
	The Environment Act (Commencements 1-18) Order 1995-1999	All projects.	EA, contaminated land, national parks, air quality, waste, drainage.
	Noise Emissions in the Environment by Equipment for use Outdoors (Amendment Regulations SI 2005/98	All projects, specifically in sensitive areas.	Human health, local noise levels.
	The Clean Air Act	All sites and projects.	Human health, environment.

Guidance:

- Institute of Air Quality Management – Guidance on the Assessment of Dust from Demolition and Construction - February 2014
- Institute of Air Quality Management – Guidance on Air Quality Monitoring in the Vicinity of Demolition and Construction sites – 2014
- BS 5228-1: 2009 + A1: 2014 – Code of Practice for Noise and Vibration Control on Construction and Open Sites.
- BS 7385-2: 1993 Evaluation and Measurement for Vibration in Buildings- Part2: Guide to damage levels from Ground Borne Vibration.
- BS 6742-1: 2008 – Guide to Evaluation of Human Exposure to Vibration in Building.
- DEFRA – Noise database for Prediction of Noise on Construction and Open Sites.
- HSE- EH40: Occupational Exposure Levels

9. Glossary of Terms

Trigger Levels	The limits of which one of the elements (noise/dust/vibration) cannot exceed external to the hoarding. The trigger levels may be agreed with the local council, according to the client requirements.
Baselines	The values recorded pre-works.
A weighting, dB(A)	The unit of sound level weighted according to the A-scale. Is the mechanism who correspond the best to response of the human ear.
LA_{eq}	The equivalent continuous noise level over any specified period.
PM10	The particulate matter of diameter less than or equal to 10 micrometres.
mg/m³	Milligrams of a substance in a cubic meter of air. It is a measure of concentration (weight/volume).
Peak	It is particularly valuable for indicating the level of short duration shocks, etc. (m/s ²).
P-P	Peak-to-Peak, indicates the maximum excursion of the wave, (m/s ²).
m/s²	Metres per second squared. It is a measure of acceleration.
m/s	Metres per second. It is a measure of velocity.

Environmental Monitoring Report

Week 24

NGET REM Tottenham



Prepared For	National Grid Electricity Transmission
Prepared By	Erith Contractors
Project Reference	R13089
Document Reference	Environmental Monitoring Report – Week 24
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1. Summary of Works

The project scope of works involves the remediation of the former bus depot. This includes excavation of contaminated soils, protection of a number of groundwater monitoring wells and the installation of a cable ducting trench to accommodate future works on site.

1.1 Monitoring Locations

	Welfare	
	Noise (Real Time Monitor)	
	Dust (Real Time Monitor)	
	Dust (Static Frisbee Gauges)	
	Vibration (Real Time Monitor)	

2. Equipment Used

Name	Serial Number	Certificate Number	Calibration Due Date
Turnkey iVIBE Sound and vibration meter	V0023	1356	24/03/2027
Turnkey Osiris Dust monitor	TNO4506	19348	17/03/2027
Ion Science Cub VOC gas detector	ECL CUB 067 TC201837 (D. Waters)	81160	17/10/2025
Ion Science Cub VOC gas detector	ECL CUB 120 TC202018 (D. Waller)	82157	19/02/2026
Ion Science PID VOC gas detector	Tiger Select 136 (North Boundary)	83178	16/06/2026
Ion Science PID VOC gas detector	Tiger Select (Bakery/ West Boundary) T106974	81521	16/05/2026

3. Works Undertaken

The below details the works completed during the week of this report:

3.1 Erith Works

- Backfill of the pylon footprint

3.1.1 Morrisons Works

- No works undertaken on site this week.

4. Noise Monitoring

A Turnkey iVIBE is a sound level meter and is intended for general acoustic measurements, occupational health, and environmental noise measurements.

Noise monitoring was recorded at the locations shown in Section 1.

The monitoring equipment complies with IEC 61326-1 (2005), IEC 61672-1 (2002), ANSI S1.4 (R2006), ANSI S1.43 (R2007), IEC 61260 (2001), ANSI S1.11 (R2009), CE, WEEE, RoHS and is compliant with BS 5228-1:2009 + A1:2014 *Code of practice for noise and vibration control on construction and open sites*.

Action values are as follows:

- Lower exposure action values:
 - Daily or weekly exposure of 70 dB
 - Peak sound pressure of 130 dB
- Upper exposure action values
 - Daily or weekly exposure of 75 dB
 - Peak sound pressure of 135 dB

L_{Aeq} (15 min) noise levels were recording continuously for 15-minute periods over an 8-hour duration.

