



Dust and Air Quality Innovation and Expertise

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Quarterly non-technical summary: Mountsorrel Quarry particulate matter, dust and weather monitoring

Date range: Quarter 1 2026 (17 December 2025 – 26 March 2026)

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Introduction

Every month, the results of dust and particulate matter monitoring at Mountsorrel Quarry are compiled and summarised in compliance reports, which are then shared with Charnwood Borough Council (CBC), Leicestershire County Council (LCC) and the Environment Agency. The monitoring results are discussed in more detail during Technical Liaison meetings held with CBC and LCC on a quarterly basis.

Once the quarterly liaison meetings are held, we prepare a cover letter to provide a non-technical overview of the most recent three months of finalised reports. This letter covers the period from 17 December 2025 – 26 March 2026.

An explanation of how and why dust and air quality are measured at Mountsorrel Quarry is available [here](#).

The format and focus of the compliance reports have been agreed with CBC and LCC. In addition to presenting PM₁₀ and PM_{2.5} data from both on-site monitors, emphasis is being placed on the frequency of short-term PM₁₀ alerts sent to quarry management, the investigations triggered by the alerts and the changes to on-site processes to minimise dust.

The general air quality of the surrounding area is assessed by comparing the particulate matter concentrations recorded by CBC at the southern end of Hawcliffe Road against the relevant Air Quality Objectives (AQOs). Data from a Defra Automatic Urban and Rural Network (AURN) monitoring station are also presented for reference. Prior to the February 2026 compliance report, the Leicester University AURN site was used. However, during the March quarterly technical meeting, it was agreed by CBC and LCC to use data from the Loughborough Thorpe Acre AURN site due to its closer proximity to the quarry. Consequently, the Loughborough Thorpe Acre AURN site has been used from the March 2026 compliance report onwards.

Weather summary

This quarter saw generally cool to mild conditions, with temperatures increasing overall from late January through to March. Rainfall was generally low, although some more notable precipitation events occurred during early January and mid-February, with lighter but more frequent rainfall during March.

Winds were predominantly light to moderate in speed and were mainly recorded from the east and south during this quarter, with some contribution from north-east, south-west and west sectors. This would have resulted in the potential for dust propagation towards the west, south-

west and north. No weather data were recorded between 9th – 17th February 2026 due to a temporary outage of the onsite weather station.

Deposited dust

The frequency of threshold level exceedances over the previous quarter is shown for each monitoring location in Figure 1 using pie charts.

During this period, deposited dust levels were below the site-specific threshold level at all locations, despite the dry conditions recorded.



Figure 1: Frequency of high dust levels, Quarter 1 2026

Particulate Matter

On-site PM_{2.5}

PM_{2.5} concentrations at Quorn House had a period average of 7.6 µg/m³, with the PM_{2.5} concentrations at Hawcliffe Road being slightly higher with a period average of 9.0 µg/m³ (Figure 2).

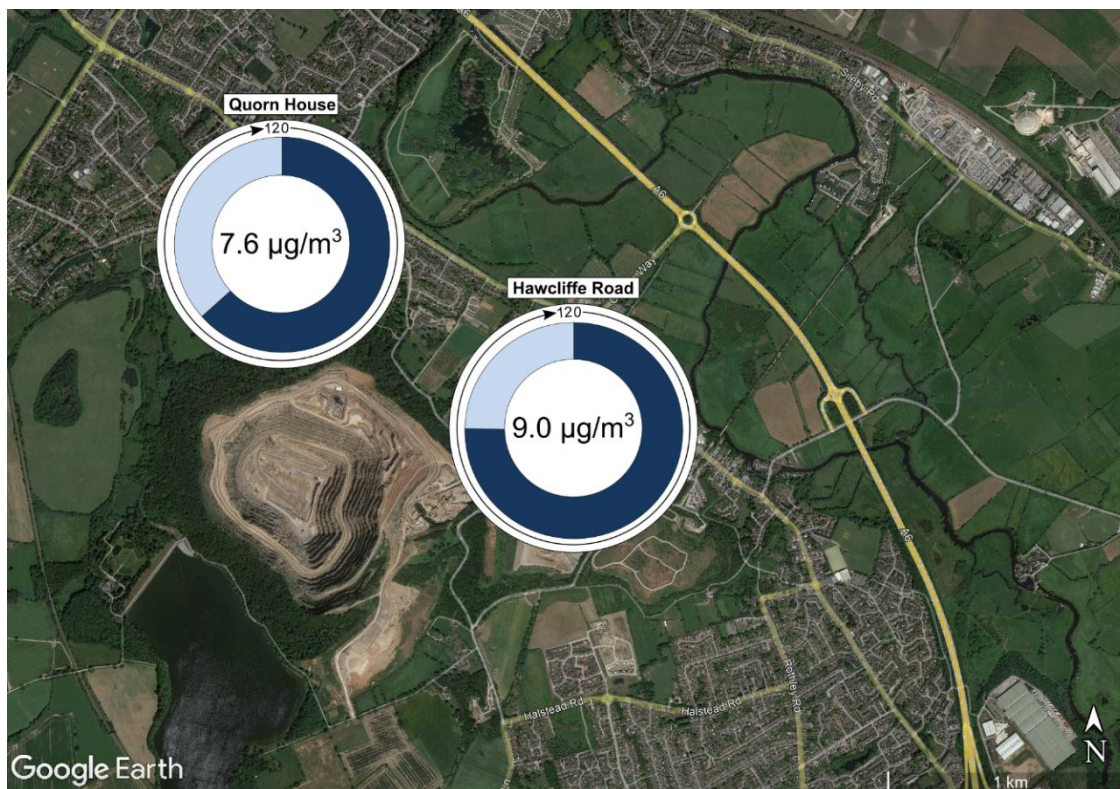


Figure 2: PM_{2.5} monitoring summary, Quarter 1 2026

Off-site PM_{2.5}

As shown in Figure 3, the period average PM_{2.5} concentrations recorded at the CBC monitoring station at the southern end of Hawcliffe Road was $9.1 \mu\text{g}/\text{m}^3$ or 76% of the interim target value for PM_{2.5} ($12 \mu\text{g}/\text{m}^3$ as an annual average). The period average concentration at the Leicester University AURN monitoring station was lower, at $7.7 \mu\text{g}/\text{m}^3$ or 64% of the interim target value.

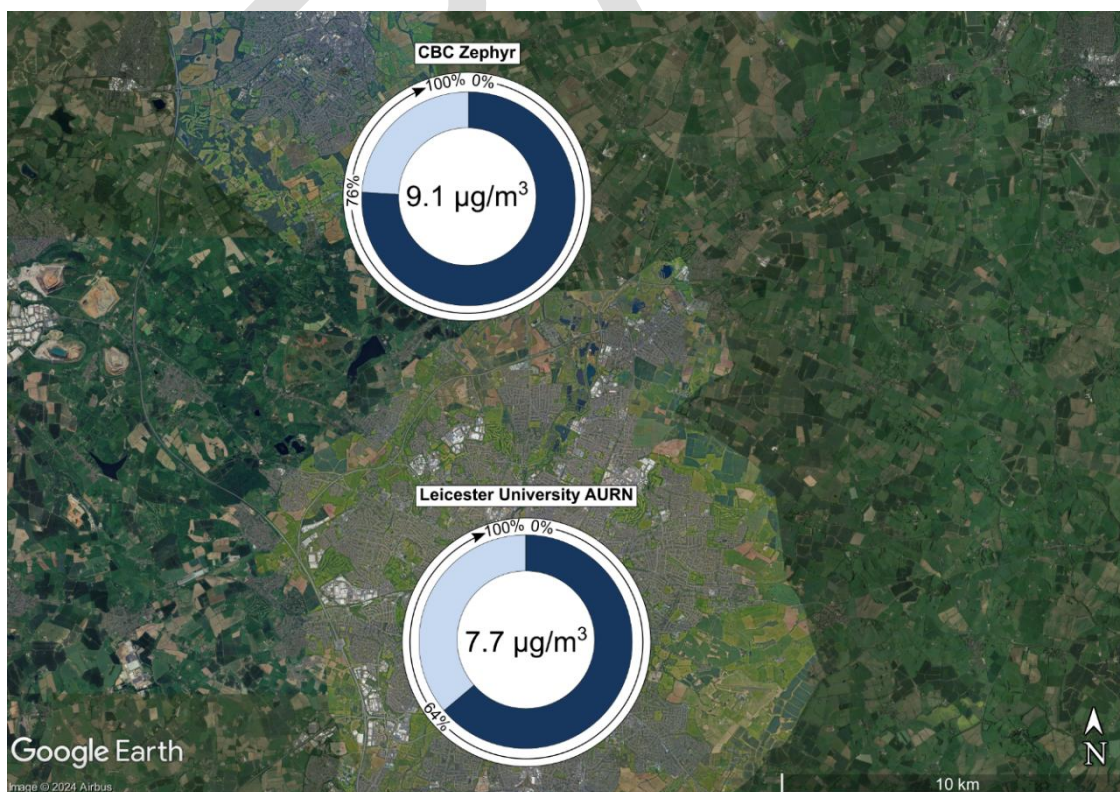


Figure 3: PM_{2.5} monitoring summary, CBC and AURN Leicester University monitoring stations, January 2026 report

Figure 4 shows the same CBC monitoring station at the southern end of Hawcliffe Road and the Loughborough Thorpe Acre AURN monitoring station where the period average concentration was 9.0 $\mu\text{g}/\text{m}^3$ or 75% of the interim target value.

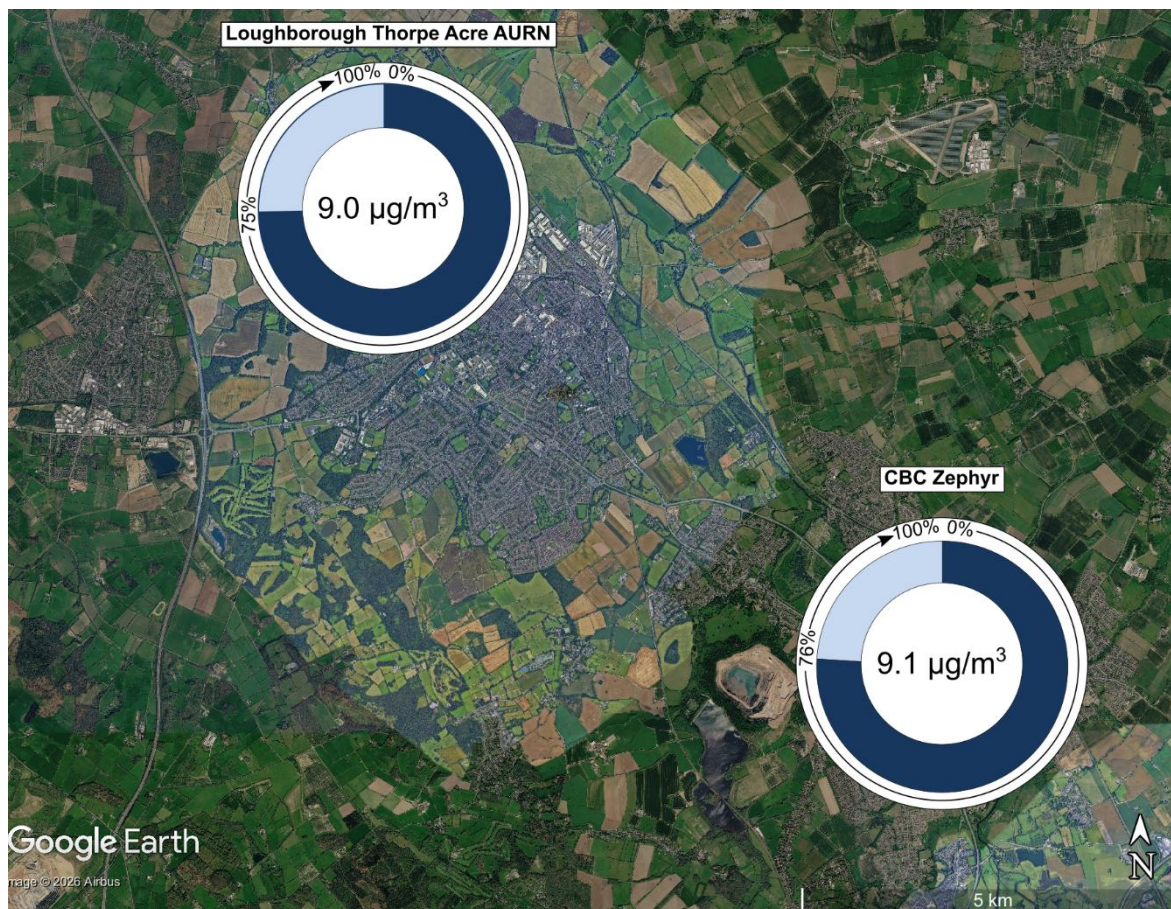


Figure 4: PM_{2.5} monitoring summary, CBC and AURN Loughborough Thorpe Acre monitoring stations, February and March 2026 reports

On-site PM₁₀

PM₁₀ concentrations recorded at Quorn House had a period average of 9.0 $\mu\text{g}/\text{m}^3$ for this period, with the period average being 12.5 $\mu\text{g}/\text{m}^3$ at Hawcliffe Road (Figure 5).

The short-term PM₁₀ trigger level (125 $\mu\text{g}/\text{m}^3$ over a 15-minute period) was exceeded on 7 occasions during this quarter at Hawcliffe Road, with no exceedances recorded at Quorn House. Details of the resulting investigations can be found in the attached reports.



Figure 5: PM₁₀ monitoring summary, Quarter 1 2026

Off-site PM₁₀

As shown in Figure 6, PM₁₀ concentrations recorded at the CBC monitoring station at the southern end of Hawcliffe Road was 15.0 µg/m³ or 68% of the AQO (40 µg/m³). Concentrations at the Leicester University AURN monitoring station were lower, at 10.5 µg/m³ or 26% of the AQO.

No days with an average PM₁₀ concentration above 50 µg/m³ were recorded during this quarter.

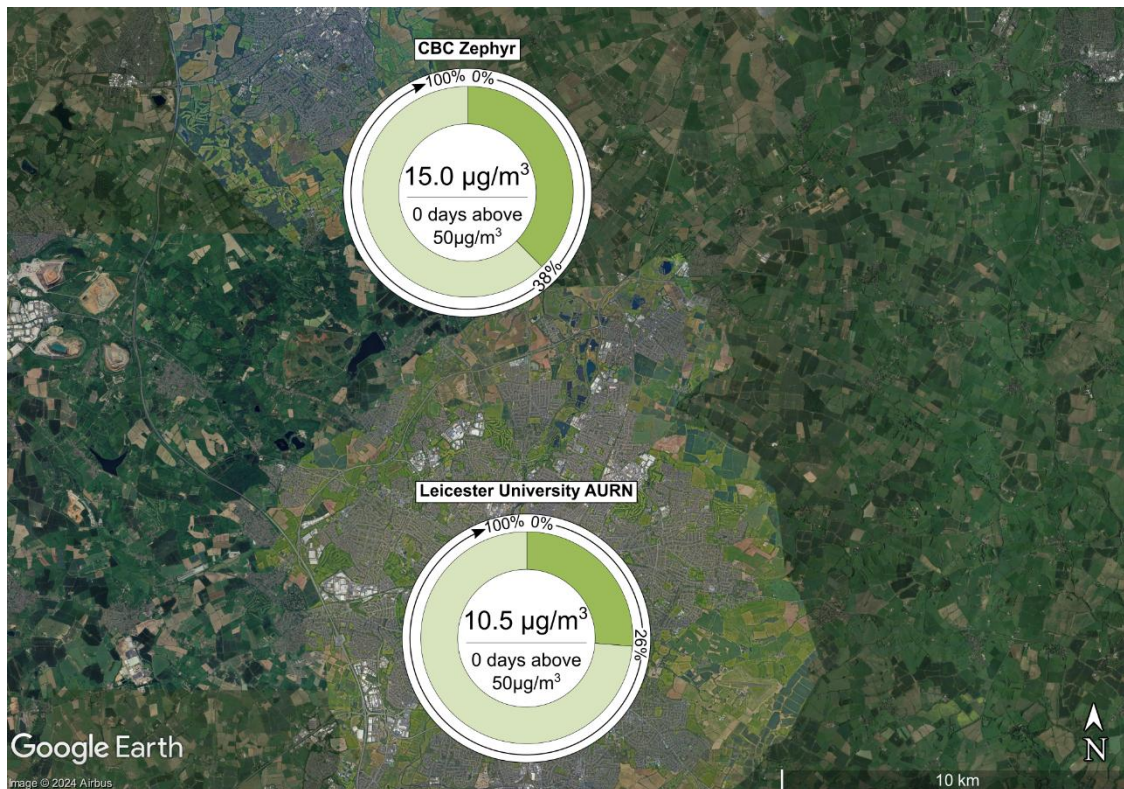


Figure 6: PM₁₀ monitoring summary, CBC and AURN Leicester University monitoring stations, January 2026 report

Figure 7 shows the same CBC monitoring station at the southern end of Hawcliffe Road and the Loughborough Thorpe Acre monitoring station where the period average concentration was 12.0 µg/m³ or 30% of the AQO.

No days with an average PM₁₀ concentration above 50 µg/m³ were recorded during this quarter.



Figure 7: PM₁₀ monitoring summary, CBC and AURN Loughborough Thorpe Acre monitoring stations, February and March 2026 reports

Complaints

Between the 17 December 2025 – 26 March 2026, it is understood that one complaint was received by the quarry. The local councils were kept informed by the subsequent investigation and any corrective measures taken.

Complaints are typically discussed in more detail during the quarterly environmental technical meetings held between Tarmac, external environmental consultants (such as DustScanAQ) and both Charnwood Borough Council and Leicestershire County Council.

**DustScanAQ
May 2026**



Dust, Particulate Matter and Weather Monitoring Report: January 2026

Mountsorrel Quarry

March, 2026

Tarmac



Document Control Sheet

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Disclaimer

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1 Introduction

Mountsorrel Quarry has a comprehensive Dust Management and Monitoring Plan (DMMP). The DMMP was developed in 2011 and is subject to regular review and revision, in consultation between Tarmac and the local regulators (Leicestershire County Council (LCC) and Charnwood Borough Council (CBC)).

The DMMP is enacted through the quarry Site Improvement Plan (SIP). The SIP sets out a programme of actions to reduce the environmental impact of specific areas of the site operation, and is updated regularly by quarry management, with support from DustScanAQ through regular site visits and quarterly reviews with LCC and CBC.

Section 7.5 of the DMMP requires that a monthly summary and review of dust and particulate matter monitoring is prepared and circulated with LCC, CBC and the Environment Agency.

This report details the results of dust, particulate matter and weather monitoring around Mountsorrel Quarry during the period 17th December 2025 – 29th January 2026.

1.1 Report scope

The intention of this report is to summarise dust and particulate matter monitoring results for the given period and compare them against site-specific alert limits and thresholds. This report also details the results of any investigation carried out into elevated dust or particulate matter levels, as prompted by an exceedance of alert limits or thresholds.

1.2 Dust definitions

'Dust' is generally regarded as particulate matter up to 75 µm (micron) diameter and can be considered in two categories. Fine dust, essentially particles up to 10 µm, is commonly referred to as PM₁₀ and is measured to agreed standards and forms part of the national Air Quality Objectives (AQO). The AQO for PM₁₀ is currently 50 µg/m³ for the 24-hour mean, not to be exceeded 35 times per year and 40 µg/m³ for the annual mean. Particles up to 2.5 µm in diameter are referred to as PM_{2.5}. The interim target for PM_{2.5} is 12 µg/m³ for the annual mean (to be achieved by 2028), whilst the legal AQO for PM_{2.5} is 10 µg/m³ for the annual mean (to be achieved by 2040) as per The Environmental Targets (Fine Particulate Matter) (England) Regulations 2023¹.

It may be noted that the above Regulations relate to average particle concentrations in Local Authority districts thus do not apply to any specific industrial or other operation, such as Mountsorrel Quarry, and are included for reference. Coarser dust (essentially particles greater than 10 µm) is generally regarded as 'nuisance dust' and can be associated with annoyance, although there are no official standards (such as AQO) for dust annoyance.

¹ Statutory Instrument. (2023), 'The Environmental Targets (Fine Particulate Matter) (England) Regulations', No. 96. King's Printer of Acts of Parliament

2 Sampler locations

As shown in Figure 2.1 and Table 2.1, dust, particulate matter and weather conditions are measured at a number of locations around site and the surrounding area:

- Directional and depositional dust: currently monitored at 13 locations;
- Particulate matter: currently monitored at two locations;
- Weather conditions: currently monitored at one location.

The majority of the dust samplers around Mountsorrel Quarry comprise the ‘Frisbee-type’ deposition gauge combined with an adhesive ‘sticky pad’ directional gauge. These samplers are used to monitor ‘nuisance’ dust and samples from these instruments are collected on a monthly basis.

For particulate matter, Turnkey Osiris samplers are located at Stn 9 (Hawcliffe Road) and at Stn 13 (Quorn House). These recognised and certificated ‘indicative’ real-time devices are connected to their own wind vane and anemometer and provide near-instantaneous directional PM₁₀, PM_{2.5} and PM₁ data directly to the quarry management team.

A weather station is located at the site offices off Wood Lane and collects a range of weather parameters over fifteen-minute intervals. Data from the weather station are available to the quarry management by means of a dedicated modem connection to the internet.

