2012 Air Quality Updating and Screening Assessment for Scottish Borders Council

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

April 2012

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Executive Summary

Scottish Borders Council undertakes a program of Air Quality Assessment in accordance with the Guidance produced by the UK Government and Devolved Administrations. Reports are produced annually on a rolling program. Earlier rounds of review and assessment have shown that the main industrial pollutants are unlikely to exceed the UK Air Quality Objectives at any location within the Council's area. And that only NO_2 from road traffic and PM_{10} from domestic fuel consumption still required to be considered.

A Detailed Assessment of PM_{10} levels was subsequently undertaken at a location agreed with the Scottish Government and Scottish Environmental Protection Agency as a worst possible case. This work has shown that no part of the Councils area was at risk of exceeding the Air Quality Objective for PM10.

As part of the air quality monitoring programme, the Council monitored nitrogen dioxide (NO_2) using diffusion tubes at 19 different locations. The monitoring of NO_2 has shown no exceedences of the NO_2 Objectives, with levels on average decreasing annually. In 2010 the number of sites was reduced to 14 with the background sites at Peebles, Kelso and Melrose being discontinued.

Since November 2009 a new automatic air quality monitoring station has been operating in Peebles. This station is part of the AURN network. The pollutants monitored are NOx and Ozone.

Previous rounds of Review and Assessment have indicated that there were no areas in the Borders at risk of exceeding any of the listed pollutants. The new data and information collected for this report confirms the conclusions of previous reports and that a Detailed Assessment is not required for any pollutant.

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1 Introduction

1.1 Description of Local Authority Area

The Scottish Borders is situated between Edinburgh and the Lothians to the north, and Dumfries & Galloway and England to the south. The Council's area extends westward from the North Sea to South Lanarkshire. Many of the neighbouring Local Authorities are predominantly rural and the prevailing winds over the Council's are south westerly.

A map showing the Council's area is included at the end of the Appendices to this Report.

Consultation responses from earlier rounds of the Review an Assessment process have revealed no major sources of pollution outwith the council's area that might affect air quality in the Borders. Similarly, no sources of pollution have been identified in the Borders that might affect neighbouring Local Authority areas.

The largest Borders town are Hawick and Galashiels both of which are transected by the A7 from Carlisle to Edinburgh. The A7 through Hawick has been re-routed via Commercial Road, and the town centre area made one-way to improve traffic flow and air quality. A similar traffic relief scheme has now commenced construction for Galashiels. The A68 which links Newcastle to Edinburgh via the A696 passes through Jedburgh, St Boswells, Earlston and Lauder. The A7 and A696 are linked by the Melrose bypass which serves the Borders General Hospital. The principal east-west route through the area is the A72 which links Galashiels, Walkerburn, Innerleithen and Peebles to the A701 Moffat – Edinburgh Road. In the west the main north-south road is the A1 which runs through the Council's North Sea coastal area from Edinburgh to Berwick-upon-Tweed. The town of Eyemouth is the closest population centre to the A1.

The Borders rail network was closed and demolished in the 1960s, leaving the East Coast mainline as the only railway in the Council's area. However, work to reopen part of the former Waverley Line from Midlothian to Galashiels has been commenced and this development will be assessed when the operating details of the new line are finalised.

Many of the processes within the Council's area authorised by SEPA (Scottish Environmental Pollution Agency) involve quarrying and cement batching. These have the potential to contribute to local low level pollution, mainly by fugitive dust and other particulates. There are also a number of poultry operations in the area, which have now been brought within the assessment regime.

Input on these matters has been sought from the Scottish Environmental Protection Agency and incorporated in this Report where necessary.

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1.2 Purpose of Report

This report fulfils the requirements of the Local Air Quality Management process as set out in Part IV of the Environment Act (1995), the Air Quality Strategy for England, Scotland, Wales and Northern Ireland 2007 and the relevant Policy and Technical Guidance documents[1]. The LAQM process places an obligation on all local authorities to regularly review and assess air quality in their areas, and to determine whether or not the air quality objectives are likely to be achieved. Where exceedences are considered likely, the local authority must then declare an Air Quality Management Area (AQMA) and prepare an Air Quality Action Plan (AQAP) setting out the measures it intends to put in place in pursuit of the objectives.

The objective of this Updating and Screening Assessment is to identify any matters that have changed which may lead to risk of an air quality objective being exceeded. A checklist approach and screening tools are used to identify significant new sources or changes and whether there is a need for a Detailed Assessment. The USA report should provide an update of any outstanding information requested previously in Review and Assessment reports.

1.3 Air Quality Objectives

The air quality objectives applicable to LAQM in **Scotland** are set out in the Air Quality (Scotland) Regulations 2000 (Scottish SI 2000 No 97), the Air Quality (Scotland) (Amendment) Regulations 2002 (Scottish SI 2002 No 297), and are shown in Table 1.1. This table shows the objectives in units of micrograms per cubic metre $\mu g/m^3$ (milligrammes per cubic metre, mg/m^3 for carbon monoxide) with the number of exceedences in each year that are permitted (where applicable).

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

Pollutant	Air Quality Objective		Date to be achieved by
	Concentration	Measured as	
Benzene	16.25 $\mu g/m^3$	Running annual mean	31.12.2003
	3.25 $\mu g/m^3$	Running annual mean	31.12.2010
1,3-Butadiene	2.25 $\mu g/m^3$	Running annual mean	31.12.2003
Carbon monoxide	10.0 mg/m^3	Running 8-hour mean	31.12.2003
Lead	0.5 $\mu g/m^3$	Annual mean	31.12.2004
	0.25 $\mu g/m^3$	Annual mean	31.12.2008
Nitrogen dioxide	200 $\mu g/m^3$ not to be exceeded more	1-hour mean	31.12.2005

	than 18 times a year		
	40 $\mu g/m^3$	Annual mean	31.12.2005
Particles (PM_{10}) (gravimetric)	50 $\mu g/m^3$, not to be exceeded more than 7 times a year	24-hour mean	31.12.2010
	18 $\mu g/m^3$	Annual mean	31.12.2010
Sulphur dioxide	350 $\mu g/m^3$, not to be exceeded more than 24 times a year	1-hour mean	31.12.2004
	125 $\mu g/m^3$, not to be exceeded more than 3 times a year	24-hour mean	31.12.2004
	266 $\mu g/m^3$, not to be exceeded more than 35 times a year	15-minute mean	31.12.2005

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1.4 Summary of Previous Review and Assessments

Scottish Borders Council has undertaken an Air Quality Assessment Programme in terms of the guidance on air quality management published by the Scottish Government[1].

The Updating and Screening Assessment 2003[2] concluded that Galashiels High Street was at risk of exceeding the Objective for Nitrogen Dioxide (NO_2) from traffic. A risk of exceedence for Sulphur Dioxide (SO_2) and PM_{10} from domestic fuel use was also identified in Newcastleton. Detailed Assessments were therefore required for these pollutants.

A Detailed Assessment of NO_2 from Traffic in Galashiels[3] was undertaken and no risk of exceedence was identified. Traffic flow through the High Street – street canyon will be reduced further on completion of the Galashiels A7 Traffic Relief Scheme.

A Detailed Assessment of SO_2 and PM_{10} levels in Newcastleton[4] took place over the winter and spring of 2004 - 2005. The report concluded that there was no risk of either pollutant exceeding the Air Quality Objectives. Doubt was subsequently raised as to whether or not the monitoring location was representative of the highest predicted concentrations for particulates.

The Council's Updating and Screening Assessment in 2006[5] and Progress Report in 2007[6] both concluded that the Air Quality Objectives for each of the pollutants were unlikely to be exceeded at any location in the Council's area, and therefore a Detailed Assessment would not be required for any pollutant.

Following a review of the data from the Newcastleton Detailed Assessment, it was felt that additional monitoring should take place at a different location. A further twelve-month PM_{10} monitoring programme at the relevant location was therefore undertaken between June 2007 and May 2008[7]. The data obtained has shown concentrations to be below the Scottish Objectives for both annual and daily averages and that the Objectives are not likely to be exceeded.

The Progress Report in 2008[8], which contained interim data from the Newcastleton PM_{10} study, and the Updating and Screening Assessment Report in 2009[9] both confirmed that the Air Quality Objectives were not likely to be exceeded at any location in the Scottish Borders.

