



2009 Air Quality Updating and Screening Assessment for Scottish Borders Council

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

Date 12 June 2009

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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 three year 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 NO₂ from road traffic and PM₁₀ from domestic fuel consumption still required to be considered.

A Detailed Assessment of PM₁₀ 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 PM₁₀.

As part of the air quality monitoring programme, the Council monitors nitrogen dioxide (NO₂) using diffusion tubes at 18 different locations. The monitoring of NO₂ has shown no exceedences of the NO₂ Objectives, with levels on average decreasing annually.

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.

Table of contents

1	Introduction	6
1.1	Description of Local Authority Area	6
1.2	Purpose of Report	6
1.3	Air Quality Objectives	6
1.4	Summary of Previous Review and Assessments	9
2	New Monitoring Data	9
2.1	Summary of Monitoring Undertaken	10
2.2	Comparison of Monitoring Results with AQ Objectives	12
3	Road Traffic Sources	16
3.1	Narrow congested streets with residential properties close to the kerb	16
3.2	Busy streets where people may spend 1-hour or more close to traffic	16
3.3	Roads with high flow of buses and/or HGVs.	16
3.4	Junctions and busy roads	17
3.5	New roads constructed or proposed since the last round of review and assessment	17
3.6	All roads with significantly changed traffic flows.	18
3.7	Bus and coach stations	18
4	Other Transport Sources	19
4.1	Airports	19
4.2	Railways (diesel and steam trains)	19
4.3	Ports (shipping)	19
5	Industrial Sources	20
5.1	New or Proposed Industrial Installations	20
5.2	Major fuel (petrol) storage depots	21
5.3	Petrol stations	21
5.4	Poultry farms	21
6	Commercial and Domestic Sources	22
6.1	Biomass combustion – Individual Installations	22
6.2	Biomass combustion – Combined Impacts	22
6.3	Domestic Solid-Fuel Burning	22
7	Fugitive or Uncontrolled Sources	23
8	Conclusions and Proposed Actions	24
8.1	Conclusions from New Monitoring Data	24
8.2	Conclusions from Assessment of Sources	24
8.3	Proposed Actions	24
9	References	25

Scottish Borders Council

Appendices

Appendix 1	QA:QC Data
Appendix 2	Map of Newcastleton Monitoring Site
Appendix 3	Maps of Diffusion Tube Sites
Appendix 4	NO2 Monthly Mean Dataset
Appendix 5	2008 Road Traffic Count Data
Map of Scottish Borders Council Area	

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 sourced 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 is currently underway 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. It is however, planned to re-open part of the former Waverley Line from Midlothian to Galashiels at a future date and this will require to 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.

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. 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.

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

Scottish Borders Council

microgrammes per cubic metre $\mu\text{g}/\text{m}^3$ (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 Local Air Quality Management in Scotland.

Pollutant	Air Quality Objective		Date to be achieved by
	Concentration	Measured as	
Benzene	16.25 $\mu\text{g}/\text{m}^3$	Running annual mean	31.12.2003
	3.25 $\mu\text{g}/\text{m}^3$	Running annual mean	31.12.2010
1,3-Butadiene	2.25 $\mu\text{g}/\text{m}^3$	Running annual mean	31.12.2003
Carbon monoxide	10.0 mg/m^3	Running 8-hour mean	31.12.2003
Lead	0.5 $\mu\text{g}/\text{m}^3$	Annual mean	31.12.2004
	0.25 $\mu\text{g}/\text{m}^3$	Annual mean	31.12.2008
Nitrogen dioxide	200 $\mu\text{g}/\text{m}^3$ not to be exceeded more than 18 times a year	1-hour mean	31.12.2005
	40 $\mu\text{g}/\text{m}^3$	Annual mean	31.12.2005
Particles (PM₁₀) (gravimetric)	50 $\mu\text{g}/\text{m}^3$, not to be exceeded more than 35 times a year	24-hour mean	31.12.2004
	40 $\mu\text{g}/\text{m}^3$	Annual mean	31.12.2004
	50 $\mu\text{g}/\text{m}^3$, not to be exceeded more than 7 times a year	24-hour mean	31.12.2010
	18 $\mu\text{g}/\text{m}^3$	Annual mean	31.12.2010
Sulphur dioxide	350 $\mu\text{g}/\text{m}^3$, not to be exceeded more than 24 times a year	1-hour mean	31.12.2004
	125 $\mu\text{g}/\text{m}^3$, not to be exceeded more than 3 times a year	24-hour mean	31.12.2004
	266 $\mu\text{g}/\text{m}^3$, 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 concluded that Galashiels High Street was at risk of exceeding the Objective for Nitrogen Dioxide (NO₂) from traffic. A risk of exceedence for Sulphur Dioxide (SO₂) and PM₁₀ from domestic fuel use was also identified in Newcastleton. Detailed Assessments were therefore required for these pollutants.

A Detailed Assessment of NO₂ from Traffic in Galashiels 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 SO₂ and PM₁₀ levels in Newcastleton 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 and Progress Report in 2007 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 PM₁₀ monitoring programme at the relevant location was therefore undertaken between June 2007 and May 2008. 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, which contained interim data from the Newcastleton PM₁₀ study, indicated that the Air Quality Objectives were not likely to be exceeded at any location in the Scottish Borders.

2 New Monitoring Data

2.1 Summary of Monitoring Undertaken

2.1.1 Automatic Monitoring Sites

As mentioned in Section 1.4 above, a twelve month long PM₁₀ monitoring study was undertaken in the village of Newcastleton.

Short term monitoring and modelling work using a TEOM device was undertaken in outskirts of Newcastleton between November 2005 and June 2006 to establish the likelihood of local exceedences of the PM₁₀ Objectives. Subsequent scrutiny of the data cast doubt on whether or not the monitoring location was within the highest predicted concentration for particulates. Accordingly a further twelve month study was commissioned using an approved gravimetric sampler.

Details of the site are given in Table 2.1 and Appendix 2.

Table 2.1 Details of 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 ?
Henry Street	Urban Background	348528 587714	PM10	N	Y (5m)	N/A	Y

2.1.2 Non-Automatic Monitoring

Scottish Borders Council carries out monitoring of Nitrogen Dioxide using diffusion tubes at eighteen sites.

All sites have been selected to be representative of relevant exposure and the locations have been agreed with the Scottish Government and SEPA.

Six sites are located in Galashiels, six in Hawick, two in Kelso, two in Peebles and one in Melrose. An additional site in Galashiels was lost due to the removal of the monitoring location following a road traffic incident.

