2019 Air Quality Annual Status Report (ASR)

In fulfilment of Part IV of the Environment Act 1995 Local Air Quality Management

October 2019

Local Authority Officer	Janet Wallace
Department	Environmental Health
Address	EDDC, Knowle, Sidmouth, EX10 8HL
Telephone	01395 571647
E-mail	jwallace@eastdevon.gov.uk
Report Reference number	2019 Annual Status Report
Date	October 2019

Executive Summary: Air Quality in Our Area

Air Quality in East Devon District Council

Air pollution is associated with a number of adverse health impacts. It is recognised as a contributing factor in the onset of heart disease and cancer. Additionally, air pollution particularly affects the most vulnerable in society: children and older people, and those with heart and lung conditions. There is also often a strong correlation with equalities issues, because areas with poor air quality are also often the less affluent areas[1,2].

The annual health cost to society of the impacts of particulate matter alone in the UK is estimated to be around £16 billion[3].

East Devon is a mainly rural area with small market towns and only pockets of commercial development, mainly involving supply and distribution. Although there are some modern energy plants these are small scale and compliant with the air quality requirements of their environmental permits. The M5 motorway runs through the west of the district, and the area is bisected east to west by the A35 and A30 major trunk roads. Smaller main roads serving the main towns and commercial areas feed into the strategic network. East Devon is an identified area of expansion for the City of Exeter and it is likely that vehicle flows will increase as a result of this.

The main pollutant of concern in East Devon is NO_2 arising from road traffic around the busier and more congested areas and as such East Devon District Council (EDDC) have continued to primarily focus on NO_2 monitoring and management. Fifty four passive monitoring sites monitored NO_2 concentrations across East Devon in 2018, as well as the Honiton Urban Background automatic monitoring site.

Air quality across East Devon District Council is of a high overall standard; with only two exceedances in the most recent reporting year, with both being below the exceedance limit after distance correction. Monitoring results from the more populous towns such Honiton and Axminster were slightly elevated compared to other areas.

Historically there had only been one Air Quality Management Area (AQMA) declared in East Devon which was revoked in April 2018 as a result of improvement in air quality

[1] Environmental equity, air quality, socioeconomic status and respiratory health, 2010
[2] Air quality and social deprivation in the UK: an environmental inequalities analysis, 2006
[3] Defra. Abatement cost guidance for valuing changes in air quality, May 2013

in the designated area as well as the preparation of a detailed air quality report that found no exceedances observed at sensitive receptor locations.

EDDC have continued to work with local partner authorities including Devon District Council, Exeter City Council and Teignbridge District Council on larger schemes across the wider Devon area. These schemes include the "Devon Wide Personal Exposure Reduction Project Report" published in May 2016 to inform future decision making with regard to mitigating exposure to pollution.

Actions to Improve Air Quality

There are no designated AQMAs within EDDC, therefore the Council has no active Air Quality Action Plans (AQAPs) and as such the Council has no formal measures related to control and mitigation of sources of local air quality issues; however EDDC are proactive in future mitigation and also more informal measures to tackle degradation of air quality.

Officers had identified two major roads, A3052 and A376, which might be impacted upon by future developments. To investigate and evaluate the impact on local air quality from traffic these two roads in the communities of Clyst St Mary and Clyst St George an investigation was conducted by the council which concluded that between October 2018 and March 2019 despite the current levels of traffic flow (more than 44,000 vehicles a day using the Clyst St Mary roundabout for example) the first indications of 24 hour mean air quality show that particulate levels are very low. Nitrogen dioxide levels are all significantly lower than the hourly objective, but the annual results for nitrogen dioxide may be of concern if they deteriorate. In the future, once more monitoring data is available, it will assist in predicting how the air quality results would be affected by changes (increases) in traffic flow. This will then be used to inform the strategic planning teams considering the opportunities offered by the GESP project in this area. The next report will be available in Autumn 2019.

As well as this, all major new developments across the district are incorporating measures to discourage car use, by the provision of cycle and walking routes, the subsidising of new bus services and the co-location of employment opportunities near to large scale housing developments. Electric vehicle points are encouraged in these areas, and the Council are looking to install charging points at key locations. Green

travel plans will be developed over the next year for the Council, who are also considering whether electric fleet vehicles should be introduced within the next 3 years.

Conclusions and Priorities

In 2018, exceedances of the annual mean NO_2 concentration limit were monitored at two of the fifty four sites; after distance correction, no sites exceeded the 40µg/m^3 limit.

The automatic monitoring site within EEDC monitored no exceedances in either the short or the long term objective limit and the monitored NO_2 annual mean concentration has fallen gradually over the previous 5 years.

East Devon District Council's priorities for the coming year include;

- Continuing with the current NO_2 diffusion tube monitoring network to identify any exceedances of the annual mean air quality objective;
- Ensure new developments meet the requirements of planning policies and guidance in relation to air quality; and
- Proceed to the 2020 Annual Status Report.

Local Engagement and How to get Involved

Members of the public can help improve air quality in the district by travelling using sustainable transport options, such as walking, running, cycling, using public transport or even moving to an electric vehicle. Car sharing is also an easy way to reduce private car use. Further information regarding Air Quality and EDCC's approach to LAQM can be found on their website.[4]

4 EDDC Air Quality- http://eastdevon.gov.uk/environment/air-quality/

Table of Contents

List of Tables

List of Figures

1 Local Air Quality Management

This report provides an overview of air quality in East Devon District Council during 2018. It fulfils the requirements of Local Air Quality Management (LAQM) as set out in Part IV of the Environment Act (1995) 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 Status Report (ASR) is an annual requirement showing the strategies employed by East Devon District Council to improve air quality and any progress that has been made.

The statutory air quality objectives applicable to LAQM in England can be found in Table E.1 in Appendix E.

2 Actions to Improve Air Quality

2.1 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 an AQAP within 12-18 months setting out measures it intends to put in place in pursuit of compliance with the objectives.

Further information related to declared or revoked AQMAs, including maps of AQMA boundaries are available online.[5]

EDDC had previously declared 1 AQMA in the Honiton area. The AQMA was declared as a result of exceedances of the NO_2 annual mean objective limit. As per correspondence with EDDC this was revoked in April 2018 following year on year improvements in monitored annual mean NO_2 pollutant concentrations.

As such, it is concluded that East Devon District Council does not have any AQMAs.

5 AQMA Maps and Further Information:: https://uk-air.defra.gov.uk/aqma/local-authorities?la_id=86.

2.2 Progress and Impact of Measures to address Air Quality in East Devon District Council

Defra agreed with the conclusion that the sole AQMA within the council's jurisdiction should be revoked due to year on year improvements in air quality in this area, and completion of a detailed air quality assessment which found concentrations at receptors in this area were below the objective limits. It was suggested that monitoring around the region should continue, however locations of these monitoring sites should be reviewed in light of the revocation of the AQMA.

Finally, the appraisal emphasised the importance of distance correcting the reported annual mean corrections when comparing to objective levels to ensure the values being compared are representative of relevant exposure; in this ASR all figures will be distance corrected where necessary (i.e. >36 µg/m^3 and of relevant distance from a receptor) following the LAQM Technical Guidance TG(16).

EDDC have completed a number of measures in previous years to improve air quality in problem areas, and also to inform future decision making. Key examples of this are;

- Development of Roundabout at Turks Head Junction, Honiton in order to improve traffic flow
- Completion of a detailed air quality assessment in order to support the revocation of the Honiton AQMA
- Involvement and completion of the Devon Wide Personal Exposure Reduction Project Report
- Expansion of the passive monitoring network

Due to the revocation of the Honiton AQMA, EDDC do not intend to produce a formal action plan as air quality across the majority of the region is well below objective limits. Areas where exceedances have been monitored in the 2018 data will be investigated in future reporting years, and in the event these exceedances continue or worsen an AQMA may be designated.

EDDC's priorities for the coming year are to continue the LAQM monitoring regime, expand the monitoring where possible and remove sites which are no longer pertinent. EDDC also plan on beginning an air quality assessment project regarding $PM_{2.5}$ which

is expanded upon below. EDDC do not foresee any barriers to completing these actions.

2.3 $PM_{2.5}$ – Local Authority Approach to Reducing Emissions and/or Concentrations

As detailed in Policy Guidance LAQM.PG16 (Chapter 7), local authorities are expected to work towards reducing emissions and/or concentrations of $PM_{2.5}$ (particulate matter with an aerodynamic diameter of 2.5µm or less). There is clear evidence that $PM_{2.5}$ has a significant impact on human health, including premature mortality, allergic reactions, and cardiovascular diseases.

EDDC is working with other Devon local authorities, including Devon District Council and Exeter City Council to tackle $PM_{2.5}$ in the area. Collectively, the council's actions include Defra bids for Electric Vehicle (EV) charging points and pedal assist bicycles. EDDC have also worked with surrounding councils on providing transport companies with 'ECOStar' credentials via the ECOStars scheme[6].

In addition, EDDC planned to undertake an assessment to ascertain the impacts on air quality the development of a 'New Town' in the East Devon area would have, with a focus on $PM_{2.5}$ concentrations. There was a concern that increases in traffic flow and congestion would lead to elevated levels of $PM_{2.5}$ on areas surrounding the A3502 between Sidmouth and Exeter and also a degradation of air quality in Clyst St Mary and Clyst St George.

First round of this investigation has now been completed for a period of October 2018 to March 2019. Based on the findings provided in the report, between October 2018 and March 2019 despite the current levels of traffic flow (more than 44,000 vehicles a day using the Clyst St Mary roundabout for example) the first indications of 24 hour mean air quality show that particulate levels are very low. The next report will be available in Autumn 2019.

[6] Eco Stars UK https://www.ecostars-uk.com/

3 Air Quality Monitoring Data and Comparison with Air Quality Objectives and National Compliance

3.1 Summary of Monitoring Undertaken

3.1.1 Automatic Monitoring Sites

This section sets out what monitoring has taken place and how it compares with objectives.

There is one automatic monitoring site in East Devon. Table A.1 in Appendix A shows the details of the site. The site is part of the Automatic, Urban and Rural Network (AURN) in the UK and monitors NO_2 concentrations.

National monitoring results are available at https://uk-air.defra.gov.uk/data/ .

A map showing the location of the automatic monitoring site is provided in Appendix D. Further details on how the monitor is calibrated and how the data has been adjusted is included in Appendix C.

3.1.2 Non-Automatic Monitoring Sites

EDDC undertook non- automatic (passive) monitoring of NO_2 at 54 sites during 2018, slightly decreasing from 55 in 2017. Table A.2 in Appendix A shows the details of the sites.

Maps showing the location of the monitoring sites are provided in Appendix D. Further details on Quality Assurance/Quality Control (QA/QC) for the diffusion tubes, including bias adjustments and any other adjustments applied (e.g. “annualisation” and distance correction), are included in Appendix C.

3.2 Individual Pollutants

The air quality monitoring results presented in this section are, where relevant, adjusted for bias, “annualisation” and distance correction. Further details on adjustments are provided in Appendix C.

3.2.1 Nitrogen Dioxide (NO_2)

Table A.3 in Appendix A compares the ratified and adjusted monitored NO_2 annual mean concentrations for the past 5 years with the air quality objective of 40µg/m^3.

For diffusion tubes, the full 2018 data sets of monthly mean values are provided in Appendix B.

Appendix A compares the ratified continuous monitored NO_2 hourly mean concentrations for the past 5 years with the air quality objective of 200µg/m^3, not to be exceeded more than 18 times per year.

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?	Monitoring Technique	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Inlet Height (m)
AURN (Dove Close)	Dove Close	Urban Background	315749	99874	NO2	NO	FDMS	20	N/A	2

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?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube collocated with a Continuous Analyser?	Height (m)
Exmouth, Exton, Lympstone										
N01	N01 Exmouth - Library	K	300267.243	81193.358	NO2	N	N/A	2.4	No	2.5
N02	N02 Exmouth - Salterton Rd opp Tesco	R	302162.968	81723.637	NO2	N	31.1	1.6	No	2.5
N03	N03 Exmouth - 64 Chichester Close	I	301385.5486	81518.2549	NO2	N	7.7	1.7	No	2.5
N07	N07 Exmouth - The Strand	K	300087.0245	80954.826	NO2	N	N/A	0.7	No	2.7
N73	N73 Exmouth - 369 Exeter Road	K	300294.183	83265.372	NO2	N	0	1.7	No	2.4
N74	N74 Lympstone - Opposite 6 Jubilee Grove	K	299931.237	84156.935	NO2	N	0	1.7	No	2.4
N75	N75 Exton - Iddesleigh Terrace	K	298424.88	86471.918	NO2	N	0	1.7	No	2.4
Newton Pop, Sidmouth, Sidford										
N16	N16 Sidmouth - opp Travelwise	R	312664.502	87431.936	NO2	N	N/A	4.9	No	2.5
N19	N19 Sidford - School St (opp PO)	R	313402.987	90074.004	NO2	N	N/A	1.5	No	2.5

Site ID	Site Name	Site Type	X OS Grid Ref	Y OS Grid Ref	Pollutants Monitored	In AQMA?	Distance to Relevant Exposure (m) [1]	Distance to kerb of nearest road (m) [2]	Tube collocated with a Continuous Analyser?	Height (m)
N72	N72 Newton Pop - Westhayes High Street	K	808004.193	89533.226	NO2	N	0	1.3	No	2.32
Clyst St George										
N06	N06 Clyst St George - George & Dragon	K	298061.641	88425.006	NO2	N	1.4	6.2	No	2.5
N68	N68 Clyst St George - o/s Marsh Barton	R	298078.944	88521.333	NO2	N	N/A	6.5	No	2.5
N59	N59 Clyst St George - o/s Clyst Dene	R	298082.568	88337.072	NO2	N	26	1.2	No	2.5
N63_EB	N63_EB Clyst St George - speed sign – Ebford Lane	R	298087.972	88160.787	NO2	N	-0.2	2.6	No	2.5
N80	N80 Nr 21 to 23 Exmouth Rd	R	297941	89437	NO2	N	13	2.75	No	1.85
Exeter Airport, Sowton, Clyst Honiton, Rockbeare and Broadclyst										
N26	N26 Little Orchard - Airport junction	R	299102.344	93198.499	NO2	N	N/A	2.5	No	2.5
N60	N60 Sowton - Sowton Lodge (Nearest)	R	297029.025	93140.479	NO2	N	0.1	11.0	No	2
N61	N61 Sowton - Sowton Lodge (Furthest)	R	297017.843	93139.294	NO2	N	0.1	12.0	No	2

