



2010 Air Quality Progress Report for *Peterborough City Council*

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

June, 2010

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Executive Summary

The air quality review and assessment process forms part of local air quality management (LAQM) carried out by Peterborough City Council. LAQM provides a means of achieving improvements in air quality to help secure national air quality objectives. National air quality objectives are set out in the Air Quality Strategy for England, Scotland, Wales and Northern Ireland.

The first Air Quality Review and Assessment in Peterborough was carried out by Peterborough City Council in 1998. Results showed the air quality objectives were likely to be achieved by the relevant deadline in all areas of the local authority. As a result no Air Quality Management Areas (AQMA) were required in Peterborough.

The second, third and fourth Air Quality Review and Assessment in Peterborough was carried out by Peterborough City Council in 2003, 2006 and 2009 respectively. Results showed the air quality objectives were likely to be achieved by the relevant deadline in all areas of the local authority except for the village of Thorney as a result of road traffic emissions and the already declared AQMA for emissions from the brickworks located in a neighbouring Local Authority. A bypass for the Thorney was completed in 2005 and the Air Quality Management Plan (AQMP) is being prepared in cooperation with Fenland District Council.

The aim of this Progress Report of air quality in Peterborough is to identify matters that have changed since the last review and assessment which might lead to a risk of an air quality objective being exceeded.

The Progress Report was carried out according to 'Local Air Quality Management Technical Guidance' LAQM.TG (09) and its update published in February 2009. The conclusion of the assessment is that all the air quality objectives listed in Table 1 will be met by the relevant deadlines, with the exception of SO₂ which will be exceeded due to an industrial process located outside Peterborough in Fenland District Council.

June, 2010

Peterborough City Council - England

A detailed assessment for the pollutants listed in Table 1 is only necessary for the likely exceedence of the SO₂ 15 minute mean value associated with emissions from the brickworks, and Fenland District Council has already acted on this.

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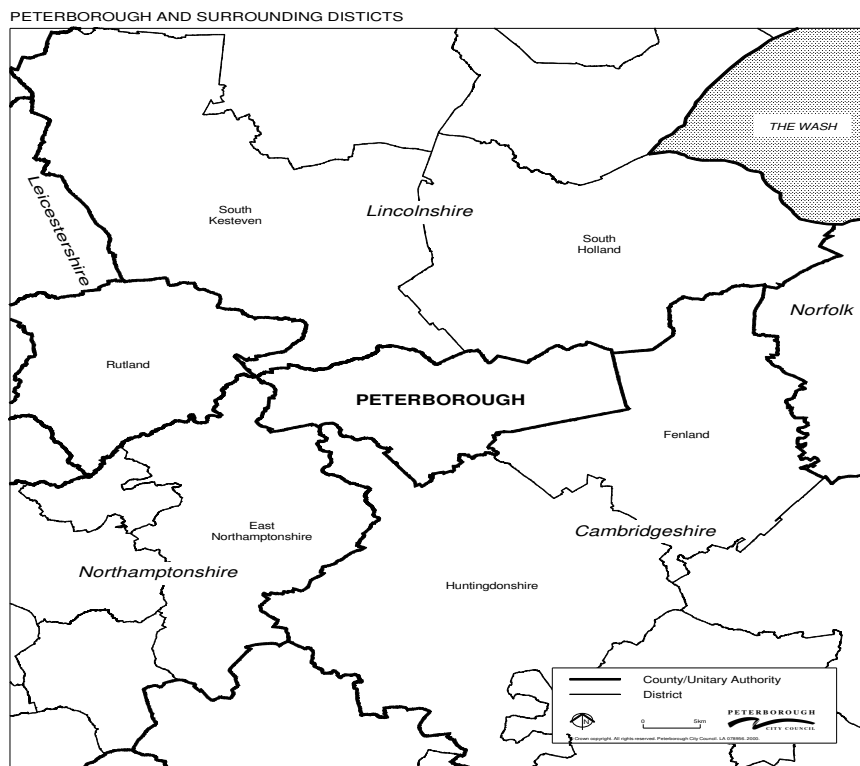
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1 Introduction

1.1 Description of Local Authority Area

Peterborough district covers an area of 343.44 km² and is made up of a variety of landscapes. Although dominated by the city of Peterborough, the eastern part of the district is composed of rich arable farmland, with the population dispersed across the flat land in many scattered farmsteads. In contrast, the western area is more undulating, with a more mixed farming economy and a population concentrated within the area's many villages. Figure 1 shows Peterborough and surrounding districts.

Figure 1 Peterborough and surrounding districts



From medieval times to the start of the Industrial Revolution, Peterborough was little more than a small market town on the edge of the Fens, though Henry VIII granted it city status in 1541. For many centuries the river was an important highway and the Customs House still stands today alongside the Town Bridge. Its real growth started in the mid-19th century, with the arrival of the railways. Peterborough soon became a major railway junction and attracted a number of heavy industrial companies.

By the late 1960s, the New Towns programme had begun. Peterborough was designated a New Town in 1968, and the Peterborough Development Corporation was established to double the city's population in close partnership with the City Council. The Master Plan was to concentrate development in four new residential townships, each with a full range of social and economic facilities with the fourth township, Hampton, now being built to the south of the city. In April 1998 the City Council achieved Unitary Status and is now responsible for all local government services in the district.

The East of England Plan, or Regional Spatial Strategy (RSS), covers the Peterborough area. It was published by the Secretary of State for Communities and Local Government in May 2008, replacing the Regional Planning Guidance for East Anglia and most of the remaining saved policies in the adopted 2003 Cambridgeshire and Peterborough Structure Plan.

The RSS requires Peterborough to make provision for at least 25,000 additional dwellings over the period 2001 to 2021, with guidance on how to calculate the requirement in the years beyond 2021. It includes an indicative target of 20,000 for the net growth in jobs over the same time period. Peterborough City Centre is recognised as one of the regional centres where major new retail development and complementary town centre uses should primarily be located.

Peterborough is mid-way between the East Anglian coast and the Midlands and has excellent road and rail connections both north-south and east-west. The city is 78 miles from London, five miles from the A1(M), and less than 20 miles from the A14, which links the East Coast ports of Felixstowe and Harwich with the Midlands.

The city is on the East Coast main rail line, which links London with Leeds, York, Newcastle, Edinburgh and Glasgow while London itself is less than 50 minutes away by train. An east-west rail line links Peterborough with Norwich, Great Yarmouth, Leicester, Birmingham and beyond.

Climate

Peterborough is located in Cambridgeshire whose easterly location is furthest from the landfall of most Atlantic depressions, as a result its climate is one of the most 'continental' in Britain. The State of the Environment Report (Cambridgeshire and Peterborough) 1998 outlines Cambridgeshire's environment, a summary of which is given below.

Day-to-day weather conditions, and even seasonal averages in the region, are governed largely by which air masses most frequently affect the County. A period of westerly maritime air streams is likely to bring a spell of mild moist weather but as they tend to cool and dry as they cross western and central Britain, they are rarely as warm or wet as further west. A period under the influence of easterly continental air streams is likely to bring the most extreme conditions; hot dry spells in summer but very cold and sometimes snowy weather during the winter.

Cambridgeshire is one of the driest counties in the British Isles, only Essex is sometimes drier. Most places in the county receive, on average, less than 600mm of rain per annum. Precipitation is approximately equally distributed over the year.

Compared with other parts of Britain, East Anglia is hot and sunny in the summer but cold and frosty in the winter. Cambridgeshire's inland location within East Anglia provides some protection from cool onshore breezes that affect coastal parts of the region in summer.

Traffic impacts, includes one of the major sources contributing to the deterioration of air quality in Peterborough. Prescribed Processes (A1), (A2) and (B) also release significant quantities of specified pollutants into the atmosphere which may have an impact on air quality.

1.2 Purpose of Progress Report

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.

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.

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.

1.3 Air Quality Objectives

The air quality objectives applicable to Local Air Quality Management (LAQM) in **England** are set out in the Air Quality (England) Regulations 2000 (SI 928), and the Air Quality (England) (Amendment) Regulations 2002 (SI 3043). They are shown in Table 1. This table shows the objectives in units of microgrammes per cubic metre $\mu\text{g}/\text{m}^3$ (for carbon monoxide the units used are milligrammes per cubic metre, mg/m^3). Table 1 includes the number of permitted exceedences in any given year (where applicable).

Table 1 Air Quality Objectives included in Regulations for the purpose of Local Air Quality Management in England.

