NEWTOWNABBEY BOROUGH COUNCIL
Environmental Services Department

LOCAL AIR QUALITY PROGRESS REPORT

APRIL 2005

Newtownabbey
BOROUGH COUNCIL

Copies of this report are available from:

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C O N T E N T S

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Air and Environmental Quality Unit

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Air Quality Review and Assessment Helpdesk

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1 INTRODUCTION

1.1 Local authorities in Northern Ireland have air quality management duties which are specified in Part III of The Environment (Northern Ireland) Order 2002. The aim of these duties is to deliver the national objectives as set out in the Air Quality Strategy for England, Wales and Northern Ireland.

1.2 In August 2004 Newtownabbey Borough Council published its detailed Second and Third Stage Review and Assessment of Local Air Quality.

1.3 Local authorities in Northern Ireland are now required to prepare a Progress Report as specified in Environment (Northern Ireland) Order 2002 Local Air Quality Management Progress Report Guidance LAQM.PRGNI (04). Some of the aims of the Progress Report are to provide a means of communicating air quality information to elected members and the public and providing information to assist in other policy areas such as transport and land planning. The overall aim of the report is to:

- Report progress on implementing local air quality management; and
- Report progress in achieving or maintaining concentrations below the air quality objectives.

1.4 In order to achieve this Newtownabbey Borough Council's progress report will focus on:

- **New monitoring results** (since those reported in Second/Third Stage Review and Assessment)
- **New local developments** likely to affect air quality

2 NEW MONITORING RESULTS

2.1 Automatic Monitoring Sites

Nitrogen Dioxide

From April 2003 the automatic monitoring of NO_2 has been undertaken at two roadside locations in the Borough using chemiluminescent analysers. The analysers are sited at:

Location	Grid Ref.
Antrim Road, Mallusk	305 830
Shore Road	347 805

Sulphur Dioxide and Particulate Matter

From February, 2005 the automatic monitoring of SO_2 and PM_{10} has been undertaken in the Ballyclare area using a chemiluminescent analyser and a TEOM. The station is sited at:

Location	Grid Ref.
Ollardale, Ballyclare	283 909

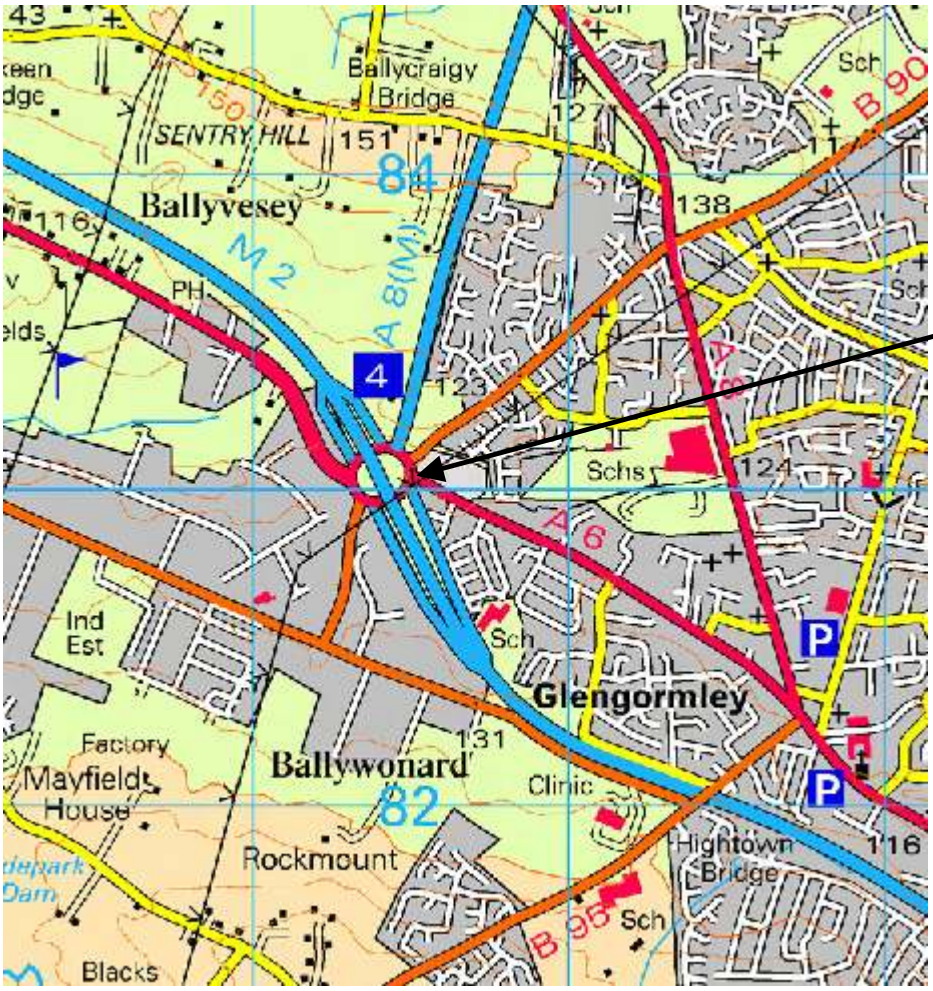
Monitoring sites are shown on the following maps.