Site ID	Site Name	Site Type	X OS Grid Ref	Y OS Grid Ref	Pollutants Monitored	In AQMA?	Distance to Relevant Exposure (m) [1]	Distance to kerb of nearest road (m) [2]	Tube collocated with a Continuous Analyser?	Height (m)
N20	N20 Clyst Honiton - o/s Whimple Farm	R	300345	94860	NO2	N	9.6	7.1	No	2.5
N21	N21 Broadclyst - opp Lower Hayes	R	299605.469	95350.375	NO2	N	7.3	6.9	No	2.5
N22	N22 Rockbeare - Jack in the Green	I	301876.427	95557.843	NO2	N	53.4	80.0	No	2.5
N76	N76 Cranbrook - St Martins School	R	300282.711	95200.006	NO2	N	0	8.5	No	2.44
N77	N77 Cranbrook - Opposite Jn Court Royal	R	301227.731	95665.468	NO2	N	N/A	4.9	No	2.35
N78	N78 Beare - Beare House	I	299762.655	102177.344	NO2	N	N/A	N/A	No	2.5
Clyst St Mary, Farringdon										
N13	N13 Clyst St Mary - Opp P. O.	R	297313.98	91055.768	NO2	N	6.7	1.9	No	2.5
N63 _ LO	N63_LO Clyst St Mary - Lodge A3052	R	297633.477	90926.948	NO2	N	2	2.9	No	2.5
N64_GP	N64_GP Clyst St Mary - A3052 Crealy	R	300259.254	90711.812	NO2	N	N/A	11.0	No	1.9
N65	N65 Clyst St Mary - A3052 Farringdon	R	300734.994	90555.249	NO2	N	N/A	2.8	No	2.5
N66	N66 Clyst St Mary - A3052 Vineyard	R	30249.874	90456.056	NO2	N	N/A	5.1	No	2.5

Site ID	Site Name	Site Type	X OS Grid Ref	Y OS Grid Ref	Pollutants Monitored	In AQMA?	Distance to Relevant Exposure (m) [1]	Distance to kerb of nearest road (m) [2]	Tube collocated with a Continuous Analyser?	Height (m)
N67	N67 Clyst St Mary - B3184 Opp Perkins	K	302419.887	90749.602	NO2	N	N/A	0.8	No	2.5
N81	N81 rear of Lammorric	R	297327	90998	NO2	N	9	0.34	No	2.1
N82	N82 Nr 1 Poplars Walk	R	298923	090859	NO2	N	20	2.15	No	1.9
N83	N83 Nr 44 Sidmouth Roa	R	299997	090722	NO2	N	66	3.8	No	1.84
Axminster										
N11	N11 Axminster - o/s Swans	R	329583.962	98464.07	NO2	N	0.1	1.5	No	2.5
N56	N56 Axminster - Trinity Square	K	329679.602	98550.211	NO2	N	N/A	0.7	No	2.5
N57	N57 Axminster - George Hotel	R	329764.945	98553.748	NO2	N	N/A	1.5	No	2.5
N58	N58 Axminster - Homelea Grand Rd	R	329789.141	98612.837	NO2	N	N/A	1.4	No	2.5
N64_AX	N64_AX Axminster - Morgan York Victoria Pl	K	329742.595	98589.071	NO2	N	N/A	1.0	No	2.5
Ottery, Seaton										
N14	N14 Seaton - 6 Marine Crescent	R	324478.716	89930.455	NO2	N	0.1	4.4	No	2.5
N10	N10 Ottery St Mary - Bank/Gold St	R	309881.505	95449.02	NO2	N	1.5	1.5	No	2.5

Site ID	Site Name	Site Type	X OS Grid Ref	Y OS Grid Ref	Pollutants Monitored	In AQMA?	Distance to Relevant Exposure (m) [1]	Distance to kerb of nearest road (m) [2]	Tube collocated with a Continuous Analyser?	Height (m)
Honiton - West (Near Turks Head Junction)										
N24	N24 opp 4 Ex Rd	R	315096.8257	100181.8577	NO2	N	12.7	0.1	No	2.5
N25	N25 4 Ex Road (garden)	R	315087	100165	NO2	N	26	0.77	No	2.3
N27	N27 Byways Ex Rd	R	314875.1113	100096.9525	NO2	N	-1	9.0	No	2.5
N29	N29 West Mede Ex Rd	R	315114.3813	100200.7781	NO2	N	-0.9	14.0	No	2.5
Honiton - CENTRAL & EAST HONITON (High Street)										
N09	N09 High St / Dowell St jn	R	316061.6569	100596.2384	NO2	N	0.1	2.2	No	2.5
N36	N36 10 Dowell St	K	316011.7187	100652.6047	NO2	N	-0.3	1.2	No	2.5
N37	N37 153 High St (TRI)	K	316102.4868	100607.0179	NO2	N	3.1	0.3	No	2.5
N44	N44 9 High St (TRI)	K	316629.3806	100837.1406	NO2	N	2.2	0.6	No	2.5
N45	N45 Holyshute Cottage	K	316816.1582	100934.2446	NO2	N	17.2	0.1	No	2.5
N46	N46 Windmill Ct A35	K	316795.5113	100856.0152	NO2	N	19.8	1.0	No	2.5
DEFRA AURN SITE - DOVE CLOSE (3)										
N62	N62 Dove Close (TRI)	UB	315745.11	99874.7	NO2	N	N/A	N/A	Yes	1.75
N62b	N62 Dove Close (TRI)	UB	315745.11	99874.7	NO2	N	N/A	N/A	Yes	1.75
N62c	N62 Dove Close (TRI)	UB	315745.11	99874.7	NO2	N	N/A	N/A	Yes	1.75
Wilmington										

Site ID	Site Name	Site Type	X OS Grid Ref	Y OS Grid Ref	Pollutants Monitored	In AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube collocated with a Continuous Analyser?	Height (m)
N71	N71 Wilmington Outside Higher Gatehouse EX14 9JR	K	321134.9	99874.7	NO2	N	0.7	2.7	No	3

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

Site ID	Site Type	Monitoring Type	Valid Data Capture for Monitoring Period 2018(%) [1]	Valid Data Capture 2018 (%) [2]	NO_2 Annual Mean Concentration ($\mu g/m^3$) [3]				
					2014	2015	2016	2017	2018
AURN (Dove Close)	Urban Background	Automatic	98	98	12	8	8.2	7.8	7.4
Exmouth, Exton, Lympstone									
N01	Kerbside	Diffusion Tube	100	100	18.1	16.1	20.6	17.9	19.7
N02	Roadside	Diffusion Tube	100	100	17	15.9	19.2	18.4	17.4
N03	Industrial	Diffusion Tube	100	100	9.2	8.7	9.8	8.7	10.6
N07	Kerbside	Diffusion Tube	100	100	20.9	21	24.7	24.1	22.8
N73	Kerbside	Diffusion Tube	100	100	-	-	-	30.4	29.7
N74	Kerbside	Diffusion Tube	100	100	-	-	-	29.1	27.8
N75	Kerbside	Diffusion Tube	100	100	-	-	-	36.6	37.5
Newton Pop, Sidford. Sidmouth									
N16	Roadside	Diffusion Tube	100	100	13.4	12.9	14.3	14.4	13.3
N19	Roadside	Diffusion Tube	100	100	20.5	20.6	20.7	19	17.5
N72	Kerbside	Diffusion Tube	100	100	-	-	-	18.8	18.0
Clyst St George									

Site ID	Site Type	Monitoring Type	Valid Data Capture for Monitoring Period 2018(%) (1)	Valid Data Capture 2018 (%) (2)	NO_2 Annual Mean Concentration (µg/m^3) (3)				
					2014	2015	2016	2017	2018
N06	Kerbside	Diffusion Tube	100	100	29.8	28.4	32.4	30.7	30.4
N68	Roadside	Diffusion Tube	91.7	91.7	-	27.6	31.4	27.3	31.8
N59	Roadside	Diffusion Tube	100	100	40.1	37.1	43	38.6	39.8
N63_EB	Roadside	Diffusion Tube	100	100	28.6	29.5	32.1	29.8	32.4
N80	Roadside	Diffusion Tube	100	100	-	-	-	-	20.3
East of Exeter - Beare, Broadclyst									
N26	Roadside	Diffusion Tube	100	100	18.2	18.8	19.9	20	19.5
N60	Roadside	Diffusion Tube	100	100	24.6	26.2	32.6	26.7	27.7
N61	Roadside	Diffusion Tube	100	100	26	26.5	29.9	25.5	27.1
N20	Roadside	Diffusion Tube	100	100	13.2	12.6	13.7	13.2	12.9
N21	Roadside	Diffusion Tube	100	100	8.1	7.7	8.5	7.8	7.5
N22	Industrial	Diffusion Tube	100	100	7.9	7.2	10.9	9.2	9.7
N76	Roadside	Diffusion Tube	100	100	-	-	-	11.4	11.4
N77	Roadside	Diffusion Tube	100	100	-	-	-	13.1	12.4
N78	Industrial	Diffusion Tube	100	100	-	-	-	19.2	22.7
Clyst St Mary, Farringdon									

Site ID	Site Type	Monitoring Type	Valid Data Capture for Monitoring Period 2018(%) [1]	Valid Data Capture 2018 (%) [2]	NO_2 Annual Mean Concentration (µg/m^3) [3]				
					2014	2015	2016	2017	2018
N13	Roadside	Diffusion Tube	100	100	20.5	19.2	22	23.2	22.3
N63_LO	Roadside	Diffusion Tube	100	100	32.7	31.7	35.4	34.3	33.8
N64_GP	Roadside	Diffusion Tube	100	100	18.1	18.9	21.9	21	21.0
N65	Kerbside	Diffusion Tube	91.7	91.7	23.6	28	31.3	32.5	31.0
N66	Roadside	Diffusion Tube	100	100	11.6	12.9	14.6	13.6	14.1
N67	Kerbside	Diffusion Tube	100	100	10.7	8.1	9.6	9	9.5
N81	Roadside	Diffusion Tube	91.7	91.7	-	-	-	-	24.9
N82	Roadside	Diffusion Tube	83.3	83.3	-	-	-	-	27.7
N83	Roadside	Diffusion Tube	100	100	-	-	-	-	25.1
Axminster									
N11	Roadside	Diffusion Tube	100	100	33.2	32.4	34.7	32.9	30.4
N56	Roadside	Diffusion Tube	100	100	32.4	30.3	36	31.3	32.1
N57	Kerbside	Diffusion Tube	100	100	22	23.4	24	23.2	23.5
N58	Roadside	Diffusion Tube	100	100	30.3	27.2	35.7	33.2	31.1
N64_AX	Roadside	Diffusion Tube	100	100	32.7	31.7	28	24.2	23.7

Site ID	Site Type	Monitoring Type	Valid Data Capture for Monitoring Period 2018(%) (1)	Valid Data Capture 2018 (%) (2)	NO_2 Annual Mean Concentration (µg/m^3) (3)				
					2014	2015	2016	2017	2018
Seaton / Ottery (2)									
N14	Roadside	Diffusion Tube	100	100	12.1	12.6	15.8	15.1	14.3
N10	Roadside	Diffusion Tube	100	100	22.8	23.1	25.2	23.3	22.9
Honiton – WEST - Turks Head									
N24	Roadside	Diffusion Tube	100	100	36.1	34.6	31.6	30.3	30.6
N25	Roadside	Diffusion Tube	100	100	-	-	-	-	31.7
N27	Roadside	Diffusion Tube	100	100	19	17.3	19.7	17.9	18.6
N29	Roadside	Diffusion Tube	100	100	18.7	17.8	20.4	19	21.3
Honiton - CENTRAL & EAST Hon									
N09	Kerbside	Diffusion Tube	100	100	30.7	28.9	31.8	31.7	25.4
N36	Kerbside	Diffusion Tube	100	100	33.6	32.3	36.1	37	30.3
N37	Kerbside	Diffusion Tube	100	100	33.6	32.3	41	39.7	35.3
N44	Kerbside	Diffusion Tube	100	100	28.9	28	32.6	28.6	25.9
N45	Kerbside	Diffusion Tube	100	100	34.2	32.8	35.4	36.5	34.7
N46	Kerbside	Diffusion Tube	100	100	41.7	40.4	45.2	45.8	**42.7**
DEFRA AURN SITE									

Site ID	Site Type	Monitoring Type	Valid Data Capture for Monitoring Period 2018(%) (1)	Valid Data Capture 2018 (%) (2)	NO_2 Annual Mean Concentration (µg/m^3) (3)				
					2014	2015	2016	2017	2018
N62a	Urban Background	Diffusion Tube	100	100	10	8.3	9.7	9.1	9.4
N62b	Urban Background	Diffusion Tube	100	100	8.6	8.1	9.4	8.8	9.4
N62c	Urban Background	Diffusion Tube	100	100	8.6	7.8	9.5	8.6	9.3
Wilmington									
N71	Kerbside	Diffusion Tube	100	100	-	-	37.7	41.5	**40.9**

☒ **Diffusion tube data has been bias corrected**

☒ **Annualisation has been conducted where data capture is <75%**

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.**

(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%).

(3) Means for diffusion tubes have been corrected for bias. All means have been "annualised" as per Boxes 7.9 and 7.10 in LAQM.TG16 if valid data capture for the full calendar year is less than 75%. See Appendix C for details.

