



## 2013 Air Quality Progress Report for **Scottish Borders Council**

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

**May 2013**

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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<sub>2</sub> from road traffic and PM<sub>10</sub> from domestic fuel consumption still required to be considered.

A Detailed Assessment of PM<sub>10</sub> 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 Council's area was at risk of exceeding the Air Quality Objective for PM<sub>10</sub>.

As part of the air quality monitoring programme, the Council monitored nitrogen dioxide (NO<sub>2</sub>) using diffusion tubes at 19 different locations. The monitoring of NO<sub>2</sub> has shown no exceedences of the NO<sub>2</sub> 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 NO<sub>x</sub> 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 and 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 towns 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 is now underway and the railway line will be assessed in future Reports when the operating details have been 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 are now included in the assessment regime.

Input on Air Quality issues has been sought from the Scottish Environmental Protection Agency and incorporated in this Report where necessary.

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## 1.2 Purpose of Progress 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. 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.

Progress Reports are required in the intervening years between the three-yearly Updating and Screening Assessment reports. Their purpose is to maintain continuity in the Local Air Quality Management process.

They are not intended to be as detailed as Updating and Screening Assessment Reports, or to require as much effort. However, if the Progress Report identifies the risk of exceedence of an Air Quality Objective, the Local Authority (LA) should undertake a Detailed Assessment immediately, and not wait until the next round of Review and Assessment.

## 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 microgrammes per cubic metre  $\mu\text{g}/\text{m}^3$  (milligrammes per cubic metre,  $\text{mg}/\text{m}^3$  for carbon monoxide) with the number of exceedences in each year that are permitted (where applicable).

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**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 µg/m <sup>3</sup>	Running annual mean	31.12.2003
	3.25 µg/m <sup>3</sup>	Running annual mean	31.12.2010
1,3-Butadiene	2.25 µg/m <sup>3</sup>	Running annual mean	31.12.2003
Carbon monoxide	10 mg/m <sup>3</sup>	Running 8-hour mean	31.12.2003
Lead	0.50 µg/m <sup>3</sup>	Annual mean	31.12.2004
	0.25 µg/m <sup>3</sup>	Annual mean	31.12.2008
Nitrogen dioxide	200 µg/m <sup>3</sup> not to be exceeded more than 18 times a year	1-hour mean	31.12.2005
	40 µg/m <sup>3</sup>	Annual mean	31.12.2005
Particulate Matter (PM <sub>10</sub> ) (gravimetric)	50 µg/m <sup>3</sup> , not to be exceeded more than 7 times a year	24-hour mean	31.12.2010
	18 µg/m <sup>3</sup>	Annual mean	31.12.2010
Sulphur dioxide	350 µg/m <sup>3</sup> , not to be exceeded more than 24 times a year	1-hour mean	31.12.2004
	125 µg/m <sup>3</sup> , not to be exceeded more than 3 times a year	24-hour mean	31.12.2004
	266 µg/m <sup>3</sup> , not to be exceeded more than 35 times a year	15-minute mean	31.12.2005



## 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.

The Updating and Screening Assessment 2003<sup>2</sup> concluded that Galashiels High Street was at risk of exceeding the Objective for Nitrogen Dioxide (NO<sub>2</sub>) from traffic. A risk of exceedence for Sulphur Dioxide (SO<sub>2</sub>) and PM<sub>10</sub> from domestic fuel use was also identified in Newcastleton. Detailed Assessments were therefore required for these pollutants.

A Detailed Assessment of NO<sub>2</sub> from Traffic in Galashiels<sup>3</sup> 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<sub>2</sub> and PM<sub>10</sub> levels in Newcastleton<sup>4</sup> 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<sup>5</sup> and Progress Report in 2007<sup>6</sup> 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<sub>10</sub> monitoring programme at the relevant location was therefore undertaken between June 2007 and May 2008<sup>7</sup>. 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<sup>8</sup>, which contained interim data from the Newcastleton PM<sub>10</sub> study, and the Updating and Screening Assessment Report in 2009<sup>9</sup> 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 of 2010<sup>10</sup> and 2011<sup>11</sup>, and the Updating and Screening Assessment of 2012<sup>12</sup>.

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## **2 New Monitoring Data**