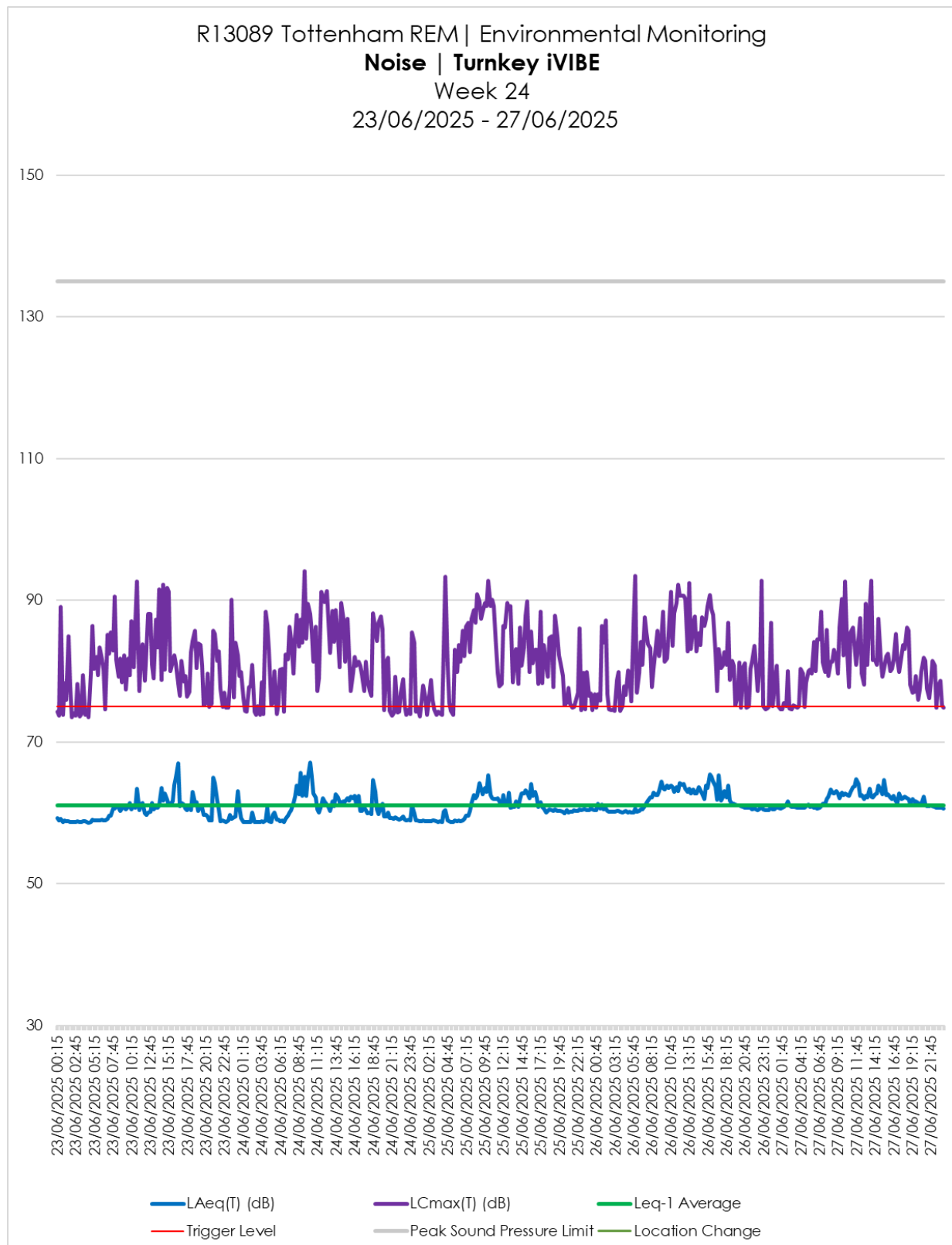
Action values for receptors are taken from the Code of Construction Practice London:

- During normal working hours (08:00 – 18:00), the maximum L_{Aeq}, period noise level measured 1 m from the façade (or boundary of the site if the property is greater than 1 m away) of any occupied or other building used for residential purposes, generated by construction plant and equipment, including the movements of vehicles to and from the site should not exceed the following:

Period	Hours	Residential / Commercial Premises	Schools or Hospitals
Monday - Friday	08:00 – 18:00	75 dB(A)	65 dB(A)
Saturday	08:00 – 13:00	75 dB(A)	65 dB(A)

In every case, control targets for nuisance noise will be agreed by the Contractor with the Local Environment Health Officer (EHO). Should the need arise (for example in the event that substantiated noise complaints are received during the site works in relation to high-risk activities) further detailed noise monitoring and assessment may be required to be undertaken by appropriately qualified persons in accordance with 'BS 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites'.