Figure A.1– Trends in Mean NO2 Concentrations in Newton Pop, Sidford and Sidmouth

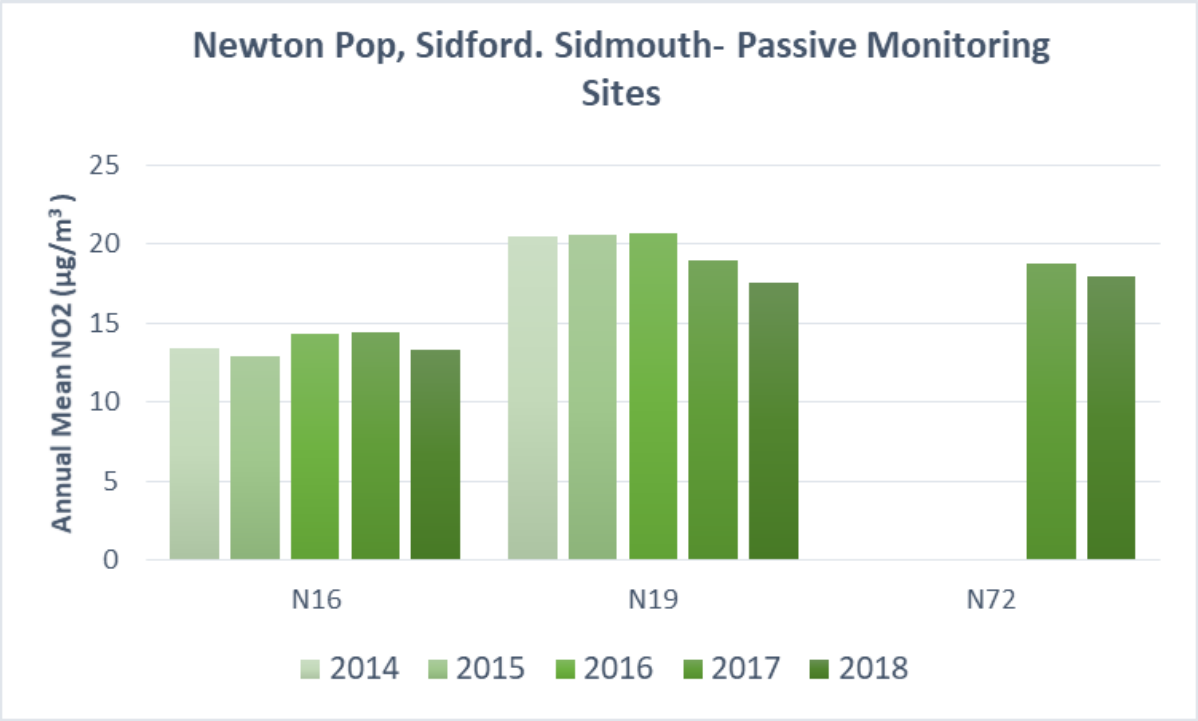


Figure A.2–Trends in Mean NO_2 Concentrations in Exmouth, Exton and Lympston

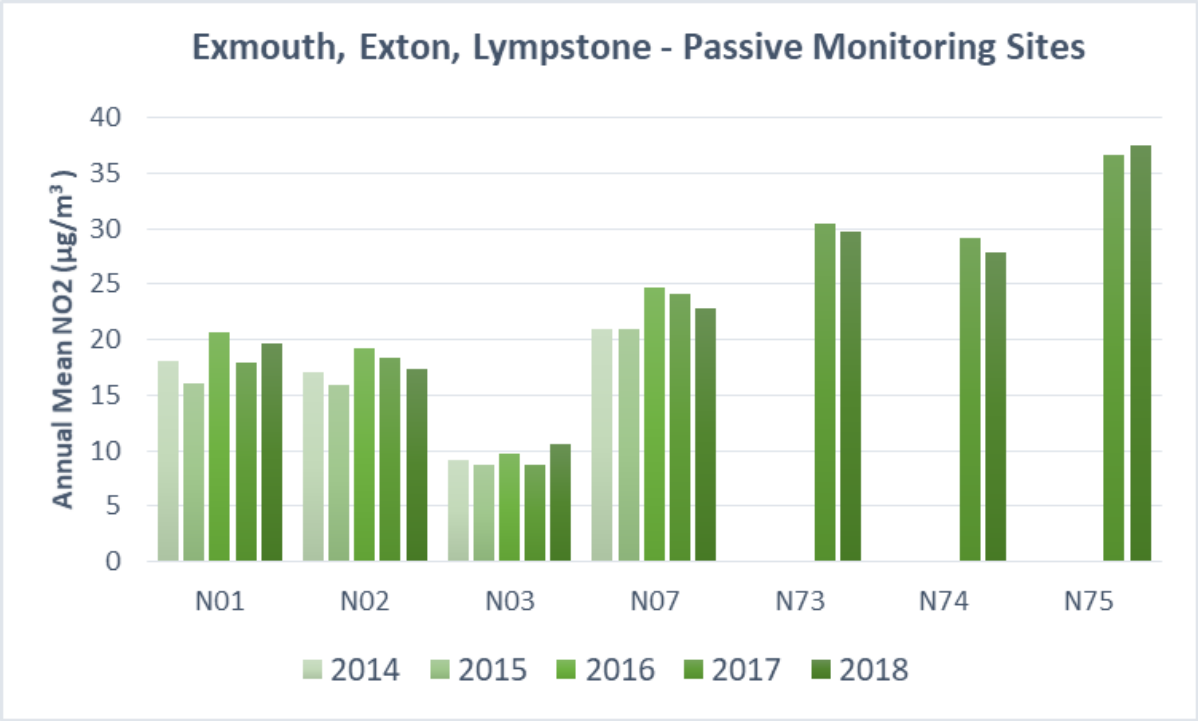


Figure A.3–Trends in Mean NO2 Concentrations in Clyst St George

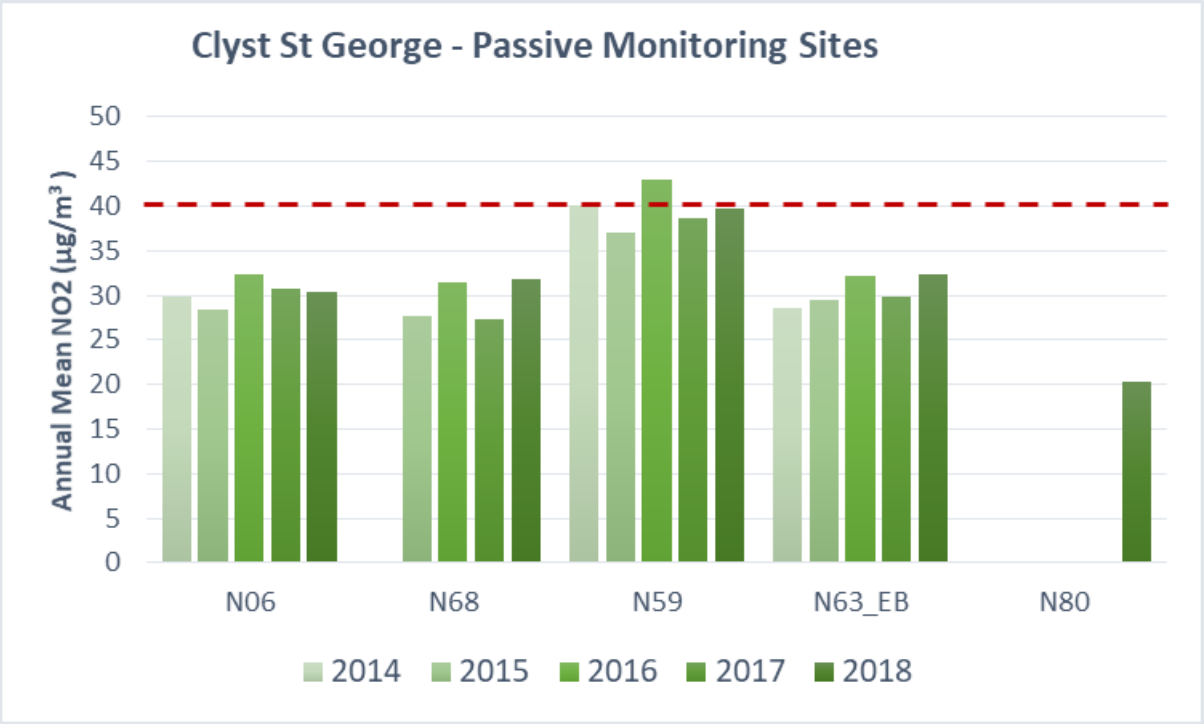


Figure A.4–Trends in Mean NO2 Concentrations in East of Exeter

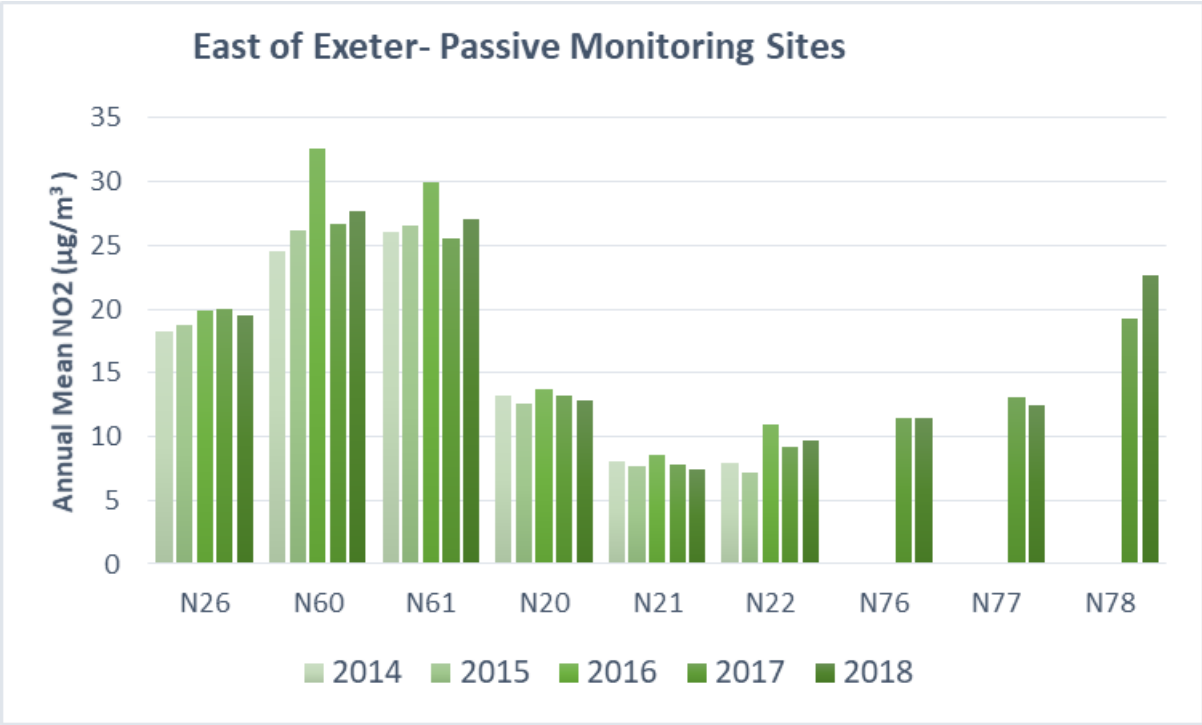


Figure A.5– Trends in Mean NO2 Concentrations in Clyst St Mary

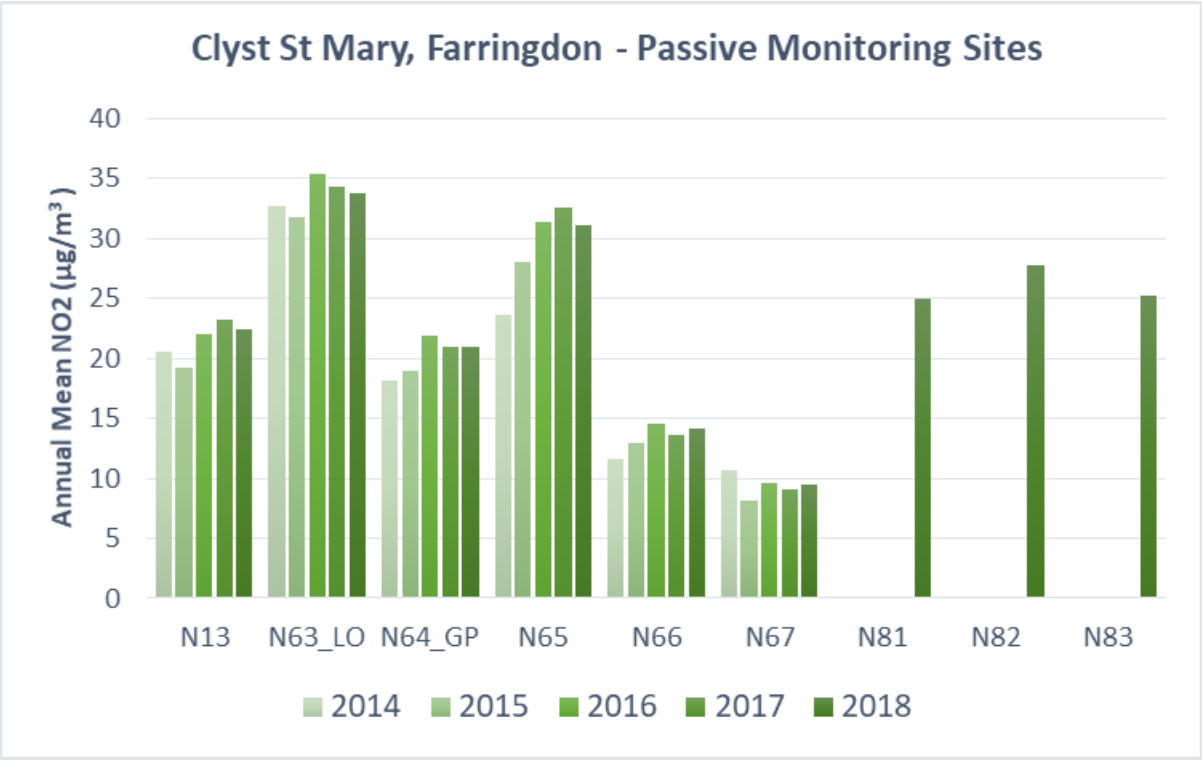


Figure A.6–Trends in Mean NO2 Concentrations in Axminster

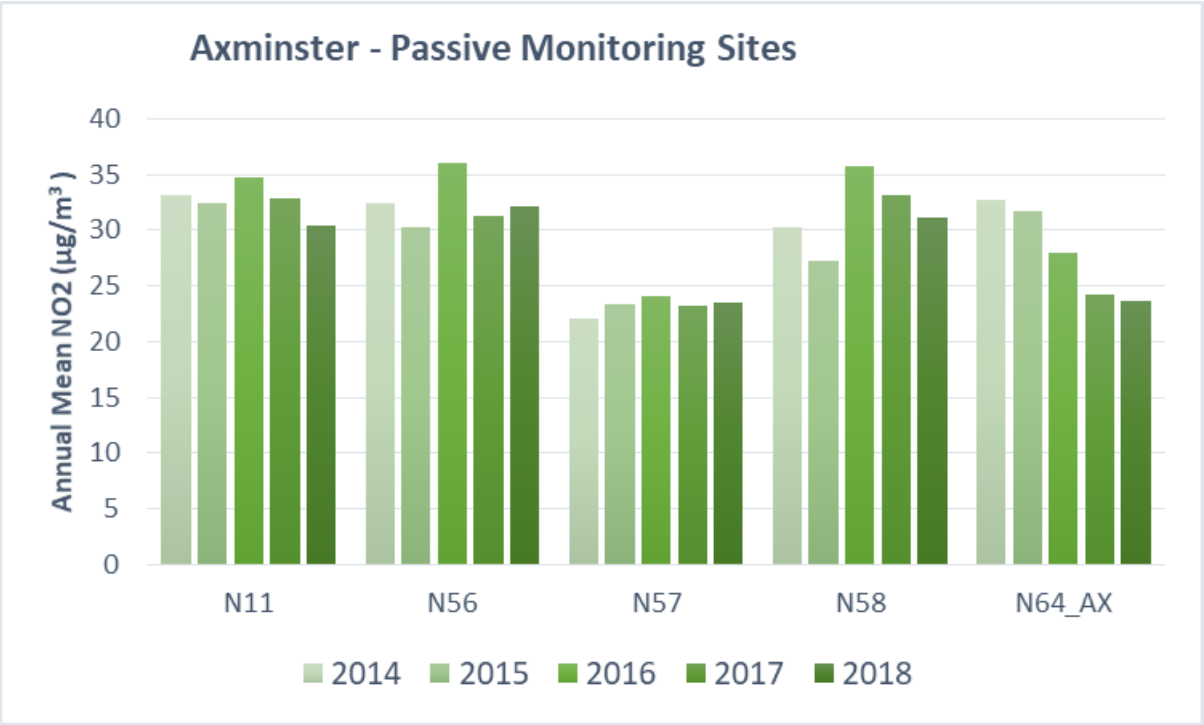


Figure A.7–Trends in Mean NO2 Concentrations in Seaton and Ottery

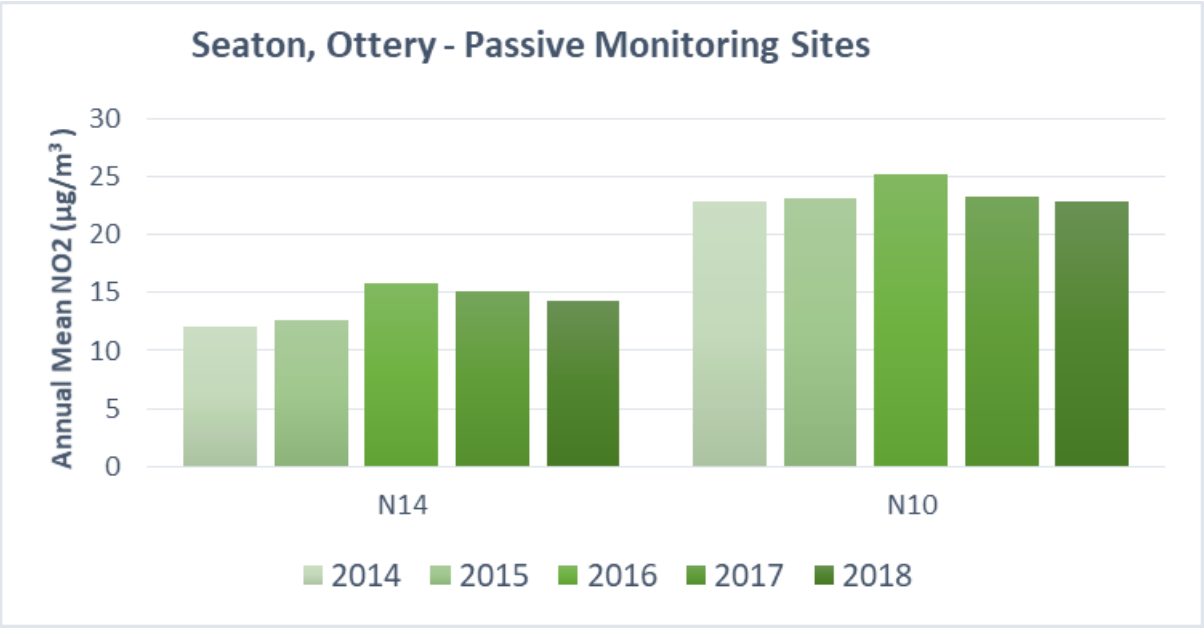


Figure A.8–Trends in Mean NO2 Concentrations at DEFRA AURN site