Pollutant	Concentration	Measured as	Date to be achieved by
Benzene	16.25 $\mu\text{g}/\text{m}^3$	Running annual mean	31.12.2003
	5.00 $\mu\text{g}/\text{m}^3$	Running annual mean	31.12.2010
1,3-Butadiene	2.25 $\mu\text{g}/\text{m}^3$	Running annual mean	31.12.2003
Carbon monoxide	10.0 mg/m^3	Running 8-hour mean	31.12.2003
Lead	0.5 $\mu\text{g}/\text{m}^3$	Annual mean	31.12.2004
	0.25 $\mu\text{g}/\text{m}^3$	Annual mean	31.12.2008
Nitrogen dioxide	200 $\mu\text{g}/\text{m}^3$ not to be exceeded more than 18 times a year	1-hour mean	31.12.2005
	40 $\mu\text{g}/\text{m}^3$	Annual mean	31.12.2005
Particles (PM₁₀) (gravimetric)	50 $\mu\text{g}/\text{m}^3$, not to be exceeded more than 35 times a year	24-hour mean	31.12.2004
	40 $\mu\text{g}/\text{m}^3$	Annual mean	31.12.2004
Sulphur dioxide	350 $\mu\text{g}/\text{m}^3$, not to be exceeded more than 24 times a year	1-hour mean	31.12.2004
	125 $\mu\text{g}/\text{m}^3$, not to be exceeded more than 3 times a year	24-hour mean	31.12.2004
	266 $\mu\text{g}/\text{m}^3$, not to be exceeded more than 35 times a year	15-minute mean	31.12.2005

1.4 Summary of Previous Review and Assessments

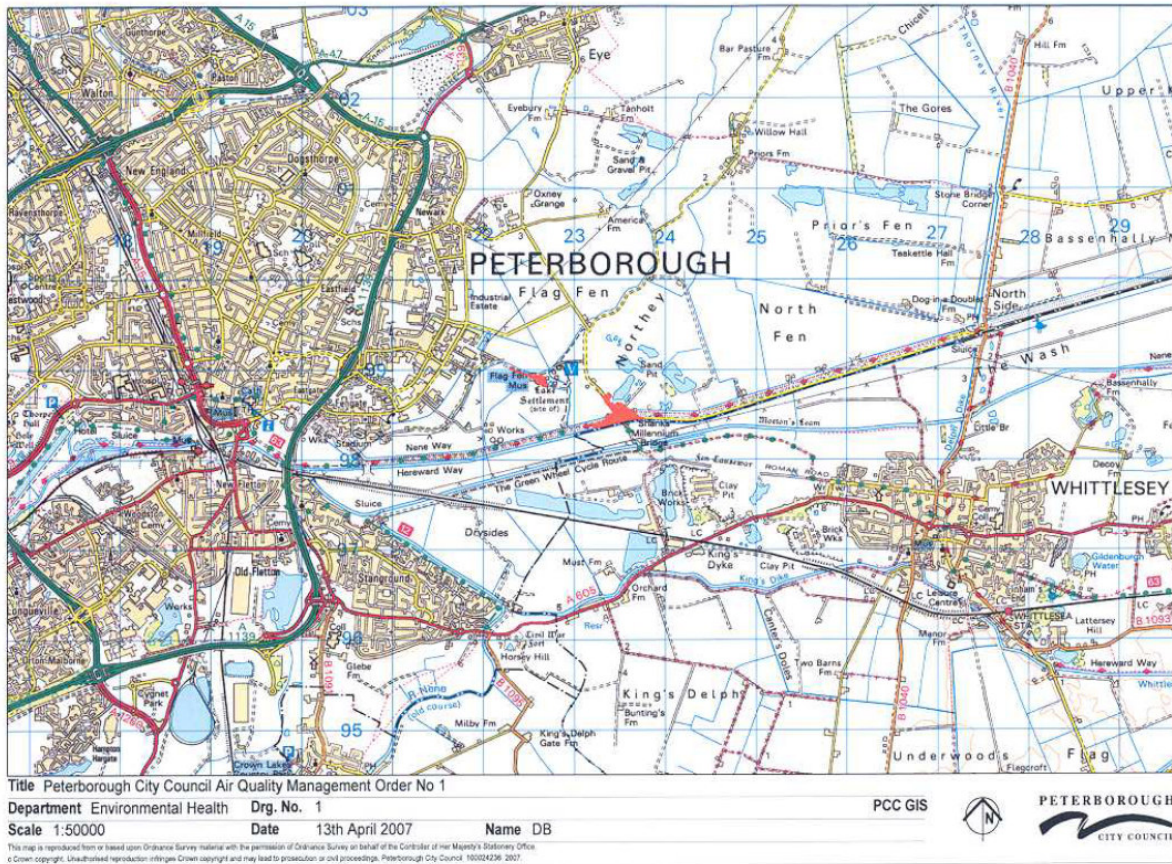
This Progress Report was carried out according to Local Air Quality Management Technical Guidance LAQM. TG (09) released in February 2009. It has indicated that all the air quality objectives listed in Table 2 will be met by the relevant deadlines, with the exception of SO₂ 15 minute mean value of 266 µg/m³. This exceedance is from an industrial source located in Fenland District Council.

Air Quality Management Areas (AQMAs) are only required in areas where air quality objectives will not be achieved. In September 2006 Fenland District Council's Detailed Assessment declared an Air Quality Management Area based on modeling carried out by Hanson Brick Products in their Air Quality Management Plan (Hanson, 2004). This modeling indicated that the 15-minute sulphur dioxide objective was also being exceeded at relevant locations within Peterborough. Following consideration of the information supplied by Fenland District Council, Peterborough City Council determined an Air Quality management area to the north west of the works in April 2007. This AQMA was in relation to emissions of sulphur dioxide from a point source industrial premise exceeding the 15 minute mean objective level of 266 µg/m³ not to be exceeded more than 35 times a year. The Air Quality Action Plan will be prepared by Peterborough City Council following consultation with Fenland District Council.

Table 2 Peterborough City Council conclusion of air quality objectives

Pollutant	Air quality objective		Measured as	Date to be achieved by	Achieved
	Concentration				
Benzene	16.25	$\mu\text{g}/\text{m}^3$	Running annual mean	31.12.2003	Yes
	5.00	$\mu\text{g}/\text{m}^3$	Annual mean	31.12.2010	Yes
1,3-butadiene	2.25	$\mu\text{g}/\text{m}^3$	Running annual mean	31.12.2003	Yes
Carbon Monoxide	10.0	mg/m^3	Maximum daily running 8-hour mean	31.12.2003	Yes
Lead	0.5	$\mu\text{g}/\text{m}^3$	Annual mean	31.12.2004	Yes
	0.25	$\mu\text{g}/\text{m}^3$	Annual mean	31.12.2008	Yes
Nitrogen Dioxide	200	$\mu\text{g}/\text{m}^3$ not to be exceeded more than 18 times a year	1-hour mean	31.12.2005	Yes
	40	$\mu\text{g}/\text{m}^3$	Annual mean	31.12.2005	Yes
Particles (PM ₁₀)	50	$\mu\text{g}/\text{m}^3$ not to be exceeded more than 35 times a year	24-hour mean	31.12.2004	Yes
	40	$\mu\text{g}/\text{m}^3$	Annual mean	31.12.2004	Yes
Sulphur dioxide	350	$\mu\text{g}/\text{m}^3$ not to be exceeded more than 24 times a year	1-hour mean	31.12.2004	Yes
	125	$\mu\text{g}/\text{m}^3$ not to be exceeded more than 3 times a year	24-hour mean	31.12.2004	Yes
	266	$\mu\text{g}/\text{m}^3$ not to be exceeded more than 35 times a year	15-minute mean	31.12.2005	No

Figure 2 Map of AQMA boundaries



2 New Monitoring Data

2.1 Summary of Monitoring Undertaken

2.1.1 Automatic Monitoring Sites

There were no Automatic Monitoring Sites for the period of this review and assessment.

2.1.2 Non-Automatic Monitoring

Peterborough City Council currently monitors Nitrogen Dioxide (NO₂) at 14 sites within the Local Authority Area. Other sites have been monitored around Peterborough in previous years but monitoring at these sites ceased following the completion of monitoring programmes for these locations. Only the current locations have been considered for this report. These sites are a mixture of urban background, roadside and kerbside. Table 3 shows the different site types and a brief description of the sites that were monitored in 2009.

2.1.3 Quality Assurance/Quality Control for Diffusion Tubes

- The samples are analysed in accordance with Harwell Scientifics standard operating procedure HS/WI/1015 issue 14. This method meets the guidelines set out in DEFRA's 'Diffusion Tubes for Ambient NO₂ Monitoring: Practical Guidance.'
- The tubes were prepared by spiking acetone: triethanolamine (50:50) onto the grids prior to the tubes being assembled. The tubes were desorbed with distilled water and the extract analysed using a segmented flow autoanalyser with ultraviolet detection.
- In the WASP intercomparison scheme for comparing spiked Nitrogen Dioxide diffusion tubes, Harwell Scientifics is currently ranked as a Category Good laboratory.

