Annual Progress Report (APR)

North Ayrshire Council
Comhairle Siorrachd Àir a Tuath

2025 Air Quality Annual Progress Report (APR) for
North Ayrshire Council

In fulfilment of Part IV of the Environment Act 1995, as amended by the Environment Act 2022

Local Air Quality Management
June 2025

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Executive Summary: Air Quality in Our Area

Air Quality in North Ayrshire Council

This report was prepared in accordance with the Local Air Quality Management (LAQM) Technical Guidance 2022 (TG22) and sets out the air quality monitoring carried out in North Ayrshire, with results and conclusions of data collected for 2024. Monitoring is carried out in North Ayrshire for Nitrogen Dioxide (NO_2) and Particulate Matter (PM), particles of soot (carbon), metals or inorganic salts of sizes less than or equal to 10micrometers, PM_{10}; and less than or equal to 2.5micrometers, $PM_{2.5}$.

Monitoring in previous years identified that the main air quality issue in North Ayrshire was associated with NO_2 and related to a) traffic congestion in High Street, Irvine and b) queuing traffic in New Street, Dalry. Mitigation projects were completed successfully in 2020 for the two areas. Monitoring shows a downward trend accordingly and monitoring continues, to ensure that these measures have been successful.

NO_2 for the three diffusion tube monitors of previous years' concern in High Street, Irvine, seen a notable decrease across all tubes from **10.7, 11.4, 11.1**µg/m^3 in 2023 to **9.7, 8.5, 8.0**µg/m^3 in 2024 respectively. A decrease was also observed at the nearby automatic monitor station where NO_2 decreased from **10.0**µg/m^3 in 2023 to **9.0**µg/m^3 for 2024.

In New Street, Dalry, NO_2 diffusion tubes seen a marginal increased at one and notable decrease at another from **9.0, 14.0**µg/m^3 in 2023 and **9.9, 11.1**µg/m^3 for 2024 respectively for the same corresponding locations of concern.

Following research into reporting of different monitoring instruments PM statistics are now displayed as uncorrected and corrected values. A marginal increase of PM_{10} was observed from an annual mean of 11.6µg/m^3 (**12.8**µg/m^3 corrected) in 2023 to 11.8µg/m^3 (**13.0**µg/m^3 corrected) in 2024 in High Street, Irvine. The Scottish annual mean air quality objective for PM_{10} is **18**µg/m^3. $PM_{2.5}$ also slightly increased from 6.0µg/m^3 (**6.4**µg/m^3 corrected) in 2023 to 6.4µg/m^3 (**6.8**µg/m^3 corrected) in 2024 for the same location. The Scottish annual mean air quality objective for $PM_{2.5}$ is **10**µg/m^3.

North Ayrshire Council has one officer located within Environmental Health who implements the LAQM requirements: ensuring monitoring equipment is maintained

correctly; dealing with enquiries, planning permissions and complaints; report writing, liaising with relevant colleagues in other departments and partners as required e.g. SEPA and Transport Scotland.

Overall, monitoring results for 2024 have shown a continued improvement across the North Ayrshire Council area and that all parameters remain well below the respective Air Quality Objectives. 2024 data shows that there are no ambient air quality issues within North Ayrshire Council.

Actions to Improve Air Quality

North Ayrshire Council has Energy and Sustainability Officers, an Access Officer, a School Travel Plan Co-ordinator, Traffic and Transportation Managers, a Business Change Project Manager, Workplace Engagement Officers a Science, Technology, Engineering, and Mathematics (STEM) Education Officer and supporting teams who collectively promote modal shift and actions to improve air quality and wellbeing.

During the winter months of 2023/24 a No Engine Idling campaign was promoted via social media as it was considered that this would be the most appropriate time to target this behaviour. A slogan was also highlighted on the side of refuse vehicles. Refuse vehicles are generally slow moving/stationary, visit many streets and therefore reach a large public audience. A photo of a refuse vehicle promotion is shown below.

Refuse vehicle promotion photo.

North Ayrshire Council operates a Sustainable Business Travel Plan Carpool Scheme alongside Enterprise Car Club. The Council is committed to promoting the uptake of electric vehicles and the aim of our Electric vehicle strategy 2021 to 2025 is to increase the number of electric vehicles (EVs) being used throughout North Ayrshire by creating a robust network of EV charge points. Across the January – December 2024, 103,124 miles were travelled on our CarClub scheme. Of this, a total of 14,432 miles were travelled on 100% Electric Vehicles – approximately 14% of the total CarClub miles.

During 2024 the Council's Travel Smart Project behaviour change project continued to promote modal shift to active and sustainable travel. One Workplace Engagement Officer is appointed within North Ayrshire Council to promote active and sustainable travel to/from work, and a Schools and Workplaces Active Travel Programme. A large audience was reached via weekly visits to an existing partner organisation, NHS, engaging with new employees to promote and develop active travel plans. In addition to bespoke activities, 53 promotional information stalls were presented across 10 workplaces, engaging with 1016 employees. Nine new workplaces expressed an interest to engage with the Travel Smart Project.

Clean Air Day (CAD) is the UK’s largest air pollution campaign, and the council was proud to once again support the annual awareness day on Thursday 19 June 2025. To support the annual campaign, The Trinity Active Travel Hub hosted a CAD pop-up event outside the Rivergate Shopping Centre. With a series of drop-in activities and sessions, the event saw various partners join forces with council’s Active Travel, STEM and Sustainability teams alongside Dr Bike, KA: Leisure and Home Energy Scotland. Well attended, visitors had the chance to find out about how they could be more sustainable, make their own CAD pledges and have a chance to win prizes including free gym memberships and travel cards. A photo of a CAD stall promotion is shown below.

CAD stall promotion photo.

Local Priorities and Challenges

The priorities for North Ayrshire Council in addressing air quality for the coming year are a) to continue with monitoring air quality within its area, particularly in High Street, Irvine and New Street, Dalry, to ensure concentrations remain below the relevant objective levels following the improvement works and to observe if post COVID-19 pandemic pollutant concentrations return to business as usual levels, b) respond timeously and investigate any complaints received regarding air quality, c) to continue improving on charging infrastructure so that we may further increase our use of EVs across NAC, d) continue to promote, support and help facilitate Active Travel and e) to implement the Sustainable North Ayrshire Strategy 2025-2027.

The challenges will be to ensure that a) any monitoring equipment malfunction is rectified timeously and the data capture rate is maintained at a high level and b) any targets with regard to improving air quality, directly or indirectly within North Ayrshire are achieved.

How to Get Involved

If you would like to become involved and participate in helping improving air quality in the area, details of alternative modes of travel, route options and projects can be found at The Trinity – Your active travel hub for North Ayrshire.

North Ayrshire Council will continue to support CAD and for information on how to become involved in air quality events around the UK and free promotional material please visit Clean Air Day - the UK's largest clean air campaign.

Further information on our local air quality can also be found here Home page | Scottish Air Quality on the Air Quality in Scotland website where information is updated every hour. A free service to subscribers in Scotland (that may be of benefit to people whose breathing gets worse when air pollution increases) is Know & Respond – Scotland. The service sends an alert message to registered members if air pollution in their area is forecast to be moderate, high or very high and this may be of benefit to pollution sensitive individuals who want to take steps to minimise the effects of any pollution incidents. To register for Know & Respond – Scotland please visit: Know & Respond - Scotland, the free air pollution alert messaging system - Air Quality in Scotland (scottishairquality.scot).

Know and Respond can also be accessed via an iPhone and Android app which is free to download at: Apps for iPhone and Android - Air Quality in Scotland (scottishairquality.scot).

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1 Local Air Quality Management

This report provides an overview of air quality in North Ayrshire Council during 2024. It fulfils the requirements of Local Air Quality Management (LAQM) as set out in Part IV of the Environment Act (1995), as amended by the Environment Act (2021), and the relevant Policy and Technical Guidance documents.

The LAQM process places an obligation on all local authorities to regularly review and assess air quality in their areas, and to determine whether, or not, the air quality objectives are likely to be achieved. Where an exceedance is considered likely the local authority must declare an Air Quality Management Area (AQMA) and prepare an Air Quality Action Plan (AQAP) setting out the measures it intends to put in place in pursuit of the objectives. This Annual Progress Report (APR) summarises the work being undertaken by North Ayrshire Council to improve air quality and any progress that has been made.

Table Error! No text of specified style in document.**.1 – Summary of Air Quality Objectives in Scotland**

Pollutant	Air Quality Objective Concentration	Air Quality Objective Measured as	Date to be Achieved by
Nitrogen dioxide (NO_2)	200 µg/m^3 not to be exceeded more than 18 times a year	1-hour mean	31.12.2005
Nitrogen dioxide (NO_2)	40 µg/m^3	Annual mean	31.12.2005
Particulate Matter (PM_{10})	50 µg/m^3, not to be exceeded more than 7 times a year	24-hour mean	31.12.2010
Particulate Matter (PM_{10})	18 µg/m^3	Annual mean	31.12.2010
Particulate Matter ($PM_{2.5}$)	10 µg/m^3	Annual mean	31.12.2021
Sulphur dioxide (SO_2)	350 µg/m^3, not to be exceeded more than 24 times a year	1-hour mean	31.12.2004
Sulphur dioxide (SO_2)	125 µg/m^3, not to be exceeded more than 3 times a year	24-hour mean	31.12.2004
Sulphur dioxide (SO_2)	266 µg/m^3, not to be exceeded more than 35 times a year	15-minute mean	31.12.2005
Benzene	3.25 µg/m^3	Running annual mean	31.12.2010

Pollutant	Air Quality Objective Concentration	Air Quality Objective Measured as	Date to be Achieved by
1,3 Butadiene	2.25 µg/m^3	Running annual mean	31.12.2003
Carbon Monoxide	10.0 mg/m^3	Running 8-Hour mean	31.12.2003

2 Actions to Improve Air Quality

2.1 Air Quality Management Areas

Air Quality Management Areas (AQMAs) are declared when there is an exceedance or likely exceedance of an air quality objective. After declaration, the authority must prepare publish and implement an Air Quality Action Plan (AQAP) within the shortest possible time and no later than 12 months of the date of AQMA Designation Order. The AQAP must set out measures the local authority intends to put in place in pursuit of the objectives within the shortest possible time Measures should be provided with milestones and a final date for completion. The action plan itself should have a timescale for completion and for revocation of the AQMA. Where measures to reduce air pollution may require a longer timescale an action plan shall be reviewed and republished within five years of initial publication and then five-yearly thereafter.

Monitoring in previous years identified that the main air quality issue in North Ayrshire was associated with NO_2 and related to a) traffic congestion caused by a small section of High Street, Irvine being used as a bus terminus and b) queuing traffic in New Street, Dalry because of traffic lights on the main A737 passing through the town. The history of these two areas and mitigation measures have been discussed in previous reports which can be found here LAQM Reports | Scottish Air Quality. Mitigation projects were completed successfully in 2020 for both areas and monitoring results reflect the changes in ambient air quality, showing a downward trend accordingly.

North Ayrshire Council currently does not have any AQMAs.

Table Error! No text of specified style in document.**.2 – Declared Air Quality Management Areas**

AQMA Name	Pollutants and Air Quality Objectives	City / Town	Description	Action Plan
N/A	N/A	N/A	N/A	N/A

2.2 Implementation of measures to address air quality

Cleaner Air for Scotland 2 – Towards a Better Place for Everyone (CAFS2) is Scotland's second air quality strategy. CAFS2 sets out how the Scottish Government and its partner organisations propose to further reduce air pollution to protect human health and fulfil Scotland's legal responsibilities over the period 2021 – 2026. CAFS2 aims to achieve the ambitious vision for Scotland "to have the best air quality in Europe".

Progress by North Ayrshire Council against relevant actions for which local authorities are the lead delivery bodies within this strategy is demonstrated below.

2.2.1 Placemaking – Plans and Policies

Local authorities with support from the Scottish Government will assess how effectively air quality is embedded in plans, policies, City Deals and other initiatives, and more generally in cross departmental working, identifying and addressing evidence, skills, awareness and operational gaps.

North Ayrshire Council has a Adopted Local Development Plan (LDP) that was published in November 2020. The LDP sets out how we aim to guide development and investment in our area over the next 20 years and includes:

- Our **spatial development strategy:** the principles we will use to direct the right development to the right place.
- Our **placemaking policy:** the key criteria that will allow us to deliver the six qualities of successful places.
- Our **strategic development areas** and the key factors we will consider in developing these major areas of change.

To support this our Development Plan Scheme (DPS) was published in November 2024 and sets out a planning authority's programme for preparing and reviewing their development plan. As the local planning authority, we are required to prepare a DPS every year. The DPS must also include a Participation Statement stating when, how and with whom consultation on the plan will take place.

In Council Plan (north-ayrshire.gov.uk) 2024 – 2028 our residents are at the heart of our plan, our mission is working together to improve the lives of our people in North Ayrshire.

2.2.2 Transport – Low Emission Zones

Local authorities working with Transport Scotland and Scottish Environment Agency will look at opportunities to promote zero-carbon city centres within the existing LEZs structure.

North Ayrshire Council does not meet the criterion to have a LEZ but has a 2024 – 2028 Local Transport and Active Travel Strategy which can be accessed here:

Transport Strategy (north-ayrshire.gov.uk)

North Ayrshire Council also has an Electric Vehicle (EV) Strategy (2021-2025) Electric vehicle strategy 2021 to 2025. It includes an action to work in partnership with government agencies to explore potential for further EV charging infrastructure. Encouraging the uptake of EVs will help reduce greenhouse gas emissions and help improve local air quality.

2.2.3 Further Actions

The Sustainable North Ayrshire Strategy for 2024-2027 is a set of actions that explain how the Council will focus on fulfilling its commitment to achieve net zero carbon emissions by 2030 have been approved by the Cabinet.

