



London Air Quality Network Summary Report 2009

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King's College London

Title	London Air Quality Network – Summary Report 2009
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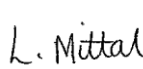
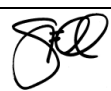
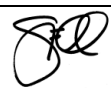
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1 Introduction

This report details the results of air pollution measurements made on the London Air Quality Network during 2009. Measurements have been presented with specific reference to the UK Air Quality Strategy (AQS) Objectives and the EU Limit Values.

The London Air Quality Network (LAQN) is a unique resource, providing robust air pollution measurements that are essential to underpin air quality management and health studies. The public face of the network, the London Air web site (www.londonair.org.uk), is visited by thousands of Londoners seeking hourly updated air pollution information.

The LAQN was formed in 1993 to coordinate and improve air pollution monitoring in London. The majority of London's 33 boroughs supply measurements to the network and in addition these data are increasingly being supplemented by measurements from local authorities surrounding London, thereby providing an overall perspective of air pollution in London and the Home Counties.

The LAQN is operated and managed by the Environmental Research Group (ERG) at King's College London. QA/QC audits are carried out by the National Physical Laboratory (NPL). Each borough funds air quality monitoring in its own area. The Department of Environment, Food and Rural Affairs (Defra) funds King's to operate the Marylebone Road site and to maintain several of the LAQN sites as affiliate sites to the UK Automatic Urban and Rural Network (AURN). This Defra support assists the operation of the overall LAQN. Analysis of LAQN measurements has been augmented by measurements from directly-funded Defra sites in London. Measurements from Defra sites were provided by AEA from the National Air Quality Archive and were included within the LAQN database. Transport for London has also funded monitoring to help assess the air pollution impacts of the Congestion Charging Scheme and Low Emission Zone.

2 Air quality Strategy Objectives and EU Limit Values

There is ample evidence of the adverse health effects caused by air pollution (WHO, 2006). In response to these health impacts, the Air Quality Strategy (AQS) for England, Scotland, Wales and Northern Ireland (Defra, 2008) sets out the UK's way forward on air quality issues, details objectives to be achieved, and proposes measures to help reach them. These UK objectives largely reflect EU Limit Values (EC, 2008). The GLA and the London boroughs and district councils outside the capital have responsibilities for the management of air quality and must work towards the attainment of AQS objectives. The AQS Objectives and EU Limit Values are detailed in Table 1. Monitoring progress towards the attainment of these Objectives and Limit Values forms a core activity for the LAQN.

Pollutant	Air Quality Objective Concentration	Measured as	To be achieved by
Carbon Monoxide (CO)	10.0 mg m ⁻³	Maximum daily running 8-hour mean	31 December 2003
Nitrogen Dioxide (NO ₂)	200 µg m ⁻³ not to be exceeded more than 18 times a year	1-hour mean	31 December 2005
	40 µg m ⁻³	Annual mean	31 December 2005
Sulphur dioxide (SO ₂)	350 µg m ⁻³ , not to be exceeded more than 24 times a year	1-hour mean	31 December 2004
	125 µg m ⁻³ , not to be exceeded more than 3 times a year	24-hour mean	31 December 2004
	266 µg m ⁻³ , not to be exceeded more than 35 times a year	15-minute mean	31 December 2005
Ozone (O ₃)	100 µg m ⁻³ not to be exceeded more than 10 times a year	8 hourly running or hourly mean	31 December 2005
Particles (PM ₁₀) (gravimetric)	50 µg m ⁻³ , not to be exceeded more than 35 times a year	Daily mean	31 December 2004
	40 µg m ⁻³	Annual mean	31 December 2004
Particles (PM _{2.5}) (gravimetric)	25 µg m ⁻³ (target)	Annual mean	2020
	20% cut in urban background exposure	Annual mean	2010 - 2020

Table 1: AQS Objectives and EU Limit Values.

3 Results

The AQS Objective results measured at LAQN sites during 2009 are detailed in Tables 2 to 8.

Key to site types:

RU	=	Rural
S	=	Suburban
U	=	Urban background
R	=	Roadside
K	=	Kerbside
I	=	Industrial