- There was no co-location study.
- The bias adjustment factor being applied to the annual means from the diffusion tubes is 0.81. This came from the Review and Assessment website.
<http://www.uwe.ac.uk/aqm/review/R&Asupport/diffusiontube310310.xls>

Figure 3 Map of Non-Automatic Monitoring Sites



Table 3 Details of Non- Automatic Monitoring Sites 2009

Site Name	Site Type	OS Grid Ref		Pollutants Monitored	In AQMA ?	Relevant Exposure? (Y/N with distance (m) to relevant exposure)	Distance to kerb of nearest road (N/A if not applicable)	Worst-case Location?
BOURGES BOULEVARD	Roadside	(5)19123	(2)98369	NO ₂	N	N	1m	Y
THORNEY	Kerbside			NO ₂	N	Y (1m)	1m	Y
COPELAND	Urban background	(5)15782	(2)99220	NO ₂	N	Y (5m)	N/A	Y
LYTHMERE	Urban background	(5)17188	(2)95966	NO ₂	N	Y (1m)	N/A	Y
WITTERING	Roadside	(5)05698	(3)02775	NO ₂	N	Y (5m)	3m	Y
LINCOLN RD	Roadside	(5)17717	(3)01621	NO ₂	N	Y (5m)	3m	Y
WALTON	Roadside	(5)17533	(3)01807	NO ₂	N	Y	1m	Y
HAMPTON	Roadside	(5)17574	(2)93934	NO ₂	N	Y (5m)	1m	Y
FLETON	Roadside	(5)19317	(2)97396	NO ₂	N	Y (5m)	1m	Y
LONDON RD	Roadside	(5)19145	(2)97577	NO ₂	N	Y (5m)	1m	Y
THOR By-Pass	Roadside	(5)28102	(3) 04876	NO ₂	N	Y	5m	Y
OUNDLE RD	Roadside	(5)18637	(2)97842	NO ₂	N	Y (5m)	1m	Y
PARKWAY	Roadside	(5)19932	(2)96056	NO ₂	N	Y	0.5m	Y
STANGROU ND	Urban background	(5)20293	(2)96393	NO ₂	N	Y (5m)	N/A	Y

2.2 Comparison of Monitoring Results with Air Quality Objectives

The measured annual mean concentration was not greater than 40 µg/m³ at any site analysed in the Peterborough City Council. The monitoring site locations are representative of relevant public exposure.

2.2.1 Nitrogen Dioxide

The following table demonstrate the 2009 annual mean concentrations for each of the sites monitored and charts trend analysis over 9 years.

Table 4 Results of Nitrogen Dioxide Diffusion Tubes 2009

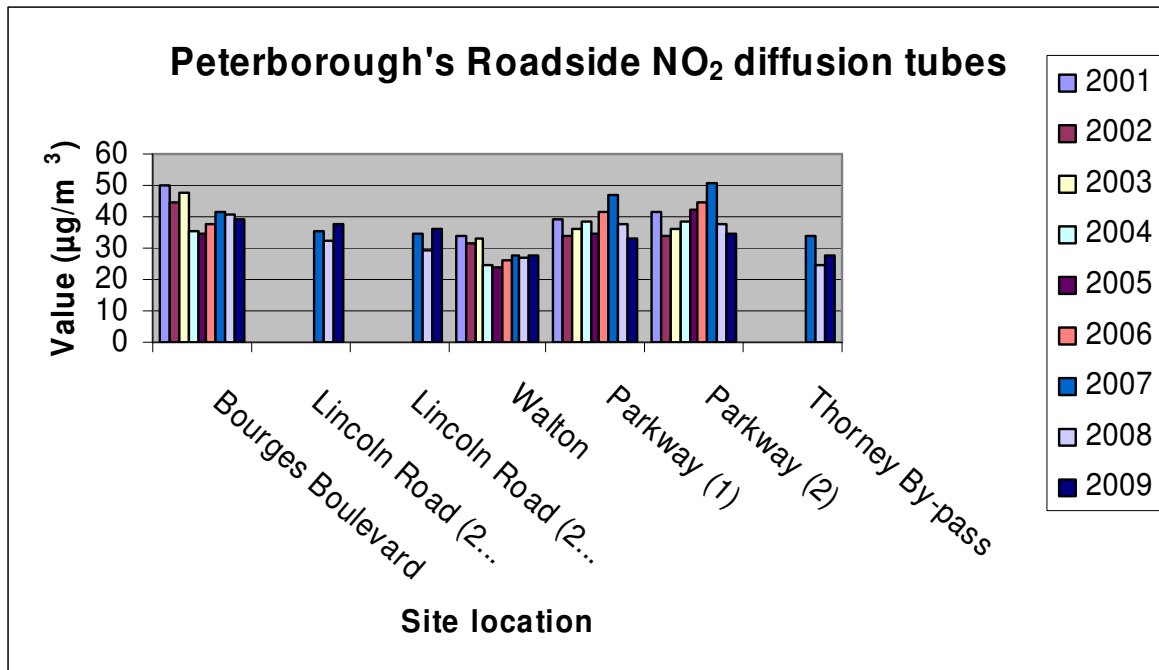
Site ID	Location	Within AQMA?	Data Capture 2009 %	Annual mean concentrations (µg/m ³)
				2009
Bias				0.81
BOURGES BOULEVARD	Roadside	N	100%	39.26
THORNEY	Kerbside	N	100%	25.76
COPELAND	Urban background	N	100%	19.09
LYTHMERE	Urban background	N	100%	18.29
WITTERING	Roadside	N	92%	28.80
LINCOLN RD	Roadside	N	83%	37.89
LINCOLN RD	Roadside	N	83%	36.01
WALTON	Roadside	N	92%	28.21
HAMPTON	Roadside	N	100%	26.36
FLETTON	Roadside	N	92%	22.64
LONDON RD	Roadside	N	83%	28.36
THOR By-Pass	Roadside	N	100%	18.76
OUNDLE RD	Roadside	N	92%	27.86
PARKWAY	Roadside	N	75%	26.80
STANGROUND	Urban background	N	100%	33.49
STANGROUND	Urban background	N	92%	35.30

The figure in red represents where the period of valid data is less than 90% of a full year

Data capture for nine monitoring sites have missing data for part of the year therefore data capture for calendar year on those sites is less than 100%. This is as a result of the monitoring tubes being missing when collection took place.

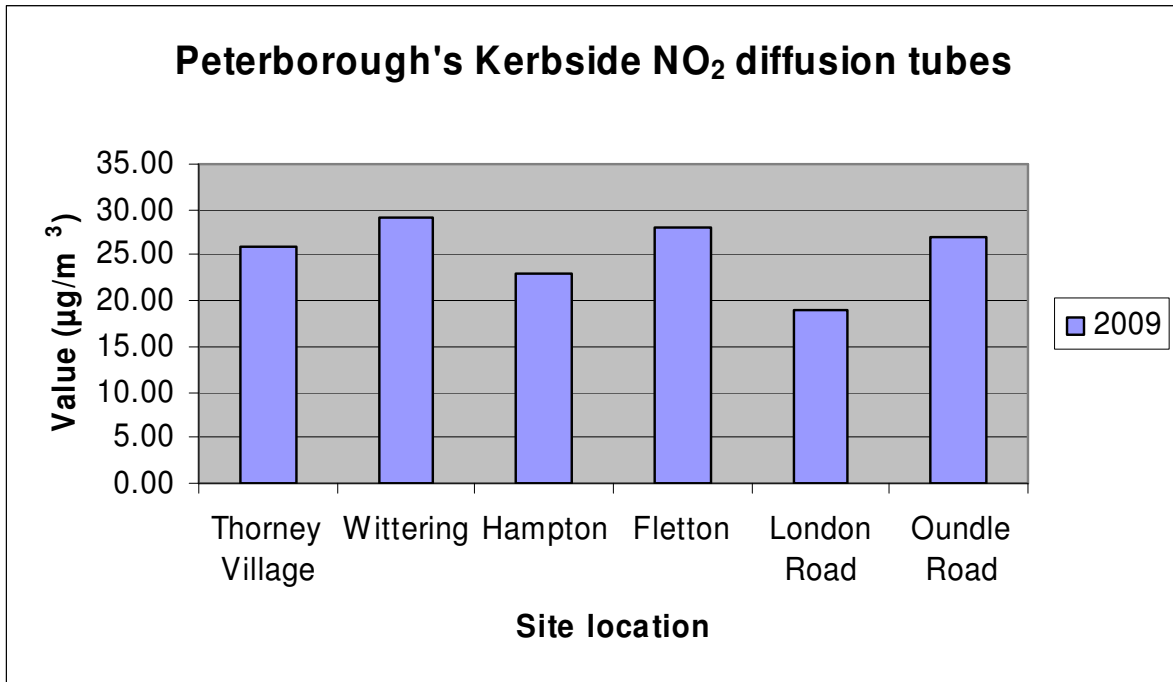
2.2.2 Trends in Annual Mean Nitrogen Dioxide Concentration Measured at Diffusion Tube Monitoring Sites.