Some recent progress highlights on the net-zero journey include: The council further reducing its carbon emissions across the estate by an estimated 14,600 tonnes and two council owned solar farms, to provide vital renewable energy, are due to become operational in the summer of 2025.

The key actions completed, in progress or planned and outcomes in terms of benefits for air quality can be found in Appendix 1 of the current Strategy's Action Plan here:

Sustainable North Ayrshire 2024 - 2027

The Council's Travel Smart behaviour change project will also continue to promote modal shift to active and sustainable travel.

As intimated in Section 2.1 above, North Ayrshire Council does not have any AQMAs therefore does not meet the criterion to develop an Air Quality Action Plan. The top three measures that North Ayrshire Council are taking to address air quality are provided in Table 2.2 below.

Table Error! No text of specified style in document.**.2 – Progress on Measures to Improve Air Quality**

Measure No.	Measure	Category	Expected/Actual Completion year	Organisations Involved	Measure Status	Funding Status	Key Milestones	Progress	Barriers to implementation
1	Electric Vehicle Strategy: To increase the number of electric vehicles being used throughout North Ayrshire by creating a robust network of electric vehicle charge points	Promoting low emission transport	2025	Local Authority/Transport Scotland	In progress	Partially funded Annual Transport Scotland	Establish (i) a best practice benchmark for the number of electric vehicle charge points for the Council's new build developments and (ii) a process so that electric vehicle charge points are included in the project brief for the council's new build developments	2024: Number of publicly accessible charge points required (1 charge point per 9 plug in vehicles): 112	Finance, legal agreements, procurement

							March 2024		
2	Solar Photovolatic Farms: To reduce carbon emissions.	Promoting low emission plants	2025	Local Authority/Scottish Power Energy Network	In progress	Local Authority/Her Majesty's Treasury	Scottish Power Energy Network distribution offers accepted Sep/Oct 2021; Design, Build, operate and Maintenance Feb 2023; Planning Granted Aug 2023	Nearing completion	Finance, timeframes, new technology
3	Light Emitting Diode Streetlights	Transport planning and infrastructure	2023	Local Authority	Completed	Fully Local Authority Funded	80% of streetlights replaced with LED	Complete	Timescales, procurement

3 Air Quality Monitoring Data and Comparison with Air Quality Objectives

3.1 Summary of Monitoring Undertaken

A fixed automatic monitoring station is located on High Street, Irvine. It has contained a chemiluminescent NO_x analyser monitor since its installation in 2009 and a Fidas 200 fine dust and monitoring emission measurement system for the continuous and simultaneous measurement of PM_1, $PM_{2.5}$ as per EN 14907 and PM_{10} as per EN12341 since 14th April 2015. This monitoring station is also the site being used for the triplicate co-location of NO_2 diffusion tubes.

Calibration checks are conducted every two weeks on site by Local Authority Officers and collected data is forwarded to Ricardo - AEA who validate and ratify the data. The unit is calibrated by Ricardo - AEA every six months. Ricardo - AEA reports are included in Appendix C: QA/QC of Automatic Monitoring. Twenty-two diffusion tubes also monitor NO_2 at various locations in towns throughout North Ayrshire and the data capture rate was 99%.

2024 results show that all pollutants have either remained the same or decreased throughout North Ayrshire and have not returned their pre COVID-19 business-as-usual levels as expected. This may have been due to weather conditions and more monitoring will be required to establish any long-term trend.

No monitoring results for 2024 within North Ayrshire has exceeded any relevant UK or EU Limit Value. None of these changes have led to the declaration of an AQMA, decision to amend or revoke an AQMA, or appropriate local strategy.

3.1.1 Automatic Monitoring Sites

This section sets out what monitoring has taken place and how local concentrations of the main air pollutants compare with the objectives.

North Ayrshire Council undertook automatic (continuous) monitoring at one site during 2024. Table A.1 in in Appendix A shows the details of the sites. National monitoring results are available at Home page | Scottish Air Quality.

Maps showing the location of the monitoring sites are provided in Appendix C: Figure 1: Automatic Monitoring Site Location, High Street, Irvine 2024. Further details on how the monitors are calibrated and how the data has been adjusted are also included in Appendix C: QA/QC of Automatic Monitoring.

3.1.2 Non-Automatic Monitoring Sites

North Ayrshire Council undertook non- automatic (passive) monitoring of NO_2 at 22 sites during 2024. Table A.2 in Appendix A shows the details of the sites.

Maps showing the location of the monitoring sites are provided in Appendix C: Figure 2: Non-Automatic Monitoring Site Locations 2024 and further details on the data and bias adjustment for the diffusion tubes are included in Appendix C: QA/QC of Diffusion Tube Monitoring.

3.1.3 Other Monitoring Activities

North Ayrshire Council has two Zephyr low-cost air monitors produced by Earth Sense Zephyr Air Quality Monitor | EarthSense. These monitors are solar-powered and measure NO, NO_2, O_3, PM_1, $PM_{2.5}$, PM_{10}, temperature, humidity, and pressure continuously. The monitors are not certified to Equivalence standards but are co-located with such instruments and their differences certificated. Low-cost sensors are only indicative of the ambient air quality but nonetheless useful tools to install in areas where there are no previous recordings. The monitors are currently located near the former bitumen terminal to the west of Montgomerie Street, Ardrossan and were deployed here to record the relevant background measurements prior to a major redevelopment of the site by North Ayrshire Council. Details of which can be found here:
23/00319/PPM | Erection of community campus comprising early years, primary & secondary school with additional support needs, shared community facilities including; library, learning hub and integrated services, indoor sports facilities including swimming pool, sports hall, gymnasium, dance studio & fitness studio, outdoor sports facilities including 2 sports pitches and Multi-Use Games Area (MUGA); Outdoor learning

landscape, recreational spaces and growing spaces, associated parking and infrastructure | Site At North Shore Adjacent To North Crescent Road Ardrossan Ayrshire (north-ayrshire.gov.uk). Their purpose now is to record ongoing ambient air quality.

3.2 Individual Pollutants

The air quality monitoring results presented in this section are, where relevant, adjusted for annualisation and bias. Further details on adjustments are provided in Appendix C: Supporting Technical Information / Air Quality Monitoring Data QA/QC

3.2.1 Nitrogen Dioxide (NO_2)

Table A.3 in Appendix A compares the ratified monitored NO_2 annual mean concentrations for the past five years with the air quality objective of 40 µg/m^3 at automatic monitoring sites.

Table A.4 in Appendix A compares the adjusted monitored NO_2 annual mean concentrations for the past five years with the air quality objective of 40 µg/m^3 at non automatic monitoring sites.

For diffusion tubes, the full 2024 dataset of monthly mean values is provided in Appendix B.

Table A.5 in Appendix A compares the ratified continuous monitored NO_2 hourly mean concentrations for the past five years with the air quality objective of 200µg/m^3, not to be exceeded more than 18 times per year. There have been no exceedances recorded for the 2020 to 2024 reporting period.

None of these results have led to the declaration of an AQMA.

Annual Mean NO_2 concentrations measured at the automatic monitoring site in High Street, Irvine and diffusion tube monitoring sites located throughout North Ayrshire have shown a downward trend since 2020. There has been a particularly noticeable decline in the NO_2 concentrations in and around Irvine and Dalry following mitigation measures to ease traffic congestion. There was a slight increase during 2021 due the easing of COVID-19 pandemic restrictions and return to normality but this has not been maintained and there has been a decrease since 2022. A graph of these trends is included in Appendix C:

Figure 5: Trends in Annual Mean NO2 Concentrations measured at Diffusion Tube Monitoring Sites in Irvine 2020 - 2024 & Figure 6: Trends in Annual Mean NO2 Concentrations measured at Diffusion Tube Monitoring Sites in Dalry 2020 - 2024.

3.2.2 Particulate Matter (PM_{10})

Table A.6 in Appendix A compares the ratified and adjusted monitored PM_{10} annual mean concentrations for the past five years with the air quality objective of 18µg/m^3.

Table A.7 in Appendix A compares the ratified continuous monitored PM_{10} daily mean concentrations for the past five years with the air quality objective of 50µg/m^3, not to be exceeded more than seven times per year. There have been no exceedances recorded for the 2020 to 2024 reporting period.

None of these results have led to the declaration of an AQMA.

At High Street, Irvine, PM_{10} levels decreased significantly from 2020 – 2021 but showed an increase during 2022. PM_{10} levels increase slighlty again during 2024. A graph showing this trend is included in Appendix C: Figure 7: Trends in Annual Mean PM10 Concentrations measured at Automatic Station (ROMON) in High Street, Irvine 2020 – 2024.

3.2.3 Particulate Matter ($PM_{2.5}$)

Table A.8 in Appendix A compares the ratified and adjusted monitored $PM_{2.5}$ annual mean concentrations for the past five years with the air quality objective of 10µg/m^3.

None of these results have led to the declaration of an AQMA.

$PM_{2.5}$ levels reflected those trends of PM_{10} during 2020 – 2024 at High Street, Irvine. A graph showing this trend is included in Appendix C: Figure 8: Trends in Annual Mean PM2.5 Concentrations measured at Automatic Station (ROMON) in High Street, Irvine 2020 - 2024.

3.2.4 Sulphur Dioxide (SO_2)

Monitoring for sulphur dioxide (SO_2) and smoke has been discontinued in North Ayrshire since 2004. Historical monitoring data is available for nearly every town in the area and

there is no indication from these results that the air quality standard is likely to be breached even around local industrial sources.

Further details of historic SO_2 monitoring can be found in North Ayrshire Council's previous Air Quality Reports which are available online at:

LAQM Reports | Scottish Air Quality

There has been no evidence of any change to SO_2 production or release in North Ayrshire. Similarly, there has been no development likely to result in any increase in SO_2 levels at locations where there could be relevant public exposure.

Table A.9 in Appendix A compares the ratified continuous monitored SO_2 concentrations for year 2024 with the air quality objectives for SO_2.

3.2.5 Carbon Monoxide, Lead and 1,3-Butadiene

No monitoring of Carbon recent Monoxide, Lead and 1,3-Butadiene has been undertaken.

Further details of historic Carbon Monoxide, Lead and 1,3-Butadiene monitoring can be found in North Ayrshire Council's previous Air Quality Reports which are available online at: LAQM Reports | Scottish Air Quality

There has been no evidence of any change to Carbon Monoxide, Lead and 1,3- Butadiene production or release in North Ayrshire. Similarly, there has been no development likely to result in any increase in Carbon Monoxide, Lead and 1,3- Butadiene levels at locations where there could be relevant public exposure.

4 New Local Developments

4.1 Road Traffic Sources

North Ayrshire Council confirms that there are no new/newly: narrow congested streets with a flow above 5,000 vehicles per day and residential properties close to the pavement; busy streets where people may spend 1 hour or more close to traffic; roads with high flows of buses/heavy delivery vehicles; busy junctions/roads; roads with significantly changed traffic flows and no relevant bus stations in the Local Authority area identified during 2024.

One application was made for a road realignment project:

24/00099/PP | Realignment of the B714 between Girthill Farm, Saltcoats and Kilwinning Road, Dalry to include localised realignment works at Muirlaught Bungalow and Meiklelaught, Saltcoats | Proposed B714 Realignment Between Girthill Farm Saltcoats And Kilwinning Road Dalry North Ayrshire (north-ayrshire.gov.uk). Construction phase air quality mitigation measures were deemed acceptable.

4.2 Other Transport Sources

North Ayrshire Council confirms that there are no: airports in the Local Authority area; locations where diesel or steam trains are regularly stationary for periods of 15 minutes or more, with potential for relevant exposure within 15m; locations with a significant number of movements of diesel locomotives, and potential long-term relevant exposure within 30m; or ports or shipping that meet the specified criteria within the Local Authority area identified during 2024.

4.3 Industrial Sources

North Ayrshire Council confirms that there are no new or proposed industrial installations: for which an air quality assessment has been carried out; existing installations where emissions have increased substantially, or new relevant exposure has been introduced; significantly changed installations with no previous air quality assessment; major fuel

storage depots storing petrol; petrol stations or poultry farms that we are aware of during 2024.

North Ayrshire Council is aware of an application being made to SEPA for the extension of a poultry unit at Arranview, Jamieson Moss Poultry Farm under the licence number PPC/A/1016746. The housing capacity did not meet the criterion for an Air Quality Assessment to be requested.

4.4 Commercial and Domestic Sources

There were two developments proposed in 2024 that was considered to have the potential to impact air quality. These are listed below together with their reporting status:

24/00104/PP | Change of use of agricultural land and buildings to woodfuel processing, storage and distribution facility to include the erection of 2 no. 12m high flues | Mosside Farm Dalry North Ayrshire KA24 5HJ (north-ayrshire.gov.uk) Biomass calculations satisfactory.

24/00505/PP | Change of use of Unit 4 from a restaurant and drive-thru (Class 3/Sui Generis) to shops, financial professional and other services (Class 1A) and erection of drive-thru restaurant (Class 3/Sui Generis) with associated access, servicing car parking and other associated works | McDonalds Restaurants Ltd 4 Hawkhill Retail Park Kilwinning Road Stevenston North Ayrshire KA20 3DE (north-ayrshire.gov.uk) AQ assessment acceptable.

4.5 New Developments with Fugitive or Uncontrolled Sources

There were no developments proposed in 2024 that was considered to have the potential to impact air quality.

5 Planning Applications

There was one significant housing development proposed in 2024 that was considered to have the potential to increase traffic numbers and flows in and around the relevant area. These are listed below together with their reporting status:

24/00112/PPM | Erection of residential development of 112 dwellings with associated works including access, parking, landscaping, open space and SuDS | Site To South Of 1 Newhouse Drive Kilbirnie North Ayrshire (north-ayrshire.gov.uk) AQ Assessment Requested.

