Air Quality CONSULTANTS

2013 Air Quality Progress Report:
Lichfield District Council

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Experts in air quality management & assessment

Document Control

Client	Lichfield District Council	**Principal Contact**	Neil Wait

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Report Prepared By:	Flo Kirk-Lloyd and Dr Clare Beattie

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Air Quality Consultants Ltd
23 Coldharbour Road, Bristol BS6 7JT Tel: 0117 974 1086
12 Airedale Road, London SW12 8SF Tel: 0208 673 4313
aqc@aqconsultants.co.uk

Registered Office: 12 St Oswalds Road, Bristol, BS6 7HT
Companies House Registration No: 2814570

Executive Summary

This report fulfils the requirements of the Local Air Quality Management process as set out in Part IV of the Environment Act (1995), the Air Quality Strategy for England, Scotland, Wales and Northern Ireland 2007 and the relevant Policy and Technical Guidance documents. It is a Progress Report within Lichfield District Council's fifth round of Review and Assessment. Results from monitoring carried out by the Council are presented and sources of air pollution are identified.

Results from monitoring in the district have been examined. Concentrations of nitrogen dioxide above the annual mean objective have been measured at one diffusion tube location in Fradley. Lichfield District Council will proceed to a Detailed Assessment for this area.

A relevant change to an existing industrial source to include biomass burning has been identified. An air quality assessment carried out as part of the planning process concluded that there would be no exceedences of air quality objectives as a result of this change and, as such, no Detailed Assessment is required. Planning permission and permits have been granted for a crematorium in Fradley. A chimney height calculation submitted with the application stated that the chimney is sufficient to ensure the installation does not significantly impact local air quality and therefore no Detailed Assessment is required. Plans have been released for HS2 which show the planned route across Lichfield district. The line will be electrified and therefore not a source of local emissions, however there are likely to be emissions associated with the construction of the line. The impact of these will be assessed as part of the planning process and there is no need to carry out a Detailed Assessment at this time.

There are no new or substantially altered roads or other transport sources within Lichfield district. There are also no new commercial and domestic sources or sources of fugitive emissions.

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1 Introduction

1.1. Description of Local Authority Area

Lichfield District Council (LDC) is situated in the north of the West Midlands, close to some highly industrialised parts of the UK. To the south west lies Walsall and then Birmingham. LDC is only moderately industrialized, but there are a number of major roads in the region, including the M6 Toll, A38 and A5. Consequently, road traffic is the main source of air pollution in the area. Burntwood and Lichfield are the two largest urban areas in the District.

1.2. Purpose of Report

This report fulfils the requirements of the Local Air Quality Management process as set out in Part IV of the Environment Act (1995), the Air Quality Strategy for England, Scotland, Wales and Northern Ireland 2007 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 exceedences are considered likely, the local authority must then 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.

Progress Reports are required in the intervening years between the three-yearly Updating and Screening Assessment reports. Their purpose is to maintain continuity in the Local Air Quality Management process.

They are not intended to be as detailed as Updating and Screening Assessment Reports, or to require as much effort. However, if the Progress Report identifies the risk of exceedence of an Air Quality Objective, the Local Authority (LA) should undertake a Detailed Assessment immediately, and not wait until the next round of Review and Assessment.

1.3. Air Quality Objectives

The air quality objectives applicable to LAQM in England are set out in the Air Quality (England) Regulations 2000 (SI 928), The Air Quality (England) (Amendment) Regulations 2002 (SI 3043), and are shown in Table 1.1. This table shows the objectives in units of micrograms per cubic metre $\mu g/m^3$ (milligrams per cubic metre, mg/m^3 for carbon monoxide) with the number of exceedences in each year that are permitted (where applicable).

Table 1.1: Air Quality Objectives included in Regulations for the purpose of LAQM in England

Pollutant	Air Quality Objective		Date to be achieved by
	Concentration	Measured as	
Benzene	16.25 $\mu g/m^3$	Running annual mean	31.12.2003
	5.00 $\mu g/m^3$	Running annual mean	31.12.2010
1,3-Butadiene	2.25 $\mu g/m^3$	Running annual mean	31.12.2003
Carbon monoxide	10.0 mg/m^3	Running 8-hour mean	31.12.2003
Lead	0.5 $\mu g/m^3$	Annual mean	31.12.2004
	0.25 $\mu g/m^3$	Annual mean	31.12.2008
Nitrogen dioxide	200 $\mu g/m^3$ not to be exceeded more than 18 times a year	1-hour mean	31.12.2005
	40 $\mu g/m^3$	Annual mean	31.12.2005
Particles (PM_{10}) (gravimetric)	50 $\mu g/m^3$, not to be exceeded more than 35 times a year	24-hour mean	31.12.2004
	40 $\mu g/m^3$	Annual mean	31.12.2004
Sulphur dioxide	350 $\mu g/m^3$, not to be exceeded more than 24 times a year	1-hour mean	31.12.2004
	125 $\mu g/m^3$, not to be exceeded more than 3 times a year	24-hour mean	31.12.2004
	266 $\mu g/m^3$, not to be exceeded more than 35 times a year	15-minute mean	31.12.2005

1.4. Summary of Previous Review and Assessments

LDC completed the first Updating and Screening Assessment in 2003 (Faber Maunsell, 2003) and concluded that a Detailed Assessment was required for nitrogen dioxide (NO_2), due to the likelihood of exceedences of the objectives at locations near to the A5 and A38.

The Detailed Assessment (Casella Stranger, 2004) predicted that the annual mean NO_2 objective was likely to be exceeded at several properties near to the A5 and at one residence alongside the A38. However, model verification and hence the conclusions of the study were based on a short period of continuous monitoring data in the identified areas, prior to the opening of the M6 Toll road. It was recommended that further monitoring should be carried out before making a decision on whether to declare any AQMAs.

Following the collection of further monitoring data another Detailed Assessment (Casella Stranger, 2005) was produced. This assessment predicted exceedences of the annual mean

NO_2 objective at the ground floor of the Muckley Corner Hotel, but future projections indicated that the objective would be met by 2010. As a result it was concluded that LDC should not declare an AQMA for NO_2. However, it was decided that further diffusion tube monitoring should be carried out in the area.

In 2006 the Council entered the Third Round of Review and Assessment and produced the 2006 Updating and Screening Assessment (Faber Maunsell, 2006). This included the results of additional monitoring undertaken by the Council. Further exceedences of the annual mean NO_2 objective were recorded at Muckley Corner, indicating the need for a further Detailed Assessment for NO_2 in this area.

The Detailed Assessment (AEA Technology, 2007) concluded that the annual mean NO_2 objective was likely to be exceeded at several properties surrounding the Muckley Corner roundabout and that an AQMA should be declared covering this area (Figure 1.1). Modelling results for PM_{10} indicated that the air quality objectives were likely to be achieved for this pollutant and no further action was necessary.

Updated diffusion tube monitoring data presented in the 2009 Updating and Screening Assessment (Faber Maunsell, 2009) indicated that the annual mean NO_2 objective continued to be exceeded at Muckley Corner. The report also indicated the potential for exceedences at residential properties alongside the A38 at Canwell and therefore recommended a Detailed Assessment for NO_2 should be carried out.

In the Detailed Assessment (AECOM, 2010) one exceedence of the annual mean NO_2 objective was predicted at a residential receptor near to the A38 at Canwell (2 Weeford Park Cottages, $\mu g/m^3$) in 2009. The modelled results for 2010 predicted that the objective and EU Limit value would be met at all receptors. Additionally, the report highlighted that this section of the A38 would be subject to road works over the summer of 2010, which would include a 30 mph speed limit. Staffordshire County Council's plan was to introduce a number of safety measures for the A38 between Weeford Island and Bassett's Pole, including a reduced 60 mph speed limit which would be enforced by average speed cameras.

The 2010 diffusion tube dataset, reported in the 2011 Progress Report (AECOM, 2011) showed that 14 diffusion tube sites exceeded the NO_2 annual mean objective. Of these exceedences, four were shown to meet the NO_2 annual mean objective once a facade adjustment was calculated and six were within the boundary of the existing AQMA. Of the remaining exceedences, three are just outside the existing Muckley Corner AQMA. The final exceedence at Fradley on the A38 was confirmed as exceeding the annual mean objective at relevant exposure. A Detailed Assessment was not proposed at this time. However, to support future decision making, additional diffusion tube monitoring sites were set up.

The 2012 Updating and Screening Assessment (AECOM, 2012) identified possible exceedences of the annual mean nitrogen dioxide objective near to the A38 at Weeford and

Fradley. These were based on adjusted data and therefore further monitoring was proposed in these locations in order to collect further data. The results from this monitoring can then be used to ascertain the need for a Detailed Assessment.

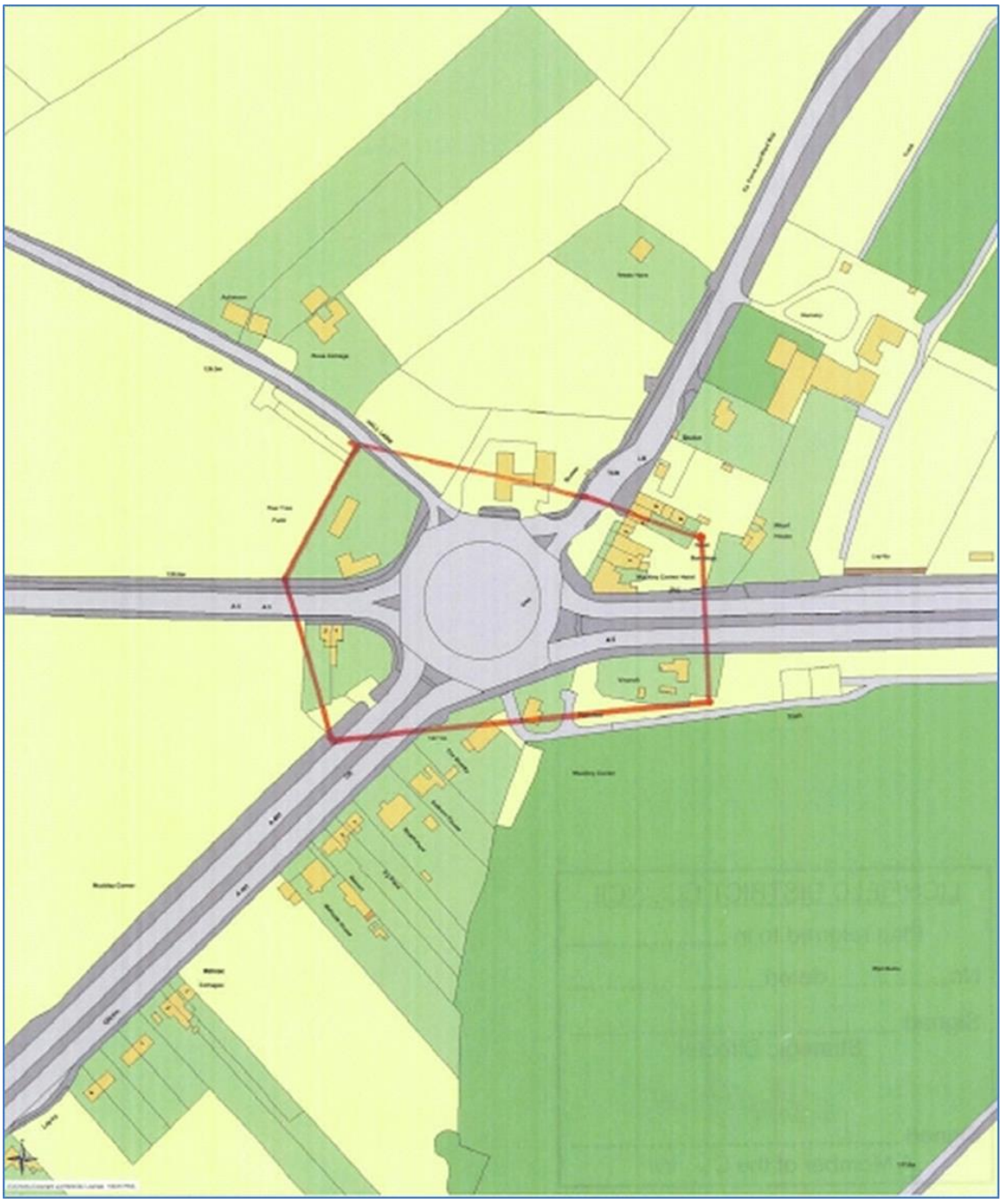

Figure 1.1: Map of Muckley Corner AQMA Boundary

2 New Monitoring Data

2.1. Summary of Monitoring Undertaken

2.1.1. Automatic Monitoring Sites

Automatic monitoring of nitrogen dioxide was not carried out by LDC in 2012.