### **2.1 Summary of Monitoring Undertaken**

#### **2.1.1 Automatic Monitoring Sites**

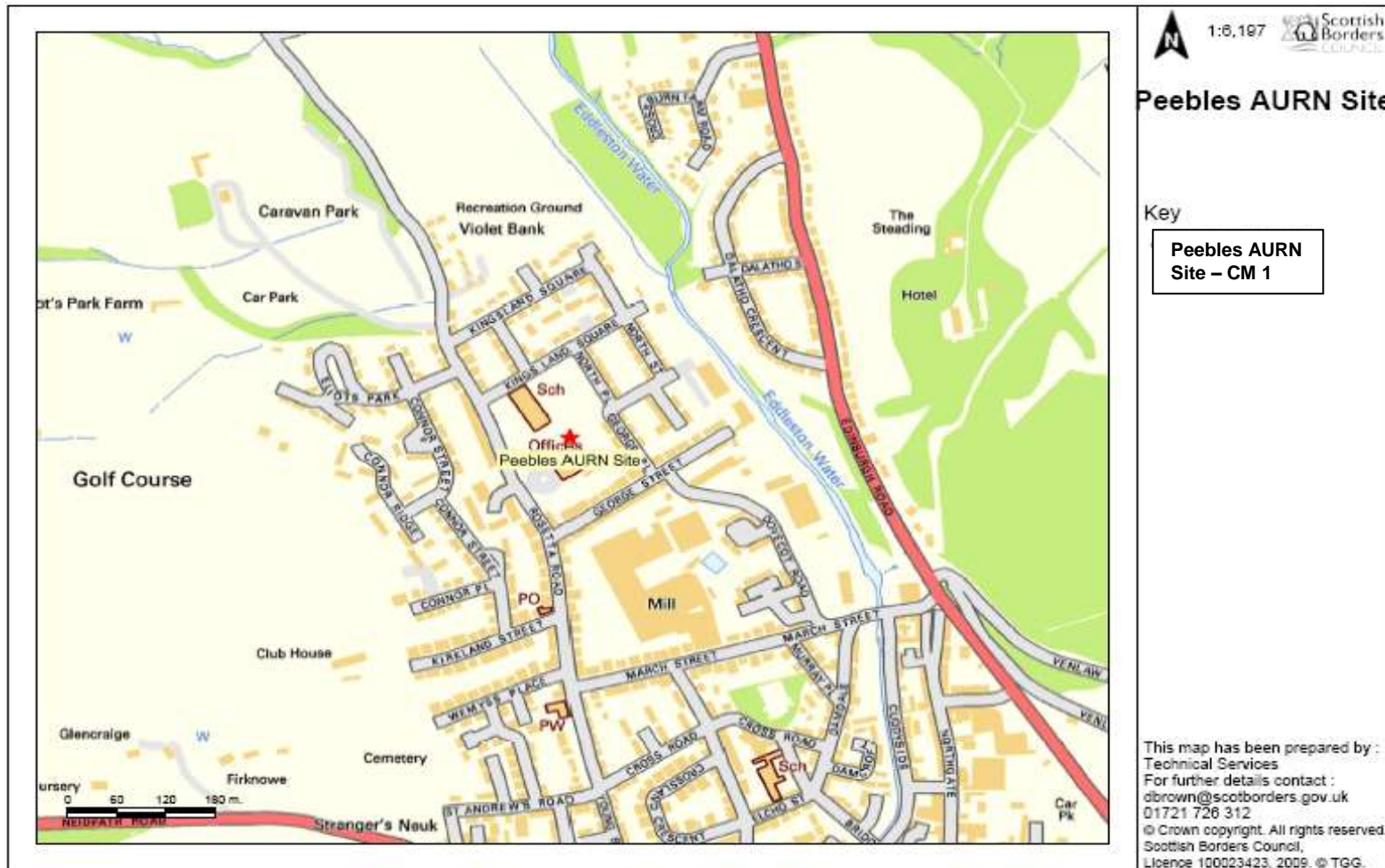
Since November 2009, an automatic monitoring station has been in operation in the grounds of the Council Offices at Rosetta Road, Peebles. This station is funded by DEFRA/Scottish Government as part of the Automatic Rural and Urban Network.

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

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

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Figure 2.1 Map of Automatic Monitoring Site



**Table 2.1 Details of Automatic Monitoring Sites**

<b>Site ID</b>	<b>Site Name</b>	<b>Site Type</b>	<b>X OS Grid Reference</b>	<b>Y OS Grid Reference</b>	<b>Inlet Height (m)</b>	<b>Pollutants Monitored</b>	<b>In AQMA?</b>	<b>Monitoring Technique</b>	<b>Relevant Exposure? (Y/N with distance (m) from monitoring site to relevant exposure)</b>	<b>Distance to Kerb of Nearest Road (m) (N/A if not applicable)</b>	<b>Does this Location Represent Worst-Case Exposure?</b>
<b>CM1</b>	<b>Peebles</b>	AURN Suburban	324812	641083	2.8	O <sub>3</sub> / NO <sub>x</sub>	N	UV Absorption /Chemilumin.	N/A	N/A	N/A

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### 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 are continuing problems with tubes and clamps disappearing at the site on Commercial Road Hawick and the monitoring location at the top of Galashiels High Street has been lost due to road realignment measures designed to reduce traffic congestion.

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 ID	Site Name	Site Type	X OS Grid Reference	Y OS Grid Reference	Site Height (m)	Pollutants Monitored	In AQMA?	Is Monitoring Co-located with a Continuous Analyser (Y/N)	Relevant Exposure? (Y/N with distance (m) from monitoring site to relevant exposure)	Distance to Kerb of Nearest Road (m) (N/A if not applicable)	Does this Location Represent Worst-Case Exposure?
DT1	Council Chamber, Galashiels	Kerbside	349298	635928	2.5	NO <sub>2</sub>	No	N	Y 1m	2m	Yes
DT2	Stanley / Meigle St., Galashiels	Urban Background	348587	636142	2.5	NO <sub>2</sub>	No	N	Y 1m	1m	Yes
DT3	High St., Galashiels	Kerbside	348953	636445	2.5	NO <sub>2</sub>	No	N	Y 1m	1.5m	Yes
DT4	Sandbed, Hawick	Kerbside	350106	614464	2.5	NO <sub>2</sub>	No	N	Y 1m	3m	Yes
DT5	High St., Hawick	Kerbside	350314	614631	2.5	NO <sub>2</sub>	No	N	Y 1m	1.5m	Yes
DT6	Renwick Ter., Hawick	Urban Background	349803	613961	2.5	NO <sub>2</sub>	No	N	Y 1m	1.5m	Yes
DT7	Silverbuthall Rd., Hawick	Urban Background	350526	615857	2.5	NO <sub>2</sub>	No	N	Y 1m	1.5m	Yes
DT8	Bourtree Pl., Hawick	Kerbside	350497	614888	2.5	NO <sub>2</sub>	No	N	Y 1m	1.5m	Yes
DT9	Mart St., Hawick	Kerbside	350501	615096	2.5	NO <sub>2</sub>	No	N	Y 1m	3m	Yes
DT10	Commercial Rd., Hawick	Kerbside	350222	614899	2.5	NO <sub>2</sub>	No	N	Y 1m	2m	Yes