These conclusions were confirmed in the Council's Progress Reports in 2010[10] and 2011[11].

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2 New Monitoring Data

2.1 Summary of Monitoring Undertaken

2.1.1 Automatic Monitoring Sites

Since November 2009, an automatic monitoring station has been in operation in the grounds of the Council Offices at Rosetta Road, Peebles. This station is funded by DEFRA/Scottish Government as part of the Automatic Rural and Urban Network.

The station details and pollutants monitored are described in Table 2.1 and Figure 2.1 below.

QA/QC details are included in Appendix A of this Report.

Table 2.1 Details of Automatic Monitoring Sites

Site Name	Site Type	OS Grid Ref	Pollutants Monitored	Monitoring Technique	In AQMA ?	Relevant Exposure ? (Y/N with distance (m) to relevant exposure)	Dist. to kerb of nearest road (N/A if not applicable)	Worst-case exposure?
Peebles	AURN Suburban	324812 641083	O_3 / NO_x	UV Absorption /Chemilumin.	N	N/A	N/A	N/A

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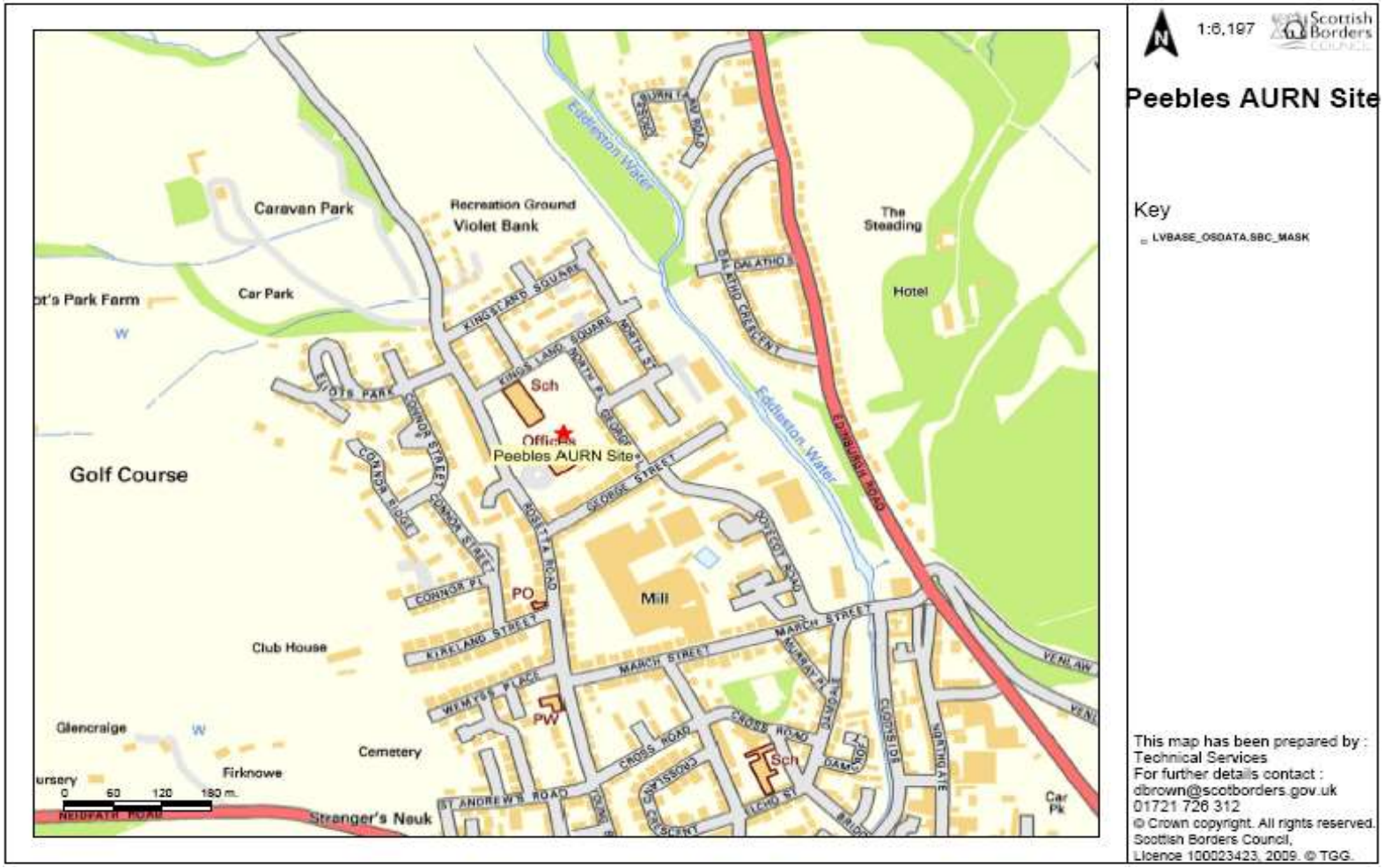
Figure 2.1 Map of Automatic Monitoring Site



2.1.2 Non-Automatic Monitoring Sites

In previous years, Scottish Borders Council has carried out monitoring of Nitrogen Dioxide using diffusion tubes at nineteen sites.

These sites were selected to be representative of relevant exposure and the locations agreed with the Scottish Government and SEPA.

Seven sites were located in Galashiels, six in Hawick, two in Kelso, two in Peebles and one in Melrose.

In September 2010 it was decided to discontinue using the sites in Peebles, Kelso and Melrose.

There have been problems during the year due to tubes and clamps disappearing at the site on Commercial Road Hawick.

The locations of the sites are summarised in Table 2.2 and maps are provided in Appendix C.

The tubes are analysed by Edinburgh Scientific Services using 50% TEA in Acetone.

The Council has not compared the diffusion tubes with the reference method in any co-location study.

The Council has used the bias adjustment factors provided by the Review and Assessment website.

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Table 2.2 Details of Non-Automatic Monitoring Sites

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?
Council Chamber, Galashiels	Kerbside	349298	635928	NO_2	No	Y 1m	2m	Yes
Stanley / Meigle St., Galashiels	Urban Background	348587	636142	NO_2	No	Y 1m	1m	Yes
High St., Galashiels	Kerbside	348953	636445	NO_2	No	Y 1m	1.5m	Yes
Gladstone Pl., Peebles	Urban Background	324757	640643	NO_2	No	Y 1m	1.5m	Yes
High St., Peebles	Kerbside	325085	640389	NO_2	No	Y 1m	2m	Yes
Sandbed, Hawick	Kerbside	350106	614464	NO_2	No	Y 1m	3m	Yes
High St., Hawick	Kerbside	350314	614631	NO_2	No	Y 1m	1.5m	Yes
Renwick Ter., Hawick	Urban Background	349803	613961	NO_2	No	Y 1m	1.5m	Yes
Silverbuthall Rd., Hawick	Urban Background	350526	615857	NO_2	No	Y 1m	1.5m	Yes
Bourtree Pl., Hawick	Kerbside	350497	614888	NO_2	No	Y 1m	1.5m	Yes
Mart St., Hawick	Kerbside	350501	615096	NO_2	No	Y 1m	3m	Yes
Commercial Rd., Hawick	Kerbside	350222	614899	NO_2	No	Y 1m	2m	Yes
Bridge St., Kelso	Kerbside	372771	633870	NO_2	No	Y 1m	1.5m	Yes
Mercer's Ct., Kelso	Urban Background	372460	634923	NO_2	No	Y 1m	1.5m	Yes
St. Dunstan's Park, Melrose	Urban Background	354548	634038	NO_2	No	Y 1m	1m	Yes
Rogerson's High St, G.shiels	Kerbside	349063	636287	NO_2	No	Y 1m	1.5m	Yes
Border Angling, High St, G.shiels	Kerbside	348976	636371	NO_2	No	Y 1m	1.5m	Yes
Edingtons, High St, G.shiels	Kerbside	348982	636384	NO_2	No	Y 1m	1.5m	Yes
Iceland, High St, G.shiels	Kerbside	349063	636272	NO_2	No	Y 1m	1.5m	Yes

2.2 Comparison of Monitoring Results with AQ Objectives

Over the period covered by this report, Scottish Borders Council has carried out monitoring for Nitrogen Dioxide and Ozone.