2.1.2. Non-Automatic Monitoring Sites

LDC uses diffusion tubes at 22 locations throughout the district to monitor nitrogen dioxide concentrations. The duplicate diffusion tube monitoring site A38-4 and A38-4(1) was closed and an additional duplicate site (A38-4X/Y) at the nearest relevant location was set up in June 2012 following the recommendations in the 2012 Updating and Screening Assessment. No other changes were made to the monitoring network in 2012. The diffusion tube monitoring locations are shown in Figure 2.1 to Figure 2.6 and the details of the monitoring locations are summarized in Table 2.1.

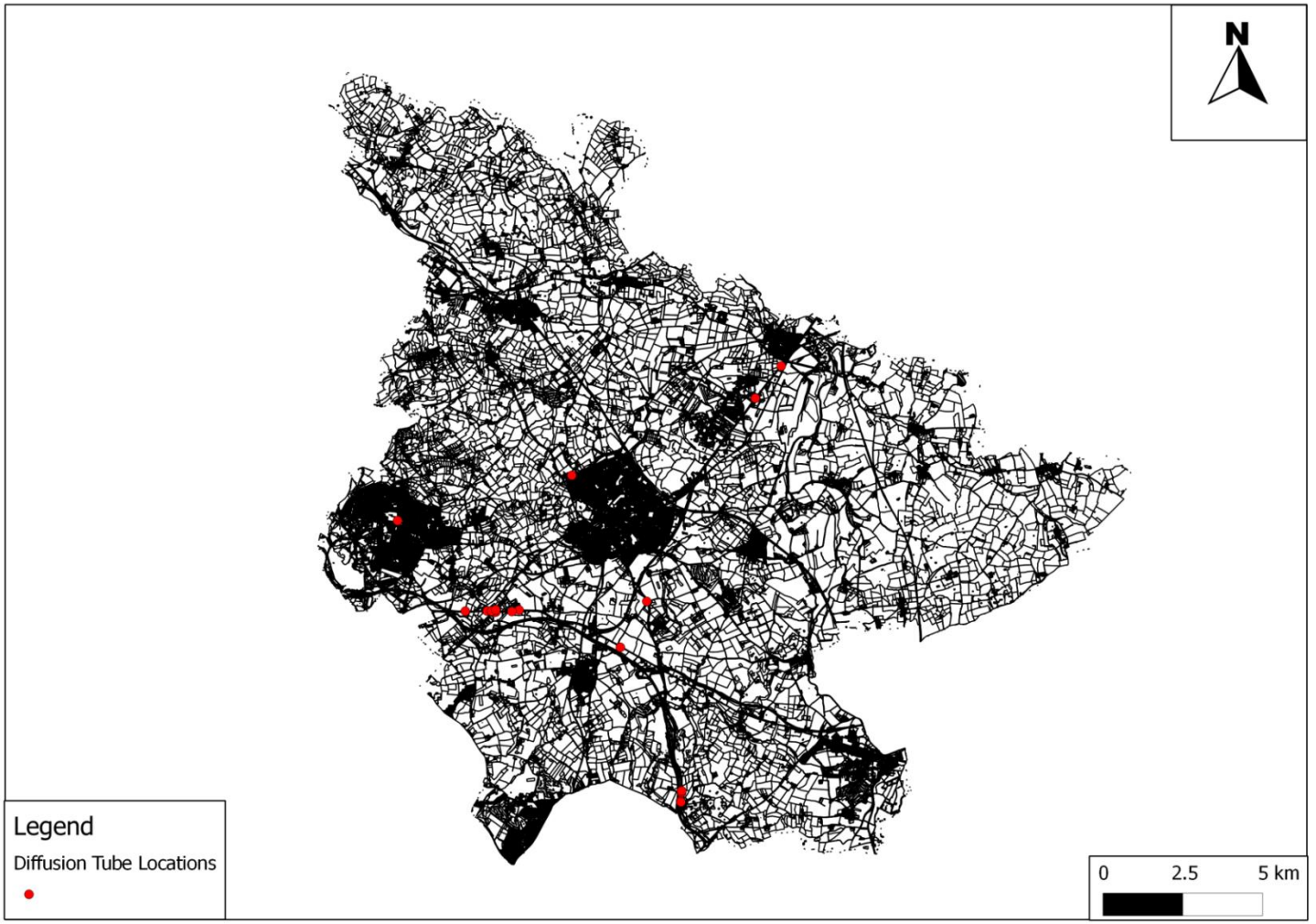

Figure 2.1: Map of Non-Automatic Monitoring Sites in Lichfield District

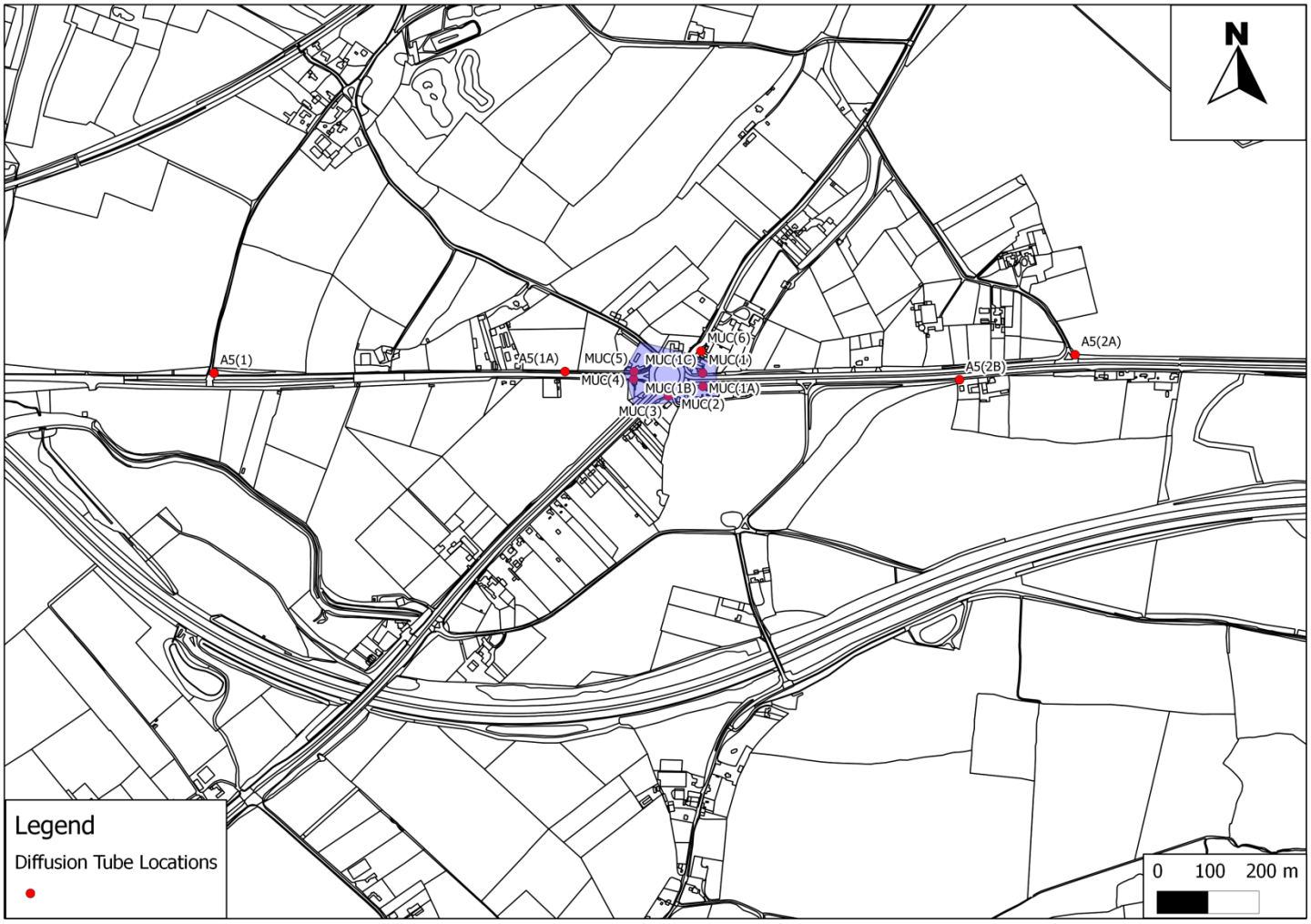

Figure 2.2: Map of Non-Automatic Monitoring Sites at Muckley Corner

Figure 2.3: Map of Non-Automatic Monitoring Sites at Fradley

Figure 2.4: Map of Non-Automatic Monitoring Sites at Canwell

Figure 2.5: Map of Non-Automatic Monitoring Sites south of Lichfield

Figure 2.6: Map of Background Non-Automatic Monitoring Sites

Table 2.1: Details of Non-Automatic Monitoring Sites

Site ID	Site Name	Site Type	X OS Grid Ref	Y OS Grid Ref	Pollutants Monitored	In AQMA?	Relevant Exposure?	Distance to kerb of nearest road	Worst-case exposure?
A38 - 1	Alrewas	Roadside	417101	314180	NO_2	N	N (9 m)[a]	1 m	Y
A38 - 2/2(1)	Fradley	Roadside	416295	313186	NO_2	N	N (10 m)	5 m	Y
A38 - 2A/B	Fradley	Roadside	416290	313175	NO_2	N	Y	6 m	Y
A38 - 3	Lichfield	Roadside	412891	306817	NO_2	N	N (6 m)	2 m	Y
A38 - 4A/B	Canwell	Roadside	413978	300834	NO_2	N	N (10 m)	6.85 m	Y
A38 - 5A/B	Canwell	Roadside	413950	300574	NO_2	N	N (35 m)	10 m	Y
A38 - 6A/B	Canwell	Roadside	413961	300539	NO_2	N	N (10 m)	25 m	Y
A38 - 4/4 (1)	Canwell	Roadside	413981	300888	NO_2	N	N (10 m)	5.65 m	Y
A38-4X/Y	Canwell	Roadside	413989	300869	NO2	N	Y	15 m	Y
A5 - 1	Muckley Corner	Roadside	407208	306513	NO_2	N	N[b]	4 m	Y
A5 - 1A	Muckley Corner	Roadside	407895	306516	NO_2	N	N (6 m)	1 m	Y
A5 - 2A	Muckley Corner	Roadside	408893	306549	NO2	N	N (12 m)	5 m	Y
A5 - 2B	Muckley Corner	Roadside	408667	306500	NO2	N	N (6 m)	2 m	Y
A5 - 3	Lichfield	Roadside	412063	305379	NO2	N	N (13 m)	10 m	Y
B	Burntwood	Urban background	405086	309344	NO_2	N	N (127 m)	N/A	Y
L	Lichfield	Urban background	410544	310760	NO_2	N	N (42 m)	N/A	Y
MUC - 1	Muckley Corner Hotel Ground Floor	Roadside	408164	306513	NO_2	Y	N[c]	5 m	Y