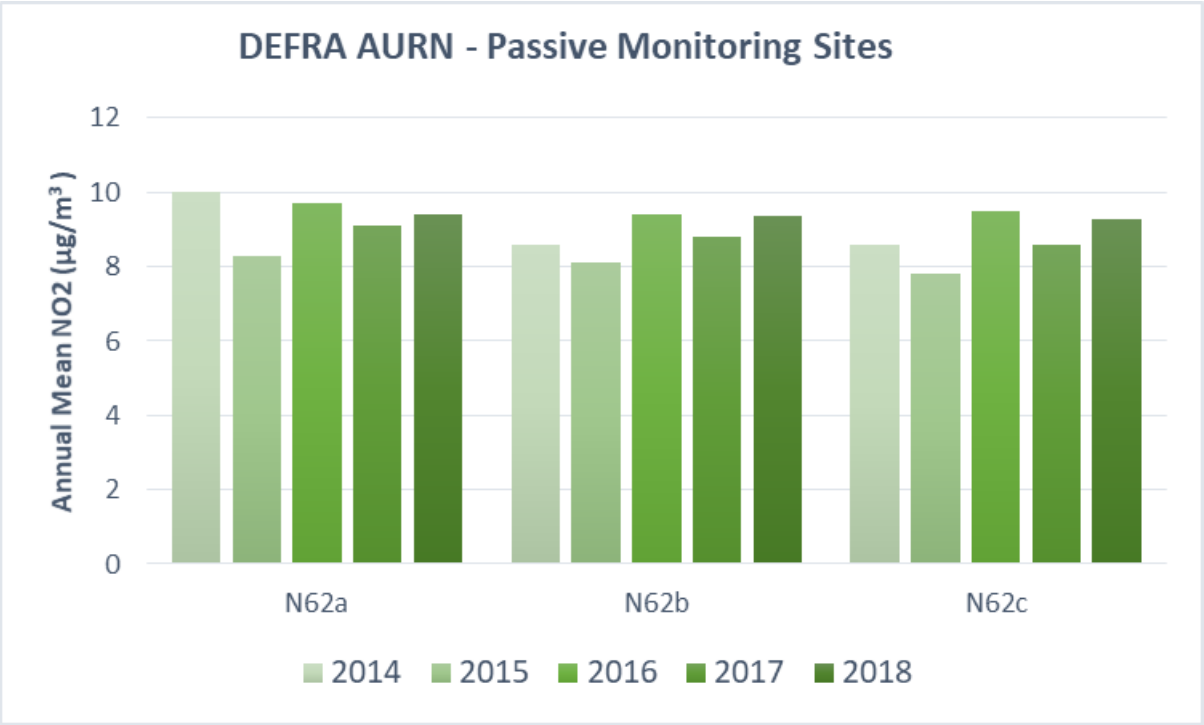


Figure A.9–Trends in Mean NO2 Concentrations in Honiton West

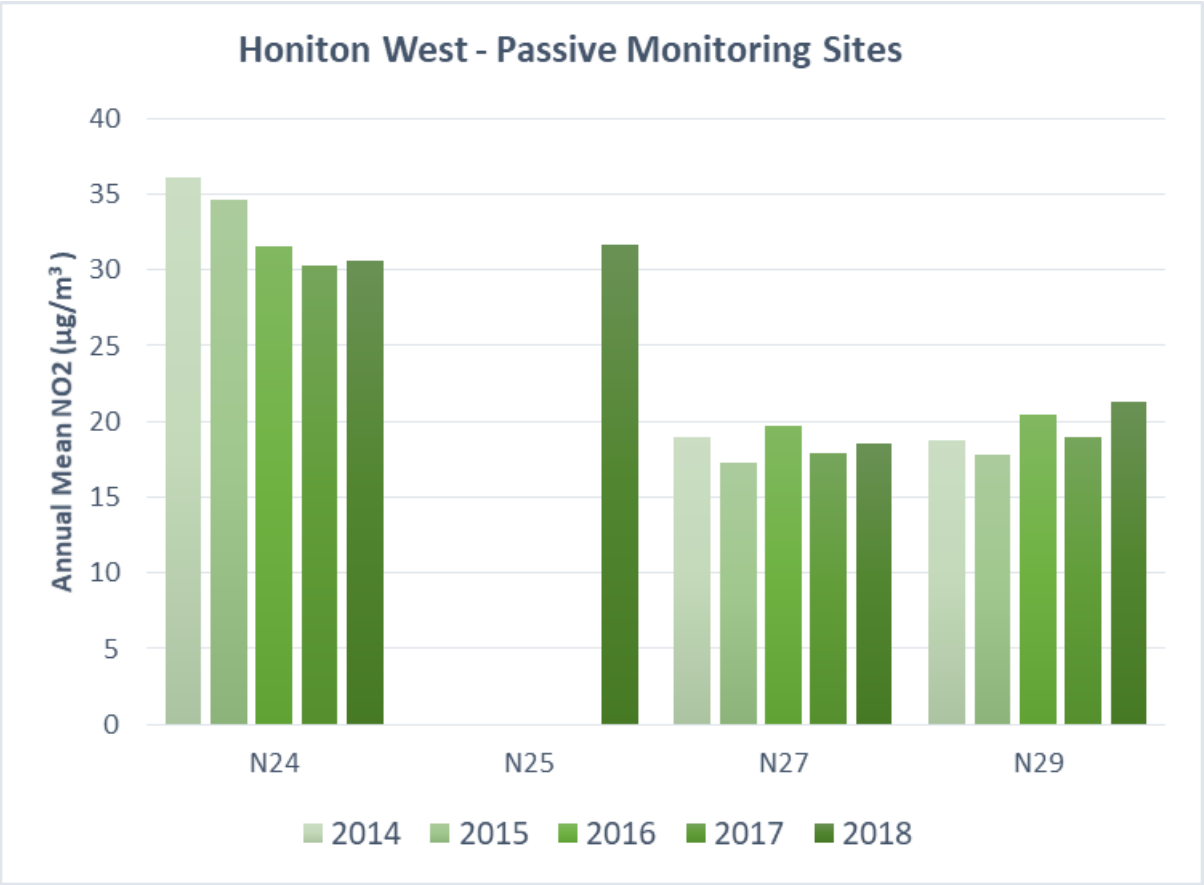


Figure A.10–Trends in Mean NO2 Concentrations in Honiton Central & East

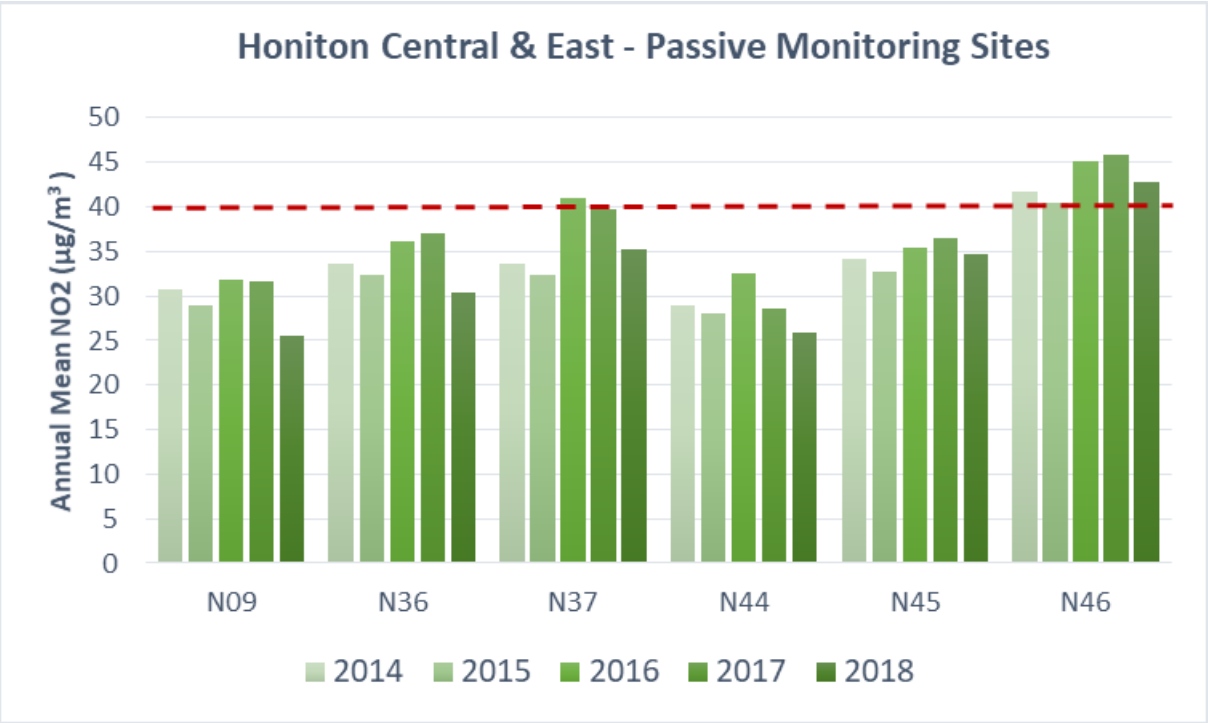


Figure A.11–Trends in Mean NO2 Concentrations in Wilmington

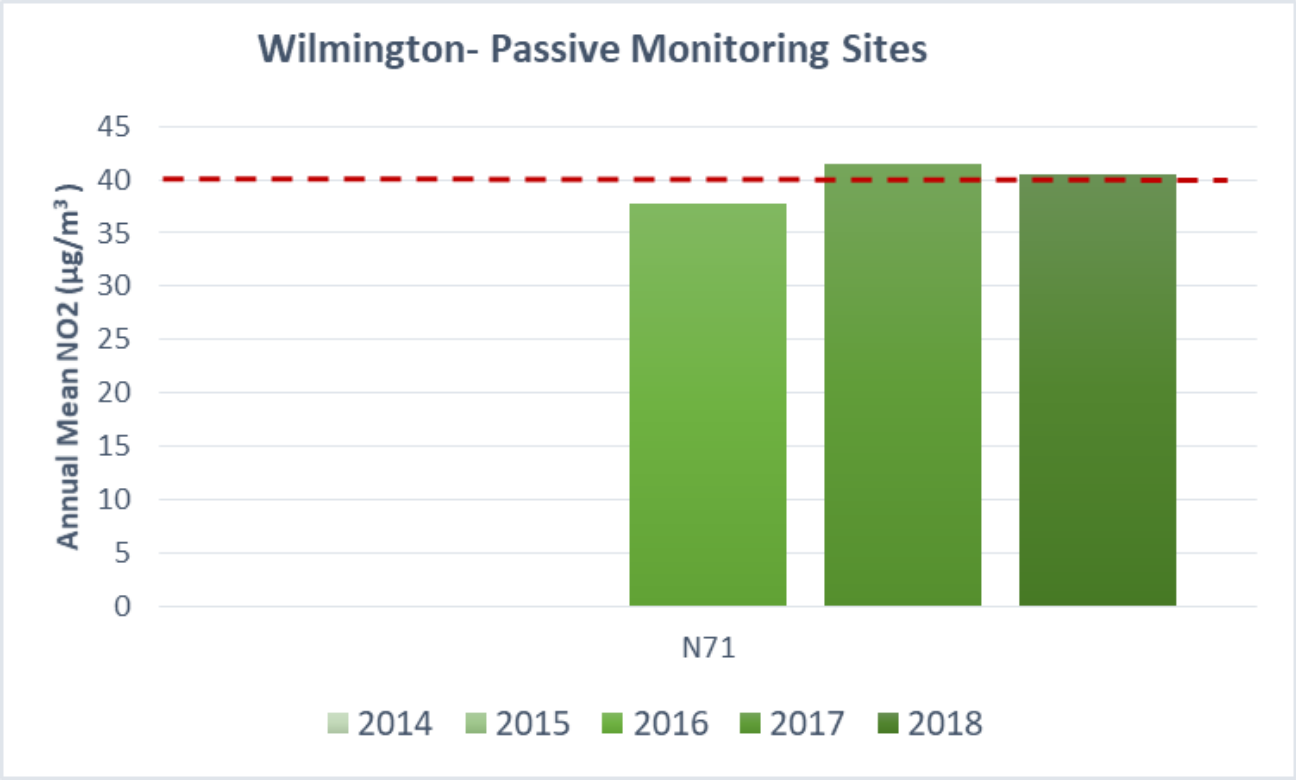


Table A.4 – 1-Hour Mean NO_2 Monitoring Results

Site ID	Site Type	Monitoring Type	Valid Data Capture for Monitoring Period 2018(%) (1)	Valid Data Capture 2018 (%) (2)	NO_2 1-Hour Means > 200µg/m^3 (3)				
					2014	2015	2016	2017	2018
AURN (Dove Close)	Urban Background	Automatic	98	98	0	0	0	0	0

Notes:

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

(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%).