The locations of the sites are summaries in Table 2.2 and maps are provided in Appendix 3.

Scottish Borders Council

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 ?
Example 1	Urban background	X 332395 Y 433175	NO ₂	Y	Y (1m)	3m	Y
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		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 Terr., Hawick	Urban Background	349803 613961	NO ₂	No	Y 1m	1.5m	Yes
Silverbuthal I Rd., Hawick	Urban Background	350526 615857	NO ₂	No	Y 1m	1.5m	Yes
Bourtrees 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
Border Angling, High St, Galashiels	Kerbside	348976 636371	NO ₂	No	Y 1m	1.5m	Yes
Edingtons, High St, Galashiels	Kerbside	348982 636384	NO ₂	No	Y 1m	1.5m	Yes
Iceland, High St, Galashiels	Kerbside	349063 636272	NO ₂	No	Y 1m	1.5m	Yes

Between January and March 2008 the tubes were analysed by South Yorkshire Laboratory using 50% TEA in Acetone. From April the tubes were 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 and has used the bias adjustment factors provided by the Review and Assessment website.

This information is reproduced in Appendix 1.

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 PM₁₀ Particulates from domestic fuel use.

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.

Diffusion Tube Monitoring Data

Table 2.4a Results of Nitrogen Dioxide Diffusion Tubes

Site ID	Location	Within AQMA?	Data Capture 2008 %	Annual mean concentrations
				2008 ($\mu\text{g}/\text{m}^3$) Adjusted for bias (Factor = - 0.96 Jan/Mar 0.92 Apr/Dec)
	Council Chamber, Galashiels	No	83.33	23
	Stanley / Meigle St., Galashiels	No	100	10
	High St., Galashiels	No	100	37
	Gladstone Pl., Peebles	No	100	9
	High St., Peebles	No	100	23
	Sandbed, Hawick	No	91.67	23
	High St., Hawick	No	91.67	23
	Renwick Terr., Hawick	No	100	7
	Silverbuthall Rd., Hawick	No	91.67	8
	Bourtree Pl., Hawick	No	100	25
	Mart St., Hawick	No	83.33	20
	Commercial Rd., Hawick	No	100	17
	Bridge St., Kelso	No	100	16
	Mercer's Ct., Kelso	No	100	6
	St. Dunstan's Park, Melrose	No	91.67	7
	Border Angling, High St, Galashiels	No	100	35

Scottish Borders Council

	Edingtons, High St, Galashiels	No	100	29
	Iceland, High St, Galashiels	No	100	35

Table 2.4b Results of Nitrogen Dioxide Diffusion Tubes

Site ID	Location	Within AQMA?	Annual mean concentrations ($\mu\text{g}/\text{m}^3$) Adjusted for bias 2006 Factor - 0.92 2007 Factor - 0.88 2008 Factors- 0.96 Jan/Mar 0.92 Apr/Dec		
			2006 *	2007 *	2008
	Council Chamber, Galashiels	No	25	23	23
	Stanley / Meigle St., Galashiels	No	9	9	10
	High St., Galashiels	No	38	34	37
	Gladstone Pl., Peebles	No	9	8	9
	High St., Peebles	No	19	20	23
	Sandbed, Hawick	No	20	18	23
	High St., Hawick	No	32	30	23
	Renwick Terr., Hawick	No	7	7	7
	Silverbuthall Rd., Hawick	No	8	8	8
	Bourtree Pl., Hawick	No	30	29	25
	Mart St., Hawick	No	20	19	20
	Commercial Rd., Hawick	No	13	13	17
	Bridge St., Kelso	No	17	16	16
	Mercer's Ct., Kelso	No	7	6	6
	St. Dunstan's Park, Melrose	No	7	7	7
	Rogerson's High St Galashiels	No	32	31	No Data
	Border Angling, High St, Galashiels	No	36	36	35
	Edingtons, High St, Galashiels	No	30	28	29
	Iceland, High St, Galashiels	No	34	33	35

Less than 90% data capture

2.2.2 PM₁₀

The estimated 2010 background maps and CSV file for the Council's area that have been produced by the Review and assessment Helpdesk indicate that PM₁₀ levels will not be exceeded at any location within the Council's area.

In earlier rounds of the review and assessment process concern was raised about the small settlements in the Borders that lack mains gas and where solid fuel/oil is the main source of heating. The village of Newcastleton was agreed with SEPA and the Scottish Government to represent the worst case scenario for these settlements.

Modelling, using data from a fuel use survey and a short-term monitoring exercise indicated that this was not likely to cause any exceedences of the Objectives for particulates.

Subsequent examination of the Assessment Report however indicated that the monitoring location may not have been situated where modelling suggested the levels were likely to be highest. Accordingly it was decided to undertake additional monitoring.

A twelve month monitoring exercise was undertaken in Newcastleton from Summer 2007 – Summer 2008 using a Partisol Gravimetric sampler.

Data capture was over 90%. The average annual mean concentration was found to be 14.9 micrograms per cubic meter.

On one occasion in February 2008 a maximum concentration of 53.4 was detected, breaching the national daily mean objective of 50 micrograms per cubic meter. This however was the only 24-hour period where the 24-hour mean objective was breached, keeping within the maximum 7 exceedences per year required by the 2010 objective.

The results of this exercise indicate that exceedences of the Objectives for PM₁₀ are not likely.

The results are summarised in Tables 2.5a and 2.5b below.

Table 2.5a Results of PM₁₀ Automatic Monitoring: Comparison with Annual Mean Objective

Site ID	Location	Within AQMA?	Data Capture 2008 %	Annual mean concentrations (µg/m ³)			
				2006 *	2007 *	2008	2010 ⁺
Newc 1	8 Henry Street Newcastleton	N	91	No Data	No Data	14.9	<13
* Optional + Predicted from 2008 data using the methodology in Box 2.1 of LAQM.TG(09).							

Table 2.5b Results of PM₁₀ Automatic Monitoring: Comparison with 24-hour Mean Objective

Site ID	Location	Within AQMA?	Data Capture 2008 %	Number of Exceedences of hourly mean (50 µg/m ³) <i>If data capture < 90%, include the 90th %ile of hourly means in brackets.</i>			
				2006 *	2007 *	2008	2010 ⁺
Newc 1	8 Henry Street Newcastleton	N	91	No Data	No Data	1	<17
* Optional + 2010 annual mean estimated from 2008 data using the methodology in LAQM.TG(09).							

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 from 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 from existing sources.

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2.2.5 Other pollutants monitored

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.

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.

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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:-

A1 Camera 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.