4.1 Graphical Representation of Logged Noise Data



LAeq - A-weighted equivalent continuous sound level in decibels equivalent to the total sound energy measured over a stated period.

LCmax - C-weighted peak sound pressure measurement.

(T) - Stated measured period of time.

Decibel (dB) - A unit used to measure the intensity of a sound.

4.2 Findings on Noise

Logged noise data for the week is displayed in the above graph.

No exceedances were recorded during the week.

5. Vibration Monitoring

An iVIBE data logger and 3 axis geophone was used for the duration of the works. The equipment is designed for high accuracy vibration monitoring in a construction environment.

Vibration monitoring was recorded at the locations shown in Section 1.

The monitor was set to run in continuous mode and was able to digitally record vibration levels up to 20 mm.s⁻¹, peak particle velocity, for frequencies between 5 Hz and 250 Hz. Weighting filters comply with ISO 2631, BS 6472 and BS 7385, and KB filters according to DIN 4150 and DIN 45669. Results are given in Root Mean Square (RMS) format. Data was exported from the logger and input into an Excel document, from which a graphic in the form a line graph was generated.

The geophone was levelled using the integrated bubble level and adjustable legs. It was loosely orientated by eye so that the axis conformed to the following compass bearings.

Geophone Axis	Bearing	Compass Point
X	51.60593	North
Y	-0.04660	West
Z	N/a	Zenith

Ground-borne vibration is to be undertaken by appropriately qualified persons and assessed using the guidelines provided in accordance with 'BS 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites'.

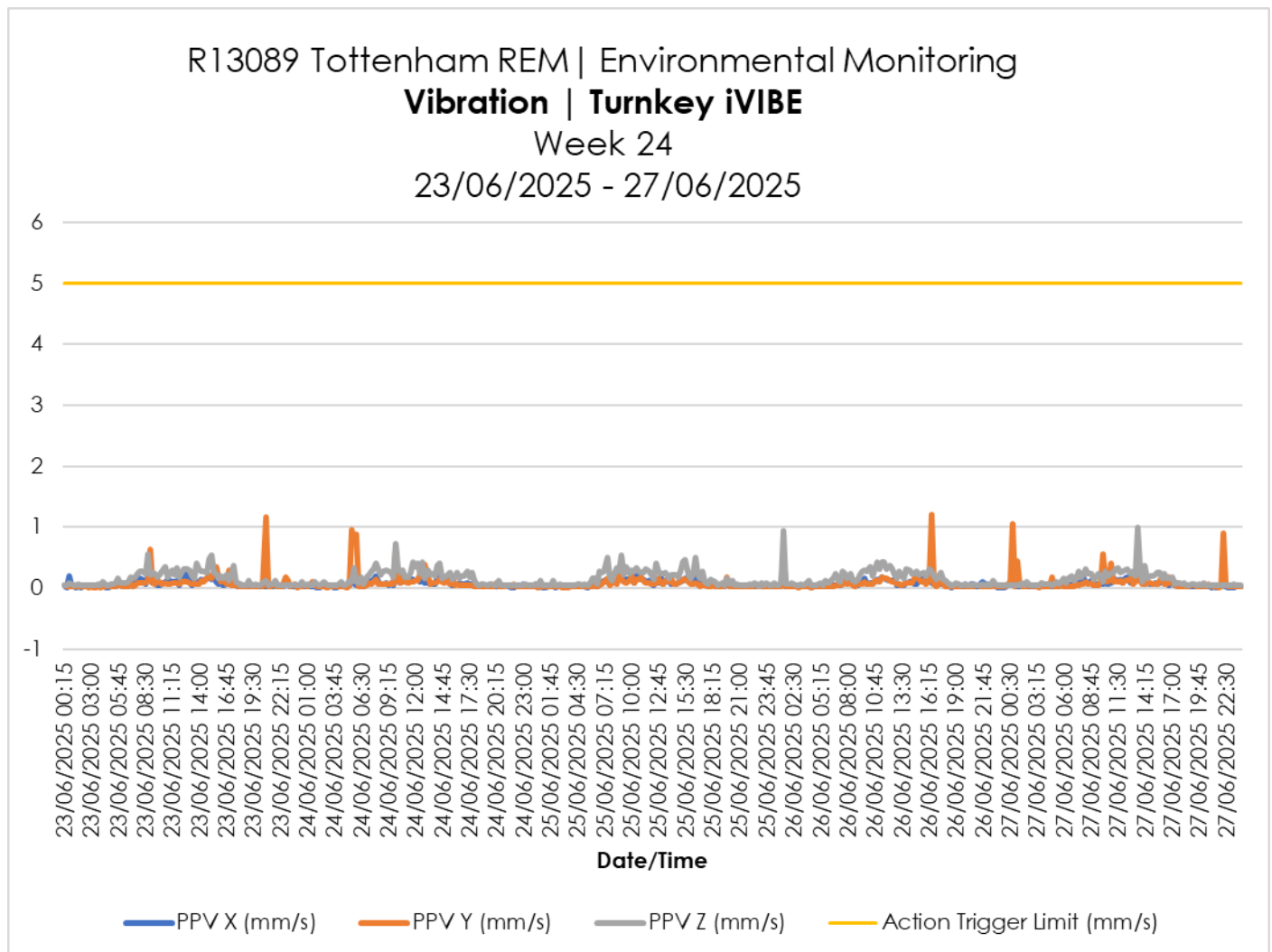
Trigger levels are based upon guidance given in 'BS 7385-2: 1993 Evaluation and measurement for vibration in buildings — Part 2: Guide to damage levels from ground borne vibration'.