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

Appendix B: Full Monthly Diffusion Tube Results for 2018

Table B.1 – NO_2 Monthly Diffusion Tube Results – 2018

Site ID	NO_2 Mean Concentrations ($\mu g/m^3$)														
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean		
													Raw Data	Bias Adjusted (0.92) and Annualised (1)	Distance Corrected to Nearest Exposure (2)
Exmouth, Exton, Lympstone															
N01	18.3	24.1	24.0	20.7	23.2	21.7	20.6	16.7	19.2	25.1	21.5	21.3	21.4	19.7	-
N02	20.7	21.6	20.6	18.8	17.2	15.7	14.6	15.4	18.5	22.7	19.1	22.1	18.9	17.4	-
N03	10.6	11.7	11.6	28.2	9.0	7.3	8.9	5.9	8.5	12.8	11.7	11.5	11.5	10.6	-
N07	21.7	23.6	30.0	25.6	26.4	24.5	26.7	19.7	22.5	27.5	23.9	24.4	24.7	22.8	-
N73	27.4	34.8	31.6	26.4	35.5	39.6	37.1	24.4	30.0	32.4	31.3	36.5	32.3	29.7	-
N74	27.9	33.6	6.2	37.0	45.2	31.0	33.1	25.3	28.8	31.2	30.3	33.2	30.2	27.8	-
N75	37.4	30.4	36.4	40.7	45.6	49.7	49.0	40.7	36.6	42.4	40.2	40.0	40.8	37.5	-
Newton Pop, Sidford. Sidmouth															
N16	14.3	18.0	17.5	14.6	11.6	12.3	14.6	12.1	11.2	15.4	15.8	16.7	14.5	13.3	-
N19	26.8	20.3	24.6	23.1	17.1	20.3	23.4	5.8	20.8	0.0	24.3	22.3	19.1	17.5	-
N72	23.4	20.4	22.9	18.9	16.6	18.0	18.8	16.4	21.1	21.4	23.2	13.5	19.6	18.0	-
Clyst St George															
N06	33.5	31.8	24.1	36.6	39.0	38.8	33.6	26.2	31.2	37.2	31.1	32.8	33.0	30.4	-
N59	35.3	32.5	35.9	42.7	45.0	53.4	52.4	42.0	49.7	45.0	45.6	39.8	43.3	39.8	18.4
N68	28.5	28.1	32.3	31.6	38.2	43.4	41.7	27.1		38.3	35.4	35.9	34.6	31.8	-
N63_EB	37.0	34.8	38.5	32.1	37.3	36.4	34.0	23.6	34.1	38.6	37.6	38.6	35.2	32.4	-

Site ID	NO_2 Mean Concentrations (µg/m^3)														
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean		
													Raw Data	Bias Adjusted (0.92) and Annualised (1)	Distance Corrected to Nearest Exposure (2)
N80	20.7	23.4	23.0	21.5	19.8	19.6	24.3	19.0	21.7	24.3	25.0	22.2	22.0	20.3	-
East of Exeter - Beare, Broadclyst															
N26	21.6	22.2	24.4	21.0	17.9	20.9	19.6	17.4	20.3	22.0	22.2	25.4	21.2	19.5	-
N60	24.8	38.6	30.0	27.4	33.1	31.8	27.0	23.4	35.2	33.9	27.8	28.4	30.1	27.7	-
N61	27.8	34.3	29.0	29.8	33.2	30.5	27.0	24.9	31.2	32.5	26.1	27.1	29.4	27.1	-
N20	15.2	15.4	14.5	12.1	13.6	12.6	11.1	11.4	13.9	15.5	16.1	16.7	14.0	12.9	-
N21	9.7	10.5	9.6	8.2	8.1	7.5	7.6	6.5	0.6	7.9	10.2	11.0	8.1	7.5	-
N22	11.5	11.2	12.1	8.4	8.3	7.9	8.3	8.4	10.5	12.5	13.4	13.5	10.5	9.7	-
N76	13.5	13.9	14.0	10.4	9.9	10.5	11.1	9.9	11.8	14.5	13.6	16.2	12.4	11.4	
N77	17.1	15.8	15.8	9.7	10.8	12.2	13.3	4.9	12.2	15.5	18.9	15.6	13.5	12.4	
N78	32.1	32.3	35.1	22.3	18.3	18.2	17.1	17.9	21.8	26.4	25.4	29.1	24.7	22.7	-
Clyst St Mary, Farringdon															
N13	26.6	24.8	28.1	26.3	21.2	22.1	21.8	17.3	24.0	22.1	28.5	28.4	24.3	22.3	-
N63_LODGE	41.3	43.1	37.6	38.0	36.0	37.4	33.1	28.3	36.8	38.4	36.3	34.0	36.7	33.7	-
N64_GP	21.7	28.1	23.3	20.4	24.0	27.3	23.8	22.1	23.0	29.1	13.0	18.1	22.8	21.0	-
N65		32.2	33.1	25.5	39.3	39.7	38.7	31.1	33.7	35.7	31.8	30.1	33.7	31.0	-
N66	16.1	18.9	13.6	14.9	16.0	16.0	13.8	12.9	14.6	16.2	15.3	15.3	15.3	14.1	-
N67	10.5	11.5	10.7	8.2	9.2	10.3	9.9	8.7	9.6	12.6	11.7	10.7	10.3	9.5	-
N81	29.4	28.1	31.6	24.8	24.6	25.4	29.7	22.2	25.5	23.9		32.7	27.1	24.9	-
N82	32.7		30.8	28.3	22.0	28.2	34.7	30.6	30.0	28.6		35.6	30.2	27.7	-
N83	26.8	27.0	30.8	26.0	16.9	32.3	32.4	23.2	25.7	28.2	29.8	28.9	27.3	25.1	-
Axminster															

Site ID	NO_2 Mean Concentrations (µg/m^3)														
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean		
													Raw Data	Bias Adjusted (0.92) and Annualised (1)	Distance Corrected to Nearest Exposure (2)
N11	34.7	33.5	38.3	37.7	38.6	35.7	38.7	31.8	35.7	0.0	37.4	33.9	33.0	30.4	-
N56	36.3	37.8	37.0	31.6	36.6	35.7	36.9	30.9	35.7	32.9	34.7	32.3	34.9	32.1	-
N57	24.9	29.4	27.7	23.8	22.0	21.3	25.0	22.6	26.8	23.5	32.6	26.4	25.5	23.5	-
N58	31.8	37.0	34.1	31.4	36.1	34.9	37.1	31.9	37.7	32.0	25.9	36.1	33.8	31.1	-
N64_AX	8.6	30.8	29.4	27.1	31.2	30.3	26.1	20.4	24.9	26.9	28.7	24.3	25.7	23.7	-
Seaton / Ottery															
N10	31.3	30.4	30.3	25.1	25.1	24.8	25.2	20.4	18.1	15.6	23.0	28.8	24.8	22.9	-
N14	15.8	19.8	19.3	14.1	14.5	14.6	14.5	11.7	16.0	13.0	15.5	17.3	15.5	14.3	-
Honiton- CENTRAL & EAST															
N09	0.0	39.4	36.7	32.8	30.4	27.8	0.0	32.0	36.3	30.6	31.0	34.9	27.7	25.4	-
N36	30.0	37.7	34.8	34.0	31.8	27.0	35.5	32.2	29.2	35.6	32.4	35.2	32.9	30.3	-
N37	41.3	53.1	39.3	40.9	0.0	42.4	39.7	38.7	46.3	43.7	37.3	37.7	38.4	35.3	-
N44	33.5	35.4	32.1	29.3	32.8	28.8	28.4	24.6	28.2	0.0	31.8	32.5	28.1	25.9	-
N45	38.8	44.6	36.9	33.9	43.0	35.4	36.1	28.5	33.7	42.7	39.8	39.7	37.8	34.7	-
N46	48.6	47.0	46.7	41.0	51.3	45.0	48.3	45.2	45.9	42.7	47.9	47.9	46.4	**42.7**	20.7
Honiton – WEST - Turks Head															
N24	34.2	35.3	38.1	31.9	35.8	32.0	30.4	16.3	32.5	33.8	40.4	38.3	33.2	30.6	-
N25	43.1	37.1	37.6	31.3	39.2	34.4	36.5	29.1	32.6	33.1	23.3	36.4	34.5	31.7	-
N27	22.1	23.5	23.1	18.4	17.0	15.3	19.8	16.5	20.4	22.4	20.7	23.1	20.2	18.6	-
N29	23.6	25.2	23.1	17.6	21.4	19.4	20.5	25.9	20.5	24.9	32.3	23.4	23.2	21.3	-
DEFRA AURN SITE															
N62a	12.1	15.2	12.8	9.2	8.1	6.6	8.3	7.9	9.2	11.9	11.4	10.0	10.2	9.4	-

Site ID	NO_2 Mean Concentrations (µg/m^3)														
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean		
													Raw Data	Bias Adjusted (0.92) and Annualised (1)	Distance Corrected to Nearest Exposure (2)
N62b	11.5	14.8	12.2	9.1	7.8	7.8	8.8	7.1	8.3	12.2	11.8	10.9	10.2	9.4	-
N62c	12.3	13.0	11.5	9.6	7.4	7.6	8.3	8.2	9.3	11.1	11.5	11.5	10.1	9.3	-
Wilmington															
N71	43.9	42.3	45.0	42.4	47.8	45.1	49.3	45.0	45.2	42.9	39.4	45.8	44.5	**40.9**	38.8

☐ **Local bias adjustment factor used**

☒ **National bias adjustment factor used**

☒ **Annualisation has been conducted where data capture is <75%**

☒ **Where applicable, data has been distance corrected for relevant exposure**

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.**

(1) Bias adjustment factor has been provided by EDDC.

(2) Distance corrected to nearest relevant public exposure.

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

All automatic monitoring sites, are calibrated by the Council's Local Site Operator (LSO). The QA/QC of the site is undertaken through its status as part of the AURN and therefore conforms to AURN standards (undertaken by Ricardo-Energy and Environment).

QA/QC of diffusion tube monitoring

Gradko International Ltd is a UKAS accredited laboratory and participates in laboratory performance and proficiency testing schemes. These provide strict performance criteria for participating laboratories to meet, thereby ensuring NO_2 concentrations reported are of a high calibre. The laboratory follows the procedures set out in the Harmonisation Practical Guidance and participates in the AIR proficiency-testing (AIR-PT) scheme. Defra and the Devolved Administrations advise that diffusion tubes used for LAQM should be obtained from laboratories that have demonstrated satisfactory performance in the AIR-PT scheme. Laboratory performance in the AIR-PT is also assessed by the National Physical Laboratory (NPL), alongside laboratory data from the monthly NPL Field Inter-Comparison Exercise.

In the 2018 AIR-PT results, AIR-PT AR024 (January to February 2018), AIR-PT AR025 (April to May 2018), AR027 (July to August 2018) and AR028 (September to October 2018), Gradko scored 100% for all periods. The percentage score reflects the results deemed to be satisfactory based upon the z-score of $< \pm 2$.

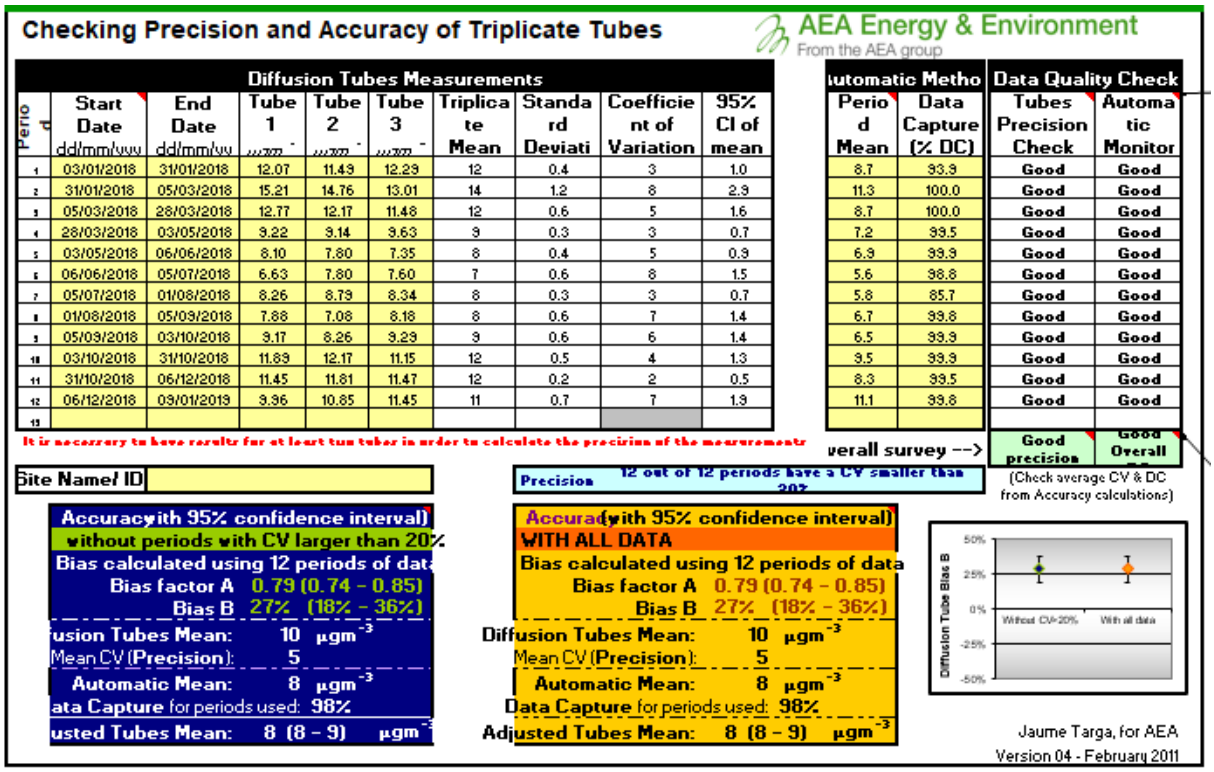
Diffusion Tube Bias Adjustment

The bias adjustment factor for Gradko in 2018, obtained from the national bias adjustment spreadsheet (v06/19) is 0.92.