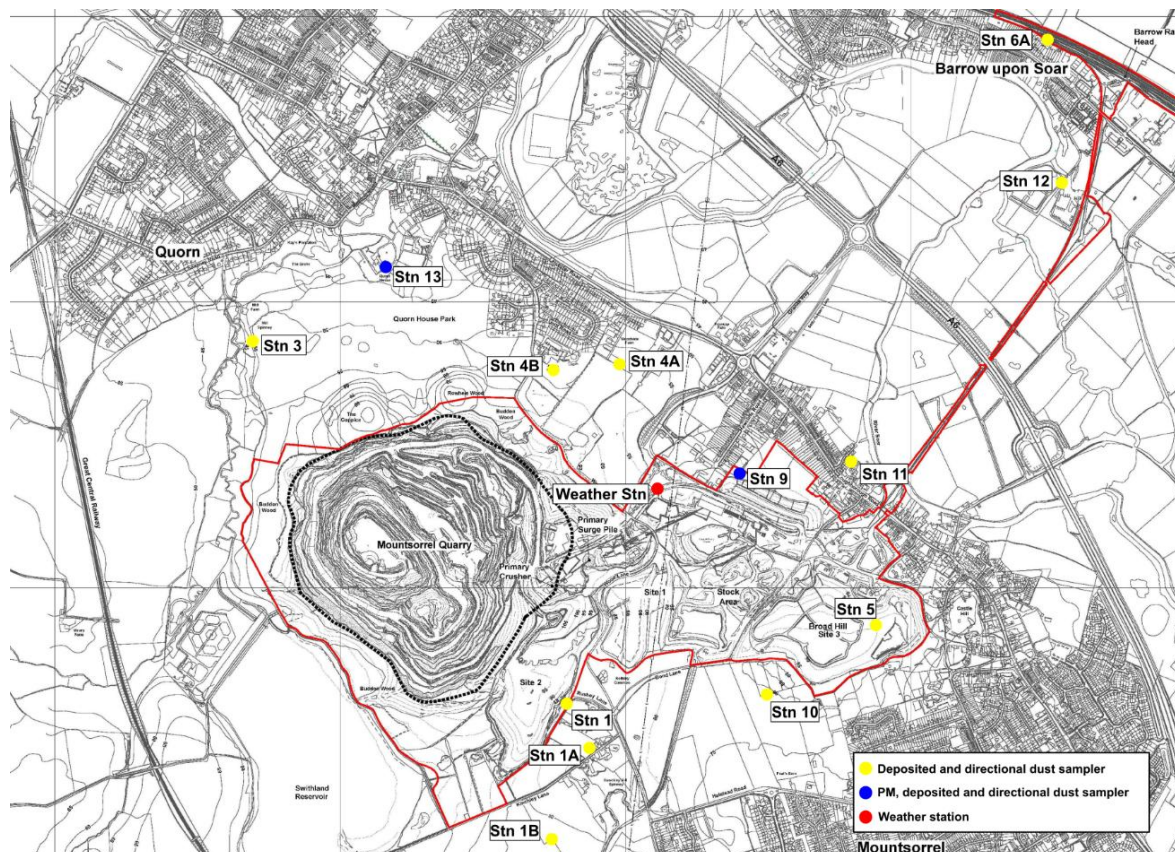


Figure 2.1: Particulate matter, dust and weather monitoring locations, Mountsorrel Quarry

Table 2.1: Particulate matter, dust and weather monitoring locations, Mountsorrel Quarry

Sampler reference	Easting	Northing	Locality monitored
Stn 1	456787	314586	Swithland Lane; Rushey Lane; Kinchley Lane
Stn 1A	456882	314449	Swithland Lane; Rushey Lane; Kinchley Lane
Stn 1B	456745	314112	Swithland Lane; Rushey Lane; Kinchley Lane
Stn 3	455685	315844	Mill Farm; Quorn House
Stn 4A	456966	315787	Woodside Farm; Leicester Road
Stn 4B	456732	315767	Quorn Grange, Unitt Road, Northage Close, Quorn Park
Stn 5	457872	314875	Bond Lane; Crown Lane
Stn 6A	458655	316785	Sileby Road; Huston Close; Sileby Road (commercial)
Stn 9 (inc. PM)	457374	315398	Hawcliffe Road
Stn 10	457509	314627	Glebe Close; Halstead Road (south); Halstead Road (north)
Stn 11	457835	315504	Loughborough Road; River Soar (marina / caravan park)
Stn 12	458551	316457	Meadow Farm Marina and Caravan Park
Stn 13 (incl. PM)	456154	316087	Northage Close, Meeting Street
Weather Station	457126	315376	Wood Lane Site Offices

Charnwood Borough Council (CBC) is responsible for the monitoring of air quality within the borough and prepares Air Quality Annual Status Reports (ASRs) for submission to Defra. It operates a Zephyr air quality monitor which is located within the Leicestershire County Council (LCC) depot at the southern end of Hawcliffe Road, in close proximity to the Osiris device at Stn 9. This device measures a number of pollutants including PM₁₀ and PM_{2.5}. The purpose of this monitoring is for CBC to compare measured concentrations against the relevant AQOs for these pollutants.

For additional context, the latest PM₁₀ and PM_{2.5} monitoring data from CBC are summarised in Appendix A and Appendix B, whilst a summary of the latest 12 months of data are provided in Appendix C for reference.

2.1 Alert thresholds and response procedures

To help the site reduce its impact on the surrounding area, a number of alert thresholds have been calculated, as outlined in Table 2.2.

Table 2.2: Alert thresholds

Pollutant	Threshold	Averaging period	Applies to
PM ₁₀	125 µg/m ³	15 minutes	Stn 9 (Hawcliffe Road), Stn 13 (Quorn House)
Deposited dust	125 mg/m ² /day	1 month	All deposited dust monitoring locations

For particulate matter (PM₁₀) an alert threshold of 125 µg/m³ for the 15-minute average has been in use for several years as a trigger limit for investigation to identify potential on-site issues.

Analysis of data from the site has demonstrated that PM₁₀ provides a stronger ‘site signal’ than PM_{2.5}. The purpose of alerts is to provide site managers with information regarding elevated PM₁₀ concentrations, allowing them to investigate and make operational changes if necessary. An alert threshold has therefore not been set for PM_{2.5} to prevent duplication.

PM₁₀ and PM_{2.5} concentrations recorded by CBC at the southern end of Hawcliffe Road and by Defra through the Automatic Urban and Rural Network (AURN) at Leicester University are presented in Appendix A and Appendix B respectively. Data from both locations have been compared against relevant Air Quality Objectives (AQOs) for PM₁₀ and PM_{2.5}.

For deposited dust, the DMMP sets out a site-wide deposited dust threshold of 125 mg/m²/day ‘undissolved solids’ as a trigger limit for investigation to identify the potential dust source/s, taking account of the directional data.

3 Results

3.1 Weather monitoring

Weather conditions can have a significant effect on the potential for dust propagation from a mineral site. Of particular importance are wind speeds, wind direction, and precipitation. Dust can be carried from a source towards receptors (such as nearby homes and other businesses) according to the strength and direction of wind. Precipitation is recognised to suppress dust and 0.2 mm antecedent rainfall is considered sufficient to suppress windblown dust for a number of hours.

The key weather data which might affect dust propagation (wind speed, wind direction, total daily precipitation and average daily temperature) for this reporting period are summarised in Figure 3.1 and Figure 3.2.

The temperature fluctuated downwards from approximately 10 °C degrees at the beginning of the monitoring period to below zero on 8th January 2026. The temperature then began to rise until gradually dropping off for the remainder of the month. The maximum average daily temperature was 10.0 °C, recorded on 18th December 2025 and the minimum average daily temperature was -0.82 °C, recorded on 5th January 2026. Precipitation was recorded on 59% of days during this period with a 14-day dry period from 17th – 30th December 2025. Precipitation then increased before gradually decreasing for the remainder of the monitoring period.

As seen in Figure 3.2, winds were mostly calm to moderate in speed (>0.5 – 6 m/s) and were predominantly recorded from the east, with some recordings from the north-northwest, west and south-southeast. This may have resulted in an increased potential for dust propagation to the west, south-southeast east and north-northwest during 17th December 2025 – 29th January 2026.

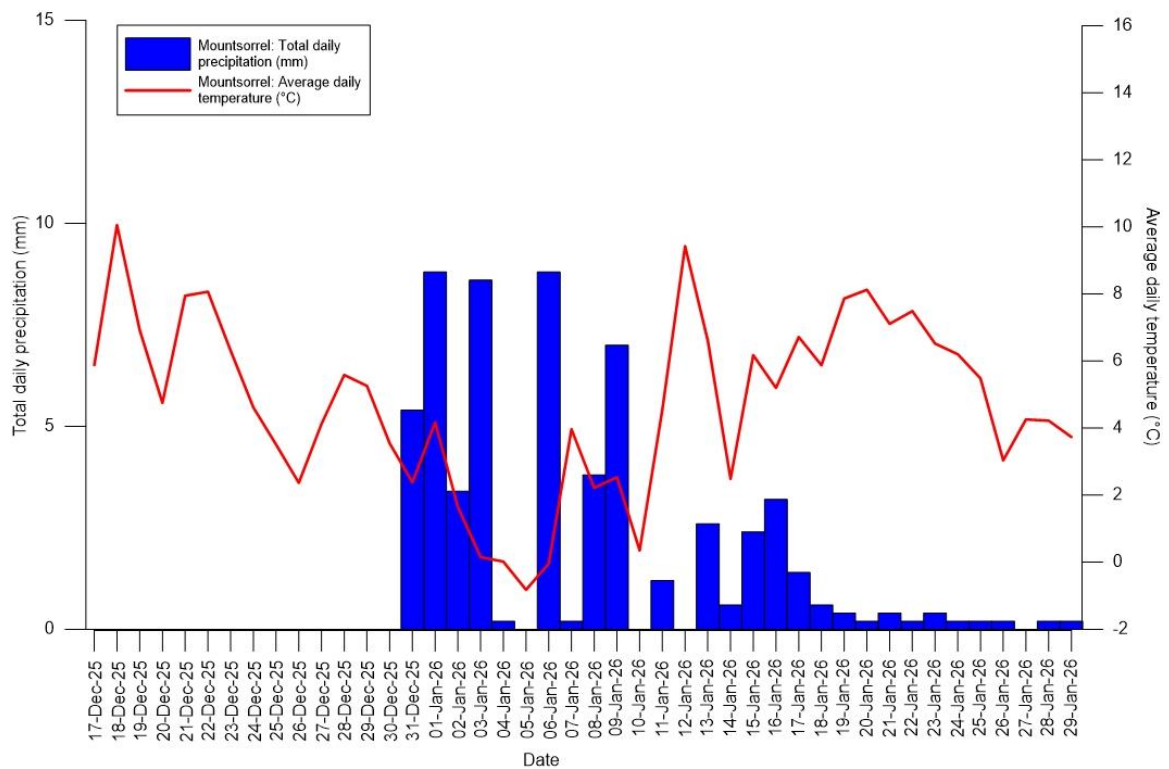


Figure 3.1: Total daily precipitation and average daily temperature, Mountsorrel Quarry, 17th December 2025 – 29th January 2026

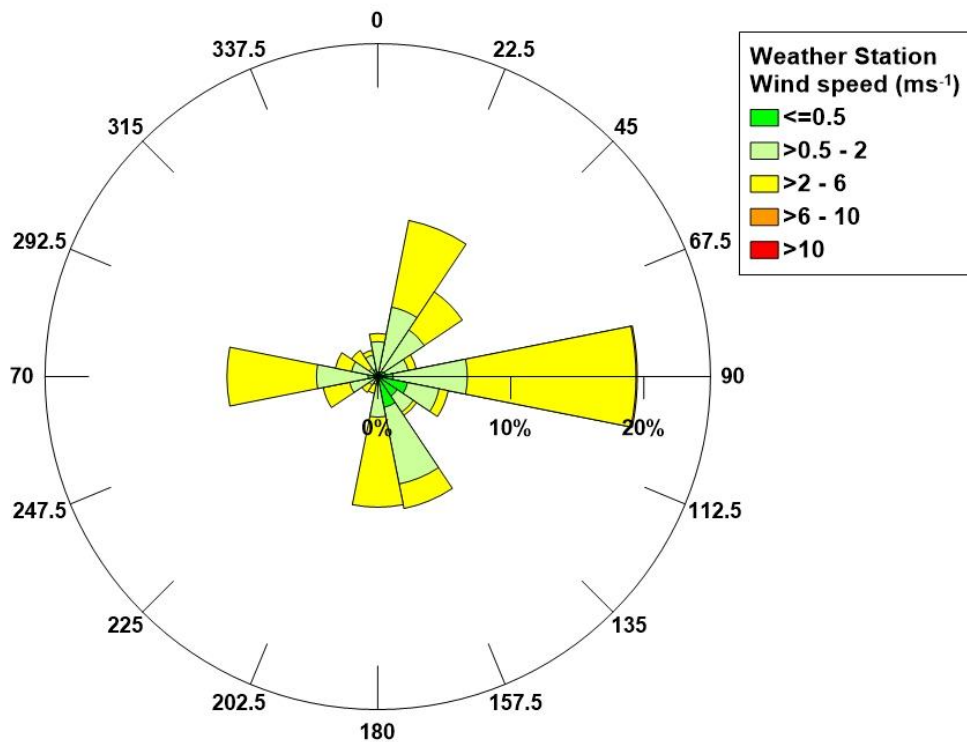


Figure 3.2: Wind rose, Mountsorrel Quarry, 17th December 2025 – 29th January 2026

3.2 Particulate matter

3.2.1 PM₁₀

The available 15-minute data from the period of review are presented for both monitoring locations in Figure 3.4 and Figure 3.4 respectively. The red line denotes the site trigger level (125 µg/m³ over the 15-minute average), whilst the dashed black line denotes the average concentration recorded over this period.

Additional PM₁₀ monitoring data (collected by CBC and the Defra AURN monitoring network) are provided in Appendix A.

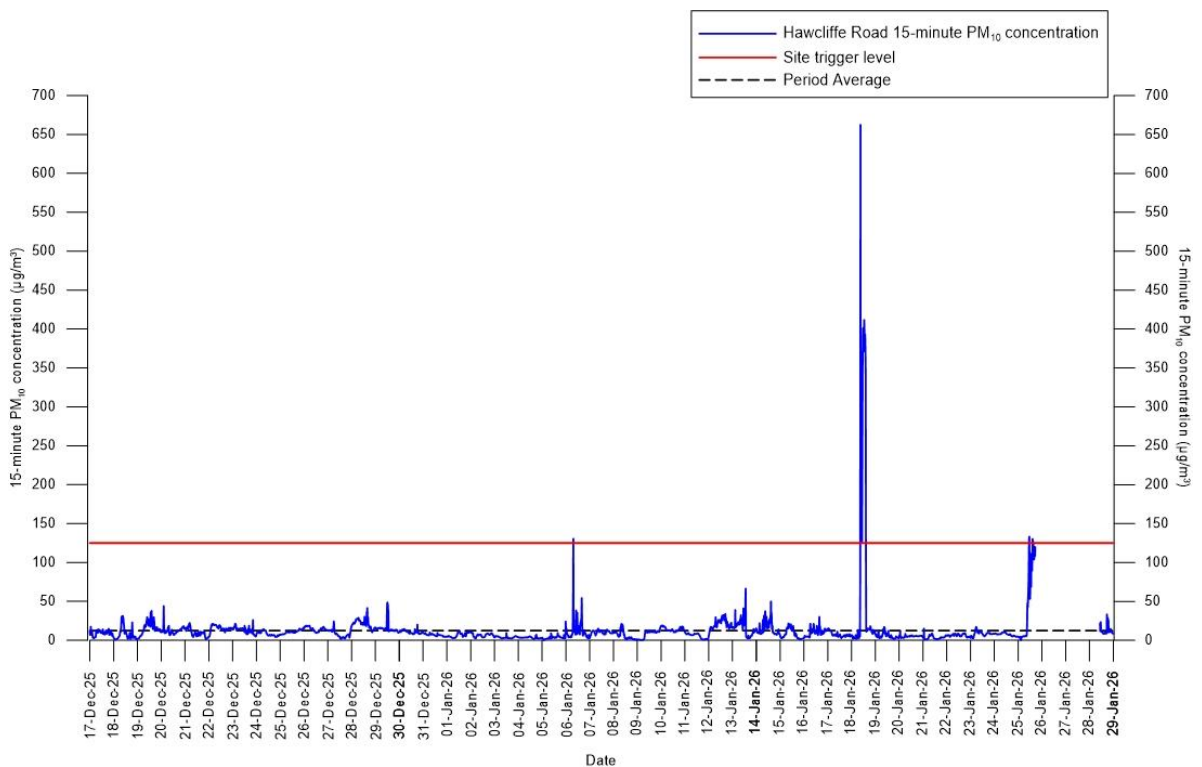


Figure 3.3: 15-minute mean PM₁₀ concentration, Hawcliffe Road, 17th December 2025 – 29th January 2026

Figure 3.3 indicates that the period average concentration at the Hawcliffe Road sampler for this period was 12.5 µg/m³, with the alert threshold being exceeded on three days during this monitoring period. Details of the exceedances are provided in Table 3.1. No data were available from the afternoon of January 25th to the morning of January 28th due to a power supply issue.

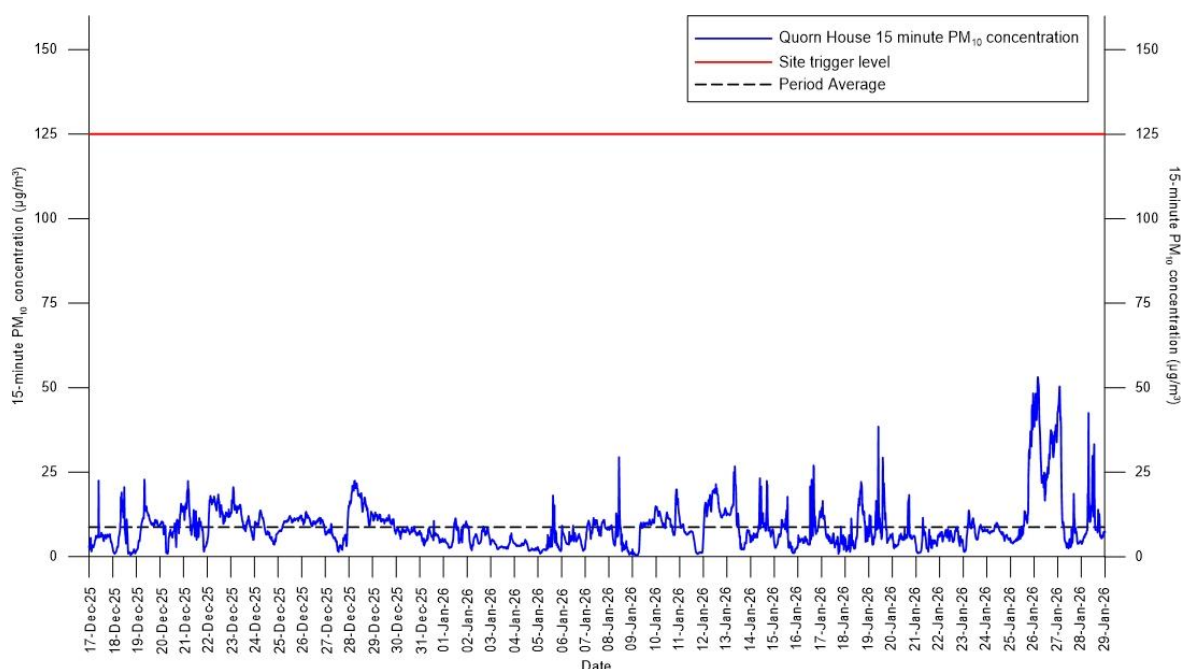


Figure 3.4: 15-minute mean PM₁₀ concentration, Quorn House, 17th December 2025 – 29th January 2026

At Quorn House there were no exceedances of the PM₁₀ site trigger, and the period average was 8.7 µg/m³.

During this review period, trigger emails alerting staff to high PM₁₀ levels were sent on three days from the Hawcliffe Road Osiris. Details of the corresponding causes and investigations are provided in Table 3.1.

Table 3.1: Email alert responses, between 17th December 2025 – 29th January 2026 (using the trigger threshold, 125 µg/m³ for the 15-minute average)

Date of alert	Monitor	Details	Possible cause and investigation
06/01/2026	Hawcliffe Road	Exceedances from the south in the morning.	Site investigation carried out at time of alert. Identified some dust suppression pipes frozen. Phase 2 processing switched off.
18/01/2026	Hawcliffe Road	Exceedances from the northwest, north-northwest, west and west-northwest from the morning until afternoon.	All exceedances recorded from off-site directions.
25/01/2026	Hawcliffe Road	Exceedances recorded from the west and west-northwest in late morning and afternoon.	All exceedances recorded from off-site directions.

3.2.2 PM_{2.5}

The results of PM_{2.5} monitoring at Hawcliffe Road and Quorn House are presented in Figure 3.5 and Figure 3.6. The dashed black line denotes the average concentration recorded over this period.

Additional PM_{2.5} monitoring data (collected by CBC and the Defra AURN monitoring network) are provided in Appendix B.

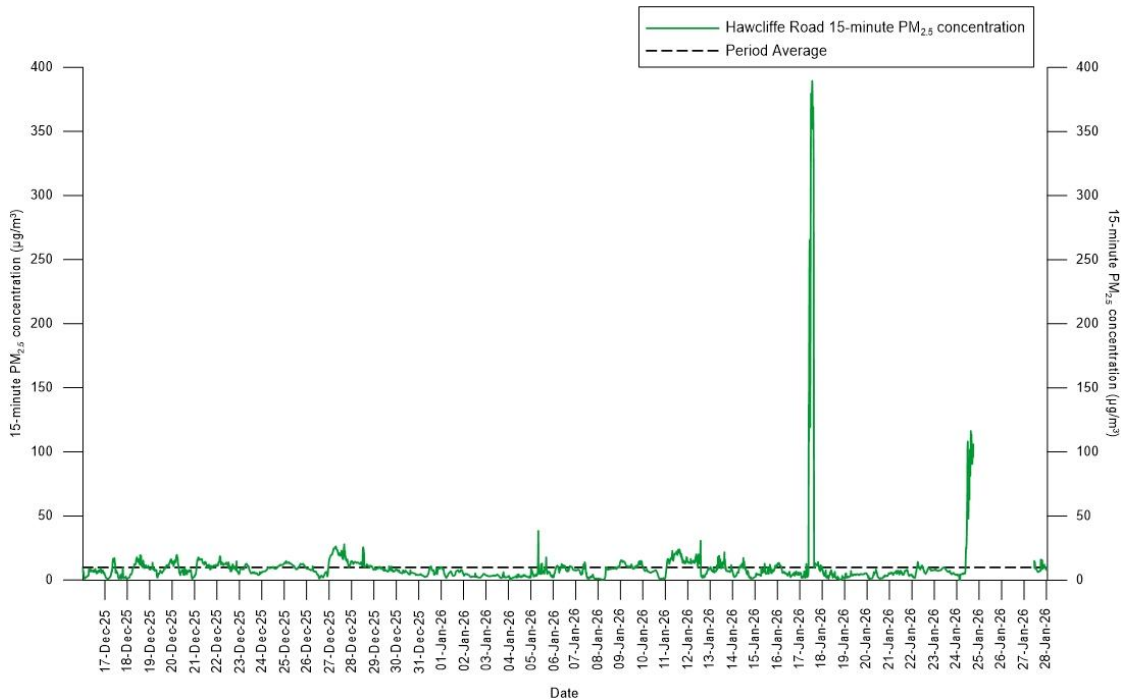


Figure 3.5: 15-minute mean PM_{2.5} concentration, Hawcliffe Road 17th December 2025 – 29th January 2026

At Hawcliffe Road, the period average concentration was 9.81 µg/m³, whilst at Quorn House, the period average was 7.49 µg/m³. In general, PM_{2.5} concentrations recorded at Hawcliffe Road were relatively similar compared to Quorn House, with the exception of two significant spikes recorded on the 18th and 25th January. Analysis shows that these spikes were recorded during wind directions from the north-northwest, west and west-northwest meaning the probable cause was off-site. Quorn House experienced a spike in data on 26th January with wind directions from the southeast but this was not to the significance of the spikes recorded at Hawcliffe Road.

For this period, 79% of PM₁₀ recorded at Hawcliffe Road comprised PM_{2.5}, whilst it made up 86% at Quorn House.