**Scottish Borders Council**

<b>Site ID</b>	<b>Site Name</b>	<b>Site Type</b>	<b>X OS Grid Reference</b>	<b>Y OS Grid Reference</b>	<b>Site Height (m)</b>	<b>Pollutants Monitored</b>	<b>In AQMA?</b>	<b>Is Monitoring Co-located with a Continuous Analyser (Y/N)</b>	<b>Relevant Exposure? (Y/N with distance (m) from monitoring site to relevant exposure)</b>	<b>Distance to Kerb of Nearest Road (m) (N/A if not applicable)</b>	<b>Does this Location Represent Worst-Case Exposure?</b>
DT11	Rogerson's High St, G.shiels	Kerbside	349063	636287	2.5	NO <sub>2</sub>	No	N	Y 1m	1.5m	Yes
DT12	Border Angling, High St, G.shiels	Kerbside	348976	636371	2.5	NO <sub>2</sub>	No	N	Y 1m	1.5m	Yes
DT13	Edingtons, High St, G.shiels	Kerbside	348982	636384	2.5	NO <sub>2</sub>	No	N	Y 1m	1.5m	Yes
DT14	Iceland, High St, G.shiels	Kerbside	349063	636272	2.5	NO <sub>2</sub>	No	N	Y 1m	1.5m	Yes

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## **2.2 Comparison of Monitoring Results with Air Quality 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.

### **Nitrogen Dioxide (NO<sub>2</sub>)**

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, 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 exceedences of the maximum annual mean concentration 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 for NO<sub>2</sub>: Comparison with Annual Mean Objective**

Site ID	Site Type	Within AQMA?	Valid Data Capture for Monitoring Period % <sup>a</sup>	Valid Data Capture 2012 % <sup>b</sup>	Annual Mean Concentration (µg/m <sup>3</sup> )				
					2008* <sup>c</sup>	2009* <sup>c</sup>	2010* <sup>c</sup>	2011* <sup>c</sup>	2012 <sup>c</sup>
CM1	Urban B/ground	N	N/A	99	No Data	No Data	9	7	8

In bold, exceedence of the NO<sub>2</sub> annual mean AQS objective of 40µg/m<sup>3</sup>

<sup>a</sup> i.e. data capture for the monitoring period, in cases where monitoring was only carried out for part of the year

<sup>b</sup> 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%)

<sup>c</sup> Means should be “annualised” [as in Box 3.2 of TG\(09\) \(http://laqm.defra.gov.uk/technical-guidance/index.html?d=page=38\)](http://laqm.defra.gov.uk/technical-guidance/index.html?d=page=38), if valid data capture is less than 75%

\* Annual mean concentrations for previous years are optional

**Trends in Annual Mean NO<sub>2</sub> Concentrations Measured at Automatic Monitoring Sites**

The Peebles site has only been operating for three full calendar years. The trend in annual mean nitrogen Dioxide concentrations to date has been flat.

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**Table 2.4 Results of Automatic Monitoring for NO<sub>2</sub>: Comparison with 1-hour Mean Objective**

Site ID	Site Type	Within AQMA?	Valid Data Capture for Monitoring Period % <sup>a</sup>	Valid Data Capture 2012 % <sup>b</sup>	Number of Hourly Means > 200µg/m <sup>3</sup>				
					2008* <sup>c</sup>	2009* <sup>c</sup>	2010* <sup>c</sup>	2011* <sup>c</sup>	2012 <sup>c</sup>
CM1	Urban B/ground	N	99			0	0	0	0

In bold, exceedence of the NO<sub>2</sub> hourly mean AQS objective (200µg/m<sup>3</sup> – not to be exceeded more than 18 times per year)

<sup>a</sup> i.e. data capture for the monitoring period, in cases where monitoring was only carried out for part of the year

<sup>b</sup> 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%)

<sup>c</sup> If the data capture for full calendar year is less than 90%, include the 99.8<sup>th</sup> percentile of hourly means in brackets

\* Number of exceedences for previous years is optional

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### **Diffusion Tube Monitoring Data**

In previous years Scottish Borders Council 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 consistently returned results well below the Annual Mean concentration so in September 2010 it was decided to discontinue these sites. The number of sites has now been reduced to fourteen.

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. The monitoring location at Galashiels High Street has been lost due to road realignment work.

As can be seen from Figure 2.4 below there is a general downward trend in levels.

The full monthly data set for 2012 is given in Appendix D.

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**Table 2.5 Results of NO<sub>2</sub> Diffusion Tubes 2012**

Site ID	Location	Site Type	Within AQMA?	Triplicate or Co-located Tube	Full Calendar Year Data Capture 2012 (%) <sup>a</sup>	2012 Annual Mean Concentration (µg/m <sup>3</sup> ) - Bias Adjustment factor = 0.86 <sup>b</sup>
DT1	Council Chamber, Galashiels	Kerbside	No	No	100	14
DT2	Stanley / Meigle St., Galashiels	Urban Background	No	No	100	10
DT3	High St., Galashiels	Kerbside	No	No	17	35
DT4	Sandbed, Hawick	Kerbside	No	No	100	21
DT5	High St., Hawick	Kerbside	No	No	83	21
DT6	Renwick Ter., Hawick	Urban Background	No	No	100	8
DT7	Silverbuthall Rd., Hawick	Urban Background	No	No	100	8
DT8	Bourtree Pl., Hawick	Kerbside	No	No	100	23
DT9	Mart St., Hawick	Kerbside	No	No	100	18
DT10	Commercial Rd., Hawick	Kerbside	No	No	0	No Data
DT11	Rogerson's High St Galashiels	Kerbside	No	No	92	28

Site ID	Location	Site Type	Within AQMA?	Triplicate or Co-located Tube	Full Calendar Year Data Capture 2012 (%) <sup>a</sup>	2012 Annual Mean Concentration ( $\mu\text{g}/\text{m}^3$ ) - Bias Adjustment factor = 0.86 <sup>b</sup>
DT12	Border Angling, High St, Galashiels	Kerbside	No	No	100	32
DT13	Edingtons, High St, Galashiels	Kerbside	No	No	100	29
DT14	Iceland, High St, Galashiels	Kerbside	No	No	100	30

In bold, exceedence of the NO<sub>2</sub> annual mean AQS objective of 40 $\mu\text{g}/\text{m}^3$

Underlined, annual mean > 60 $\mu\text{g}/\text{m}^3$ , indicating a potential exceedence of the NO<sub>2</sub> hourly mean AQS objective

<sup>a</sup> Means should be “annualised” as in Box 3.2 of TG(09) (<http://laqm.defra.gov.uk/technical-guidance/index.html?d=page=38>), if full calendar year data capture is less than 75%

<sup>b</sup> If an exceedence is measured at a monitoring site not representative of public exposure, NO<sub>2</sub> concentration at the nearest relevant exposure should be estimated based on the “NO<sub>2</sub> fall-off with distance” calculator (<http://laqm.defra.gov.uk/tools-monitoring-data/no2-falloff.html>), and results should be discussed in a specific section. The procedure is also explained in Box 2.3 of Technical Guidance LAQM.TG(09) (<http://laqm.defra.gov.uk/technical-guidance/index.html?d=page=30>).