Type of building	Peak component particle velocity in frequency of predominant pulse	
	4 Hz to 15 Hz	15 Hz and above
Reinforced or framed structures. Industrial and heavy commercial buildings	50 mm/s at 4 Hz and above	
Unreinforced or light framed structures. Residential or light commercial type buildings	15 mm/s at 4Hz increasing to 20 mm/s at 15 Hz	20 mm/s at 15 Hz increasing to 50 mm/s at 40 Hz and above

Vibration Limits Relating to Minor or Cosmetic Damage to Buildings:

Building Classification	Intermittent Vibration (PPV, mm/s ⁻¹)	Continuous Vibration (PPV, mm/s ⁻¹)
Residential in generally good repair	10	5
Residential where preliminary survey reveals significant defects (party wall)	5	3.5
Industrial/commercial – light and flexible structure	20	15
Industrial/commercial – heavy and stiff structure	30	15

5.1 Graphical Representation of Logged Vibration Data



5.2 Findings on Vibration

Logged vibration data for the week is displayed in the above graphs.

No exceedances were recorded during the week.

6. Dynamic Dust Monitoring

6.1 Dynamic Dust

The Osiris uses a light-scattering laser photometer to measure airborne particle monitors (PM10) in real-time with history data logging capability. The Osiris has been Environment Agency MCERTS certified.

This instrument is designed to measure dust deposition. Action values for personal exposure to Dust for Particulate Matter PM10 are set to a lower action level of 180 µg/m³ averaged over a 15-minute period as our warning trigger but not to exceed 200 µg/m³ averaged over a 15-minute period, as per the '*Institute of Air Quality Management (2018), Guidance on Air Quality Monitoring in the Vicinity of Demolition and Construction Sites*'.

Should the action value be exceeded, measures in the *Safe System of Work* will be implemented including stopping work and an increased dampening down of the site.