Site ID	Site Name	Site Type	X OS Grid Ref	Y OS Grid Ref	Pollutants Monitored	In AQMA?	Relevant Exposure?	Distance to kerb of nearest road	Worst-case exposure?
MUC - 1A/B/C	Muckley Corner Hotel First Floor	Roadside	408164	306513	NO_2	Y	Y	5 m	Y
MUC - 2	Muckley Corner A5 Westbound	Roadside	408165	306487	NO_2	Y	N (9 m)	5 m	Y
MUC - 3	Muckley Corner A461 Southbound	Roadside	408097	306468	NO_2	Y	N (10 m)	5 m	Y
MUC - 4	Muckley Corner A5 Westbound	Roadside	408029	306501	NO_2	Y	N (2 m)	4 m	Y
MUC - 5	Muckley Corner A5 Eastbound	Roadside	408030	306516	NO_2	Y	N (5 m)	2 m	Y
MUC - 6	Muckley Corner A461 Southbound	Roadside	408161	306556	NO_2	Y	N (5 m)	2 m	Y

[a] The nearest relevant exposure is over 200 m southwest of the monitoring location but is alongside the same road. This exposure is 9 metres from kerb.

[b] No relevant exposure within 200 m of tube location.

[c] Relevant exposure at first floor height.

2.2. Comparison of Monitoring Results with AQ Objectives

2.2.1. Nitrogen Dioxide

2.2.2. Automatic Monitoring Data

Automatic monitoring of nitrogen dioxide was not carried out by LDC in 2012.

2.2.3. Diffusion Tube Monitoring Data

The 2012 nitrogen dioxide diffusion tube data are summarised in Table 2.2. Results for duplicate tubes A38-4/4(1) and A38-4X/Y have been annualised as they were each operational for only 6 months. Details of the annualisation calculations and QA / QC for LDC's diffusion tube monitoring are presented in Appendix A. The full dataset (monthly mean values) is included in Appendix B. The results for 2012 are compared against previous years in Table 2.3 and Figure 2.7 and Figure 2.8 show trends over the last six years.

Table 2.2: Results of Nitrogen Dioxide Diffusion Tubes in 2012

Site ID	Site Type	Within AQMA?	Triplicate or Co-located Tube?	Data capture 2012 (Number of Months or %)	Data with less than 9 months has been annualised (Y/N)	Confirm if data has been distance corrected (Y/N)	Annual mean concentration (Bias Adjustment factor = 0.86) 2012 (µg/m^3)
A38 – 1	Roadside	N	Single	12	N/A	N[a]	**43.5**
A38 – 2/2(1)	Roadside	N	Duplicate	12	N/A	N	37.4
A38 – 2A/B	Roadside	N	Duplicate	12	N/A	N[a]	**45.0**
A38 – 3	Roadside	N	Single	12	N/A	N	33.1
A38 – 4A/B	Roadside	N	Duplicate	12	N/A	N[a]	**50.1**
A38 – 5A/B	Roadside	N	Duplicate	12	N/A	N[a]	**41.7**
A38 – 6A/B	Roadside	N	Duplicate	12	N/A	N	32.9
A38 – 4/4 (1)	Roadside	N	Duplicate	6	Y	N	**49.6**
A38 – 4X/Y	Roadside	N	Duplicate	6	Y	N	35.5
A5 - 1	Roadside	N	Single	12	N/A	N	**40.6**
A5 - 1A	Roadside	N	Single	12	N/A	N[a]	**41.1**
A5 - 2A	Roadside	N	Single	12	N/A	N	35.5
A5 - 2B	Roadside	N	Single	12	N/A	N[a]	**43.3**
A5 - 3	Roadside	N	Single	12	N/A	N	30.2
B	Urban background	N	Single	12	N/A	N	18.6
L	Urban background	N	Single	11	N/A	N	20.1
MUC - 1	Roadside	Y	Single	11	N/A	N	**48.4**
MUC - 1A/B/C	Roadside	Y	Triplicate	12	N/A	N	**48.3**

Site ID	Site Type	Within AQMA?	Triplicate or Co-located Tube?	Data capture 2012 (Number of Months or %)	Data with less than 9 months has been annualised (Y/N)	Confirm if data has been distance corrected (Y/N)	Annual mean concentration (Bias Adjustment factor = 0.86) 2012 (µg/m^3)
MUC - 2	Roadside	Y	Single	12	N/A	N	**41.9**
MUC - 3	Roadside	Y	Single	12	N/A	N	**57.2**
MUC - 4	Roadside	Y	Single	12	N/A	N	**45.1**
MUC - 5	Roadside	Y	Single	12	N/A	N	**54.8**
MUC - 6	Roadside	Y	Single	11	N/A	N	38.7
Objective							**40**

Exceedences of the NO_2 annual mean AQS objective of 40µg/m^3 are shown in **Bold**. Annual mean > 60µg/m^3, indicating a potential exceedence of the NO_2 hourly mean AQS objective, is **Underlined**.

[a] Uncorrected annual mean shown here, distance corrected concentration shown in Table 2.4.

Table 2.3: Results of Nitrogen Dioxide Diffusion Tube Monitoring (2007 to 2012)

Site ID	Site Type	Within AQMA?	Annual mean concentration (adjusted for bias) µg/m^3					
			2007 (Bias Adjustment Factor = 0.97)	2008 (Bias Adjustment Factor = 1.03)	2009 (Bias Adjustment Factor = 0.81)	2010 (Bias Adjustment Factor = 0.85)	2011 (Bias Adjustment Factor = 0.88)	2012 (Bias Adjustment Factor = 0.86)
A38 - 1	Roadside	N	**42.5**	**44.3**	35.7	**43.4**	**40.5**	**43.5**
A38 - 2/2(1)	Roadside	N	28.9	39.3	34.4	**40.4**	35.0	37.4
A38 - 2A/B	Roadside	N	N/A	N/A	N/A	N/A	**43.3**	**45.0**
A38 - 3	Roadside	N	33.4	36.5	27.8	38.8	33.7	33.1
A38 - 4A/B	Roadside	N	**53.2**	**55.8**	**40.8**	**44.5**	**42.4**	**50.1**
A38 - 5A/B	Roadside	N	N/A	N/A	N/A	**43.9**	**40.4**	**41.7**
A38 - 6A/B	Roadside	N	N/A	N/A	N/A	33.0	33.5	32.9
A38 - 4/4 (1)	Roadside	N	N/A	N/A	**47.2**	**49.9**	**49.1**	**49.6**
A38 – 4XY	Roadside	N	N/A	N/A	N/A	N/A	N/A	35.5
A5 - 1	Roadside	N	35.1	**43.5**	36.5	**44.0**	**40.2**	**40.6**
A5 - 1A	Roadside	N	38.3	**46.5**	37.8	**42.8**	**41.1**	**41.1**
A5 - 2A	Roadside	N	33.3	**42.5**	32.4	37.3	39.0	35.5
A5 - 2B	Roadside	N	**49.5**	**48.3**	**41.2**	**52.0**	**42.7**	**43.3**
A5 - 3	Roadside	N	30.4	30.4	26.0	33.6	30.6	30.2
B	Urban background	N	19.6	22.2	16.5	20.6	19.2	18.6
L	Urban background	N	17.3	19.7	17.4	20.1	17.6	20.1
MUC - 1	Roadside	Y	**46.7**	**54.1**	**42.7**	**53.1**	**42.1**	**48.4**
MUC - 1A/B/C	Roadside	Y	**50.3**	**53.7**	**42.3**	**53.4**	**45.9**	**48.3**

Site ID	Site Type	Within AQMA?	Annual mean concentration (adjusted for bias) µg/m^3					
			2007 (Bias Adjustment Factor = 0.97)	2008 (Bias Adjustment Factor = 1.03)	2009 (Bias Adjustment Factor = 0.81)	2010 (Bias Adjustment Factor = 0.85)	2011 (Bias Adjustment Factor = 0.88)	2012 (Bias Adjustment Factor = 0.86)
MUC - 2	Roadside	Y	**45.6**	**40.1**	35.9	45.9	39.1	**41.9**
MUC - 3	Roadside	Y	**58.1**	**<u>63.4</u>**	**51.0**	**<u>63.5</u>**	**54.0**	**57.2**
MUC - 4	Roadside	Y	**42.8**	**47.7**	36.0	**46.9**	**41.6**	**45.1**
MUC - 5	Roadside	Y	**50.6**	**56.4**	**50.3**	**58.9**	**55.3**	**54.8**
MUC - 6	Roadside	Y	35.1	**41.0**	34.5	39.4	39.1	38.7
Objective			**40**					

Exceedences of the NO_2 annual mean AQS objective of 40µg/m^3 are shown in **Bold**. Annual mean > 60µg/m^3, indicating a potential exceedence of the NO_2 hourly mean AQS objective, is **<u>Underlined</u>**.