3.1 Carbon Monoxide

Site Name	Type	Capture Rate (%)	No occurrences of rolling 8hr mean $\geq 10\text{mgm}^{-3}$ (8.6ppb)	Achieved?
Bexley - Slade Green	S	90	0	yes
Brent - Kingsbury	S	88	0	n/a
Bromley - Harwood Avenue	R	99	0	yes
Camden - Bloomsbury	U	91	0	yes
City of London - Walbrook Wharf	R	96	0	yes
Crystal Palace - Crystal Palace Parade	R	91	0	yes
Ealing - Acton Town Hall	R	97	0	yes
Elmbridge - Bell Farm Hersham	U	20	0	n/a
Hackney - Clapton	U	100	0	yes
Islington - Holloway Road	R	98	0	yes
Kensington and Chelsea - Cromwell Road	R	97	0	yes
Kensington and Chelsea - North Ken	U	98	0	yes
Newham - Cam Road	R	81	0	n/a
Newham - Wren Close	U	99	0	yes
Redbridge - Gardner Close	R	51	0	n/a
Redbridge - South Woodford	R	77	0	n/a
Richmond - Upper Teddington Road	R	95	0	yes
Sevenoaks - Greatness Park	U	88	0	n/a
Southwark - Larcom Street	U	43	0	n/a
Tower Hamlets - Mile End Road	R	83	0	n/a
Wandsworth - Wandsworth Town Hall	U	99	0	yes
Westminster - Horseferry Road	U	98	0	yes
Westminster - Marylebone Road	K	98	0	yes

Table 2: AQS Objective results for CO

3.2 Nitrogen Dioxide

Site Name	Type	Capture Rate (%)	Annual Mean < 40 ug ^m ⁻³	Annual Mean Achieved?	No more than 18 occurrences of hourly mean > 200ug ^m ⁻³ (104.7ppb)	Hourly Mean Achieved?
Barking and Dagenham - North Street	K	99	50	no	2	yes
Barking and Dagenham - Rush Green	S	92	26	yes	0	yes
Barking and Dagenham - Scrattons Farm	S	96	33	yes	6	yes
Barnet - Finchley	U	96	34	yes	0	yes
Barnet - Tally Ho Corner	K	92	71	no	11	yes
Bexley - Belvedere	S	98	29	yes	0	yes
Bexley - Erith	I	99	29	yes	0	yes
Bexley - Slade Green	S	98	32	yes	0	yes
Bexley - Thames Road North	R	90	43	no	0	yes
Bexley - Thames Road South	R	80	39	n/a	0	n/a
Brent - Ikea	R	94	70	no	8	yes
Brent - John Keble Primary School	R	88	56	n/a	8	n/a
Brent - Kingsbury	S	91	32	yes	0	yes
Brent - Neasden Lane	I	92	43	no	3	yes
Brent - St Marys Primary School	U	98	36	yes	4	yes
Brentwood - Brentwood Town Hall	U	91	27	yes	0	yes
Bromley - Harwood Avenue	R	83	47	n/a	0	n/a
Camden - Bloomsbury	U	98	54	no	2	yes
Camden - Shaftesbury Avenue	R	91	88	no	13	yes
Camden - St Martins College (NOX 1)	U	88	56	n/a	0	n/a
Camden - St Martins College (NOX 2)	U	91	52	no	0	yes
Camden - Swiss Cottage	K	74	84	n/a	217	no
Castle Point - Canvey Island	U	98	21	yes	0	yes
City of London - Senator House	U	93	48	no	0	yes
City of London - Sir John Cass School	U	99	56	no	2	yes
City of London - Walbrook Wharf	R	99	131	no	951	no
Croydon - Euston Road	S	35	38	n/a	0	n/a
Croydon - George Street	R	97	52	no	0	yes
Croydon - Norbury	K	98	66	no	11	yes
Croydon - Purley Way	R	98	44	no	0	yes
Crystal Palace - Crystal Palace Parade	R	93	49	no	0	yes
Ealing - Acton Town Hall	R	76	62	n/a	13	n/a
Ealing - Ealing Town Hall	U	83	40	n/a	0	n/a
Ealing - Hanger Lane Gyratory	R	80	93	n/a	166	no
Ealing - Horn Lane	I	0	36	n/a	0	n/a
Ealing - Southall	U	89	31	n/a	0	n/a
Elmbridge - Bell Farm Hersham	U	19	30	n/a	0	n/a
Elmbridge - Hampton Court Parade	R	22	51	n/a	0	n/a
Elmbridge - Walton High Street	K	14	58	n/a	0	n/a
Enfield - Bowes Primary School	R	78	54	n/a	18	n/a
Enfield - Bush Hill Park	S	10	48	n/a	1	n/a
Enfield - Derby Road	R	98	47	no	0	yes
Greenwich - A206 Burrage Grove	R	98	49	no	3	yes
Greenwich - Blackheath	R	99	43	no	0	yes
Greenwich - Eltham	S	85	24	n/a	0	n/a

