

School of
Health and
Life Sciences
Environmental
Research Group

KING'S
College
LONDON
Founded 1829

University of London

**UK Automatic Urban Network
London Air Quality Network Affiliated Sites**

**Management Report
April to June 2002**

**Prepared for the Department for Environment, Food and Rural Affairs (DEFRA),
by:**

**David Green
Principal Air Quality Analyst
Environmental Research Group**

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London Air Quality Network Affiliate Site Management Report April to June 2002

1 King's ERG Interface with the Data Dissemination Unit (DDU)

1.1 Data Handling

Between April and June 2002, King's College London Environmental Research Group (ERG) has estimated that over 95% of hourly e-mails arrived at the DDU to meet their timetabled requirements. Accurate figures of punctual e-mails can be obtained from the DDU.

During this quarter ERG experienced three separate problems with data dissemination:

- 8th June – 11th June 2002 52 Hours
The air quality server suffered a system malfunction on Saturday morning that prevented emails from reaching the DDU. The duty officer rebooted the system that morning but was unable to restore the email dissemination until Monday morning.
- 9th April – 10th April 2002 22 Hours
The disk on the ERG email server developed a fatal error and required a replacement. Data dissemination was switched to our backup server as soon as possible and dissemination was resumed within 24 hours.
- 8th April – 11th May 2002 24 Hours
Workmen accidentally severed the fibre optic cable that links our offices to the Internet. While waiting for repair we routed emails through a narrow band dial-up Internet account. Data dissemination would therefore have been maintained, however the transfer time would have increased and we can therefore not guarantee that data arrived in time for onward dissemination.

2 Site Performance

2.1 Scaling of Data for April to June 2002

Scaling of data was carried out as in previous months using the zero and span readings from fortnightly calibration checks. Validation of data was carried out twice daily and reviewed again at the end of each month.

2.2 Quality Control / Quality Assurance (QA/QC)

The QA/QC Unit (NPL) carried out routine equipment audits at the London affiliated AURN sites during this quarter to assess the performance of the instruments.

Site	Start Date
Bromley Roadside	18/04/02
Camden Kerbside	16/04/02
Eltham	19/04/02
Haringey Roadside	24/04/02
London Haringey	24/04/02
Hackney	23/04/02
Hounslow Roadside	15/04/02
London North Kensington	25/04/02
Lewisham	23/04/02
Marylebone Road	16/04/02
London Southwark	26/04/02
Southwark Roadside	26/04/02
Sutton Roadside	17/04/02
London Sutton	17/04/02
Tower Hamlets Roadside	18/04/02
London Wandsworth	02/05/02

Table 1: QA/QC Audit Dates

2.3 Data for April to June 2002

Data capture rates for April, May and June are detailed in Table 2, Table 3, and Table 4. The data capture rates for each month are expressed as a percentage of valid hourly averages, after excluding data lost due to calibration and the faults discussed. The overall data capture rates for the quarter April to June are detailed in the Table 5.

Specific issues affecting data collection and quality at each site are discussed in sections 2.3.1 to 2.3.5. Details of faults are given where data capture rates fall below 90% for the quarter.

Site	Hourly Data Capture % for April 2002				
	CO	PM10	NO _x	O ₃	SO ₂
Bromley Central	99		99		
Camden Kerbside		99	99		
Eltham		71	92	92	92
Haringey Roadside		99	99		
London Haringey				99	
Hackney	99		99	98	
Hounslow Roadside	98		98		
London North Kensington	99	99	99	99	99
Lewisham			95	99	99
Marylebone Road	85	98	99	95	95
London Southwark	98		98	98	98
Southwark Roadside	99		99		96
Sutton Roadside	97	98	99		99
London Sutton			99	99	
Tower Hamlets Roadside	99		99		
London Wandsworth			99	99	

Table 2: Hourly Data Capture % for April 2002

Site	Hourly Data Capture % for May 2002				
	CO	PM10	NO _x	O ₃	SO ₂
Bromley Central	100		100		
Camden Kerbside		99	99		
Eltham		99	99	100	98
Haringey Roadside		99	100		
London Haringey				98	
Hackney	99		99	99	
Hounslow Roadside	100		100		
London North Kensington	99	100	99	96	99
Lewisham			79	79	78
Marylebone Road	100	99	100	98	98
London Southwark	100		100	99	100
Southwark Roadside	54		54		54
Sutton Roadside	5	5	5		5
London Sutton			5	5	
Tower Hamlets Roadside	99		99		
London Wandsworth			99	99	

Table 3: Hourly Data Capture % for May 2002

Site	Hourly Data Capture % for June 2002				
	CO	PM10	NO _x	O ₃	SO ₂
Bromley Central	100		100		
Camden Kerbside		99	73		
Eltham		99	98	100	100
Haringey Roadside		98	99		
London Haringey				99	
Hackney	26		26	26	
Hounslow Roadside	99		99		
London North Kensington	99	94	100	98	100
Lewisham			95	99	99
Marylebone Road	100	99	100	100	100
London Southwark	99		99	99	99
Southwark Roadside	99		100		100
Sutton Roadside	0	0	0		0
London Sutton			0	0	
Tower Hamlets Roadside	95		99		
London Wandsworth			99	99	

Table 4: Hourly Data Capture % for June 2002

Site	Hourly Data Capture % for April to June 2002				
	CO	PM10	NO _x	O ₃	SO ₂
Bromley Central	100		100		
Camden Kerbside		99	91		
Eltham		90	97	97	96
Haringey Roadside		99	99		
London Haringey				99	
Hackney	75		75	74	
Hounslow Roadside	99		99		
London North Kensington	99	98	99	98	99
Lewisham			89	92	92
Marylebone Road	95	99	100	98	98
London Southwark	99		99	99	99
Southwark Roadside	84		84		83
Sutton Roadside	34	34	34		34
London Sutton			34	34	
Tower Hamlets Roadside	98		99		
London Wandsworth			99	99	

Table 5: Hourly Data Capture % for April to June 2002

2.3.1 Hackney

2.3.1.1 Carbon Monoxide, Nitrogen Dioxide and Ozone 74 - 75%

5th June – 27th June 2002 534 Hours

Power had to be turned off to the monitoring equipment while asbestos was removed from the college building where the equipment is located.

2.3.2 Lewisham

2.3.2.1 Nitrogen Oxides 89 %

27th April – 28th April 2002 34 Hours

A faulty solenoid valve caused the NO calibration cylinder to leak into the ambient sample.

21st May – 27th May 2002 151 Hours

Power was turned off to the monitoring equipment while building works were carried out to install lights for the Queen's Golden Jubilee.

6th June – 7th June 2002 31Hours

Power was temporarily lost to all of the monitoring equipment.

2.3.3 Southwark Roadside

2.3.3.1 Carbon Monoxide, Nitrogen Oxides and Sulphur Dioxide 83 - 84%

14th May – 15th May 2002 25 Hours

Power was temporarily lost to all of the monitoring equipment.

16th May – 29th May 2002 310 Hours

The air conditioning unit inside the monitoring room failed, power to all the monitoring equipment was turned off to prevent permanent damage due to the high room temperatures until a repair had been made.

2.3.4 Sutton Roadside

2.3.4.1 PM₁₀, Carbon Monoxide, Nitrogen Oxides, Ozone and Sulphur Dioxide 34%

2nd May – 1st July 2002 1425 Hours

This site has been decommissioned due to lack of funding from the local authority.

2.3.5 London Sutton

2.3.5.1 Nitrogen Oxides and Ozone 34%

2nd May – 1st July 2002 1428 Hours

This site has been decommissioned due to lack of funding from the local authority.