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Table 2.6 Results of NO<sub>2</sub> Diffusion Tubes (2008 to 2012)

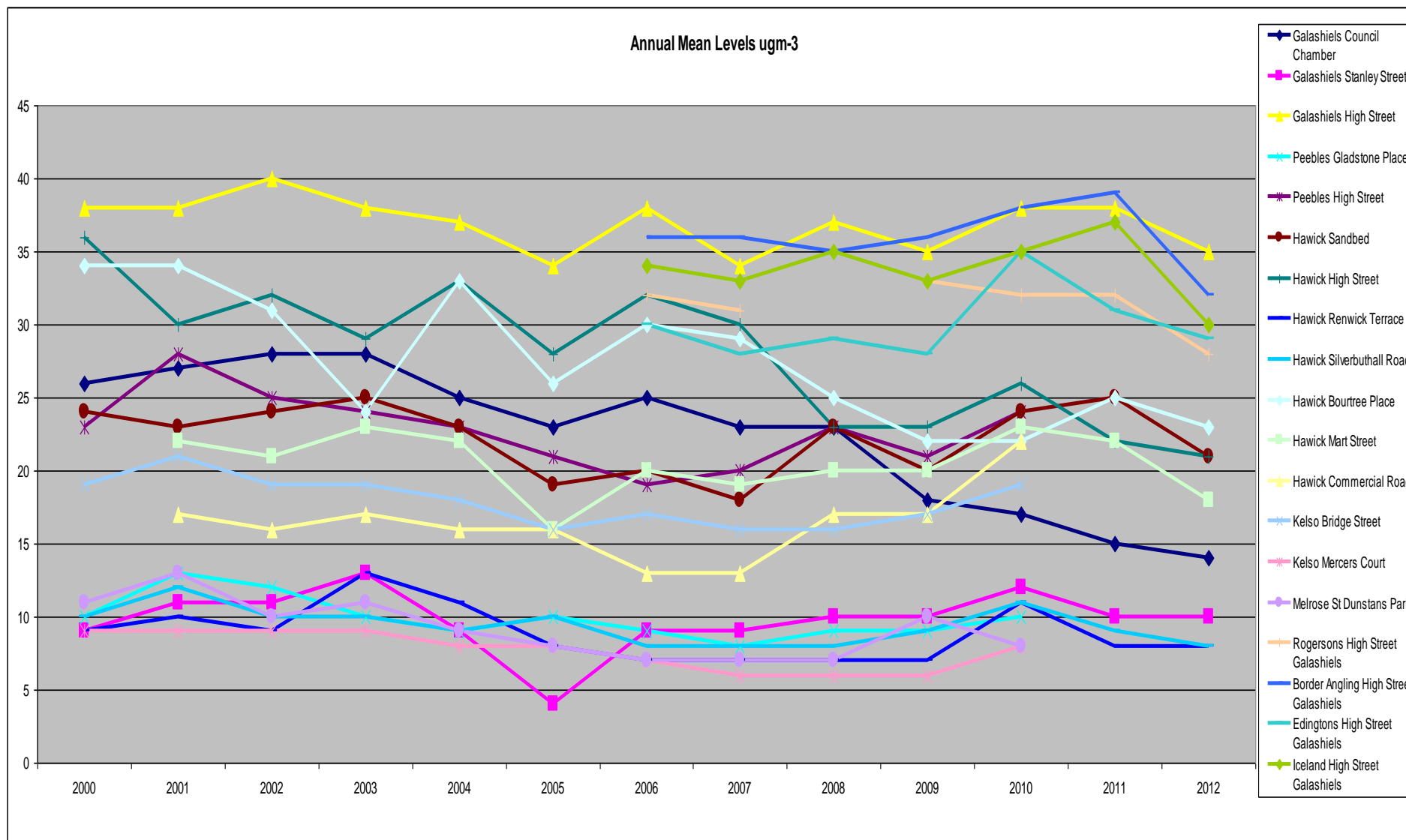
Site ID	Site Type	Within AQMA?	Annual Mean Concentration (µg/m <sup>3</sup> ) - Adjusted for Bias <sup>a</sup>				
			2008 (Bias Adjustment Factor = 0.96 / 0.92#)	2009 (Bias Adjustment Factor = 0.95)	2010 (Bias Adjustment Factor = 1.02)	2011 (Bias Adjustment Factor = 1.01)	2012 (Bias Adjustment Factor = 0.86)
DT1	Kerbside	No	23	18	17	15	14
DT2	Urban Background	No	10	10	12	10	10
DT3	Kerbside	No	37	35	38	38	35
DT4	Kerbside	No	23	20	24	25	21
DT5	Kerbside	No	23	23	26	22	21
DT6	Urban Background	No	7	7	11	8	8
DT7	Urban Background	No	8	9	11	9	8
DT8	Kerbside	No	25	22	22	25	23
DT9	Kerbside	No	20	20	23	22	18
DT10	Kerbside	No	17	17	22	32	No Data
DT11	Kerbside	No	No Data	33	24	39	28
DT12	Kerbside	No	35	36	26	31	32
DT13	Kerbside	No	29	28	11	37	29
DT14	Kerbside	No	35	33	11	15	30

# Change of Laboratory part way through this year. In bold, exceedence of the NO<sub>2</sub> annual mean AQS objective of 40µg/m<sup>3</sup>

Underlined, annual mean > 60µg/m<sup>3</sup>, indicating a potential exceedence of the NO<sub>2</sub> hourly mean AQS objective

<sup>a</sup> Means should be “annualised” [as in Box 3.2 of TG\(09\)](http://laqm.defra.gov.uk/technical-guidance/index.html?d=page=38) (<http://laqm.defra.gov.uk/technical-guidance/index.html?d=page=38>), if full calendar year data capture is less than 75%

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



### **2.2.1 Particulate Matter (PM<sub>10</sub>)**

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<sub>10</sub>.