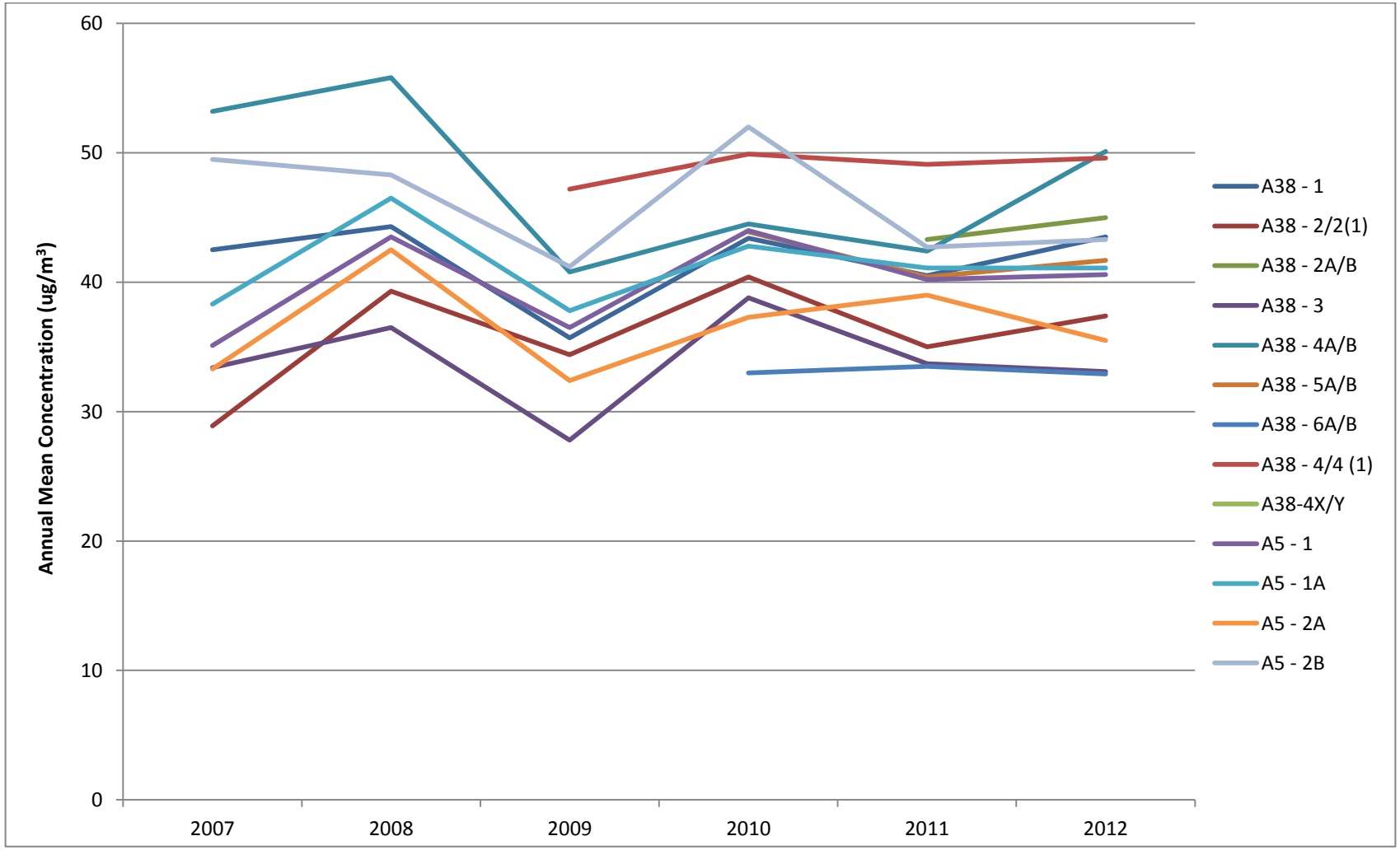

Figure 2.7: Trends in Annual Mean Nitrogen Dioxide Concentrations (2007-2012). Sites other than Muckley Corner.

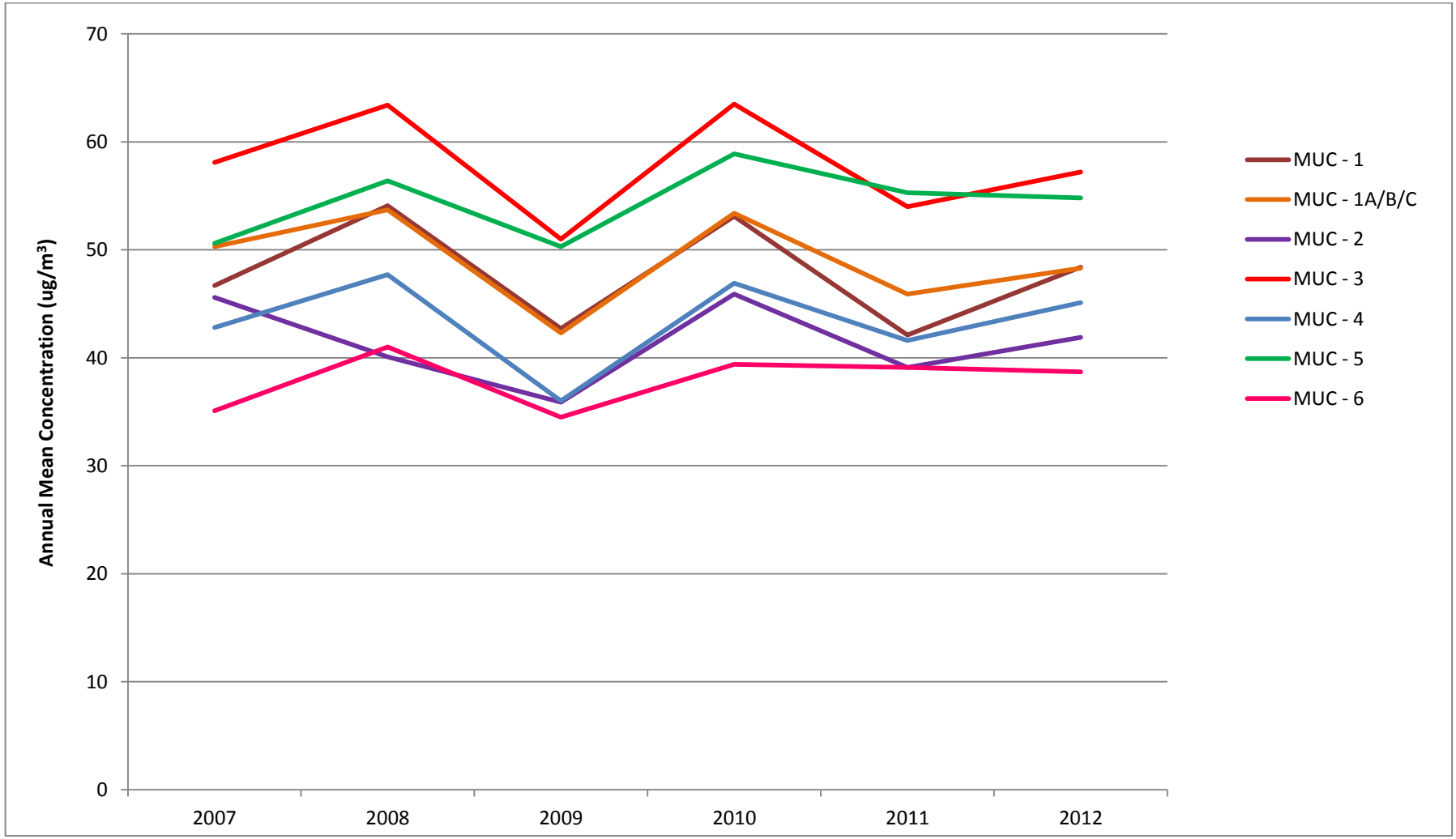

Figure 2.8: Trends in Annual Mean Nitrogen Dioxide Concentrations (2007-2012). Sites at Muckley Corner

There are no clear trends evident at any of the monitoring sites over the six year period (2007-2012). An improvement scheme at Muckley Corner was completed in April 2011, but this does not appear to have affected nitrogen dioxide concentrations.

The nitrogen dioxide concentrations measured by diffusion tubes in 2012 show that the annual mean objective was exceeded at 14 locations in 2012, eight of which are outside of the existing AQMA. Sites showing exceedences outside of the currently declared AQMA have been distance adjusted to represent concentrations at the façade of the nearest residential property, following the guidance in TG.09, with the adjusted results shown in Table 2.4. These are discussed in detail below, together with results from those sites located directly on the facades of relevant receptors (from Table 2.3).

Table 2.4: Predicted Nitrogen Dioxide Concentrations at Relevant Receptors in 2012

Site ID	Distance Between Monitor and Receptor	Background µg/m^3	Annual Mean NO_2 µg/m^3	
			At Monitor	At Nearest Relevant Receptor
A38 - 1	8 m	17.21	**43.5**	31.9
A38 – 4A/B	8.15 m	20.53	**50.1**	**42.5**
A38 – 5A/B	25 m	20.53	**41.7**	31.7
A38 – 4/4(1)	9.35 m	20.53	**49.6**	**44.5**
A5 – 1A	5 m	20.63	**41.1**	33.7
A5 – 2B	4 m	20.63	**43.3**	37.5

A38 – 1 Despite measured exceedences at the diffusion tube site, this site is 8 m closer to the road than the nearest relevant receptor. The concentration at the nearest receptor to the diffusion tube site has been calculated (see Table 2.4) and in 2012 was 31.9 µg/m^3.

A38 – 2A/B This duplicate diffusion tube site is located on the façade of a relevant receptor and has therefore not been distance adjusted. The annualised annual mean concentrations of nitrogen dioxide at this site exceeded the objective during 2011 and the 2012 results have confirmed this exceedence. It is recommended that a Detailed Assessment be carried out for this location.

A38 – 4A/B, A38 – 4/4(1) and A38 – 4X/Y Following distance adjustment (and annualisation where appropriate), 2012 concentrations at the nearest receptors to the A38 – 4A/B and A38 – 4/4(1) duplicate diffusion tube sites were estimated to be 42.5 µg/m^3 and 44.5 µg/m^3 respectively. Diffusion tube site A38-4X/Y is at the façade of the nearest relevant receptor to these monitoring sites. The annualised annual mean at this site was 35.5 µg/m^3 in 2012. There is therefore no requirement to carry out a Detailed Assessment for this location, however, it is recommended that monitoring at the façade be continued so that a full years data can be considered in the 2013 Progress Report.

A38 – 5A/B Exceedences of the annual mean objective have been measured at this diffusion tube site since monitoring began at this location in 2010. The concentration at the nearest receptor to the diffusion tube site has been calculated (see Table 2.4) and in 2012 was 31.7 µg/m^3.

A5 – 1 There is no relevant exposure within 200 m of this monitoring location.

A5 – 1A Annual mean concentrations measured at this diffusion tube site have been close to the objective for a number of years. The concentration at the nearest receptor to the diffusion tube site has been calculated (see Table 2.4), and in 2012, it was 33.7 µg/m^3.

A5 – 2B This diffusion tube site has measured consistent exceedences for a number of years. The concentration at the nearest receptor to the diffusion tube site has been calculated (see Table 2.4), and in 2012, it was 37.5 µg/m^3.

Muckley Corner All but one of the monitoring sites within the Muckley Corner AQMA exceeded the annual mean objective in 2012. The AQMA is therefore still required. Concentrations at those sites close to the AQMA were below the objective which suggests that there is no need to extend the Muckley Corner AQMA.

There are no sites measuring more than 60 µg/m^3, which would be an indication of a potential exceedence of the hourly NO_2 objective. There is therefore no requirement to investigate the hourly mean nitrogen dioxide concentration in Lichfield district.

2.2.4. PM_{10}

Monitoring of PM_{10} was not undertaken by LDC in 2012.

2.2.5. Sulphur Dioxide

No monitoring of sulphur dioxide was undertaken by LDC in 2012.

2.2.6. Benzene

No monitoring of benzene was undertaken by LDC in 2012.

2.2.7. Other pollutants monitored

No other monitoring was undertaken by LDC in 2012.

2.2.8. Summary of Compliance with AQS Objectives

Diffusion tube monitoring of nitrogen dioxide within the district has shown that there is one location outside the existing AQMA (the A38 – 2A/B diffusion tube site in Fradley) where the annual mean nitrogen dioxide objective is exceeded at a relevant location. LDC will need to carry out a Detailed

Assessment for this area to identify the extent of any exceedences. Exceedences within the existing AQMA confirm the continuing need for the Muckley Corner AQMA.