Nitrogen Dioxide has been monitored using both automatic monitoring under the AURN Network and by the use of diffusion tubes.

Ozone has been monitored using an automatic monitor under the AURN Network

The results of monitoring undertaken by Scottish Borders Council are given below.

2.2.1 Nitrogen Dioxide

Throughout the monitoring period, no site has been found to exceed the maximum annual mean concentration of 40 microgrammes per cubic meter.

The locations of the monitoring points have been chosen in consultation and agreement with SEPA as being representative of public exposure.

In the Galashiels High Street street-canyon, additional tubes have been located at opposite sides of the street to detect any localised pollution elevation that may arise as a result of local air turbulence effects. No such elevated levels have been detected.

Automatic Monitoring Data

The automatic monitoring within the Council's area has been undertaken as part of the UK Automatic Urban and Rural Network. The Peebles station was established to monitor urban background levels.

The results are summarised in tables 2.3 & 2.4 below.

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Table 2.3 Results of Automatic Monitoring of Nitrogen Dioxide: Comparison with Annual Mean Objective

Site ID	Site Type	Within AQMA?	Valid Data Capture for period of monitoring %[a]	Valid Data Capture 2011 % [b]	Annual Mean Concentration μg/m^3				
					2007*[c]	2008* [c]	2009* [c]	2010* [c]	2011 [c]
Peebles	Urban Background	N	N/A	91	None	None	None	9	7

[a] i.e. data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.
[b] i.e. data capture for the full calendar year (e.g. if monitoring was carried out for six months the maximum data capture for the full calendar year would be 50%.)
[c] Means should be "annualised" as in Box 3.2 of TG(09), if monitoring was not carried out for the full year.
*Annual mean concentrations for previous years are optional.

Trends in Annual Mean Nitrogen Dioxide Concentrations measures at Automatic Monitoring Sites

The Peebles site has only been operating for two full calendar years, so no trend data are available.

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Table 2.4 Results of Automatic Monitoring for Nitrogen Dioxide: Comparison with 1-hour mean Objective

Site ID	Site Type	Within AQMA?	Valid Data Capture for period of monitoring %[a]	Valid Data Capture 2011 % [b]	Number of Exceedences of Hourly Mean (200 μg/m^3)				
					2007*[c]	2008* [c]	2009* [c]	2010* [c]	2011 [c]
Peebles	Urban Background	N	N/A	91	No Data	No Data	No Data	0 (Zero)	0 (Zero)

[a] i.e. data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.
[b] i.e. data capture for the full calendar year (e.g. if monitoring was carried out for six months the maximum data capture for the full calendar year would be 50%.)
[c] If the period of valid data is less than 90%, include the 99.8th percentile of hourly means in brackets
*Number of exceedences for previous years are optional.

Further detail of the results from the Peebles station is given in Appendix B_{13} of this Report.

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Diffusion Tube Monitoring Data

Scottish Borders Council has carried out monitoring of Nitrogen Dioxide using diffusion tubes at nineteen sites.

The site locations were selected in consultation with the Scottish Government and SEPA to be representative of relevant public exposure.

The diffusion tubes in Peebles, Kelso and Melrose have consistently returned results well below the Annual Mean concentration so in September 2010 it was decided to discontinue these sites.

The diffusion tube site at Commercial Road Hawick has suffered from repeated loss of tubes and clamps so no data are included for this site. Previously detected levels however have consistently been well below the Air Quality Objective levels.

The full monthly data set for 2011 is given in Appendix D.

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Table 2.5 Results of Nitrogen Dioxide Diffusion Tubes in 2011

Site ID	Location	Site Type	Within AQMA?	Triplicate or Collocated Tube	Data Capture 2011 (Number of Months or %)	Data with less than 9 months has been annualised (Y/N)	Confirm if data has been distance corrected (Y/N)	Annual mean concentration (Bias Adjustment factor = 1.01) 2011 (μg/m^3)
1	Council Chamber, Galashiels	Roadside	N	N	100%	N/A	N	15
2	Stanley / Meigle St., Galashiels	Urban Bg	N	N	100%	N/A	N	10
3	High St., Galashiels	Roadside	N	N	100%	N/A	N	38
6	Sandbed, Hawick	Roadside	N	N	100%	N/A	N	25
7	High St., Hawick	Roadside	N	N	100%	N/A	N	22
8	Renwick Ter., Hawick	Urban Bg	N	N	100%	N/A	N	8
9	Silverbuthall Rd., Hawick	Urban Bg	N	N	100%	N/A	N	9
10	Bourtree Pl., Hawick	Roadside	N	N	100%	N/A	N	25
11	Mart St., Hawick	Roadside	N	N	100%	N/A	N	22
16	Rogerson's High St Galashiels	Roadside	N	N	100%	N/A	N	32
17	Border Angling, High St, Galashiels	Roadside	N	N	100%	N/A	N	39
18	Edingtons, High St, Galashiels	Roadside	N	N	100%	N/A	N	31

Site ID	Location	Site Type	Within AQMA?	Triplicate or Collocated Tube	Data Capture 2011 (Number of Months or %)	Data with less than 9 months has been annualised (Y/N)	Confirm if data has been distance corrected (Y/N)	Annual mean concentration (Bias Adjustment factor = 1.01) 2011 (μg/m^3)
19	Iceland, High St, Galashiels	Roadside	N	N	100%	N/A	N	37

[a] i.e. data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.
[b] i.e. data capture for the full calendar year (e.g. if monitoring was carried out for six months the maximum data capture for the full calendar year would be 50%.)
[c] Means should be "annualised" as in Box 3.2 of TG(09), if monitoring was not carried out for the full year.
*Annual mean concentrations for previous years are optional.

Table 2.6 Results of Nitrogen Dioxide Diffusion Tubes (2007 to 2011) Active Sites

Site ID	Site Type	Within AQMA?	Annual mean concentration (adjusted for bias) μg/m^3				
			2007* (Bias Adjustment Factor = 0.88)	2008* (Bias Adjustment Factor = 0.96)	2009* (Bias Adjustment Factor = 0.95)	2010* (Bias Adjustment Factor = 1.02)	2011 (Bias Adjustment Factor = 1.01)
1	Roadside	N	23	23	18	17	15
2	Urban Bg	N	9	10	10	12	10
3	Roadside	N	34	37	35	38	38
6	Roadside	N	18	23	20	24	25
7	Roadside	N	30	23	23	26	22
8	Urban Bg	N	7	7	7	11	8
9	Urban Bg	N	8	8	9	11	9
10	Roadside	N	29	25	22	22	25
11	Roadside	N	19	20	20	23	22
16	Roadside	N	31		33	32	32
17	Roadside	N	36	35	36	38	39

Site ID	Site Type	Within AQMA?	Annual mean concentration (adjusted for bias) µg/m^3				
			2007* (Bias Adjustment Factor = 0.88)	2008* (Bias Adjustment Factor = 0.96)	2009* (Bias Adjustment Factor = 0.95)	2010* (Bias Adjustment Factor = 1.02)	2011 (Bias Adjustment Factor = 1.01)
18	Roadside	N	28	29	28	35	31
19	Roadside	N	33	35	33	35	37

Table 2.7 Results of Nitrogen Dioxide Diffusion Tubes (2007 to 2011) Discontinued Sites

Site ID	Site Type	Within AQMA?	Annual mean concentration (adjusted for bias) µg/m^3				
			2007* (Bias Adjustment Factor = 0.88)	2008* (Bias Adjustment Factor = 0.96)	2009* (Bias Adjustment Factor = 0.95)	2010* (Bias Adjustment Factor = 1.02)	Location
4	Urban Bg	N	8	9	9	10	Peebles Gladstone Place
5	Roadside	N	20	23	21	24	Peebles High Street
12	Roadside	N	13	17	17	22	Hawick Comm. Rd
13	Roadside	N	16	16	17	19	Kelso Bridge Street
14	Urban Bg	N	6	6	6	8	Kelso Mercers Court
15	Urban Bg	N	7	7	10	8	Melrose

Only 9 month's data from this site.