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

3.4 Junctions and Busy Roads

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

Information received from the Council's Traffic Management staff has not led to the identification of any roads with significantly changed traffic flows.

Traffic data has been compared for sites used repeatedly for vehicle counts and no significant changes have been identified.

Scottish Borders Council confirms that there are no new/newly identified roads with significantly changed traffic flows.

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

3.7 Bus and Coach Stations

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

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

4 Other Transport Sources

4.1 Airports

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

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

4.2 Railways (Diesel and Steam Trains)

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.

5 Industrial Sources

5.1 Industrial Installations

5.1.1 New or Proposed Installations for which an Air Quality Assessment has been carried out

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.

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

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

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

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

5.3 Petrol Stations

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

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.

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 confirms that there are no biomass combustion plants in the Local Authority area.

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

6.2 Biomass Combustion – Combined Impacts

Scottish Borders Council confirms that there are no biomass combustion plants in the Local Authority area.

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

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 Objective for Sulphur Dioxide.

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.

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.

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

No new developments have been identified during the preparation of this report. A number of potential developments have been identified which if they proceed, will require to be considered in future reports.

These 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.

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

The undernoted developments have been identified as new potential sources.

A combined heat and power plant at Charlesfield Industrial Estate
A pyrolysis plant at Eyemouth
A plant for power generation from burning of vegetable oil at Ednam near Kelso

SEPA has indicated that none of these developments have yet been granted a Permit.

There is a proposed open cast coal site at Auchencorth, between Carlops and Leadburn which is due to commence operations this year. SEPA has indicated that the PPC permit for this development is currently being processed.

There are three proposals, below, that are at the planning stage only so there is limited detail available.

A new sand and gravel quarry is proposed at Rumbleton Law Farm near Greenlaw
A small surface mineral extraction is proposed at North Slipperfield Farm, West Linton to quarry material for repair of roads on the estate.
A proposed sand and gravel quarry at Fulfordlees farm, Cockburnspath.

These will be assessed when they receive final planning approval and any necessary assessment action will be detailed in the 2010 Progress Report.

9 References

- 1). Local Air Quality Management
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Cordah/SBC.002/2003
- 2). Air Quality Review and Assessment – Detailed
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netcen/ED49294/AEAT/ENV/R/2098/Issue3 July 2006
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- 4). Updating and Screening Assessment 2006
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USAs 2006\Scot Borders\Scots Borders USA 2006 FINAL.
- 5). Air Quality Review and Assessment
Progress Report for Scottish Borders Council 2007
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- 6). Air Quality Review and Assessment
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AEAT/ENV/R/2620 Issue 1 June 2008
- 7). Newcastleton Air Quality Monitoring Study 2007 – 2008 : PM10
AEAT/ENV/R/2677 Issue 1 September 2008
- 8). Local Air Quality Management
Technical Guidance LAQM.TG(09)
- 9). Diffusion Tube Bias Adjustment Factors
www.uwe.ac.uk/aqm/review/R&Asupport/diffusiontube050509.xls
- 10). Background NOx, NO2, PM10 and PM2.5 Maps for LAQM and DRMB
<http://www.airquality.co.uk/laqm/documents/Backgroundmaps20090202.pdf>

Appendices

Appendix 1: QA/QC Data

Appendix 2: Map of Newcastleton Monitoring site

Appendix 3: Maps of Diffusion Tube sites

Appendix 4: NO₂ Monthly Mean Dataset 2008

Appendix 5: 2008 Road Traffic Count Data

Appendix 1: QA:QC Data

Diffusion Tube Bias Adjustment Factors

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

Two Laboratories were used for the analysis of the Councils diffusion tubes during the year:

South Yorkshire Laboratory January – March, and

Edinburgh Scientific Service March onwards.

Both laboratories use the same analytical method – 50% TEA in Acetone.

Over the year South Yorkshire Laboratory participated in ten co-location studies. Tube precision was rated as “Good” for nine of these studies, with one being rated as “Poor”

An overall bias adjustment figure of 0.96 has been used for the results from this laboratory.

Edinburgh Scientific Services participated in one co-location study. Tube precision was rated as “Good”.

A bias adjustment figure of 0.92 has been used for the results of this laboratory.

The bias adjustment spreadsheet advises that where there has been only one study, the factor should be used with caution. The spreadsheet tool data on this laboratory indicates that over the last five years, bias adjustment factors have been in the range 0.94 – 0.98. If applied to the uncorrected data obtained during 2008, none of these bias factors would significantly alter the conclusions contained in this report.

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 PM₁₀ monitoring program in Newcastleton was undertaken on behalf of the Council by AEA Technology Ltd.

The Contractor followed the published Quality Assurance guidance throughout the monitoring period. Additional QA/QC checks undertaken included;

Full commissioning and decommissioning site audits,

Scottish Borders Council

An additional audit at 6 months to the guidance as above,

UKAS accredited measurements to ensure that the instrument flow rates remained within the permitted range,

Full data ratification involving approval and checking of filter data and instrument performance criteria.