Chart 1 NO₂ at Peterborough Roadside Background sites



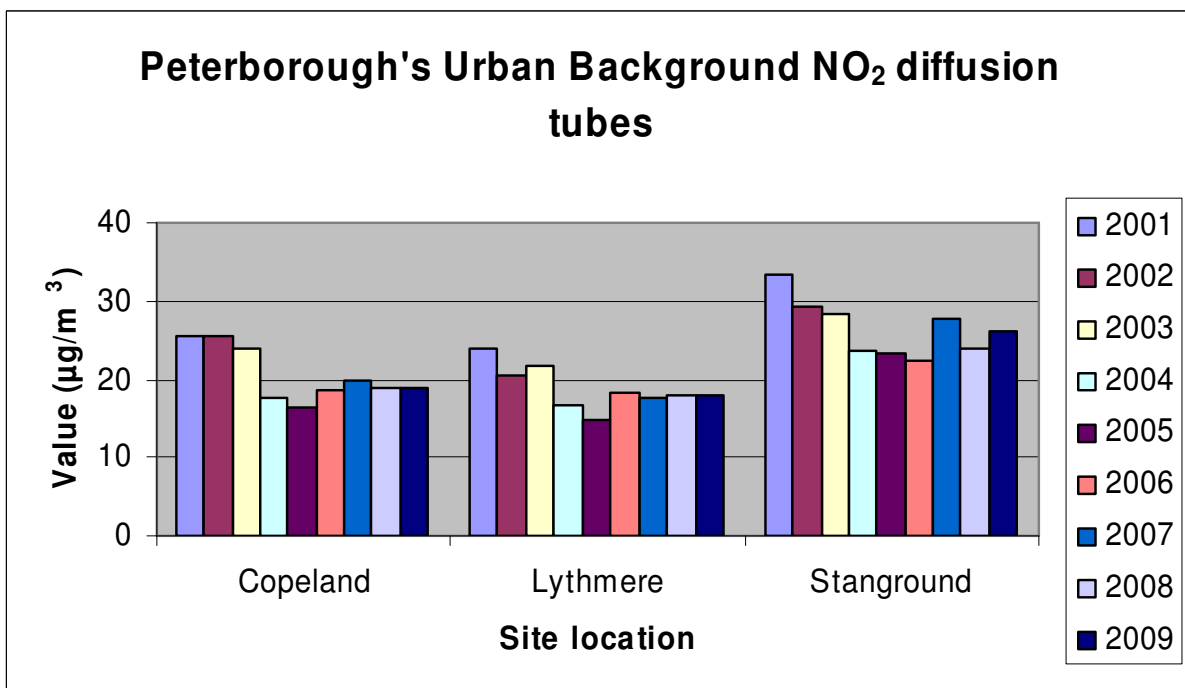
Analysis of last three year results from Roadside locations shows that annual mean concentration of NO₂ decreased in all locations except Lincoln Road.

Chart 2 NO₂ at Peterborough Kerbsite Background sites



The measured annual mean concentration of NO₂ in 2009 was not greater than 30 µg/m³ at all Kerbside locations analysed in the Peterborough City Council.

Chart 3 NO₂ at Peterborough Urban Background sites



Urban background locations have no significant changes in NO₂ concentration levels in years 2007-2009.

2.2.3 Other Air Quality Data

Table 5 Air Quality related complaints in Peterborough City Council 2009

Type of complaint	Number of complaints
General request/advice air pollution	14
Smoke, domestic bonfires	75
Smoke, industrial/commercial bonfires	30
Smoke, domestic chimney	0
Grit/dust	10
Odour/fumes industrial/commercial	12
Odour/fumes domestic	26
Odour/fumes agricultural	5
Odour unknown/other	15
Total	187

There have been less complaints regarding air quality since last progress report in 2008. This might suggest that there is less air quality related incidents within the Council.

2.2.4 Summary of Compliance with AQS Objectives

Peterborough City Council has examined the results from monitoring in the district. Concentrations outside of the AQMA are all below the objectives at relevant locations, therefore there is no need to proceed to a Detailed Assessment.

3 New Local Developments

3.1 Road Traffic Sources

Table 6 Road traffic summary for Peterborough City Council

A road with more that 30,000 vehicles per day.	Number of vehicles per day
A15 Lincoln Road	44200
A47 between junction 15-20	45200
Rivergate Gyratory	32200
A1139 Frank Perkins Parkway	34000
A1139 Fletton Parkway	60200
A1 north of the junction with the A1139 Fletton parkway	47800
A1260	51500
Bourges Boulevard	35900
A15 Werrington Parkway	37000
A busy junction can be taken to be one with more than 10000 vehicles per day	
All junctions on the parkway network: Paston Jcns 20 - 22 Fletton/Frank Perkins Jcns 1 – 8 Longthorpe Jcns 33 – 34 Soke Jcns 15 – 20 Werrington Jcns 47 – 46 Jcn of A1073(Eye Green) /A47 Jcn's 43,42,41,40,36 Bourges Boulevard Rivergate Gyratory	
A proportion of heavy duty vehicles which exceed 25% of the daily vehicles per day	
A47 Thorney bypass	
New roads constructed/planned since April 04	
A1073 new alignment, not yet open.	
Stanground bypass now open vehicle flow greater than 10000	

There were no new roads identified with more than 10000 vehicles per day that have had or expected to have an increase in traffic flow of more that 25%.

3.1.1 Narrow congested streets with residential properties close to the kerb.

Peterborough City Council confirms that there are no new or newly identified narrow congested streets with residential properties which may have an impact on air quality within the Local Authority area.

3.1.2 Busy streets where people may spend one hour or more close to traffic

Peterborough City Council confirms that there are no new busy streets where people can spend one hour or more close to traffic which may have an impact on air quality within the Local Authority area.

3.1.3 Roads with a high flow of buses or HGVs

A47 Thorney bypass has been identified as the only road within the Local Authority Area with a high flow of HGVs. A proportion of heavy duty vehicles exceed 25% of the daily vehicles per day. The NO₂ monitoring tube is located in relevant location at Thorney bypass to monitor the Air Quality. The measured annual mean concentration was not greater than 40 µg/m³ at that site.

Peterborough City Council confirms that there are no new roads with a high flow of buses or HGVs which may have an impact on air quality within the Local Authority area.

3.1.4 Junctions

Peterborough City Council confirms that there are no new junctions which may have an impact on air quality within the Local Authority area.

3.1.5 New Roads constructed or proposed since the last Updating and Screening Assessment

Peterborough City Council confirms that there are no new roads which may have an impact on air quality within the Local Authority area.

3.1.6 Roads with significantly changed traffic flows

Peterborough City Council confirms that there are no new or newly identified roads with significantly changed traffic flows which may have an impact on air quality within the Local Authority area.

3.1.7 Bus or Coach Stations

Peterborough City Council confirms that there are no new Bus or Coach stations which may have an impact on air quality within the Local Authority area.

3.2 Other Transport Sources

Peterborough City 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 from

- Airports
- Locations where diesel or steam trains are regularly stationary for periods of 15 minutes or more, with potential for relevant exposure within 15 m.
- Locations with a large number of diesel locomotives, and potential long-term relevant exposure within 30m.
- Ports for shipping

3.3 Industrial Sources

Peterborough City 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 from

- **Industrial installations:** new or proposed installations for which an air quality assessment has been carried out.
- **Industrial installations:** existing installations where emissions have increased substantially or new relevant exposure has been introduced.
- **Industrial installations:** new or significantly changed installations with no previous air quality assessment.
- Major fuel storage depots storing petrol.
- Petrol stations.
- Poultry farms

3.4 Commercial and Domestic Sources

Peterborough City 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 from

- Biomass combustion plant – individual installations.
- Areas where the combined impact of several biomass combustion sources may be relevant.
- Areas where domestic solid fuel burning may be relevant.

3.5 New Developments with Fugitive or Uncontrolled Sources

Peterborough City 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 from

- Landfill sites.
- Quarries
- Unmade haulage roads on industrial sites.
- Waste transfer stations etc.
- Other potential sources of fugitive particulate emissions.

SUMMARY

Peterborough City 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.

4 Local / Regional Air Quality Strategy

Peterborough Air Quality Strategy was issued in the summer of 2004 a copy is available upon request from Peterborough City Council.

The Air Quality Strategy forms an integral part of Peterborough's air quality management. The Air Quality Strategy provides a means of prevention and reduction of any potential air pollution exceedances in Peterborough. National air quality objectives are set out in the Air Quality Strategy for England, Scotland, Wales and Northern Ireland published in January 2000.

In 2009 Peterborough City Council produced its Updating and Screening Assessment (USA) of which the aim was to assess the air quality in Peterborough. This assessment showed that currently Peterborough meets the targets set out by central government. The Peterborough Air Quality Strategy is designed to put into place provisions to maintain air quality below existing health based standards.

The air quality strategy aims to integrate different Council departments to produce a multi-disciplinary forum for the routine consideration of current and potential air quality issues.

The air quality strategy is designed to be a living working document which will be regularly updated. Any changes such as legislation or any air pollution exceedances will result in the air quality strategy being reviewed.

5 Planning Applications

A number of development proposals have been submitted, or are in progress of being developed, which may have an impact upon air quality. In particular the following new or extended developments have received consideration, since air quality has been identified as a material planning concern:

- Hampton (Southern Township),
- Stanground South
- Fengate Energy Park
- Eyebury Quarry
- Fengate Energy from Waste facility
- Tanholt Farm quarry
- Great Haddon

None of these applications have been identified as causing an exceedence of any air quality objective.

Additionally:

- Fengate Energy Park
- Eyebury Quarry
- Fengate Energy from Waste facility
- Tanholt Farm quarry

are processes that require permits under the Pollution Prevention and Control Act 1999 from the Environment Agency, which will include conditions for the control of air pollution.