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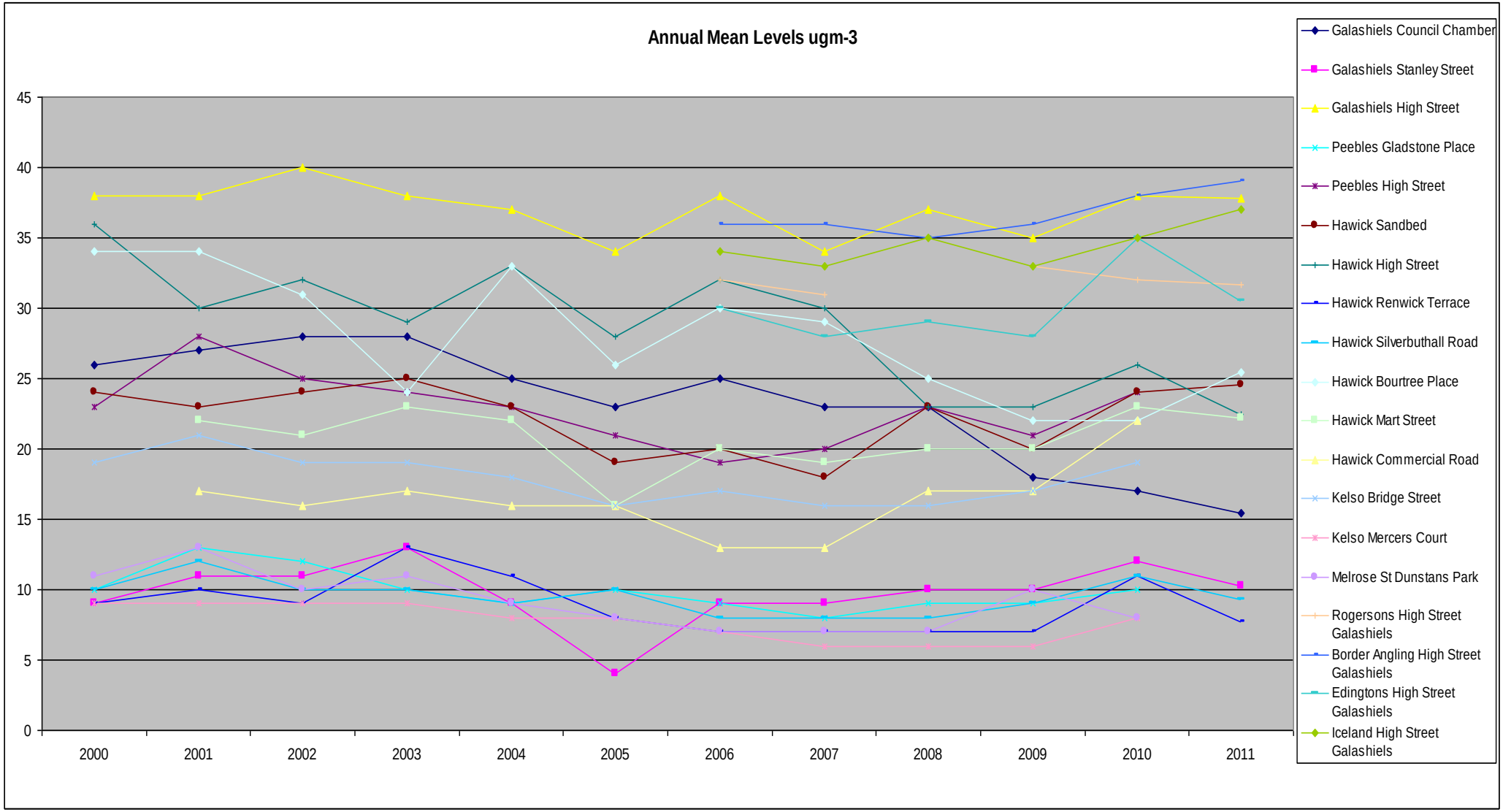
Figure 2.2 Trends in Annual Mean Nitrogen Dioxide Concentrations measured at Diffusion Tube Monitoring Sites



2.2.2 PM_{10}

Previous Review and Assessment work has indicated that there are no areas within the Borders that are at risk of exceeding the Air Quality Objective for PM_{10}.

The assessment work undertaken for the production of this report has not revealed any new sources or increased emissions form existing sources.

2.2.3 Sulphur Dioxide

Previous Review and Assessment work has indicated that there are no areas within the Borders that are at risk of exceeding the Air Quality Objective for Sulphur Dioxide.

The assessment work undertaken for the production of this report has not revealed any new sources or increased emissions form existing sources.

2.2.4 Benzene

Previous Review and Assessment work has indicated that there are no areas within the Borders that are at risk of exceeding the Air Quality Objective for Benzene.

The assessment work undertaken for the production of this report has not revealed any new sources or increased emissions form existing sources.

2.2.5 Other pollutants monitored

As mentioned above the AURN station at Peebles carries out monitoring for Ozone.

This station has been operating since November 2009 and a summary of results[13] is provided in Appendix B.

Pervious rounds of Review and Assessment have indicated that Scottish Borders Council does not need to monitor any other pollutants.

The assessment work undertaken for the production of this report has not revealed any new sources or increased emissions form existing sources.

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2.2.6 Summary of Compliance with AQS Objectives

Scottish Borders Council has examined the results from monitoring in the Local Authority Area. Concentrations are all below the objectives, therefore there is no need to proceed to a Detailed Assessment.

Delete box if not applicable. Otherwise add local authority name, amend the text as appropriate and leave box in the report.

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3 Road Traffic Sources

3.1 Narrow Congested Streets with Residential Properties Close to the Kerb

Traffic survey data supplied by the Council's Traffic section has been examined and roads with vehicle flows above 5000 vehicles per day have been identified. No roads where the average traffic speed is below 15 mph have been identified. These survey sites have been checked against local knowledge of road conditions and likely relevant pedestrian/residential exposure. In cases where local knowledge of the site is lacking, the areas have been visited.

Information received from the Council's Traffic Management staff has not led to the identification of any new congested streets that have not yet already been assessed.

Scottish Borders Council confirms that there are no new/newly identified congested streets with a flow above 5,000 vehicles per day and residential properties close to the kerb, that have not been adequately considered in previous rounds of Review and Assessment.

DELETE BOX IF NOT APPLICABLE. OTHERWISE ADD LOCAL AUTHORITY NAME AND LEAVE IN.

3.2 Busy Streets Where People May Spend 1-hour or More Close to Traffic

Traffic survey data supplied by the Council's Traffic section has been examined and roads with vehicle flows above 10 000 vehicles per day have been identified. These survey sites have been checked against local knowledge of road conditions and likely relevant pedestrian/residential exposure. In cases where local knowledge of the site is lacking, the areas have been visited.

Information received from the Council's Traffic Management staff has not led to the identification of any new busy streets where people may spend one hour or more close to traffic, that meet the screening criteria.

Scottish Borders Council confirms that there are no new/newly identified busy streets where people may spend 1 hour or more close to traffic.

DELETE BOX IF NOT APPLICABLE. OTHERWISE ADD LOCAL AUTHORITY NAME AND LEAVE IN.

3.3 Roads with a High Flow of Buses and/or HGVs.

Traffic survey data supplied by the Council's Traffic section has been examined for roads with a high proportion of buses or heavy goods vehicles. These survey sites have been checked against local knowledge of road conditions and pedestrian/residential exposure. In cases where local knowledge of the site is lacking, the areas have been visited.

From the traffic data supplied the following roads have been identified as having more than 20% Goods Class vehicles:-

A1Camera site, Cockburnspath
A1 Camera site, East Renton
A1 Camera site, Grantshouse
A1 Camera site Heugh Head
A7 Wilton Hill, Hawick
A68 Market Place, Lauder

These sites have all been checked against the screening criteria for relevant exposure.

Information received from the Council's Traffic Management staff has not led to the identification of any new roads with a high flow of buses/HGVs that have not already been assessed.

Scottish Borders Council confirms that there are no new/newly identified roads with high flows of buses/HDVs.

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3.4 Junctions

Information received from the Council's Traffic Management staff has not led to the identification of any new junction and busy roads that have not already been assessed.

Scottish Borders Council confirms that there are no new/newly identified busy junctions/busy roads.

DELETE BOX IF NOT APPLICABLE. OTHERWISE ADD LOCAL AUTHORITY NAME AND LEAVE IN.