Site Name	Type	Capture Rate (%)	Annual Mean < 40 ug ^m ⁻³	Annual Mean Achieved?	No more than 18 occurrences of hourly mean > 200ug ^m ⁻³ (104.7ppb)	Hourly Mean Achieved?
Greenwich - Millennium Village	I	99	36	yes	0	yes
Greenwich - Plumstead High Street	R	98	44	no	0	yes
Greenwich - Trafalgar Road	R	99	48	no	2	yes
Greenwich - Westthorne Avenue	R	86	45	n/a	0	n/a
Greenwich - Woolwich Flyover	R	97	82	no	53	no
Greenwich and Bexley - Falconwood	R	99	45	no	6	yes
Hackney - Clapton	U	99	52	no	5	yes
Hackney - Old Street	R	86	67	n/a	4	n/a
Hammersmith and Fulham - Brook Green	U	5	51	n/a	0	n/a
Haringey - Haringey Town Hall	R	90	42	no	0	yes
Haringey - Priory Park	U	97	34	yes	4	yes
Harrow - Pinner Road	R	99	46	no	4	yes
Harrow - Stanmore	U	85	28	n/a	0	n/a
Havering - Rainham	R	74	48	n/a	0	n/a
Havering - Romford	R	94	41	no	0	yes
Heathrow Airport	U	97	51	no	0	yes
Hillingdon - Hillingdon Hospital	R	95	40	no	0	yes
Hillingdon - Oxford Avenue	R	93	44	no	0	yes
Hillingdon - Sipson Road	S	91	54	no	0	yes
Hillingdon - South Ruislip	R	97	51	no	3	yes
Hounslow - Brentford	R	97	59	no	3	yes
Hounslow - Chiswick High Road	R	89	70	n/a	2	n/a
Hounslow - Cranford	S	55	32	n/a	0	n/a
Hounslow - Feltham	R	4	59	n/a	0	n/a
Hounslow - Hatton Cross	U	88	37	n/a	0	n/a
Hounslow - Heston Road	R	87	57	n/a	1	n/a
Islington - Arsenal	U	92	39	yes	3	yes
Islington - Holloway Road	R	99	58	no	6	yes
Kensington and Chelsea - Cromwell Road	R	86	72	n/a	3	n/a
Kensington and Chelsea - Earls Court Rd	K	97	107	no	414	no
Kensington and Chelsea - Kings Road	R	98	93	no	72	no
Kensington and Chelsea - Knightsbridge	R	97	90	no	377	no
Kensington and Chelsea - North Ken	U	96	33	yes	1	yes
Lambeth - Bondway Interchange	I	88	77	n/a	12	n/a
Lambeth - Brixton Road	K	66	176	n/a	2195	no
Lambeth - Christchurch Road	R	99	59	no	0	yes
Lambeth - Loughborough Junct	U	99	33	yes	0	yes
Lambeth - Streatham Green	U	29	45	n/a	0	n/a
Lewisham - Catford	U	99	57	no	5	yes
Lewisham - New Cross	R	93	64	no	9	yes
Mole Valley - Dorking	U	90	25	yes	0	yes
Newham - Cam Road	R	82	53	n/a	4	n/a
Newham - Wren Close	U	89	38	n/a	0	n/a
Reading - Caversham Road	R	98	45	no	1	yes
Reading - Kings Road	R	95	51	no	1	yes
Reading - New Town	U	51	22	n/a	0	n/a

Site Name	Type	Capture Rate (%)	Annual Mean < 40 $\mu\text{g m}^{-3}$	Annual Mean Achieved?	No more than 18 occurrences of hourly mean > 200 $\mu\text{g m}^{-3}$ (104.7ppb)	Hourly Mean Achieved?
Reading - Oxford Road	R	97	36	yes	0	yes
Redbridge - Fullwell Cross	K	94	48	no	0	yes
Redbridge - Gardner Close	R	57	52	n/a	0	n/a
Redbridge - Perth Terrace	U	97	34	yes	0	yes
Redbridge - South Woodford	R	78	51	n/a	0	n/a
Reigate and Banstead - Horley	S	99	25	yes	0	yes
Reigate and Banstead - Horley South	S	94	31	yes	0	yes
Reigate and Banstead - Poles Lane	RU	98	19	yes	0	yes
Reigate and Banstead - Reigate High St	K	53	59	n/a	11	n/a
Richmond - Upper Teddington Road	R	95	40	no	0	yes
Richmond - Upper Teddington Road (low level)	R	84	43	n/a	0	n/a
Richmond Upon Thames - Barnes Wetlands	S	99	29	yes	0	yes
Richmond Upon Thames - Castlenau	R	97	45	no	3	yes
Richmond Upon Thames - Ntl Physical Lab	S	81	22	n/a	0	n/a
Sevenoaks - Bat and Ball	R	96	31	yes	0	yes
Sevenoaks - Greatness Park	U	98	21	yes	0	yes
Southwark - Larcom Street	U	43	49	n/a	0	n/a
Sutton - Beddington Lane north	I	91	42	no	1	yes
Sutton - Carshalton	S	95	31	yes	0	yes
Sutton - Wallington	K	96	79	no	197	no
Sutton - Worcester Park	K	99	57	no	12	yes
Thurrock - London Road (Grays)	U	97	31	yes	0	yes
Thurrock - London Road (Purfleet)	R	97	61	no	1	yes
Thurrock - Stanford-le-Hope	R	96	35	yes	0	yes
Tower Hamlets - Bethnal Green	U	82	39	n/a	0	n/a
Tower Hamlets - Blackwall	R	95	64	no	2	yes
Tower Hamlets - Mile End Road	R	99	61	no	5	yes
Tower Hamlets - Poplar	U	97	36	yes	0	yes
Waltham Forest - Crooked Billet	K	96	72	no	14	yes
Waltham Forest - Dawlish Road	U	94	40	no	0	yes
Waltham Forest - Leyton	R	89	44	n/a	3	n/a
Wandsworth - Putney High Street	K	45	155	n/a	1109	no
Wandsworth - Tooting	R	54	51	n/a	5	n/a
Wandsworth - Wandsworth Town Hall	U	97	48	no	4	yes
Westminster - Charing Cross Library	R	82	84	n/a	23	no
Westminster - Covent Garden	U	50	49	n/a	0	n/a
Westminster - Horseferry Road	U	98	44	no	0	yes
Westminster - Marylebone Road	K	99	107	no	477	no
Windsor and Maidenhead - Ascot	RU	89	31	n/a	0	n/a
Windsor and Maidenhead - Clarence Road	R	98	43	no	0	yes
Windsor and Maidenhead - Frascati Way	R	98	52	no	1	yes