Bias adjustment factor is also available from the co-location study at the automatic monitoring site located on Dove Close within Honiton as shown in Figure C.1.

The national bias adjustment factors (0.92) has been used to adjust the data accordingly as it was deemed the national factor offers a more conservative estimate when compared to the local adjustment factor (0.79) calculated.

Figure C.1 – Dove Close Local Bias Adjustment 2018



Checking Precision and Accuracy of Triplicate Tubes

AEA Energy & Environment
From the AEA group

Diffusion Tubes Measurements

Period	Start Date dd/mm/yyyy	End Date dd/mm/yy	Tube 1 µg/m³	Tube 2 µg/m³	Tube 3 µg/m³	Triplicate Mean	Standard Deviation	Coefficient of Variation	95% CI of mean
1	03/01/2018	31/01/2018	12.07	11.49	12.29	12	0.4	3	1.0
2	31/01/2018	05/03/2018	15.21	14.76	13.01	14	1.2	8	2.9
3	05/03/2018	28/03/2018	12.77	12.17	11.48	12	0.6	5	1.6
4	28/03/2018	03/05/2018	9.22	9.14	9.63	9	0.3	3	0.7
5	03/05/2018	06/06/2018	8.10	7.80	7.35	8	0.4	5	0.9
6	06/06/2018	05/07/2018	6.63	7.80	7.60	7	0.6	8	1.5
7	05/07/2018	01/08/2018	8.26	8.79	8.34	8	0.3	3	0.7
8	01/08/2018	05/09/2018	7.88	7.08	8.18	8	0.6	7	1.4
9	05/09/2018	03/10/2018	9.17	8.26	9.29	9	0.6	6	1.4
10	03/10/2018	31/10/2018	11.89	12.17	11.15	12	0.5	4	1.3
11	31/10/2018	06/12/2018	11.45	11.81	11.47	12	0.2	2	0.5
12	06/12/2018	03/01/2019	9.36	10.85	11.45	11	0.7	7	1.9
13									

Automatic Metho Period	Automatic Metho Data Capture (% DC)	Data Quality Check Tubes Precision Check	Data Quality Check Automatic Monitor
Mean			
8.7	93.9	Good	Good
11.3	100.0	Good	Good
8.7	100.0	Good	Good
7.2	99.5	Good	Good
6.9	99.9	Good	Good
5.6	98.8	Good	Good
5.8	85.7	Good	Good
6.7	99.8	Good	Good
6.5	99.9	Good	Good
9.5	99.9	Good	Good
8.3	99.5	Good	Good
11.1	99.8	Good	Good

It is necessary to have results for at least two tubes in order to calculate the precision of the measurements

Overall survey --> Good precision | Good Overall

Site Name/ ID

Precision: 12 out of 12 periods have a CV smaller than 20%

(Check average CV & DC from Accuracy calculations)

Accuracy with 95% confidence interval) without periods with CV larger than 20%
Bias calculated using 12 periods of data
Bias factor A 0.79 (0.74 - 0.85)
Bias B 27% (18% - 36%)
Diffusion Tubes Mean: 10 µgm⁻³
Mean CV (Precision): 5
Automatic Mean: 8 µgm⁻³
Data Capture for periods used: 98%
Adjusted Tubes Mean: 8 (8 - 9) µgm⁻³

Accuracy with 95% confidence interval) WITH ALL DATA
Bias calculated using 12 periods of data
Bias factor A 0.79 (0.74 - 0.85)
Bias B 27% (18% - 36%)
Diffusion Tubes Mean: 10 µgm⁻³
Mean CV (Precision): 5
Automatic Mean: 8 µgm⁻³
Data Capture for periods used: 98%
Adjusted Tubes Mean: 8 (8 - 9) µgm⁻³

Jaume Targa, for AEA
Version 04 - February 2011

Short to Long term data adjustment; Annualisation

In 2018 no monitoring locations fell below 75% data capture.

NO_2 Fall-off with distance from the road

Wherever possible, local authorities should ensure that monitoring locations are representative of exposure. However, where this is not possible, the NO_2 concentration at the nearest location relevant for exposure should be estimated, using the NO_2 fall-off with distance calculator available on the LAQM Support website.[7]

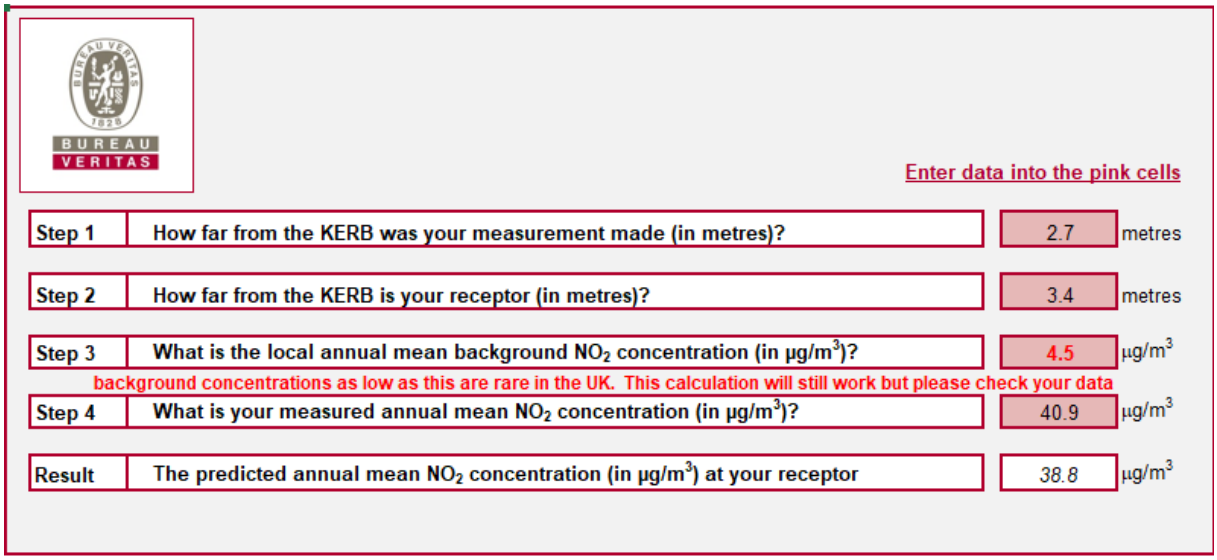
This has been done for three locations in 2018 where the monitoring site is not strictly representative of exposure, and the concentrations are greater than 36µg/m^3, to identify whether elevated monitored concentrations constitute an exceedances of the annual mean NO_2 AQS objective.

Below are excerpts from the NO_2 distance fall off tool for 2018; background concentrations are taken from the 2018 background maps, also available on the LAQM website[8].

[7] DEFRA 2018- Nitrogen Dioxide fall off with distance. https://laqm.defra.gov.uk/tools-monitoring-data/no2-falloff.html
[8] DEFRA Background Maps; https://laqm.defra.gov.uk/review-and-assessment/tools/background-maps.html

Distance Correction - 2018

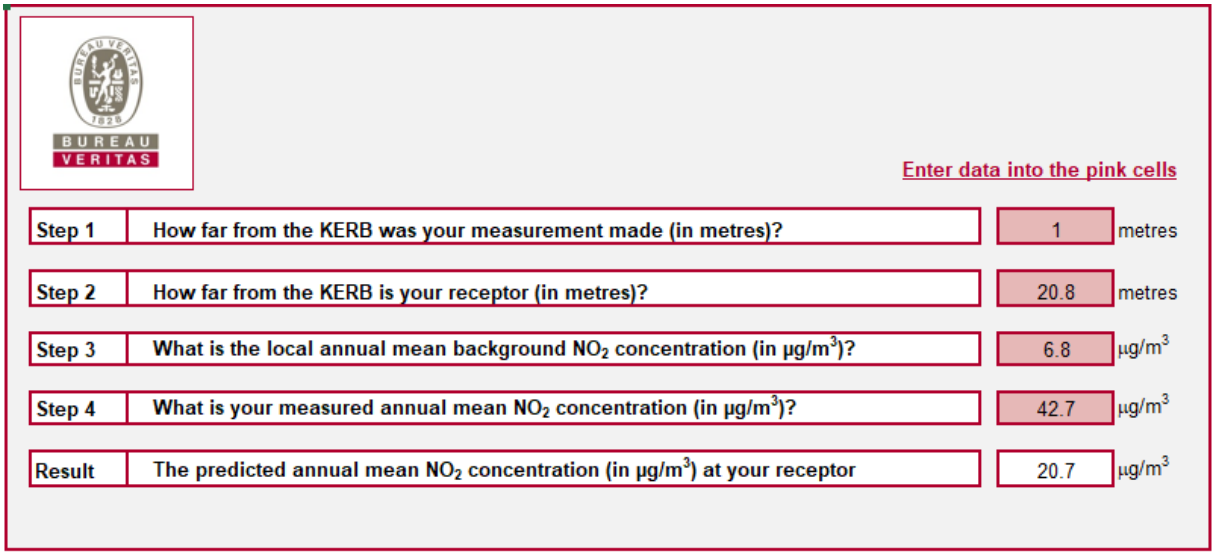
Figure C. 1- Distance Correction N71



Enter data into the pink cells

Step 1	How far from the KERB was your measurement made (in metres)?	2.7	metres
Step 2	How far from the KERB is your receptor (in metres)?	3.4	metres
Step 3	What is the local annual mean background NO_2 concentration (in µg/m^3)?	4.5	µg/m^3
	background concentrations as low as this are rare in the UK. This calculation will still work but please check your data		
Step 4	What is your measured annual mean NO_2 concentration (in µg/m^3)?	40.9	µg/m^3
Result	The predicted annual mean NO_2 concentration (in µg/m^3) at your receptor	38.8	µg/m^3

Figure C. 2- Distance Correction N46



Enter data into the pink cells

Step 1	How far from the KERB was your measurement made (in metres)?	1	metres
Step 2	How far from the KERB is your receptor (in metres)?	20.8	metres
Step 3	What is the local annual mean background NO_2 concentration (in µg/m^3)?	6.8	µg/m^3
Step 4	What is your measured annual mean NO_2 concentration (in µg/m^3)?	42.7	µg/m^3
Result	The predicted annual mean NO_2 concentration (in µg/m^3) at your receptor	20.7	µg/m^3

Figure C. 3- Distance Correction N59

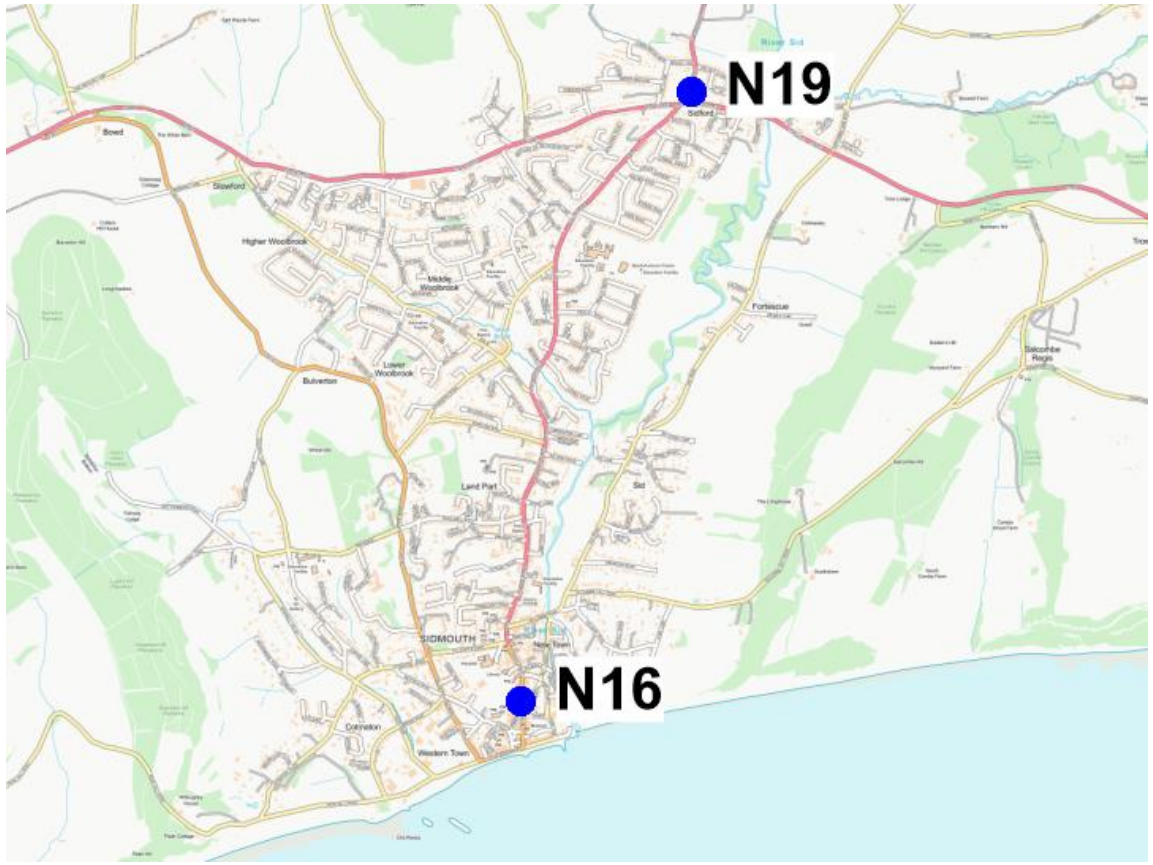
Enter data into the pink cells

Step 1	How far from the KERB was your measurement made (in metres)?	1.2	metres
Step 2	How far from the KERB is your receptor (in metres)?	27.2	metres
Step 3	What is the local annual mean background NO_2 concentration (in µg/m^3)?	7.1	µg/m^3
Step 4	What is your measured annual mean NO_2 concentration (in µg/m^3)?	39.8	µg/m^3
Result	The predicted annual mean NO_2 concentration (in µg/m^3) at your receptor	18.4	µg/m^3

Warning: your receptor is more than 20m further from the kerb than your monitor, treat result with caution