The estimated background maps for the Council's area, produced by the Review and Assessment Helpdesk indicate that PM<sub>10</sub> levels will not be exceeded at any location within the Council's area.

### **2.2.2 Sulphur Dioxide (SO<sub>2</sub>)**

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 from existing sources.

### **2.2.3 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 from existing sources.

### **2.2.4 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<sup>13</sup> 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 from existing sources.

**(End of page)**



## 2.2.5 Summary of Compliance with AQS Objectives

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

**(End of page)**

## **3 New Local Developments**

### **3.1 Road Traffic Sources**

No newly identified road traffic sources have been identified.

### **3.2 Other Transport Sources**

No new non-road traffic sources have been identified.

### **3.3 Industrial Sources**

The SO<sub>2</sub> mass emissions from Ahlstrom in Chirnside have been reported by SEPA as continuing to fluctuate. The matter is being kept under observation at present and SEPA have not indicated that any Local Authority response is required.

The undernoted proposals have been submitted to the Council and to SEPA since the last report.

- A new Crematorium has been proposed at Houndwood in respect of which a PPC application is expected to be submitted to SEPA shortly.
- Planning Approval has been given for a new shed and an increase in bird numbers at Whim Poultry. The Planning Consent has required the Applicant to undertake monitoring to validate the modelling submitted in support of the Application. A PPC application to SEPA in respect of the development has yet to be determined.
- An application to vary Easter Deans poultry unit to allow new sheds and an increase in bird numbers is expected to be submitted to SEPA shortly.

### **3.4 Commercial and Domestic Sources**

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

During 2012 Planning Applications were made for six commercial biomass installations. Air Quality Assessments have been requested for these developments, all of which are in isolated rural areas. The reports received to date have not revealed any risks of exceedences of any air quality objectives.

Seventy Applications were identified that involved the installation of domestic biomass heating equipment.

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.

### **3.5 New Developments with Fugitive or Uncontrolled Sources**

Scottish Borders Council has identified the following new or previously unidentified local developments which may impact on air quality in the Local Authority area.

Hazelbank Quarry on the A7 will be reopened late 2013 for the extraction of road stone.

This will be taken into consideration in the next Updating and Screening Assessment.

**(End of page)**

## **4 Local / Regional Air Quality Strategy**

At the time of writing Scottish Borders Council has not identified any areas that are close to the Air Quality objectives.

The Council does not have a Local Air Quality Strategy but the need to produce a Strategy will be reviewed annually on the production of our Air Quality Reports.

**(END OF PAGE)**

## 5 Planning Applications

Details of planning applications received are posted on the Council's web-based Public Access system.

The Planning and Building Standards Lists are reviewed weekly to identify applications which may impact on local air quality.

Any applications which may have an impact of local air quality are identified and if the impact is likely to be significant, the Applicants are required to produce an Air Quality Impact Assessment for their proposal.

In the case of smaller or individual developments, advice letters detailing steps to be taken to avoid pollution problems are issued to all Planning Applicants.

**(END OF PAGE)**

## 6 Air Quality Planning Policies

Air Quality issues are addressed within the Council's Local Plan Policies.

Policy EP 5 states that development proposals that, individually or cumulatively, could adversely affect the quality of air in a locality to a level that could potentially harm human health and wellbeing or the integrity of the natural environment, must be accompanied by provisions that the Council is satisfied will minimise such impacts to an acceptable degree.

The Policy is designed to contribute to the Council's obligation with regard to air quality. It applies not just to employment development but to other land uses that may impact on local air quality.

**(End of page)**

## 7 Local Transport Plans and Strategies

The most recent version of the Council's Local Transport Strategy was produced in 2008.

Road transport continues to play an important role in the Council area. It is therefore vital that the Council continues to improve the road network and adequately maintain this asset so that locals and visitors can travel easily and more safely on their chosen routes.

The work to re-establish the Waverley Rail Line to the central Borders is now underway and the Council has initiated more frequent bus services to and from Edinburgh together with an element of demand responsive travel in some of the more rural areas.

There have been upgrades to certain sections of road to improve traffic flow and thus reduce vehicle emissions. In particular, the Galashiels A7 traffic relief scheme is now complete. Two-way traffic has been introduced along Ladhope Vale, thus diverting all through traffic on the A7 trunk road North, and West ton the A72, away from the street canyon on Galashiels High Street.

The Council is aware of the environmental issues associated with the promotion of the private car and is keen to introduce more sustainable means of transport where possible. It is noted that the introduction of more advanced technology such as faster broadband delivery and more flexible working could also significantly reduce the need to travel in the future.

Cycling and walking are also important elements within the Policy and the Council has continued to promote off-road cycling routes and to develop the Core Path Network throughout the area so that the people of the Scottish Borders to have a healthier and more environmentally conscious lifestyle.

Progress is also being made in promoting healthier travel options, through the Safer Routes to School Policy by encouraging more children to walk and cycle to school.

There is a great deal of work still to be done.

The Peebles Transport Study was commissioned in 2012 to consider a range of options to help address the traffic issues which may arise in Peebles as the town continues to grow.

The principal finding has been that the capacity of Tweed Bridge could be reached over the next few years and this could encourage localised traffic congestion throughout the town centre.