QA/QC

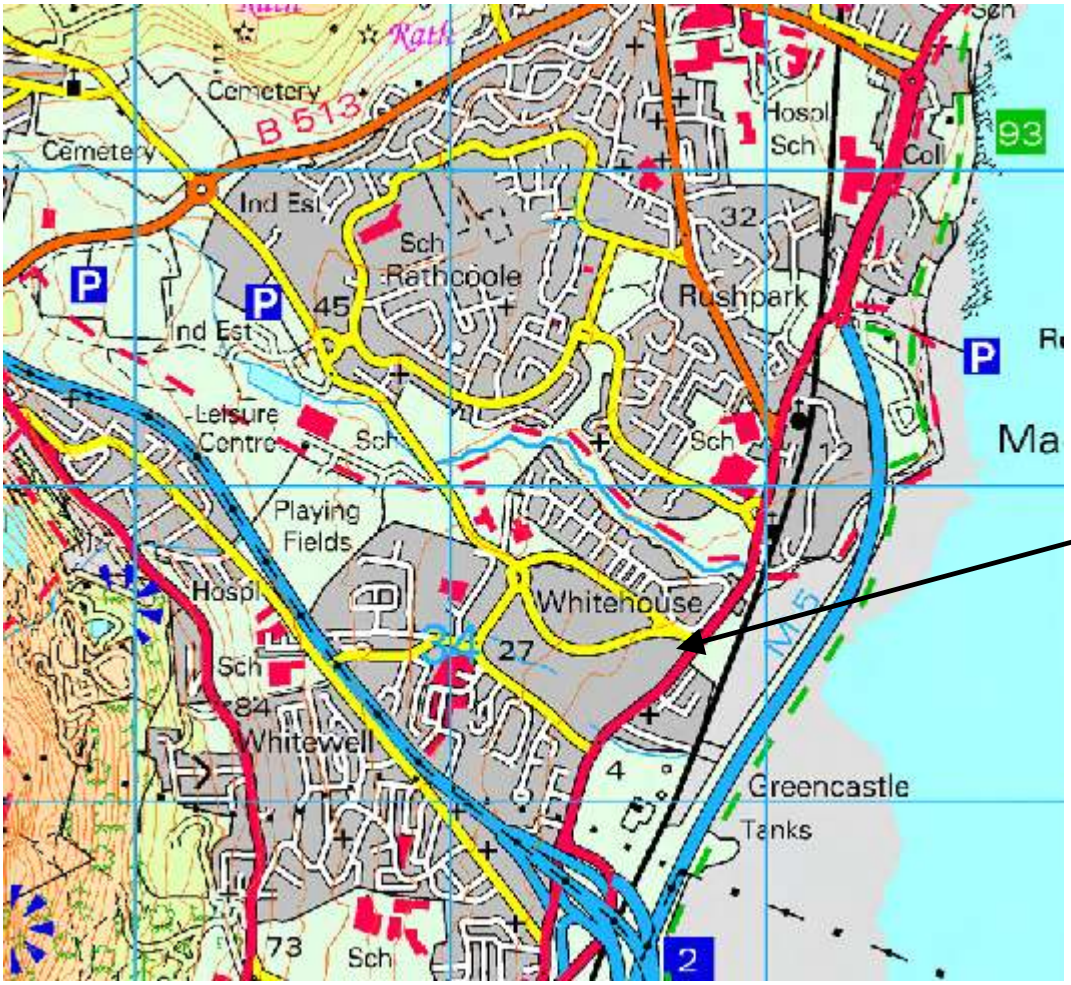
All the monitors are covered by a QA/QC contract with Netcen.

The Data Quality Report by Netcen for the two NO_2 sites for the period 1 April 2004 to 30 September 2004 is shown in Appendix 1.