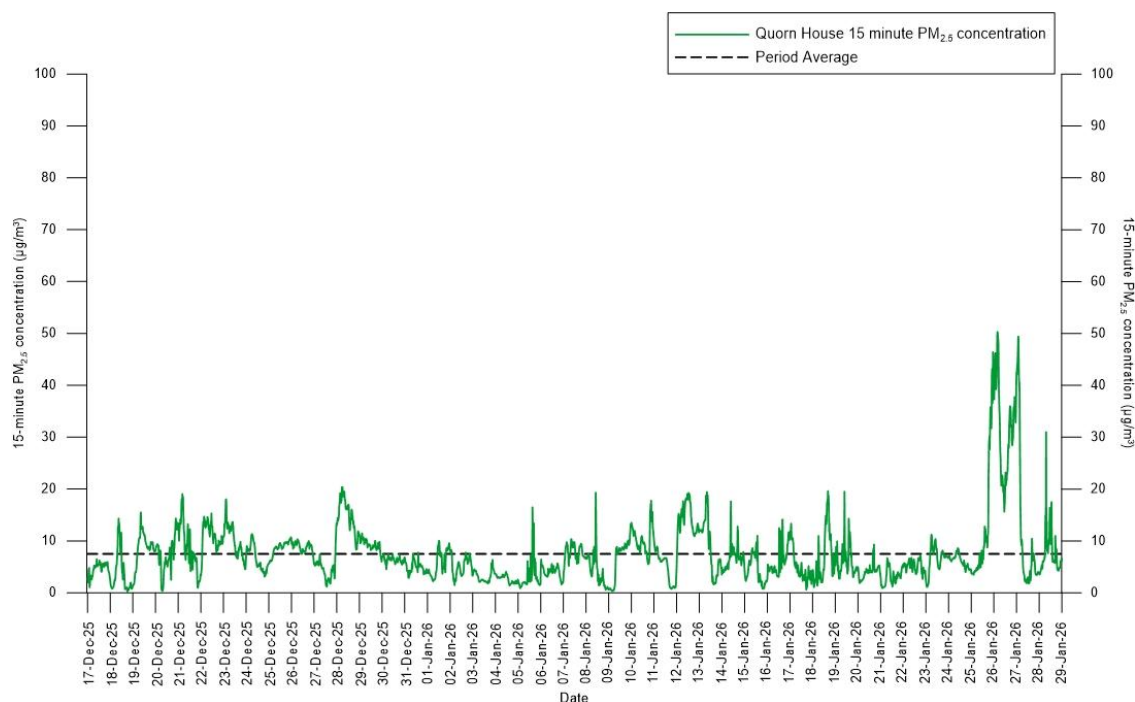


Figure 3.6: 15-minute mean PM_{2.5} concentration, Quorn House, 17th December 2025 – 29th January 2026

3.2.3 Deposited dust monitoring summary

The deposited dust data for 17th December 2025 – 29th January 2026 are summarised in Table 3.2. As outlined above, there is a site-wide threshold for investigation to identify the potential dust source/s, taking account of the directional data. Table 3.2 shows that, for the available data, deposited dust levels during 17th December 2025 – 29th January 2026 were within the site-specific threshold for all stations.

Table 3.2: Summary of deposited dust (undissolved solids), 17th December 2025 – 29th January 2026

Undissolved solids (mg/m ² /day)				
This month report start date:		17-Dec-25		
This month report end date:		29-Jan-26		
Receptor location	Nearest / appropriate dust monitoring point	Reported value	Trigger: $\geq 125^a$	Magnitude ^b
Swithland Lane; Rushey Lane; Kinchley Lane	Stn 1	21	No	Very Low
Swithland Lane; Rushey Lane; Kinchley Lane	Stn 1A	8	No	Very Low
Swithland Lane; Rushey Lane; Kinchley Lane	Stn 1B	10	No	Very Low
Mill Farm; Quorn House	Stn 3	12	No	Very Low
Woodside Farm, Leicester Road	Stn 4A	20	No	Very Low
Quorn Grange, Unitt Road, Northage Close, Quorn Park	Stn 4B	19	No	Very Low
Bond Lane; Crown Lane	Stn 5	9	No	Very Low
Sileby Road; Huston Close; Sileby Road (commercial)	Stn 6A	25	No	Very Low
Hawcliffe Road	Stn 9	42	No	Very Low
Glebe Close; Halstead Road (south); Halstead Road (north)	Stn 10	25	No	Very Low
Loughborough Road; River Soar (marina / caravan park)	Stn 11	8	No	Very Low
Meadow Farm Marina and Caravan Park	Stn 12	15	No	Very Low
Quorn House Park	Stn 13	7	No	Very Low

^a Trigger mass deposition and Effective Area Coverage rates as in Section 7.3, ZLFMS-AG008 Dust Management and Monitoring Plan (Updated), 2015

^b Magnitude of mass deposition rate assessed against typical rate for semi-rural areas (30 - 80 mg/m²/day)

Regarding dust deposition over time, the rates across the sampling area have varied considerably. Trends in dust deposition rates (as undissolved solids) for the previous 12 months, together with the site-wide dust threshold are illustrated in Figure 3.7.

In general, as would be expected, dust deposition rates are typically lower in winter months than in summer months. This trend is clearly seen for most monitoring points in Figure 3.7, with some exceptions. Dust deposition rates have been consistently below the ‘trigger limit’ at all sampling locations, with the exception of Stn 4A, which has exceeded the threshold on one occasion over the past 12 months. Details of the associated investigation can be found in the corresponding compliance report.

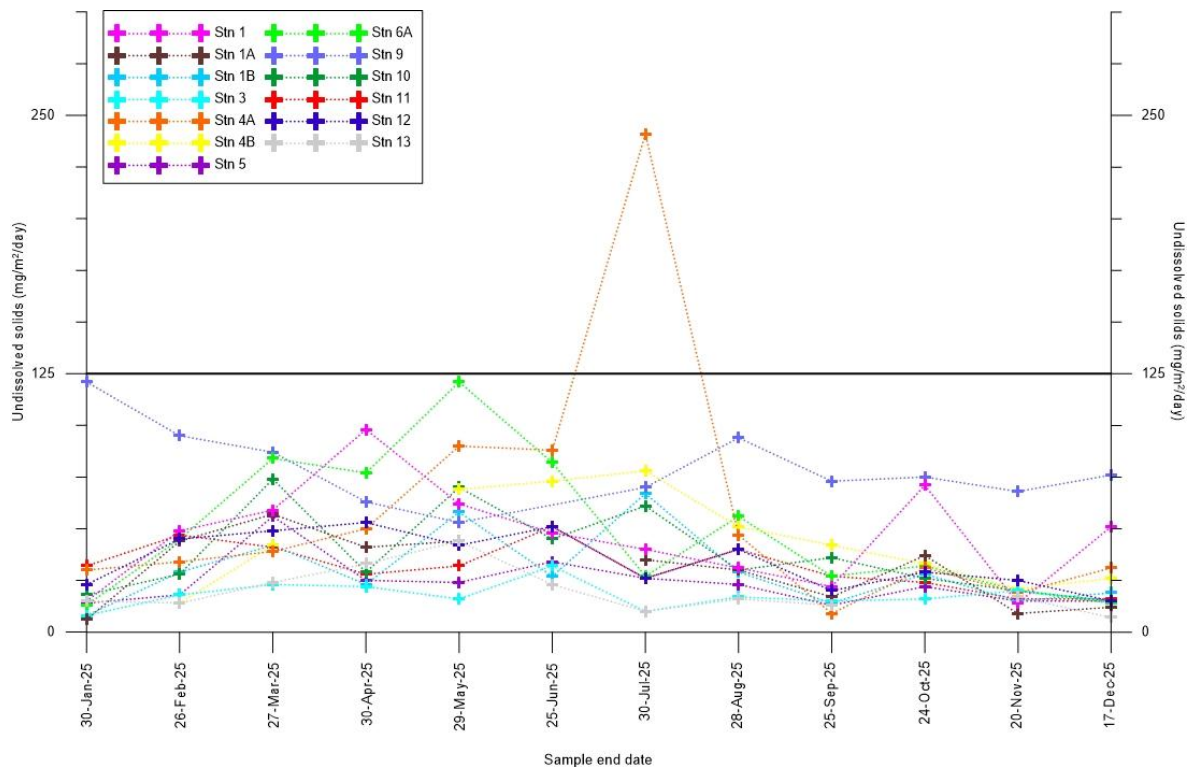


Figure 3.7: Dust deposition rates per sampling location over time (past 12 months)

3.2.4 Directional dust monitoring summary

The directional dust data for 17th December 2025 – 29th January 2026 are summarised in Table 3.3 and are presented graphically in Figure 3.8. As with deposited dust, the DMMP sets out a site-wide directional dust threshold. For directional dust soiling, 0.5 % Effective Area Coverage (EAC) per day is a trigger limit for investigation to identify the likely dust source/s, again taking account of the direction. Table 3.3 and Figure 3.8 show that during 17th December 2025 – 29th January 2026, all stations recorded Very Low dust flux from all directions.

Table 3.3: Summary of directional dust soiling, 17th December 2025 – 29th January 2026

Directional dust soiling (%EAC/day) by direction (°)										
This month report start date:		17-Dec-25								
This month report end date:		29-Jan-26								
Receptor location	Nearest / appropriate dust monitoring point		Direction (°)							
			0	45	90	135	180	225	270	315
Swithland Lane; Rushey Lane; Kinchley Lane	Stn 1	Reported value	0	0	0	0	0	0	0	0
		Trigger: ≥ 0.5 ^a	No	No	No	No	No	No	No	No
		Magnitude ^b	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low
Swithland Lane; Rushey Lane; Kinchley Lane	Stn 1A	Reported value	0	0.1	0	0	0	0	0	0
		Trigger: ≥ 0.5 ^a	No	No	No	No	No	No	No	No
		Magnitude ^b	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low
Swithland Lane; Rushey Lane; Kinchley Lane	Stn 1B	Reported value	0	0	0	0.1	0.1	0	0	0
		Trigger: ≥ 0.5 ^a	No	No	No	No	No	No	No	No
		Magnitude ^b	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low
Mill Farm; Quorn House	Stn 3	Reported value	0.1	0.1	0.1	0.1	0	0	0	0
		Trigger: ≥ 0.5 ^a	No	No	No	No	No	No	No	No
		Magnitude ^b	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low
Woodside Farm, Leicester Road	Stn 4A	Reported value	0	0	0	0	0	0	0	0
		Trigger: ≥ 0.5 ^a	No	No	No	No	No	No	No	No
		Magnitude ^b	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low
Quorn Grange, Unitt Road, Northage Close, Quorn Park	Stn 4B	Reported value	0	0	0	0	0	0	0	0
		Trigger: ≥ 0.5 ^a	No	No	No	No	No	No	No	No
		Magnitude ^b	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low
Bond Lane; Crown Lane	Stn 5	Reported value	0	0.1	0.1	0.1	0.1	0	0	0
		Trigger: ≥ 0.5 ^a	No	No	No	No	No	No	No	No
		Magnitude ^b	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low
Sileby Road; Huston Close; Sileby Road (commercial)	Stn 6A	Reported value	0	0.1	0.1	0.1	0	0	0	0
		Trigger: ≥ 0.5 ^a	No	No	No	No	No	No	No	No
		Magnitude ^b	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low
Hawcliffe Road	Stn 9	Reported value	0	0.1	0.1	0.1	0	0	0	0
		Trigger: ≥ 0.5 ^a	No	No	No	No	No	No	No	No
		Magnitude ^b	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low
Glebe Close; Halstead Road (south); Halstead Road (north)	Stn 10	Reported value	0	0	0	0.1	0.1	0	0	0
		Trigger: ≥ 0.5 ^a	No	No	No	No	No	No	No	No
		Magnitude ^b	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low
Loughborough Road; River Soar (marina / caravan park)	Stn 11	Reported value	0	0.1	0.1	0.1	0.1	0	0	0
		Trigger: ≥ 0.5 ^a	No	No	No	No	No	No	No	No
		Magnitude ^b	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low
Meadow Farm Marina and Caravan Park	Stn 12	Reported value	0	0.1	0.1	0	0	0	0	0
		Trigger: ≥ 0.5 ^a	No	No	No	No	No	No	No	No
		Magnitude ^b	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low
Quorn House Park	Stn 13	Reported value	0	0	0	0.1	0	0	0	0
		Trigger: ≥ 0.5 ^a	No	No	No	No	No	No	No	No
		Magnitude ^b	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low

^a Trigger mass deposition and Effective Area Coverage rates as in Section 7.3, ZLFMS-AG008 Dust Management and Monitoring Plan (Updated), 2015

^b Magnitude of directional dust soiling derived from Beaman and Kingsbury, 1981

^c Direction/s not determined for daily EAC below 0.1%/day (very low soiling)

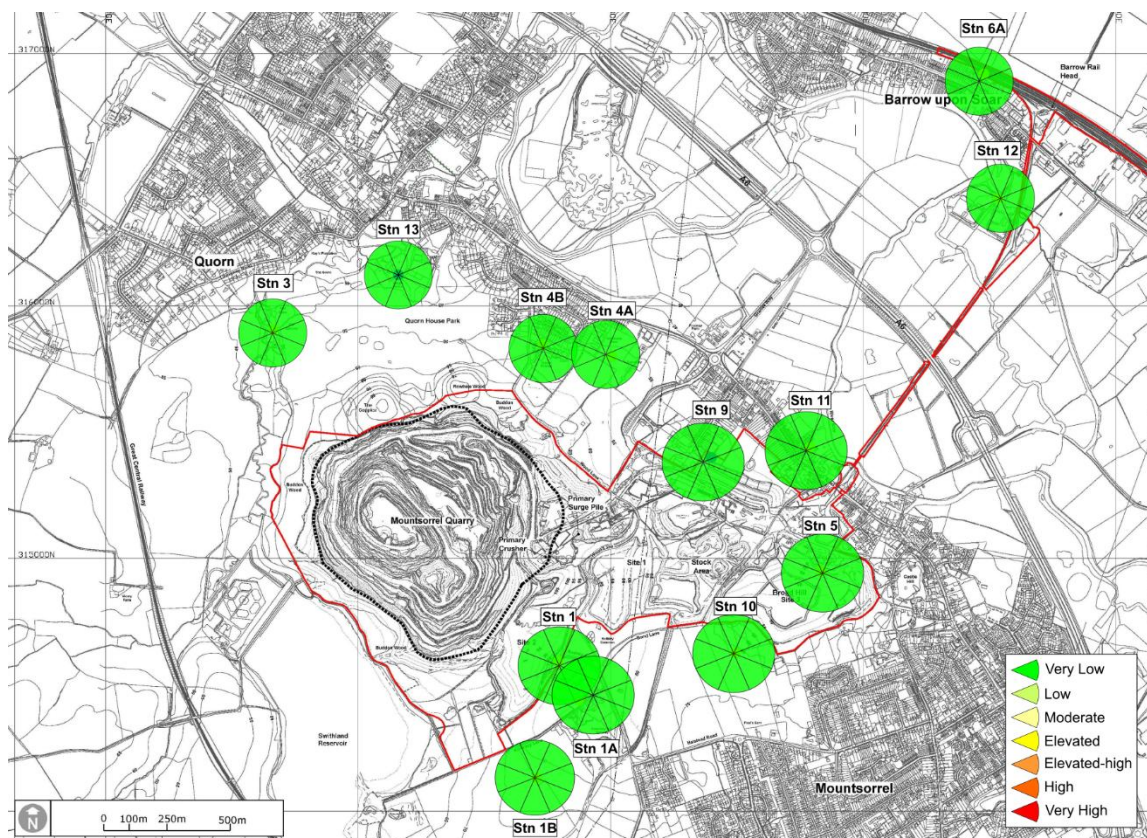


Figure 3.8: Directional dust soiling rose diagrams, 17th December 2025 - 29th January 2026

Table 3.4 shows that the average directional soiling rates have been at Very Low levels at most monitoring locations, for most directions, over the past year. Very Low average directional dust flux levels were recorded from all the monitors, across all locations between 17th December 2025 – 29th January 2026.

Table 3.4: Running average directional dust soiling (past 12 months)

Receptor location	Nearest / appropriate dust monitoring point		Direction (°)							
			0	45	90	135	180	225	270	315
Swithland Lane; Rushey Lane; Kinchley Lane	Stn 1	Average value	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
		Magnitude ^b	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low
Swithland Lane; Rushey Lane; Kinchley Lane	Stn 1A	Average value	0.1	0.1	0.1	0	0	0.1	0.1	0.1
		Magnitude ^b	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low
Swithland Lane; Rushey Lane; Kinchley Lane	Stn 1B	Average value	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
		Magnitude ^b	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low
Mill Farm; Quorn House	Stn 3	Average value	0.1	0.1	0.1	0.1	0.1	0	0	0
		Magnitude ^b	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low
Woodside Farm, Leicester Road	Stn 4A	Average value	0	0.1	0.1	0.1	0	0.1	0.1	0.1
		Magnitude ^b	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low
Quorn Grange, Unitt Road, Northage Close, Quorn Park	Stn 4B	Average value	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1
		Magnitude ^b	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low
Bond Lane; Crown Lane	Stn 5	Average value	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
		Magnitude ^b	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low
Sileby Road; Huston Close; Sileby Road (commercial)	Stn 6A	Average value	0.1	0.1	0.2	0.1	0.1	0.2	0.1	0.1
		Magnitude ^b	Very Low	Very Low	Low	Very Low	Very Low	Low	Very Low	Very Low
Hawcliffe Road	Stn 9	Average value	0.1	0.1	0.1	0.1	0	0.2	0.2	0.1
		Magnitude ^b	Very Low	Very Low	Very Low	Very Low	Very Low	Low	Low	Very Low
Glebe Close; Halstead Road (south); Halstead Road (north)	Stn 10	Average value	0.1	0	0	0.1	0.1	0.1	0.1	0.1
		Magnitude ^b	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low
Loughborough Road; River Soar (marina / caravan park)	Stn 11	Average value	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
		Magnitude ^b	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low
Meadow Farm Marina and Caravan Park	Stn 12	Average value	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
		Magnitude ^b	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low
Quorn House Park	Stn 13	Average value	0.1	0	0.1	0.1	0	0.1	0.1	0.1
		Magnitude ^b	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low

^a Trigger mass deposition and Effective Area Coverage rates as in Section 7.3, ZLFMS-AG008 Dust Management and Monitoring Plan (Updated), 2015

^b Magnitude of directional dust soiling derived from Beaman and Kingsbury, 1981

^c Direction/s not determined for daily EAC below 0.1%/day (very low soiling)

4 Complaints

During January 2026, it is understood that zero complaints were received by the quarry.

Appendix A: Off-site PM₁₀ monitoring (CBC and AURN)

The daily average PM₁₀ concentrations recorded by the CBC Zephyr are presented below in Figure A.1, alongside similar data from the Defra Automatic Urban and Rural Network (AURN) station in Leicester University².

For the monitoring period 17th December 2025 – 29th January 2026, the CBC Zephyr achieved an 89 % data capture rate for PM₁₀, and Leicester AURN station had a data capture of 100%.

For the available data, the average daily PM₁₀ concentration for this monitoring period at the CBC Zephyr (Hawcliffe Road) was 14.2 µg/m³. At the Leicester AURN the average daily PM₁₀ concentration was 10.8 µg/m³ for the monitoring period.

During this monitoring period, the average daily PM₁₀ concentrations recorded from the onsite monitors were slightly lower than the CBC Zephyr and Leicester AURN, with 12.5 µg/m³ at Hawcliffe Road and 8.7 µg/m³ at Quorn House.

Between 17th December 2025 – 29th January 2026 there were no recorded instances where the daily average PM₁₀ concentrations exceeded 50 µg/m³ at the CBC Zephyr or at the Leicester AURN.

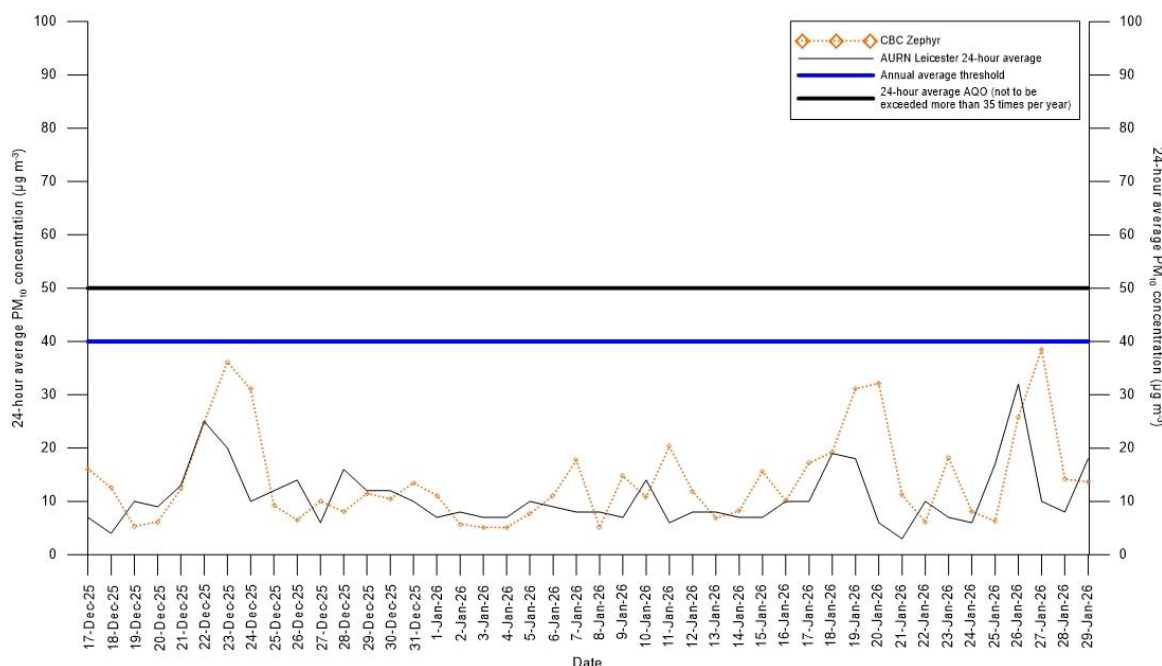


Figure A.1: Daily average PM₁₀ concentration, CBC Zephyr and Leicester AURN, 17th December 2025 – 29th January 2026

² <http://uk-air.defra.gov.uk/networks/network-info?view=aurn>

Appendix B: Off-site PM_{2.5} monitoring (CBC and AURN)

The daily average PM_{2.5} concentrations recorded by the CBC Zephyr are presented below in Figure B.1, alongside similar data from the Defra Automatic Urban and Rural Network (AURN) station in Leicester University.

For the monitoring 17th December 2025 – 29th January 2026, there was an 89 % data capture recorded from the CBC Zephyr and 100 % data capture rate from the Leicester AURN station. For the available data the average daily PM_{2.5} concentration for this monitoring period at the CBC Zephyr was 8.5 µg/m³. At the Leicester AURN the average daily PM_{2.5} concentration was 7.9 µg/m³ for the monitoring period.

Onsite PM_{2.5} concentrations were higher at Hawcliffe Road (9.8 µg/m³) and slightly lower at Quorn House (7.5 µg/m³) compared to off-site averages of 8.5 µg/m³ at CBC Zephyr and 7.9 µg/m³ at Leicester AURN, likely reflecting the differences in locations.