6 Conclusions and Proposed Actions

6.1 Conclusions from New Monitoring Data

All NO_2, PM_{10} and $PM_{2.5}$ monitoring data within North Ayrshire Council for 2024 complied with the 40μg/m^3, 18μg/m^3 and 10μg/m^3 respective Air Quality Objectives as set out in the Directive. Monitoring will continue at all the existing sites for 2025.

6.2 Conclusions relating to New Local Developments

Planning permission was sought for four developments in 2024 that may have affected air quality. Consideration was given to the applications as they met the criterion of the relevant guidance for local air quality to be assessed. Following review submitted was deemed satisfactory and detailed modelling was not required. One air quality assessment is awaited and will be assessed accordingly when received.

6.3 Proposed Actions

2024 monitoring data has not identified any new exceedances of the objectives for any pollutant or any need for additional monitoring. It is anticipated that a review of the existing monitoring programme within North Ayrshire will be undertaken to ensure all monitoring points are relevant.

Irvine

Following the introduction of mitigation measures to reduce congestion in 2020 and COVID-19 restrictions, a significant reduction in NO_2 has been recorded in High Street. Levels remained low during 2024. This may have been a result of prevailing weather conditions or a change in business-as-usual working patterns. It is proposed that NO_2 sampling continues in this area to observe this trend. Close supervision of any future developments in the area shall also be observed if required.

Dalry

Monitoring has shown that the opening of the Dalry Bypass in May 2020, together with COVID-19 restrictions, eased traffic congestion significantly through the town and NO_2 concentrations were seen to reduce accordingly. Levels remained low in 2024. It is proposed that monitoring is continued in this area to establish normal levels.

Appendix A: Monitoring Results

Table A.1 – Details of Automatic Monitoring Sites

Site ID	Site Name	Site Type	X OS Grid Ref	Y OS Grid Ref	Pollutants Monitored	In AQMA? Which AQMA?	Monitoring Technique	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Inlet Height (m)
ROM	ROMON	Roadside	232189	638857	NO_2; PM_{10}; $PM_{2.5}$	No N/A	Chemiluminescent; Optical Light Scatter	20	4.88	2.15

Notes:

(1) 0m if the monitoring site is at a location of exposure (e.g. installed on the façade of a residential property).

(2) N/A if not applicable.

Table A.2 – Details of Non-Automatic Monitoring Sites

Site ID	Site Name	Site Type	X OS Grid Ref	Y OS Grid Ref	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube co-located with a Continuous Analyser?	Tube Height (m)
DT1	35 East Road, Irvine	Roadside	232323	638892	NO2	N	1	2.5	N	2.5
DT2	22 Bank Street, Irvine	Roadside	232216	638961	NO2	N	2.5	1.6	N	2.5
DT3	147 High Street, Irvine	Roadside	232077	638990	NO2	N	0	4	N	2.5
DT4	85 High Street, Irvine	Roadside	232158	638882	NO2	N	0	3.7	N	3
DT5	79 High St, Irvine	Roadside	232169	638878	NO2	N	3.5	1.5	N	2.5
DT6	75 High St, Irvine HIGH	Roadside	232170	638871	NO2	N	0	5	N	3
DT7	65a High Street, Irvine, (ROMON)	Roadside	232194	638859	NO2	N	4.7	1.7	Y	2.15

Site ID	Site Name	Site Type	X OS Grid Ref	Y OS Grid Ref	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube co-located with a Continuous Analyser?	Tube Height (m)
DT8	65 High Street, Irvine, (ROMON)	Roadside	232194	638859	NO2	N	4.7	1.7	Y	2.15
DT9	63 High Street, Irvine, (ROMON)	Roadside	232194	638859	NO2	N	4.7	1.7	Y	2.15
DT10	34 Kirkgate Irvine	Urban Background	232085	638774	NO2	N	10	0.5	N	2.5
DT11	25 Main Rd, Springside	Kerbside	236824	638654	NO2	N	5	1	N	2.5
DT12	Auchengate (Bridge)	Urban Background	233337	635565	NO2	N	N/A	32	N	2.5
DT13	Dalry Rd, Kilwinning	Kerbside	229936	643390	NO2	N	2	1	N	2.5
DT14	12 Garnock St, Dalry	Urban Background	229318	649253	NO2	N	10	0.5	N	2.5
DT15	67 New St, Dalry	Kerbside	229338	649337	NO2	N	0	0.5	N	2.5

Site ID	Site Name	Site Type	X OS Grid Ref	Y OS Grid Ref	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube co-located with a Continuous Analyser?	Tube Height (m)
DT16	45 New St, Dalry	Kerbside	229286	649365	NO2	N	0	0.5	N	2.5
DT17	2 Townhead St, Dalry	Roadside	229150	649292	NO2	N	0	3	N	2
DT18	Highfield Hamlet, Dalry	Urban Background	230911	650259	NO2	N	10	1	N	2
DT19	85 Main Street, Largs	Kerbside	220336	659313	NO2	N	1.5	0	N	2
DT20	Hunterston Road	Rural	219588	652044	NO2	N	N/A	N/A	N	2
DT21	Princess St/Glasgow St, Ardrossan	Kerbside	222942	642101	NO2	N	0	0.5	N	2.5
DT22	Vernon St, Saltcoats	Kerbside	224708	641339	NO2	N	0	1	N	2.5

Notes:

(1) 0m if the monitoring site is at a location of exposure (e.g. installed on/adjacent to the façade of a residential property).

(2) N/A if not applicable.

Table A.3 – Annual Mean NO_2 Monitoring Results: Automatic Monitoring (µg/m^3)

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2024 (%) (2)	2020	2021	2022	2023	2024
ROMON	232189	638857	Roadside	-	100	10	13	11	10	9

Notes:

Exceedances of the NO_2 annual mean objective of 40µg/m^3 are shown in bold.

NO_2 annual means exceeding 60µg/m^3, indicating a potential exceedance of the NO_2 1-hour mean objective are shown in **bold and underlined**.

Means for diffusion tubes have been corrected for bias. All means have been "annualised" as per LAQM.TG22 if valid data capture for the full calendar year is less than 75%. See Appendix C for details.

(1) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

(2) Data capture for the full calendar year (e.g. if monitoring was carried out for 6 months, the maximum data capture for the full calendar year is 50%).

Table A.4 – Annual Mean NO_2 Monitoring Results: Non-Automatic Monitoring (µg/m^3)

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2024 (%) (2)	2020	2020	2021	2022	2024
DT1	232323	638892	Roadside	-	83.7	13.0	15.0	13.1	12.1	10.2
DT2	232216	638961	Roadside	-	83.7	11.0	11.0	9.2	9.1	7.1
DT3	232077	638990	Roadside	-	75.0	11.0	16.0	11.0	12.0	9.0
DT4	232158	638882	Roadside	-	83.7	10.0	11.0	11.5	10.7	9.8
DT5	232169	638878	Roadside	-	83.7	12.0	13.0	11.2	11.4	8.6
DT6	232170	638871	Roadside	-	83.7	12.0	14.0	11.3	11.1	8.0
DT7, DT8, DT9	232194	638859	Roadside	-	83.7	11.0	12.0	10.7	10.0	9.2
DT10	232085	638774	Urban Background	-	100	7.0	8.0	5.7	6.2	4.8
DT11	236824	638654	Kerbside	-	92.9	10.0	8.0	7.8	7.2	5.8
DT12	233337	635565	Urban Background	-	100	10.0	8.0	7.3	6.3	5.5

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) [1]	Valid Data Capture 2024 (%) [2]	2020	2020	2021	2022	2024
DT13	229936	643390	Kerbside	-	100	13.0	15.0	11.9	11.4	8.3
DT14	229318	649253	Urban Background	-	100	6.0	6.0	5.1	5.5	4.5
DT15	229338	649337	Kerbside	-	100	12.0	14.0	10.7	9.0	9.9
DT16	229286	649365	Kerbside	-	100	16.0	14.0	13.8	14.0	11.1
DT17	229150	649292	Roadside	-	100	11.0	11.0	9.1	8.9	7.1
DT18	230911	650259	Urban Background	-	100	8.0	6.0	5.9	6.0	4.9
DT19	220336	659313	Kerbside	-	92.9	12.0	13.0	10.8	11.3	8.5
DT20	219588	652044	Rural	-	92.9	3.0	3.0	2.9	2.7	2.3
DT21	222942	642101	Kerbside	-	93.5	12.0	11.0	10.6	10.5	7.5
DT22	224708	641339	Kerbside	-	100	11.0	13.0	11.5	10.5	8.2

☐ **Annualisation has been conducted where data capture is <75% and >25% in line with LAQM.TG22.**

☒ **Diffusion tube data has been bias adjusted.**

☒ **Reported concentrations are those at the location of the monitoring site (bias adjusted and annualised, as required), i.e. prior to any fall-off with distance correction.**

Notes:

Exceedances of the NO_2 annual mean objective of 40µg/m^3 are shown in **bold**.

NO_2 annual means exceeding 60µg/m^3, indicating a potential exceedance of the NO_2 1-hour mean objective are shown in **bold and underlined**.

Means for diffusion tubes have been corrected for bias. All means have been "annualised" as per LAQM.TG (22) if valid data capture for the full calendar year is less than 75%. See Appendix C for details.

(1) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

(2) Data capture for the full calendar year (e.g. if monitoring was carried out for 6 months, the maximum data capture for the full calendar year is 50%).

Table A.5 – 1-Hour Mean NO_2 Monitoring Results, Number of 1-Hour Means > 200µg/m^3

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2024 (%) (2)	2020	2021	2022	2023	2024
ROMON	232142	638892	Kerbside	-	100	0	0	0	0	0

Notes:

Exceedances of the NO_2 1-hour mean objective (200 µg/m^3 not to be exceeded more than 18 times/year) are shown in **bold**.

If the period of valid data is less than 85%, the 99.8th percentile of 1-hour means is provided in brackets.

(1) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

(2) Data capture for the full calendar year (e.g. if monitoring was carried out for 6 months, the maximum data capture for the full calendar year is 50%).

Table A.6 – Annual Mean PM_{10} Monitoring Results ($\mu g/m^3$)

Site	Year	Mean	Mean_Corrected[(1)]	Hourly max	Hourly max Corrected[(1)]	Max 24-hour	Max 24-hour Corrected[(1)]
North Ayrshire Irvine High St	2024	11.8	13.0	84.7	93.2	30.6	33.7
North Ayrshire Irvine High St	2023	11.6	12.8	140.3	154.4	34.0	37.4
North Ayrshire Irvine High St	2022	12.5	13.8	85.4	93.9	55.7	61.3
North Ayrshire Irvine High St	2021	10.8	11.9	135.4	148.9	28.9	31.8
North Ayrshire Irvine High St	2020	11.3	12.5	238.3	262.2	35.8	39.4

Notes:

Exceedances of the PM_{10} annual mean objective of 18 $\mu g/m^3$ are shown in **bold**.

All means have been "annualised" as per LAQM.TG (22), valid data capture for the full calendar year is less than 75%. See Appendix C for details.

(1) Collected ratified PM10 data has been corrected by **dividing the ratified data by 0.909**. See Appendix C for details.

Table A.7 – 24-Hour Mean PM_{10} Monitoring Results, Number of PM_{10} 24-Hour Means > 50µg/m^3

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2024 (%) (2)	2020	2021	2022	2023	2024
ROMON	232142	638892	Kerbside	-	99	0	0	0	0	0

Notes:

Exceedances of the PM_{10} 24-hour mean objective (50 µg/m^3 not to be exceeded more than seven times/year) are shown in **bold**.

If the period of valid data is less than 85%, the 98.1st percentile of 24-hour means is provided in brackets.

(1) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

(2) Data capture for the full calendar year (e.g. if monitoring was carried out for 6 months, the maximum data capture for the full calendar year is 50%).

Table A.8 – Annual Mean $PM_{2.5}$ Monitoring Results ($\mu g/m^3$)

Site	Year	Mean	Mean Corrected	Max 24-hour mean	Max 24-hour Corrected
North Ayrshire Irvine High St	2024	6.4	6.8	23	24.4
North Ayrshire Irvine High St	2023	6.0	6.4	24.5	25.9
North Ayrshire Irvine High St	2022	6.7	7.1	40.3	42.7
North Ayrshire Irvine High St	2021	6	6.3	22.7	24
North Ayrshire Irvine High St	2020	6.1	6.5	19.9	21.1

Notes:

Exceedances of the $PM_{2.5}$ annual mean objective of 10 $\mu g/m^3$ are shown in **bold**.

All means have been "annualised" as per LAQM.TG (22), valid data capture for the full calendar year is less than 75%. See Appendix C for details.

(1) Collected ratified PM2.5 data has been corrected by **multiplying the ratified data by 1.06**. See Appendix C for details.

Table A.9 – SO_2 2024 Monitoring Results, Number of Relevant Instances

Site ID	Site Type	Valid Data Capture for monitoring Period (%) (1)	Valid Data Capture 2024 (%) (2)	Number of 15-minute Means > 266 µg/m	Number of 1-hour Means > 350 µg/m	Number of 24-hour Means > 125 µg/m
N/A*	N/A	N/A	N/A	N/A	N/A	N/A

Notes:

Exceedances of the SO_2 objectives are shown in bold (15-min mean = 35 allowed a year, 1-hour mean = 24 allowed a year, 24-hour mean = 3 allowed a year)

If the period of valid data is less than 85%, the relevant percentiles are provided in brackets (15-Minute means: 99.9th percentile, 1-hour means: 99.7th percentile, 24-hour means: 99.2nd percentile).

(1) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

(2) Data capture for the full calendar year (e.g. if monitoring was carried out for 6 months, the maximum data capture for the full calendar year is 50%).