Mallusk NO_2 Analyser Site

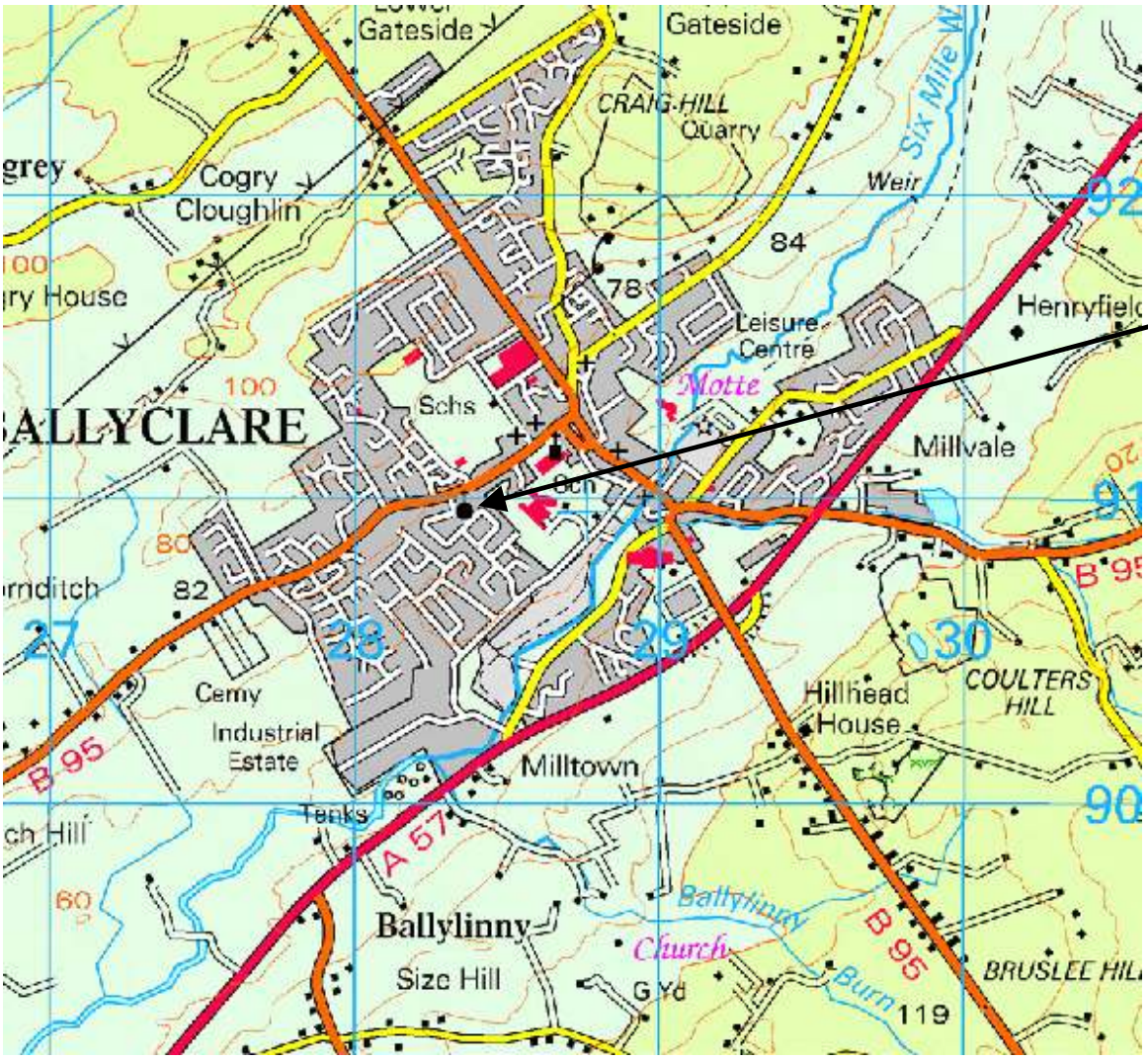


Shore Road NO_2 Analyser Site



Analyser Site

Ballyclare SO_2 and Particular Matter Site



2.2 Automatic Monitoring Results

Nitrogen Dioxide

The mean nitrogen dioxide concentrations obtained from ratified data for the period 1 April, 2004 to 30 September, 2004 are shown below:

Location	**Mean NO2 Conc. μgm^{-3}**	**Maximum Hourly Average μgm^{-3}**
Antrim Road, Mallusk	23.3	85
Shore Road	21.7	86.7

The monthly nitrogen dioxide concentrations for 1 January, 2004 to 31 December, 2004 are shown below:

Mallusk

	NO2 (μgm^{-3})	**% Data Capture**	**Ratified/ Provisional**
January	33	96	R
February	45	89	R
March	29	54	R
April	29	95	R
May	33	98	R
June	26	100	R
July	25	100	R
August	28	100	R
September	24	99	R
October	33	97	P
November	36	100	P
December	32	100	P

Shore Road

	NO2 (μgm^{-3})	% Data Capture	Ratified/ Provisional
January	33	96	R
February	38	89	R
March	28	54	R
April	28	94	R
May	29	94	R
June	24	95	R
July	23	96	R
August	26	95	R
September	24	95	R
October	31	97	P
November	33	100	P
December	31	100	P

The mean nitrogen dioxide concentrations for the period 1 January, 2004 to 31 December, 2004 at both automatic monitoring sites are below the Annual Mean Air Quality Objective of 40 μgm^{-3}.

Sulphur Dioxide and Particular Matter

There is no ratified data available for either of these analysers.

2.3 Passive Monitoring

Nitrogen Dioxide

Passive diffusion tubes are used to measure nitrogen dioxide at a number of roadside locations throughout the Borough. The tubes remain at the location for a four week exposure period and are then sent to Lambeth Scientific Services Limited, London for analysis and to calculate the average NO_2 concentration at each location.

Since June 2003 tubes were placed in triplicate at the two automatic monitoring sites.

In June 2004 a review of diffusion tube monitoring site results was completed. As a result, monitoring at several sites ceased and some tubes were relocated to a more appropriate location close to a sensitive receptor. In December 2004 a tube was also located at a property in Collinbridge, Newtownabbey which had been identified in the Environmental Statement for the M2 widening scheme as the closest property to the M2.

2.4 Passive Monitoring Results

Diffusion tube results for 2004 are listed below (where tube missing/zero result recorded, average taken for number of tubes present).

Live sites are highlighted in black.

Site Ref.	Location	No. of Tubes Averaged	Average
1	**Main Street, Ballyclare**	**11**	**27**
2	Burnthill Road	6 (ceased Jun 04)	18
3	St Bernard School	6 (ceased Jun 04)	26
4	Hightown/Mallusk Road	6 (ceased Jun 04)	28
5	**McMillan House**	**12**	**26**
6	Greenacres	6 (ceased Jun 04)	17
7	Valley Leisure Centre	6 (ceased Jun 04)	22
8	**Braden Heights**	**12**	**12**
9	Merville Garden Village	6 (ceased Jun 04)	20
10	M5, Shore Road	5 (ceased Jun 04)	28
11	**44 Sandyknowes Avenue**	**10**	**24**
12	**12 Sandyholme Way**	**9 (commenced Apr 04)**	**30**
12	Tudor Park, Mallusk	3 (ceased Mar 04)	10
13	Scullions Road, Mallusk	6 (ceased Jun 04)	20
14	Btm Main Street, Ballyclare	6 (ceased Jun 04)	19
15	North End, Ballyclare	6 (ceased Jun 04)	40
16	**Doagh Village**	**10**	**22**
17	The Longshot, Doagh	6 (ceased Jun 04)	19
18	**Main Street, Ballynure**	**6 (commenced Jul 04)**	**23**
18	Main Street, Ballynure	6 (ceased Jun 04)	19
19	A8, Doagh Road	3 (ceased Jun 04)	14
20	**A8M at Sandyknowes**	**12**	**26**
21	**Ballyclare Road/Manse Road**	**12**	**23**
22	Nortel	6 (ceased Jun 04)	16
23	Opp. 189 Doagh Road	6 (ceased Jun 04)	25