3.5 New Roads Constructed or Proposed Since the Last Round of Review and Assessment

Information received from the Council's Traffic Management staff has not led to the identification of any new roads constructed or proposed since the last round of Review and Assessment

Scottish Borders Council confirms that there are no new/proposed roads.

DELETE BOX IF NOT APPLICABLE. OTHERWISE ADD LOCAL AUTHORITY NAME AND LEAVE IN.

3.6 Roads with Significantly Changed Traffic Flows

The final stage of construction work to complete the Galashiels Inner Relief Road Project is underway at present.

This involves reinstating two-way traffic along Ladhope Vale, thus diverting all through traffic on the A7 trunk road away from the street canyon on Galashiels High Street.

The new through route has been designed to be uncongested and open. It is not anticipated that any pollution hot-spots will result from this work.

On completion of the scheme agreement will be reached with SEPA on whether or not any additional monitoring is necessary.

Scottish Borders Council has assessed new/newly identified roads with significantly changed traffic flows, and concluded that it will not be necessary to proceed to a Detailed Assessment.

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3.7 Bus and Coach Stations

Scottish Borders Council confirms that there are no relevant bus stations in the Local Authority area.

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4 Other Transport Sources

4.1 Airports

Scottish Borders Council confirms that there are no airports in the Local Authority area.

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4.2 Railways (Diesel and Steam Trains)

The work to reinstate the Borders Railway has now commenced.

The air quality impact of this development will be assessed in future years.

4.2.1 Stationary Trains

Scottish Borders Council confirms that there are no locations where diesel or steam trains are regularly stationary for periods of 15 minutes or more, with potential for relevant exposure within 15m.

DELETE BOX IF NOT APPLICABLE. OTHERWISE ADD LOCAL AUTHORITY NAME AND LEAVE IN.

4.2.2 Moving Trains

Scottish Borders Council confirms that there are no locations with a large number of movements of diesel locomotives, and potential long-term relevant exposure within

30m.

DELETE BOX IF NOT APPLICABLE. OTHERWISE ADD LOCAL AUTHORITY NAME AND LEAVE IN.

4.3 Ports (Shipping)

Scottish Borders Council confirms that there are no ports or shipping that meet the specified criteria within the Local Authority area.

DELETE BOX IF NOT APPLICABLE. OTHERWISE ADD LOCAL AUTHORITY NAME AND LEAVE IN.

(End of page)

5 Industrial Sources

5.1 Industrial Installations

5.1.1 New or Proposed Installations for which an Air Quality Assessment has been Carried Out

Information received from the Scottish Environmental Protection Agency has identified the installations listed below as having commenced operations since the Council's last Report:

Mineral drier at Kinegar Quarry, Cockburnspath.
Borders Crematorium, Melrose.
Decorative Door Products Ltd, Burnfoot Industrial Estate, Hawick

Air Quality Assessments have been received for these developments. These have demonstrated that there will be no impact on local air quality.

The undernoted sites have planning Consent but are not yet operational:

MBT Plant at Easter Langlee.
Crematorium at Houndwood, Grantshouse due to be operational later this year.

Air Quality Assessments have been received for these developments. These have indicated that there will be no impact on local air quality.

The Scottish Environmental protection Agency have indicated that there are no new sources which they would wish to be included in the Council's air quality assessment

Scottish Borders Council has assessed new/proposed industrial installations, and concluded that it will not be necessary to proceed to a Detailed Assessment.

DELETE BOX IF NOT APPLICABLE. OTHERWISE ADD LOCAL AUTHORITY NAME AND LEAVE IN.

(End of page)

5.1.2 Existing Installations where Emissions have Increased Substantially or New Relevant Exposure has been Introduced

Information received from the Scottish Environmental protection Agency has indicated that there are no regulated processes that have significantly increased their emissions to the air.

Scottish Borders Council confirms that there are no industrial installations with substantially increased emissions or new relevant exposure in their vicinity within its area or nearby in a neighbouring authority.

DELETE BOX IF NOT APPLICABLE. OTHERWISE ADD LOCAL AUTHORITY NAME AND LEAVE IN.

5.1.3 New or Significantly Changed Installations with No Previous Air Quality Assessment

Scottish Borders Council confirms that there are no new or proposed industrial installations for which planning approval has been granted within its area or nearby in a neighbouring authority.

DELETE BOX IF NOT APPLICABLE. OTHERWISE ADD LOCAL AUTHORITY NAME AND LEAVE IN.

5.2 Major Fuel (Petrol) Storage Depots

Delete whichever is not applicable:

There are no major fuel (petrol) storage depots within the Local Authority area.

DELETE BOX IF NOT APPLICABLE. OTHERWISE ADD LOCAL AUTHORITY NAME AND LEAVE IN.

(End of page)

5.3 Petrol Stations

Sainsbury's Filling Station, Kelso has been identified as having a throughput of petrol in excess of 2000 cubic metres per year.

This is a new installation with a vapour recovery system fitted at the pumps. There is no relevant exposure within 10m of the pumps.

Scottish Borders Council confirms that there are no petrol stations meeting the specified criteria**.**

DELETE BOX IF NOT APPLICABLE. OTHERWISE ADD LOCAL AUTHORITY NAME AND LEAVE IN.

5.4 Poultry Farms

The undernoted farms have been identified by SEPA as exceeding the criteria set down in TG(09).

PPC/A 1016822 – Addistone
PPC/A 1016830 – Crosshall
PPC/E/20006 – Millennium

Additionally, planning permission has been granted for two new poultry sheds at Easter Deans.

No relevant exposure has been identified within 100m of any of these farms and no further work is necessary at this time.

Scottish Borders Council confirms that there are no poultry farms meeting the specified criteria.

DELETE BOX IF NOT APPLICABLE. OTHERWISE ADD LOCAL AUTHORITY NAME AND LEAVE IN.

(End of page)

6 Commercial and Domestic Sources

6.1 Biomass Combustion – Individual Installations

The assessment work undertaken for this report has not revealed any significant sources of biomass combustion likely to lead to exceedences of the Air Quality Objectives.

Scottish Borders Council has assessed the biomass combustion plant, and concluded that it will not be necessary to proceed to a Detailed Assessment.

DELETE BOX IF NOT APPLICABLE. OTHERWISE ADD LOCAL AUTHORITY NAME AND LEAVE IN.

6.2 Biomass Combustion – Combined Impacts

The Council's Planning and Building Standards Lists are reviewed weekly to identify applications which may involve biomass combustion.

During 2011 approximately eighty applications were identified that involved the installation of biomass, wood burning or multifuel heating equipment. The Applications were dispersed throughout the Council's area.

No areas were identified where the combined impact of biomass combustion sources might be relevant to local air quality.

No new areas were identified where domestic solid fuel use may be relevant.

Scottish Borders Council has assessed the biomass combustion plant, and concluded that it will not be necessary to proceed to a Detailed Assessment.

DELETE BOX IF NOT APPLICABLE. OTHERWISE ADD LOCAL AUTHORITY NAME AND LEAVE IN.

(End of page)

6.3 Domestic Solid-Fuel Burning

Previous Review and Assessment work undertaken by the Council has indicated that there are no areas within the Borders that are at risk of exceeding the Air Quality Objectives for Sulphur Dioxide or PM_{10}.

The work that has been carried out for this Report has not revealed any new or significantly increased sources of domestic fuel burning.

Scottish Borders Council has assessed areas of significant domestic solid fuel use, and concluded that it will not be necessary to proceed to a Detailed Assessment.

DELETE BOX IF NOT APPLICABLE. OTHERWISE ADD LOCAL AUTHORITY NAME AND LEAVE IN.

(End of page)

7 Fugitive or Uncontrolled Sources

The sources of fugitive matter identified in earlier rounds of Review and Assessment have been re-checked. No new relevant exposure has been identified.

Scottish Borders Council confirms that there are no potential sources of fugitive particulate matter emissions in the Local Authority area.

DELETE BOX IF NOT APPLICABLE. OTHERWISE ADD LOCAL AUTHORITY NAME AND LEAVE IN.

(End of page)

8 Conclusions and Proposed Actions

8.1 Conclusions from New Monitoring Data

Scottish Borders Council has not identified any potential exceedences of any of the Air Quality Objectives.