Eight new bridge options have been considered and appraised in terms of set planning objectives and Scottish Transport Appraisal Guidance (STAG) Criteria.

Other measures were considered, but only a new crossing was seen to meet the long term development needs of the town. The results of the appraisal process have resulted in three bridge options which are still under consideration.

**(END OF PAGE)**



## 8 Climate Change Strategies

The Council is at present Consulting on a Low Carbon Economic Strategy for the Scottish Borders.

Public Consultation ended on 26 April 2013 and the outcome will be detailed in future Air Quality Reports.

The Draft documents however can still be viewed on line at

[http://www.scotborders.gov.uk/directory\\_record/28707/low\\_carbon\\_economic\\_strategy\\_for\\_the\\_scottish\\_borders](http://www.scotborders.gov.uk/directory_record/28707/low_carbon_economic_strategy_for_the_scottish_borders)

**(End of page)**

## **9 Conclusions and Proposed Actions**

### **9.1 Conclusions from New Monitoring Data**

The monitoring undertaken by Scottish Borders Council has not identified any potential or actual exceedences of the Air Quality Objectives at any relevant locations.

Accordingly a Detailed Assessment is not required for any pollutant.

### **9.2 Conclusions relating to New Local Developments**

Scottish Borders Council has not identified any new local developments that require more detailed consideration in the next Updating and Screening Assessment.

The Planning Applications mentioned in Section 3.3 above will be monitored and re-assessed during production of the Council's Updating and Screening Assessment report in 2015.

### **9.3 Other Conclusions**

None.

### **9.4 Proposed Actions**

The new monitoring data collected by Scottish Borders Council during the year has not identified the need to proceed to a Detailed Assessment for any pollutant.

At the time of writing, the Council has not identified the need to undertake any additional monitoring.

Review and assessment work will continue towards production of the Council's progress report in 2014.

**(End of page)**

## 10 References

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Technical Guidance LAQM.TG(09)
- 2). Local Air Quality Management  
Updating and Screening Assessment for Scottish Borders Council  
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- 3). Air Quality Review and Assessment – Detailed  
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- 4). Air Quality Review and Assessment – Detailed  
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- 5). Updating and Screening Assessment 2006  
Scottish Borders Council  
USA 2006\Scot Borders\Scots Borders USA 2006 FINAL.
- 6). Air Quality Review and Assessment  
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- 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). 2012 Air Quality Updating and Screening Assessment Scottish Borders Council  
– SBC/USA/2012/1
- 13). Background NOx, NO2, PM10 and PM2.5 Maps for LAQM and DRMB  
<http://laqm.defra.gov.uk/maps/maps2008.html>
- 14). AURN Network Real-time monitoring results  
[http://www.scottishairquality.co.uk/#site\\_info](http://www.scottishairquality.co.uk/#site_info)

**(End of page)**

# Appendices

Appendix A: Quality Assurance / Quality Control (QA/QC) Data

Appendix B: Automatic Monitoring Data

Appendix C: Maps of Diffusion Tube Sites

Appendix D: Monthly Diffusion Tube Data

End Page: Map of Scottish Borders Council Area

**(End of page)**

## **Appendix A: QA:QC Data**

### **Diffusion Tube Bias Adjustment Factors**

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 one co-location studies and tube precision was rated as "Good".

A bias adjustment figure of 0.86 has been used for the results of this laboratory.  
Spreadsheet Version 03/13.

### **Diffusion Tube Bias Adjustment Factors**

Bias and precision factors have been obtained from the spreadsheet tool V 13/3 on the Review and Assessment website.

### **Factor from Local Co-location Studies (if available)**

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

### **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 and to date, no issues have been identified.

**QA/QC of diffusion tube monitoring**

The laboratory used during 2012 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 one co-location study. 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  
2012  
Parameter  
Nitric oxide

#### Monthly Statistics for 2012:

Units for monthly data are  $\mu\text{g m}^{-3}$ . Data are Ratified  
Data Capture (DC) statistics are shown as %

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
3	2	1	0	0	1	1	0	1	2	6	9
100%	96%	100%	100%	99%	100%	100%	99%	100%	93%	100%	100%

#### Annual Statistics for 2012:

<b>Annual Hourly Mean</b>	2	$\mu\text{g m}^{-3}$	R	99% DC
<b>Max Daily Mean</b>	38	$\mu\text{g m}^{-3}$	R	
<b>Max Hourly Mean</b>	92	$\mu\text{g m}^{-3}$	R	

Key

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

**(End of page)**

**Statistics for Peebles**

**Nitrogen dioxide**

**Monthly Statistics for 2012:**

Units for monthly data are  $\mu\text{gm}^{-3}$ . Data are Ratified  
Data Capture (DC) statistics are shown as %

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
10	10	8	5	5	4	3	4	4	10	15	19
100%	96%	100%	100%	99%	100%	100%	99%	100%	93%	100%	100%

**Annual Statistics for 2012:**

<b>Annual Hourly Mean</b>	8	$\mu\text{gm}^{-3}$	R	99% DC
<b>Max Daily Mean</b>	35	$\mu\text{gm}^{-3}$	R	
<b>Max Hourly Mean</b>	59	$\mu\text{gm}^{-3}$	R	

Key

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

**Exceedence Statistics for 2012:**

**Air Pollution Bands**

Band	Hours in Band	Days in Band
NO2 Low	8681	365
NO2 Moderate	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**

Air Quality Standard for 2005 (NO2) Hourly Mean > 200 microgrammes per metre cubed

No of Exceedences: 0



**Statistics for Peebles**

**Nitrogen oxides as nitrogen dioxide**

**Monthly Statistics for 2012:**

Units for monthly data are  $\mu\text{g m}^{-3}$ . Data are Ratified  
Data Capture (DC) statistics are shown as %

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
16	14	10	5	6	5	4	5	5	14	24	32
100%	96%	100%	100%	99%	100%	100%	99%	100%	93%	100%	100%