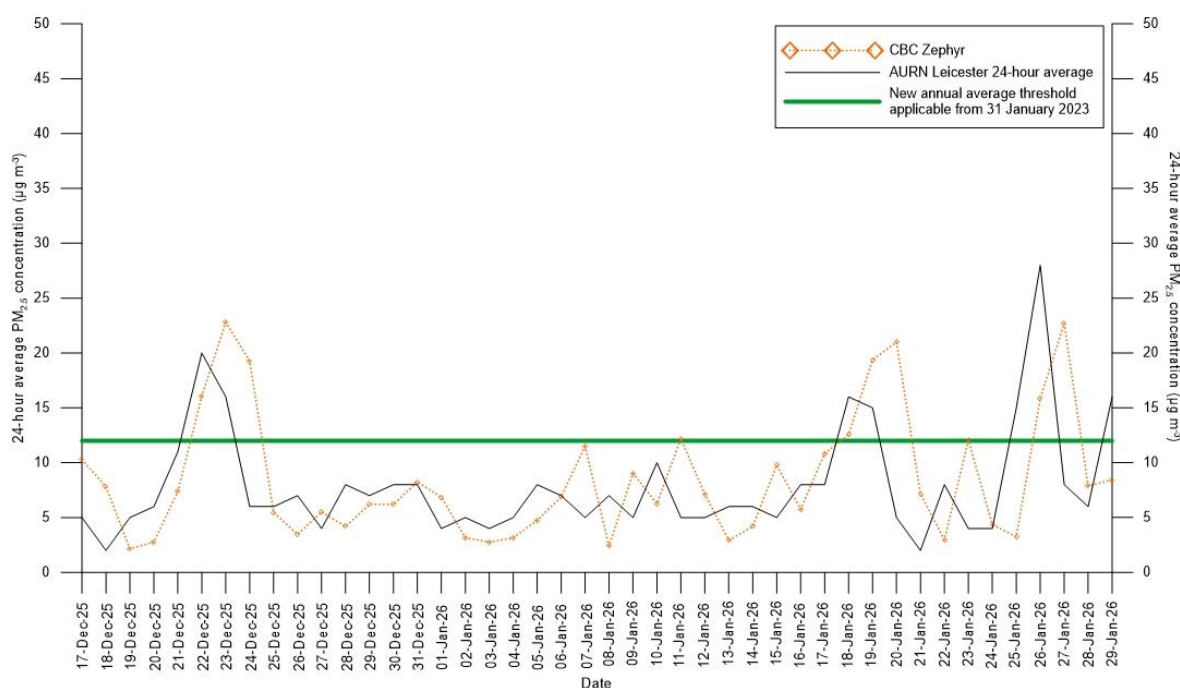


Figure B.1: Daily average PM_{2.5} concentrations, CBC Zephyr and Leicester AURN 17th December 2025 – 29th January 2026

Appendix C: Off-site PM₁₀ and PM_{2.5} Annual Summary

Table C.1: Average PM₁₀ concentrations at CBC Zephyr and Leicester AURN for 12 months up to 20 November 2025.

	AURN Leicester University	CBC Zephyr
Valid data capture	100 %	89 %
Period average PM ₁₀ concentration	12.1 µg/m ³	12.8 µg/m ³
Percentage of annual AQO (40 µg/m ³)	30.2 %	32.0 %
No. exceedances of daily AQO (50 µg/m ³ , not to be exceeded more than 35 times per calendar year)	1	2

Table C.2: Average PM_{2.5} concentrations at CBC Zephyr and Leicester AURN for 12 months up to 20 November 2025.

	AURN Leicester University	CBC Zephyr
Valid data capture	100 %	89 %
Period average PM _{2.5} concentration	7.6 µg/m ³	8.4 µg/m ³
Percentage of interim target (12 µg/m ³ as an annual average)	64 %	70 %



Dust, Particulate Matter and Weather Monitoring Report: February 2026

Mountsorrel Quarry

April, 2026

Tarmac



Document Control Sheet

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Disclaimer

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This report may include data obtained from trusted third-party consultants/laboratories that have been supplied to us in good faith. Whilst we do everything we can to ensure the quality of all the data we use, we cannot be held responsible for the accuracy or integrity of third-party data.

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1 Introduction

Mountsorrel Quarry has a comprehensive Dust Management and Monitoring Plan (DMMP). The DMMP was developed in 2011 and is subject to regular review and revision, in consultation between Tarmac and the local regulators (Leicestershire County Council (LCC) and Charnwood Borough Council (CBC)).

The DMMP is enacted through the quarry Site Improvement Plan (SIP). The SIP sets out a programme of actions to reduce the environmental impact of specific areas of the site operation, and is updated regularly by quarry management, with support from DustScanAQ through regular site visits and quarterly reviews with LCC and CBC.

Section 7.5 of the DMMP requires that a monthly summary and review of dust and particulate matter monitoring is prepared and circulated with LCC, CBC and the Environment Agency.

This report details the results of dust, particulate matter and weather monitoring around Mountsorrel Quarry during the period 29th January – 26th February 2026.

1.1 Report scope

The intention of this report is to summarise dust and particulate matter monitoring results for the given period and compare them against site-specific alert limits and thresholds. This report also details the results of any investigation carried out into elevated dust or particulate matter levels, as prompted by an exceedance of alert limits or thresholds.

1.2 Dust definitions

‘Dust’ is generally regarded as particulate matter up to 75 µm (micron) diameter and can be considered in two categories. Fine dust, essentially particles up to 10 µm, is commonly referred to as PM₁₀ and is measured to agreed standards and forms part of the national Air Quality Objectives (AQO). The AQO for PM₁₀ is currently 50 µg/m³ for the 24-hour mean, not to be exceeded 35 times per year and 40 µg/m³ for the annual mean. Particles up to 2.5 µm in diameter are referred to as PM_{2.5}. The interim target for PM_{2.5} is 12 µg/m³ for the annual mean (to be achieved by 2028), whilst the legal AQO for PM_{2.5} is 10 µg/m³ for the annual mean (to be achieved by 2040) as per The Environmental Targets (Fine Particulate Matter) (England) Regulations 2023¹.

It may be noted that the above Regulations relate to average particle concentrations in Local Authority districts thus do not apply to any specific industrial or other operation, such as Mountsorrel Quarry, and are included for reference. Coarser dust (essentially particles greater than 10 µm) is generally regarded as ‘nuisance dust’ and can be associated with annoyance, although there are no official standards (such as AQO) for dust annoyance.

¹ Statutory Instrument. (2023), ‘The Environmental Targets (Fine Particulate Matter) (England) Regulations’, No. 96. King’s Printer of Acts of Parliament

2 Sampler locations

As shown in Figure 2.1 and Table 2.1, dust, particulate matter and weather conditions are measured at a number of locations around site and the surrounding area:

- Directional and depositional dust: currently monitored at 13 locations;
- Particulate matter: currently monitored at two locations;
- Weather conditions: currently monitored at one location.

The majority of the dust samplers around Mountsorrel Quarry comprise the 'Frisbee-type' deposition gauge combined with an adhesive 'sticky pad' directional gauge. These samplers are used to monitor 'nuisance' dust and samples from these instruments are collected on a monthly basis.

For particulate matter, Turnkey Osiris samplers are located at Stn 9 (Hawcliffe Road) and at Stn 13 (Quorn House). These recognised and certificated 'indicative' real-time devices are connected to their own wind vane and anemometer and provide near-instantaneous directional PM₁₀, PM_{2.5} and PM₁ data directly to the quarry management team.

A weather station is located at the site offices off Wood Lane and collects a range of weather parameters over fifteen-minute intervals. Data from the weather station are available to the quarry management by means of a dedicated modem connection to the internet.

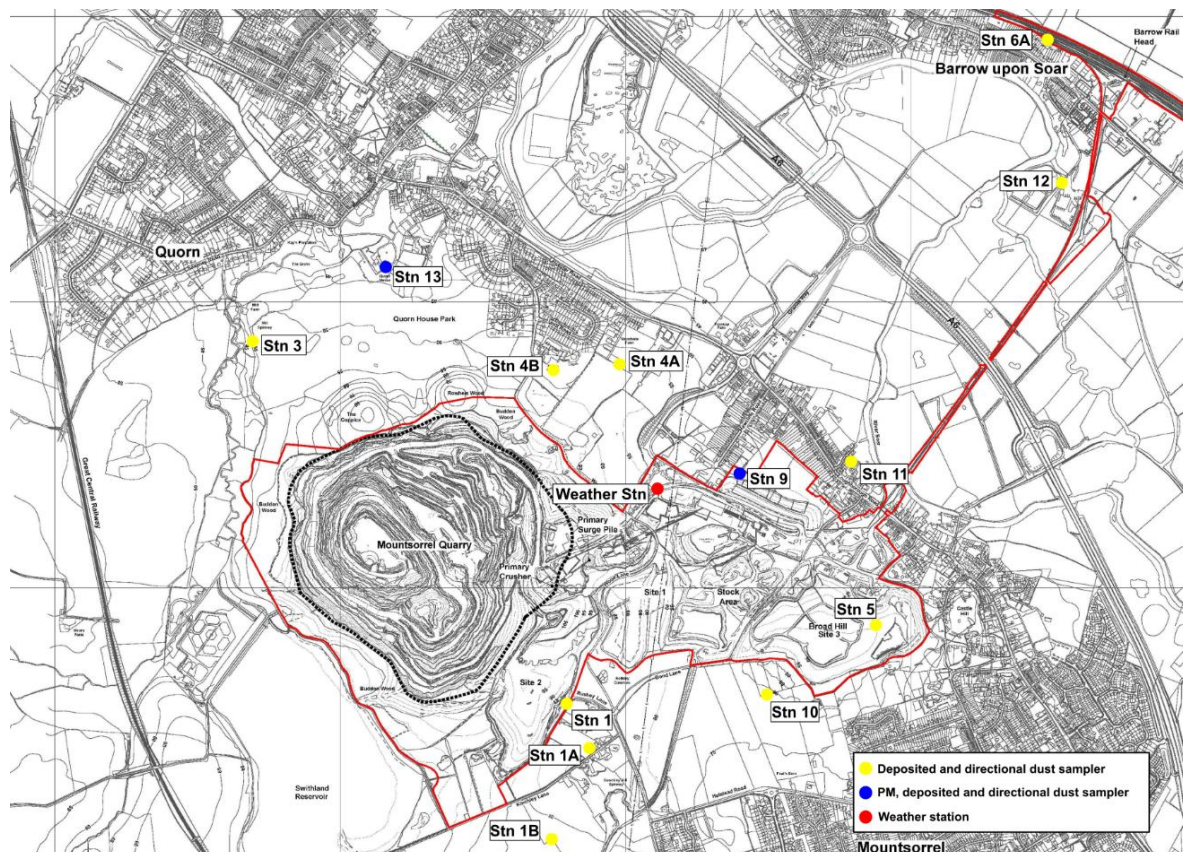


Figure 2.1: Particulate matter, dust and weather monitoring locations, Mountsorrel Quarry

Table 2.1: Particulate matter, dust and weather monitoring locations, Mountsorrel Quarry

Sampler reference	Easting	Northing	Locality monitored
Stn 1	456787	314586	Swithland Lane; Rushey Lane; Kinchley Lane
Stn 1A	456882	314449	Swithland Lane; Rushey Lane; Kinchley Lane
Stn 1B	456745	314112	Swithland Lane; Rushey Lane; Kinchley Lane
Stn 3	455685	315844	Mill Farm; Quorn House
Stn 4A	456966	315787	Woodside Farm; Leicester Road
Stn 4B	456732	315767	Quorn Grange, Unitt Road, Northage Close, Quorn Park
Stn 5	457872	314875	Bond Lane; Crown Lane
Stn 6A	458655	316785	Sileby Road; Huston Close; Sileby Road (commercial)
Stn 9 (inc. PM)	457374	315398	Hawcliffe Road
Stn 10	457509	314627	Glebe Close; Halstead Road (south); Halstead Road (north)
Stn 11	457835	315504	Loughborough Road; River Soar (marina / caravan park)
Stn 12	458551	316457	Meadow Farm Marina and Caravan Park
Stn 13 (incl. PM)	456154	316087	Northage Close, Meeting Street
Weather Station	457126	315376	Wood Lane Site Offices

Charnwood Borough Council (CBC) is responsible for the monitoring of air quality within the borough and prepares Air Quality Annual Status Reports (ASRs) for submission to Defra. It operates an Earthsense Zephyr air quality monitor which is located within the Leicestershire County Council (LCC) depot at the southern end of Hawcliffe Road, in close proximity to the Osiris device at Stn 9. This device measures a number of pollutants including PM₁₀ and PM_{2.5}. The purpose of this monitoring is for CBC to compare measured concentrations against the relevant AQOs for these pollutants.

For additional context, the latest PM₁₀ and PM_{2.5} monitoring data from CBC are summarised in Appendix A and Appendix B, whilst a summary of the latest 12 months of data are provided in Appendix C for reference.

2.1 Alert thresholds and response procedures

To help the site reduce its impact on the surrounding area, a number of alert thresholds have been calculated, as outlined in Table 2.2.

Table 2.2: Alert thresholds

Pollutant	Threshold	Averaging period	Applies to
PM ₁₀	125 µg/m ³	15 minutes	Stn 9 (Hawcliffe Road), Stn 13 (Quorn House)
Deposited dust	125 mg/m ² /day	1 month	All deposited dust monitoring locations

For particulate matter (PM₁₀) an alert threshold of 125 µg/m³ for the 15-minute average has been in use for several years as a trigger limit for investigation to identify potential on-site issues.

Analysis of data from the site has demonstrated that PM₁₀ provides a stronger ‘site signal’ than PM_{2.5}. The purpose of alerts is to provide site managers with information regarding elevated PM₁₀ concentrations, allowing them to investigate and make operational changes if necessary. An alert threshold has therefore not been set for PM_{2.5} to prevent duplication.

PM₁₀ and PM_{2.5} concentrations recorded by CBC at the southern end of Hawcliffe Road and by Defra through the Automatic Urban and Rural Network (AURN) at Loughborough Thorpe Acre are presented in Appendix A and Appendix B respectively. Data from both locations have been compared against relevant Air Quality Objectives (AQOs) for PM₁₀ and PM_{2.5}.

For deposited dust, the DMMP sets out a site-wide deposited dust threshold of 125 mg/m²/day ‘undissolved solids’ as a trigger limit for investigation to identify the potential dust source/s, taking account of the directional data.

3 Results

3.1 Weather monitoring

Weather conditions can have a significant effect on the potential for dust propagation from a mineral site. Of particular importance are wind speeds, wind direction, and precipitation. Dust can be carried from a source towards receptors (such as nearby homes and other businesses) according to the strength and direction of wind. Precipitation is recognised to suppress dust and 0.2 mm antecedent rainfall is considered sufficient to suppress windblown dust for a number of hours.

The key weather data which might affect dust propagation (wind speed, wind direction, total daily precipitation and average daily temperature) for this reporting period are summarised in Figure 3.1 and Figure 3.2. There are no recorded weather data between 9th and 16th of February 2026 due to temporary outage of the on-site weather station caused by a communication error. Replacement data from the Met Office WOW service were unavailable, as this backup data source has now been retired. As a result, 20 days of valid data were available for analysis during the monitoring period.

Average daily temperature showed an overall increasing trend across the monitoring period. Temperatures rose from approximately 4°C at the end of January to peaks of around 11°C in the latter half of February, with some short-term fluctuations throughout. The maximum average daily temperature was 11.6°C, recorded on 22nd February 2026, while the minimum was 2.1°C, occurring on 17th February 2026. Precipitation was generally low at the start of the monitoring period, with only minor rainfall events recorded. A more significant rainfall event occurred on 17th February 2026, with the highest daily total of 13.4 mm. Rainfall then gradually decreased towards the end of the monitoring period. Overall, precipitation was recorded on 15 days, representing approximately 75% of days with available data.

As seen in Figure 3.2 wind speeds were predominantly light to moderate (>0.5 – 6 m/s). Winds were most frequently recorded from the north-east to east and south to south-west sectors. This may have resulted in an increased potential for dust propagation towards the west to south-west, and towards the north, during 29th January – 26th February 2026.

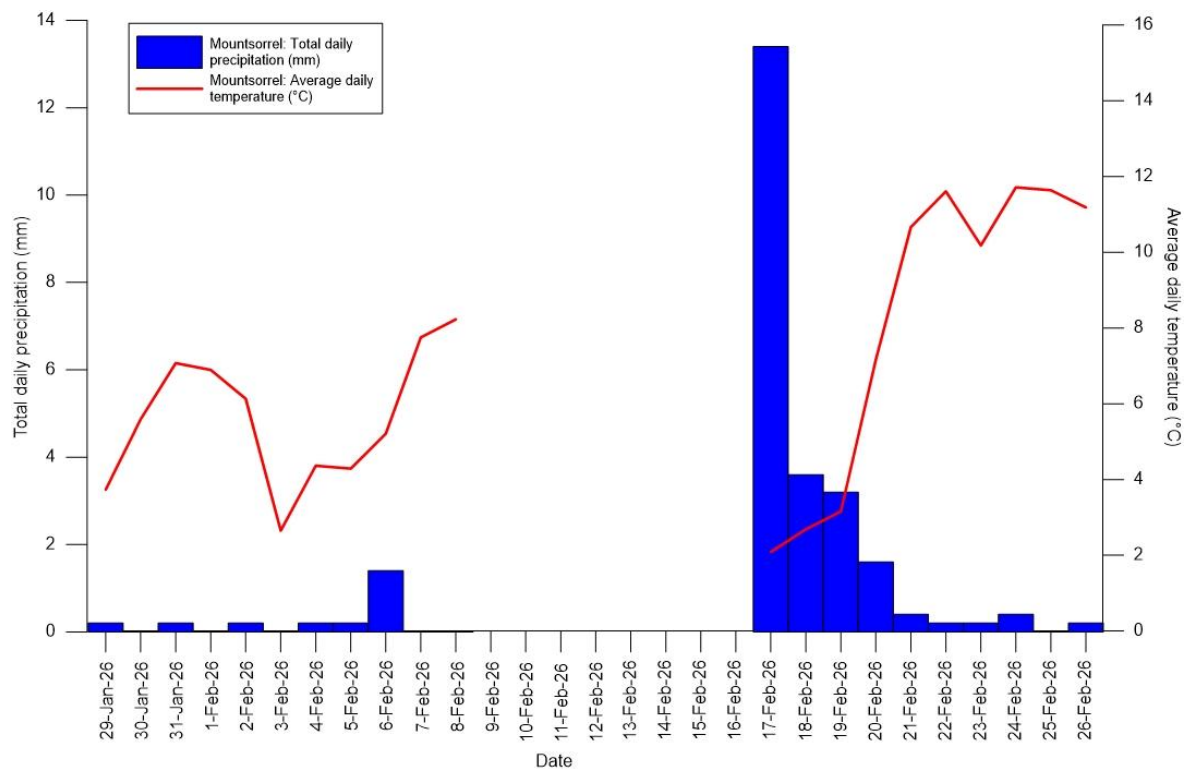


Figure 3.1: Total daily precipitation and average daily temperature, Mountsorrel Quarry, 29th January – 26th February 2026.

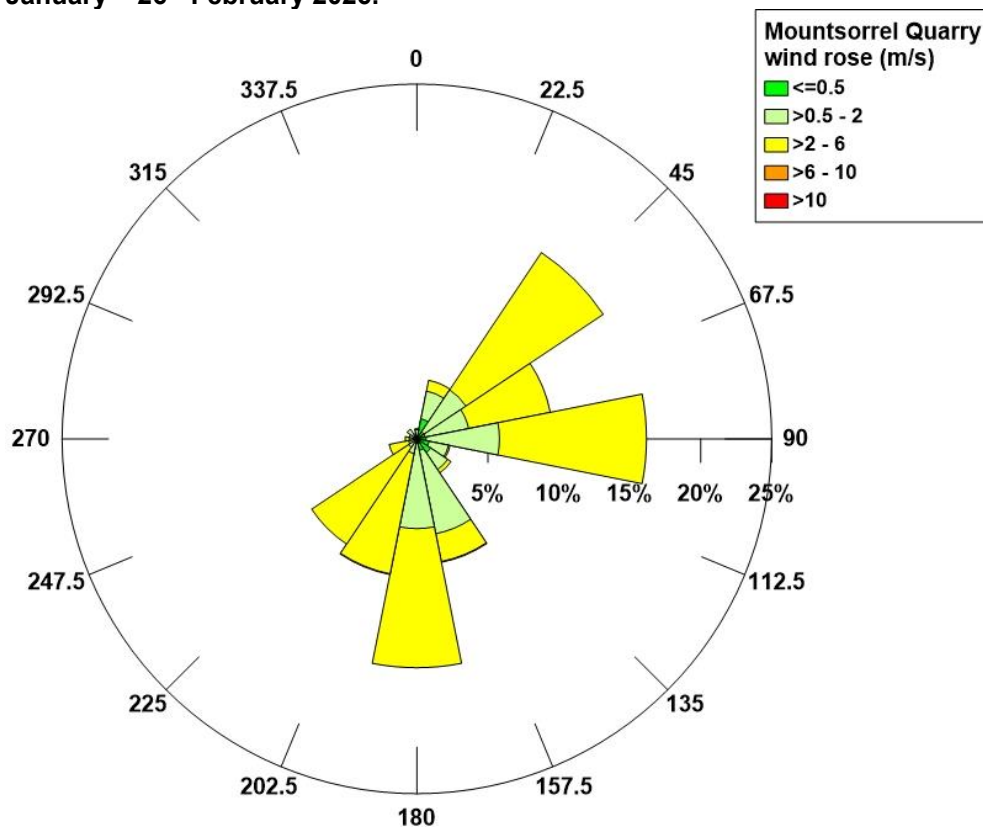


Figure 3.2: Wind rose, Mountsorrel Quarry, 29th January – 26th February 2026.

3.2 Particulate matter

3.2.1 PM₁₀

The available 15-minute data from the period of review are presented for both monitoring locations in Figure 3.4 and Figure 3.4 respectively. The red line denotes the site trigger level (125 µg/m³ over the 15-minute average), whilst the dashed black line denotes the average concentration recorded over this period.

Additional PM₁₀ monitoring data (collected by CBC and the Defra AURN monitoring network) are provided in Appendix A.

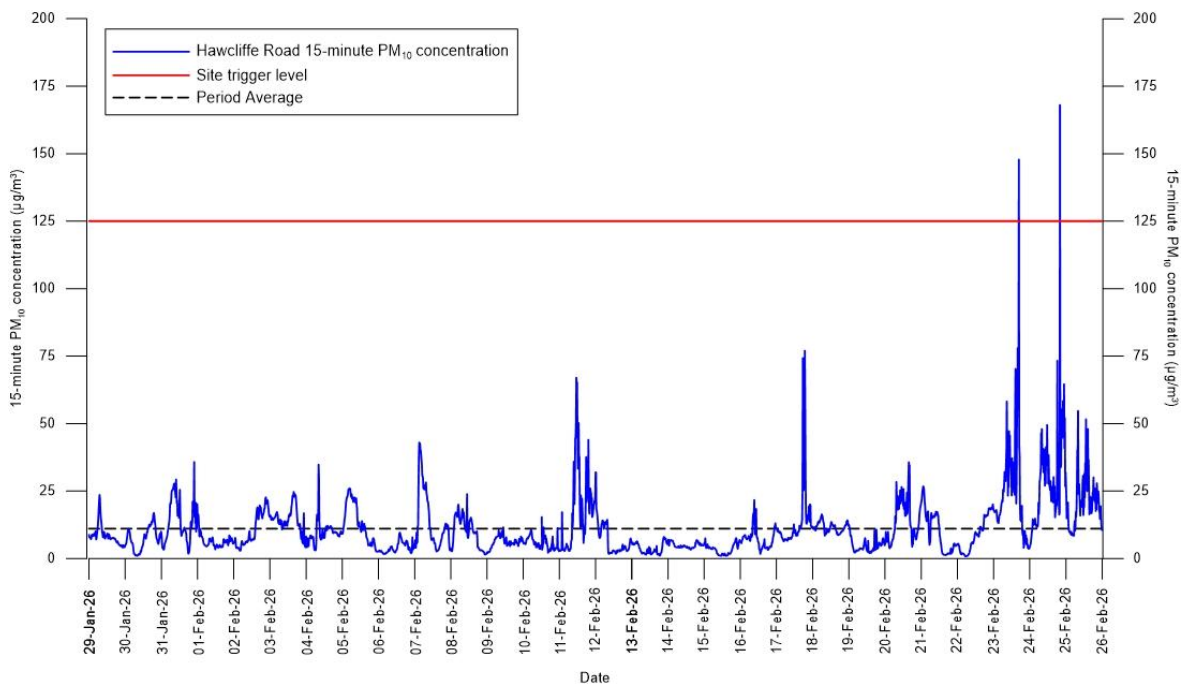


Figure 3.3: 15-minute mean PM₁₀ concentration, Hawcliffe Road, 29th January – 26th February 2026.