* No SO_2 monitoring has been undertaken within North Ayrshire Council since 2004.

Appendix B: Full Monthly Diffusion Tube Results for 2024

Table B.1 – NO_2 2024 Monthly Diffusion Tube Results (µg/m^3)

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted <(0.89)>	Annual Mean: Distance Corrected to Nearest Exposure	Comment
DT1	232323	638892	14.3	12.4	8.7	-	-	9.0	12.3	12.6	13.1	14.6	18.9	9.6	12.6	10.2	N/A	
DT2	232216	638961	12.7	9.9	7.9	-	-	6.1	8.5	8.7	8.7	6.8	12.8	5.0	8.7	7.1	N/A	
DT3	232077	638990	15.3	11.7	9.1	-	-	6.2		10.5	11.0	13.7	16.1	6.4	11.1	9.0	N/A	
DT4	232158	638882	12.6	8.1	8.2	-	-	10.5	11.0	8.6	21.7	11.5	16.6	11.3	12.0	9.7	N/A	
DT5	232169	638878	9.4	9.1	8.2	-	-	7.7	9.2	11.5	14.8	11.3	14.5	9.6	10.5	8.5	N/A	
DT6	232170	638871	16.0	7.8	8.4	-	-	6.7	9.7	1.5	9.5	9.0	16.8	12.9	9.8	8.0	N/A	
DT7	232194	638859	11.8	6.8	7.8	-	-	8.5	8.3	9.5	11.4	13.5	22.1	10.0	-	-	N/A	Triplicate Site with DT7, DT8 and DT9 - Annual data provided for DT9 only
DT8	232194	638859	15.8	12.9	7.5	-	-	9.1	6.5	9.5	10.9	12.2	22.2	8.2	-	-	N/A	Triplicate Site with DT7, DT8 and DT9 - Annual data provided for DT9 only
DT9	232194	638859	12.3	12.1	5.8	-	-	8.7	6.9	10.1	13.8	10.3	22.3	11.6	11.4	9.2	N/A	Triplicate Site with DT7, DT8 and DT9 - Annual data provided for DT9 only

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted <(0.89)>	Annual Mean: Distance Corrected to Nearest Exposure	Comment
DT10	232085	638774	10.4	5.3	4.6	2.2	5.3	2.8	4.3	4.2	7.1	4.9	15.4	4.6	5.9	4.8	N/A	
DT11	236824	638654	9.5	6.9	3.8	-	3.3	4.5	6.3	6.3	9.6	4.6	16.0	7.9	7.2	5.8	N/A	
DT12	233337	635565	9.3	8.4	5.5	3.4	2.7	4.4	6.4	6.4	5.4	6.4	15.7	6.5	6.7	5.4	N/A	
DT13	229936	643390	9.8	9.8	8.7	6.7	4.0	6.6	10.3	10.6	8.9	9.9	23.1	13.8	10.2	8.2	N/A	
DT14	229318	649253	7.3	5.6	4.9	2.9	4.3	1.9	3.5	4.0	6.6	5.3	14.9	5.3	5.5	4.5	N/A	
DT15	229338	649337	12.5	10.3	9.6	6.0	5.2	9.8	11.0	12.2	13.7	11.9	24.0	20.1	12.2	9.9	N/A	
DT16	229286	649365	11.7	14.4	11.8	8.2	6.2	13.9	15.2	16.0	12.3	14.6	23.2	16.6	13.7	11.1	N/A	
DT17	229150	649292	11.1	8.2	9.1	4.0	5.3	5.1	7.0	7.3	11.9	7.9	18.0	10.1	8.8	7.1	N/A	
DT18	230911	650259	7.9	5.4	5.6	2.2	2.4	4.5	5.4	5.3	7.5	8.8	9.1	7.9	6.0	4.9	N/A	
DT19	220336	659313	12.8	7.1	12.0	-	14.7	8.0	10.6	8.3	11.6	9.3	11.9	8.9	10.5	8.5	N/A	
DT20	219588	652044	2.4	2.7	2.8	-	2.7	2.7	3.0	3.0	4.4	2.7	2.9	1.9	2.8	2.3	N/A	

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted <(0.89)>	Annual Mean: Distance Corrected to Nearest Exposure	Comment
DT21	222942	642101	12.3	8.7	9.0	6.4	5.5	6.1	-	9.3	15.2	9.8	11.1	8.6	9.3	7.5	N/A	
DT22	224708	641339	10.0	13.4	9.2	5.6	6.4	8.0	13.7	12.1	10.4	8.6	15.2	9.1	10.1	8.2	N/A	

☒ **All erroneous data has been removed from the NO_2 diffusion tube dataset presented in Table B.1.**

☐ **Annualisation has been conducted where data capture is <75% and >25% in line with LAQM.TG22.**

☒ **Local bias adjustment factor used.**

☐ **National bias adjustment factor used.**

☐ **Where applicable, data has been distance corrected for relevant exposure in the final column.**

☒ **North Ayrshire Council confirm that all 2024 diffusion tube data has been uploaded to the Diffusion Tube Data Entry System**.

Notes:

Exceedances of the NO_2 annual mean objective of 40µg/m^3 are shown in **bold**.

NO_2 annual means exceeding 60µg/m^3, indicating a potential exceedance of the NO_2 1-hour mean objective are shown in **bold and underlined**.

See Appendix C for details on bias adjustment and annualisation.

Appendix C: Supporting Technical Information / Air Quality Monitoring Data QA/QC

New or Changed Sources Identified Within North Ayrshire Council During 2024

North Ayrshire Council has not identified any new sources relating to air quality within the reporting year of 2024.

Additional Air Quality Works Undertaken by North Ayrshire Council During 2024

North Ayrshire Council has not completed any additional works within the reporting year of 2024.

QA/QC of Diffusion Tube Monitoring

Glasgow Scientific Services (GSS) was the supplier used for diffusion tubes within 2024 and the method of preparation was 20% TEA in water. GSS has been supplying North Ayrshire Council's diffusion tubes since December 2013.

GSS are UKAS accredited, and their process is based on the AEA and DEFRA procedure. They participate in the AIR-PT analysis scheme and in the annual field inter-comparison exercise. The results of which are presented below in **Error! Reference source not found.** below.

Monitoring was completed in adherence with the 2024 Diffusion Tube Monitoring Calendar.

Diffusion Tube Annualisation

All diffusion tube monitoring locations within North Ayrshire Council recorded data capture of 75% or greater therefore it was not required to annualise any monitoring data. In addition, any sites with a data capture below 25% do not require annualisation.

Diffusion Tube Bias Adjustment Factors

North Ayrshire Council have applied a local bias adjustment factor of **0.81** to the 2024 monitoring data. A summary of bias adjustment factors used by North Ayrshire Council over the past five years is presented in Table C.1.

Table C.1 – Bias Adjustment Factor

Year	Local or National	If National, Version of National Spreadsheet	Adjustment Factor
2024	Local	-	0.81
2023	Local	-	0.89
2022	Local	-	0.82
2021	Local	-	1.03
2020	National	03/20	0.92

National Adjustment Factors

Diffusion tubes (20% TEA/Water) used in the sampling period for 2024 were supplied and analysed by Glasgow Scientific Services (GSS). Diffusion Tube Bias Adjustment Factors for tubes provided by GSS are listed in the National Diffusion Tube Bias Adjustment Factor Spreadsheet Version 06/25 in **Error! Reference source not found.** below. The resultant bias for GSS is **0.82** based on one study with “Good” precision.

Factor from Local Co-location Studies.

The automatic monitoring station (ROMON) on High Street, Irvine has been operational since early 2009 and is the site being used for three co-location diffusion tubes. The unit is permanently located here and allows for full “calendar year” data to be collected.

The ROMON has fortnightly checks carried out in accordance with the prescribed methodology as issued by Ricardo - AEA. The unit is audited every 6 months by Ricardo - AEA and is serviced every 6 months under contract to a specialist company.

Corresponding data was entered into the Diffusion Tube Data Processing Tool v5.4. The resulting Bias Factor for 2024 data is **0.81** using 10 periods (Table C.3 – Local Bias Adjustment Calculations

Discussion of Choice of Factor to Use

The diffusion tube co-location study for North Ayrshire Council shows "Good" overall Data Capture for all periods but "Poor" precision. Records show from Table C.1 that previous derived bias factors over the last four years ranged from 0.82 – 1.03 between 2020 and 2023. The National Bias Adjustment Factor from GSS of **0.82** is based on one study with "Good" precision. Therefore, it is considered that as the Local Bias Adjustment Factor of **0.81** is very closely in agreeance with the National Bias Adjustment Factor, it is suitable to use. In addition to this, as a Local Bias Adjustment Factor has been used for the last four years it provides consistency for comparison.

NO_2 Fall-off with Distance from the Road

No diffusion tube NO_2 monitoring locations within North Ayrshire Council required distance correction during 2024.

QA/QC of Automatic Monitoring

The automatic monitoring instruments housed within the roadside cabinet has Local Site Operator (LSO) onsite calibration and data management checks conducted every two weeks by a Local Authority Officer. All checks are carried out in accordance with procedures laid out by Ricardo - AEA and calibration check sheets are forwarded to them after each visit. The site is visited by Ricardo - AEA engineers every six months to carry out calibration audit tests and the Annual Report and Certificates from these visits are included in **Error! Reference source not found.** & **Error! Reference source not found.** below. The instrument units are also serviced twice yearly by a specialist company and reports from these visits are included in **Error! Reference source not found.** below. Data derived from the automatic monitors and presented within this report has all been ratified by Ricardo AEA. All live and historic data pertaining to North Ayrshire Council is available through the Air Quality in Scotland website Home page | Scottish Air Quality.

PM_{10} and $PM_{2.5}$ Monitoring Adjustment

North Ayrshire Council operate a Fidas 200 type of PM_{10}/$PM_{2.5}$ monitor(s) and following research Equivalence Study to Investigate Particulate Matter Monitoring in Scotland Using the Fidas 200 | Scottish Air Quality the application of a correction factor is required. In accordance with Scottish Government guidance Local Authority Guidance Note for LAQM Reporting of Scottish PM Data | Scottish Air Quality.

Collected PM_{10} data has been corrected by **dividing the** ratified data by **0.909**.

Collected $PM_{2.5}$ data has been corrected by **multiplying** ratified data **by 1.06**.

Both the corrected and uncorrected ratified data statistics has been presented as recommended.

Automatic Monitoring Annualisation

All automatic monitoring locations within North Ayrshire Council recorded data capture of greater than 75% therefore it was not required to annualise any monitoring data. In addition, any sites with a data capture below 25% do not require annualisation during 2024.

NO_2 Fall-off with Distance from the Road

No automatic NO_2 monitoring locations within North Ayrshire Council required distance correction during 2024.

Table C.2 – Annualisation Summary (concentrations presented in µg/m^3)

Site ID	Annualisation Factor Site 1 Name	Annualisation Factor Site 2 Name	Annualisation Factor Site 3 Name	Annualisation Factor Site 4 Name	Average Annualisation Factor	Raw Data Annual Mean	Annualised Annual Mean	Comments
N/A*	-	-	-	-	-	-	-	-

* No automatic or non-automatic Annualisation calculations were required to be undertaken within North Ayrshire Council during 2024.

Table C.3 – Local Bias Adjustment Calculations

	Local Bias Adjustment Input 1	Local Bias Adjustment Input 2	Local Bias Adjustment Input 3	Local Bias Adjustment Input 4	Local Bias Adjustment Input 5
Periods used to calculate bias	10	-	-	-	-
Bias Factor A	0.81 (0.65 - 1.09)	-	-	-	-
Bias Factor B	23% (-8% - 54%)	-	-	-	-
Diffusion Tube Mean (µg/m^3)	10.7	-	-	-	-
Mean CV (Precision)	11.0%	-	-	-	-
Automatic Mean (µg/m^3)	8.8	-	-	-	-
Data Capture	100%	-	-	-	-
Adjusted Tube Mean (µg/m^3)	9 (7 – 12)	-	-	-	-

Notes:

A single local bias adjustment factor has been used to bias adjust the 2024 diffusion tube results.

Table C.4 – NO_2 Fall off With Distance Calculations (concentrations presented in µg/m^3)

Site ID	Distance (m): Monitoring Site to Kerb	Distance (m): Receptor to Kerb	Monitored Concentration (Annualised and Bias Adjusted)	Background Concentration	Concentration Predicted at Receptor	Comments
DT1*	N/A	N/A	N/A	N/A	N/A	N/A

* No NO_2 Fall off With Distance Calculations were required to be undertaken within North Ayrshire Council during 2024.