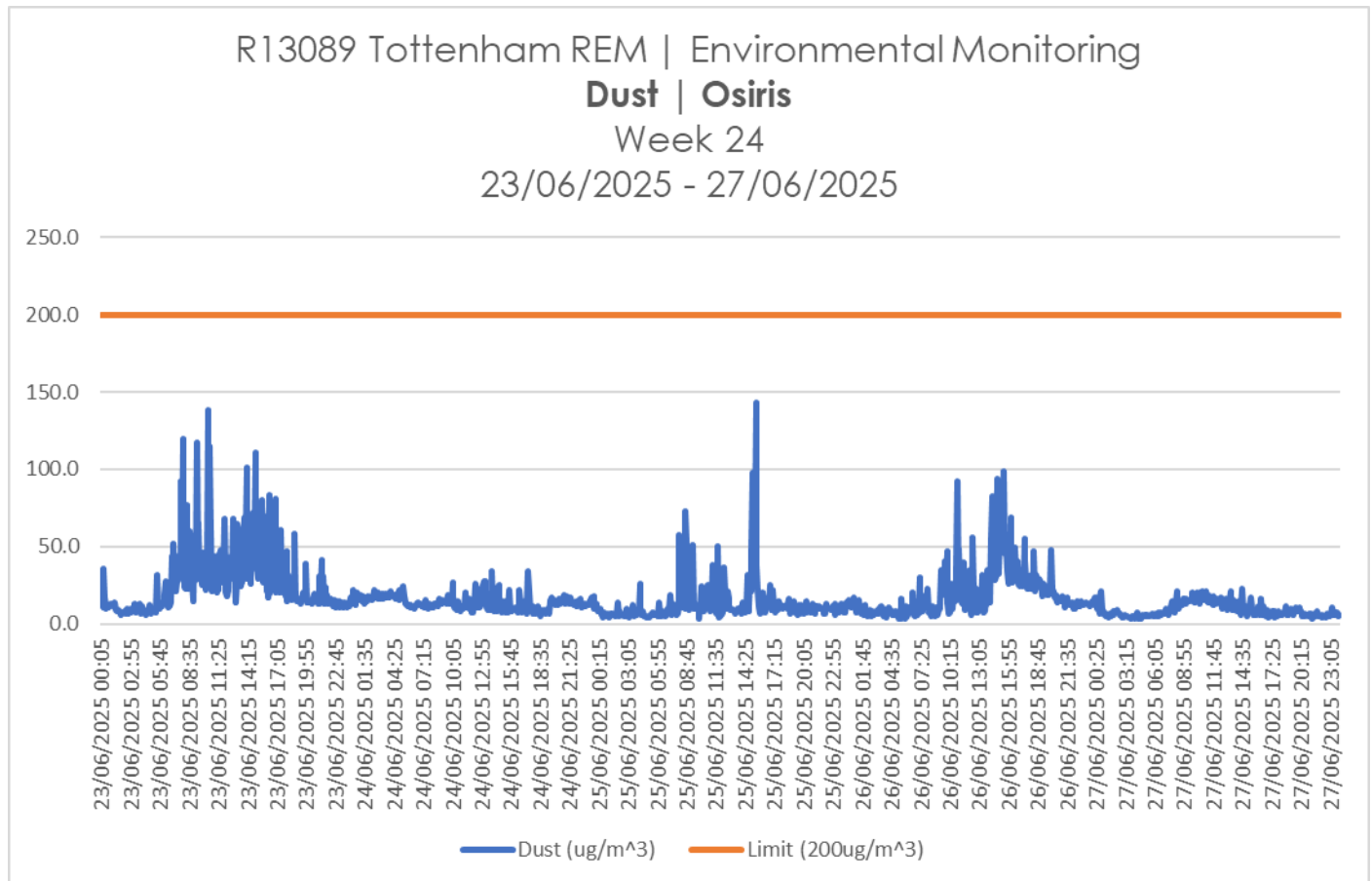
The DEFRA Daily Air Quality Index (DAQ) is numbered 1-10 and divided into four bands. Low (1) to very high (10), to provide detail about air pollution levels in a simple way. For PM10 particles, this based on the daily mean concentration.

Index	1	2	3	4	5	6	7	8	9	10
Band	Low	Low	Low	Moderate	Moderate	Moderate	High	High	High	Very High
µg/m ³	0-16	17-33	34-50	51-58	59-66	67-75	76-83	84-91	92-100	101 or more

The data below was obtained from the onsite monitor and represents the Particulate Matter suspended in the air up to 10 microns (PM10) in size during the period of this report.

Dust monitoring was recorded at the locations shown in Section 1.

6.2 Graphical Representation of Logged Dust Data



6.3 Findings on Dust

Logged dust data for the week is displayed in the above graph.

Action values for personal exposure to dust as defined in the air quality objectives for Particulate matter PM₁₀ are not to exceed 200 µg/m³ averaged over a 15-minute period as per the *Institute of Air Quality Management (2018), Guidance on Air Quality Monitoring in the Vicinity of Demolition and Construction Sites*.

No exceedances were recorded during the week.

7. Volatile Organic Compounds (VOC) Monitoring

Under the Control of Substances Hazardous to Health Regulations, 2002 (COSHH), as amended in 2004), we used Ion Science Cubs, Photo Ionising Detectors (PID) which are capable of data logging and have an audio/visual alarm set to trigger in response to any exceedances of the occupational guideline value of an appropriate organic contaminant (benzene). This device meets the following European standards: ATEX: CE, Ex II 1G, Ex IA IIC T4; $-20^{\circ}\text{C} \leq T_a \leq 55^{\circ}\text{C}$.