Table 3: AQS Objective results for NO₂

3.3 Nitrogen Oxides

Site Name	Type	Capture Rate (%)	Annual Mean NOX as NO2 $\mu\text{g m}^{-3}$
Barking and Dagenham - North Street	K	99	104
Barking and Dagenham - Rush Green	S	92	40
Barking and Dagenham - Scrattons Farm	S	96	55
Barnet - Finchley	U	96	56
Barnet - Tally Ho Corner	K	92	152
Bexley - Belvedere	S	98	47
Bexley - Erith	I	99	58
Bexley - Slade Green	S	98	54
Bexley - Thames Road North	R	90	100
Bexley - Thames Road South	R	80	82
Brent - Ikea	R	94	267
Brent - John Keble Primary School	R	88	110
Brent - Kingsbury	S	91	49
Brent - Neasden Lane	I	92	105
Brent - St Marys Primary School	U	98	56
Brentwood - Brentwood Town Hall	U	91	38
Bromley - Harwood Avenue	R	83	79
Camden - Bloomsbury	U	98	92
Camden - Shaftesbury Avenue	R	91	188
Camden - St Martins College (NOX 1)	U	88	95
Camden - St Martins College (NOX 2)	U	91	89
Camden - Swiss Cottage	K	74	192
Castle Point - Canvey Island	U	98	28
City of London - Senator House	U	93	78
City of London - Sir John Cass School	U	99	89
City of London - Walbrook Wharf	R	99	392
Croydon - Euston Road	S	35	73
Croydon - George Street	R	97	109
Croydon - Norbury	K	98	173
Croydon - Purley Way	R	98	121
Crystal Palace - Crystal Palace Parade	R	93	109
Ealing - Acton Town Hall	R	76	142
Ealing - Ealing Town Hall	U	83	70
Ealing - Hanger Lane Gyratory	R	80	309
Ealing - Horn Lane	I	0	83
Ealing - Southall	U	89	50
Elmbridge - Bell Farm Hersham	U	19	54
Elmbridge - Hampton Court Parade	R	22	149
Elmbridge - Walton High Street	K	14	135
Enfield - Bowes Primary School	R	78	129
Enfield - Bush Hill Park	S	10	89
Enfield - Derby Road	R	98	98
Greenwich - A206 Burrage Grove	R	98	95
Greenwich - Blackheath	R	99	100
Greenwich - Eltham	S	85	37
Greenwich - Millennium Village	I	99	72

Site Name	Type	Capture Rate (%)	Annual Mean NOX as NO2 μgm^{-3}
Greenwich - Plumstead High Street	R	98	87
Greenwich - Trafalgar Road	R	99	93
Greenwich - Westthorne Avenue	R	86	105
Greenwich - Woolwich Flyover	R	97	256
Greenwich and Bexley - Falconwood	R	99	110
Hackney - Clapton	U	99	93
Hackney - Old Street	R	86	141
Hammersmith and Fulham - Brook Green	U	5	102
Haringey - Haringey Town Hall	R	90	84
Haringey - Priory Park	U	97	50
Harrow - Pinner Road	R	99	109
Harrow - Stanmore	U	85	42
Havering - Rainham	R	74	90
Havering - Romford	R	94	73
Heathrow Airport	U	97	112
Hillingdon - Hillingdon Hospital	R	95	76
Hillingdon - Oxford Avenue	R	93	82
Hillingdon - Sipson Road	S	91	116
Hillingdon - South Ruislip	R	97	108
Hounslow - Brentford	R	97	138
Hounslow - Chiswick High Road	R	89	160
Hounslow - Cranford	S	55	53
Hounslow - Feltham	R	4	161
Hounslow - Hatton Cross	U	88	68
Hounslow - Heston Road	R	87	129
Islington - Arsenal	U	92	59
Islington - Holloway Road	R	99	148
Kensington and Chelsea - Cromwell Road	R	86	157
Kensington and Chelsea - Earls Court Rd	K	97	299
Kensington and Chelsea - Kings Road	R	98	220
Kensington and Chelsea - Knightsbridge	R	97	215
Kensington and Chelsea - North Ken	U	96	54
Lambeth - Bondway Interchange	I	88	171
Lambeth - Brixton Road	K	66	468
Lambeth - Christchurch Road	R	99	115
Lambeth - Loughborough Junct	U	99	55
Lambeth - Streatham Green	U	29	92
Lewisham - Catford	U	99	105
Lewisham - New Cross	R	93	139
Mole Valley - Dorking	U	90	38
Newham - Cam Road	R	82	102
Newham - Wren Close	U	89	60
Reading - Caversham Road	R	98	99
Reading - Kings Road	R	95	139
Reading - New Town	U	51	36
Reading - Oxford Road	R	97	86
Redbridge - Fullwell Cross	K	94	122