Figure 3.3 indicates that the period average concentration at the Hawcliffe Road sampler for this period was 11.1 µg/m³, with the alert threshold being exceeded on two days during this monitoring period. Details of the exceedances are provided in Table 3.1.

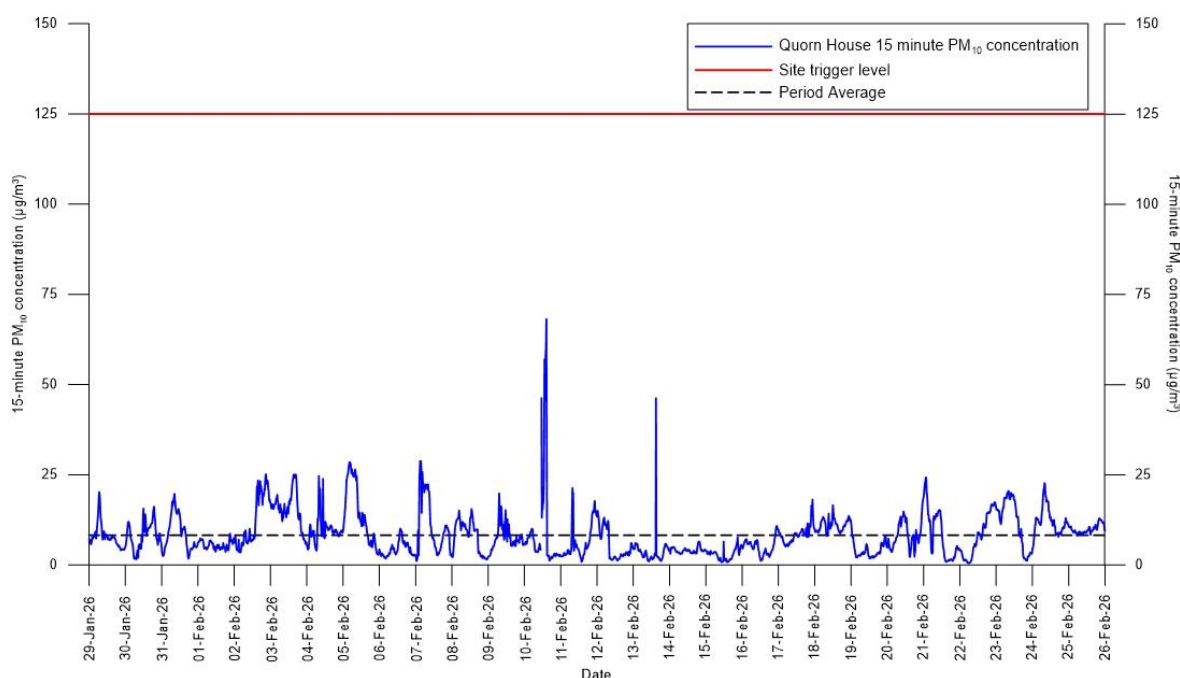


Figure 3.4: 15-minute mean PM₁₀ concentration, Quorn House, 29th January – 26th February 2026.

At Quorn House there were no exceedances of the PM₁₀ site trigger, and the period average was 8.23 µg/m³.

During this review period, trigger emails alerting staff to high PM₁₀ levels were sent on two days from the Hawcliffe Road Osiris. Details of the corresponding causes and investigations are provided in Table 3.1.

Table 3.1: Email alert responses, between 29th January – 26th February 2026 (using the trigger threshold, 125 µg/m³ for the 15-minute average)

Date of alert	Monitor	Details	Possible cause and investigation
23/02/2026	Hawcliffe Road	Exceedance from the WSW in the early evening	On-site direction. On site investigation revealed no specific issues. Atomizing nozzles were removed from loadout haul road sprays, but bulk water still providing good coverage on road.
24/02/2026	Hawcliffe Road	Exceedance from the N in the evening	Off-site direction. On-site investigation revealed no issues.

3.2.2 PM_{2.5}

The results of PM_{2.5} monitoring at Hawcliffe Road and Quorn House are presented in Figure 3.5 and Figure 3.6. The dashed black line denotes the average concentration recorded over this period.

Additional PM_{2.5} monitoring data (collected by CBC and the Defra AURN monitoring network) are provided in Appendix B.

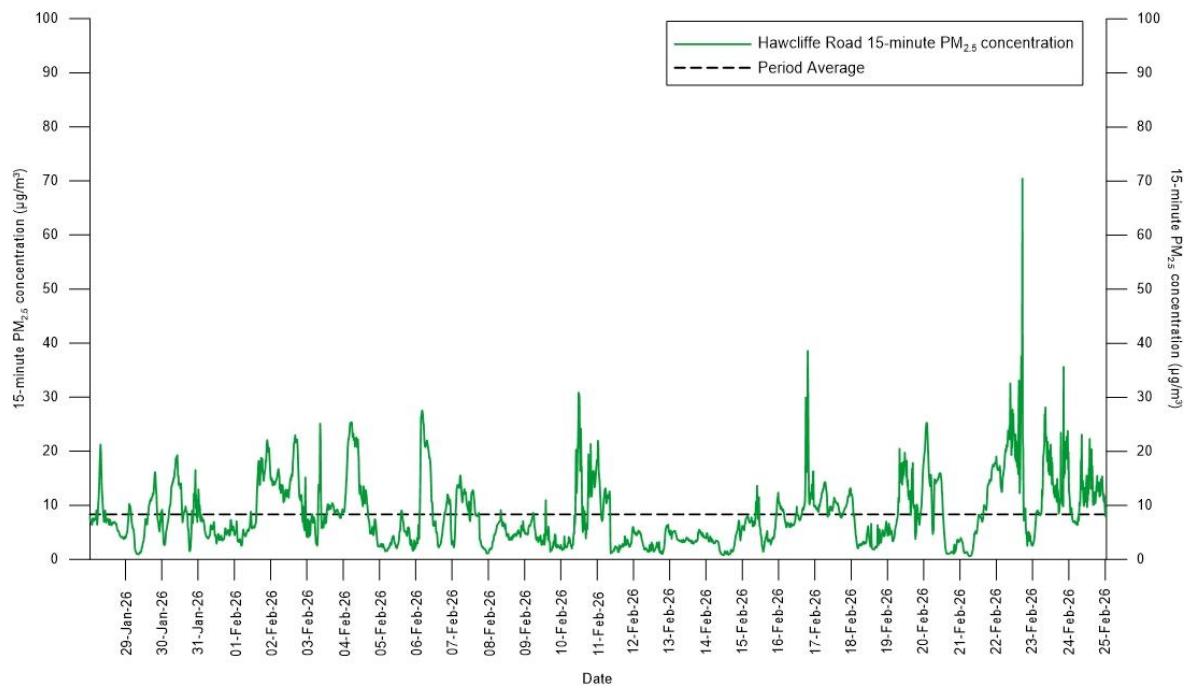


Figure 3.5: 15-minute mean PM_{2.5} concentration, Hawcliffe Road 29th January – 26th February 2026.

At Hawcliffe Road, the period average concentration was 8.33 µg/m³, whilst at Quorn House, the period average was 7.07 µg/m³. In general, PM_{2.5} concentrations recorded at Hawcliffe Road experienced greater fluctuations than at Quorn House (as shown by the increased frequency of spikes in the dataset); this is most likely due to its location on the site boundary and in a more built-up environment when compared to the rural location of Quorn House.

For this period, 75% of PM₁₀ recorded at Hawcliffe Road comprised PM_{2.5}, whilst it made up 86% at Quorn House.

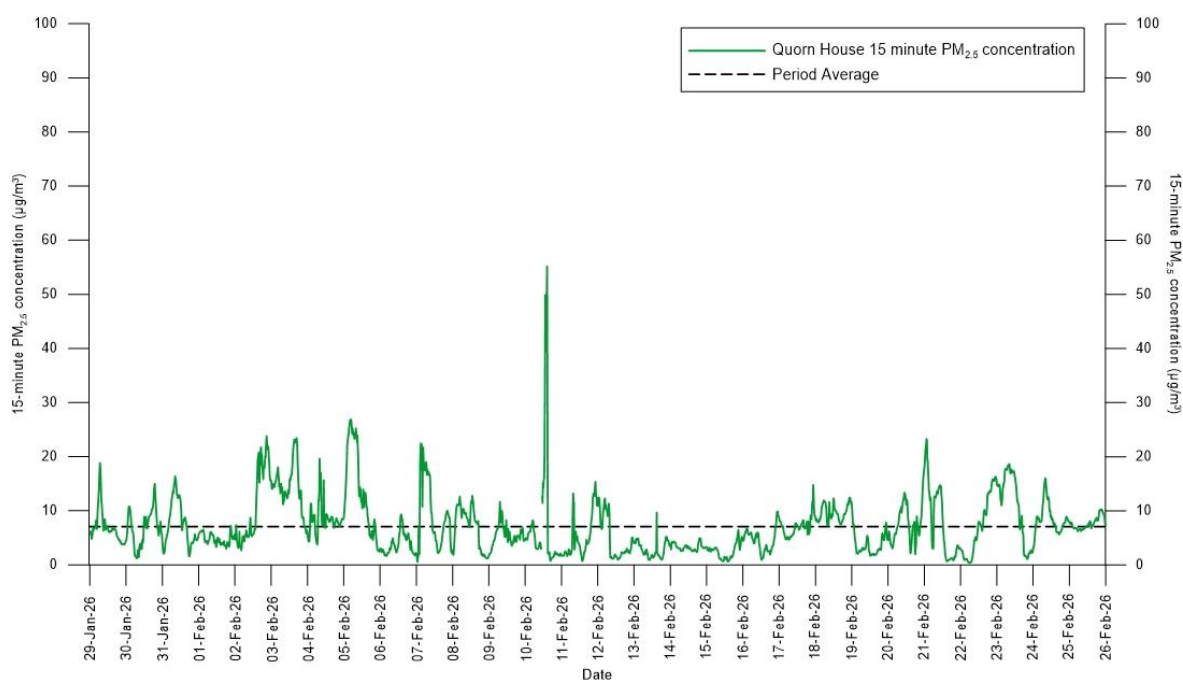


Figure 3.6: 15-minute mean PM_{2.5} concentration, Quorn House, 29th January – 26th February 2026.

3.2.3 Deposited dust monitoring summary

The deposited dust data for 29th January – 26th February 2026 are summarised in Table 3.2. As outlined above, there is a site-wide threshold for investigation to identify the potential dust source/s, taking account of the directional data. Table 3.2 shows that, for the available data, deposited dust levels during 29th January – 26th February 2026 were within the site-specific threshold for all stations.

Table 3.2: Summary of deposited dust (undissolved solids), 29th January – 26th February 2026.

Undissolved solids (mg/m ² /day)				
This month report start date:		29-Jan-26		
This month report end date:		26-Feb-26		
Receptor location	Nearest / appropriate dust monitoring point	Reported value	Trigger: $\geq 125^a$	Magnitude ^b
Swithland Lane; Rushey Lane; Kinchley Lane	Stn 1	13	No	Very Low
Swithland Lane; Rushey Lane; Kinchley Lane	Stn 1A	8	No	Very Low
Swithland Lane; Rushey Lane; Kinchley Lane	Stn 1B	7	No	Very Low
Mill Farm; Quorn House	Stn 3	24	No	Very Low
Woodside Farm, Leicester Road	Stn 4A	13	No	Very Low
Quorn Grange, Unitt Road, Northage Close, Quorn Park	Stn 4B	32	No	Very Low
Bond Lane; Crown Lane	Stn 5	8	No	Very Low
Sileby Road; Huston Close; Sileby Road (commercial)	Stn 6A	40	No	Very Low
Hawcliffe Road	Stn 9	40	No	Very Low
Glebe Close; Halstead Road (south); Halstead Road (north)	Stn 10	9	No	Very Low
Loughborough Road; River Soar (marina / caravan park)	Stn 11	15	No	Very Low
Meadow Farm Marina and Caravan Park	Stn 12	23	No	Very Low
Quorn House Park	Stn 13	9	No	Very Low

^a Trigger mass deposition and Effective Area Coverage rates as in Section 7.3, ZLFMS-AG008 Dust Management and Monitoring Plan (Updated), 2015

^b Magnitude of mass deposition rate assessed against typical rate for semi-rural areas (30 - 80 mg/m²/day)

Regarding dust deposition over time, the rates across the sampling area have varied considerably. Trends in dust deposition rates (as undissolved solids) for the previous 12 months, together with the site-wide dust threshold are illustrated in Figure 3.7.

In general, as would be expected, dust deposition rates are typically lower in winter months than in summer months. This trend is clearly seen for most monitoring points in Figure 3.7, with some exceptions. Dust deposition rates have been consistently below the 'trigger limit' at all sampling locations, with the exception of Stn 4A, which has exceeded the threshold on one occasion over the past 12 months. Details of the associated investigation can be found in the corresponding compliance report.

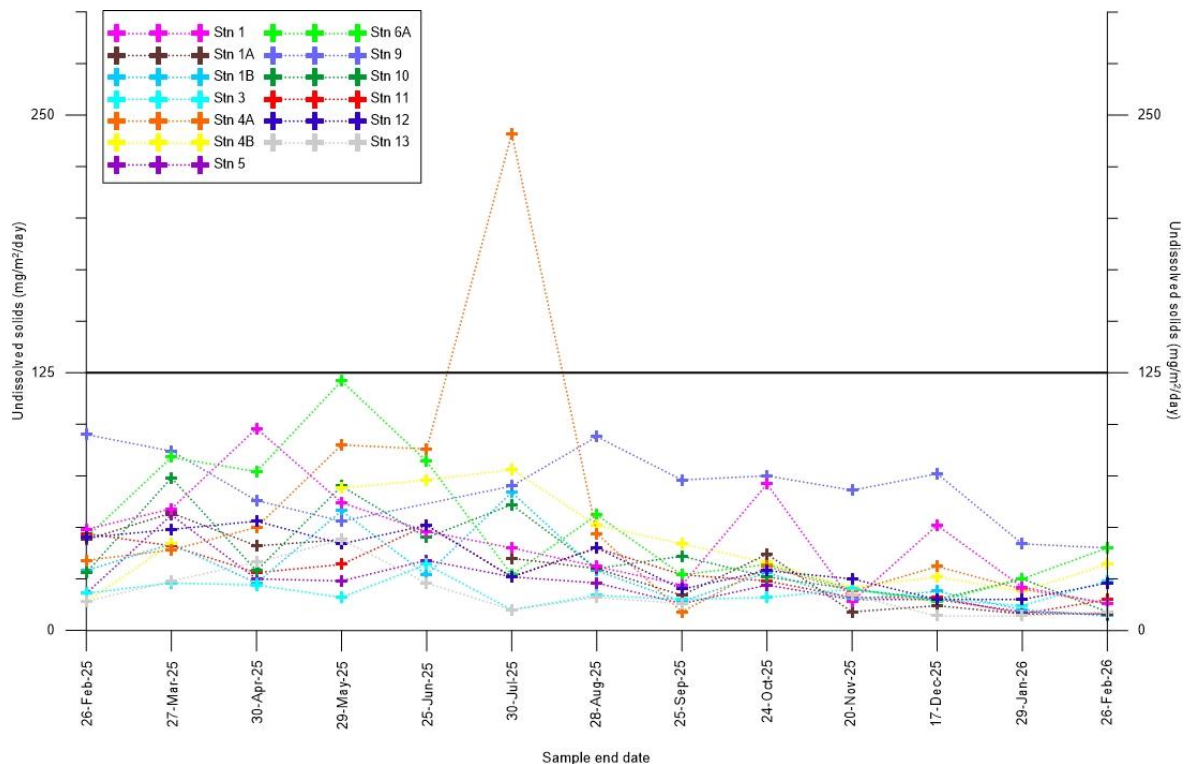


Figure 3.7: Dust deposition rates per sampling location over time (past 12 months)

3.2.4 Directional dust monitoring summary

The directional dust data for 29th January – 26th February 2026 are summarised in Table 3.3 and are presented graphically in Figure 3.8. As with deposited dust, the DMMP sets out a site-wide directional dust threshold. For directional dust soiling, 0.5 % Effective Area Coverage (EAC) per day is a trigger limit for investigation to identify the likely dust source/s, again taking account of the direction. Table 3.3 and Figure 3.8 show that during 29th January – 26th February 2026, all stations recorded Very Low to Low dust flux from all directions.

Table 3.3: Summary of directional dust soiling, 29th January – 26th February 2026

Directional dust soiling (%EAC/day) by direction (°)											
This month report start date:		29-Jan-26									
This month report end date:		26-Feb-26									
Receptor location	Nearest / appropriate dust monitoring point		Direction (°)								
			0	45	90	135	180	225	270	315	
Swithland Lane; Rushey Lane; Kinchley Lane	Stn 1	Reported value	0	0.1	0.1	0.1	0.1	0	0	0	
		Trigger: ≥ 0.5 ^a	No	No	No	No	No	No	No	No	
		Magnitude ^b	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	
Swithland Lane; Rushey Lane; Kinchley Lane	Stn 1A	Reported value	0.1	0.2	0.2	0.1	0.1	0	0	0	
		Trigger: ≥ 0.5 ^a	No	No	No	No	No	No	No	No	
		Magnitude ^b	Very Low	Low	Low	Very Low	Very Low	Very Low	Very Low	Very Low	
Swithland Lane; Rushey Lane; Kinchley Lane	Stn 1B	Reported value	0.1	0.1	0.1	0.1	0.1	0	0	0.1	
		Trigger: ≥ 0.5 ^a	No	No	No	No	No	No	No	No	
		Magnitude ^b	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	
Mill Farm; Quorn House	Stn 3	Reported value	0.2	0.2	0.2	0.1	0.1	0.1	0	0	
		Trigger: ≥ 0.5 ^a	No	No	No	No	No	No	No	No	
		Magnitude ^b	Low	Low	Low	Very Low	Very Low	Very Low	Very Low	Very Low	
Woodside Farm, Leicester Road	Stn 4A	Reported value	0.1	0.1	0.1	0.1	0.1	0.1	0	0	
		Trigger: ≥ 0.5 ^a	No	No	No	No	No	No	No	No	
		Magnitude ^b	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	
Quorn Grange, Unitt Road, Northage Close, Quorn Park	Stn 4B	Reported value	0	0	0.1	0.1	0.1	0	0	0	
		Trigger: ≥ 0.5 ^a	No	No	No	No	No	No	No	No	
		Magnitude ^b	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	
Bond Lane; Crown Lane	Stn 5	Reported value	0.1	0.3	0.3	0.2	0.1	0.1	0	0	
		Trigger: ≥ 0.5 ^a	No	No	No	No	No	No	No	No	
		Magnitude ^b	Very Low	Low	Low	Low	Very Low	Very Low	Very Low	Very Low	
Sileby Road; Huston Close; Sileby Road (commercial)	Stn 6A	Reported value	0.1	0.3	0.3	0.2	0.1	0.1	0	0	
		Trigger: ≥ 0.5 ^a	No	No	No	No	No	No	No	No	
		Magnitude ^b	Very Low	Low	Low	Low	Very Low	Very Low	Very Low	Very Low	
Hawcliffe Road	Stn 9	Reported value	0.1	0.3	0.3	0.2	0.2	0.1	0.1	0	
		Trigger: ≥ 0.5 ^a	No	No	No	No	No	No	No	No	
		Magnitude ^b	Very Low	Low	Low	Low	Low	Very Low	Very Low	Very Low	
Glebe Close; Halstead Road (south); Halstead Road (north)	Stn 10	Reported value	0	0	0.1	0.1	0.1	0	0	0	
		Trigger: ≥ 0.5 ^a	No	No	No	No	No	No	No	No	
		Magnitude ^b	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	
Loughborough Road; River Soar (marina / caravan park)	Stn 11	Reported value	0.1	0.2	0.3	0.2	0.1	0	0	0	
		Trigger: ≥ 0.5 ^a	No	No	No	No	No	No	No	No	
		Magnitude ^b	Very Low	Low	Low	Low	Very Low	Very Low	Very Low	Very Low	
Meadow Farm Marina and Caravan Park	Stn 12	Reported value	0.2	0.3	0.2	0.1	0.1	0.1	0	0.1	
		Trigger: ≥ 0.5 ^a	No	No	No	No	No	No	No	No	
		Magnitude ^b	Low	Low	Low	Very Low	Very Low	Very Low	Very Low	Very Low	
Quorn House Park	Stn 13	Reported value	0	0	0.1	0	0	0	0	0	
		Trigger: ≥ 0.5 ^a	No	No	No	No	No	No	No	No	
		Magnitude ^b	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	

^a Trigger mass deposition and Effective Area Coverage rates as in Section 7.3, ZLFMS-AG008 Dust Management and Monitoring Plan (Updated), 2015

^b Magnitude of directional dust soiling derived from Beaman and Kingsbury, 1981

^c Direction/s not determined for daily EAC below 0.1%/day (very low soiling)

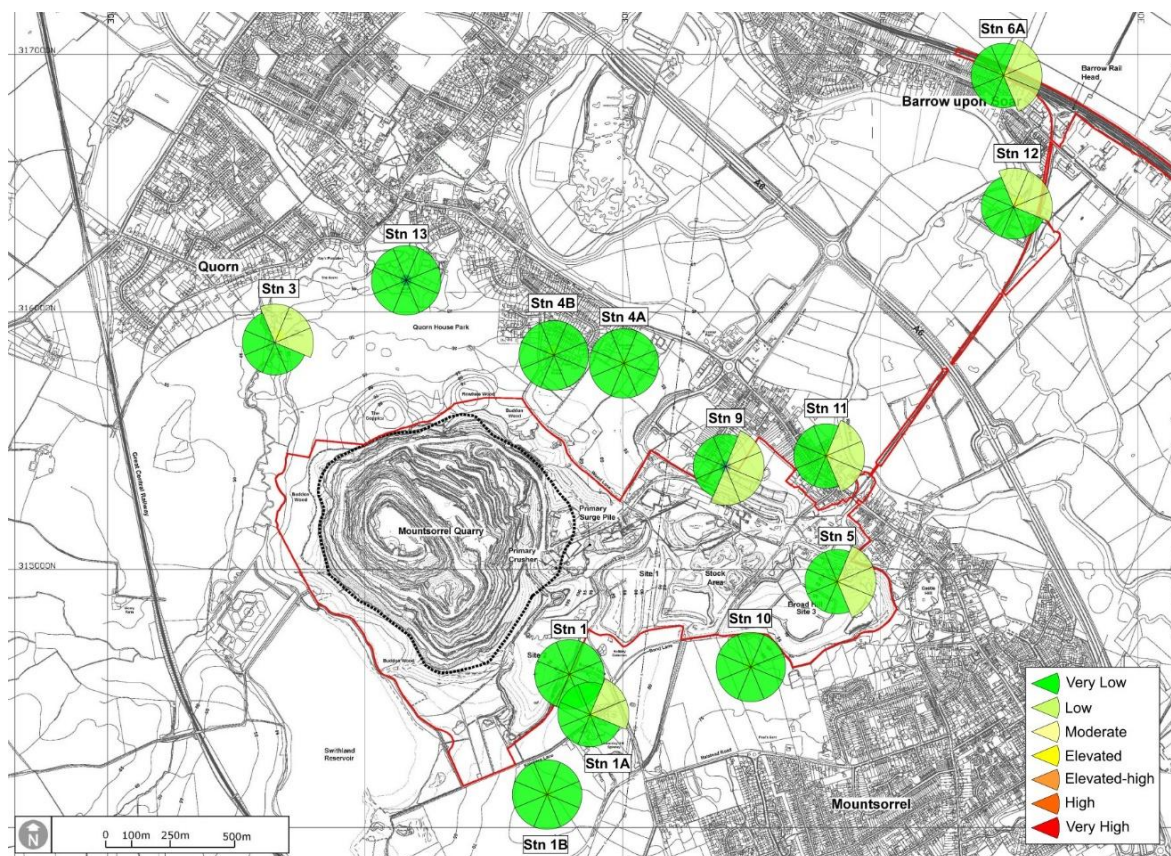


Figure 3.8: Directional dust soiling rose diagrams, 29th January – 26th February 2026

Table 3.4 shows that the average directional soiling rates have been at Very Low levels at most monitoring locations, for most directions, over the past year. Low average directional dust flux levels were recorded from east and southwest at Stn 6A, and from the southwest and west at Stn 9.