Appendix D: Map(s) of Monitoring Locations and AQMAs

Figure D.1 - Map of Passive Monitoring Site: Sidmouth and Newton Poppleford



Legend

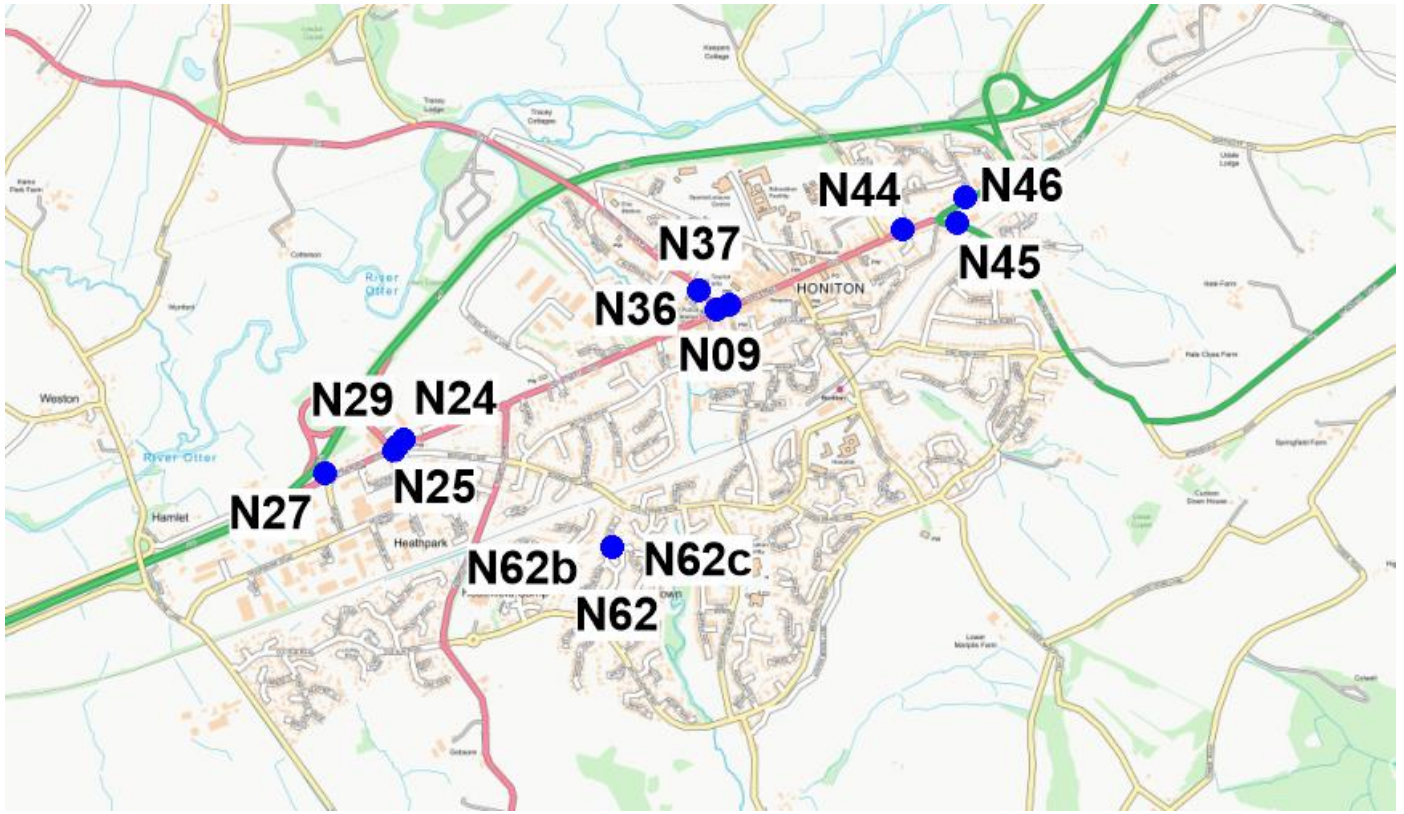
Monitoring Location

Contains Ordnance Survey Data Crown Copyright and Database Right [2019]

Air Quality
Bureau Veritas
5th Floor
66 Prescot Street
London, E1 8HG

Location	Sidmouth and Newton Poppleford
Title	Map of Passive Monitoring Site: Sidmouth and Newton Poppleford
By JD	**Approved** HS
Scale N/A	**Job Ref** 6481216
Date 19/09/2019	**Figure No.** D.1

Figure D.2 – Map of Passive Monitoring Site: Honiton



Legend

Monitoring Location

Air Quality
Bureau Veritas
5th Floor
66 Prescot Street
London, E1 8HG

Location	
Honiton & Wilmington	
Title	
Map of Passive Monitoring Site: Honiton	
By	**Approved**
JD	HS
Scale	**Job Ref**
N/A	6481216
Date	**Figure No.**
19/09/2019	D.2

Figure D.3 – Map of Passive Monitoring Site: Seaton

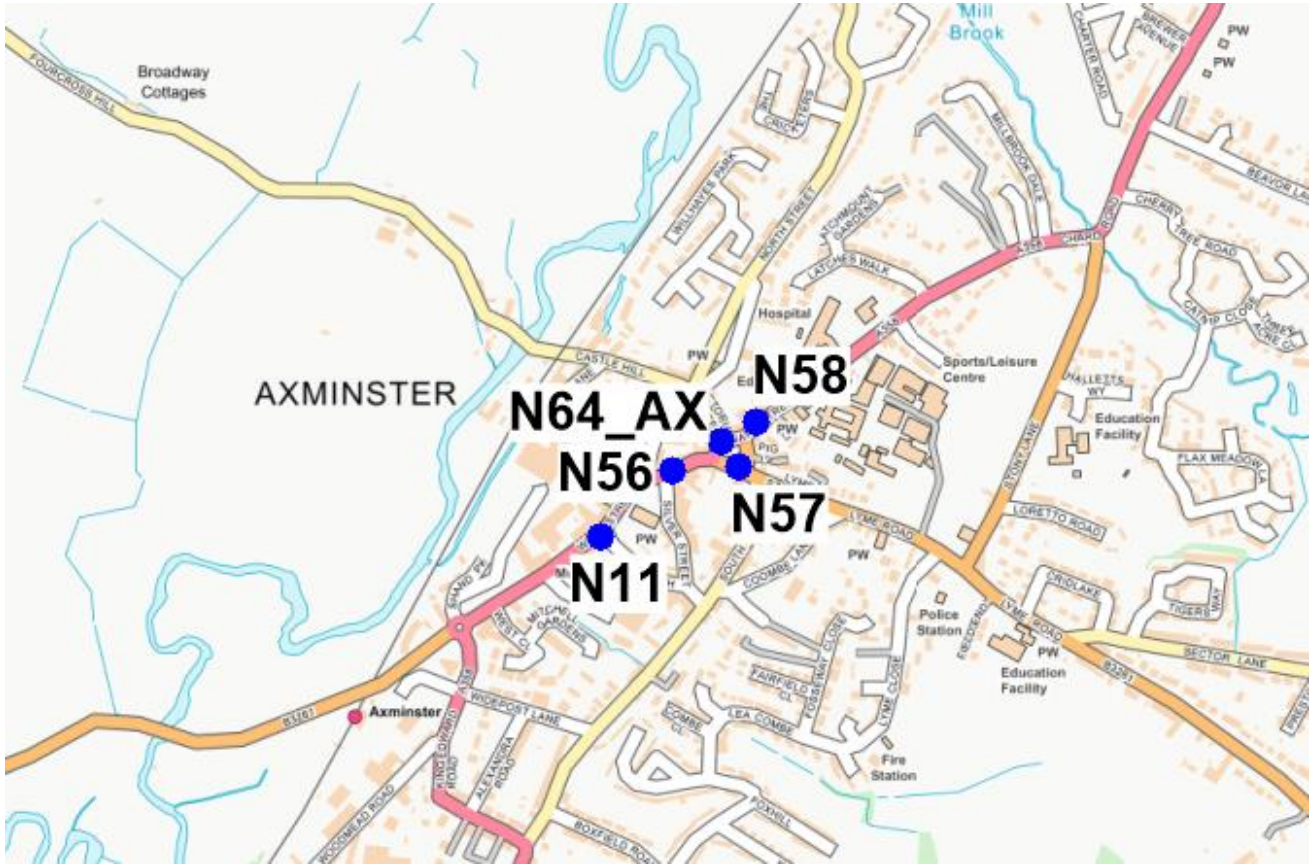
Legend

Monitoring Location

Contains Ordnance Survey Data Crown Copyright and Database Right [2019]

	Air Quality **Bureau Veritas** **5th Floor** **66 Prescot Street** **London, E1 8HG**
Location **Seaton**	
Title **Map of Passive Monitoring Site: Seaton**	
By JD	**Approved** HS
Scale N/A	**Job Ref** 6481216
Date 19/09/2019	**Figure No.** D.3

Figure D.4 – Map of Passive Monitoring Site: Axminster

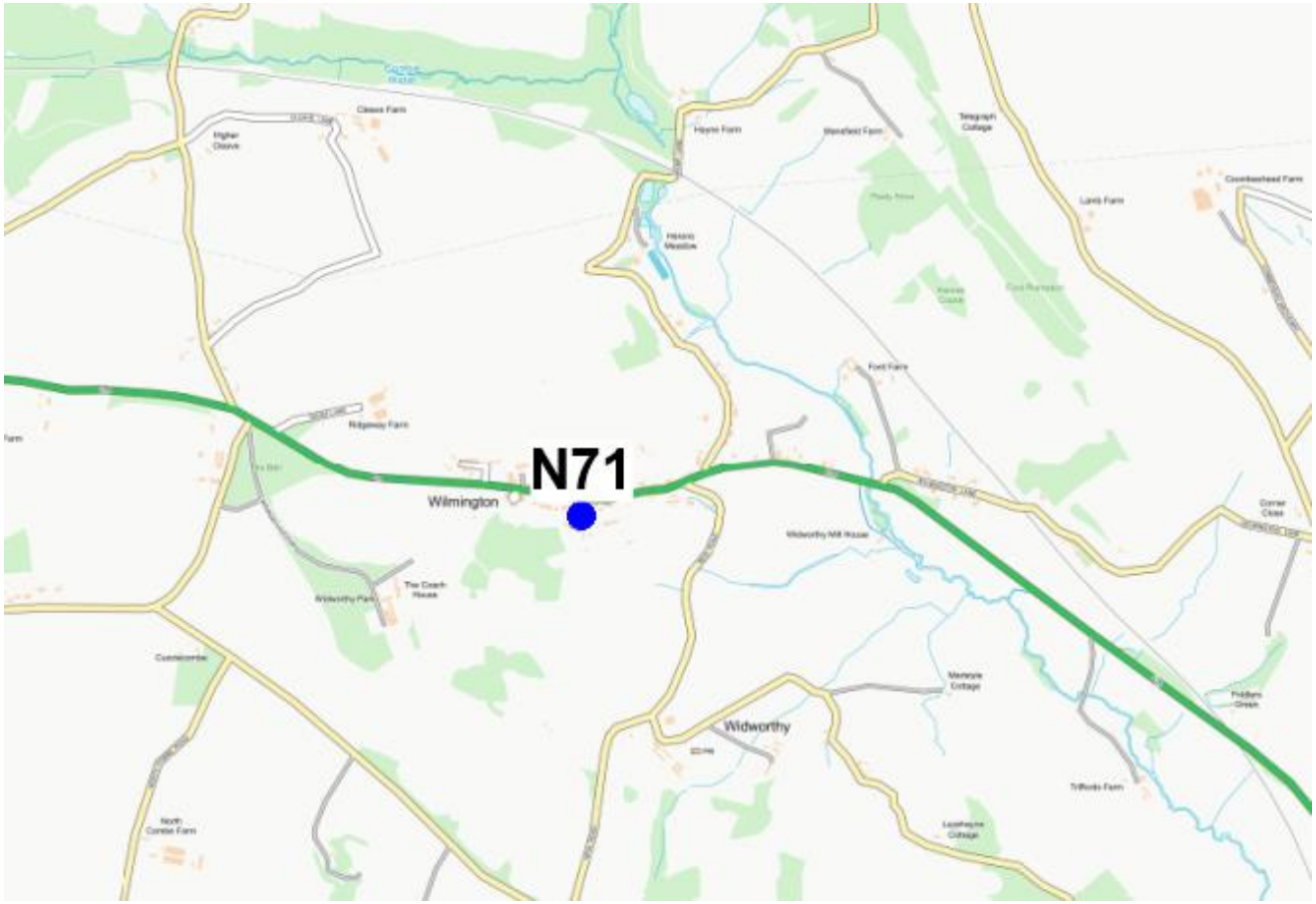


Legend

Monitoring Location

Air Quality **Bureau Veritas** **5th Floor** **66 Prescot Street** **London, E1 8HG**	
Location **Map of Passive Monitoring Site: Axminster**	
Title **Axminster**	
By JD	**Approved** HS
Scale N/A	**Job Ref** 6481216
Date 19/09/2019	**Figure No.** D.4

Figure D.5 – Map of Passive Monitoring Site: Wilmington

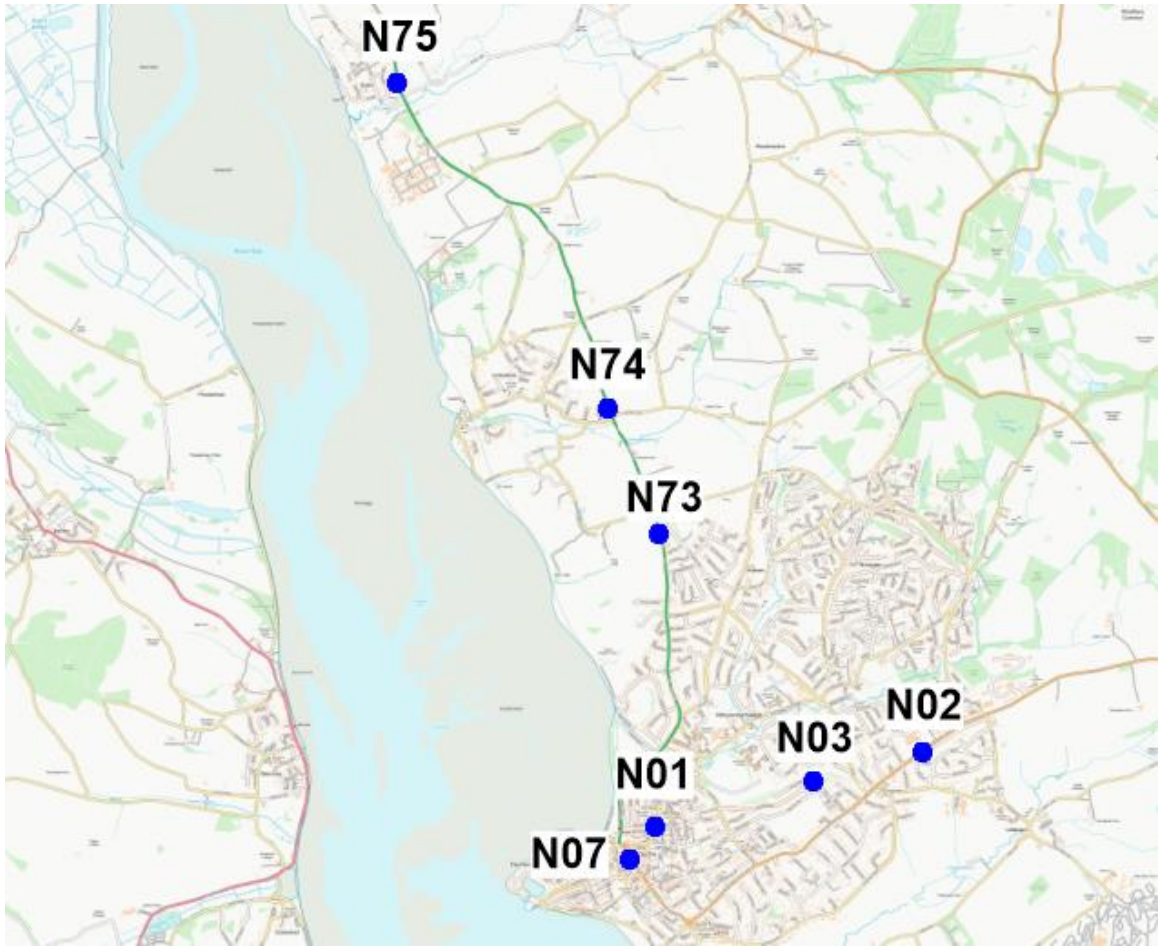


Legend

Monitoring Location

	Air Quality **Bureau Veritas** **5th Floor** **66 Prescot Street** **London, E1 8HG**
Location **Wilmington**	
Title **Map of Passive Monitoring Site: Wilmington**	
By JD	**Approved** HS
Scale N/A	**Job Ref** 6481216
Date 19/09/2019	**Figure No.** D.5