**Annual Statistics for 2012:**

<b>Annual Hourly Mean</b>	12	$\mu\text{g m}^{-3}$	R	99% DC
<b>Max Daily Mean</b>	94	$\mu\text{g m}^{-3}$	R	
<b>Max Hourly Mean</b>	184	$\mu\text{g m}^{-3}$	R	

Key

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

**(End of page)**

**Statistics for Peebles**

**Ozone**

**Monthly Statistics for 2012:**

Units for monthly data are  $\mu\text{gm}^{-3}$ . Data are Ratified  
Data Capture (DC) statistics are shown as %

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
47	48	54	77	73	-	44	46	48	37	38	37
100%	96%	100%	92%	100%	46%	91%	74%	98%	74%	95%	100%

**Annual Statistics for 2012:**

<b>Annual Hourly Mean</b>	51	$\mu\text{gm}^{-3}$	R	89% DC
<b>Max Daily Mean</b>	100	$\mu\text{gm}^{-3}$	R	
<b>Max Hourly Mean</b>	118	$\mu\text{gm}^{-3}$	R	

Key

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

**Exceedence Statistics for 2012:**

**Air Pollution Bands**

Band	Hours in Band	Days in Band
O3 Low	7704	337
O3 Moderate	67	8
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 microgrammes 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 microgrammes per metre cubed  
No of Exceedences: 53

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

**EC Limit Values**

EC Population Information Threshold (O3) 1-hour mean > 180 microgrammes per metre cubed

No of Exceedences: 0

EC Population Warning Value (O3) 1-hour mean > 240 microgrammes per metre cubed

No of Exceedences: 0

EC Health Protection Target Value (O3) daily maximum 8-hour running mean > 120 microgrammes per metre cubed on more than 25 days

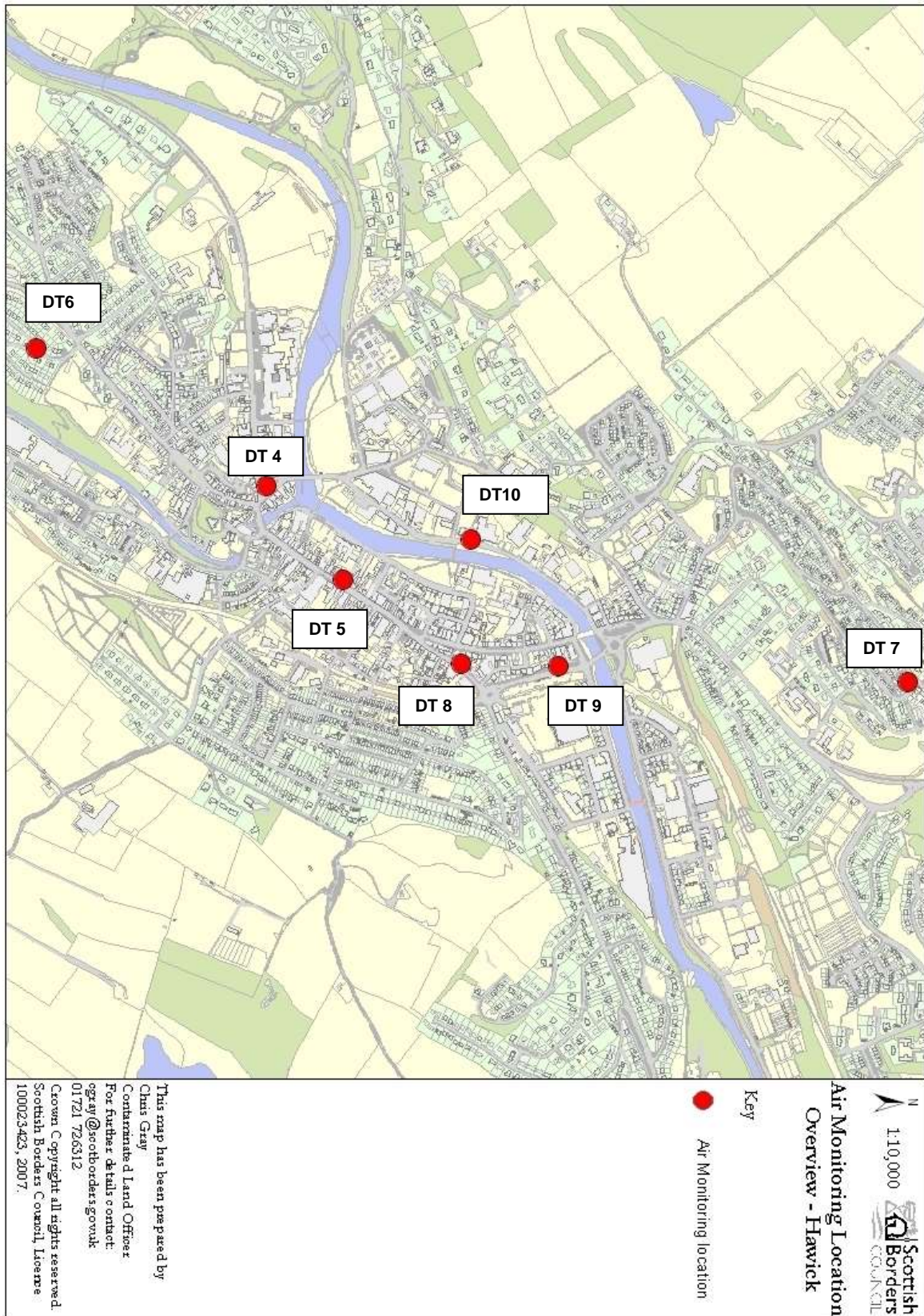
No of Exceedences: 0

EC Health Protection long-term objective (O3) daily maximum 8-hour running mean > 120 microgrammes per metre cubed