Site Name	Type	Capture Rate (%)	Annual Mean NOX as NO2 $\mu\text{g m}^{-3}$
Redbridge - Gardner Close	R	57	114
Redbridge - Perth Terrace	U	97	56
Redbridge - South Woodford	R	78	126
Reigate and Banstead - Horley	S	99	42
Reigate and Banstead - Horley South	S	94	55
Reigate and Banstead - Poles Lane	RU	98	26
Reigate and Banstead - Reigate High St	K	53	145
Richmond - Upper Teddington Road	R	95	86
Richmond - Upper Teddington Road (low level)	R	84	102
Richmond Upon Thames - Barnes Wetlands	S	99	44
Richmond Upon Thames - Castlenau	R	97	84
Richmond Upon Thames - Ntl Physical Lab	S	81	34
Sevenoaks - Bat and Ball	R	96	66
Sevenoaks - Greatness Park	U	98	32
Southwark - Larcom Street	U	43	80
Sutton - Beddington Lane north	I	91	85
Sutton - Carshalton	S	95	49
Sutton - Wallington	K	96	175
Sutton - Worcester Park	K	99	142
Thurrock - London Road (Grays)	U	97	52
Thurrock - London Road (Purfleet)	R	97	153
Thurrock - Stanford-le-Hope	R	96	71
Tower Hamlets - Bethnal Green	U	82	58
Tower Hamlets - Blackwall	R	95	164
Tower Hamlets - Mile End Road	R	99	134
Tower Hamlets - Poplar	U	97	55
Waltham Forest - Crooked Billet	K	96	189
Waltham Forest - Dawlish Road	U	94	63
Waltham Forest - Leyton	R	89	91
Wandsworth - Putney High Street	K	45	403
Wandsworth - Tooting	R	54	93
Wandsworth - Wandsworth Town Hall	U	97	93
Westminster - Charing Cross Library	R	82	209
Westminster - Covent Garden	U	50	88
Westminster - Horseferry Road	U	98	72
Westminster - Marylebone Road	K	99	303
Windsor and Maidenhead - Ascot	RU	89	43
Windsor and Maidenhead - Clarence Road	R	98	96
Windsor and Maidenhead - Frascati Way	R	98	119

Table 4: Annual Mean values for NOx

3.4 Ozone

Site Name	Type	Capture Rate (%)	No more than 10 days where maximum rolling 8hr mean > 100 $\mu\text{g m}^{-3}$ (50ppb)	Achieved?
Bexley - Slade Green	S	98	8	yes
Bexley - Thames Road North	R	97	3	yes
Bexley - Thames Road South	R	99	7	yes
Brent - Ikea	R	84	0	n/a
Brent - Kingsbury	S	91	14	no
Bromley - Biggin Hill	S	90	13	no
Camden - Bloomsbury	U	99	1	yes
City of London - Senator House	U	93	1	yes
Croydon - Thornton Heath	S	82	11	no
Ealing - Acton Town Hall	R	94	0	yes
Ealing - Ealing Town Hall	U	89	2	n/a
Elmbridge - Bell Farm Hersham	U	20	0	n/a
Greenwich - Eltham	S	96	9	yes
Greenwich - Plumstead High Street	R	98	0	yes
Greenwich - Westthorne Avenue	R	86	0	n/a
Greenwich - Woolwich Flyover	R	98	0	yes
Greenwich and Bexley - Falconwood	R	100	0	yes
Hackney - Clapton	U	99	1	yes
Hackney - Old Street	R	99	3	yes
Haringey - Priory Park	U	99	13	no
Hillingdon - Sipson Road	S	98	7	yes
Hounslow - Cranford	S	38	2	n/a
Kensington and Chelsea - North Ken	U	98	7	yes
Lewisham - Catford	U	99	0	yes
Newham - Cam Road	R	86	7	n/a
Newham - Wren Close	U	98	7	yes
Reading - New Town	U	89	17	no
Redbridge - Perth Terrace	U	94	11	no
Reigate and Banstead - Poles Lane	RU	98	26	no
Richmond - Upper Teddington Road	R	95	2	yes
Richmond Upon Thames - Barnes Wetlands	S	98	14	no
Richmond Upon Thames - Ntl Physical Lab	S	99	20	no
Sevenoaks - Greatness Park	U	99	19	no
Southwark - Larcom Street	U	43	6	n/a
Sutton - Carshalton	S	99	12	no
Thurrock - London Road (Grays)	U	98	6	yes
Tower Hamlets - Blackwall	R	97	2	yes
Tower Hamlets - Poplar	U	99	7	yes
Wandsworth - Wandsworth Town Hall	U	98	1	yes
Westminster - Horseferry Road	U	91	2	yes
Westminster - Marylebone Road	K	95	0	yes
Windsor and Maidenhead - Ascot	RU	98	17	no