Nitrogen Dioxide monitoring data indicates that levels will continue to remain well within the prescribed levels and that no detailed assessment work is necessary at this time.

8.2 Conclusions from Assessment of Sources

A number of new developments have been identified as having the potential to impact on local air quality

These developments are detailed in Section 8.3 below.

8.3 Proposed Actions

This Updating and Screening Assessment has not identified the need to proceed to a Detailed Assessment for any pollutant.

The Scottish Environmental Protection Agency have confirmed that they are not aware of any air pollution sources which they would wish the Council to assess.

When the construction phase of the Galashiels traffic relief scheme has been completed the Council will assess the need to carry out additional monitoring along the new road. This will be discussed with the Scottish Environmental Protection Agency.

It is anticipated that the existing network of diffusion tubes will continue to be used.

A new poultry shed has been proposed at Whim. This Application is still being processed by the Council and air quality information has been requested. This development will be considered further in future Reports.

The Council's next action will be to produce our 2013 Progress Report.

(End of page)

9 References

1). Local Air Quality Management
Technical Guidance LAQM.TG(09)

2). Local Air Quality Management
Updating and Screening Assessment for Scottish Borders Council
Cordah/SBC.002/2003

3). Air Quality Review and Assessment – Detailed
A Report Produced for Scottish Borders Council
Netcen/ED49294/Issue3 July 2006

4). Air Quality Review and Assessment – Detailed
Domestic Fuel Consumption. A Report for Scottish Borders Council
netcen/ED49294/AEAT/ENV/R/2098/Issue3 July 2006

5). Updating and Screening Assessment 2006
Scottish Borders Council
USA 2006\Scot Borders\Scots Borders USA 2006 FINAL.

6). Air Quality Review and Assessment
Progress Report for Scottish Borders Council 2007
AEAT/ENV/R/2460 Issue 1 August 2007

7). Newcastleton Air Quality Monitoring Study 2007 – 2008 : PM10
AEAT/ENV/R/2677 Issue 1 September 2008

8). Air Quality Review and Assessment
Progress Report for Scottish Borders Council 2008
AEAT/ENV/R/2620 Issue 1 June 2008

9). 2009 Updating and Screening Assessment for Scottish Borders Council – SBC/USA/2009/1

10). 2010 Air Quality Progress Report for Scottish Borders Council – SBC/PR/ 2010/1

11). 2011 Air Quality Progress Report for Scottish Borders Council – SBC/PR/2011/1

12). Background NOx, NO2, PM10 and PM2.5 Maps for LAQM and DRMB
http://laqm.defra.gov.uk/maps/maps2008.html

13). AURN Network Real-time monitoring results
http://www.scottishairquality.co.uk/#site_info

(End of page)

Appendices

Appendix A: QA/QC Data

Appendix B: Automatic Monitoring Data

Appendix C Maps of Diffusion Tube Sites

Appendix D Monthly Diffusion Tube Data

(End of page)

Appendix A: QA:QC Data

Factor from Local Co-location Studies (if available)

Scottish Borders Council has not carried out any co-location studies.

Diffusion Tube Bias Adjustment Factors

Bias and precision factors have been obtained from the spreadsheet tool on the Review and Assessment website.

The Laboratory used for the analysis of the Councils diffusion tubes was Edinburgh Scientific Services.

The laboratory uses the analytical method of 50% TEA in Acetone.

Over the year Edinburgh Scientific Services participated in two co-location studies and tube precision was rated as “Good” in both cases.

A bias adjustment figure of 1.01 has been used for the results of this laboratory. Spreadsheet Version 03/12.

Discussion of Choice of Factor to Use

Not Applicable.

PM Monitoring Adjustment

Not Applicable.

Short-term to Long-term Data adjustment

Not Applicable.

QA/QC of automatic monitoring

The QA/QC work on the Peebles site is carried out under the auspices of the

Automatic Urban and Rural Network system

Routine calibrations are undertaken every four weeks by Council Staff as Local Site Operatives.

Data validation and ratification is undertaken by Bureau Veritas, Contractors appointed by DEFRA/Scottish Government.

Site audits are undertaken at regular intervals by AEA Technology.

To date, no issues have been identified.

QA/QC of diffusion tube monitoring

The laboratory used during 2011 for the Council's diffusion tube monitoring data follows the procedures set out in the Harmonisation Practical Guidance as recommended in LAQM.TG(09).

All diffusion tubes used by the Council are mounted and handled in accordance with the guidance contained in LAQM TG(09). Sites have been selected in consultation with the Scottish Government and SEPA to be representative of human exposure.

Tubes are exposed for periods in accordance with the published annual calendar of exposure dates.

Over the year Edinburgh Scientific Services participated in two co-location studies. Tube precision as given on the spreadsheet was rated as "Good" for both of these studies.

(End of page)

Appendix B: Automatic Monitoring Data

Statistics for Peebles

Year
2011
Parameter
Nitrogen dioxide

Monthly Statistics for 2011:

Units for monthly data are µgm^{-3}. Data are Ratified
Data Capture (DC) statistics are shown as %

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
13	10	10	6	4	4	4	2	4	6	10	8
95%	100%	96%	100%	100%	98%	100%	10%	95%	100%	100%	100%

Annual Statistics for 2011:

Annual Hourly Mean	7	µgm^{-3}	R	91% DC
Max Daily Mean	31	µgm^{-3}	R	
Max Hourly Mean	67	µgm^{-3}	R	

Key

- DC - Data Capture
- P - Provisional Data
- R - Ratified Data

Exceedence Statistics for 2011:

Air Pollution Bands
Band
Hours in Band
Days in Band
NO2 Low
7964
336
NO2 Moderate
0
0
NO2 High
0
0
NO2 Very High
0
0

Air Quality Strategy Objectives
Air Quality Strategy Objective for 2005 (NO2) Annual Mean > 40 microgrammes per metre cubed
No of Exceedences:
0

Air Quality Strategy Objective for 2005 (NO2) Hourly Mean > 200 microgrammes per metre cubed for more than 18 hours
No of Exceedences:
0

Air Quality Strategy Standards
Not Applicable

Air Quality Strategy Guidelines
Not Applicable

EC Limit Values
Not Applicable

(End of page)

Statistics for Peebles

Year
2011
Parameter
Nitric oxide

Monthly Statistics for 2011:

Units for monthly data are μgm^{-3}. Data are Ratified
Data Capture (DC) statistics are shown as %

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
3	2	3	1	1	1	2	2	1	1	3	2
95%	100%	96%	100%	100%	98%	100%	10%	95%	100%	100%	100%

Annual Statistics for 2011:

Annual Hourly Mean	2	μgm^{-3}	R	91% DC
Max Daily Mean	21	μgm^{-3}	R	
Max Hourly Mean	98	μgm^{-3}	R	

Key

- DC - Data Capture
- P - Provisional Data
- R - Ratified Data

Exceedence Statistics for 2011:

Air Pollution Bands
Band
Hours in Band
Days in Band
Not Applicable

Air Quality Strategy Objectives
Not Applicable

Air Quality Strategy Standards
Not Applicable

Air Quality Strategy Guidelines
Not Applicable

EC Limit Values
Not Applicable

(End of page)

Statistics for Peebles

Year
2011
Parameter
Nitrogen oxides as nitrogen dioxide

Monthly Statistics for 2011:

Units for monthly data are μgm^{-3}. Data are Ratified
Data Capture (DC) statistics are shown as %

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
18	14	14	7	6	6	6	5	6	8	14	11
95%	100%	96%	100%	100%	98%	100%	10%	95%	100%	100%	100%

Annual Statistics for 2011:

Annual Hourly Mean	10	μgm^{-3}	R	91% DC
Max Daily Mean	63	μgm^{-3}	R	
Max Hourly Mean	216	μgm^{-3}	R	

Key

- DC - Data Capture
- P - Provisional Data
- R - Ratified Data

Exceedence Statistics for 2011:

Air Pollution Bands
Band
Hours in Band
Days in Band
Not Applicable

Air Quality Strategy Objectives
Not Applicable

Air Quality Strategy Standards
Not Applicable

Air Quality Strategy Guidelines
Not Applicable

EC Limit Values
Not Applicable

(End of page)

Statistics for Peebles

Year
2011
Parameter
Ozone

Monthly Statistics for 2011:

Units for monthly data are µgm^{-3}. Data are Ratified
Data Capture (DC) statistics are shown as %

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
50	56	58	71	72	59	49	36	52	51	43	54
95%	100%	100%	100%	100%	94%	93%	98%	94%	85%	100%	100%

Annual Statistics for 2011:

Annual Hourly Mean	54	µgm^{-3}	R	97% DC
Max Daily Mean	108	µgm^{-3}	R	
Max Hourly Mean	148	µgm^{-3}	R	

Key

- DC - Data Capture
- P - Provisional Data
- R - Ratified Data

Exceedence Statistics for 2011:

Air Pollution Bands
Band
Hours in Band
Days in Band
O3 Low
8360
358
O3 Moderate
127
24
O3 High
0
0
O3 Very High
0

0

Air Quality Strategy Objectives
Air Quality Strategy Objective for 2005 (O3) Daily maximum 8-hour running mean > 100 micrograms per metre cubed on more than 10 days
No of Exceedences:
0

Air Quality Strategy Standards
Air Quality Standard (O3) 8-hour running mean > 100 micrograms per metre cubed
No of Exceedences:
51

Air Quality Strategy Standard for 2005 (O3) daily maximum 8-hour running mean > 100 micrograms per metre cubed
No of Exceedences:
10

Air Quality Strategy Guidelines
Not Applicable

EC Limit Values
EC Population Information Threshold (O3) 1-hour mean > 180 micrograms per metre cubed
No of Exceedences:
0

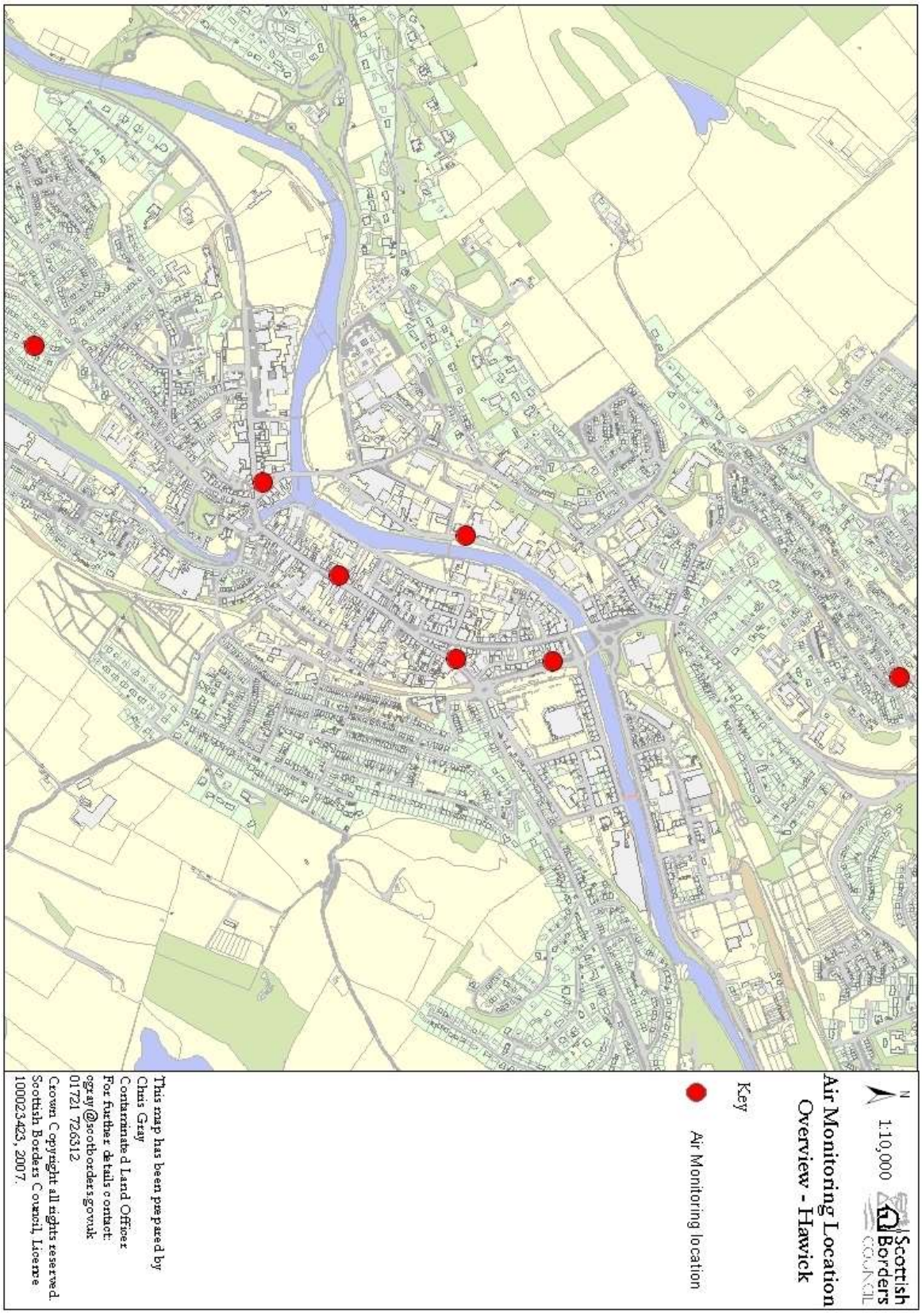
EC Population Warning Value (O3) 1-hour mean > 240 micrograms per metre cubed
No of Exceedences:
0

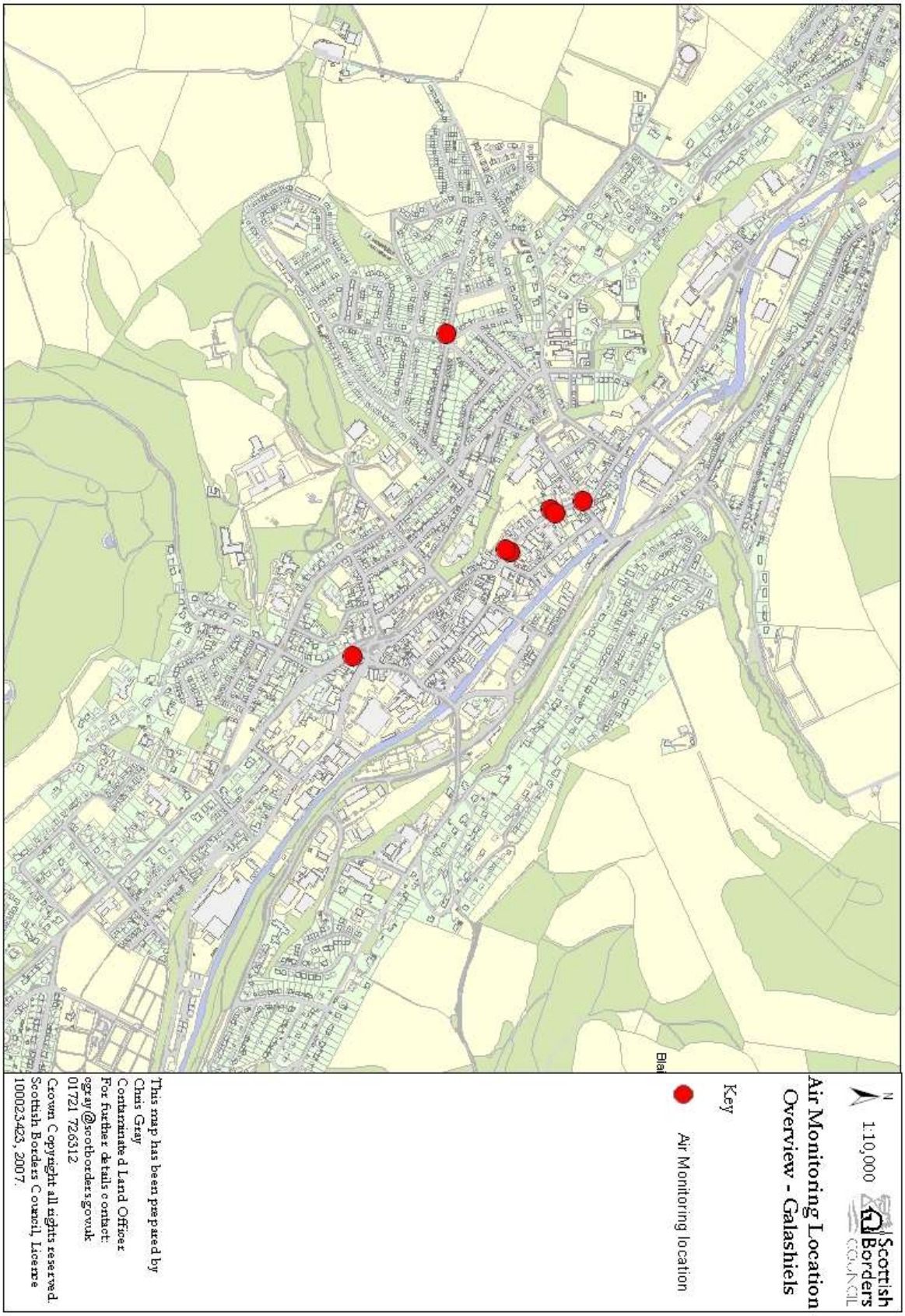
EC Health Protection Target Value (O3) daily maximum 8-hour running mean > 120 micrograms per metre cubed on more than 25 days
No of Exceedences:
0