24	O'Neill Road/Doagh Road	6 (ceased Jun 04)	18
25	Station Road	6 (ceased Jun 04)	21
26	690 Shore Road	6 (ceased Jun 04)	19
27	**1A Jordanstown Road**	**6 (commenced Jul 04)**	**22**
27	Opp. 1A Jordanstown Road	6 (ceased Jun 04)	20
28	Jordanstown Road	6 (ceased Jun 04)	18
29	174 Monkstown Road	6 (ceased Jun 04)	16
30	Hillhead Road/Mill Road	6 (ceased Jun 04)	18
31	**Bernice Road/Mallusk Road (at stop sign)**	**6 (commenced Jul 04)**	**11**
31	Bernice Road/Mallusk Road	6 (ceased Jun 04)	13
32	Antrim Road (Sandyknowes)	6 (ceased Jun 04)	25
33	Manse Road/Prince Charles Way	6 (ceased Jun 04)	21
34	Old Carrick Road	6 (ceased Jun 04)	20
35	Henryville Court	6 (ceased Jun 04)	13
36	**NOx Analyser, Antrim Road**	**12**	**26**
37	**NOx Analyser, Antrim Road**	**12**	**26**
38	**NOx Analyser, Antrim Road**	**12**	**23**
39	**NOx Analyser, Antrim Road**	**10**	**19**
40	**NOx Analyser, Shore Road**	**11**	**21**
41	**NOx Analyser, Shore Road**	**10**	**25**
42	**Langley Hall**	**5 (commenced Jul 04)**	**16**
43	**Antrim Road, Elmfield**	**6 (commenced Jun 04)**	**30**
44	**Abbots Cross**	**5**	**16**
45	**B & Q**	**5**	**22**
46	**Collinbridge Road**	**1**	**22**

The live sites with the highest average nitrogen dioxide concentrations (based on the actual number of months monitoring) are:

Site Ref.	**Location**	**No. of Months Monitoring**	**NO_2 Annual Average μgm^{-3}**
1*	Main Street, Ballyclare	11	27
5	McMillan House, Glengormley	12	26
11*	44 Sandyknowes Avenue	10	24
12*	Sandyholme Way	9	30
20	A8M Sandyknowes	12	26
21	Ballyclare Road, Manse Road	12	23
43*	Antrim Road, Elmfield	6	30

* Sites 1, 11, 12 and 43 are based on less than 12 months' monitoring.

In order to obtain an estimation of the annual mean nitrogen dioxide concentration at both these sites an adjustment was made to the monitoring results as per Box 6.5 page 6-8 of the Technical Guidance LAQM TG (03).

The annual mean and period means were obtained for the neighbouring Belfast AURN site. The ratio of the annual mean to the average period mean was calculated. This was then used as the adjustment factor to estimate the annual mean short-term nitrogen dioxide concentration at sites 1, 11, 12 and 43. The calculations for sites 1, 11, 12 and 43 are shown in Tables 1 to 4 in Appendix 2 and are summarised below.

Adjusted Annual Average NO2 Diffusion Tube Concentrations 2004 (μgm^{-3})

Site Ref.	Location	Adjusted Annual Average
1	Main Street, Ballyclare	26
11	44 Sandyknowes Avenue	23
12	Sandyholme Way	33
43	Antrim Road, Elmfield	31.5

2.5 Bias Adjustment Factor

Triplicate diffusion tubes have been collocated at both the Newtownabbey chemiluminescent NO_X monitors since June 2003. Bias adjustment factors for both sites for 2004 were calculated (shown in Tables 5 and 6, Appendix 2). A bias adjustment factor based on 4 collocation studies (East Hertfordshire DC, London Borough of Haringey and two in Newtownabbey) was also obtained from Air Quality Consultants Limited in April 2004. The Council has been advised this value, however, may be subject to change due to a number of unresolved issues, that is, tube precision and site type influences.

The various bias adjustment factors have been applied to the annual mean nitrogen dioxide concentrations at sites 1, 5, 11, 12, 20, 21 and 43 as shown below.

Bias Adjusted NO_2 Diffusion Tube Concentrations 2004 (μgm^{-3})

Site	Annual Average (adjusted if < 12 months)	Bias Adjustment Factor (Mallusk) 1.29	Bias Adjustment Factor (Shore Road) 1.45	Bias Adjustment Factor (Air Quality Consultants Limited) 1.21
1	26	33	38	31
5	26	33	38	31
11	23	30	33	28
12	33	43	48	40
20	26	33	38	31
21	23	30	33	28
43	31.5	41	46	38

These bias adjusted concentrations were then corrected to estimate the annual average NO_2 concentrations in 2005 as per box 6.6, page 6.9 of the Technical Guidance TG (03).

2004 correction factor = 0.915
2005 correction factor = 0.892

2005 mean average NO2 conc.

= 2004 annual average x (0.892/0.915)

= 2004 annual average x 0.975

A summary of the bias adjusted figures and the estimated annual average NO_2 concentration for 2005 for sites 1, 5, 11, 12, 20, 21 and 43 are shown below. Concentrations predicted to be above the annual mean air quality objective of 40 μgm^{-3} for nitrogen dioxide are shown in bold.