Table 3.4: Running average directional dust soiling (past 12 months)

Receptor location	Nearest / appropriate dust monitoring point		Direction (°)							
			0	45	90	135	180	225	270	315
Swithland Lane; Rushey Lane; Kinchley Lane	Stn 1	Average value	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
		Magnitude ^b	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low
Swithland Lane; Rushey Lane; Kinchley Lane	Stn 1A	Average value	0.1	0.1	0.1	0	0	0.1	0.1	0.1
		Magnitude ^b	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low
Swithland Lane; Rushey Lane; Kinchley Lane	Stn 1B	Average value	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
		Magnitude ^b	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low
Mill Farm; Quorn House	Stn 3	Average value	0.1	0.1	0.1	0.1	0.1	0	0	0
		Magnitude ^b	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low
Woodside Farm, Leicester Road	Stn 4A	Average value	0	0.1	0.1	0.1	0	0.1	0.1	0.1
		Magnitude ^b	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low
Quorn Grange, Unitt Road, Northage Close, Quorn Park	Stn 4B	Average value	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1
		Magnitude ^b	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low
Bond Lane; Crown Lane	Stn 5	Average value	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
		Magnitude ^b	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low
Sileby Road; Huston Close; Sileby Road (commercial)	Stn 6A	Average value	0.1	0.1	0.2	0.1	0.1	0.2	0.1	0.1
		Magnitude ^b	Very Low	Very Low	Low	Very Low	Very Low	Low	Very Low	Very Low
Hawcliffe Road	Stn 9	Average value	0.1	0.1	0.1	0.1	0	0.2	0.2	0.1
		Magnitude ^b	Very Low	Very Low	Very Low	Very Low	Very Low	Low	Low	Very Low
Glebe Close; Halstead Road (south); Halstead Road (north)	Stn 10	Average value	0.1	0	0	0.1	0.1	0.1	0.1	0.1
		Magnitude ^b	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low
Loughborough Road; River Soar (marina / caravan park)	Stn 11	Average value	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
		Magnitude ^b	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low
Meadow Farm Marina and Caravan Park	Stn 12	Average value	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
		Magnitude ^b	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low
Quorn House Park	Stn 13	Average value	0.1	0	0.1	0.1	0	0.1	0.1	0.1
		Magnitude ^b	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low

^a Trigger mass deposition and Effective Area Coverage rates as in Section 7.3, ZLFMS-AG008 Dust Management and Monitoring Plan (Updated), 2015

^b Magnitude of directional dust soiling derived from Beaman and Kingsbury, 1981

^c Direction/s not determined for daily EAC below 0.1%/day (very low soiling)

4 Complaints

During February 2026, zero complaints were received by the quarry.

Appendix A: Off-site PM₁₀ monitoring (CBC and AURN)

The daily average PM₁₀ concentrations recorded by the CBC Zephyr are presented below in Figure A.1, alongside similar data from the Defra Automatic Urban and Rural Network (AURN) station in Loughborough Thorpe Acre². During the March quarterly technical meeting, it was agreed with the CBC and LCC to use data from the Loughborough Thorpe Acre AURN site in place of Leicester University. Comparison of the two sites showed strong agreement, with high correlations for both PM₁₀ and PM_{2.5} ($r > 0.9$), indicating a consistent regional signal. The Loughborough site was therefore selected due to its closer proximity to the quarry.

For the monitoring period 29th January – 26th February 2026, both the CBC Zephyr and Loughborough Thorpe Acre AURN station achieved a 100% data capture rate for PM₁₀. For the available data, the average daily PM₁₀ concentration for this monitoring period at the CBC Zephyr (Hawcliffe Road) was 16.0 µg/m³. At the Loughborough AURN the average daily PM₁₀ concentration was 11.0 µg/m³ for the monitoring period.

During the monitoring period, the average daily PM₁₀ concentration recorded by the onsite monitor at Quorn House was slightly lower than those measured at the CBC Zephyr and Leicester AURN sites, at 8.2 µg/m³. At Hawcliffe Road, the average concentration was 11.1 µg/m³, which was lower than the CBC Zephyr reading but broadly comparable to levels recorded at the Loughborough AURN site. Between 29th January – 26th February 2026 there were no recorded instances where the daily average PM₁₀ concentrations exceeded 50 µg/m³ at the CBC Zephyr or at the Leicester AURN.

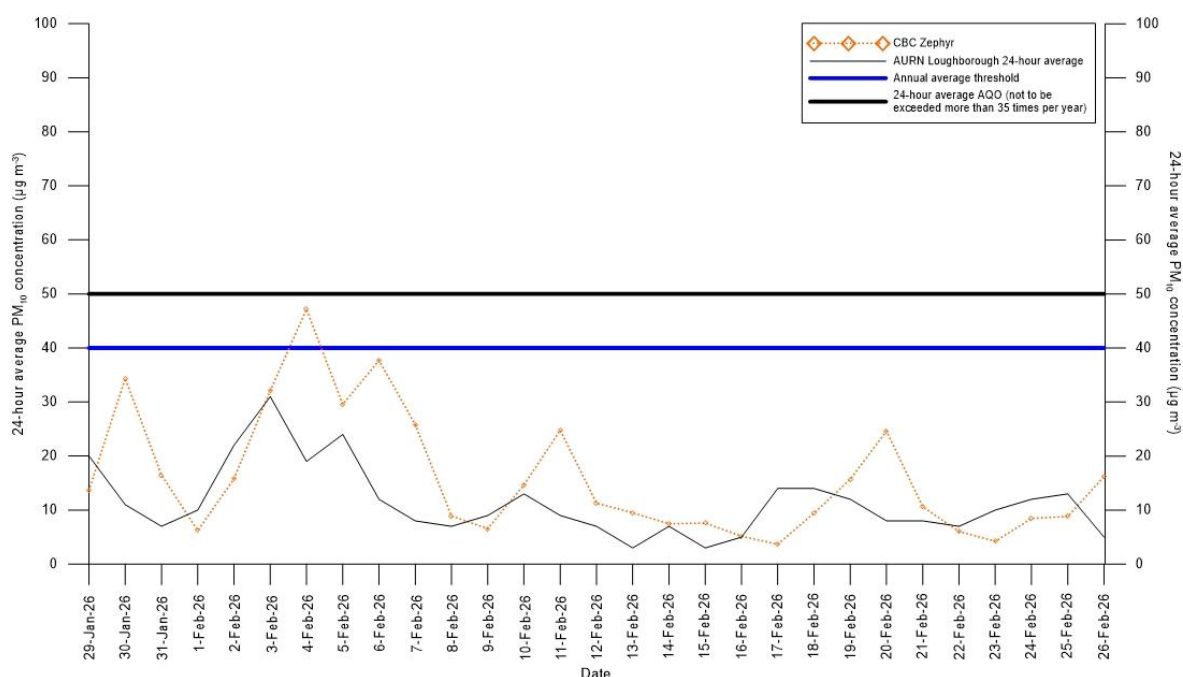


Figure A.1: Daily average PM₁₀ concentration, CBC Zephyr and Leicester AURN, 29th January – 26th February 2026.

² <http://uk-air.defra.gov.uk/networks/network-info?view=aurn>

Appendix B: Off-site PM_{2.5} monitoring (CBC and AURN)

The daily average PM_{2.5} concentrations recorded by the CBC Zephyr are presented below in Figure B.1, alongside similar data from the Defra Automatic Urban and Rural Network (AURN) station in Loughborough Thorpe Acre.

For the monitoring 29th January – 26th February 2026, there was an 100 % data capture recorded from both the CBC Zephyr and from the Loughborough AURN station. For the available data the average daily PM_{2.5} concentration for this monitoring period at the CBC Zephyr was 9.4 µg/m³. At the Loughborough AURN the average daily PM_{2.5} concentration was 8.8 µg/m³ for the monitoring period.

Onsite PM_{2.5} concentrations were similar at Hawcliffe Road (8.3 µg/m³) and slightly lower at Quorn House (7.1 µg/m³) compared to off-site averages of 9.4 µg/m³ at CBC Zephyr and 8.8 µg/m³ at Leicester AURN, likely reflecting the differences in locations.

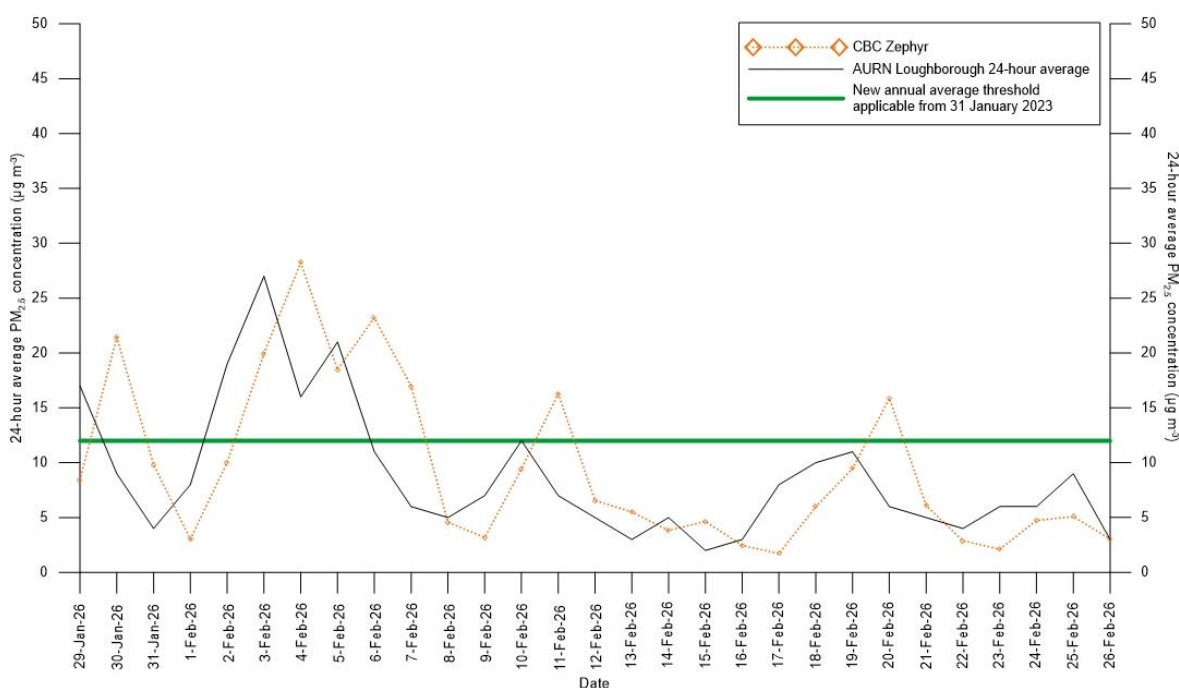


Figure B.1: Daily average PM_{2.5} concentrations, CBC Zephyr and Leicester AURN, 29th January – 26th February 2026.

Appendix C: Off-site PM₁₀ and PM_{2.5} Annual Summary

Table C.1: Average PM₁₀ concentrations at CBC Zephyr and Loughborough AURN for 12 months up to 26th February 2026.

	AURN Loughborough Thorpe Acre *	CBC Zephyr
Valid data capture	79 %	89 %
Period average PM ₁₀ concentration	10.2 µg/m ³	12.2 µg/m ³
Percentage of annual AQO (40 µg/m ³)	25.6 %	30.6 %
No. exceedances of daily AQO (50 µg/m ³ , not to be exceeded more than 35 times per calendar year)	0	2
* Values calculated using partial-year data (13 th May 2025 to 26 th February 2026).		

Table C.2: Average PM_{2.5} concentrations at CBC Zephyr and Loughborough AURN for 12 months up to 26th February 2026.

	AURN Loughborough Thorpe Acre *	CBC Zephyr
Valid data capture	79 %	89 %
Period average PM _{2.5} concentration	6.4 µg/m ³	8.0 µg/m ³
Percentage of interim target (12 µg/m ³ as an annual average)	54 %	66 %
* Values calculated using partial-year data (13 th May 2025 to 26 th February 2026).		



Dust, Particulate Matter and Weather Monitoring Report: March 2026

Mountsorrel Quarry

May, 2026

Tarmac



Document Control Sheet

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1 Introduction

Mountsorrel Quarry has a comprehensive Dust Management and Monitoring Plan (DMMP). The DMMP was developed in 2011 and is subject to regular review and revision, in consultation between Tarmac and the local regulators (Leicestershire County Council (LCC) and Charnwood Borough Council (CBC)).

The DMMP is enacted through the quarry Site Improvement Plan (SIP). The SIP sets out a programme of actions to reduce the environmental impact of specific areas of the site operation, and is updated regularly by quarry management, with support from DustScanAQ through regular site visits and quarterly reviews with LCC and CBC.

Section 7.5 of the DMMP requires that a monthly summary and review of dust and particulate matter monitoring is prepared and circulated with LCC, CBC and the Environment Agency.

This report details the results of dust, particulate matter and weather monitoring around Mountsorrel Quarry during the period 26th February – 26th March 2026.

1.1 Report scope

The intention of this report is to summarise dust and particulate matter monitoring results for the given period and compare them against site-specific alert limits and thresholds. This report also details the results of any investigation carried out into elevated dust or particulate matter levels, as prompted by an exceedance of alert limits or thresholds.

1.2 Dust definitions

'Dust' is generally regarded as particulate matter up to 75 µm (micron) diameter and can be considered in two categories. Fine dust, essentially particles up to 10 µm, is commonly referred to as PM₁₀ and is measured to agreed standards and forms part of the national Air Quality Objectives (AQO). The AQO for PM₁₀ is currently 50 µg/m³ for the 24-hour mean, not to be exceeded 35 times per year and 40 µg/m³ for the annual mean. Particles up to 2.5 µm in diameter are referred to as PM_{2.5}. The interim target for PM_{2.5} is 12 µg/m³ for the annual mean (to be achieved by 2028), whilst the legal AQO for PM_{2.5} is 10 µg/m³ for the annual mean (to be achieved by 2040) as per The Environmental Targets (Fine Particulate Matter) (England) Regulations 2023¹.

It may be noted that the above Regulations relate to average particle concentrations in Local Authority districts thus do not apply to any specific industrial or other operation, such as Mountsorrel Quarry, and are included for reference. Coarser dust (essentially particles greater than 10 µm) is generally regarded as 'nuisance dust' and can be associated with annoyance, although there are no official standards (such as AQO) for dust annoyance.

¹ Statutory Instrument. (2023), 'The Environmental Targets (Fine Particulate Matter) (England) Regulations', No. 96. King's Printer of Acts of Parliament

2 Sampler locations

As shown in Figure 2.1 and Table 2.1, dust, particulate matter and weather conditions are measured at a number of locations around site and the surrounding area:

- Directional and depositional dust: currently monitored at 13 locations;
- Particulate matter: currently monitored at two locations;
- Weather conditions: currently monitored at one location.

The majority of the dust samplers around Mountsorrel Quarry comprise the ‘Frisbee-type’ deposition gauge combined with an adhesive ‘sticky pad’ directional gauge. These samplers are used to monitor ‘nuisance’ dust and samples from these instruments are collected on a monthly basis.

For particulate matter, Turnkey Osiris samplers are located at Stn 9 (Hawcliffe Road) and at Stn 13 (Quorn House). These recognised and certificated ‘indicative’ real-time devices are connected to their own wind vane and anemometer and provide near-instantaneous directional PM_{10} , $PM_{2.5}$ and PM_1 data directly to the quarry management team.

A weather station is located at the site offices off Wood Lane and collects a range of weather parameters over fifteen-minute intervals. Data from the weather station are available to the quarry management by means of a dedicated modem connection to the internet.

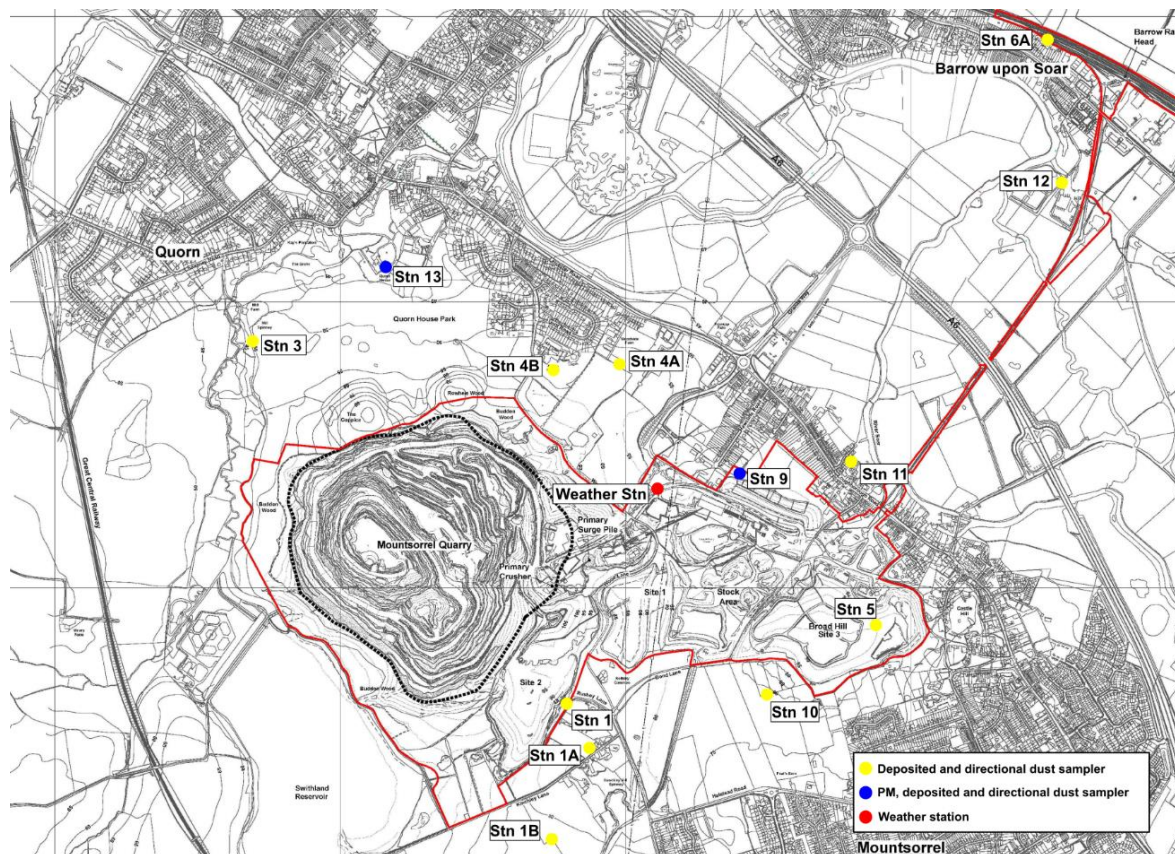


Figure 2.1: Particulate matter, dust and weather monitoring locations, Mountsorrel Quarry

Table 2.1: Particulate matter, dust and weather monitoring locations, Mountsorrel Quarry

Sampler reference	Easting	Northing	Locality monitored
Stn 1	456787	314586	Swithland Lane; Rushey Lane; Kinchley Lane
Stn 1A	456882	314449	Swithland Lane; Rushey Lane; Kinchley Lane
Stn 1B	456745	314112	Swithland Lane; Rushey Lane; Kinchley Lane
Stn 3	455685	315844	Mill Farm; Quorn House
Stn 4A	456966	315787	Woodside Farm; Leicester Road
Stn 4B	456732	315767	Quorn Grange, Unitt Road, Northage Close, Quorn Park
Stn 5	457872	314875	Bond Lane; Crown Lane
Stn 6A	458655	316785	Sileby Road; Huston Close; Sileby Road (commercial)
Stn 9 (inc. PM)	457374	315398	Hawcliffe Road
Stn 10	457509	314627	Glebe Close; Halstead Road (south); Halstead Road (north)
Stn 11	457835	315504	Loughborough Road; River Soar (marina / caravan park)
Stn 12	458551	316457	Meadow Farm Marina and Caravan Park
Stn 13 (incl. PM)	456154	316087	Northage Close, Meeting Street
Weather Station	457126	315376	Wood Lane Site Offices

Charnwood Borough Council (CBC) is responsible for the monitoring of air quality within the borough and prepares Air Quality Annual Status Reports (ASRs) for submission to Defra. It operates an Earthsense Zephyr air quality monitor which is located within the Leicestershire County Council (LCC) depot at the southern end of Hawcliffe Road, in close proximity to the Osiris device at Stn 9. This device measures a number of pollutants including PM₁₀ and PM_{2.5}. The purpose of this monitoring is for CBC to compare measured concentrations against the relevant AQOs for these pollutants.

For additional context, the latest PM₁₀ and PM_{2.5} monitoring data from CBC are summarised in Appendix A and Appendix B, whilst a summary of the latest 12 months of data are provided in Appendix C for reference.

2.1 Alert thresholds and response procedures

To help the site reduce its impact on the surrounding area, a number of alert thresholds have been calculated, as outlined in Table 2.2.