Lichfield District Council has measured concentrations of nitrogen dioxide above the annual mean objective at relevant locations outside of the AQMA, and **will need to proceed to a Detailed Assessment**, for the A38 at Fradley.

3 New Local Developments

3.1. Road Traffic Sources

LDC has not identified any new road traffic sources since the 2012 Updating and Screening Assessment.

3.2. Other Transport Sources

LDC has not identified any new locations where transport sources other than road traffic are likely to have a significant impact.

Plans for HS2 Phase 2 have been released which show the planned route through Lichfield District. Although the high speed trains will be electric and therefore not be a source of local emission, the construction of the line and other enabling works are likely to be sources of emissions. An air quality assessment will be carried out as part of the planning process.

3.3. Industrial Sources

Rugeley Power Station in Cannock Chase District, close to the boundary with Lichfield District has been granted planning permission for building works to enable biomass burning as well as coal burning. An air quality assessment (AEA, 2012) was carried out as part of the planning application which concluded that emissions will be below the relevant objectives and limit values and concentrations at worst case receptors will be below the objectives. No Detailed Assessment is therefore required as a result of this planned change to the power station.

LDC issued planning permission for a crematorium at Fradley Lane, Fradley in 2012. A part B Environmental permit was also issued for this facility in 2013. A chimney height calculation was included as part of the application which shows that the proposed chimney height will ensure sufficient dispersal of emissions from the cremator. No Detailed Assessment is required for this installation.

The 2012 Updating and Screening Assessment referred to a planning application for a poultry farm at Haunton, Staffordshire. This application was refused and therefore will not need to be considered further.

3.4. Commercial and Domestic Sources

A Detailed Assessment of the biomass boiler at Haunton, Staffordshire has been undertaken having been identified in the 2012 Updating and Screening Assessment. The Detailed Assessment concluded that no exceedences of any of the objectives are likely and therefore an Air Quality Management Area is not required.

3.5. New Development with Fugitive or Uncontrolled Sources

There have been no new developments with fugitive or uncontrolled sources in Lichfield District.

Lichfield District Council confirms that there are no new or newly identified local developments which may have an impact on air quality within the Local Authority area.

Lichfield District Council confirms that all the following have been considered:

- **Road traffic sources**
- **Other transport sources**
- **Industrial sources**
- **Commercial and domestic sources**
- **New developments with fugitive or uncontrolled sources.**

4 The Staffordshire Air Quality Forum (SAQF)

The Staffordshire Air Quality Forum is a local authority founded organisation, formed at the time of the commencement of the LAQM regime. The Forum currently comprises all Staffordshire's local planning authorities, Stoke-on-Trent City Council, the Highways Agency and Staffordshire County Council. It aims to work in partnership to reduce emissions by implementing and harmonising cost-effective measures, and sharing information regarding air quality reviews and assessments. Meetings are held at quarterly intervals to share information and resources between local authorities and the County Council.

The most recent meeting (20/3/13) included a presentation on biomass boilers and resulting discussion on uniform systems for assessing these boilers. An update was also given on HS2 and where each local authority was regarding review and assessment reporting.

5 Air Quality Planning Policies

5.1. Local Development Framework and Core Strategy

The Core Strategy is the central document of the Local Development Framework and will plan for, and manage future growth and change in Lichfield District up until 2026. The old 'Local Plan' system focused upon a set of policies against which planning applications would be assessed, determining whether or not a development would be acceptable. The Local Development Framework looks much more widely, covering issues such as climate change, housing, economic development, natural resources, the built environment, health, community safety, sustainable transport and infrastructure needs including schools, different kinds of open space and play areas, transport improvements and investment in health centres.

The Core Strategy sets out the following polices with respect to air quality:

Core Policy 3: Use of Energy & Resources

Development must contribute to the prudent use of energy and natural resources, including water and waste minimisation. To achieve this, all development will be required to:

Air Quality....

Minimise levels of pollution or contamination to air, land, soil or water, including noise and light pollution and avoid unacceptable uses within source protection zone 1 areas to safeguard water resources and ensure water quality.

Policy SC1: Renewable Energy: Biomass Energy Development

Projects and developments which utilise bio-energy will be supported by the District Council.

.....opportunities for biomass energy developments will be assessed on the following basis:

preference should be to utilise brown field sites or be co-located with other wood processing industries

located and scaled to avoid adverse off-site impacts, including any visual intrusion of plant, such as chimney or biomass storage facility;

located close to the point of demand or adjacent to existing transport corridors;

minimise pollution from noise, emissions and odours;

minimise emissions and waste products, including airborne emissions, emissions to watercourses and ash; and

minimise any adverse impacts on amenity.

Core Policy 5: Sustainable Transport

Accessibility will be improved and transport choice widened, by ensuring that all new development is well serviced by an attractive choice of transport modes, including public transport, footpaths and cycle routes to provide alternatives to the use of the private car and promote healthier lifestyles.

Development proposals will, either individually or collectively, have to make appropriate provisions for:

Air Quality....

Reducing the need to travel;

Widening travel choices and making travel by sustainable means of transport more attractive than the private car;

Improving road safety; and

Improving air quality and reducing the impact of travel upon the environment, in particular reducing carbon emissions that contribute to climate change.

Core Policy 10: Healthy & Safe Lifestyles

..... The District Council will ensure that the current high standard of air quality in the District is monitored and maintained and, where possible, improved with no decline in standards being deemed acceptable as a result of new development.

6 Local Transport Plan and Strategies

6.1. A5 Transport Liaison Group

LDC is part of the A5 Transport Liaison Group, which works to develop a strategy for the A5 route corridor, to address challenges presented by the A5 road to local authorities and planners. The A5 is a significant source of vehicle emissions within Lichfield District, in particular within the AQMA. Strategy Statement T1 states that ”long distance traffic will generally be discouraged (from using the A5) given the availability of more suitable alternatives”, whilst Strategy Statement T2 recognises the need to “reduce congestion and improve air quality in Air Quality Management Areas”. Through the Transport Liaison Group a £5 million bid for junction improvements at Muckley Corner has been submitted, which has the potential to improve air quality within the AQMA.

6.2. LTP3

The County Council has published its third Local Transport Plan (LTP) (Staffordshire County Council, 2011). This sets out the County Council's proposals for transport provision within the county, including walking, cycling, public transport, car based travel and freight, together with the management and maintenance of local roads and footways.

Alongside the Strategic Plan, the County Council has also published an Implementation Plan (Staffordshire County Council, 2011) which uses available funding to deliver the LTP objectives over the period 2011/12 to 2014/15, together with the arrangements in place for overseeing LTP delivery and ensuring that it remains on track to meet its objectives.

The key policies in the LTP with respect to air quality are detailed below.

Policy 5.1:

We will promote alternatives to private motor vehicles. This will be achieved by:

- *Investing in measures to improve conditions for pedestrians and cyclists, particularly in urban areas where a real opportunity for modal change exists.*
- *Encouraging major employers to develop travel plans as a way of managing travel to and from work in a sustainable way.*
- *Encouraging local planning authorities to secure development patterns and mixes that reduce the need to travel and enable the use of smarter travel modes.*

- *Supporting new development that includes or is located in areas with good public transport links, well-connected to walking and cycling networks and facilities, and where the demand of 'place' and 'movement' is considered together.*
- *Working with local planning authorities and developers to mitigate impacts of development in less sustainable locations but which is essential to support regeneration and economic growth.*
- *Promoting the financial and environmental benefits to businesses of adopting flexible working practices, especially in areas where traffic levels are approaching their capacity, where future development is expected, in AQMAs or where the workforce travels some distance to get to work.*
- *Ensuring transport and access is considered at an early stage in service design and delivery.*
- *Raising awareness of the financial, environmental and social benefits of taking services to communities/people.*
- *Sharing information about improving local air quality through the SAQF.*
- *Promoting the financial, environmental and health benefits of smarter travel modes to individuals, especially in areas where traffic levels are approaching their capacity, where future development is expected or in AQMAs.*
- *Promoting (and running) schemes that encourage the take up of smarter travel modes.*
- *Encouraging local planning authorities to keep their car parking strategies under review.*
- *Introducing Traffic Regulation Orders (such as clear zones, low-emission zones and no stopping/parking zones), subject to there being suitable alternative routes, especially in urban areas, AQMAs, and areas given specific environmental designation such as Special Areas of Conservation (SAC) and Areas of Outstanding Natural Beauty (AONB).*

Policy 5.2:

We will promote the use of low-emitting vehicles and vehicle efficiency. This will be achieved by:

- *Investigating measures that will encourage the adoption of low-emitting vehicles such as the installation of electric vehicle charging points in pilot areas.*
- *Encouraging individuals to purchase low-emitting vehicles and undertake eco-driver training.*
- *Investigating the possibility of giving low emitting vehicles greater road priority.*

- *Delivering the priorities and actions contained in the Staffordshire Freight Strategy (Appendix L).*
- *Encouraging businesses with a company car fleet that when replacing vehicles they consider purchasing lower emitting vehicles, put their drivers through eco-driver training and minimise their business mileage.*
- *Encouraging public transport operators that when replacing vehicles they consider purchasing lower emitting vehicles and put their drivers through eco-driver training.*
- *Lobbying Government, Network Rail and train operating companies to electrify more of the county's rail lines.*
- *Creating Freight Quality Partnerships where partners are willing and benefits are identifiable.*

Policy 5.3:

We will lead by example and reduce our own road transport emissions. This will be achieved by:

- *Replacing our vehicles (when required) with ones that are less polluting and more fuel efficient, wherever possible (see Box 5.2 of LTP3, Chapter 5).*
- *Assessing our essential car user criteria to ensure that it is fit for purpose.*
- *Reviewing our staff car parking facilities.*
- *Continuing to develop initiatives, such as flexible working, that reduce the need for employees to use their cars to get to work.*
- *Investigating the introduction of eco-driver training for some essential car users.*
- *Ensuring all main council offices have access to a pool bicycle and/or car.*
- *Using recycled and locally sourced materials whenever possible in County Council highway construction and maintenance schemes.*
- *Delivering other priorities contained within the County Council's Travel Plan (available on request).*

Policy 5.4:

We will improve the resilience of the transport network to changing climatic conditions. This will be achieved by:

- *Delivering the priorities contained within the Council's Climate Change Adaptation Strategies (www.staffordshire.gov.uk).*

- *Assessing, managing and minimising risks posed by climate change to people and property where it relates to the transport network.*
- *Managing disruption and ensuring rapid recovery of the transport network from the impact of a climate change related event.*
- *Encouraging all owners of the transport network to manage, maintain and develop it with climate change in mind.*
- *Supporting new development that has been designed with climate change in mind by, for example, including green space, tree planting and artificial shade.*

7 Climate Change Strategies

7.1. Local Development Framework Core Strategy

As set out in section 5, the LDF will be the main driver behind all local development until 2026. In terms of climate change the framework sets out the key strategies and policies:

Strategic Objective 3: Climate Change

To create a District where development meets the needs of our communities whilst minimising its impact on the environment and helps the District to mitigate and adapt to the adverse effects of climate change.