6 Local Transport Plans and Strategies

The second Local Transport Plan (LTP2) was published in March 2006 and covers the period 2006 to 2011. The LTP2 details future strategy development proposals, local transport priorities and a programme of improvements for the Peterborough area.

The progress report 2007-2008 describes the progress over the first two years of the LTP2 and also considers the future delivery of the LTP2 strategy to 2010/11 across each of the five shared priorities for transport:

- Tackling Congestion;
- Delivering Accessibility;
- Safer Roads;
- Better Air Quality;
- Maintaining the Highway Network.

In 2006/07 and 2007/08, £9.1 million was spent on delivering an agreed programme of transport schemes in Peterborough.

Key Achievements 2006/07 – 2007/08

- achieving Beacon Status for Improving Accessibility;
- delivery of three major schemes throughout the city to facilitate growth, reduce congestion and improve safety and access;
- implementation of the Travelchoice project to showcase initiatives to encourage sustainable travel and reduce the need to travel by car leading to a 3.4 per cent growth in cycle trips and 11 per cent growth in walking trips;
- implementation of the traffic management duties as set out in the Traffic Management Act;
- achievement of target for bus patronage with a 15 per cent increase between 2005/06 and 2007/08;

- development of the Highways Asset Management Plan (HAMP) for the area.

Major Schemes

The city council have successfully implemented three major transport schemes since 2006/07

- A15 London Road Southern Gateway completed in April 2008;
- A1139 Fletton Parkway widening of Junction 2 to 3 completed in May 2008 which was followed by the signalisation of Junction 3;
- A15 Paston Parkway widening of Junction 21 to 22 completed in February 2008;
- A1073 Spalding to Eye improvement scheme is a major scheme which is a joint project with

Lincolnshire County Council and will result in a new road being due to open in autumn 2010.

7 Climate Change Strategies

Peterborough City Council publicized A Climate Change Strategy for Peterborough in 2007. The current Climate Change Strategy will be reviewed in 2011.

The existence of climate change, along with the proposition that it is influenced by human activity is no longer disputed. Indeed, current scientific evidence strongly suggests that it is going to impact on every aspect of our lives in the next 100 years and beyond. Furthermore, regional impact assessments suggest that Peterborough, as part of Anglia, will be one of the worst affected areas under current forecasts.

By signing the Nottingham Declaration on Climate Change, Peterborough City Council has demonstrated both a commitment to take action against climate change, and the wherewithal to lead by example.

As part of climate change strategy, Peterborough City Council has committed itself to reducing CO2 emissions from its own activities by 20% by 2011. The key areas where carbon reductions were proposed are as follow:

- Energy
- Transport
- Water
- Waste
- General
- Suggestions for Industry, Commerce, and other Organisations
- Suggestions for the General Public

The Council will work closely with the Greater Peterborough Partnership, the Environment and Transport Partnership and Opportunity Peterborough, to help other organisations to adopt the policies for action outlined in the strategy.

8 Air Quality Action Plans

In Fenland District Councils administrative area Hanson Brick Plc has two brick making factories. As part of their PPC permit application the company undertook a study on the affects their releases has on the air quality in the surrounding area. As a result of this study and further emission monitoring information supplied by the company Fenland District Council and Peterborough City Council both wrote a detailed assessment. Both detailed assessments showed that there are small areas where the sulphur dioxide 15 minute mean value objective is currently being exceeded. As a result Peterborough City Council declared an Air Quality Management Area in May 2007.

At present there is no action plan written for the Air Quality Management Area. The Environment Agency, who is the regulator of the site, met with Hanson Brick Plc, the operator, in February 2008 to discuss improvements to their site and obtain an update on emissions monitoring and modelling. Once the Environment Agency is in agreement with the operator that the necessary site improvements and emissions monitoring are underway Fenland District Council and Peterborough District Council will meet with the Environment Agency to discuss these improvements and modelling of emissions so they can produce an action plan.

Peterborough City Council meets twice a year with Fenland District Council, the Environment Agency (the regulator) and Hanson Brick Plc (the operator) and any other interested parties to discuss various issues regarding the site and its emissions.

9 Conclusions and Proposed Actions

9.1 Conclusions from New Monitoring Data

There are currently no identified exceedences of the Local Air Quality Management annual mean objectives at relevant locations to require a detailed assessment to be undertaken. There is currently one AQMA in Peterborough City Council related to industrial source from Fenland District.

9.2 Conclusions relating to New Local Developments

There are no recent local developments that are considered to require more detailed consideration or require a Detailed Assessment.

9.3 Other Conclusions

There are a number of planning applications which have been submitted to the planning department or are being developed. The air quality will be considered as part of the planning process. However, none of these applications have been identified as causing an exceedence of any air quality objective. Additionally five planned new developments will require permits which will include conditions for the control of air pollution.

9.4 Proposed Actions

The air quality objectives identified nationally have not been exceeded except for the already declared AQMA. There will be continued liaison with Fenland District Council and Environmental Agency to develop Air Quality Action Plan for the AQMA. Peterborough City Council will continue to monitor NO₂ concentrations at 14 monitoring sites.

The Progress Report has not identified the need to proceed to a Detailed Assessment for any pollutants in Peterborough City Council. The next progress report of this fourth round of Review and Assessment will cover the period 1st January 2010 to 31st December 2010 and will be submitted in April 2011.

10 References

DEFRA (2009a) 'Local Air Quality Management' Technical Guidance LAQM. TG (09)

DEFRA (2009b) 'Local Air Quality Management' Policy Guidance PG (09)

Hanson (2008) 'Review of the Air Quality Management Plan 2007', Whittlesey Brickworks

Peterborough City Council (2007) 'A Climate Change Strategy for Peterborough'

Peterborough City Council (2008) 'Air Quality Progress Report' August 2008

Peterborough City Council (2004) 'Peterborough Air Quality Strategy' May 2004

Peterborough City Council (2008) '2nd LTP 2006-2011', Progress Report December

Peterborough City Council (2009) 'Air Quality Updating and Screening Assessment', April

Peterborough City Council (2010) Peterborough Core Strategy Public Examination

Appendices

Appendix A: NO₂ monthly monitoring data

Sample Number	Site	Date and Time ON	Date and Time OFF	Exposure Time (Hours)	Total µg	µg m ⁻³	ppb	Comments
PETE/08A/NA9S1	Borg	07/01/2009 11:45	04/02/2009 12:50	673.08	2.56	54.5	28.4	
PETE/08A/NA9S2	Thorney	07/01/2009 10:00	04/02/2009 10:00	672.00	1.91	40.7	21.2	
PETE/08A/NA9S3	Cope	07/01/2009 10:30	04/02/2009 11:00	672.50	1.58	33.8	17.6	
PETE/08A/NA9S4	Luth	07/01/2009 11:00	04/02/2009 11:15	672.25	1.42	30.3	15.8	
PETE/08A/NA9S5	Witt	07/01/2009 10:45	04/02/2009 10:45	672.00	1.9	40.6	21.1	
PETE/08A/NA9S6	Lincoln	07/01/2009 09:45	04/02/2009 12:45	675.00	2.67	56.7	29.5	
PETE/08A/NA9S7	Lincoln	07/01/2009 09:45	04/02/2009 12:45	675.00	2.64	56	29.1	
PETE/08A/NA9S8	Walt	07/01/2009 09:45	04/02/2009 12:30	674.75	2.06	43.7	22.7	
PETE/08A/NA9S9	Stan	07/01/2009 11:30	04/02/2009 11:45	672.25	1.99	42.4	22	

Sample Number	Site	Date and Time ON	Date and Time OFF	Exposure Time (Hours)	Total µg	µg m ⁻³	ppb	Comments
PETE/08A/NA9S10	Hampton	07/01/2009 11:00	04/02/2009 11:30	672.50	1.81	38.6	20.1	
PETE/08A/NA9S11	Fletton	07/01/2009 11:30	04/02/2009 12:00	672.50	2.38	50.7	26.4	
PETE/08A/NA9S12	London	07/01/2009 11:30	04/02/2009 12:00	672.50	0.04	0.8	0.4	
PETE/08A/NA9S13	Thorney-By-Pass	07/01/2009 10:15	04/02/2009 10:15	672.00	1.86	39.6	20.6	
PETE/08A/NA9S14	Oundle Rd	07/01/2009 11:30	04/02/2009 12:00	672.50	2.1	44.7	23.2	
PETE/08A/NA9S15	Stan	07/01/2009 11:15	04/02/2009 11:45	672.50	1.8	38.4	20	
PETE/08A/NA9S16	Stan	07/01/2009 11:15	04/02/2009 11:45	672.50	1.65	35.2	18.3	