EC Health Protection long-term objective (O3) daily maximum 8-hour running mean > 120 micrograms per metre cubed
No of Exceedences:
2

(End of page)

Appendix C: Maps of Diffusion Tube Sites




Scottish Borders Council
1:10,000
Air Monitoring Location
Overview - Galashiels
Key
Air Monitoring location
This map has been prepared by
Chris Gray
Contaminated Land Officer
For further details contact:
cgray@scotborders.gov.uk
01721 726312
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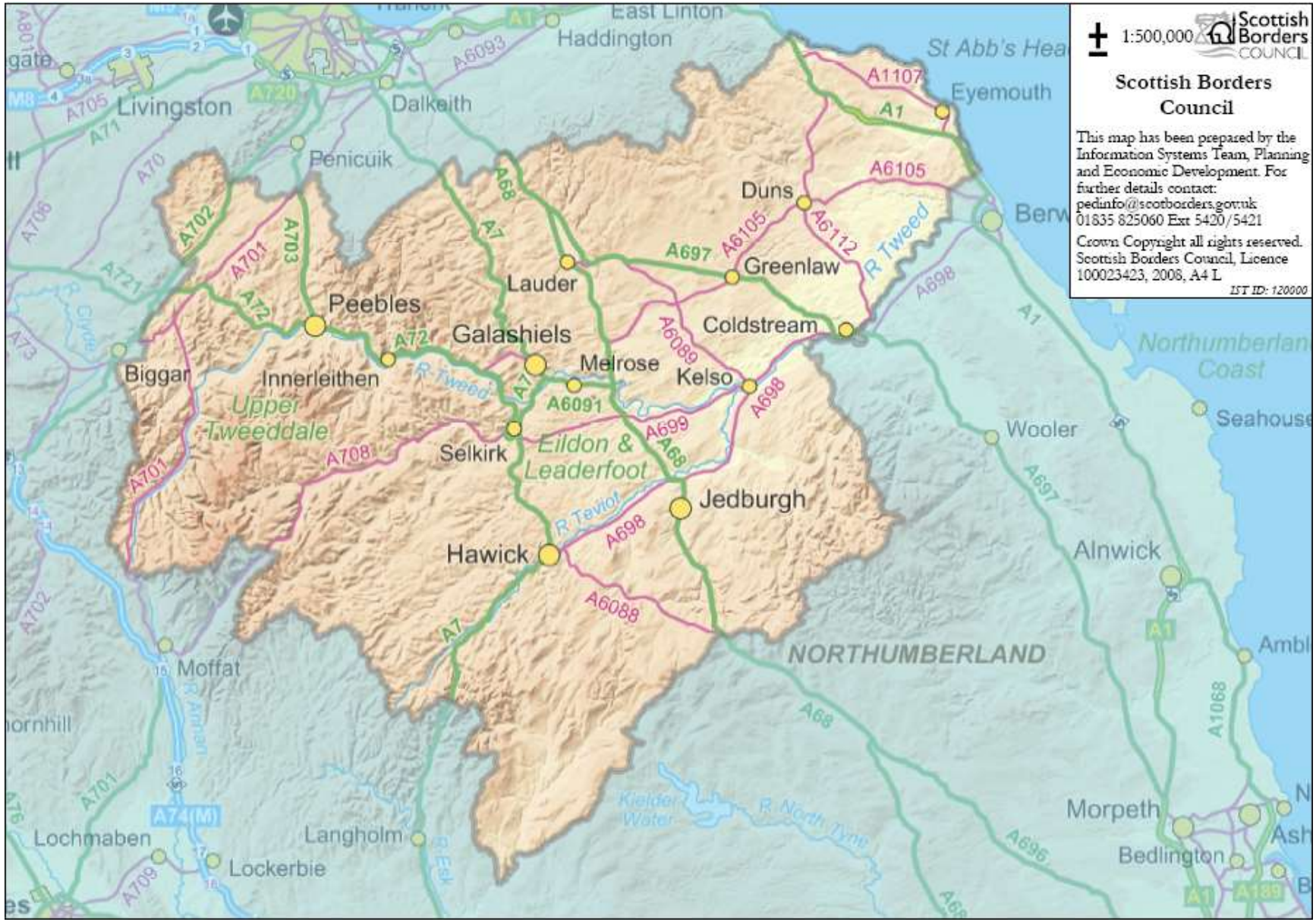
100023423, 2007.

Appendix D: Monthly Diffusion Tube Data

Nitrogen Dioxide Results - Scottish Borders Council 2011

	Gala Council Chamber	Gala Stanley Street	Gala High Street	Hawick Sandbed	Hawick High Street	Hawick Renwick Terrace	Hawick Sbh Road	Hawick Bourtree Place	Hawick Mart Street	Rogersons High Street Galashiels	Border Angling High Street Gala	Edingtons High Street Galashiels	Iceland High Street Gala
Jan	23.5	16.3	40	31.3	31.7	11	14.2	30.1	30.4	41.2	52.5	36.1	41.5
Feb	21	14.7	51.9	28.5	32.4	11.2	14.6	31.7	29.2	44.3	48.2	38.9	46
Mar	14.6	11.5	39.1	23.3	26.2	8.5	11.5	26.8	22.6	31.3	39.3	30	39.4
Apr	10.1	6	33	22.5	19.7	4.8	5.6	24	16.1	22.4	30.6	25.1	29.9
May	12.6	7.2	32	21	21.8	5.5	6.2	21.4	20.1	25.2	28.7	26.4	30.3
Jun	11.7	7.3	36.2	20.5	23.2	5.7	6.1	21	17.6	30.8	35.1	29.4	30.3
Jul	13.1	6.9	19.4	19.4	18.4	5.2	4.9	20.9	17.3	31	33.8	31.6	35.5
Aug	13.5	7.6	38.8	19.8	20.5	6.5	5.4	23.1	18.5	30.7	39	29	32.9
Sep	10.5	7.2	36.4	21.7	20.8	5	7.7	20.9	19.7	27.6	34.6	22.7	36.4
Oct	16.6	11.6	47.1	28.1	9	8.5	10.6	26.9	23.5	33.1	42.5	31.8	42.2
Nov	21.4	16.7	45.2	31.1	24.5	13.5	15.1	30.1	27.8	33.8	43.6	36.5	41.1
Dec	14.7	9.4	29.7	25	18.4	6	8.7	24.9	21.2	25.1	35.5	25.5	34.2


1:500,000
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IST ID: 120000
East Linton
Haddington
St Abb's Hea
Eyemouth
Livingston
Dalkeith
Penicuik
Duns
Berw
Greenlaw
Lauder
Peebles
Galashiels
Coldstream
Melrose
Kelso
Biggar
Innerleithen
Upper Tweeddale
Selkirk
Eildon & Leaderfoot
Jedburgh
Hawick
Wooler
Seahouse
Northumberlan Coast
Alnwick
NORTHUMBERLAND
Moffat
Lochmaben
Langholm
Lockerbie
Morpeth
Bedlington
R Tweed
R Teviot
R Annan
R North Tyne
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