Core Policy 1: The Spatial Strategy

..... Proposals will promote sustainability by minimising and/or mitigating pressure on the natural, built and historic environment, natural resources, utilities and infrastructure and areas at risk of flooding, whilst also mitigating and adapting to climate change and reducing the need to travel.

..... Development will be co-ordinated with an appropriate transport strategy to support sustainable lifestyles and help address climate change.

Core Policy 2: Principles for Sustainable Development

All development will be required to contribute to the creation and maintenance of sustainable communities, bringing about a long term and continuous improvement to Lichfield District's economic, social and environmental circumstances without precluding future opportunities. Proposals for all new development must be compatible with the following principles:

Climate change.....

- *mitigate against the adverse effects of climate change and pursue adaptation measures, particularly in relation to the location of new development, renewable technologies, design and construction techniques, biodiversity, landscape and historic environment management proposals, the creation of green infrastructure and flood risk management.*

Sustainable Communities Policy SC2: Development & Sustainable Construction

Minimum sustainability standards are required for all new build and retrofitted developments to ensure that development minimises environmental impacts, including lowering the demand for energy and water, securing the efficient use of resources and achieving greater resilience to changes in climate.

Core Policy 5: Sustainable Transport

Accessibility will be improved and transport choice widened, by ensuring that all new development is well serviced by an attractive choice of transport modes, including public transport, footpaths and cycle routes to provide alternatives to the use of the private car and promote healthier lifestyles.

Development proposals will, either individually or collectively, have to make appropriate provisions for:

Climate change.....

- *Improving air quality and reducing the impact of travel upon the environment, in particular reducing carbon emissions that contribute to climate change.*

8 Implementation of Action Plans

The joint 2010 Further Assessment and Action Plan for Muckley Corner (AECOM, 2010) described the findings of the Council's air quality action planning appraisal, including an impact assessment of the committed works being undertaken for the A5 Muckley Corner Improvements.

The key findings of the assessment were summarised in the 2010 Progress Report as:

- Exceedences of the UK NO_2 annual mean objective remain in the 2010 with-scheme scenario;
- The number of exceedences of the NO_2 annual mean objective for the 2010 with-scheme assessment is seen to decrease to 4 from the 7 seen in the 2009 base year;
- Background sources make up the largest individual contribution at 23 of the 30 receptors with OGV2 making up the largest single contributor at the remaining 7 receptors;
- The second largest contributors after background sources were OGV2 at 25 of the 30 receptors and OGV1 at the remaining 5 receptors; and
- The original designation of the Air Quality Management Area for the NO_2 annual mean objective is correct and does not need to be revoked or amended.

The 2010 Progress Report set out the following position statement with regards the Muckley Corner Improvements scheme and possible future work:

> *As the modelling assessment concluded that the A5 Muckley Corner Improvements scheme was unlikely to remove all the previously identified exceedences, the Council also undertook an Action Plan options appraisal. (Details of this appraisal are given in Table 8.1 of the 2010 Progress Report). In assessing possible additional options, the Council considered it prudent to wait until the scheme had been completed before investing additional resources in to further action planning. Should exceedences remain after the completion of the junction redesign scheme, the source apportionment results undertaken as part of the Further Assessment would be used to inform the direction of targeted future actions in line with achieving the NO_2 annual mean objective and 2010 EU Limit Value.*

The Muckley Corner Improvement scheme was completed in June 2011. As shown in section 2.2.3 and Figure 2.7, the improvement works at Muckley Corner have not had the desired impact on air quality in the AQMA and there are still significant exceedences of the annual mean nitrogen dioxide objective.

Funding has been granted as part of the 'pinch point' scheme for road widening and traffic signalling work to be carried out at the A5/A5148 Wall Island roundabout during 2014. LDC has

also applied for funding for further improvements at the Muckley Corner junction. It is hoped that both of these works will help to reduce concentrations of nitrogen dioxide within the AQMA.

LDC, in liaison with Cannock Chase District Council and Walsall Council (who also have designated AQMA's along the A5), recently met with representatives from Midlands Express Way Limited. During this meeting, it was established that the aims of both groups were aligned in terms of increasing use of the M6 Toll in preference to the A5, particularly in relation to HGVs. Plans to encourage the use of the M6 Toll were shared including offering free trials and set fees for haulage operators both of which are expected to encourage uptake. Further market research is still being carried out which is expected to inform the future direction of actions.

LDC is optimistic that the meetings will help identify further options for diverting traffic away from the A5 onto the M6 Toll to help alleviate congestion and improve air quality. Discussions are at an early stage but options include improved signage and identifying local heavy users of the A5 with whom Midland Express Way Limited might be able to negotiate a deal to promote the use of the M6 Toll.

LDC has also been in contact with the West Midland local authorities to discuss their air quality plans. The West Midland LA's have joined together and developed a joint strategy of Low Emissions Towns & Cities Programme (LETC), set up in 2011. They have received Government funding to develop the project, the next phase of which includes a Low Emission Zone (LEZ) feasibility study. One of the project options that the feasibility study will examine is to designate the West Midland section of the M6 a low emission zone, and direct the exempt traffic along the M6Toll. There is a concern that the exempt traffic may chose not to pay to use the toll road and then saturate local roads such as the A5. LDC has now met with the West Midland LA's and has requested to be involved in the development of their project.

LDC is working on a number of initiatives which, it is hoped, will bring concentrations below the objectives. These include those discussed above as well as the work of the A5 Transport Liaison Group discussed in section 6.1.

9 Conclusions and Proposed Actions

9.1. Conclusions from New Monitoring Data

Monitoring by LDC has confirmed an exceedence at Fradley and the Council will therefore proceed to a Detailed Assessment for this area. Suspected exceedences at Canwell have been investigated using further diffusion tube monitoring and identified that, despite exceedences at the boundary of properties, concentrations at the façade of the nearest relevant receptors are below the objective.

Monitoring within and close to the Muckley Corner AQMA has identified a number of exceedences within the AQMA but none in surrounding areas. The currently designated AQMA is therefore still appropriate.

9.2. Conclusions relating to New Local Developments

A Detailed Assessment is currently underway for a biomass boiler in Haunton identified in the 2012 Updating and Screening Assessment. No new local developments have been identified that will need to be considered in the next Updating and Screening Assessment.

9.3. Proposed Actions

Lichfield District Council will proceed to a Detailed Assessment for annual mean nitrogen dioxide in Fradley after measuring an exceedence of the annual mean nitrogen dioxide objective at the façade of a relevant receptor.

Lichfield District Council will submit a Detailed Assessment for the biomass boiler in Haunton.

Monitoring will continue to be carried out at relevant locations in the District.

Lichfield District Council will submit a Progress Report in 2014.

10 References

AEA (2012) *Air Quality Study for Rugeley Power Station biomass project*.

AEA Technology (2007) *Air Quality Review and Assessment: Detailed Assessment 2007. Report to Lichfield Council*.

AECOM (2010) *Lichfield District Council Detailed Assessment*.

AECOM (2010) *Nitrogen Dioxide Further Assessment and Air Quality Action Plan for Muckley Corner*.

AECOM (2011) *Lichfield District Council Air Quality Progress Report 2011*.

AECOM (2012) *2012 Air Quality Updating and Screening Assessment for Lichfield District Council*.

Casella Stranger (2004) *Lichfield District Council Detailed Assessment 2004*.

Casella Stranger (2005) *Lichfield District Council Detailed Assessment 2005*.

Defra (2007) *The Air Quality Strategy for England, Scotland, Wales and Northern Ireland*, Defra.

Defra (2009) *Review & Assessment: Technical Guidance LAQM.TG(09)*, Defra.

Faber Maunsell (2003) *Lichfield District Council Updating and Screening Assessment 2003*.

Faber Maunsell (2006) *Lichfield District Council Updating and Screening Assessment 2006*.

Faber Maunsell (2009) *Lichfield District Council Updating and Screening Assessment 2009*.

Staffordshire County Council (2011) *Local Transport Plan*.

Staffordshire County Council (2011) *Local Transport Plan Implementation Plan*.

The Air Quality (England) (Amendment) Regulations, 2002, Statutory Instrument 3043 (2002), HMSO.

The Air Quality Regulations, 2000, Statutory Instrument 928 (2000), HMSO, London.

11 Appendices

A1 Appendix A: QA:QC Data

Diffusion Tube Bias Adjustment Factors

As there are no automatic monitoring stations within Lichfield District, a local bias adjustment factor has not been calculated. The national bias adjustment factor has therefore been obtained from the National Bias Adjustment Factor Spreadsheet (version 03/13). For 2012, the bias adjustment factor for Staffordshire Scientific Services diffusion tubes (20%TEA in water) is 0.86.

QA/QC of diffusion tube monitoring

The diffusion tubes used by LDC were supplied and analysed by Staffordshire Scientific Services. The tubes were prepared using a 20% TEA in water preparation. In terms of precision, the results from collocated diffusion tubes were 'good' in all studies in 2012. This laboratory has conducted its analyses in accordance with the procedures set out in the Harmonisation Practical Guidance since January 2009. The laboratory participates in the WASP scheme operated by the Health and Safety Laboratory and achieved a 100% satisfactory rating in rounds 116, 117 and 119 and 75% satisfactory in round 118.

A2 Appendix B: Raw Diffusion Tube Data

Site ID	Data Capture (%)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Annual Mean[a]
A38 - 1	100	61.1	58.4	66.9	43.9	47.0	44.4	34.5	33.0	53.8	53.5	57.3	52.5	50.5
A38 - 2/2(1)	100	45.3	48.9	59.7	41.5	42.2	44.6	27.0	28.6	35.0	51.7	51.9	45.7	43.5
A38 - 2A/B	100	47.4	55.0	66.6	49.0	51.4	54.3	40.5	47.9	52.0	53.4	61.3	49.9	52.4
A38 - 3	100	41.4	42.6	54.6	45.2	43.1	27.2	25.8	28.5	31.5	42.0	39.4	40.2	38.5
A38 - 4A/B	100	64.6	63.8	69.3	59.5	48.5	58.8	37.5	42.0	60.2	60.7	71.9	62.3	58.2
A38 - 5A/B	100	44.2	55.9	57.7	46.8	37.1	42.6	38.2	37.6	55.8	45.1	64.3	56.4	48.5
A38 - 6A/B	100	41.0	46.9	48.6	33.9	28.9	29.6	28.1	29.3	41.3	36.9	50.3	45.0	38.3
A38 - 4/4 (1)	50	57.6	61.2	75.1	64.7	56.1	56.5	-	-	-	-	-	-	61.8
A38-4X/Y	50	-	-	-	-	-	-	24.6	29.6	42.7	39.7	50.1	45.1	38.6
A5 - 1	100	42.1	47.2	62.5	38.8	31.4	46.7	38.5	39.4	48.3	51.9	65.0	54.2	47.2
A5 - 1A	100	47.5	56.0	57.3	41.9	35.0	46.7	35.9	33.0	51.5	50.2	61.1	57.1	47.8
A5 - 2A	100	42.7	50.3	52.1	37.2	26	39.3	30.4	32.4	45.8	41.8	49.9	47.9	41.3
A5 - 2B	100	47.7	46.5	71.2	61.4	53.9	44.8	36.0	38.5	58.2	54.7	34.0	57.0	50.3
A5 - 3	100	34.1	40.5	49.0	34.8	33.5	39.0	21.4	25.6	31.1	28.7	40.0	43.2	35.1
B	100	24.9	29.4	29.4	16.4	14.8	15.1	9.4	14.4	19.3	26.6	31.9	27.8	21.6
L	91.7	26.5	30.4	30.1	16.5	-	17.5	13.7	16.4	18.8	24.9	31.5	30.2	23.3
MUC - 1	91.7	56.2	64.6	64.9	57.6	0	58.8	38.2	43.5	58.8	53.4	60.6	61.9	56.2
MUC - 1A/B/C	100	55.6	68.2	65.1	59.0	55.0	53.9	37.6	41.0	59.0	57.5	62.3	60.1	56.2
MUC - 2	100	57.3	50.7	67.3	49.7	51.9	42.5	32.7	33.9	51.2	50.7	42.2	54.2	48.7
MUC - 3	100	65.5	73.9	86.5	74.9	68.2	62.6	44.3	52.8	65.8	69.4	77.0	57.7	66.6
MUC - 4	100	56.8	55.7	68.7	57.7	63.3	49.4	40.6	37.4	43.2	52.0	54.3	50.8	52.5
MUC - 5	100	58.7	63.8	66.2	56.5	55.1	70.6	49.7	47.6	77.4	68.7	76.6	73.8	63.7