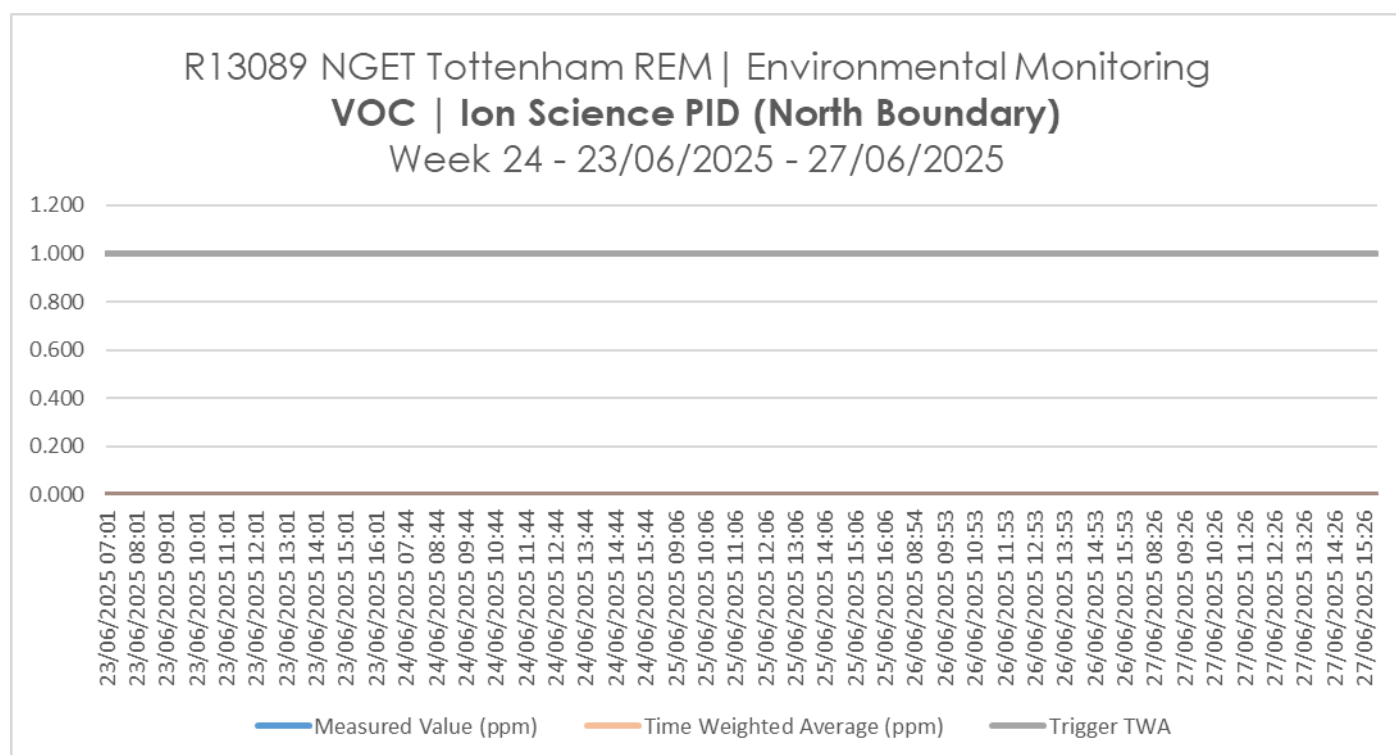
Action values for personal exposure to VOC (calibrated to benzene standard) as defined in the COSHH Regulations. VOC readings not to exceed 1 ppm of benzene. Should target limits be exceeded, measures in the SSoW will be implemented.