Sample Number	Site	Date and Time ON	Date and Time OFF	Exposure Time (Hours)	Total µg	µg m ⁻³	ppb	Comments
PETE/08A/NA10S1	Borg	04/02/2009 12:50	04/03/2009 13:15	672.42	3.89	82.9	43.1	
PETE/08A/NA10S2	Thorney	04/02/2009 10:00	04/03/2009 11:45	673.75	2.4	51.1	26.6	
PETE/08A/NA10S3	Cope	04/02/2009 11:00	04/03/2009 11:30	672.50	2	42.7	22.2	
PETE/08A/NA10S4	Lyth	04/02/2009 11:15	04/03/2009 10:00	670.75	2.04	43.7	22.7	
PETE/08A/NA10S5	Witt	04/02/2009 10:45	04/03/2009 11:00	672.25	2.82	60.1	31.2	
PETE/08A/NA10S6	Lincoln	04/02/2009 12:45	04/03/2009 12:00	671.25	4.39	93.8	48.8	
PETE/08A/NA10S7	Lincoln	04/02/2009 12:45	04/03/2009 12:00	671.25	3.29	70.3	36.6	
PETE/08A/NA10S8	Walt	04/02/2009 12:30	04/03/2009 13:00	672.50	2.79	59.4	30.9	
PETE/08A/NA10S9	Stan	04/02/2009 11:45	04/03/2009 10:00	670.25	2.82	60.2	31.3	

Sample Number	Site	Date and Time ON	Date and Time OFF	Exposure Time (Hours)	Total µg	µg m ⁻³	ppb	Comments
PETE/08A/NA10S10	Hampton	04/02/2009 11:30	04/03/2009 09:45	670.25	2.25	48.1	25	
PETE/08A/NA10S11	Fletton	04/02/2009 12:00	04/03/2009 09:30	669.50	2.97	63.5	33	
PETE/08A/NA10S12	London	04/02/2009 12:00	04/03/2009 09:45	669.75	0.04	0.8	0.4	Received With Previous Batch
PETE/08A/NA10S13	Thorneybypass	04/02/2009 10:15	04/03/2009 11:45	673.50	2.72	57.9	30.1	
PETE/08A/NA10S14	Oundle Rd	04/02/2009 12:00	04/03/2009 13:30	673.50	2.55	54.2	28.2	
PETE/08A/NA10S15	Stan	04/02/2009 11:45	04/03/2009 10:45	671.00	3.27	69.9	36.3	
PETE/08A/NA10S16	Stan	04/02/2009 11:45	04/03/2009 10:45	671.00	3.13	66.9	34.8	
Tube NA9S12 Also received with batch. As NA10S12 had been received with batch NA9 it has been assumed that this tube has been exposed for two months;								
PETE/08A/NA9S12	London	07/01/2009 11:30	04/03/2009 09:45	1342.25	3.58	38.2	19.9	

Sample Number	Site	Date and Time ON	Date and Time OFF	Exposure Time (Hours)	Total µg	µg m ⁻³	ppb	Comments
PETE/08A/NA11S1	Borg	04/03/2009 13:15	01/04/2009 13:45	672.50	2.39	51	26.5	
PETE/08A/NA11S2	Thorney	04/03/2009 11:45	01/04/2009 09:15	669.50	1.68	35.9	18.7	
PETE/08A/NA11S3	Cope	04/03/2009 11:30	01/04/2009 09:45	670.25	1.05	22.5	11.7	
PETE/08A/NA11S4	Lyth	04/03/2009 10:00	01/04/2009 10:00	672.00	1.03	21.9	11.4	
PETE/08A/NA11S5	Witt	04/03/2009 11:00	01/04/2009 09:30	670.50	1.67	35.8	18.6	
PETE/08A/NA11S6	Lincoln	04/03/2009 12:00	01/04/2009 08:45	668.75	2.26	48.5	25.2	
PETE/08A/NA11S7	Lincoln							Missing
PETE/08A/NA11S8	Walt	04/03/2009 13:00	01/04/2009 09:00	668.00	1.68	36	18.7	
PETE/08A/NA11S9	Stan	04/03/2009 10:00	01/04/2009 10:45	672.75	1.92	41	21.3	

Sample Number	Site	Date and Time ON	Date and Time OFF	Exposure Time (Hours)	Total µg	µg m ⁻³	ppb	Comments
PETE/08A/NA11S10	Hampton	04/03/2009 09:45	01/04/2009 10:00	672.25	1.25	26.6	13.8	
PETE/08A/NA11S11	Fletton	04/03/2009 09:30	01/04/2009 10:30	673.00	1.79	38.1	19.8	
PETE/08A/NA11S12	London	04/03/2009 09:45	01/04/2009 10:30	672.75	1.59	33.9	17.6	
PETE/08A/NA11S13	Thorney By-Pass	04/03/2009 11:45	01/04/2009 09:15	669.50	1.86	39.9	20.8	
PETE/08A/NA11S14	Oundle Rd	04/03/2009 13:30	01/04/2009 10:45	669.25	1.42	30.4	15.8	
PETE/08A/NA11S15	Parkway	04/03/2009 10:30	01/04/2009 13:45	675.25	2.12	45	23.4	
PETE/08A/NA11S16	Parkway	04/03/2009 10:30	01/04/2009 13:45	675.25	2.97	63.1	32.8	

Sample Number	Site	Date and Time ON	Date and Time OFF	Exposure Time (Hours)	Total µg	µg m ⁻³	ppb	Comments
PETE/08A/NA12S1	Borg	01/04/2009 13:45	30/04/2009 13:00	695.25	2.35	48.5	25.2	
PETE/08A/NA12S2	Thorney	01/04/2009 09:15	30/04/2009 15:00	701.75	1.44	29.5	15.3	
PETE/08A/NA12S3	Cope	01/04/2009 09:45	30/04/2009 18:30	704.75	0.92	18.7	9.7	
PETE/08A/NA12S4	Lyth	01/04/2009 10:00	30/04/2009 18:30	704.50	0.92	18.6	9.7	
PETE/08A/NA12S5	Witt	01/04/2009 09:30	30/04/2009 18:45	705.25	1.83	37.1	19.3	
PETE/08A/NA12S6	Lincoln	01/04/2009 08:45	30/04/2009 15:30	702.75	1.84	37.4	19.5	
PETE/08A/NA12S7	lincoln	01/04/2009 08:45	30/04/2009 15:30	702.75	1.95	39.7	20.7	
PETE/08A/NA12S8	Walt	01/04/2009 09:00	30/04/2009 15:30	702.50	1.57	32	16.6	
PETE/08A/NA12S9	Stan	01/04/2009 10:45	30/04/2009 10:00	695.25	1.75	36.1	18.8	

Sample Number	Site	Date and Time ON	Date and Time OFF	Exposure Time (Hours)	Total µg	µg m ⁻³	ppb	Comments
PETE/08A/NA12S10	Hampton	01/04/2009 10:00	30/04/2009 10:00	696.00	1.05	21.6	11.2	
PETE/08A/NA12S11	Fletton	01/04/2009 10:30	30/04/2009 14:00	699.50	1.36	27.8	14.5	
PETE/08A/NA12S12	London	01/04/2009 10:30	30/04/2009 14:15	699.75	1.4	28.6	14.9	
PETE/08A/NA12S13	Thorney - By - Pass	01/04/2009 09:00	30/04/2009 15:00	702.00	0.16	3.4	1.8	Previously Rec'd
PETE/08A/NA12S14	Oundle Rd	01/04/2009 10:45	30/04/2009 14:15	699.50	1.32	27.1	14.1	
PETE/08A/NA12S15	Parkway	01/04/2009 13:45	30/04/2009 14:30	696.75	1.72	35.3	18.3	
PETE/08A/NA12S16	Parkway	01/04/2009 13:45	30/04/2009 14:30	696.75	1.82	37.5	19.5	
PETE/08A/NA11S7							2.982	Tube Also Rec'd

Sample Number	Site	Date and Time ON	Date and Time OFF	Exposure Time (Hours)	Total µg	µg m ⁻³	ppb	Comments
PETE/09A/NA1S1	Borg	30/04/2009 13:00	03/06/2009 14:15	817.25	1.79	31.3	16.3	
PETE/09A/NA1S2	Thorney	30/04/2009 15:00	03/06/2009 11:00	812.00	1.16	20.5	10.7	
PETE/09A/NA1S3	Cope	29/04/2009 18:30	03/06/2009 11:45	833.25	0.66	11.4	5.9	
PETE/09A/NA1S4	Lyth	29/04/2009 18:30	03/06/2009 11:45	833.25	0.74	12.7	6.6	
PETE/09A/NA1S5	Witt	29/04/2009 18:45	03/06/2009 12:00	833.25	1.36	23.4	12.1	
PETE/09A/NA1S6	Lincoln							Missing
PETE/09A/NA1S7	Lincoln	30/04/2009 15:30	03/06/2009 11:30	812.00	1.44	25.3	13.2	
PETE/09A/NA1S8	Walt	30/04/2009 15:30	03/06/2009 11:45	812.25	1.01	17.9	9.3	
PETE/09A/NA1S9	Stan	29/04/2009 10:00	03/06/2009 14:00	844.00	0.61	10.3	5.4	