Figure 1: Automatic Monitoring Site Location, High Street, Irvine 2024

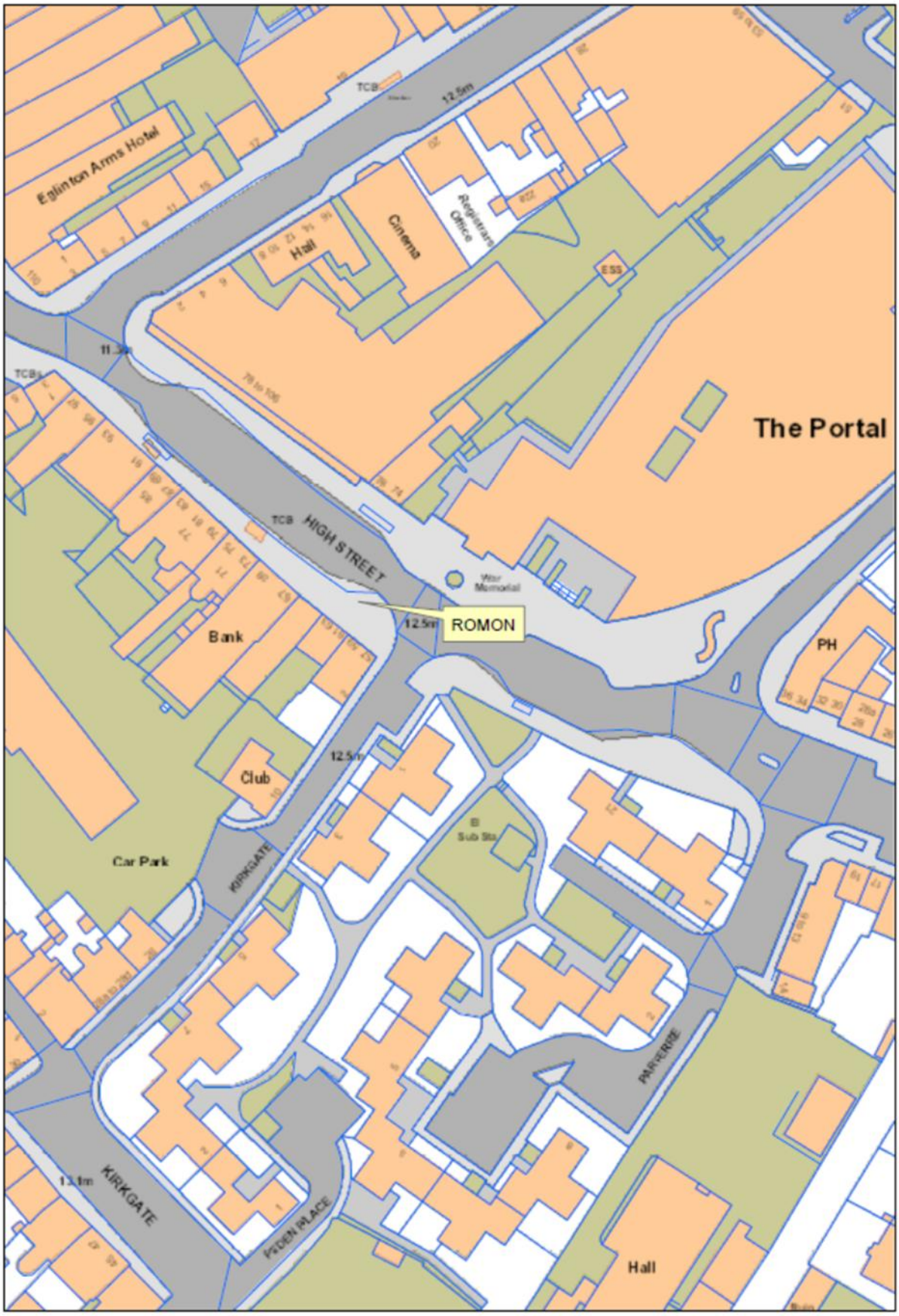


Figure 2: Non-Automatic Monitoring Site Locations 2024

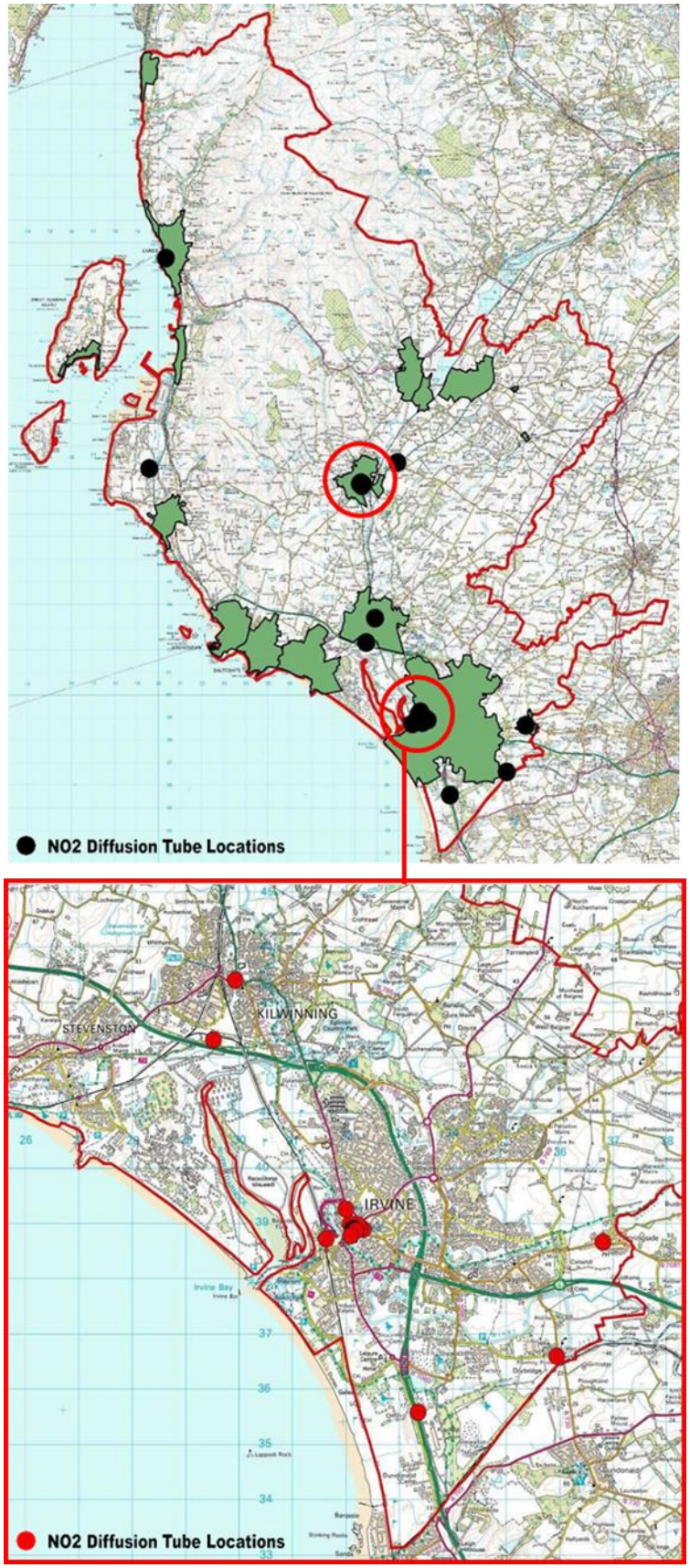


Figure 3: Earth Sense/Zephyr Certificates of Calibration 2024

EARTH SENSE

EarthSense Sensing Cartridge Calibration Certificate

Sensing Cartridge 1286

Calibration summary

Start Date of calibration: 2020-03-19 11:00:00

End Date of calibration: 2020-03-25 09:00:00

Location of calibration: Leicester University 0 (km) Background Urban

Pollutant	RMSE $\mu g\ m^{-3}$	R^2
NO_2	7.810	0.648
O_3	9.157	0.814
NO	6.819	0.376
$PM_{2.5}$	2.687	0.896

Approved for customer shipment: Jordan White

Quality standards approval: Prof. Roland Leigh

EARTHSENSE

TRUSTED AIR QUALITY INSIGHT

EarthSense Systems Ltd.

Zephyr Sensor Cartridge Calibration Certificate

Sensor Cartridge BIC2083

Calibration Summary

Location: *EarthSense manufacturing facility*
Start Date: *2022-02-21 00:00:01*
End Date: *2022-02-28 00:00:01*

Pollutant	RMSE	RMSE Pass Criteria	R^2	R^2 Pass Criteria	Status
NO2	3.17 ug/m^3	7 ug/m^3	0.944	0.75	Pass
NO	3.6 ug/m^3	8 ug/m^3	0.967	0.75	Pass
O3	3.89 ug/m^3	12 ug/m^3	0.874	0.75	Pass
PM2.5	2.84 ug/m^3	7 ug/m^3	0.931	0.75	Pass

Approved for customer shipment: *Isaac Mitchell*

Quality standards approval: *Dr. Roland Leigh*

Figure 4: Zephyr Monitoring Locations, Ardrossan 2024

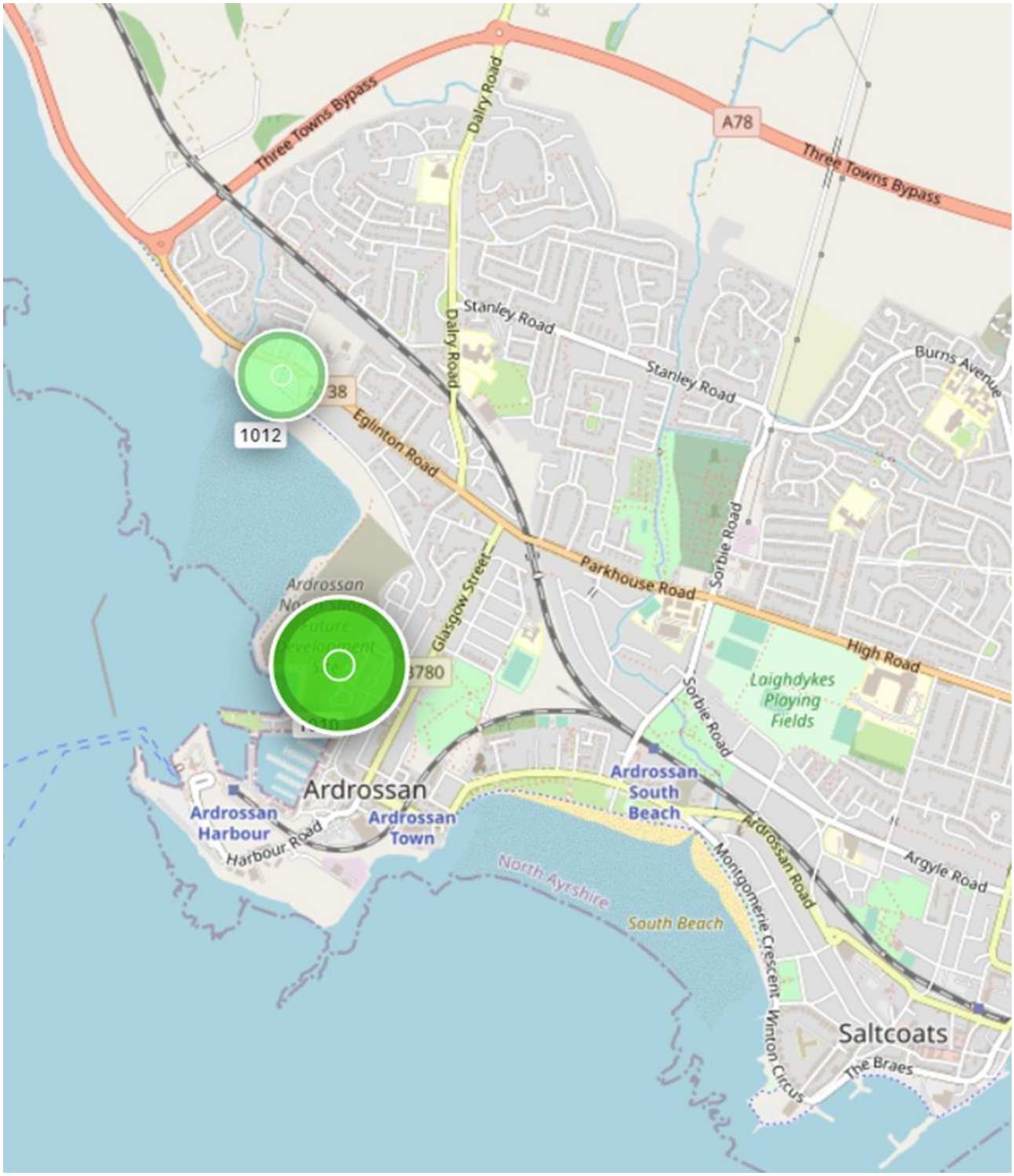


Figure 5: Trends in Annual Mean NO_2 Concentrations measured at Diffusion Tube Monitoring Sites in Irvine 2020 - 2024

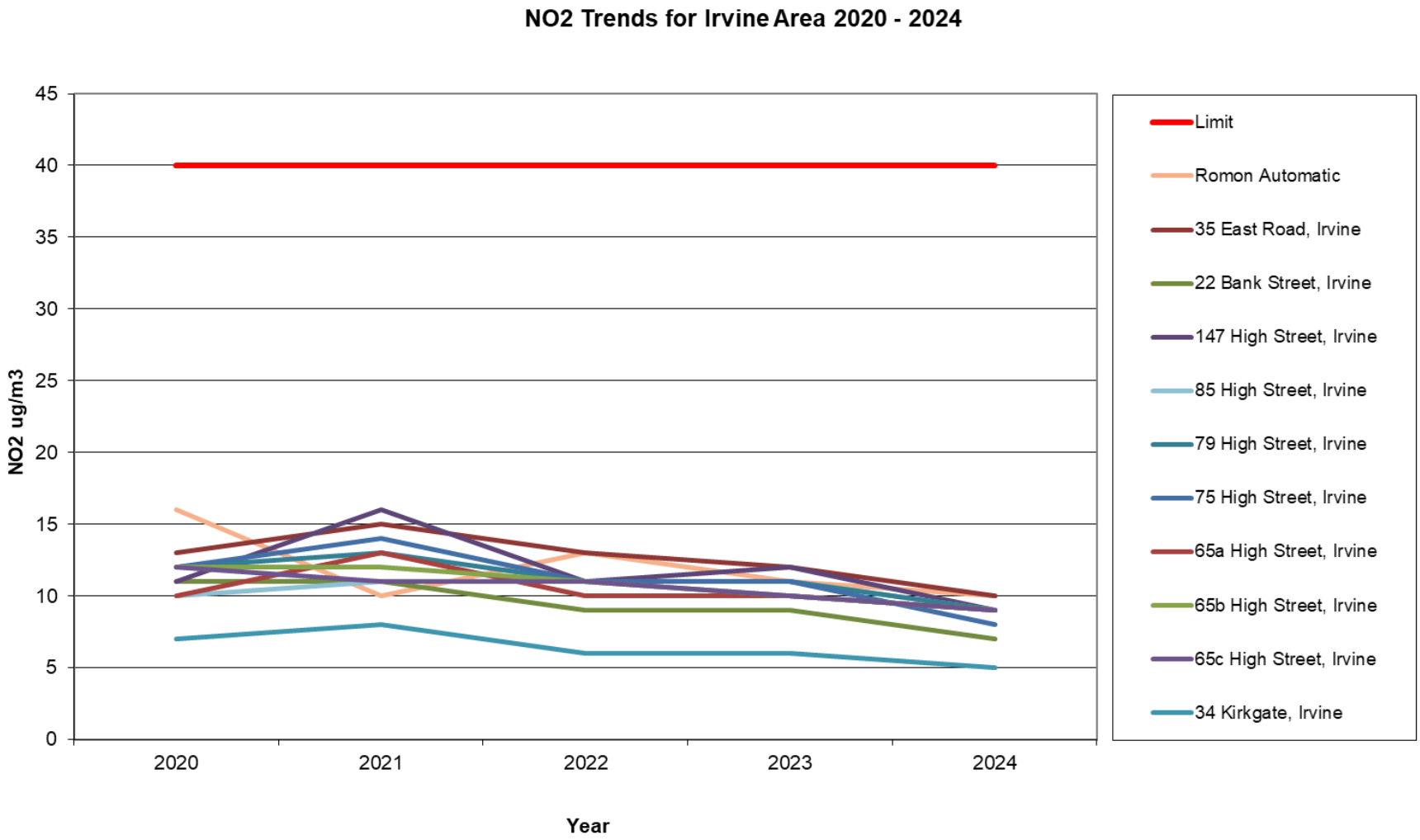


Figure 6: Trends in Annual Mean NO_2 Concentrations measured at Diffusion Tube Monitoring Sites in Dalry 2020 - 2024