QA/QC of diffusion tube monitoring

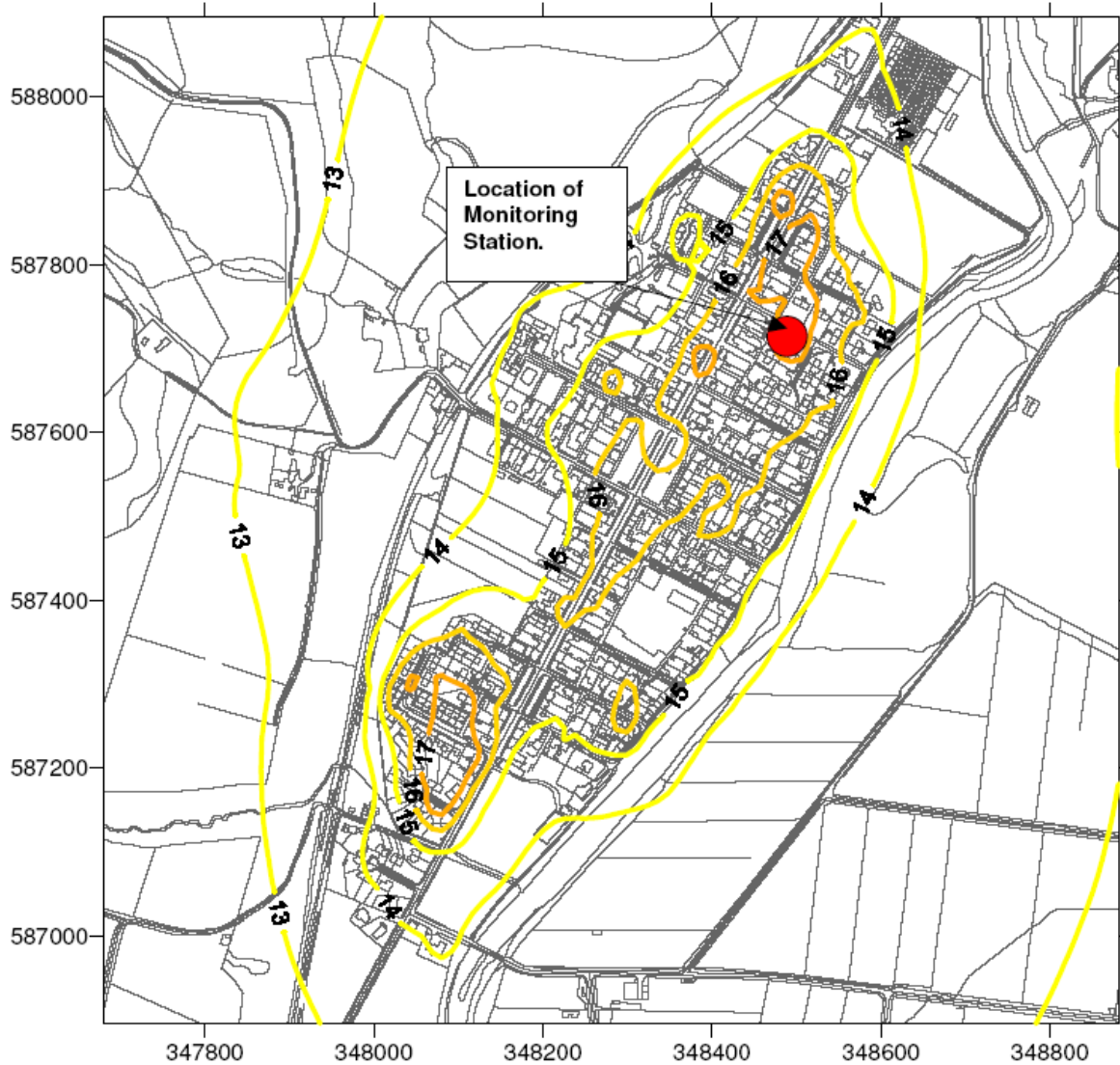
Both laboratories used during 2008 for the Council's diffusion tube monitoring data follow the procedures set out in the Harmonisation Practical Guidance as recommended in LAQM.TG(09).

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.

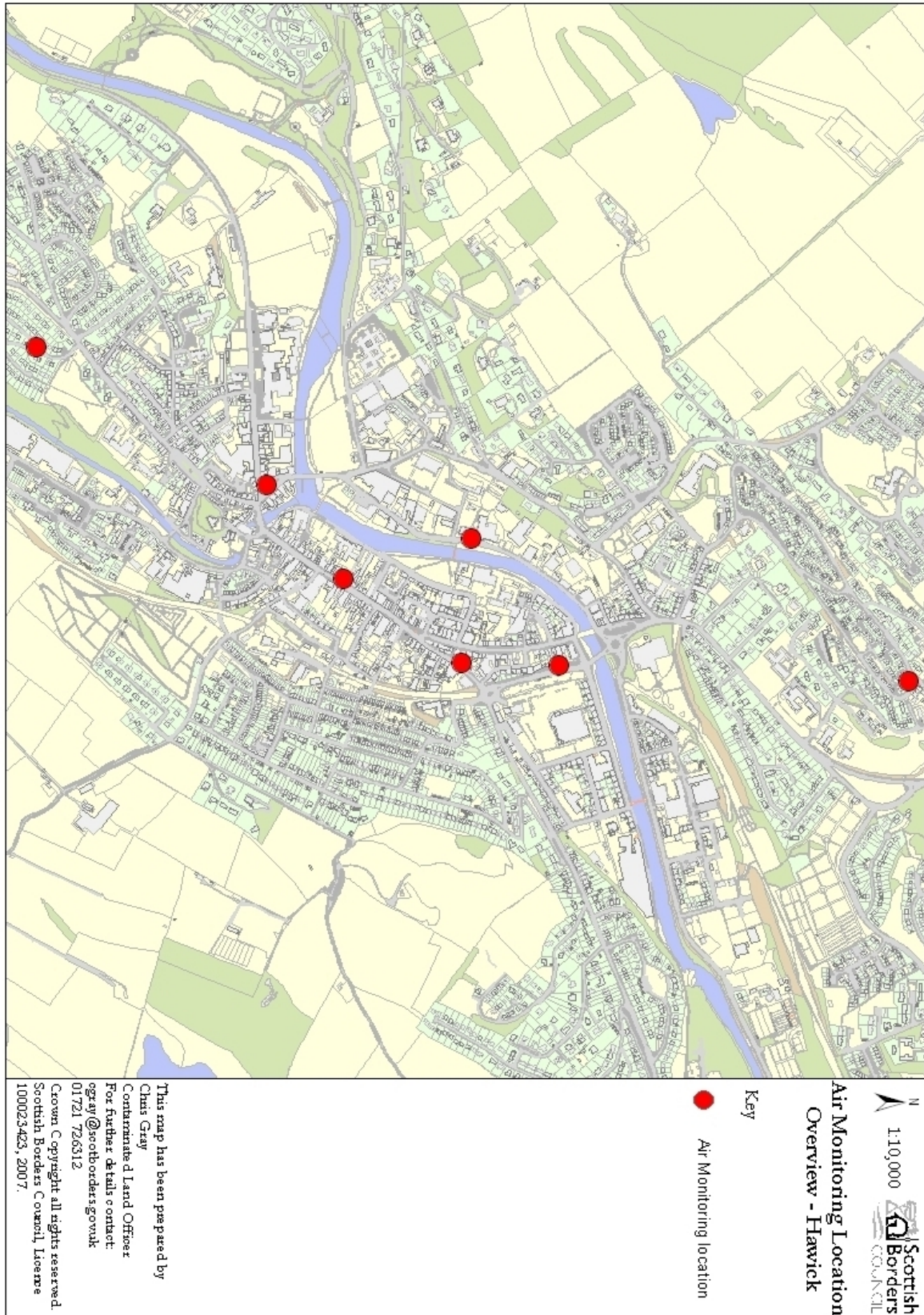
Appendix 2: Map of Newcastleton Monitoring Location