Site ID	Data Capture (%)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Annual Mean[a]
MUC - 6	91.7	43.8	49.5	50.3	39.9	35.0	41.5	32.7	35.5	49.0	47.8	-	70.0	45.0

[a] Unadjusted

A3 Appendix C: LAPC/LAPPC Register

LDC Reference	Premises	Grid Reference	Process	Notes
PPC1/D/93	RMC Readymix Limited, Moneymore Farm, London Road, Weeford, Nr. Lichfield, West Midlands.	SK1357-0201	Storage and use of Bulk Cement PG3/1	Authorised 27/05/93 Surrendered 14/11/07
PPC2/C/93	Bison Concrete Products Limited, Birmingham Road, Lichfield, Staffordshire. WS14 9BP	SK1162-0846	Storage and use of Bulk Cement PG3/1	Authorised 29/07/93 Revoked 15/9/05
EPA3	Boral Edenhall Concrete Products Limited, Unit 14, Fradley Industrial Estate, Nr. Lichfield, Staffordshire.	SK1488-1327	Storage and use of Bulk Cement PG3/1	Plant closed down
PPC4/C/93	Lafarge Aggregates Limited, Weeford Plant, London Road, Canwell, Sutton Coldfield, West Midlands. B75 5SX	SK1400-0201	Coating of Roadstone PG3/15	Authorised 23/09/93
PPC5/F/93	Cemex UK Materials Limited, Weeford Quarry, London Road, Canwell, Sutton Coldfield, West Midlands. B75 5SZ	SK1400-0235	Batching of ready mixed mortars PG3/1	Authorised 23/09/93
PPC6/D/93	Tarmac Central Limited, Hints Quarry, Hints, Nr Tamworth, Staffordshire B78 8DD	SK1592-0393	Batching of ready mixed concrete PG3/1	Authorised 27/05/93
EPA7/1/93	Douglas Concrete and Aggregates Limited, Knox Grave Lane, Hopwas, Tamworth, Staffordshire. B78 3AR	SK1622-0480	Batching of ready mixed concrete PG3/1(95)	Authorised 24/08/93 Revoked 25/08/99
EPA8/2/96	Tarmac Topmix Limited, Shire Oak Quarry, Lichfield Road, Shire Oak, Brownhills, West Midlands. WS9 9PE	SK0608-0425	Batching of ready mixed concrete PG3/1(95)	Authorised 24/08/93 Revoked 30/03/01
PPC9/C/93	GKN Sinter Metals Limited, Trent Valley Road, Lichfield, Staffordshire. WS13 6HF	SK1330-0990	Production of ferrous alloys PG2/4(96) & 2/9(96)	Authorised 28/10/93 Revoked 15/1/07
PPC10/C/96	Coltman Pre-cast Concrete Limited, London Road, Canwell, Sutton Coldfield, West Midlands. B75 5SX	SK1347-0180	Storage and use of Bulk Cement PG3/1	Authorised 26/08/93

EPA11/1/93	Boney Hay Concrete Company Limited, Chorley Road, Chase Terrace, Staffordshire. WS7 8PG	SK0498-1058	Storage and use of Bulk Cement PG3/1(95)	Authorised 25/06/93 Revoked 25/05/94
PPC12-13/D/93	Dale Joinery (Lichfield) Limited, Europa Way, Lichfield, Staffordshire. WS14 9TY	SK1377-0960	Manufacture and Treatment of Timber Goods PG6/2, PG6/3 & PG1/12	Authorised 28/09/93 Revoked 21/6/10
EPA14/1/93	S .I. V. Coatings Limited, Unit 0 Riverside Industrial Estate, Atherstone Street, Fazeley, Tamworth, Staffordshire. B78 3RW	SK2079-0197	Manufacture and Storage of Powder Coating material	Authorised 28/09/93 Revoked 06/07/99
PPC15/D/93	Foseco (FS) Limited, Coleshill Road, Tamworth, Staffordshire. B78 3RW	SK1988-0148	Manufacture of Heavy Clay and Refractory Goods PG3/2	Authorised 28/10/93
EPA16/1/93	Foseco (FS) Limited, Coleshill Road, Tamworth, Staffordshire. B78 3RW	SK1988-0148	Storage and use of Powdered Coal PG3/5(95)	(EPA16 consolidated with EPA15) Taken out in 1991
PPC17/D/93	Fosroc Limited, Coleshill Road, Tamworth, Staffordshire. B78 3TL	SK1988-0148	Storage and use of Bulk Cement PG3/1	Authorised 28/10/93
PPC18/D/93	Tamworth Accident Centre, Units D-E Riverside Industrial Estate, Atherstone Street, Fazeley, Tamworth, Staffordshire. B78 3RW	SK2078-0190	The Re-spraying of Road Vehicles	Authorised 27/10/93
EPA19/1/93	Olaf I Johnston Limited, Cannock Road, Chase Terrace, Burntwood. WS7 8JS	SK0438-0927	The Application of Sprayed Coatings	Authorised 18/11/93 Revoked 19/03/97
EPA20/1/93	Olaf I Johnston Limited, Cannock Road, Chase Terrace, Burntwood. WS7 8JS	SK0438-0927	Sawing and Associated Timber processes	Authorised 18/11/93 Revoked 19/03/97
EPA21/1/93	Olaf I Johnston Limited, Cannock Road, Chase Terrace, Burntwood. WS7 8JS	SK0438-0927	The Burning of Wood Waste	Authorised 18/11/93 Revoked 19/03/97
EPA22/1/93	Burntwood Accident Centre Limited, Electric House, New Road, Burntwood, Staffordshire WS7 0AZ	SK0581-0886	The Respraying of Road Vehicles	Authorised 28/10/93 Revoked 2001

EPA23/1/93	Ash and Lacy Pressings Limited, Lynn Lane, Shenstone, Lichfield, Staffordshire. WS14 0EB	SK1025-0469	The use of Organic Solvents	Authorised 26/11/93 Revoked 12/06/98
EPA24/1/93	Hepworth Building Products Limited, (Lichfield Site) Eastern Avenue, Lichfield, Staffordshire, WS13 7SD	SK1216-1152	The mixing, milling and blending of natural rubbers containing Carbon Black	Authorised 23/11/93 Revoked 07/07/99
EPA25/1/93	Armitage Shanks Bathrooms, Plastics Division, No. 2 Lodge, Boathouse Lane, Armitage, Nr. Rugeley, Staffordshire WS15 4BT	SK0819-1618	Di-isocyanate process in the manufacture of baths	Authorised 30/07/93 Revoked 09/08/00
PPC26/C/93	Metal Products (Arden) Limited, Prospect Road, Burntwood, WS7 0AE	SK0576-0883	The use of Organic Solvents	Authorised 23/11/93
EPA27/1/94	Trent Valley Engineering (Rugeley), Blithbury Road, Rugeley, Staffordshire, WS15 3HH	SK0503-1896	The use of Organic Solvents	Authorised 21/01/94 Revoked 26/05/94
EPA28/1/94	Armitage Shanks Bathrooms, Plastics Division, No. 2 Lodge, Boathouse Lane, Armitage, Staffordshire WS15 4BT	SK0819-1618	Use of Volatile Organic Compounds	Authorised 18/01/94 Revoked 19/03/96
EPA29/1/93	Dale Joinery Limited, Europa Way, Lichfield, Staffordshire. WS14 9TY	SK1377-0960	Wood Coating processes	Authorised 10/12/93 Revoked 06/07/99
EPA30/1/94	Fletcher International Sportsboats Limited, Plant Lane, Chase Terrace, Staffordshire WS7 8BG	SK0378-0930	Di-isocyanate process	Authorised 28/01/94 Revoked 21/3/03
EPA31/1/94	Fletcher International Sportsboats Limited, Plant Lane, Chase Terrace, Staffordshire WS7 8BG	SK03.8-0930	Use of Volatile Organic Compounds	Authorised 28/01/94 Revoked 21/3/03
PPC32/C/94	Mobile Plant - operated by Dunton Plant Limited, Priory, London Road, Canwell, Sutton Coldfield B75 5SH		Mobile Crushing and Screening Process	Authorised 27/04/94
EPA33/2/94	Delco Remy UK Limited, Gorse Lane, Fradley, Lichfield, Staffordshire WS14 9HQ	SK1424-1359	Use of Volatile Organic Compounds	Authorised 27/10/94 Revoked 8/12/04
EPA34/1/94	Just Screeds, Robins Road, Chasetown Industrial Estate, Chase Terrace, Burntwood, Staffordshire WS7 8FX	SK0405-0897	Use of bulk cement	Authorised 27/10/94 Revoked 05/12/96