Table 5: AQS Objective results for O₃

3.5 Sulphur Dioxide

Site Name	Type	Capture Rate (%)	No more than 35 occurrences of 15min mean > 350ugm ⁻³ (100ppb)	Achieved?
Barking and Dagenham - Rush Green	S	94	0	yes
Bexley - Slade Green	S	96	0	yes
Brent - Ikea	R	92	0	yes
Brent - John Keble Primary School	R	99	0	yes
Brent - Kingsbury	S	90	0	yes
Camden - Bloomsbury	U	98	0	yes
Castle Point - Canvey Island	U	86	0	n/a
City of London - Senator House	U	93	0	yes
Crystal Palace - Crystal Palace Parade	R	90	0	yes
Ealing - Ealing Town Hall	U	79	0	n/a
Elmbridge - Bell Farm Hersham	U	19	0	n/a
Enfield - Derby Road	R	84	0	n/a
Greenwich - Eltham	S	93	0	yes
Haringey - Haringey Town Hall	R	98	0	yes
Harrow - Stanmore	U	83	0	n/a
Havering - Romford	R	40	0	n/a
Hounslow - Chiswick High Road	R	11	0	n/a
Hounslow - Cranford	S	60	0	n/a
Kensington and Chelsea - Cromwell Road	R	97	0	yes
Kensington and Chelsea - North Ken	U	97	0	yes
Lambeth - Bondway Interchange	I	93	0	yes
Lambeth - Brixton Road	K	66	0	n/a
Lambeth - Christchurch Road	R	97	0	yes
Lambeth - Loughborough Junct	U	96	0	yes
Lewisham - Catford	U	97	0	yes
Lewisham - New Cross	R	88	0	n/a
Newham - Cam Road	R	78	0	n/a
Newham - Wren Close	U	98	0	yes
Redbridge - Gardner Close	R	56	0	n/a
Richmond - Upper Teddington Road	R	94	0	yes
Sevenoaks - Greatness Park	U	98	0	yes
Southwark - Larcom Street	U	43	0	n/a
Thurrock - London Road (Grays)	U	96	0	yes
Thurrock - Stanford-le-Hope	R	84	0	n/a
Tower Hamlets - Bethnal Green	U	81	0	n/a
Tower Hamlets - Poplar	U	99	0	yes
Waltham Forest - Dawlish Road	U	37	0	n/a
Waltham Forest - Leyton	R	36	0	n/a
Wandsworth - Wandsworth Town Hall	U	88	0	n/a
Westminster - Horseferry Road	U	98	0	yes
Westminster - Marylebone Road	K	98	0	yes