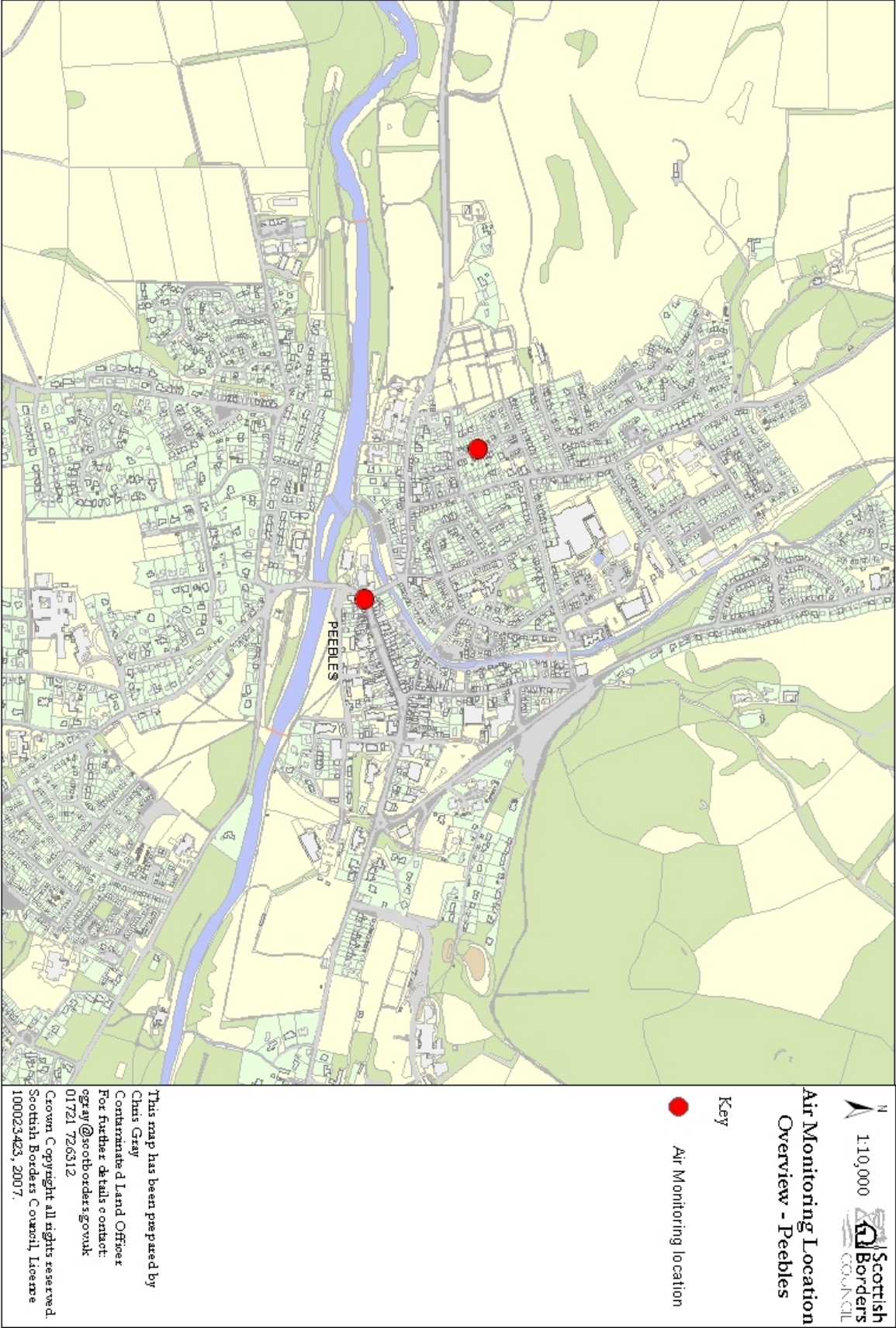
Newcastleton Modelled 2010 annual mean PM10 concentrations ($\mu\text{g}/\text{m}^3$) with 2007-08 Air Quality Monitoring Location