PPC35/C/94	Mobile Plant - operated by Dunton Plant Limited, Priory, London Road, Canwell, Sutton Coldfield B75 5SH		Mobile Crushing and Screening Process	Authorised 29/07/94
PPC36/C/94	Mobile Plant - operated by Dunton Plant Limited, Priory, London Road, Canwell, Sutton Coldfield B75 5SH		Mobile Crushing and Screening Process	Authorised 29/07/94
EPA37/1/95	Dale Joinery Limited, Staircase Department, Units 4a, 4b & 4d Ring Road, Chase Park Industrial Estate, Chasetown, Staffordshire	SK0399-0928	Manufacture of timber products	Authorised 30/01/95 Revoked 27/8/03
PPC38/C/94	Mobile Plant - operated by Dunton Plant Limited, Priory, London Road, Canwell, Sutton Coldfield B75 5SH		Mobile crushing and screening processes	Authorised 27/10/94
EPA39	IMI Norgren Limited, Valves Division, P. O. Box 22, Eastern Avenue, Lichfield, Staffordshire WS13 6SB	SK1283-1054	Use of Volatile Organic Compounds	Application withdrawn
EPA40/1/95	IMI Norgren Limited, Fittings Division, P. O. Box 22, Eastern Avenue, Lichfield, Staffordshire WS13 6SB	SK1283-1054	Acid process for the surface treatment of metals	Authorised 29/09/95 Revoked 31/05/96
PPC41/D/95	Steve Thompson Cars Limited, Eastern Avenue, Lichfield, Staffordshire, WS13 7SA	SK1233-1119	Respraying of Road Vehicles	Authorised 16/11/95 Revoked 20/8/10
EPA42/1/95	Lichfield Motors Limited, Birmingham Road, Lichfield, Staffordshire, WS14 9QZ	SK1150-0762	Respraying of Road Vehicles	Authorised 03/11/95 Revoked 25/06/98
EPA43/A/03	Fosroc Limited, Coleshill Road, Fazeley, Tamworth, Staffordshire, B78 9TL	SK1988-0148	Bitumen process	Authorised 11/12/03 Revoked 21/11/05
EPA44/1/97	Armitage Shanks Limited, Baths Division, Armitage, Rugeley, Staffordshire. WS15 4BT	SK0819-1618	Manufacture of fibre reinforced plastics	Authorised 13/08/97 Revoked 01/10/99
EPA45/B/99	Morrison Petrol Filling Station, Beacon Street, Lichfield, Staffordshire. WS13 7BG	SK1090-1010	Unloading of Petrol into Storage at Service Stations	Authorised 30/03/99
EPA46/B/99	Morrison Petrol Filling Station, High Street, Burntwood, Staffordshire. WS7 8XP	SK0422-0903	Unloading of Petrol into Storage at Service Stations	Authorised 30/03/99

PPC47/B/98	Mobile Plant - operated by Trelanmex Limited, Unit 2 Priory, London Road, Canwell, Sutton Coldfield B75 5SH		Mobile Crushing and Screening Process	Authorised 08/07/98
EPA48/A/99	Tesco Stores Limited, Church Street, Lichfield, Staffordshire. WS13 6DZ	SK1216-0974	Unloading of Petrol into Storage at Service Stations	Authorised 30/03/99
EPA49/A/99	Drayton Filling Station, Atherstone Street, Fazeley, Tamworth, Staffordshire. B78 3RN	SK2087-0185	Unloading of Petrol into Storage at Service Stations	Authorised 30/03/99
EPA50/A/99	Reliant Cars Limited, Plant Lane, Burntwood, Staffordshire. WS7 8GB	SK0378-0930	Spraying of Road Vehicles	Authorised 16/12/99 Revoked 15/03/01
EPA51/A/99	(Texaco) Muckley Corner Service Station, Watling Street, Lichfield, Staffordshire WS14 0BH	SK0811-0656	Unloading of Petrol into Storage at Service Stations	Authorised 30/03/99
EPA52/B/98	(Malthouse Retail Ltd) Springhill Service Station, 150 Cannock Road, Burntwood, Staffordshire WS7 0BQ	SK0549-0914	Unloading of Petrol into Storage at Service Stations	Authorised 30/03/99
EPA53/B/99	(Texaco) Eastern Avenue Service Station, Lichfield, Staffordshire WS13 7SA	SK1235-1115	Unloading of Petrol into Storage at Service Stations	Authorised 30/03/99
EPA54/A/99	(Shell) London Road Service Station, Lichfield, Staffordshire WS14 9EQ	SK1212-0831	Unloading of Petrol into Storage at Service Stations	Authorised 30/03/99
EPA55/A/99	Midlands Co-op Superstore, 1 Boley Park Centre, Ryknield Street, Lichfield, Staffordshire WS14 9XU	SK1319-0918	Unloading of Petrol into Storage at Service Stations	Authorised 31/03/99
EPA56/A/99	(Total) Handsacre Service Station, Lichfield Road, Handsacre, Staffordshire WS7 8XP	SK0907-1590	Unloading of Petrol into Storage at Service Stations	Authorised 31/03/99 Revoked 29/10/03
EPA57/B/99	(RONTEC Watford Ltd) Fradley Service Area (South), Rykneld Street, Fradley, Staffordshire WS13 8RD	SK1643-1328	Unloading of Petrol into Storage at Service Stations	Authorised 31/03/99
EPA58/B/99	(RONTEC Watford Ltd) Stonnall Service Station, Chester Road, Stonnall, nr. Walsall, West Midlands WS9 9HS	SK0715-0292	Unloading of Petrol into Storage at Service Stations	Authorised 31/03/99
EPA59/A/99	Fazeley Car Centre, Watling Street, Fazeley, Tamworth, Staffordshire B78 3QA	SK2120-0170	Unloading of Petrol into Storage at Service Stations	Authorised 31/03/99

EPA60/A/00	Sommer Allibert Automotive (UK) Limited, Common Lane, Fradley Business Park, Fradley, Lichfield, Staffordshire WS13 8NQ	SK1503-1236	Coating of Metal And Plastic	Authorised 29/03/00 Revoked 5/8/03
EPA61/A/00	Integra Products, Eastern Avenue, Lichfield, Staffordshire WS13 7SB	SK1228-1134	Coating of Metal And Plastic	Authorised 16/08/00 Revoked March 2002
PPC62/B/00	Maier UK Limited, Chasewater Heath Industrial Area, Attwood Road, Burntwood, Staffordshire WS7 8GJ	SK0349-0914	Coating of Metal And Plastic	Authorised 12/10/00
PPC63/E/01	Mobile Plant - operated by Jager Associates Limited, Unit 2 Priory, London Road, Canwell, Sutton Coldfield B75 5SH		Mobile Crushing and Screening Process	Authorised 25/01/01 Transfer from Trelenmex Ltd 5/8/09
PPC64/B/01	Hanson Premix, Weeford Quarry, Canwell, Sutton Coldfield, West Midlands B75 5SX	SK4134-3019	Storage and use of Bulk Cement PG3/1	Authorised 24/10/01
EPA65/A/03	Fletcher International Sportsboats Limited, Plant Lane, Chase Terrace, Staffordshire WS7 8BG	SK0378-0930	Fibre Reinforced Plastics Process	Authorised 6/1/03 Revoked 21/3/03
EPA66/A/01	(RONTEC Watford Ltd) Limited, Fradley North Service Station, Fradley, Lichfield, Staffordshire WS13 8RD	SK1574-1247	Unloading of Petrol into Storage at Service Stations	Authorised 09/11/01
PPC67/B/02	Lafarge Aggregates Ltd, Croxall Road, Alrewas, Burton-on-Trent, DE13 7DL.		Storage and use of Bulk Cement PG3/1	Authorised 1/05/02
EPA68/A/02	(Total PFS) JT Leaversley (Alrewas) Ltd, A38 Ryknild Street (Service Road, Alrewas, Burton-on-Trent, DE13 7AB		Unloading of Petrol into Storage at Service Stations	Authorised 24/06/02
69	No issue			Nothing allocated to this ref
EPA70/A/02	Star Garage, Lichfield Road, Burntwood, WS7 0HQ		Unloading of Petrol into Storage at Service Stations	Authorised 25/06/02 Revoked 12/7/06

EPA71/A/02	Acorn Service Station, Birmingham Road, Lichfield, WS14 9QZ		Unloading of Petrol into Storage at Service Stations	Authorised 28/06/02 Revoked 9/3/04
EPA72/A/02	Wishing Well Garage, Brereton Hill, Rugeley, WS15 4LA		Unloading of Petrol into Storage at Service Stations	Authorised 24/07/02
PPC73/B/02	SAI Automotive Fradley Ltd, t/a Faurecia, Common Lane, Fradley Business Park, Fradley, WS13 8NQ		Adhesive coating	Authorised 17/09/02 Revoked 28/3/07
PPC74/B/03	Mobile Plant - operated by Trelanmex Limited, Unit 2 Priory, London Road, Canwell, Sutton Coldfield B75 5SH		Mobile Crushing and Screening Process	Permitted 8/7/03 Revoked 2/9/09
PPC75/E/03	Mobile Plant - operated by Jager Associates Limited, Unit 2 Priory, London Road, Canwell, Sutton Coldfield B75 5SH		Mobile Crushing and Screening Process	Permitted 13/10/03 Transferred from Trelenmex Ltd 5/8/09
PPC76/A/03	Mobile Plant – TM Fabrication & Welding Services, Town End Farm, Hamstall Ridware, Nr. Rugeley, Staffs, WS15 3RX		Mobile Crushing and Screening Process	Permitted 21/1/04
PPC77/A/04	SAI Automotive Fradley Ltd, t/a Faurecia, Common Lane, Fradley Business Park, Fradley, WS13 8NQ		VOC coating process (with reduction scheme)	Permitted 11/11/04
PPC78/A/05	Holdford Contracts (Staffs) Ltd, Crabtree Farm, Park Lane, Stockwell Heath, Rugeley, WS15 3LX		Cement storage	Permitted 22/3/05 Revoked 20/3/07
PPC79/A/05	Holdford Contracts (Staffs) Ltd, Crabtree Farm, Park Lane, Stockwell Heath, Rugeley, WS15 3LX		Mobile Screen	Permitted 22/3/05 Revoked 20/3/07
PPC80/A/05	Filon Products Ltd, Unit 3, Ring Road, Zone 2, Burntwood Business Park, Burntwood, Staffs, WS7 3JQ		Resin Polymerisation Process	Permitted 26/9/05
PCC81/A/06	SAI Automotive Fradley Ltd, t/a Faurecia, Common Lane, Fradley Business Park, Fradley, WS13 8NQ		Di-isocyanate process	Permitted 23/3/06
PPC82/A/06	Alrewas AGI, Overley Lane, Lichfield		Odorisation of natural gas	Permitted 6/12/06

				Ceased 5/4/10 due to 2010 regs
PPC83/A/07	Ash & Lacy Pressings Ltd, Lynn Lane, Shenstone, Ws14 0EB		Powder Coating	Permitted 26/3/07 Revoked 30/11/10
PPC84/A/07	Boney Hay Mortar Plant, Chorley Road, Burntwood, WS7 2PF		Batching of ready mixed mortars PG3/1	Permitted 5/3/07 Surrendered 13/5/08
PPC85/A/07	Wm Morrison Supermarkets Plc, High Street, Chasetown, Burntwood, Staffs, WS7 8XP		Dry cleaners	Permitted 29/10/07
PPC86/A/07	Johnson Cleaners UK Ltd, 18 Market Street, Lichfield, WS13 6LH		Dry cleaners	Permitted 29/10/07
PPC87/A/08	Autosmart International Ltd, Lynn Lane, Shenstone, WS14 0DH		Manf coating material	Permitted 28/5/08
PPC88/A/10	SRS Aggregates Ltd, Norton House, Norton Canes Business Park, Norton Green Lane, Norton Canes, Staffs, WS11 9PS		Mobile crusher	Permitted 1/12/10
PPC89/A/11	Geeves Dry Cleaners, 61/62 Thornhill Rd, Streetly, B'ham, B74 3EN		Dry Cleaners	Permitted 13/5/11
PPC90/A/12	SRS Aggregates Ltd, Norton House, Norton Canes Business Park, Norton Green Lane, Norton Canes, Staffs, WS11 9PS		Mobile crusher	Permitted 17/1/12
EPA/OB1	Peter Boynton Limited, Cannock Road, Chase Terrace, Burntwood, Staffordshire WS7 8JT	SK0424-0938	Operation of a Waste Oil Burner	Authorised 20/05/94 Revoked 19/03/96