Table 6: AQS Objective results for SO₂

3.6 PM₁₀

Site Name	Type	Capture Rate (%)	Annual Mean < 40 ug m ⁻³	Annual Mean Achieved?	No more than 35 occurrences of daily mean > 50 ug m ⁻³	Daily Mean Achieved?
Barking and Dagenham - North Street	K	91	33	yes	29	yes
Barking and Dagenham - Scrattons Farm	S	91	19	yes	3	yes
Barnet - Finchley	U	98	20	yes	4	yes
Barnet - Tally Ho Corner	K	98	24	yes	7	yes
Bexley - Belvedere	S	99	20	yes	4	yes
Bexley - Belvedere FDMS	S	80	23	n/a	8	n/a
Bexley - Erith	I	99	30	yes	39	no
Bexley - Slade Green	S	98	18	yes	2	yes
Bexley - Thames Road North	R	95	25	yes	13	yes
Bexley - Thames Road North FDMS	R	90	24	yes	12	yes
Bexley - Thames Road South	R	97	23	yes	14	yes
Brent - Ikea	R	94	32	yes	37	no
Brent - John Keble Primary School	R	95	23	yes	7	yes
Brent - Kingsbury	S	95	18	yes	4	yes
Brent - Neasden Lane	I	98	37	yes	80	no
Brent - St Marys Primary School	U	97	21	yes	5	yes
Bromley - Harwood Avenue	R	86	18	n/a	2	n/a
Camden - Bloomsbury	U	98	23	yes	15	yes
Camden - Shaftesbury Avenue	R	90	30	yes	16	yes
Camden - Swiss Cottage	K	63	25	n/a	11	n/a
City of London - Sir John Cass School	U	92	27	yes	11	yes
City of London - Upper Thames Street	R	95	36	yes	44	no
Croydon - George Street	R	91	24	yes	14	yes
Croydon - Thornton Heath	S	82	22	n/a	6	n/a
Crystal Palace - Crystal Palace Parade	R	87	24	n/a	5	n/a
Ealing - Acton Town Hall	R	90	25	yes	13	yes
Ealing - Acton Town Hall FDMS	R	63	22	n/a	9	n/a
Ealing - Greenford	U	29	25	n/a	5	n/a
Ealing - Horn Lane	I	88	38	n/a	73	no
Ealing - Southall	U	98	20	yes	6	yes
Elmbridge - Bell Farm Hersham	U	15	24	n/a	1	n/a
Enfield - Bowes Primary School	R	93	25	yes	17	yes
Enfield - Derby Road	R	92	27	yes	11	yes
Greenwich - A206 Burrage Grove	R	26	25	n/a	0	n/a
Greenwich - Blackheath	R	76	24	n/a	12	n/a
Greenwich - Eltham	S	87	26	n/a	11	n/a
Greenwich - Millennium Village	I	90	20	yes	12	yes
Greenwich - Plumstead High Street	R	97	20	yes	6	yes
Greenwich - Trafalgar Road	R	98	21	yes	4	yes
Greenwich - Westhorne Avenue	R	84	23	n/a	13	n/a
Greenwich - Woolwich Flyover	R	95	37	yes	44	no
Greenwich and Bexley - Falconwood	R	20	28	n/a	3	n/a
Greenwich and Bexley - Falconwood FDMS	R	75	23	n/a	9	n/a
Hackney - Old Street	R	93	28	yes	11	yes
Hammersmith and Fulham - Brook Green	U	3	21	n/a	0	n/a
Haringey - Haringey Town Hall	R	82	25	n/a	16	n/a

Site Name	Type	Capture Rate (%)	Annual Mean < 40 ug ^m ⁻³	Annual Mean Achieved?	No more than 35 occurrences of daily mean > 50ug ^m ⁻³	Daily Mean Achieved?
Haringey - Priory Park	U	95	18	yes	1	yes
Harrow - Pinner Road	R	99	24	yes	7	yes
Harrow - Stanmore	U	98	17	yes	1	yes
Havering - Romford	R	57	23	n/a	6	n/a
Heathrow Airport	U	92	23	yes	8	yes
Hillingdon - Hillingdon Hospital	R	94	21	yes	3	yes
Hillingdon - Oxford Avenue	R	97	20	yes	4	yes
Hillingdon - South Ruislip	R	95	23	yes	12	yes
Hounslow - Brentford	R	96	32	yes	20	yes
Hounslow - Chiswick High Road	R	87	26	n/a	12	n/a
Hounslow - Cranford	S	73	20	n/a	4	n/a
Hounslow - Feltham	R	3	18	n/a	0	n/a
Hounslow - Hatton Cross	U	81	19	n/a	2	n/a
Hounslow - Heston Road	R	94	24	yes	10	yes
Islington - Arsenal	U	97	20	yes	3	yes
Islington - Duncan Terrace	R	18	38	n/a	12	n/a
Islington - Foxham Gardens	U	18	27	n/a	3	n/a
Islington - Holloway Road	R	98	27	yes	7	yes
Kensington and Chelsea - Cromwell Road	R	95	28	yes	14	yes
Kensington and Chelsea - Earls Court Rd	K	95	36	yes	43	no
Kensington and Chelsea - North Ken	U	98	21	yes	7	yes
Kensington and Chelsea - N Ken Partisol	U	81	20	n/a	9	n/a
Kensington and Chelsea - North Ken FDMS	U	85	21	n/a	8	n/a
Lambeth - Bondway Interchange	I	85	42	n/a	71	no
Lambeth - Brixton Road	K	79	34	n/a	31	n/a
Lambeth - Christchurch Road	R	91	23	yes	4	yes
Lambeth - Loughborough Junct	U	88	21	n/a	6	n/a
Lewisham - New Cross	R	92	25	yes	12	yes
Marylebone Rd - Partisol	K	78	35	n/a	37	no
Mole Valley - Dorking	U	98	18	yes	3	yes
Newham - Cam Road	R	92	27	yes	10	yes
Newham - Wren Close	U	83	24	n/a	7	n/a
Reading - Caversham Road	R	84	27	n/a	13	n/a
Reading - Kings Road	R	92	22	yes	2	yes
Reading - New Town	U	98	20	yes	8	yes
Reading - Oxford Road	R	95	25	yes	5	yes
Redbridge - Fullwell Cross	K	55	27	n/a	5	n/a
Redbridge - Gardner Close	R	82	32	n/a	17	n/a
Redbridge - Perth Terrace	U	91	16	yes	1	yes
Redbridge - South Woodford	R	69	25	n/a	2	n/a
Reigate and Banstead - Horley	S	98	19	yes	4	yes
Richmond - Upper Teddington Road	R	92	23	yes	5	yes
Richmond Upon Thames - Barnes Wetlands	S	99	20	yes	5	yes
Richmond Upon Thames - Castlenau	R	94	21	yes	4	yes
Sevenoaks - Bat and Ball	R	98	23	yes	4	yes
Sevenoaks - Greatness Park	U	93	20	yes	5	yes
Southwark - Larcom Street	U	44	22	n/a	5	n/a