Table 2.2: Alert thresholds

Pollutant	Threshold	Averaging period	Applies to
PM ₁₀	125 µg/m ³	15 minutes	Stn 9 (Hawcliffe Road), Stn 13 (Quorn House)
Deposited dust	125 mg/m ² /day	1 month	All deposited dust monitoring locations

For particulate matter (PM₁₀) an alert threshold of 125 µg/m³ for the 15-minute average has been in use for several years as a trigger limit for investigation to identify potential on-site issues.

Analysis of data from the site has demonstrated that PM₁₀ provides a stronger ‘site signal’ than PM_{2.5}. The purpose of alerts is to provide site managers with information regarding elevated PM₁₀ concentrations, allowing them to investigate and make operational changes if necessary. An alert threshold has therefore not been set for PM_{2.5} to prevent duplication.

PM₁₀ and PM_{2.5} concentrations recorded by CBC at the southern end of Hawcliffe Road and by Defra through the Automatic Urban and Rural Network (AURN) at Loughborough Thorpe Acre are presented in Appendix A and Appendix B respectively. Data from both locations have been compared against relevant Air Quality Objectives (AQOs) for PM₁₀ and PM_{2.5}.

For deposited dust, the DMMP sets out a site-wide deposited dust threshold of 125 mg/m²/day ‘undissolved solids’ as a trigger limit for investigation to identify the potential dust source/s, taking account of the directional data.

3 Results

3.1 Weather monitoring

Weather conditions can have a significant effect on the potential for dust propagation from a mineral site. Of particular importance are wind speeds, wind direction, and precipitation. Dust can be carried from a source towards receptors (such as nearby homes and other businesses) according to the strength and direction of wind. Precipitation is recognised to suppress dust and 0.2 mm antecedent rainfall is considered sufficient to suppress windblown dust for a number of hours.

The key weather data which might affect dust propagation (wind speed, wind direction, total daily precipitation and average daily temperature) for this reporting period are summarised in Figure 3.1 and Figure 3.2.

Average daily temperature fluctuated throughout the monitoring period, ranging from a minimum of 4.9 °C on 25th March 2026 to a maximum of 11.7 °C on 18th March 2026. Temperatures were generally lower earlier in the period and higher towards mid to late March. Precipitation was low overall, with mostly minor rainfall events. Rainfall became slightly more frequent in the latter half of the monitoring period, though daily totals remained small, with a maximum of approximately 2 mm. Overall, precipitation was recorded on approximately 79% of days with available data, indicating frequent but low-intensity rainfall.

As seen in Figure 3.2 wind speeds were predominantly light to moderate (>0.5 – 6 m/s), with occasional stronger winds (6 – 10 m/s) observed from the south. Winds were most frequently recorded from the south and south-west sectors. This may have resulted in an increased potential for dust propagation towards the north during 26th February – 26th March 2026.

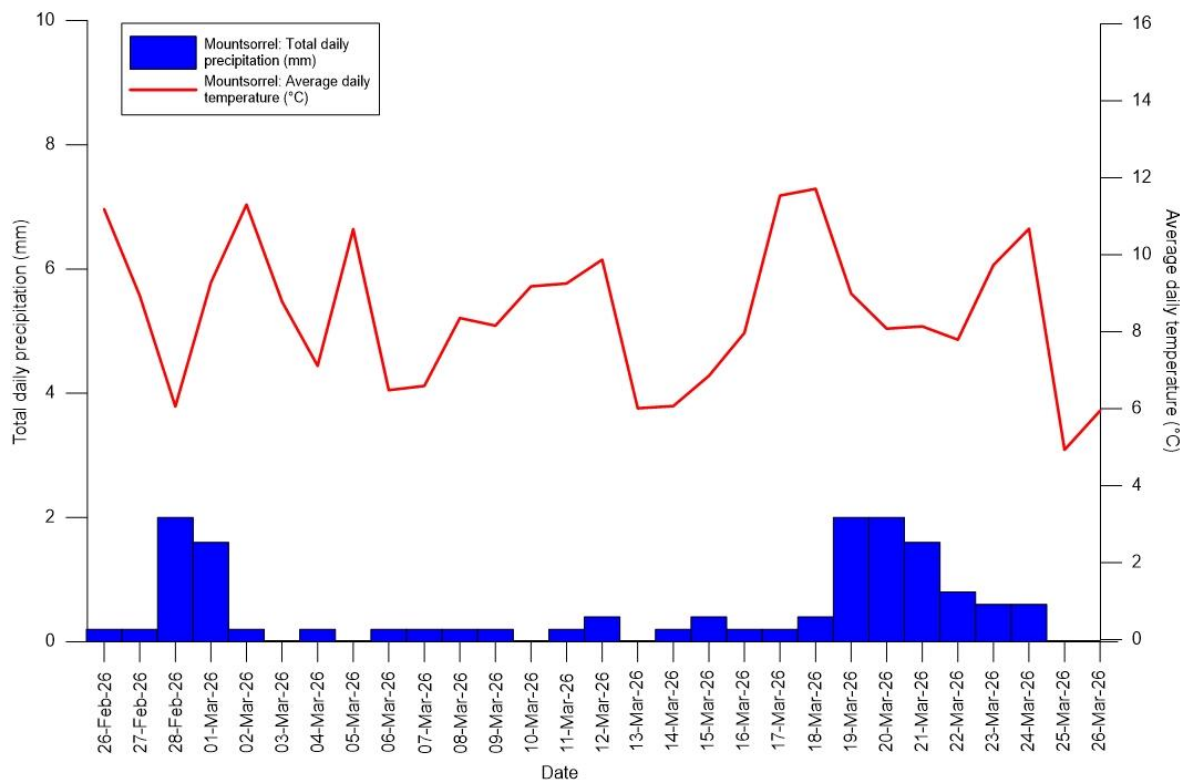


Figure 3.1: Total daily precipitation and average daily temperature, Mountsorrel Quarry, 26th February – 26th March 2026.

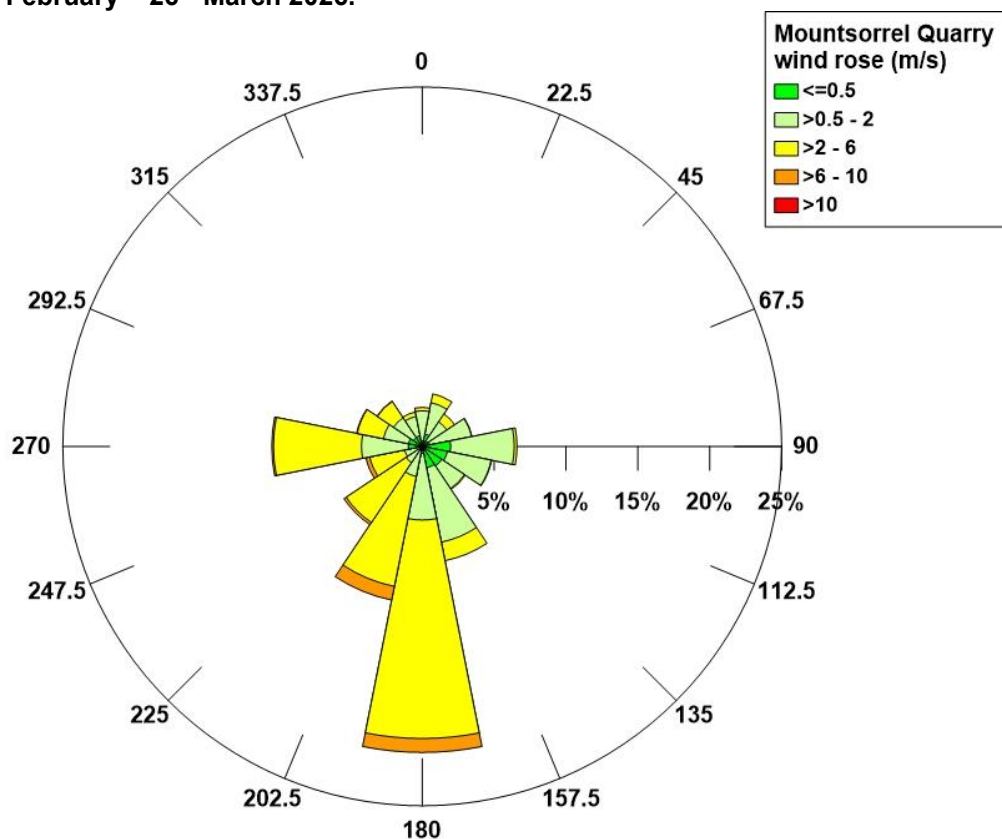


Figure 3.2: Wind rose, Mountsorrel Quarry, 26th February – 26th March 2026.

3.2 Particulate matter

3.2.1 PM₁₀

The available 15-minute data from the period of review are presented for both monitoring locations in Figure 3.3 and Figure 3.4 respectively. The red line denotes the site trigger level (125 $\mu\text{g}/\text{m}^3$ over the 15-minute average), whilst the dashed black line denotes the average concentration recorded over this period.

Additional PM₁₀ monitoring data (collected by CBC and the Defra AURN monitoring network) are provided in Appendix A.

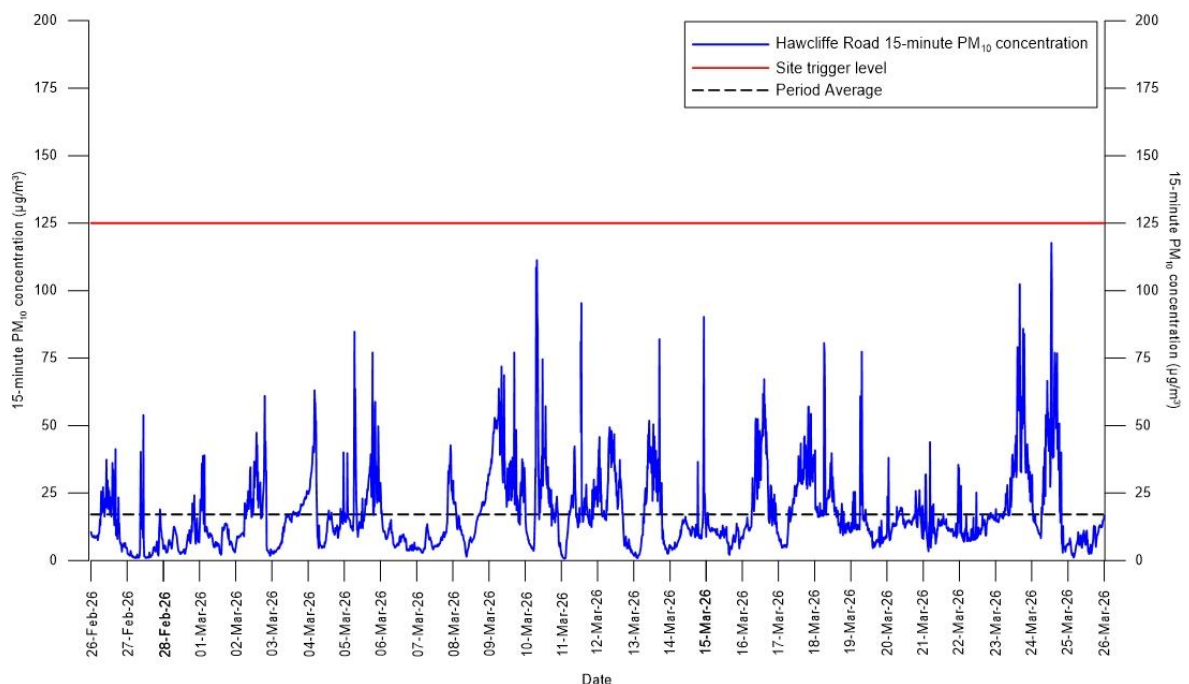


Figure 3.3: 15-minute mean PM₁₀ concentration, Hawcliffe Road, 26th February – 26th March 2026.

Figure 3.3 indicates that the period average concentration at the Hawcliffe Road sampler for this period was 17.1 $\mu\text{g}/\text{m}^3$, the alert threshold was not exceeded during this monitoring period, subsequently, no trigger emails alerting staff to high PM₁₀ levels were sent from the Hawcliffe Road Osiris during this review period.

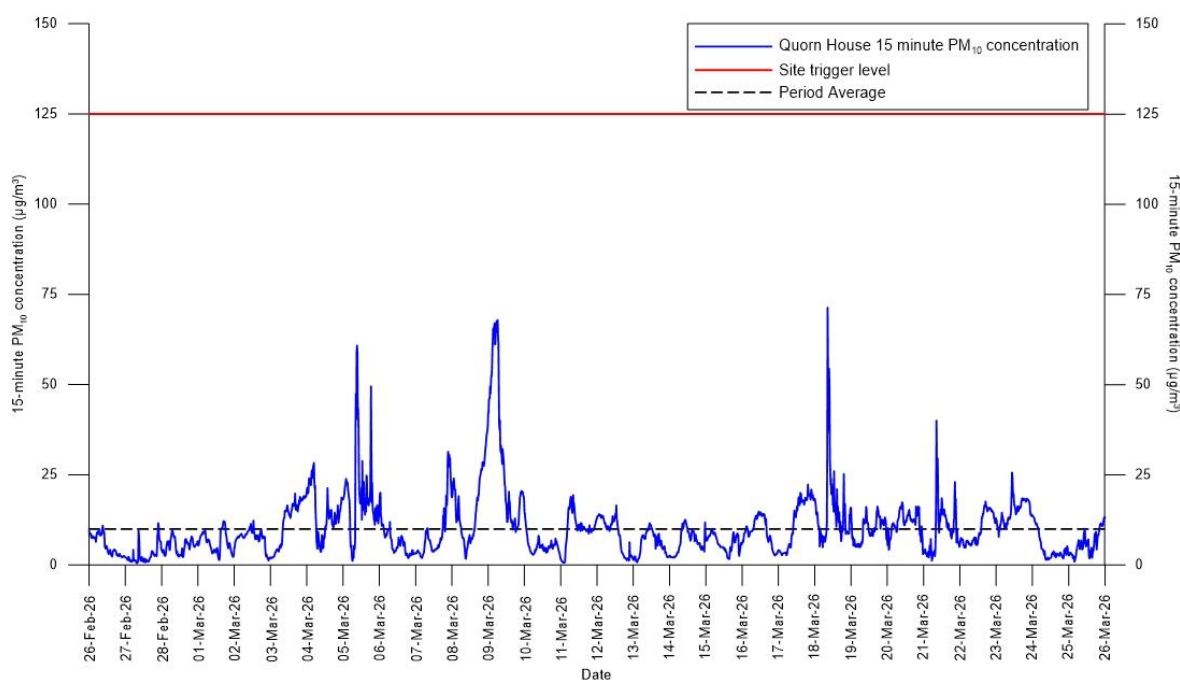


Figure 3.4: 15-minute mean PM₁₀ concentration, Quorn House, 26th February – 26th March 2026.

At Quorn House there were no exceedances of the PM₁₀ site trigger, and the period average was 9.94 µg/m³.

3.2.2 PM_{2.5}

The results of PM_{2.5} monitoring at Hawcliffe Road and Quorn House are presented in Figure 3.5 and Figure 3.6. The dashed black line denotes the average concentration recorded over this period.

Additional PM_{2.5} monitoring data (collected by CBC and the Defra AURN monitoring network) are provided in Appendix B.

At Hawcliffe Road, the period average concentration was 11.2 µg/m³, whilst at Quorn House, the period average was 8.19 µg/m³. In general, PM_{2.5} concentrations recorded at Hawcliffe Road experienced greater fluctuations than at Quorn House (as shown by the increased frequency of spikes in the dataset); this is most likely due to its location on the site boundary and in a more built-up environment when compared to the rural location of Quorn House.

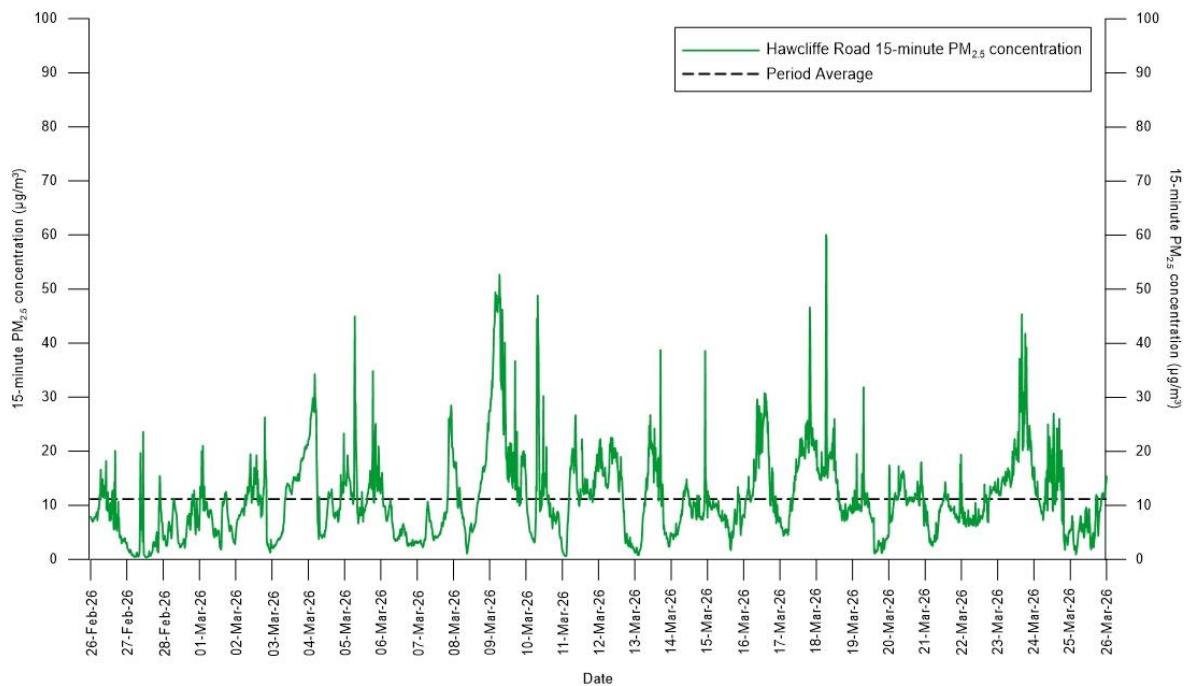


Figure 3.5: 15-minute mean PM_{2.5} concentration, Hawcliffe Road 26th February – 26th March 2026.

For this period, 65% of PM₁₀ recorded at Hawcliffe Road comprised PM_{2.5}, whilst it made up 82% at Quorn House.

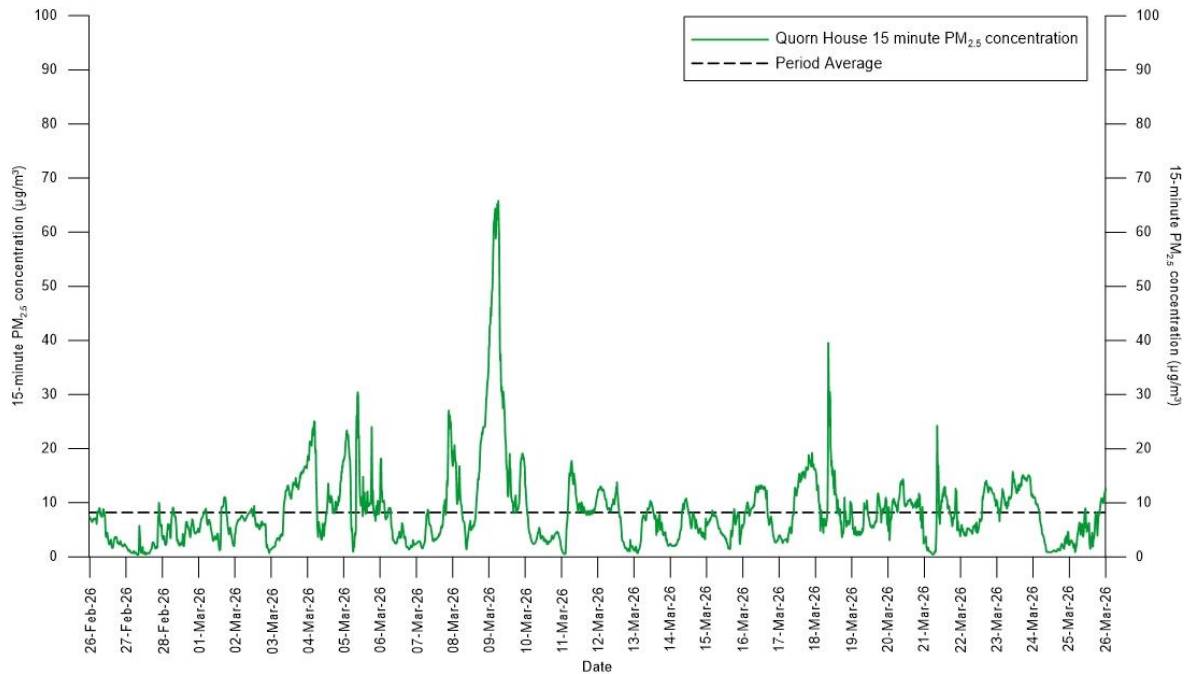


Figure 3.6: 15-minute mean PM_{2.5} concentration, Quorn House, 26th February – 26th March 2026.

3.2.3 Deposited dust monitoring summary

The deposited dust data for 26th February – 26th March 2026 are summarised in Table 3.1. As outlined above, there is a site-wide threshold for investigation to identify the potential dust source/s, taking account of the directional data. Table 3.1 shows that, for the available data, deposited dust levels during 26th February – 26th March 2026 were within the site-specific threshold for all stations.

Table 3.1: Summary of deposited dust (undissolved solids), 26th February – 26th March 2026.

Undissolved solids (mg/m ² /day)				
This month report start date:		26-Feb-26		
This month report end date:		26-Mar-26		
Receptor location	Nearest / appropriate dust monitoring point	Reported value	Trigger: ≥ 125 ^a	Magnitude ^b
Swithland Lane; Rushey Lane; Kinchley Lane	Stn 1	30	No	Very Low
Swithland Lane; Rushey Lane; Kinchley Lane	Stn 1A	20	No	Very Low
Swithland Lane; Rushey Lane; Kinchley Lane	Stn 1B	18	No	Very Low
Mill Farm; Quorn House	Stn 3	22	No	Very Low
Woodside Farm, Leicester Road	Stn 4A	28	No	Very Low
Quorn Grange, Unitt Road, Northage Close, Quorn Park	Stn 4B	52	No	Low
Bond Lane; Crown Lane	Stn 5	22	No	Very Low
Sileby Road; Huston Close; Sileby Road (commercial)	Stn 6A	35	No	Very Low
Hawcliffe Road	Stn 9	77	No	Low
Glebe Close; Halstead Road (south); Halstead Road (north)	Stn 10	72	No	Low
Loughborough Road; River Soar (marina / caravan park)	Stn 11	27	No	Very Low
Meadow Farm Marina and Caravan Park	Stn 12	59	No	Low
Quorn House Park	Stn 13	18	No	Very Low

^a Trigger mass deposition and Effective Area Coverage rates as in Section 7.3, ZLFMS-AG008 Dust Management and Monitoring Plan (Updated), 2015

^b Magnitude of mass deposition rate assessed against typical rate for semi-rural areas (30 - 80 mg/m²/day)

Regarding dust deposition over time, the rates across the sampling area have varied considerably. Trends in dust deposition rates (as undissolved solids) for the previous 12 months, together with the site-wide dust threshold are illustrated in Figure 3.7.