Nitrogen Dioxide Diffusion Tube Concentrations 2004 (μgm^{-3}) Bias Adjusted and Corrected to 2005 Concentration

Site	Mallusk Bias Adjustment (1.29)	Corrected to 2005 (Box 6.6TG(03))	Shore Road Bias Adjustment (1.45)	Corrected to 2005 (Box 6.6 TG(03))	Air Quality Consultants Bias Adjust (1.21)	Corrected to 2005 (Box 6.6 TG(03))
1	33	33	38	37	31	31
5	33	33	38	37	31	31
11	30	29	33	32	28	27
12	**43**	**41**	**48**	**47**	40	39
20	33	33	38	37	31	31
21	30	29	33	32	28	27
43	**41**	40	**46**	**45**	38	37

3 NEW LOCAL DEVELOPMENTS

The following are new local developments since completion of the Stage 1 Report.

3.1 Part A, B and C Processes

A list of Part A, Part B and Part C processes within Newtownabbey Borough Council are listed in Appendix 3.

3.2 New Retail Developments

Abbey Retail Park, Church Road, Newtownabbey

- Valley Retail Park, Church Road, Newtownabbey
- Old Courthouse site, Church Road, Newtownabbey

3.3 New Road Schemes

A8 dual carriageway and roundabouts scheme from Linden Lea to Hillhead Road

- Ballynure by-pass
- Northcott Link Road between Antrim Road and Ballyclare Road, Glengormley
- Mallusk Road/Scullion's Road junction serving Mayfield Development, Mallusk

3.4 New Landfill Developments

Baird's Brae Landfill Site Phase 2 has not progressed any further.

3.5 New Mixed Use Development

- Mayfield Village

3.6 Residential Developments

In addition, there have been a number of large residential developments within the Borough with the potential to increase traffic flow, including:

- Lands between Ballycraigy Road and Corr's Corner
- Glenmount Village, Church Road, Newtownabbey
- Victoria Road, Ballyclare
- Laurel Hill and Fernridge at Ballycraigy Road
- O'Neill Road
- Hydepark Road, Mallusk
- Mayfield Village, Hightown
- Ballyhamage, Burn Road, Doagh
- Arthur Avenue
- Castle Road, Ballynure
- Monkstown Road
- The Glade, Mossley
- Shore Road, Jordanstown
- Glebe Road
- Swiss Chalet, Ballyclare Road, Glengormley
- Mill Pond, Doagh
- Sixmile Manor, Ballyclare
- Antrim Road, Elmfield

4 CONCLUSIONS

4.1 The estimated 2005 annual average concentrations for the passive monitoring sites at Sandyholme Way (site 12) and Antrim Road at Elmfield (site 43) are equal to or above the Annual Mean Air Quality Objective of 40 μgm^{-3} if the local bias adjustment factors for Mallusk (1.29) and Shore Road (1.45) are applied. The monitoring results at both sites however are based on less than 12 months' monitoring data.

Site 12 is located on the exterior façade of the sensitive location which is situated adjacent to the onslip of the M2 motorway (southbound) at Sandyknowes roundabout. However, it is not proposed to declare an Air Quality Management Area for this sensitive location at this time. It is proposed to obtain detailed traffic data for the M2 motorway and all approach roads to the Sandyknowes roundabout, to model this area and to continue monitoring at the sensitive location.
Site 43 is located on the roadside on Antrim Road, Glengormley. It is proposed to move the diffusion tube to the façade of a sensitive location and continue monitoring in order to get a full year's results.

Further results will be provided in the Detailed Updating and Screening Assessment which is due in April 2006.

4.2 The Council declared an Air Quality Management Area in October 2004 in relation to a likely breach of the Annual and Daily Mean Objectives of Particulate Matter (PM_{10}) in Ballyclare (see Appendix 4).
Further modelling work has now been completed by Netcen in this AQMA (*Air Quality Review and Assessment Stage 4 – Domestic Fuel Combustion*). This modelling has not predicted any exceedance of the regulated objectives for SO_2 and PM_{10}. This, however, is subject to verification of the modelling using local monitoring data. Continuous monitoring of SO_2 and PM_{10} has been undertaken in the AQMA since February 2005. This will be reported in the Updating and Screening Assessment due in April 2006.

APPENDIX 1

netcen

netcen is an operating division of AEA Technology plc

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09 March 2005
Reference 20645066/R1

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Direct facsimile 0870 190 6377
e-mail david.madle@aeat.co.uk

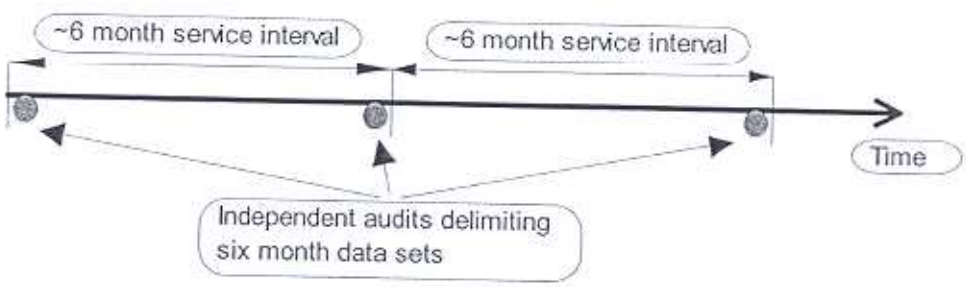
Dear Vanessa

AIR MONITORING CALIBRATION CLUB

Ambient air monitoring station: Mallusk and Shore Road
Date of Audits: 20 April 2004 and 30 September 2004

This report documents the results of quality control audits and the process of data management to the Newtownabbey Borough Council *Mallusk* and *Shore Road* ambient air monitoring stations. The work programme is supplied under contract AEA/20645066 for the supply of audit and data management services under **netcen**'s Air Monitoring Calibration Club.