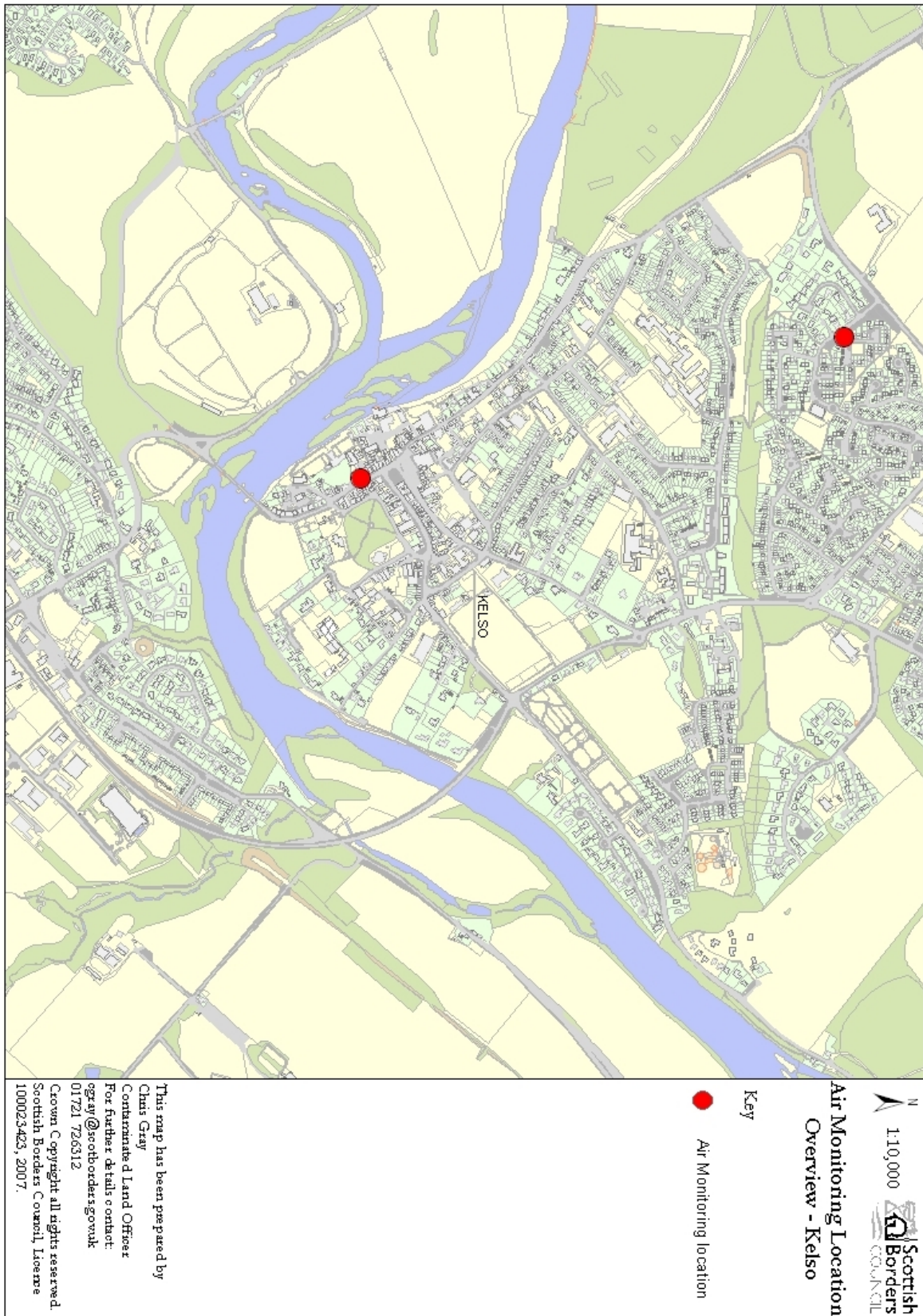


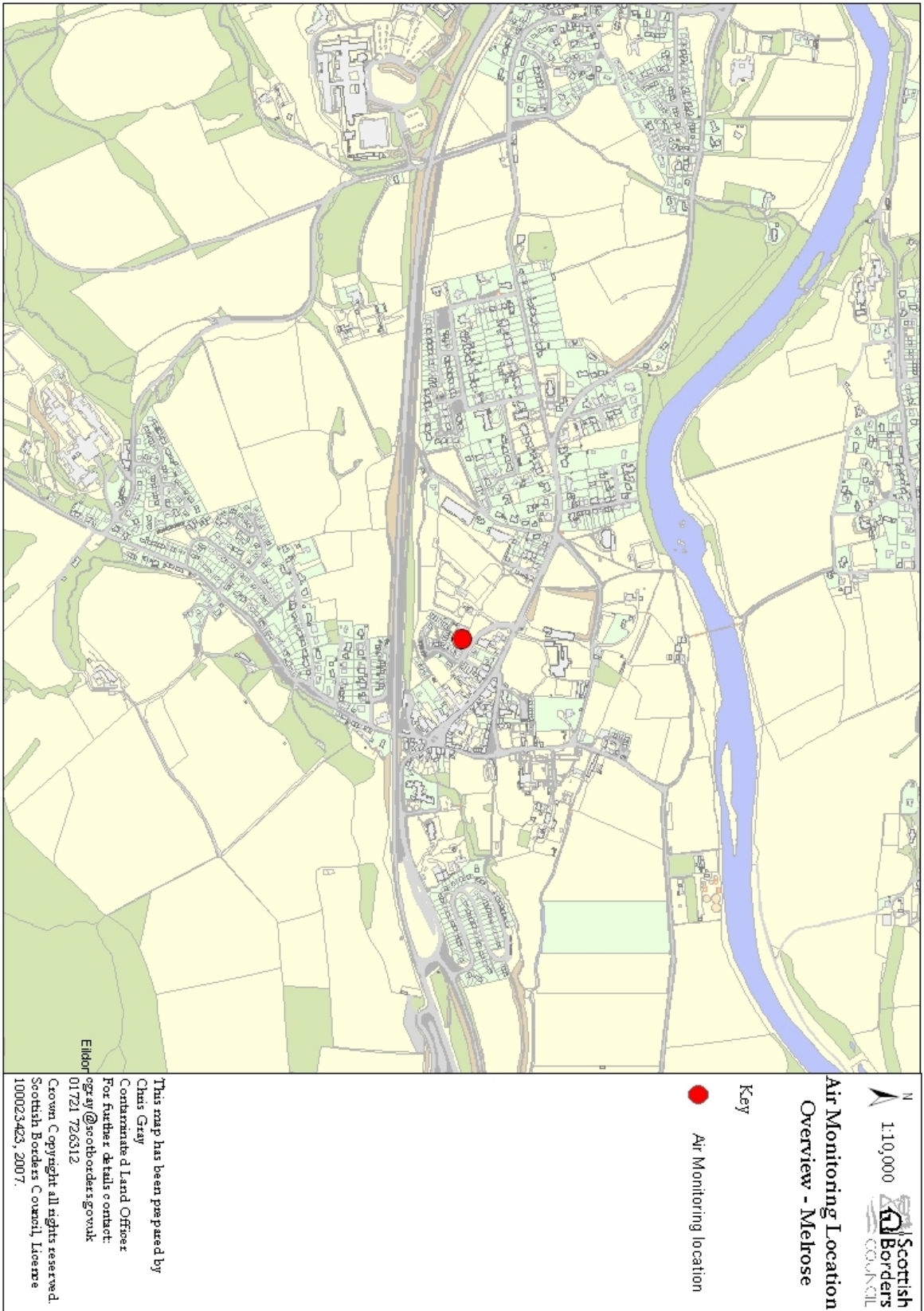
(Extracted from "Newcastleton Air Quality Monitoring Study 2007-2008: PM10 Report to Scottish Borders Council Issue 1)