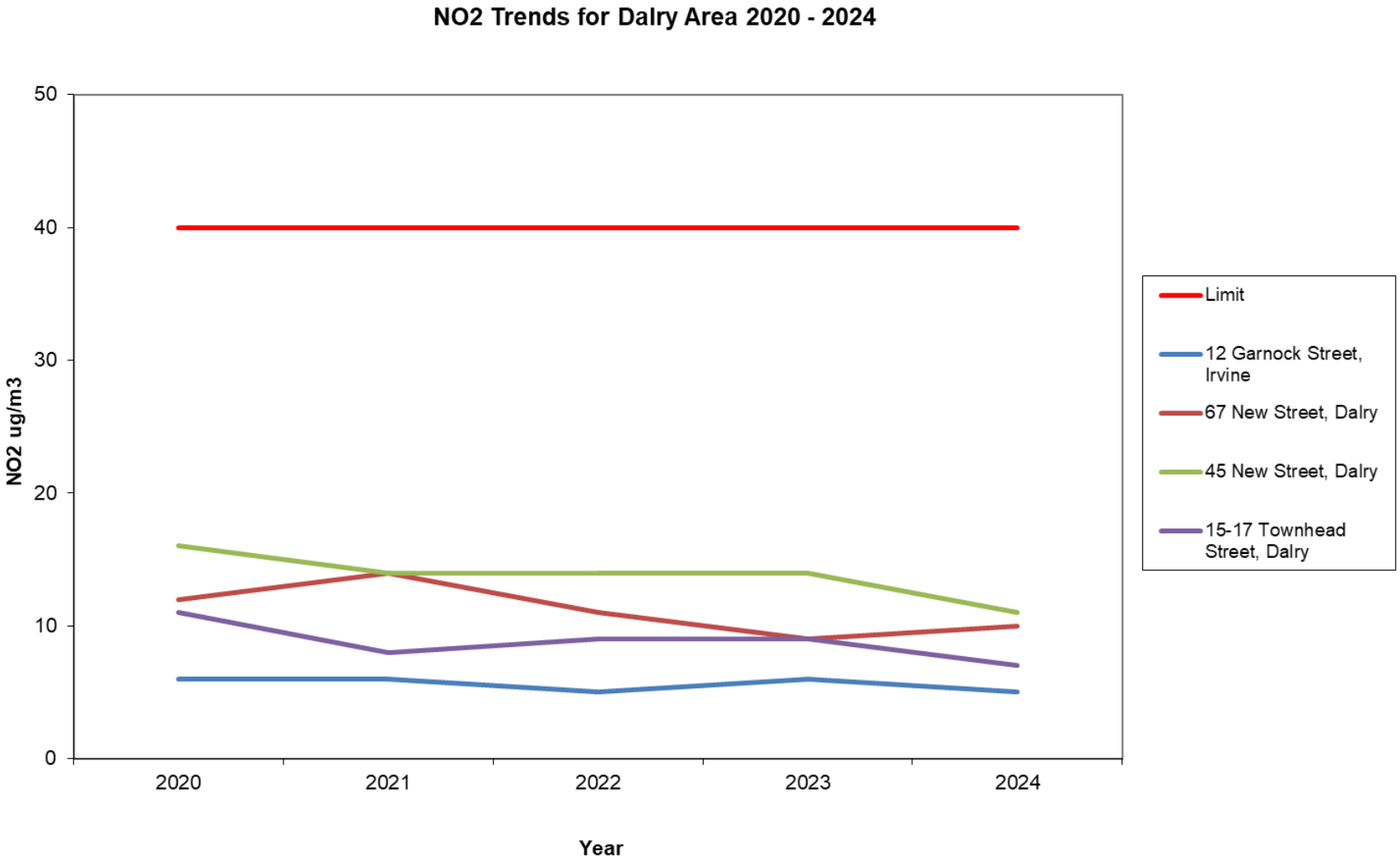


Figure 7: Trends in Annual Mean PM10 Concentrations measured at Automatic Station (ROMON) in High Street, Irvine 2020 - 2024

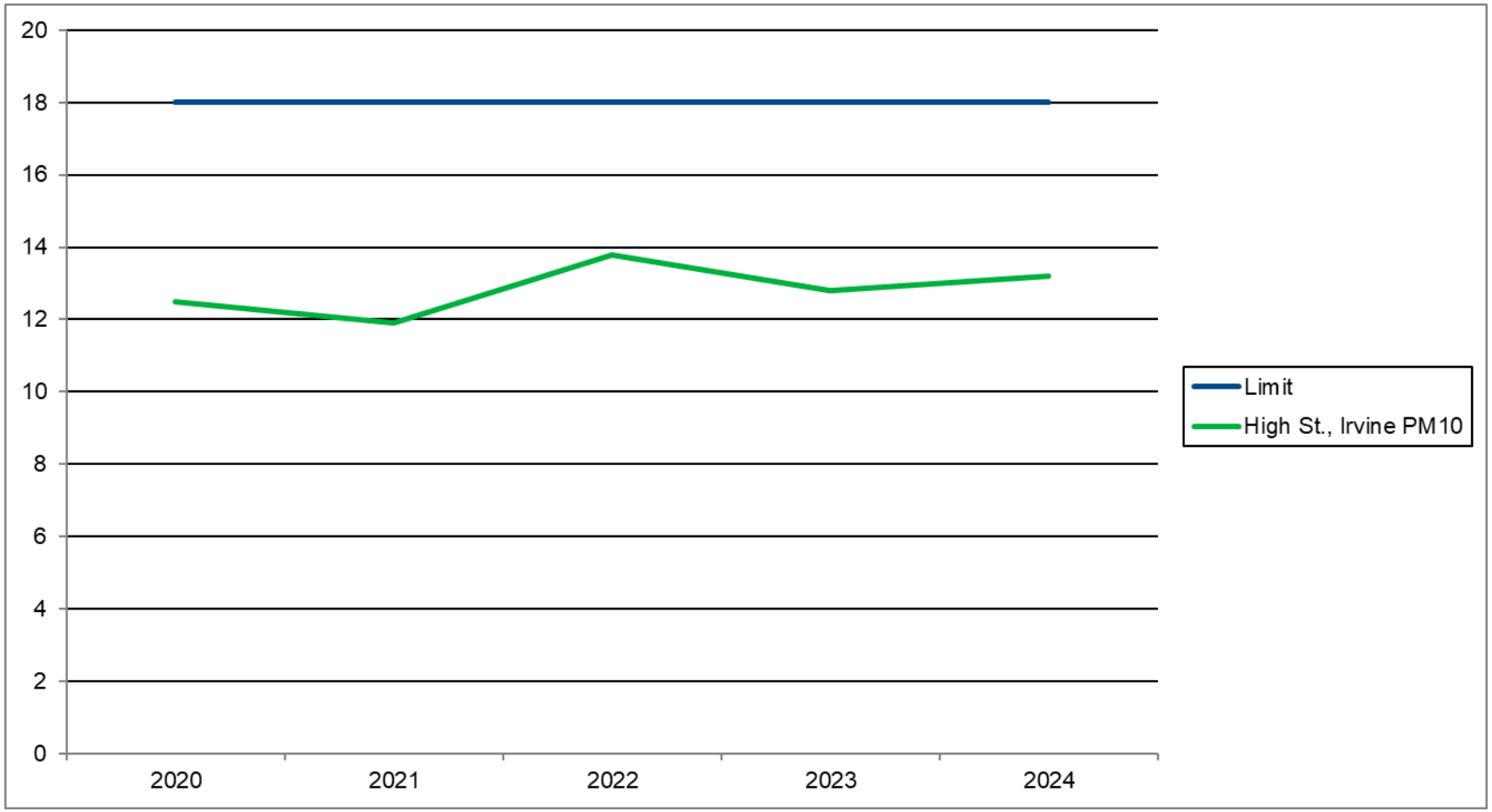


Figure 8: Trends in Annual Mean PM2.5 Concentrations measured at Automatic Station (ROMON) in High Street, Irvine 2020 - 2024

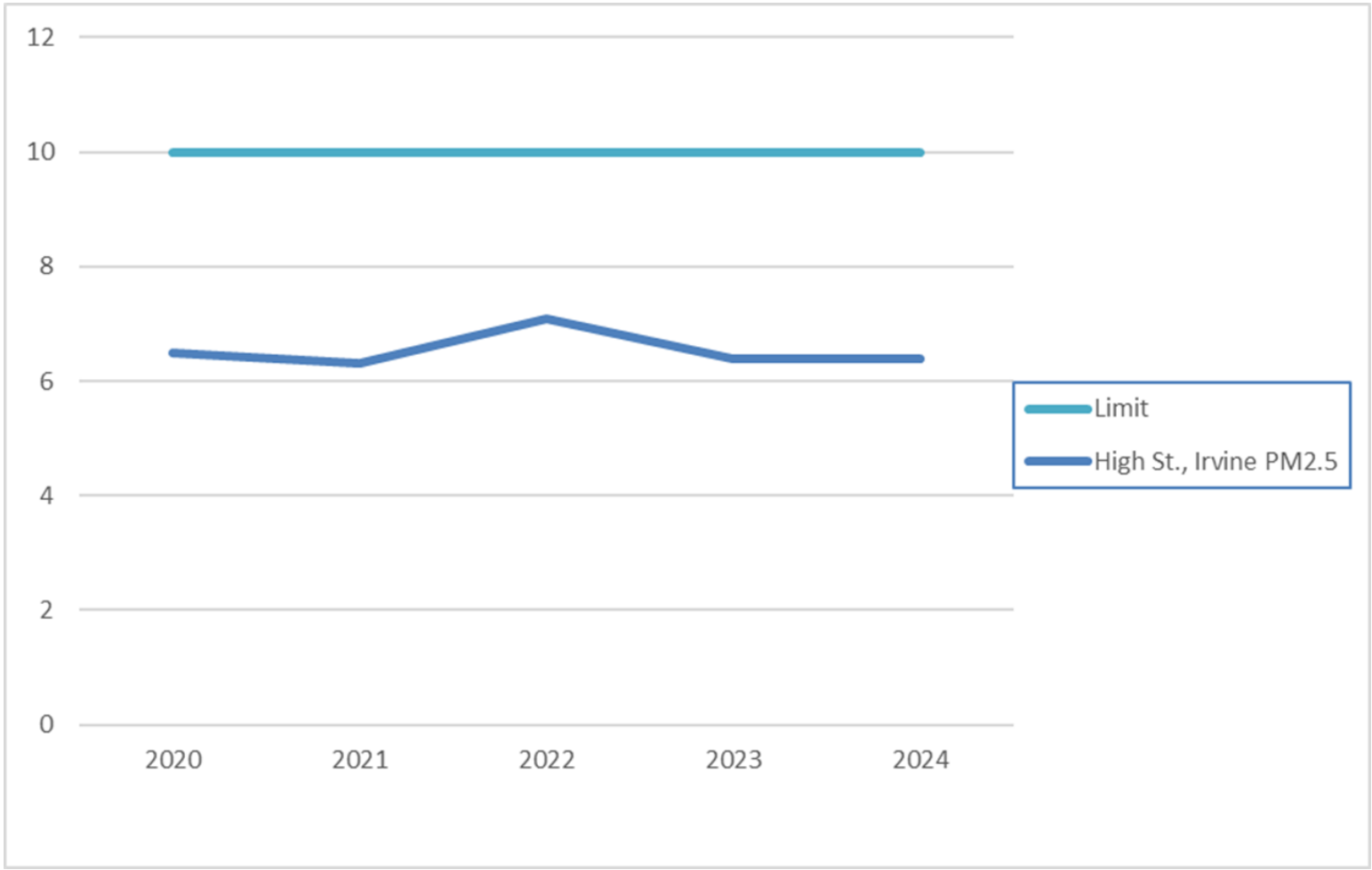


Figure 9: Tube Precision & AIR-PT Results

Table 1: Laboratory summary performance for AIR NO_2 PT rounds AR055, 56, 58, 59, 62, 63, 65, 66 and 68

The following table lists those UK laboratories undertaking LAQM activities that have participated in recent AIR NO_2 PT rounds and the percentage (%) of results submitted which were subsequently determined to be **satisfactory** based upon a z-score of ≤ ± 2 as defined above.