The next audit of the station was scheduled for February 2005. It is recommended that the equipment service be scheduled to fall shortly after these audits. In this way the audits provide a useful endpoint upon which subsequent data management activities can be based. The previous service provides a known start point for the council's data sets, as illustrated below:



The Newtownabbey Borough Council Mallusk and Shore Road ambient air monitoring stations received audits on 20 April and 30 September 2004. The equipment audits utilise procedures that are applied within the Department for Environment, Food and Rural Affairs (Defra) national automatic air monitoring network quality control programme.

AUDIT RESULTS

The oxides of nitrogen (NO_x) analysers responded well throughout the duration of the audits. The performance of these analysers was consistent with standards laid down within the Defra national automatic air monitoring network.

NO_2 concentrations remained in the DoE in Northern Ireland LOW band throughout the monitoring period. The maximum hourly mean concentration of 52 ppb was below the DoE in Northern Ireland hourly objective value of 105 ppb. The mean concentration of 13 ppb was below the DoE in Northern Ireland annual mean objective value of 21 ppb.

netcen continues to scale ambient data based on the routine calibration results provided. Please continue to email/fax all routine calibration results to **netcen** with all the relevant sections of the calibration sheet completed. Fax all service/engineer reports to 0870 190 6610 as these are extremely useful during the ratification process.

The next ratified dataset will cover the period 01 October 2004 through 31 March 2005. If you have any questions relating to our audit, data sets and summary statistics, or wish to discuss any aspect of air pollution monitoring, please don't hesitate to contact me on 0870 190 6523 or at david.madle@aeat.co.uk.

Yours sincerely

David Madle
Air Pollution Monitoring

APPENDIX 2

Estimation of Annual Mean Nitrogen Dioxide Concentration from Short Term Monitoring Data as Per Box 6.5 Page 6.8 Technical Guidance TG(03)

Comparison of Newtownabbey Borough Council Site 1 NO_2 Diffusion Tube Results (2004) to Belfast Central AURN Site

Table 1

Diffusion Tube Monitoring Period 2004	Belfast City Council Annual Mean (AM) 2004	Belfast City Council Period Mean (PM) 2004	Ratio (AM Divided by PM)
January	28	37	
February	28	39	
March	28	33	
April	28	24	
May	28	24	
June	28	21	
July	28	19	
August	28	24	
October	28	29	
November	28	31	
December	28	34	
Average (11 months)	**28**	**29**	**0.97**

Site 1 average based on 11 months' monitoring = 27
Annual Mean = (27 x 0.97) = 26

Comparison of Newtownabbey Borough Council Site 11 NO_2 Diffusion Tube Results (2004) to Belfast Central AURN Site

Table 2

Diffusion Tube Monitoring Period 2004	Belfast City Council Annual Mean (AM) 2004	Belfast City Council Period Mean (PM) 2004	Ratio (AM Divided by PM)
January	28	37	
February	28	39	
March	28	33	
April	28	24	
June	28	21	
August	28	24	
September	28	23	
October	28	29	
November	28	31	
December	28	34	
Average (10 months)	**28**	**29.5**	**0.95**

Site 11 average based on 10 months' monitoring = 24
Annual Mean = (24 x 0.95) = 23

Comparison of Newtownabbey Borough Council Site 12 NO_2 Diffusion Tube Results (2004) to Belfast Central AURN Site

Table 3

Diffusion Tube Monitoring Period 2004	Belfast City Council Annual Mean (AM) 2004	Belfast City Council Period Mean (PM) 2004	Ratio (AM Divided by PM)
April	28	24	
May	28	24	
June	28	21	
July	28	19	
August	28	24	
September	28	23	
October	28	29	
November	28	31	
December	28	34	
Average (9 months)	**28**	**25.4**	**1.10**

Site 12 average based on 9 months' monitoring = 30
Annual Mean = (30 x 1.10) = 33

Comparison of Newtownabbey Borough Council Site 43 NO_2 Diffusion Tube Results (2004) to Belfast Central AURN Site

Table 4

Diffusion Tube Monitoring Period 2004	Belfast City Council Annual Mean (AM) 2004	Belfast City Council Period Mean (PM) 2004	Ratio (AM Divided by PM)
July	28	19	
August	28	24	
September	28	23	
October	28	29	
November	28	31	
December	28	34	
Average (6 months)	**28**	**26.7**	**1.05**

Site 43 average based on 6 months' monitoring = 30
Annual Mean = (30 x 1.05) = 31.5

BIAS ADJUSTMENT FACTORS 2004

As Per Air Quality Consultants Guidance "Methodology Used in the Survey of Diffusion Tube Collocation Studies"

Table 5 – Shore Road

Month (04)	Cont. Analyser	Tubes			Tube Average	Adjusted Analyser	Adjusted Tube
		Site 36	Site 37	Site 38			
Jan	33	22	14	22	19.3	33	19.3
Feb	38	18	27	30	25	38	25
Mar*	28	26	31	40	32.3	-	-
Apr	28	22	20	20	20.7	28	20.7
May	29	7	16	18	13.7	29	13.7
Jun	24	19	25	23	22.3	24	22.3
Jul	23	-	14	-	14	33	14
Aug	26	-	-	-	-	-	-
Sept	24	14	19	25	19.3	24	19.3
Oct	31	18	21	21	20	31	20
Nov	33	23	29	27	26.3	33	26.3
Dec	31	20	20	26	22	31	22
Period Mean						**30.4**	**20.3**