Figure D.6 – Map of Passive Monitoring Site: Exmouth, Exton and Lympstone



Legend

Monitoring Location

Contains Ordnance Survey Data
Crown Copyright and Database Right [2019]

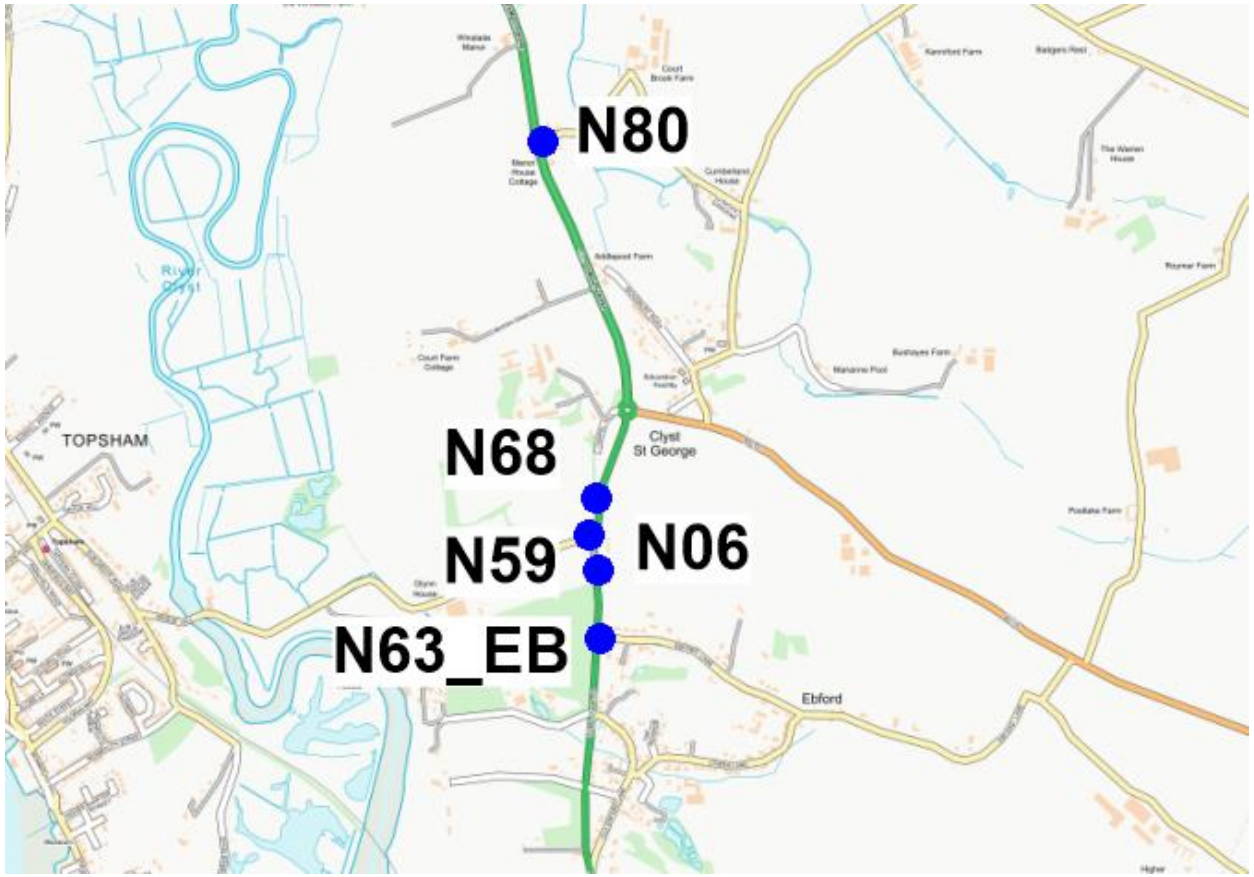
Air Quality
Bureau Veritas
5th Floor
66 Prescot Street
London, E1 8HG

Location
Map of Passive Monitoring Site: Exmouth, Exton and Lympstone

Title
Monitoring sites in Exmouth, Exton and Lympstone

By	**Approved**
JD	HS
Scale	**Job Ref**
N/A	6481216
Date	**Figure No.**
19/09/2019	D.6

Figure D.7 – Map of Passive Monitoring Site: Clyst St George



Legend

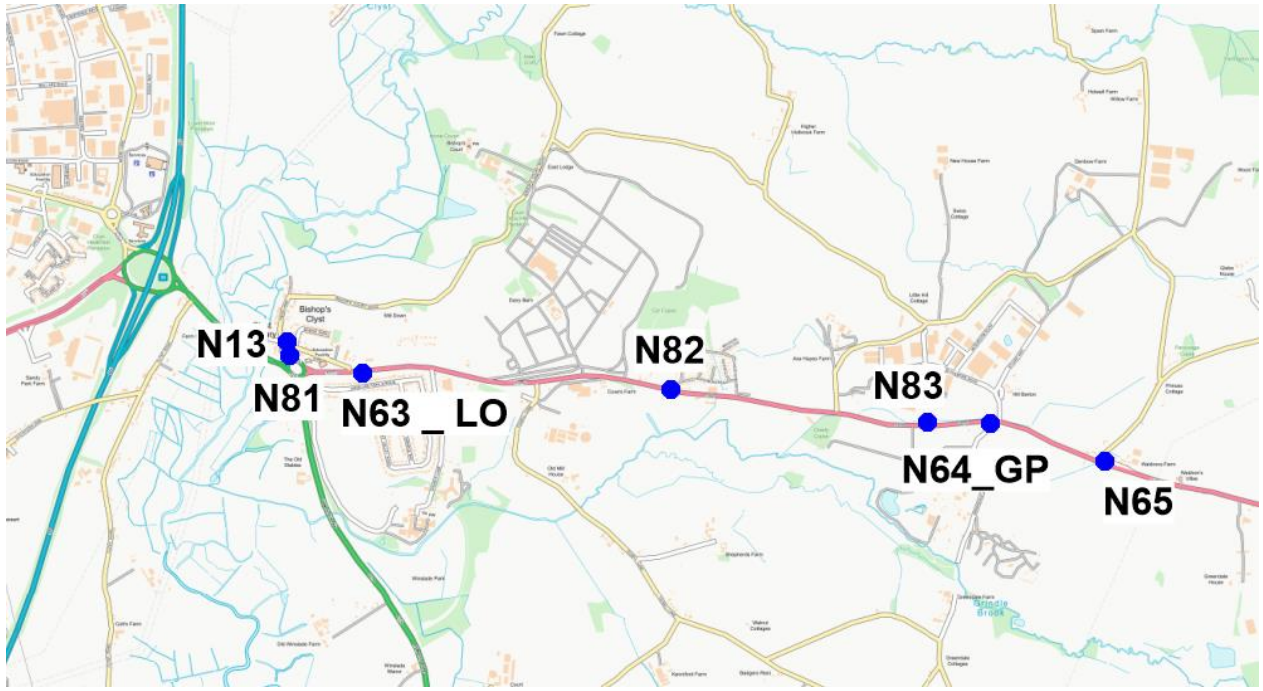
Monitoring Location

Contains Ordnance Survey Data Crown Copyright and Database Right [2019]

Air Quality
Bureau Veritas
5th Floor
66 Prescot Street
London, E1 8HG

Location	**Clyst St George**
Title	**Map of Passive Monitoring Site: Clyst St George**
By	JD
Approved	HS
Scale	N/A
Job Ref	6481216
Date	19/09/2019
Figure No.	D.7

Figure D.8 – Map of Passive Monitoring Site: Clyst St Mary

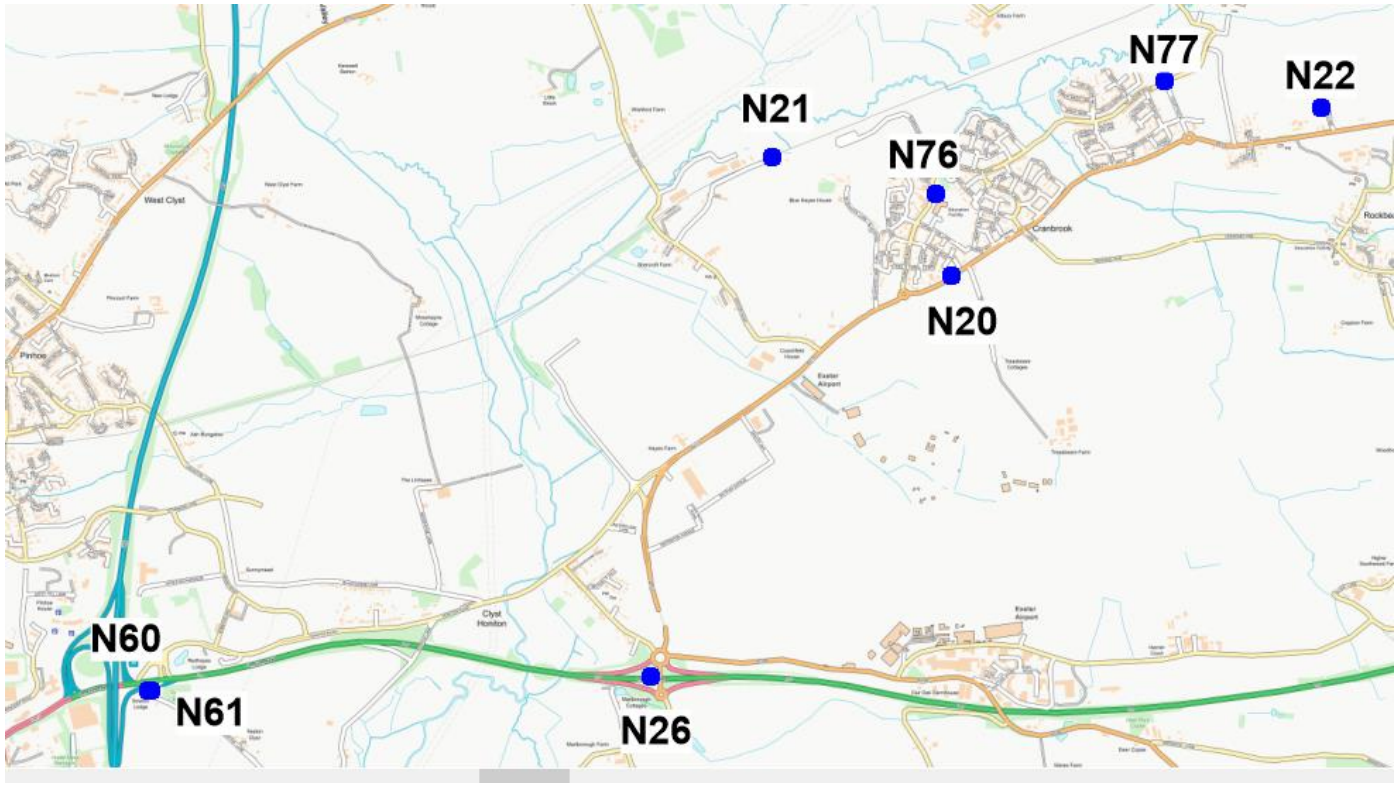


Legend

Monitoring Location

	Air Quality **Bureau Veritas** **5th Floor** **66 Prescot Street** **London, E1 8HG**
Location **Clyst St Mary**	
Title **Map of Passive Monitoring Site: Clyst St Mary**	
By JD	**Approved** HS
Scale N/A	**Job Ref** 6481216
Date 19/09/2019	**Figure No.** D.8

Figure D.9 – Map of Passive Monitoring Site: East of Exeter and Surrounding Areas



Legend

Monitoring Location

Contains Ordnance Survey Data Crown Copyright and Database Right [2019]

	Air Quality **Bureau Veritas** **5th Floor** **66 Prescot Street** **London, E1 8HG**
Location **East of Exeter - Beare, Broadclyst, Clyst Honiton, Cranbrook, Exeter Airport, Hele, Rockbeare, Sowton**	
Title **Map of Passive Monitoring Site: East of Exeter and Surrounding Areas**	
By JD	**Approved** HS
Scale N/A	**Job Ref** 6481216
Date 19/09/2019	**Figure No.** D.9

Appendix E: Summary of Air Quality Objectives in England

Table E.1 – Air Quality Objectives in England

Pollutant	Air Quality Objective[9]	
	Concentration	Measured as
Nitrogen Dioxide (NO_2)	200 µg/m^3 not to be exceeded more than 18 times a year	1-hour mean
	40 µg/m^3	Annual mean
Particulate Matter (PM_{10})	50 µg/m^3, not to be exceeded more than 35 times a year	24-hour mean
	40 µg/m^3	Annual mean
Sulphur Dioxide (SO_2)	350 µg/m^3, not to be exceeded more than 24 times a year	1-hour mean
	125 µg/m^3, not to be exceeded more than 3 times a year	24-hour mean
	266 µg/m^3, not to be exceeded more than 35 times a year	15-minute mean

[9] The units are in micrograms of pollutant per cubic metre of air (µg/m^3).

Glossary of Terms

Abbreviation	Description
AQAP	Air Quality Action Plan - A detailed description of measures, outcomes, achievement dates and implementation methods, showing how the local authority 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
ASR	Air quality Annual Status Report
Defra	Department for Environment, Food and Rural Affairs
DMRB	Design Manual for Roads and Bridges – Air quality screening tool produced by Highways England
EU	European Union
FDMS	Filter Dynamics Measurement System
LAQM	Local Air Quality Management
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