AIR PT Round	AIR PT AR055	AIR PT AR056	AIR PT AR058	AIR PT AR059	AIR PT AR062	AIR PT AR063	AIR PT AR065	AIR PT AR066	AIR PT AR068
Round conducted in the period	January – February 2023	May – June 2023	July – August 2023	September – October 2023	January – February 2024	April – June 2024	July – August 2024	September – October 2024	January – February 2025
Aberdeen Scientific Services	0 %	100 %	100 %	75 %	100 %	100 %	100 %	100 %	100 %
Cardiff Scientific Services	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]
Edinburgh Scientific Services	100 %	75 %	100 %	50 %	100 %	100 %	100 %	100 %	100 %
SOCOTEC	100 % [1]	100 % [1]	100 % [1]	100 % [1]	100 % [1]	100 % [1]	100 % [1]	100 % [1]	87.5 % [1]
Exova (formerly Clyde Analytical)	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]
Glasgow Scientific Services	100 %	100 %	100 %	100 %	75 %	100 %	100 %	100 %	100 %
Gradko International	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	50 %
Kent Scientific Services	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]
Kirklees MBC	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]
Lambeth Scientific Services	0 %	75 %	50 %	0 %	50 %	50 %	50 %	50 %	100 %
Milton Keynes Council	50 %	75 %	100 %	100 %	100 %	NR [2]	50 %	100 %	100 %
Northampton Borough Council	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]
Somerset Scientific Services	100 %	75 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %
South Yorkshire Air Quality Samplers	NR [2]	NR [2]	NR [2]	NR [2]	NR [2]	NR [2]	NR [2]	NR [2]	NR [2]
Staffordshire County Council, Scientific Services	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %
Tayside Scientific Services (formerly Dundee CC)	NR [2]	100 %	NR [2]	NR [2]	NR [2]	NR [2]	100 %	NR [2]	NR [2]
West Yorkshire Analytical Services	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]

[1] Participant subscribed to two sets of test results (2 x 4 test samples) in each AIR PT round.
[2] NR, No results reported.
[3] Cardiff Scientific Services, Exova (formerly Clyde Analytical), Kent Scientific Services, Kirklees MBC, Northampton Borough Council and West Yorkshire Analytical Services; no longer carry out NO2 diffusion tube monitoring and therefore did not submit results.

Figure 10: Bias Factor Spreadsheet (Glasgow Scientific)

National Diffusion Tube Bias Adjustment Factor Spreadsheet		Spreadsheet Version Number: 06/25
Follow the steps below **in the correct order** to show the results of **relevant** co-location studies Data only apply to tubes exposed monthly and are not suitable for correcting individual short-term monitoring periods Whenever presenting adjusted data, you should state the adjustment factor used and the version of the spreadsheet This spreadsheet will be updated every few months: the factors may therefore be subject to change. This should not discourage their immediate use.		This spreadsheet will be updated at the end of September 2025 LAQM Helpdesk Website
The LAQM Helpdesk is operated on behalf of Defra and the Devolved Administrations by Bureau Veritas, in conjunction with contract partners AECOM and the National Physical Laboratory.	Spreadsheet maintained by the National Physical Laboratory. Original compiled by Air Quality Consultants Ltd.	

Step 1:	Step 2:	Step 3:	Step 4:
Select the Laboratory that Analyses Your Tubes from the Drop-Down List	Select a Preparation Method from the Drop-Down List	Select a Year from the Drop-Down List	**Where there is only one study for a chosen combination, you should use the adjustment factor shown with caution. Where there is more than one study, use the overall factor[3] shown in blue at the foot of the final column.**
If a laboratory is not shown, we have no data for this laboratory.	If a preparation method is not shown, we have no data for this method at this laboratory.	If a year is not shown, we have no data[2]	If you have your own co-location study then see footnote[4]. If uncertain what to do then contact the Local Air Quality Management Helpdesk at LAQMHelpdesk@bureauveritas.com or 0800 0327953

Analysed By[1]	Method To undo your selection, choose (All) from the pop-up list	Year[5] To undo your selection, choose (All)	Site Type	Local Authority	Length of Study (months)	Diffusion Tube Mean Conc. (Dm) (µg/m^3)	Automatic Monitor Mean Conc. (Cm) (µg/m^3)	Bias (B)	Tube Precision[6]	Bias Adjustment Factor (A) (Cm/Dm)
Glasgow Scientific Services	20% TEA in water	2024	KS	Marylebone Road Intercomparison	11	43	36	21.2%	G	**0.82**
Glasgow Scientific Services	20% TEA in water	2024		**Overall Factor[3] (1 study)**				**Use**		**0.82**

Figure 11: RICARDO - AEA Air Pollution Report

North Ayrshire Irvine High St
01/01/2024 to 31/12/2024
These data have been fully ratified

Correction Factor for Gravimetric Equivalence applied

	V High (No. of Days)	High (No. of Days)	Mod (No. of Days)	Low (No. of Days)	Max. Hourly Conc.	Max. Daily Conc.	Max. Running 8 Hour Mean	Max. Running 24 Hour Mean	Period Mean Conc.	Period Data Capture (%)
NO (µg/m³)	0	0	0	0	113.3	25.1	-	-	4.1	99.8
NO2 (µg/m³)	0	0	0	366	69.3	31.9	-	-	8.5	99.8
NOX (µg/m³)	0	0	0	0	242.9	69.8	-	-	14.8	99.8
PM10 (µg/m³)	0	0	0	364	93.2	33.7	-	30.6	13.0	99
PM2.5 (µg/m³)	0	0	0	364	-	-	-	25.9	6.4	99

Particulate matter concentrations are reported at ambient temperature and pressure.
All mass units are at 20°C and 1013mb.

	Air Quality Objective	Exceedances	Days
NO2	Hourly mean > 200 µg/m³	None	0
NO2	Period mean > annual mean objective 40 µg/m³	No	0
PM10	Daily mean > 50 µg/m³	None	0
PM10	Period mean > annual mean objective 18 µg/m³ (Scotland)	No	0
PM2.5	Period mean > annual mean objective 10 µg/m³ (Scotland)	No	0
PM2.5	Period mean > annual mean objective 20 µg/m³ (EU)	No	0
Note: When comparing site measurements against the air quality objectives data capture should meet or exceed 90% across a calendar year.			

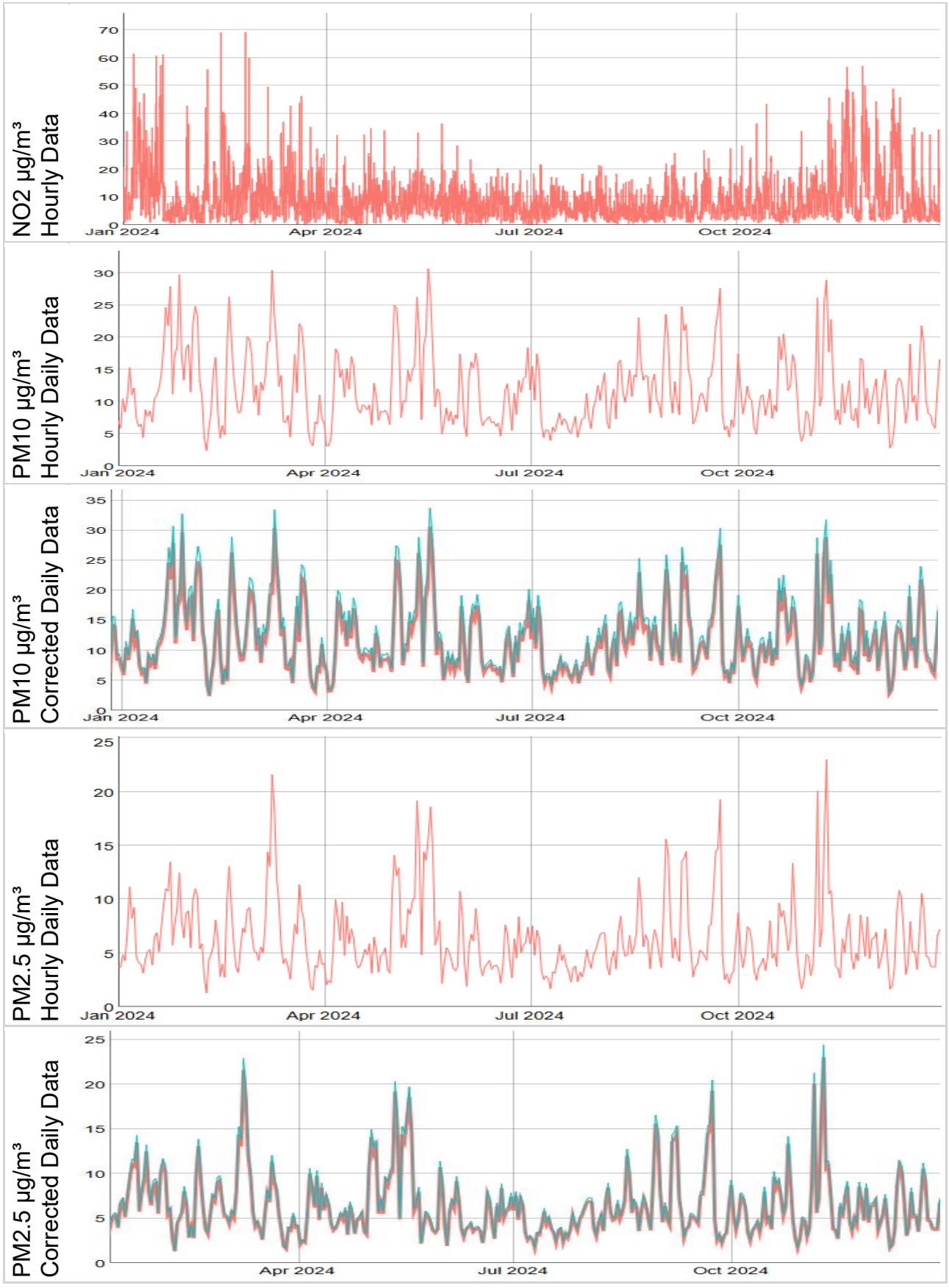
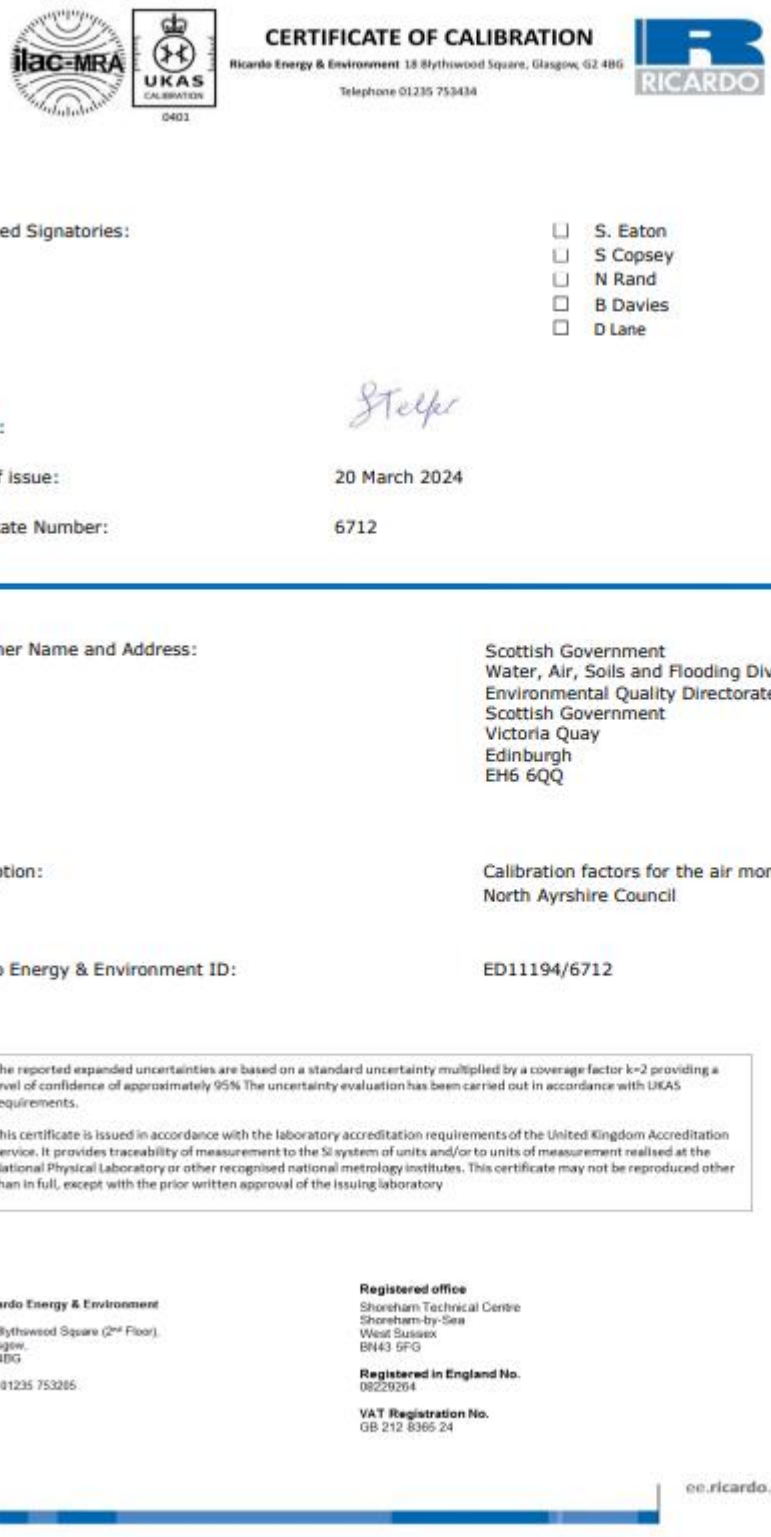