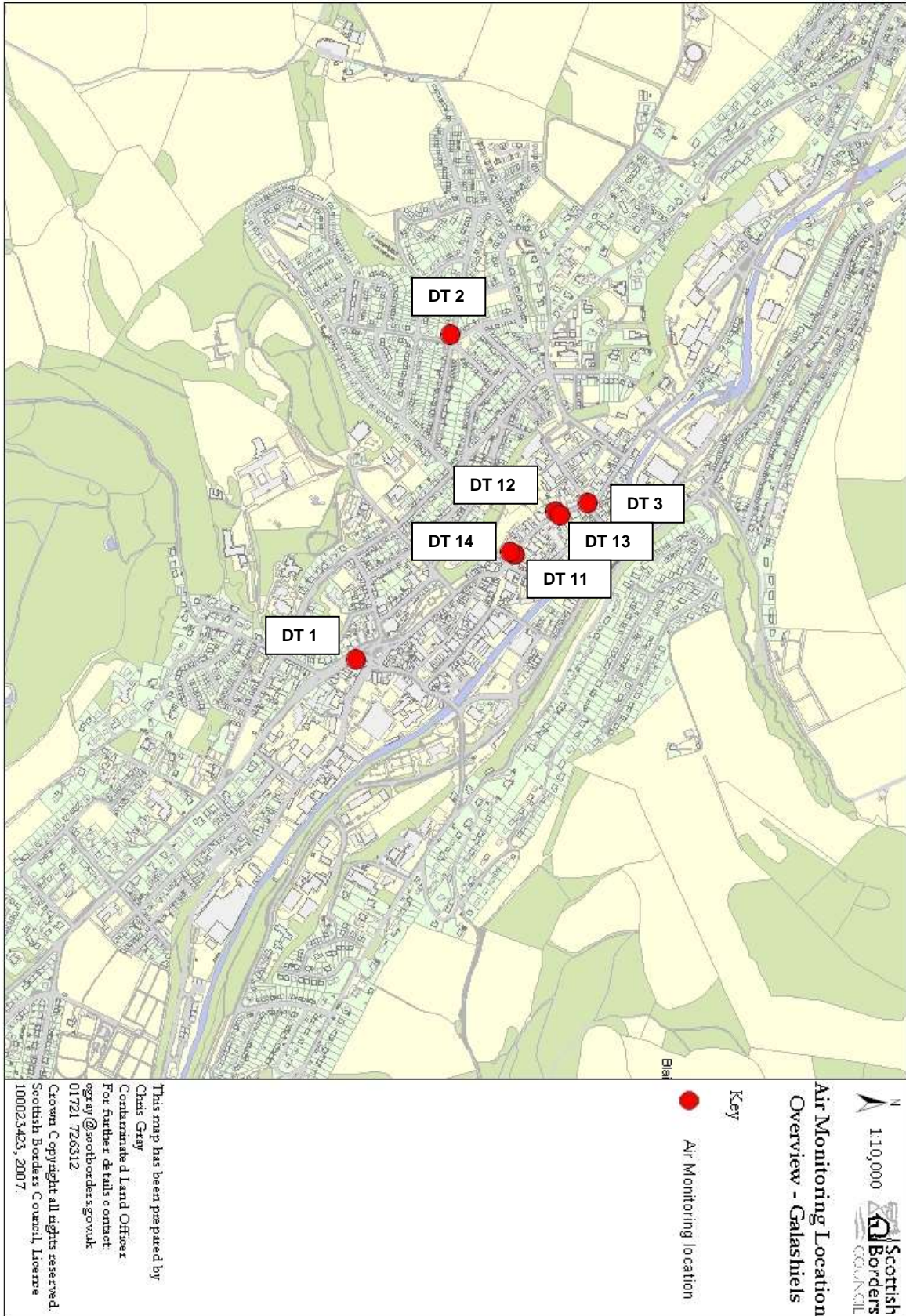
No of Exceedences: 0

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# Appendix C: Maps of Diffusion Tube Sites







## Appendix D: Monthly Diffusion Tube Data

Nitrogen Dioxide Results - Scottish Borders Council 2012													
<b>Jan</b>	20.5	15.5	40.4	30.6		14	17	31.9	27.7	38.1	41.7	37.5	35.2
<b>Feb</b>	18.4	14.8	40.6	30.9		13.8	9.8	30.7	26.2	35.7	47	37.6	40.4
<b>Mar</b>	13.1	10.9		24.5	25.7	9	9.3	27.4	21.6	31.8	38.5	32	38.8
<b>Apr</b>	17.4	10.4		22	26.3	9.5	7.6	28.5	20.4	41.2	43.2	43.5	36.6
<b>May</b>	13.5	7.9		19.3	18.7	7	5.9	24	17.4	34.2	32.9	42.1	28.3
<b>Jun</b>	14.8	10.4		19.6	19.4	6.9	6.4	23.1	18.8	33.3	33.8	33.2	32.6
<b>Jul</b>	13.5	7.6		18.6	19	5.6	5.6	20.6	17.3	23.5	32.1	26.2	28
<b>Aug</b>	14.1	10.1		22.5	24.8	7.3	8.5	24	22.3	27.2	32.4	28.6	33.6
<b>Sep</b>	8.7	7.1		17.1	23.3	6.7	5.7	22.1	11.9	23.1	25.4	20.9	26.1
<b>Oct</b>	15.6	11.7		24.6	28.4	9	9.7	28.4	20.2	32.1	37.1	31.4	34.6
<b>Nov</b>	20.8	11.2		27	28.7	7.2	5.9	28.2	24.3		38.1	29.8	36.3
<b>Dec</b>	21.8	15.2		33	32.1	8.7	13.7	31.1	19.5	35.6	41.9	35.5	41.5
	<b>Gala Council Chamber</b>	<b>Gala Stanley Street</b>	<b>Gala High St.</b>	<b>Hawick Sandbed</b>	<b>Hawick High Street</b>	<b>Hawick Renwick Terrace</b>	<b>Hawick Sbh Road</b>	<b>Hawick Bourtree Place</b>	<b>Hawick Mart Street</b>	<b>Rogersons High Street Galashiels</b>	<b>Border Angling High Street Gala</b>	<b>Edingtons High Street Galashiels</b>	<b>Iceland High Street Gala</b>