Sample Number	Site	Date and Time ON	Date and Time OFF	Exposure Time (Hours)	Total µg	µg m ⁻³	ppb	Comments
PETE/09A/NA1S10	Hampton							Missing
PETE/09A/NA1S11	Fletton	30/04/2009 14:00	03/06/2009 14:00	816.00	1.07	18.8	9.8	
PETE/09A/NA1S12	London	30/04/2009 14:15	03/06/2009 14:00	815.75	1	17.6	9.1	
PETE/09A/NA1S13	Thorney-By-Pass	30/04/2009 15:00	03/06/2009 11:00	812.00	1.01	17.9	9.3	
PETE/09A/NA1S14	Oundle Rd							Missing
PETE/09A/NA1S15	Parkway	30/04/2009 14:30	03/06/2009 13:30	815.00	1.65	29.1	15.1	
PETE/09A/NA1S16	Parkway	30/04/2009 14:30	03/06/2009 13:30	815.00	2.14	37.6	19.6	

Sample Number	Site	Date and Time ON	Date and Time OFF	Exposure Time (Hours)	Total µg	µg m ⁻³	ppb	Comments
PETE/09A/NA2S1	Borg	08/06/2009 14:15	01/07/2009 10:30	548.25	2.35	61.5	32	
PETE/09A/NA2S2	Thorney	08/06/2009 11:00	01/07/2009 10:00	551.00	1.15	29.9	15.5	
PETE/09A/NA2S3	Cope	08/06/2009 11:45	01/07/2009 09:30	549.75	0.6	15.7	8.2	
PETE/09A/NA2S4	Lyth	08/06/2009 11:45	01/07/2009 10:30	550.75	0.69	17.9	9.3	
PETE/09A/NA2S5	Witt	08/06/2009 12:00	01/07/2009 09:15	549.25	1.77	46.3	24.1	
PETE/09A/NA2S6	Lincoln	08/06/2009 11:30	01/07/2009 09:45	550.25	1.12	29.2	15.2	Spider In Tube
PETE/09A/NA2S7	Lincoln	08/06/2009 11:30	01/07/2009 09:45	550.25	1.29	33.7	17.5	
PETE/09A/NA2S8	Walt							Missing
PETE/09A/NA2S9	Stan	08/06/2009 14:00	01/07/2009 11:00	549.00	1.13	29.4	15.3	

Sample Number	Site	Date and Time ON	Date and Time OFF	Exposure Time (Hours)	Total µg	µg m ⁻³	ppb	Comments
PETE/09A/NA2S10	Hampton	08/06/2009 12:30	01/07/2009 10:15	549.75	0.86	22.3	11.6	
PETE/09A/NA2S11	Fletton	08/06/2009 14:00	01/07/2009 11:00	549.00	0.99	25.8	13.4	
PETE/09A/NA2S12	London	08/06/2009 14:00	01/07/2009 11:00	549.00	1.08	28.1	14.6	
PETE/09A/NA2S13	Thorny-By-Pass	08/06/2009 11:00	01/07/2009 10:00	551.00	1.26	32.7	17	
PETE/09A/NA2S14	Oundle Rd	08/06/2009 14:00	01/07/2009 11:00	549.00	0.96	24.9	13	
PETE/09A/NA2S15	Parkway	08/06/2009 13:30	01/07/2009 11:15	549.75	1.88	49.2	25.6	
PETE/09A/NA2S16	Parkway	08/06/2009 13:30	01/07/2009 11:15	549.75	2.16	56.3	29.3	

Sample Number	Site	Date and Time ON	Date and Time OFF	Exposure Time (Hours)	Total µg	µg m ⁻³	ppb	Comments
PETE/09A/NA3S1	Borg	01/07/2009 10:30	29/07/2009 14:45	676.25	1.3	27.6	14.3	
PETE/09A/NA3S2	Thorney	01/07/2009 10:00	29/07/2009 10:15	672.25	0.88	18.9	9.8	
PETE/09A/NA3S3	Cope	01/07/2009 09:30	29/07/2009 09:45	672.25	0.63	13.5	7	
PETE/09A/NA3S4	Lyth	01/07/2009 10:30	29/07/2009 11:45	673.25	0.64	13.5	7	
PETE/09A/NA3S5	Witt	01/07/2009 09:15	29/07/2009 09:30	672.25	0.96	20.4	10.6	Spider In Tube
PETE/09A/NA3S6	Lincoln	01/07/2009 09:45	29/07/2009 10:00	672.25	1.85	39.5	20.5	
PETE/09A/NA3S7	Lincoln							Missing
PETE/09A/NA3S8	Walt	01/07/2009 09:30	29/07/2009 10:00	672.50	0.95	20.2	10.5	
PETE/09A/NA3S9	Stan	01/07/2009 11:00	29/07/2009 10:30	671.50	0.94	20.1	10.4	

Sample Number	Site	Date and Time ON	Date and Time OFF	Exposure Time (Hours)	Total µg	µg m ⁻³	ppb	Comments
PETE/09A/NA3S10	Hampton	01/07/2009 10:15	29/07/2009 11:00	672.75	0.65	13.8	7.2	
PETE/09A/NA3S11	Fletton	01/07/2009 11:00	29/07/2009 12:00	673.00	0.97	20.7	10.7	Water In Tube
PETE/09A/NA3S12	London	01/07/2009 11:00	29/07/2009 12:00	673.00	0.84	17.9	9.3	
PETE/09A/NA3S13	Thorny-By-Pass	01/07/2009 10:00	29/07/2009 10:15	672.25	1.09	23.2	12.1	
PETE/09A/NA3S14	Oundle Rd							Missing
PETE/09A/NA3S15	Parkway	01/07/2009 11:15	29/07/2009 10:45	671.50	1.28	27.2	14.2	
PETE/09A/NA3S16	Parkway	01/07/2009 11:15	29/07/2009 10:45	671.50	1.14	24.3	12.7	

Sample Number	Site	Date and Time ON	Date and Time OFF	Exposure Time (Hours)	Total µg	µg m ⁻³	ppb	Comments
PETE/09A/NA4S1	Borg	29/07/2009 14:45	03/09/2009 13:30	862.75	1.05	17.5	9.1	
PETE/09A/NA4S2	Thorney	29/07/2009 10:15	02/09/2009 15:45	845.50	1.11	18.8	9.8	
PETE/09A/NA4S3	Cope	29/07/2009 09:45	02/09/2009 15:00	845.25	0.79	13.4	7	
PETE/09A/NA4S4	Lyth	29/07/2009 11:45	02/09/2009 15:00	843.25	0.69	11.7	6.1	
PETE/09A/NA4S5	Witt	29/07/2009 09:30	02/09/2009 14:45	845.25	1.05	17.8	9.2	
PETE/09A/NA4S6	Lincoln	29/07/2009 10:00	02/09/2009 15:15	845.25	2.32	39.4	20.5	
PETE/09A/NA4S7	Lincoln	29/07/2009 10:00	02/09/2009 15:15	845.25	1.75	29.7	15.4	
PETE/09A/NA4S8	Walt	29/07/2009 10:00	02/09/2009 15:15	845.25	1.06	18	9.3	
PETE/09A/NA4S9	Stan	29/07/2009 10:30	03/09/2009 12:15	865.75	0.74	12.2	6.3	

Sample Number	Site	Date and Time ON	Date and Time OFF	Exposure Time (Hours)	Total µg	µg m ⁻³	ppb	Comments
PETE/09A/NA4S10	Hampton	29/07/2009 11:00	02/09/2009 14:15	843.25	0.84	14.3	7.5	
PETE/09A/NA4S11	Fletton	29/07/2009 12:00	03/09/2009 12:15	864.25	1.25	20.7	10.8	
PETE/09A/NA4S12	London	29/07/2009 12:00	03/09/2009 12:15	864.25	0.86	14.2	7.4	
PETE/09A/NA4S13	Thorney-By-Pass	29/07/2009 10:15	02/09/2009 15:45	845.50	1.16	19.6	10.2	
PETE/09A/NA4S14	Oundle Road	29/07/2009 12:00	03/09/2009 13:30	865.50	0.15	2.5	1.3	Upside On Site
PETE/09A/NA4S15	Parkway	29/07/2009 10:45	03/09/2009 12:30	865.75	0.97	16	8.3	
PETE/09A/NA4S16	Parkway	29/07/2009 10:45	03/09/2009 12:30	865.75	0.83	13.7	7.1	

Sample Number	Site	Date and Time ON	Date and Time OFF	Exposure Time (Hours)	Total µg	µg m ⁻³	ppb	Comments
PETE/09A/NA5S1	Borg	03/09/2009 13:30	29/09/2009 12:00	622.50	1.76	40.6	21.1	
PETE/09A/NA5S2	Thorney	02/09/2009 15:45	29/09/2009 10:15	642.50	1.09	24.3	12.6	
PETE/09A/NA5S3	Cope	02/09/2009 15:00	29/09/2009 09:45	642.75	0.62	13.8	7.2	
PETE/09A/NA5S4	Lyth	02/09/2009 15:00	29/09/2009 11:30	644.50	0.68	15.1	7.9	
PETE/09A/NA5S5	Witt	02/09/2009 14:45	29/09/2009 09:30	642.75	1.1	24.6	12.8	
PETE/09A/NA5S6	Lincoln	02/09/2009 15:15	29/09/2009 10:00	642.75	1.46	32.5	16.9	
PETE/09A/NA5S7	Lincoln	02/09/2009 15:15	29/09/2009 10:00	642.75	1.18	26.4	13.7	
PETE/09A/NA5S8	Walt	02/09/2009 15:15	29/09/2009 09:45	642.50	1.36	30.4	15.8	
PETE/09A/NA5S9	Stan	03/09/2009 12:15	29/09/2009 10:45	622.50	1.08	25	13	