NO2 µg/m³ Hourly Data
70
60
50
40
30
20
10
0
Jan 2024
Apr 2024
Jul 2024
Oct 2024
PM10 µg/m³ Hourly Daily Data
30
25
20
15
10
5
0
Jan 2024
Apr 2024
Jul 2024
Oct 2024
PM10 µg/m³ Corrected Daily Data
35
30
25
20
15
10
5
0
Jan 2024
Apr 2024
Jul 2024
Oct 2024
PM2.5 µg/m³ Hourly Daily Data
25
20
15
10
5
0
Jan 2024
Apr 2024
Jul 2024
Oct 2024
PM2.5 µg/m³ Corrected Daily Data
25
20
15
10
5
0
Apr 2024
Jul 2024
Oct 2024

Figure 12: Ricardo - AEA Certificates of Calibration



CERTIFICATE OF CALIBRATION

Ricardo Energy & Environment 18 Blythswood Square, Glasgow, G2 4BG

Telephone 01235 753434

Page 1 of 3

Approved Signatories:

☐ S. Eaton	☐ B Stacey
☐ S Copsey	☐ S Stratton
☐ N Rand	☑ S Telfer
☐ B Davies	☐ S Gray
☐ D Lane	☐ T Green

Signed: S Telfer

Date of issue: 20 March 2024

Certificate Number: 6712

Customer Name and Address:

Scottish Government
Water, Air, Soils and Flooding Division
Environmental Quality Directorate
Scottish Government
Victoria Quay
Edinburgh
EH6 6QQ

Description: Calibration factors for the air monitoring station(s) at North Ayrshire Council

Ricardo Energy & Environment ID: ED11194/6712

The reported expanded uncertainties are based on a standard uncertainty multiplied by a coverage factor k=2 providing a level of confidence of approximately 95% The uncertainty evaluation has been carried out in accordance with UKAS requirements.

This certificate is issued in accordance with the laboratory accreditation requirements of the United Kingdom Accreditation Service. It provides traceability of measurement to the SI system of units and/or to units of measurement realised at the National Physical Laboratory or other recognised national metrology institutes. This certificate may not be reproduced other than in full, except with the prior written approval of the issuing laboratory

Ricardo Energy & Environment

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West Sussex
BN43 5FG

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VAT Registration No.
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CERTIFICATE OF CALIBRATION

Date of issue: 20 March 2024

Certificate Number: 6712

Ricardo Energy & Environment ID: ED11194/6712

North Ayrshire Council
NOx analysers

Station	Date of Audit	Species	Analyser Serial no	Zero Response[1]	Zero uncertainty nmol/mol	Calibration Factor[2]	Factor uncertainty %	Converter eff. (%)[3]
North Ayrshire Irvine High Street	05 December 2023	NOx	19-2513	1.0	2.5	1.0750	3.50	100.4 (265nmol/mol)
		NO		1.0	2.7	1.0653	3.50	100 (127nmol/mol)

FIDAS analysers

Station	Date of audit	Analyser Serial no	Calculated ko[5]	Uncertainty %	Total flow[4]	Uncertainty %	Main flow	Uncertainty %
North Ayrshire Irvine High Street	05 December 2023	6251			4.70	2.2		2.2

0401

CERTIFICATE OF CALIBRATION

Date of issue:	20 March 2024
Certificate Number:	6712
Ricardo Energy & Environment ID:	ED11194/6712

The gaseous ambient analysers listed above have been tested for zero response, calibration factor, linearity and converter efficiency (NOx analysers) by documented methods. The factors have been calculated using certified gas standards. The particulate analysers listed above have been tested for sample flow rates and k0 (where appropriate) by documented methods. Note that the test results are valid on the day of test only, as analyser drift over time cannot be quantified. All results for gaseous species are reported in concentration units of nmol/mol or µmol/mol.

[1] The zero response is the zero reading on the data logging system of the analyser when audit zero gas was introduced to the analysers under test.

[2] The calibration factor is the multiplying factor required to scale the reading on the data logging system of the analyser into reported concentration units (nmol/mol for NO, NOx, SO2, O3 and µmol/mol for CO). It should be used in conjunction with the zero response. A corrected concentration is calculated using the following equation:

Concentration = F(Output - Zero Response)
Where F = Calibration Factor provided on this certificate
Output = Reading on the data logging system of the analyser
Zero Response = Zero Response provided on this certificate

[3] Converter eff. is the measured efficiency of the NO_2 to NO converter within the oxides of nitrogen analyser under test.

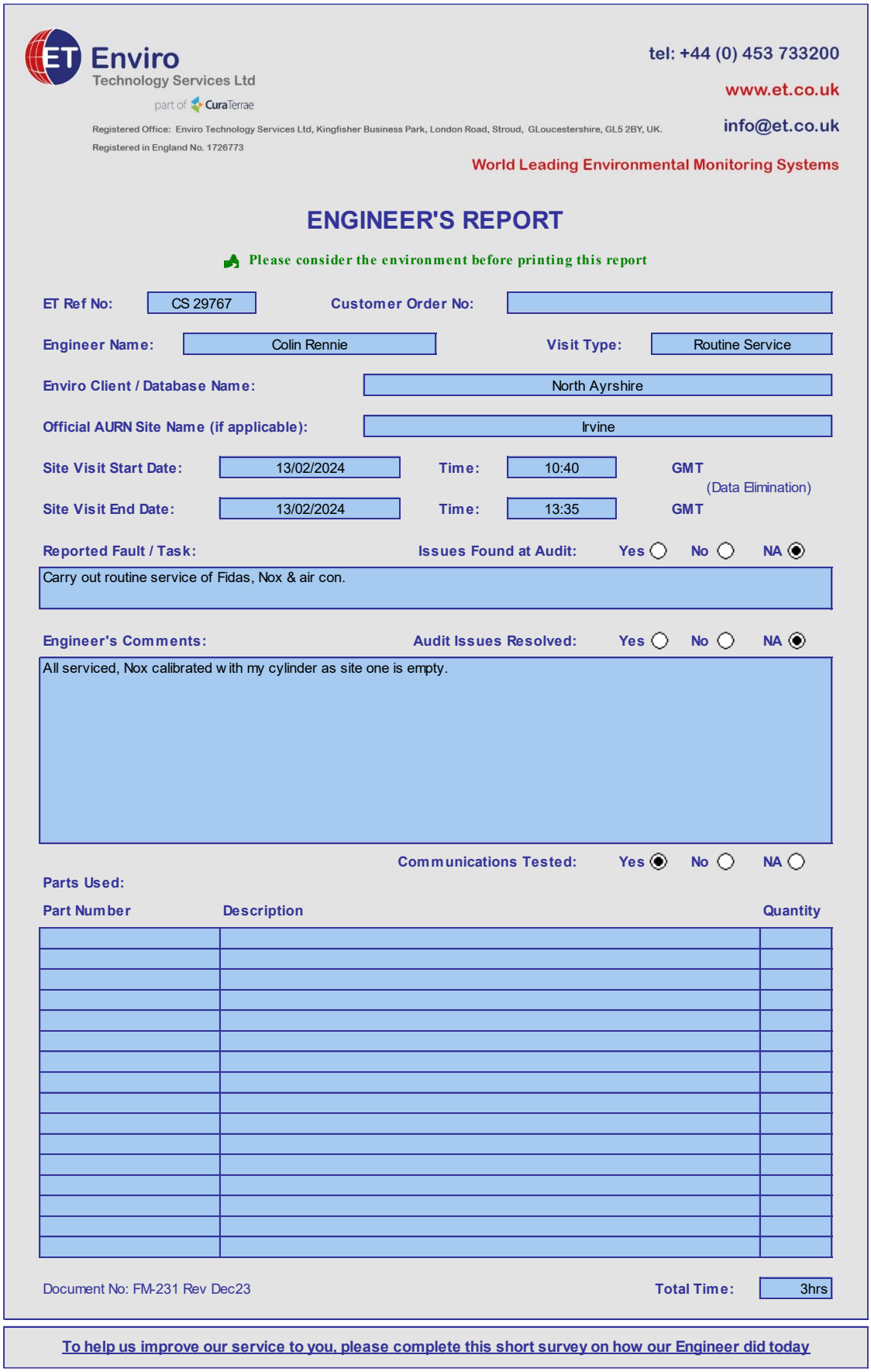
[4] The measured main flow rate (where this is applicable) is the flow rate through the sensor unit of the TEOM particulate analyser under test. The measured aux flow rate (where this is applicable) is the flow rate through the bypass tubing of the TEOM particulate analyser under test. The measured total flow rate is the total flow rate through the particulate analyser under test. Units of flow are l.min-1, reported at prevailing ambient conditions unless otherwise specified. Where flow rates are highlighted in bold, it indicates that measurements were not made at the analyser sample inlet. These measurements therefore may not accurately reflect analyser performance in normal operation.

[5] The calculated k0 value (specifically for TEOM analysers) is the calculated k0 spring constant based on tests undertaken with filters of known weight. The % deviation indicates the closeness of the calculated result to the manufacturer's specified value of k0.

The calibration results shaded are those that fall within our scope of accreditation, all other results on this certificate are not UKAS accredited, but have been included for completeness.

******END OF CERTIFICATE******

Figure 13: NOx & PM Service Reports



Enviro
Technology Services Ltd
part of CuraTerrae

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Registered in England No. 1726773

tel: +44 (0) 453 733200
www.et.co.uk
info@et.co.uk

World Leading Environmental Monitoring Systems

ENGINEER'S REPORT

Please consider the environment before printing this report

ET Ref No:	CS 29767	Customer Order No:	
Engineer Name:	Colin Rennie	Visit Type:	Routine Service
Enviro Client / Database Name:	North Ayrshire		
Official AURN Site Name (if applicable):	Irvine		
Site Visit Start Date:	13/02/2024	Time:	10:40 GMT (Data Elimination)
Site Visit End Date:	13/02/2024	Time:	13:35 GMT

Reported Fault / Task: — Issues Found at Audit: Yes ○ No ○ NA ◉

Carry out routine service of Fidas, Nox & air con.

Engineer's Comments: — Audit Issues Resolved: Yes ○ No ○ NA ◉

All serviced, Nox calibrated w ith my cylinder as site one is empty.

Communications Tested: Yes ◉ No ○ NA ○

Parts Used:

Part Number	Description	Quantity

Document No: FM-231 Rev Dec23

Total Time: 3hrs

To help us improve our service to you, please complete this short survey on how our Engineer did today

Enviro
Technology Services Ltd
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Registered in England No. 1726773

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World Leading Environmental Monitoring Systems

ENGINEER'S REPORT

Please consider the environment before printing this report

ET Ref No:	CS 31719	**Customer Order No:**	
Engineer Name:	Colin Rennie	**Visit Type:**	Routine Service
Enviro Client / Database Name:	North Ayrshire		
Official AURN Site Name (if applicable):	Irvine		
Site Visit Start Date:	16/08/2024	**Time:**	11:00 BST (Data Elimination)
Site Visit End Date:	16/08/2024	**Time:**	14:30 BST

Reported Fault / Task: **Issues Found at Audit:** Yes ○ No ○ NA ◉

Carry out routine service of Fidas, Nox & air con. Cal gas is erratic

Engineer's Comments: **Audit Issues Resolved:** Yes ○ No ○ NA ◉

All serviced, Tubing rew orked on Nox sample line w hich improved the cal stabiity. Both instruments are OK. Pat test carried out, all OK. AC cleaned and serviced, all OK.

Communications Tested: Yes ◉ No ○ NA ○

Parts Used:

Part Number	Description	Quantity

Document No: FM-231 Rev Dec23

Total Time: 3hrs

To help us improve our service to you, please complete this short survey on how our Engineer did today

Glossary of Terms

Abbreviation	Description
AQAP	Air Quality Action Plan - A detailed description of measures, outcomes, achievement dates and implementation methods, showing how the LA intends to achieve air quality limit values'
AQMA	Air Quality Management Area – An area where air pollutant concentrations exceed / are likely to exceed the relevant air quality objectives. AQMAs are declared for specific pollutants and objectives
APR	Annual Progress Report
AURN	Automatic Urban and Rural Network (UK air quality monitoring network)
CAD	Clean Air Day
Defra	Department for Environment, Food and Rural Affairs
DMRB	Design Manual for Roads and Bridges – Air quality screening tool produced by Highways England
DT	Diffusion Tube
EVs	Electric Vehicles
FDMS	Filter Dynamics Measurement System
LAQM	Local Air Quality Management
LTS	Local Transport Strategy
NO_2	Nitrogen Dioxide
NO_X	Nitrogen Oxides
PM_{10}	Airborne particulate matter with an aerodynamic diameter of 10µm (micrometres or microns) or less
$PM_{2.5}$	Airborne particulate matter with an aerodynamic diameter of 2.5µm or less
QA/QC	Quality Assurance and Quality Control
SO_2	Sulphur Dioxide

References

1. Environment Act 1995 Part IV.
2. Local Air Quality Management, Technical Guidance LAQM.TG (22), August 2022.
3. North Ayrshire Council Adopted Local Development Plan, November 2020.
4. North Ayrshire Council Development Plan Scheme, November 2024.
5. North Ayrshire Council Electric Vehicle (EV) Strategy 2024-28.
6. North Ayrshire Council Local Transport and Active Travel Strategy 2024-2028.
7. Sustainable North Ayrshire Strategy 2024 – 2027.