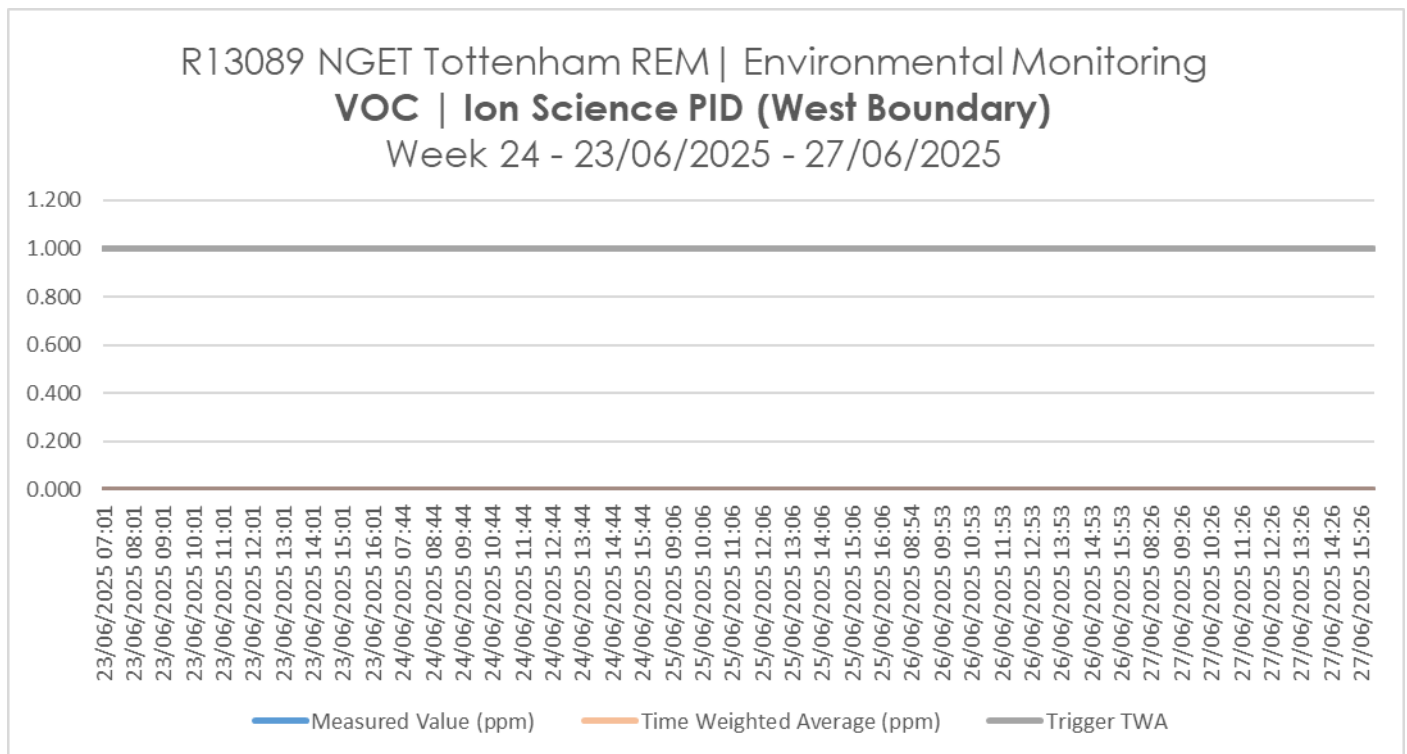
These are placed with the Site Foreman and Excavator Operator. The following data has been obtained from the onsite Photo Ionising Detectors (PID) and Tiger Select Cubs and represents the potential exposure to Volatile Organic Compounds (calibrated to benzene standard) during the week of this report.

7.1 Graphical Representation of Logged VOC Data

Not used during this period.

7.2 Graphical Representation of Logged PID Data





7.3 Findings on VOC

No exceedances of HSE'S document '*EH40: workspace exposure limits*' given workspace exposure limit (WEL) value of 1ppm 8-hour TWA were recorded for the week.

8. Applicable Legislation/ Regulations and Guidance

	Current Legislation	Activity	Impacts On
Reference Documents	Environmental Protection Act 1990 Part II	Demolition, asbestos, remediation works.	Air pollution, waste on land, contaminated land, nuisances and clean air, litter, radioactive substances, conservation.
	Pollution Prevention and Control Act 1999 & Pollution Prevention and Control (England & Wales) Regulations as amended 2000	Demolition, asbestos, remediation works.	Oil pollution, clean air, railway.
	Air Quality Standards Regulations 2010	Demolition, asbestos, remediation works.	Public exposure, ozone.
	The Environment Act (Commencements 1-18) Order 1995-1999	All projects.	EA, contaminated land, national parks, air quality, waste, drainage.
	Noise Emissions in the Environment by Equipment for use Outdoors (Amendment Regulations SI 2005/98	All projects, specifically in sensitive areas.	Human health, local noise levels.
	The Clean Air Act	All sites and projects.	Human health, environment.