Site Name	Type	Capture Rate (%)	Annual Mean < 40 ug ^m ⁻³	Annual Mean Achieved?	No more than 35 occurrences of daily mean > 50ug ^m ⁻³	Daily Mean Achieved?
Sutton - Beddington Lane north	I	97	29	yes	17	yes
Sutton - Wallington	K	98	26	yes	6	yes
Sutton - Worcester Park	K	58	28	n/a	13	n/a
Thurrock - London Road (Grays)	U	96	21	yes	6	yes
Thurrock - London Road (Purfleet)	R	80	26	n/a	6	n/a
Thurrock - Stanford-le-Hope	R	79	21	n/a	6	n/a
Tower Hamlets - Bethnal Green	U	82	21	n/a	4	n/a
Tower Hamlets - Blackwall	R	93	34	yes	43	no
Tower Hamlets - Poplar	U	95	22	yes	7	yes
Waltham Forest - Crooked Billet	K	97	29	yes	17	yes
Waltham Forest - Dawlish Road	U	98	22	yes	4	yes
Waltham Forest - Leyton	R	58	26	n/a	7	n/a
Wandsworth - Putney High Street	K	42	30	n/a	6	n/a
Wandsworth - Tooting	R	56	23	n/a	3	n/a
Westminster - Horseferry Road	U	2	15	n/a	0	n/a
Westminster - Marylebone Road TEOM	K	97	36	yes	37	no
Westminster - Marylebone Road FDMS	K	93	37	yes	45	no

Table 7: AQS Objective results for PM₁₀.

All PM₁₀ measurements have been converted to gravimetric equivalent by the methods recommended in Defra's Local Air Quality Management Technical Guidance (Defra, 2009), i.e. TEOM measurements have been corrected using the Volatile Correction Model (VCM) and BAM measurements have been multiplied by 0.83.

3.7 PM_{2.5}

Site Name	Type	Instrument Type	Capture Rate (%)	Annual Mean ug m ⁻³ uncorrected
Bexley - Belvedere	S	TEOM	97	10
Bexley - Erith	I	FDMS	16	11
Bexley - Slade Green	S	FDMS	90	14
Bexley - Thames Road North	R	TEOM	97	12
Bexley - Thames Road South	R	TEOM	98	11
Bexley - Thamesmead	S	TEOM	98	10
Brent - Ikea	R	TEOM	99	15
Camden - Bloomsbury	U	FDMS	90	16
Camden - Swiss Cottage	K	FDMS	59	17
Ealing - Acton Town Hall	R	TEOM	89	11
Greenwich - A206 Burrage Grove	R	FDMS	73	20
Greenwich - Eltham	S	FDMS	96	18
Greenwich - Millennium Village	I	FDMS	98	15
Greenwich - Plumstead High Street	R	FDMS	97	14
Greenwich - Westthorne Avenue	R	FDMS	81	16
Greenwich - Woolwich Flyover	R	TEOM	97	19
Greenwich and Bexley - Falconwood	R	TEOM	37	14
Greenwich and Bexley - Falconwood	R	FDMS	46	17
Hackney - Clapton	U	TEOM	92	12
Hackney - Old Street	R	TEOM	96	14
Haringey - Haringey Town Hall	R	FDMS	74	15
Harrow - Stanmore	U	FDMS	82	13
Kensington and Chelsea - North Ken	U	FDMS	96	14
Kensington and Chelsea - North Ken	U	PARTISOL	88	11
Reading - New Town	U	FDMS	98	12
Redbridge - Fullwell Cross	K	BAM	90	12
Redbridge - Gardner Close	R	BAM	74	16
Richmond Upon Thames - Ntl Physical Lab	S	FDMS	98	13
Thurrock - Stanford-le-Hope	R	FDMS	44	15
Tower Hamlets - Blackwall	R	FDMS	98	19
Westminster - Marylebone Road	K	TEOM	96	17
Westminster - Marylebone Road	K	FDMS	62	22
Westminster - Marylebone Road	K	PARTISOL	81	18

Table 8: AQS Objective results for PM_{2.5}

4 References

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