* Only 54% data capture, therefore < 75%

Bias adjustment factor $\frac{30.4}{20.3}$ = 1.5

Shore Road Bias Adjustment Factor = 1.5

Bias Adjustment Factor After Orthogonal Regression = 1.45

Table 6 - Mallusk

Month (04)	Cont. Analyser	Tubes			Tube Average	Adjusted Analyser	Adjusted Tube
		Site 36	Site 37	Site 38			
Jan	33	22	21	15	19.3	33	19.3
Feb	45	29	32	30	30.3	45	30.3
Mar*	29	21	40	34	31.7	-	-
Apr	29	21	22	28	23.7	29	23.7
May	33	19	24	30	24.3	33	24.3
Jun	26	27	26	18	23.7	26	23.7
Jul	25	28	13	24	21.7	25	21.7
Aug	28	22	15	14	17	28	17
Sept	24	20	9	17	15.3	24	15.3
Oct	33	33	32	15	26.7	33	26.7
Nov	36	39	39	18	32	36	32
Dec	32	32	34	33	33	32	32
Period Mean						**31.3**	**24.2**

* Only 54% data capture, therefore < 75%

Bias adjustment factor $\frac{31.3}{24.2} = 1.3$

Mallusk Bias Adjustment Factor = 1.3

APPENDIX 3

PART A, B AND C PROCESSES WITHIN NEWTOWNABBEY BOROUGH COUNCIL

Part A IPC Processes

Site Operator Name	Site Address
Brett Martin Limited	24 Roughfort Road, Mallusk

Part A IPPC Processes

Site Operator Name	Site Address
NK Coatings Limited	4 Michelin Road, Mallusk
Diageo Baileys Global Supply	Hightown Industrial Estate, Mallusk Road, Newtownabbey

Part B IPC Processes

Site Operator Name	Site Address
RMC Quarries (Ulster) Ltd	1 Sealstown Road, Mallusk
Ready Use Concrete	Boyd's Quarry, 140 Mallusk Road, Newtownabbey
James Boyd & Sons Ltd	140 Mallusk Road, Newtownabbey
F P McCann Ltd	Boyd's Quarry, 140 Mallusk Road, Newtownabbey
NK Coatings Limited	4 Michelin Road, Mallusk
Brett Martin Limited	24 Roughfort Road, Mallusk

Part C Processes

Vapour Recovery

Site Operator Name	Site Address
Spar	119 Manse Road, Newtownabbey
Spar	91 Templepatrick Road, Ballyclare
Spar	45 Mallusk Road, Newtownabbey
Spar	290 Antrim Road, Newtownabbey
Glenabbey Filling Station	492 Antrim Road, Newtownabbey
Whitehouse Filling Station	Shore Road, Newtownabbey
Twinburn Filling Station	Monkstown Road, Newtownabbey
Ballyrobert Cash Stores	47 Mossley Road, Ballyrobert
Forecourt Centre	Station Road, Doagh
J Gordon and Sons	175 Doagh Road, Newtownabbey
Hazelbank Service Station	448 Shore Road, Newtownabbey
Glen Service Station	88 Ballyclare Road, Newtownabbey
Moyola Park Service Station	387 Antrim Road, Newtownabbey
O'Neill Road Filling Station	O'Neill Road, Newtownabbey
Rathcoole Filling Station	45 Doagh Road, Newtownabbey
Tesco Filling Station	Abbey Retail Park, Newtownabbey
Trackside Service Station	Shore Road, Newtownabbey
N Watt & Sons	4 Ballynure Road, Ballyclare

Site Operator Name	Site Address
Ballynure Filling Station	3 Larne Road, Ballynure

Cement Processes

Site Operator Name	Site Address
Mega-Mix (94) Ltd	60 Ballycraigy Road, Newtownabbey
Abbey-Crete	372 Ballyclare Road, Newtownabbey
Frank McIlroy Ltd	Cloughfern Avenue, Newtownabbey
Roadmix	60 Ballycraigy Road, Newtownabbey
RMC Ulster Ltd	Ballypalady Road, Doagh
RMC Ulster Ltd	Sealstown Road, Mallusk
St Gobain	Dennison Industrial Estate, Ballyclare

Coal Processes

Site Operator Name	Site Address
Home Fuels Ltd	Central Park, Mallusk

Coating Processes

Site Operator Name	Site Address
F G Wilson (Eng) Ltd	Doagh Road, Newtownabbey
Montracon Ltd	50 Mallusk Road, Newtownabbey
J E Coulter Ltd	Commercial Way, Mallusk

Timber Processes

Site Operator Name	Site Address
McLaughlin & Harvey	Trench Road, Mallusk

APPENDIX 4

Newtownabbey Borough Council

Air Quality Management Area Order

Environment (Northern Ireland) Order 2002 Part III, Article 12(1)

Newtownabbey Borough Council, in exercise of the powers conferred upon it by Part III, Article 12 (1) of the Environment (Northern Ireland) Order 2002, hereby makes the following Order:-

1. This Order may be cited as the Newtownabbey Borough Council Air Quality Management Area No. 1 Ballyclare and shall come into effect on 26 October, 2004.

2. The Area shown in red on the attached map marked "Newtownabbey Borough Council Air Quality Management Area No. 1 Ballyclare" is to be designated as an Air Quality Management Area and incorporates the streets or parts thereof contained in Appendix 1.

3. The may be viewed by visiting the public display in Mossley Mill during the period from 26 October to 24 December, 2004, by visiting the website at www.newtownabbey.gov.uk, or by contacting staff of the Environmental Services Department on telephone no. 9034 0160.