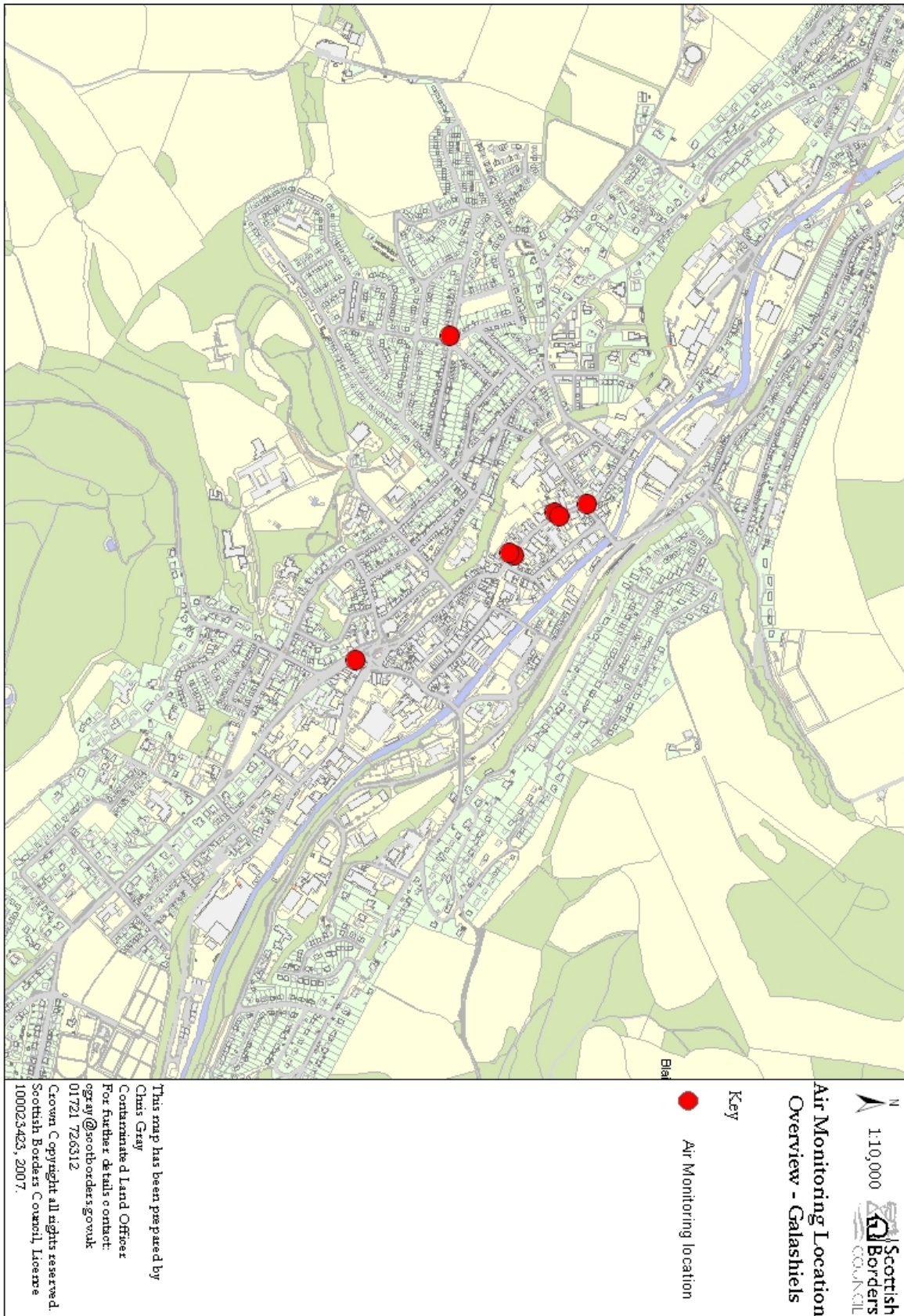
Appendix 3: Maps of Diffusion Tube Sites











Appendix 4: NO2 Monthly Mean Dataset 2008

Jan	23	13	38	12	24	21	29	10	11	35	23	17	16	9	11	26	32	41
Feb	24	13	43	14	28	26	29	11	13	32	27	20	20	10	11	37	14	38
Mar	21	10	35	10	23	28	28	8		27	21	18	18	7	7	37	31	36
Apr		9	42	8	23	24	23	6	7	27	23	24	19	5	7	51	31	41
May		10	46	7	35	28	18	7	7	25	20	27	19	6	7	42	51	43
Jun	24	8	34	5	20	22		6	5	24		15	17	5	5	27	27	34
Jul	25	5	28	6	19		16	3	5	19	15	14	13	5	7	33	30	29
Aug	26	7	45	7	26	21	25	6	6	30	20	16	16	4	6	39	30	38
Sept	28	9	43	8	22	25	18	6	7	30		18	17	6	7	42	33	37
Oct	15	13	31	10	23	19	32	5	5	23	24	12	14	7	6	38	25	37
Nov	22	13	38	11	26	31	29	8	11	23	21	21	19	8	10	41	34	35
Dec	28	17	43	18	34	26	27	11	15	29	28	25	22	11		44	38	49
	Galashiels Council Chamber	Galashiels Stanley St	Galashiels High St	Peebles Glad. PI	Peebles High St	Hawick Sandbed	Hawick High St	Hawick Ren. Tce	Hawick Sbhall Rd	Hawick Bour. PI	Hawick Mart St	Hawick Comm Rd	Kelso Bridge St	Kelso Mer. Ct	Melrose	B. Angling High St Galashiels	Edingtons High St Galashiels	Iceland High St Galashiels

Appendix 5: 2008 Road Traffic Count Data

Route	Locus	Easting	Nrthng	Date	Count	Goods Count	20% of Count	Ave Speed
A7	A7 Lindean	348249	631121	Jun-08	12224	226	2445	52.5
A7	A7 Lindean	348249	631121	Jun-08	11672	249	2334	52.3
A7	Hawick, Commercial Rd	350337	615124	May-08	11245	1735	2249	27.5
A6091	Melrose Bypass	354664	633882	Aug-08	10848	834	2170	52.4
A68	Newtown ByPass Camera	358155	631647	Mar-08	10662	626	2132	48.5
A6091	Melrose Bypass	354664	633882	Mar-08	10389	322	2078	50
A6091	Melrose Bypass	354664	633882	Mar-08	10389	483	2078	50
A7	Hawick, Commercial Rd	350337	615124	Jul-08	10161	1433	2032	28
A1	Lamberton North Camera Site	396652	659163	Apr-08	9983	1698	1997	49.1
A68	Craigsford	357132	637835	Mar-08	9461	911	1892	52.9
A68	Craigsford/Earlston	357132	637835	Mar-08	9461	1416	1892	52.9
A72	Peebles, Whitestone Park	325866	640316	May-08	9442	891	1888	31.1
A68	Soutra	347090	658452	Apr-08	9095	1131	1819	56.7
A1	Cockburnspath Camera site	377963	670606	Apr-08	8893	1794	1779	54.2
A7	Hawick, Wiltonhill	350750	615845	Aug-08	8885	2451	1777	37.2
A68	Headshaw	349352	654580	Apr-08	8873	631	1775	52.8
A68	Riverside	365643	622482	Mar-08	8851	661	1770	51
A72	Peebles, Whitestone Park	325866	640316	Mar-08	8710	564	1742	30.1
A72	Peebles, Whitestone Park	325866	640316	Feb-08	8552	551	1710	30.3
A1	Grantshouse Camera site	379963	666271	Apr-08	8550	2153	1710	46.5
A72	Peebles, Whitestone Park	325866	640316	Apr-08	8544	764	1709	31
A1	East Reston Camera Site	389694	662218	Apr-08	8468	1872	1694	49.5
B6374	Langlee, Melrose Road	351303	635572	Mar-08	8381	596	1676	29.4
B6399	Hawick, High Street	350254	614527	Jan-08	8300	326	1660	16.7
B6374	Langlee, Melrose Road	351303	635572	May-08	8177	632	1635	29.5
B6374	Langlee, Melrose Road	351303	635572	Jun-08	8046	631	1609	29.5
A703	Eddleston Village Hall	324243	647020	Mar-08	8003	275	1601	31.5