In general, as would be expected, dust deposition rates are typically lower in winter months than in summer months. This trend is clearly seen for most monitoring points in Figure 3.7, with some exceptions. Dust deposition rates have been consistently below the ‘trigger limit’ at all sampling locations, with the exception of Stn 4A, which has exceeded the threshold on one occasion over the past 12 months. Details of the associated investigation can be found in the corresponding compliance report.

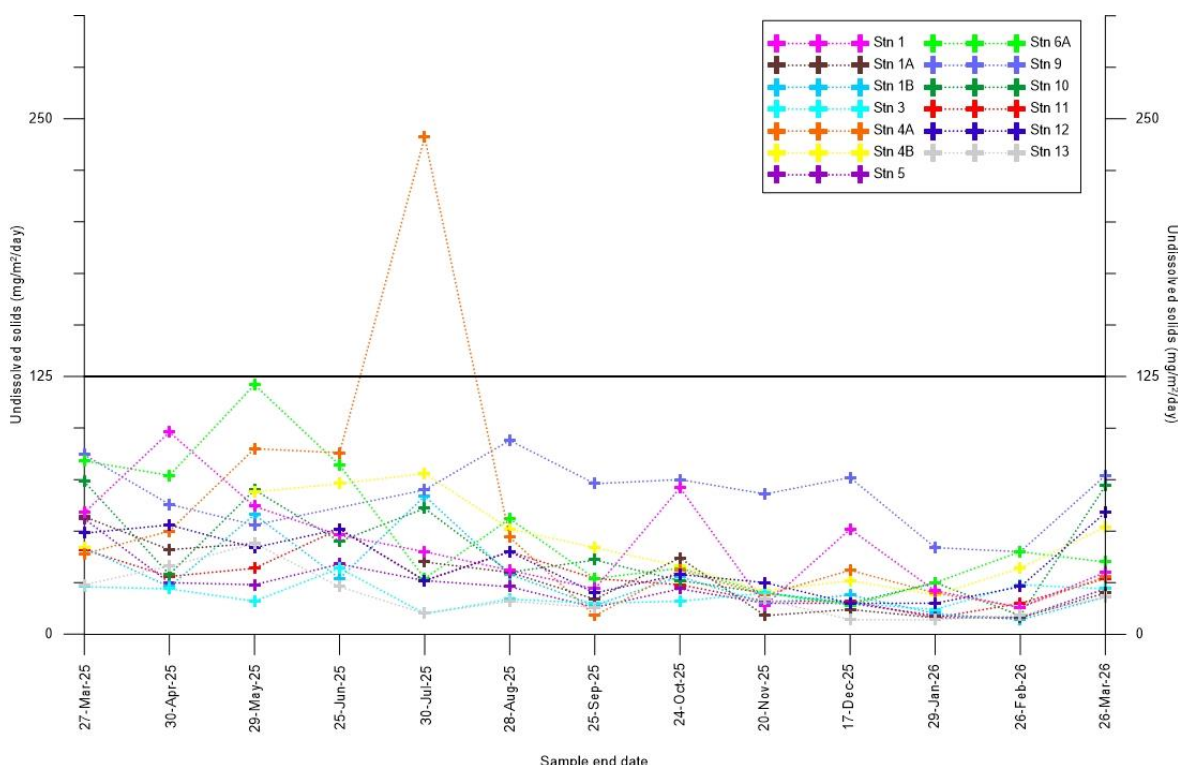


Figure 3.7: Dust deposition rates per sampling location over time (past 12 months)

3.2.4 Directional dust monitoring summary

The directional dust data for 26th February – 26th March 2026 are summarised in Table 3.2 and are presented graphically in Figure 3.8. As with deposited dust, the DMMP sets out a site-wide directional dust threshold. For directional dust soiling, 0.5 % Effective Area Coverage (EAC) per day is a trigger limit for investigation to identify the likely dust source/s, again taking account of the direction. Table 3.2 and Figure 3.8 show that during 26th February – 26th March 2026, all stations recorded Very Low to Low dust flux from all directions.

Table 3.2: Summary of directional dust soiling, 26th February – 26th March 2026.

Directional dust soiling (%EAC/day) by direction (°)										
This month report start date:		26-Feb-26								
This month report end date:		26-Mar-26								
Receptor location	Nearest / appropriate dust monitoring point		Direction (°)							
			0	45	90	135	180	225	270	315
Swithland Lane; Rushey Lane; Kinchley Lane	Stn 1	Reported value	0	0	0	0	0	0.1	0.1	0.1
		Trigger: $\geq 0.5^a$	No	No	No	No	No	No	No	No
		Magnitude ^b	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low
Swithland Lane; Rushey Lane; Kinchley Lane	Stn 1A	Reported value	0.1	0	0	0	0	0	0.1	0.1
		Trigger: $\geq 0.5^a$	No	No	No	No	No	No	No	No
		Magnitude ^b	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low
Swithland Lane; Rushey Lane; Kinchley Lane	Stn 1B	Reported value	0	0	0	0	0.1	0.1	0	0
		Trigger: $\geq 0.5^a$	No	No	No	No	No	No	No	No
		Magnitude ^b	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low
Mill Farm; Quorn House	Stn 3	Reported value	0	0	0.1	0.1	0.1	0.1	0	0
		Trigger: $\geq 0.5^a$	No	No	No	No	No	No	No	No
		Magnitude ^b	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low
Woodside Farm, Leicester Road	Stn 4A	Reported value	0	0	0	0	0.1	0.1	0.1	0.1
		Trigger: $\geq 0.5^a$	No	No	No	No	No	No	No	No
		Magnitude ^b	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low
Quorn Grange, Unitt Road, Northage Close, Quorn Park	Stn 4B	Reported value	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1
		Trigger: $\geq 0.5^a$	No	No	No	No	No	No	No	No
		Magnitude ^b	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low
Bond Lane; Crown Lane	Stn 5	Reported value	0.1	0	0	0	0.1	0.1	0.1	0.1
		Trigger: $\geq 0.5^a$	No	No	No	No	No	No	No	No
		Magnitude ^b	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low
Sileby Road; Huston Close; Sileby Road (commercial)	Stn 6A	Reported value	0.1	0.1	0.1	0	0.1	0.2	0.1	0.1
		Trigger: $\geq 0.5^a$	No	No	No	No	No	No	No	No
		Magnitude ^b	Very Low	Very Low	Very Low	Very Low	Very Low	Low	Very Low	Very Low
Hawcliffe Road	Stn 9	Reported value	0.1	0.1	0.1	0.1	0.1	0.3	0.3	0.1
		Trigger: $\geq 0.5^a$	No	No	No	No	No	No	No	No
		Magnitude ^b	Very Low	Very Low	Very Low	Very Low	Very Low	Low	Low	Very Low
Glebe Close; Halstead Road (south); Halstead Road (north)	Stn 10	Reported value	0.1	0	0	0	0.1	0.1	0.1	0.1
		Trigger: $\geq 0.5^a$	No	No	No	No	No	No	No	No
		Magnitude ^b	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low
Loughborough Road; River Soar (marina / caravan park)	Stn 11	Reported value	0.1	0	0.1	0.1	0.1	0.1	0.1	0.1
		Trigger: $\geq 0.5^a$	No	No	No	No	No	No	No	No
		Magnitude ^b	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low
Meadow Farm Marina and Caravan Park	Stn 12	Reported value	0.1	0.1	0.1	0.1	0.2	0.3	0.1	0.1
		Trigger: $\geq 0.5^a$	No	No	No	No	No	No	No	No
		Magnitude ^b	Very Low	Very Low	Very Low	Very Low	Low	Low	Very Low	Very Low
Quorn House Park	Stn 13	Reported value	0	0	0	0	0.1	0.1	0.1	0.1
		Trigger: $\geq 0.5^a$	No	No	No	No	No	No	No	No
		Magnitude ^b	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low

^a Trigger mass deposition and Effective Area Coverage rates as in Section 7.3, ZLFMS-AG008 Dust Management and Monitoring Plan (Updated), 2015

^b Magnitude of directional dust soiling derived from Beaman and Kingsbury, 1981

^c Direction/s not determined for daily EAC below 0.1%/day (very low soiling)

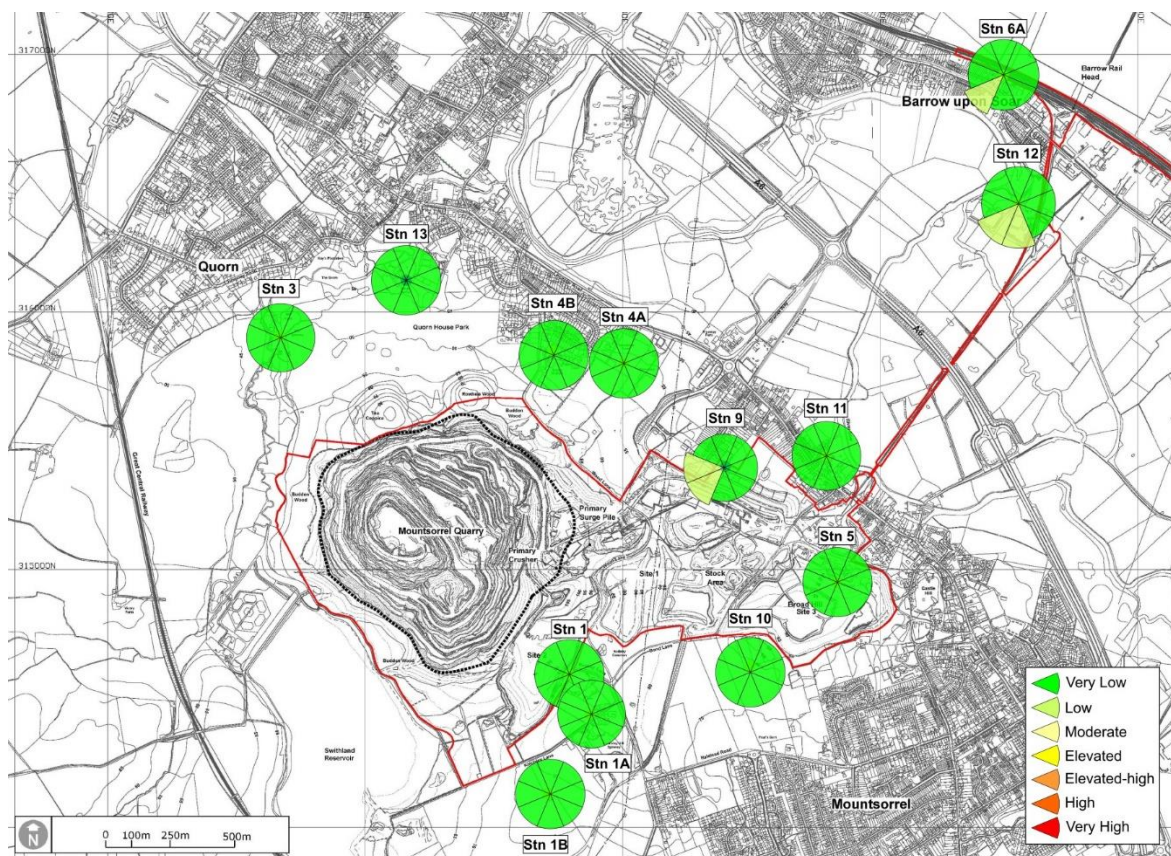


Figure 3.8: Directional dust soiling rose diagrams, 26th February – 26th March 2026.

Table 3.3 shows that the average directional soiling rates have been at Very Low levels at most monitoring locations, for most directions, over the past year. Low average directional dust flux levels were recorded from west and south-west at Stn 6A, and south-west to north-west at Stn 9.

Table 3.3: Running average directional dust soiling (past 12 months)

Receptor location	Nearest / appropriate dust monitoring point		Direction (°)							
			0	45	90	135	180	225	270	315
Swithland Lane; Rushey Lane; Kinchley Lane	Stn 1	Average value	0	0.1	0	0.1	0.1	0.1	0.1	0.1
		Magnitude ^b	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low
Swithland Lane; Rushey Lane; Kinchley Lane	Stn 1A	Average value	0.1	0.1	0.1	0	0	0.1	0.1	0.1
		Magnitude ^b	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low
Swithland Lane; Rushey Lane; Kinchley Lane	Stn 1B	Average value	0	0	0.1	0.1	0.1	0.1	0.1	0.1
		Magnitude ^b	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low
Mill Farm; Quorn House	Stn 3	Average value	0.1	0.1	0.1	0.1	0.1	0	0	0
		Magnitude ^b	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low
Woodside Farm, Leicester Road	Stn 4A	Average value	0	0	0	0.1	0	0.1	0.1	0.1
		Magnitude ^b	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low
Quorn Grange, Unitt Road, Northage Close, Quorn Park	Stn 4B	Average value	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1
		Magnitude ^b	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low
Bond Lane; Crown Lane	Stn 5	Average value	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
		Magnitude ^b	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low
Sileby Road; Huston Close; Sileby Road (commercial)	Stn 6A	Average value	0.1	0.1	0.2	0.1	0.1	0.2	0.1	0.1
		Magnitude ^b	Very Low	Very Low	Low	Very Low	Very Low	Low	Very Low	Very Low
Hawcliffe Road	Stn 9	Average value	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1
		Magnitude ^b	Very Low	Very Low	Very Low	Very Low	Very Low	Low	Low	Very Low
Glebe Close; Halstead Road (south); Halstead Road (north)	Stn 10	Average value	0.1	0	0	0.1	0.1	0.1	0.1	0.1
		Magnitude ^b	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low
Loughborough Road; River Soar (marina / caravan park)	Stn 11	Average value	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
		Magnitude ^b	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low
Meadow Farm Marina and Caravan Park	Stn 12	Average value	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
		Magnitude ^b	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low
Quorn House Park	Stn 13	Average value	0	0	0.1	0.1	0	0.1	0.1	0.1
		Magnitude ^b	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low

^a Trigger mass deposition and Effective Area Coverage rates as in Section 7.3, ZLFMS-AG008 Dust Management and Monitoring Plan (Updated), 2015

^b Magnitude of directional dust soiling derived from Beaman and Kingsbury, 1981

^c Direction/s not determined for daily EAC below 0.1%/day (very low soiling)

4 Complaints

During March 2026, it is understood that one complaint was received by the quarry. These were investigated in accordance with the procedure outlined in the DMMP.

Appendix A: Off-site PM₁₀ monitoring (CBC and AURN)

The daily average PM₁₀ concentrations recorded by the CBC Zephyr² are presented below in Figure A.1, alongside similar data from the Defra Automatic Urban and Rural Network (AURN) station in Loughborough Thorpe Acre³.

For the monitoring period 26th February – 26th March 2026, the CBC Zephyr achieved a 97% data capture, and Loughborough AURN station had a data capture of 100 %.

For the available data, the average daily PM₁₀ concentration for this monitoring period at the CBC Zephyr (Hawcliffe Road) was 16.1 µg/m³. At the Loughborough AURN the average daily PM₁₀ concentration was 14.0 µg/m³ for the monitoring period.

During the monitoring period, the average daily PM₁₀ concentration recorded by the onsite monitor at Quorn House was slightly lower than those measured at the CBC Zephyr and Leicester AURN sites, at 9.9 µg/m³. At Hawcliffe Road, the average concentration was 17.1 µg/m³, which was greater than the readings recorded at both the CBC Zephyr and Loughborough AURN site.

Between 26th February – 26th March 2026 there were no recorded instances where the daily average PM₁₀ concentrations exceeded 50 µg/m³ at the CBC Zephyr or at the Leicester AURN.

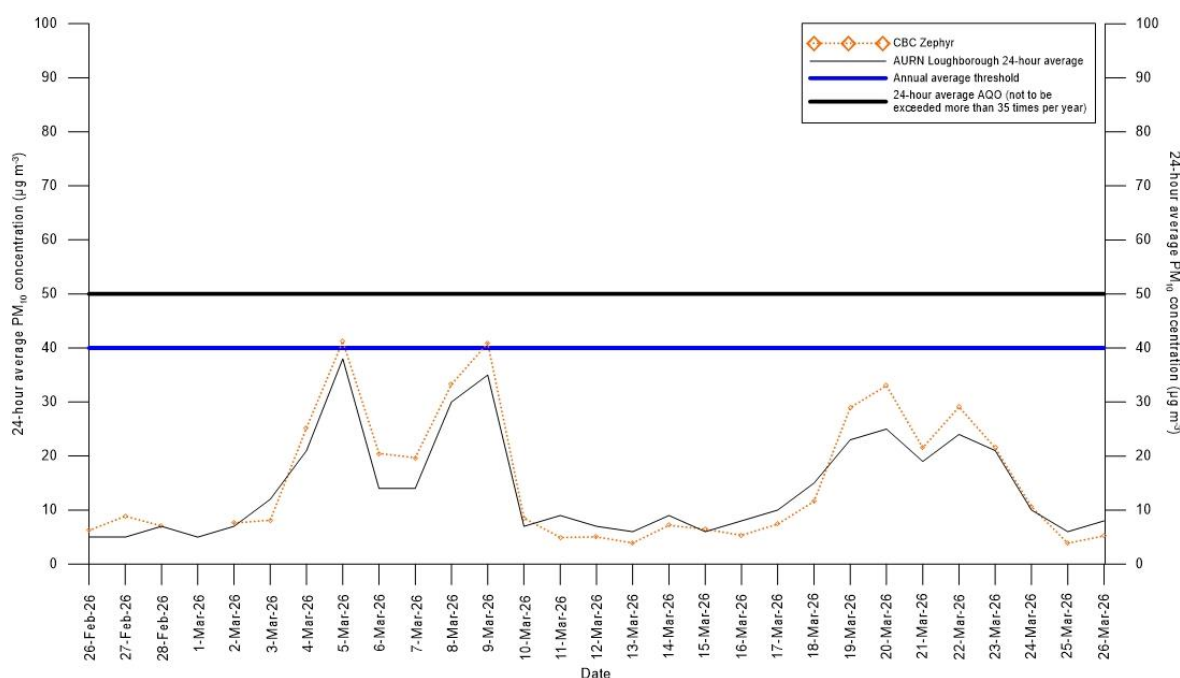


Figure A.1: Daily average PM₁₀ concentration, CBC Zephyr and Loughborough Thorpe Acre AURN, 26th February – 26th March 2026.

² <https://portal.earthsense.co.uk/LeicestershireCCPublic/analysis>

³ <http://uk-air.defra.gov.uk/networks/network-info?view=aurn>

Appendix B: Off-site PM_{2.5} monitoring (CBC and AURN)

The daily average PM_{2.5} concentrations recorded by the CBC Zephyr are presented below in Figure B.1, alongside similar data from the Defra Automatic Urban and Rural Network (AURN) station in Loughborough Thorpe Acre.

For the monitoring period 26th February – 26th March 2026, the CBC Zephyr achieved a 97 % data capture, and Loughborough AURN station had a data capture of 100 %. For the available data the average daily PM_{2.5} concentration for this monitoring period at the CBC Zephyr was 9.6 µg/m³. At the Loughborough AURN the average daily PM_{2.5} concentration was 10.2 µg/m³ for the monitoring period.

Onsite PM_{2.5} concentrations were higher at Hawcliffe Road (11.2 µg/m³) and slightly lower at Quorn House (9.2 µg/m³) compared to off-site averages of 9.6 µg/m³ at CBC Zephyr and 10.2 µg/m³ at Leicester AURN, likely reflecting the differences in locations.

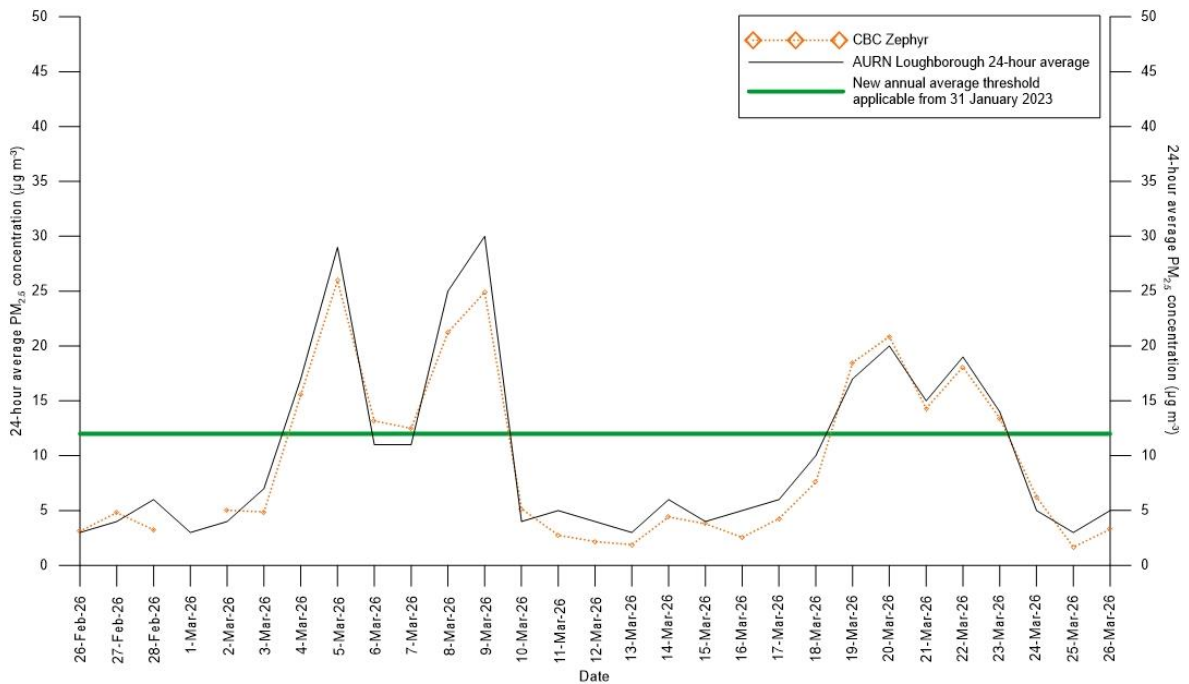


Figure B.1: Daily average PM_{2.5} concentrations, CBC Zephyr and Loughborough Thorpe Acre AURN, 26th February – 26th March 2026.

Appendix C: Off-site PM₁₀ and PM_{2.5} Annual Summary

Table C.1: Average PM₁₀ concentrations at CBC Zephyr and Loughborough AURN for 12 months up to 26th March 2026.

	AURN Loughborough Thorpe Acre *	CBC Zephyr
Valid data capture	87 %	89 %
Period average PM ₁₀ concentration	10.6 µg/m ³	14.7 µg/m ³
Percentage of annual AQO (40 µg/m ³)	26.5 %	36.7 %
No. exceedances of daily AQO (50 µg/m ³ , not to be exceeded more than 35 times per calendar year)	0	1
* Values calculated using partial-year data (13 th May 2025 to 26 th March 2026).		

Table C.2: Average PM_{2.5} concentrations at CBC Zephyr and Loughborough AURN for 12 months up to 26th March 2026.

	AURN Loughborough Thorpe Acre *	CBC Zephyr
Valid data capture	87 %	89 %
Period average PM _{2.5} concentration	6.8 µg/m ³	10.3 µg/m ³
Percentage of interim target (12 µg/m ³ as an annual average)	57 %	86 %
* Values calculated using partial-year data (13 th May 2025 to 26 th March 2026).		