The Area is designated in relation to a likely breach of the Particulate Matter (PM_{10}) (annual and daily mean) objectives as specified in the Air Quality Regulations (Northern Ireland) 2003.

This Order shall remain in force until it is varied or revoked by a subsequent Order.

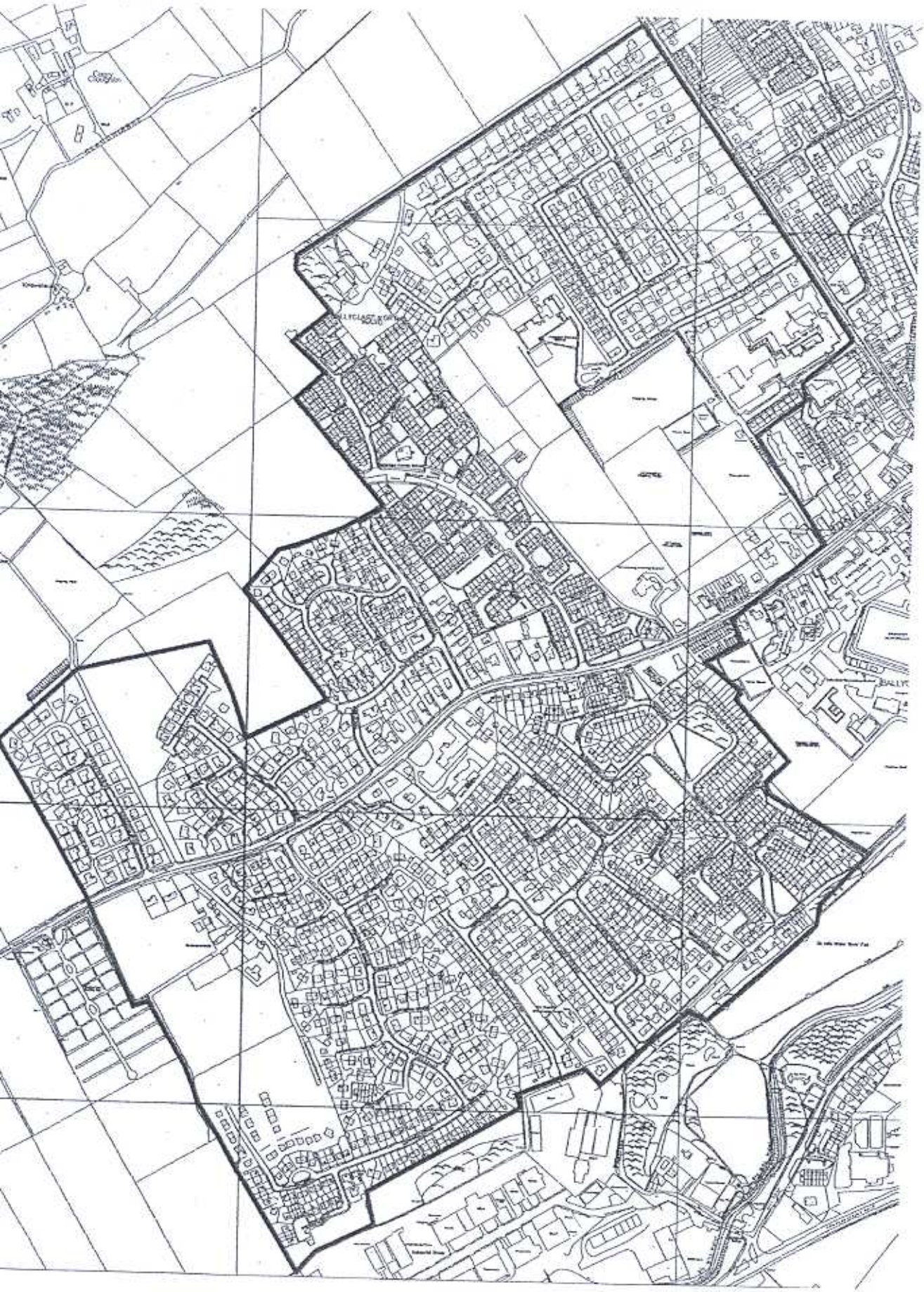
Given under the Corporate Seal of Newtownabbey Borough Council on the 25th day of October, 2004.

Present when the Corporate Seal of the Newtownabbey Borough Council was affixed hereto:-

Mayor

Chief Executive

Newtownabbey Borough Council Air Quality Management Area No. 1 Ballyclare



AIR QUALITY MANAGEMENT AREA **Appendix 1**

List of Streets

Avondale Drive 34-78 7-27
Thornhill Drive
Thornhill Parade
Thornhill Gardens
Ross's Avenue
Grahamstown Park
Grahamstown Walk
Grange Drive
Clareville Park
Clareville Avenue
Clareville Walk
Grange Park
Grange Walk
Doagh Road (34-110 39-131)
Clare Heights
Park Avenue
Russell Manor
Russell Court
Highgrove
Huntingdale Court
Huntingdale Green
Huntingdale Way
Huntingdale Crescent
Huntingdale Grange
Huntingdale Grove
Huntingdale Manor
Huntingdale Lodge
Marvista Avenue
Grange Valley Drive
Grange Valley Way
Grange Valley Grove
Grange Valley Crescent
Grange Valley Green
Grange Valley Avenue
Grange Valley Gardens
Avondale Drive
Mossvale Park
Hawthorn Way
George Avenue
Heather Park
Fernlea Gardens
Ollardale Park
Cloughview
Rashee Road (33-65 odd numbers only)
Foundry Lane
Hillmount Avenue
Rathmena Avenue
Rathmena Park
Rathmena Drive
Rathmena Gardens
Merion Avenue
Merion Park