Route	Locus	Easting	Nrthng	Date	Count	Goods Count	20% of Count	Ave Speed
A7	Hawick, Wiltonhill	350747	615790	Feb-08	7861	410	1572	32.3
A7	Hawick, Wiltonhill	350747	615790	Feb-08	7861	264	1572	32.3
B6374	Langlee, Melrose Road	351303	635572	Apr-08	7835	590	1567	29.5
B6374	Langlee, Melrose Road	351303	635572	Feb-08	7573	577	1515	29.2
A72	Peebles, Whitestone Park	325866	640316	Jan-08	7513	440	1503	30.3
B6399	Hawick, High Street	350254	614527	Feb-08	7507	409	1501	17
A703	Eddleston Village Hall	324243	647020	Aug-06	7504	340	1501	32.6
A68	Lauder, Washington Burn	352558	648014	Apr-08	7398	549	1480	27.4
B6374	Langlee, Melrose Road	351303	635572	Jul-08	7290	579	1458	29.5
A1	Heugh Head Camera site	387895	662502	Apr-08	7213	2022	1443	55.5
B6399	Hawick, High Street	350254	614527	May-08	7120	367	1424	15.9
A703	Leadburn Moor	324311	652926	May-08	7103	699	1421	55.5
A68	Hiltonshill Camera	359715	629644	Mar-08	7064	492	1413	51.4
A68	Longnewton Camera site	360923	628279	Mar-08	7040	581	1408	48.5
A703	Leadburn Moor	324311	652926	Jun-08	6985	736	1397	55.4
A72	Caerlee Bank	332119	636715	Mar-08	6926	330	1385	47.4
A703	Leadburn Moor	324311	652926	Mar-08	6918	674	1384	55.2
A72	Caerlee Corner	332119	636715	Mar-08	6908	346	1382	43.2
A68	Lauder, Market Place	353070	647595	Jun-08	6855	2301	1371	24.5
B6399	Hawick, High Street	350254	614527	Jul-08	6843	319	1369	16
A72	Horsburgh Straight.	330187	639362	Apr-08	6831	215	1366	51.7
A703	Peebles 30's	325013	641720	Mar-08	6710	303	1342	32.8
A703	Leadburn Moor	324311	652926	Apr-08	6698	668	1340	55.8
A703	Leadburn Moor	324311	652926	Jul-08	6696	693	1339	55.3
A68	Lilliardsedge Camera site	361907	626880	Mar-08	6679	448	1336	53.6
A703	Peebles 30's	325013	641720	Feb-06	6678	583	1336	33
A703	Leadburn Moor	324311	652926	Feb-07	6666	567	1333	53

Scottish Borders Council

Route	Locus	Easting	Nrthng	Date	Count	Goods Count	20% of Count	Ave Speed
A68	Stonyford	353701	647038	Apr-08	6651	592	1330	42.3
A68	Stonyford	353701	647038	Apr-08	6651	592	1330	42.3
A7	Galashiels, Magdala Terr	348348	637106	Jun-08	6635	443	1327	23.3
A68	Blackburn Layby	351721	650472	Apr-08	6606	563	1321	56.2
A703	Leadburn Moor	324311	652926	Feb-08	6550	638	1310	54.5
A72	Peebles old town.	324972	640497	Jan-08	6548	260	1310	19.1
B6374	Langlee, Melrose Road	351303	635572	Jan-08	6527	504	1305	28.7
A7	Galashiels, Bristol Terrace	348275	637175	Aug-08	6349	787	1270	30.2
A68	Jedburgh	365222	620639	Feb-08	6251	795	1250	32.1
A7	Galabank	344420	645697	May-08	6116	420	1223	45
A7	Bow Straight Counter Site	345293	642352	Jun-08	6085	619	1217	55.5
A68	Birkenside	356340	641959	Mar-08	6040	769	1208	55.9
A68	Birkenside	356340	641959	Mar-08	6040	770	1208	55.9
A7	Galashiels, Bristol Terr	348275	637175	Feb-08	6020	902	1204	32.1
A7	A7 Heriot	340523	654251	Jun-08	5855	243	1171	50.5
A7	Bow Straight Counter Site	345293	642352	Feb-08	5850	833	1170	52.3
A7	A7 Heriot	340523	654251	Jun-08	5764	341	1153	48
A7	Crookston	342040	652147	May-08	5711	538	1142	54.1
A68	The Roan	355442	643563	Mar-08	5658	917	1132	59.5
A68	The Roan	355442	643563	Apr-08	5657	283	1131	59.5
A68	The Roan	355442	643563	Mar-08	5657	937	1131	59.5
A703	Leadburn Moor	324311	652926	Jan-08	5650	420	1130	53.1
A7	FallaHill	339662	655761	Jun-08	5620	310	1124	47.9
A72	Holylee	338654	637562	May-08	5611	799	1122	49.9
A7	Crookston	342040	652147	Jun-08	5589	536	1118	53.2
A7	Crookston	342040	652147	Mar-08	5474	528	1095	53.8
A7	Crookston	342040	652147	Feb-08	5430	516	1086	52.2

Route	Locus	Easting	Nrthng	Date	Count	Goods Count	20% of Count	Ave Speed
A6089	Kelso Golf Course Rd	372969	634928	Jun-08	5414	195	1083	25.9
A7	Bow Straight	345293	642352	Mar-08	5378	746	1076	52.7
A7	Crookston	342040	652147	Jul-08	5359	526	1072	53.2
A72	Holylee	338654	637562	Jun-08	5342	765	1068	50.2
A7	A7 Torwoodlee	348064	638467	Apr-08	5327	332	1065	41.2
A702	Dolphinton Straight	312297	648734	Mar-08	5261	574	1052	58.3
A698	Ashybank	354634	617709	May-08	5210	654	1042	56.3
A72	Galashiels, Wood St	347336	637447	Jan-08	5204	266	1041	30.3
Unclass. Road	Hawick, The Loan	349910	614137	Feb-08	5178	612	1036	25.7
A72	Holylee	338654	637562	Jul-08	5059	697	1012	49.9
A698	Ashybank	354634	617709	Jun-08	5056	654	1011	56.3

Scottish Borders Council