Sample Number	Site	Date and Time ON	Date and Time OFF	Exposure Time (Hours)	Total µg	µg m ⁻³	ppb	Comments
PETE/09A/NA5S10	Hampton	02/09/2009 14:15	29/09/2009 11:00	644.75	0.96	21.3	11.1	Spider
PETE/09A/NA5S11	Fletton							Missing
PETE/09A/NA5S12	London	03/09/2009 12:15	29/09/2009 11:45	623.50	1.09	25	13	
PETE/09A/NA5S13	Thorney-By-Pass	02/09/2009 15:45	29/09/2009 10:15	642.50	1.36	30.3	15.8	
PETE/09A/NA5S14	Oundle Road							Missing
PETE/09A/NA5S15	Parkway	03/09/2009 12:30	29/09/2009 10:45	622.25	2.12	48.8	25.4	
PETE/09A/NA5S16	Parkway	03/09/2009 12:30	29/09/2009 10:45	622.25	1.94	44.7	23.2	

Sample Number	Site	Date and Time ON	Date and Time OFF	Exposure Time (Hours)	Total µg	µg m ⁻³	ppb	Comments
PETE/09A/NA6S1	Borg	29/09/2009 12:00	04/11/2009 13:00	865.00	3.27	54.2	28.2	
PETE/09A/NA6S2	Thorney	29/09/2009 10:15	04/11/2009 10:45	864.50	2.16	35.9	18.7	
PETE/09A/NA6S3	Cope	29/09/2009 09:45	04/11/2009 09:45	864.00	1.84	30.5	15.8	
PETE/09A/NA6S4	Lyth	29/09/2009 11:30	04/11/2009 12:30	865.00	1.48	24.5	12.7	
PETE/09A/NA6S5	Witt	29/09/2009 09:30	04/11/2009 09:30	864.00	2.26	37.5	19.5	
PETE/09A/NA6S6	Lincoln							Missing
PETE/09A/NA6S7	Lincoln	29/09/2009 10:00	04/11/2009 10:15	864.25	3.49	57.9	30.1	
PETE/09A/NA6S8	Walt	29/09/2009 09:45	04/11/2009 10:00	864.25	2.46	40.9	21.2	
PETE/09A/NA6S9	Stan	29/09/2009 10:45	04/11/2009 11:00	864.25	2.2	36.4	18.9	

Sample Number	Site	Date and Time ON	Date and Time OFF	Exposure Time (Hours)	Total µg	µg m ⁻³	ppb	Comments
PETE/09A/NA6S10	Hampton	29/09/2009 11:00	04/11/2009 12:15	865.25	1.64	27.2	14.1	
PETE/09A/NA6S11	Fletton							Missing
PETE/09A/NA6S12	London	29/09/2009 11:45	04/11/2009 12:45	865.00	1.98	32.7	17	
PETE/09A/NA6S13	Thorny bypass	29/09/2009 10:15	04/11/2009 10:45	864.50	1.97	32.6	17	
PETE/09A/NA6S14	Oundle Rd.	29/09/2009 11:45	04/11/2009 12:45	865.00	2.09	34.7	18	
PETE/09A/NA6S15	Parkway	29/09/2009 10:45	04/11/2009 11:15	864.50	2.38	39.4	20.5	
PETE/09A/NA6S16	Parkway	29/09/2009 10:45	04/11/2009 11:15	864.50	2.74	45.5	23.7	

Sample Number	Site	Date and Time ON	Date and Time OFF	Exposure Time (Hours)	Total µg	µg m ⁻³	ppb	Comments
PETE/09A/NA7S1	Borg	04/11/2009 13:00	02/12/2009 13:15	672.25	2.17	46.3	24.1	
PETE/09A/NA7S2	Thornley	04/11/2009 10:45	02/12/2009 10:45	672.00	1.63	34.7	18.1	
PETE/09A/NA7S3	Cope	04/11/2009 09:45	02/12/2009 10:15	672.50	1.36	28.9	15	
PETE/09A/NA7S4	Lyth	04/11/2009 12:30	02/12/2009 12:45	672.25	<0.03	<0.6	<0.3	
PETE/09A/NA7S5	Witt	04/11/2009 09:30	02/12/2009 09:15	671.75	1.64	34.9	18.1	
PETE/09A/NA7S6	Lincoln	04/11/2009 10:15	02/12/2009 10:30	672.25	2.6	55.5	28.9	
PETE/09A/NA7S7	Lincoln	04/11/2009 10:15	02/12/2009 10:30	672.25	2.45	52.2	27.1	
PETE/09A/NA7S8	Walt	04/11/2009 10:00	02/12/2009 10:15	672.25	1.68	35.9	18.7	
PETE/09A/NA7S9	Stan	04/11/2009 11:00	02/12/2009 11:15	672.25	1.16	24.8	12.9	

Sample Number	Site	Date and Time ON	Date and Time OFF	Exposure Time (Hours)	Total µg	µg m ⁻³	ppb	Comments
PETE/09A/NA7S1	Borg	04/11/2009 13:00	02/12/2009 13:15	672.25	2.17	46.3	24.1	
PETE/09A/NA7S2	Thornley	04/11/2009 10:45	02/12/2009 10:45	672.00	1.63	34.7	18.1	
PETE/09A/NA7S3	Cope	04/11/2009 09:45	02/12/2009 10:15	672.50	1.36	28.9	15	
PETE/09A/NA7S4	Lyth	04/11/2009 12:30	02/12/2009 12:45	672.25	<0.03	<0.6	<0.3	
PETE/09A/NA7S5	Witt	04/11/2009 09:30	02/12/2009 09:15	671.75	1.64	34.9	18.1	
PETE/09A/NA7S6	Lincoln	04/11/2009 10:15	02/12/2009 10:30	672.25	2.6	55.5	28.9	
PETE/09A/NA7S7	Lincoln	04/11/2009 10:15	02/12/2009 10:30	672.25	2.45	52.2	27.1	
PETE/09A/NA7S8	Walt	04/11/2009 10:00	02/12/2009 10:15	672.25	1.68	35.9	18.7	
PETE/09A/NA7S9	Stan	04/11/2009 11:00	02/12/2009 11:15	672.25	1.16	24.8	12.9	

Sample Number	Site	Date and Time ON	Date and Time OFF	Exposure Time (Hours)	Total µg	µg m ⁻³	ppb	Comments
PETE/09A/NA7S1	Borg	04/11/2009 13:00	02/12/2009 13:15	672.25	2.17	46.3	24.1	
PETE/09A/NA7S2	Thornley	04/11/2009 10:45	02/12/2009 10:45	672.00	1.63	34.7	18.1	
PETE/09A/NA7S3	Cope	04/11/2009 09:45	02/12/2009 10:15	672.50	1.36	28.9	15	
PETE/09A/NA7S4	Lyth	04/11/2009 12:30	02/12/2009 12:45	672.25	<0.03	<0.6	<0.3	
PETE/09A/NA7S5	Witt	04/11/2009 09:30	02/12/2009 09:15	671.75	1.64	34.9	18.1	
PETE/09A/NA7S6	Lincoln	04/11/2009 10:15	02/12/2009 10:30	672.25	2.6	55.5	28.9	
PETE/09A/NA7S7	Lincoln	04/11/2009 10:15	02/12/2009 10:30	672.25	2.45	52.2	27.1	
PETE/09A/NA7S8	Walt	04/11/2009 10:00	02/12/2009 10:15	672.25	1.68	35.9	18.7	
PETE/09A/NA7S9	Stan	04/11/2009 11:00	02/12/2009 11:15	672.25	1.16	24.8	12.9	

Sample Number	Site	Date and Time ON	Date and Time OFF	Exposure Time (Hours)	Total µg	µg m ⁻³	ppb	Comments
PETE/09A/NA8S10	Hampton	02/12/2009 11:30	06/01/2010 12:00	840.50	2.2	37.5	19.5	
PETE/09A/NA8S11	Fletton	02/12/2009 13:00	06/01/2010 16:30	843.50	2.82	47.9	24.9	
PETE/09A/NA8S12	London	02/12/2009 13:00	06/01/2010 16:30	843.50	2.5	42.6	22.1	
PETE/09A/NA8S13	Thorny Bypass	02/12/2009 10:45	06/01/2010 10:45	840.00	2.49	42.4	22.1	
PETE/09A/NA8S14	Gundle Rd	02/12/2009 13:00	06/01/2010 12:15	839.25	2.53	43.2	22.5	
PETE/09A/NA8S15	Parkway	02/12/2009 11:15	06/01/2010 11:15	840.00	3.46	59	30.7	
PETE/09A/NA8S16	Parkway	02/12/2009 11:15	06/01/2010 11:15	840.00	3.03	51.8	26.9	