Guidance:

- Institute of Air Quality Management – Guidance on the Assessment of Dust from Demolition and Construction - February 2014
- Institute of Air Quality Management – Guidance on Air Quality Monitoring in the Vicinity of Demolition and Construction sites – 2014
- BS 5228-1: 2009 + A1: 2014 – Code of Practice for Noise and Vibration Control on Construction and Open Sites.
- BS 7385-2: 1993 Evaluation and Measurement for Vibration in Buildings- Part2: Guide to damage levels from Ground Borne Vibration.
- BS 6742-1: 2008 – Guide to Evaluation of Human Exposure to Vibration in Building.
- DEFRA – Noise database for Prediction of Noise on Construction and Open Sites.
- HSE- EH40: Occupational Exposure Levels

9. Glossary of Terms

Trigger Levels	The limits of which one of the elements (noise/dust/vibration) cannot exceed external to the hoarding. The trigger levels may be agreed with the local council, according to the client requirements.
Baselines	The values recorded pre-works.
A weighting, dB(A)	The unit of sound level weighted according to the A-scale. Is the mechanism who correspond the best to response of the human ear.
LA_{eq}	The equivalent continuous noise level over any specified period.
PM10	The particulate matter of diameter less than or equal to 10 micrometres.
mg/m³	Milligrams of a substance in a cubic meter of air. It is a measure of concentration (weight/volume).
Peak	It is particularly valuable for indicating the level of short duration shocks, etc. (m/s ²).
P-P	Peak-to-Peak, indicates the maximum excursion of the wave, (m/s ²).
m/s²	Metres per second squared. It is a measure of acceleration.
m/s	Metres per second. It is a measure of velocity.

Environmental Monitoring Report

Week 25

NGET REM Tottenham



Prepared For	National Grid Electricity Transmission
Prepared By	Erith Contractors
Project Reference	R13089
Document Reference	Environmental Monitoring Report – Week 25
Monitoring Period	30/06/2025 – 04/07/2025

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1. Summary of Works

The project scope of works involves the remediation of the former bus depot. This includes excavation of contaminated soils, protection of a number of groundwater monitoring wells and the installation of a cable ducting trench to accommodate future works on site.

1.1 Monitoring Locations

	Welfare	
	Noise (Real Time Monitor)	
	Dust (Real Time Monitor)	
	Dust (Static Frisbee Gauges)	
	Vibration (Real Time Monitor)	

2. Equipment Used

Name	Serial Number	Certificate Number	Calibration Due Date
Turnkey iVIBE Sound and vibration meter	V0023	1356	24/03/2027
Turnkey Osiris Dust monitor	TNO4506	19348	17/03/2027
Ion Science Cub VOC gas detector	ECL CUB 067 TC201837 (D. Waters)	81160	17/10/2025
Ion Science Cub VOC gas detector	ECL CUB 120 TC202018 (D. Waller)	82157	19/02/2026
Ion Science PID VOC gas detector	Tiger Select 136 (North Boundary)	83178	16/06/2026
Ion Science PID VOC gas detector	Tiger Select (Bakery/ West Boundary) T106974	81521	16/05/2026

3. Works Undertaken

The below details the works completed during the week of this report:

3.1 Erith Works

- Crushing of the site-won concrete.

3.1.1 Morrisons Works

- No works undertaken on site this week.

4. Noise Monitoring

A Turnkey iVIBE is a sound level meter and is intended for general acoustic measurements, occupational health, and environmental noise measurements.

Noise monitoring was recorded at the locations shown in Section 1.

The monitoring equipment complies with IEC 61326-1 (2005), IEC 61672-1 (2002), ANSI S1.4 (R2006), ANSI S1.43 (R2007), IEC 61260 (2001), ANSI S1.11 (R2009), CE, WEEE, RoHS and is compliant with BS 5228-1:2009 + A1:2014 *Code of practice for noise and vibration control on construction and open sites*.

Action values are as follows:

- Lower exposure action values:
 - Daily or weekly exposure of 70 dB
 - Peak sound pressure of 130 dB
- Upper exposure action values
 - Daily or weekly exposure of 75 dB
 - Peak sound pressure of 135 dB

L_{Aeq} (15 min) noise levels were recording continuously for 15-minute periods over an 8-hour duration.

Action values for receptors are taken from the Code of Construction Practice London:

- During normal working hours (08:00 – 18:00), the maximum L_{Aeq}, period noise level measured 1 m from the façade (or boundary of the site if the property is greater than 1 m away) of any occupied or other building used for residential purposes, generated by construction plant and equipment, including the movements of vehicles to and from the site should not exceed the following:

Period	Hours	Residential / Commercial Premises	Schools or Hospitals
Monday - Friday	08:00 – 18:00	75 dB(A)	65 dB(A)
Saturday	08:00 – 13:00	75 dB(A)	65 dB(A)

In every case, control targets for nuisance noise will be agreed by the Contractor with the Local Environment Health Officer (EHO). Should the need arise (for example in the event that substantiated noise complaints are received during the site works in relation to high-risk activities) further detailed noise monitoring and assessment may be required to be undertaken by appropriately qualified persons in accordance with 'BS 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites'.