2015 Air Quality Updating and Screening Assessment for

Eden District Council

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

March 2017

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Executive Summary

This report fulfils Eden District Council's legal responsibilities under the Local Air Quality Management process as set out in Part IV of the Environment Act 1995 and the Air Quality Strategy for England, Scotland, Wales and Northern Ireland.

The report provides a full screening assessment undertaken in accordance with the Technical Guidance TG(09) and an update of recent air quality issues in the district, including results of recent monitoring undertaken and also any potentially significant sources of air pollution that have been identified since the previous assessment which could lead to the risk of an air quality objective being exceeded.

Following Detailed Assessment completed in June 2013 Eden District Council introduced additional monitoring locations in line with the recommendations of this report and commenced the process of declaring Air Quality Management Areas in Penrith and Eamont Bridge.

A report was written and approved by Eden District Council to declare the Air Quality Management Areas. However before this could be actioned by the Council's Legal team, further monitoring showed that there was no longer a likely breach of the Air Quality Regulations, for nitrogen dioxide, or any of the other pollutants of concern, in any of the proposed AQMA locations. This may be due to the laboratory bias adjustment factor being particularly low for 2013 (0.73 for ESG Glasgow, with only 1 co-location study being undetrtaken by this laboratory). The Council has approached Defra's consultants and written to Defra seeking guidance on this situation. To date no response has been received.

A different laboratory (ESG Didcot), which undertook 31 co-location studies in 2014, is now analysing the tubes. This provides more assurance in the bias adjustment factor (0.81 for 2014 data) and consequently confidence in the results from the diffusion tubes upon which decisions are taken.

The 2014 monitoring has identified failures of the AQO along Victoria Road and Castlegate. However since the only point to fail the AQO along Castlegate was from a diffusion tube monitoring point that had only 7 months of data it is proposed to review the situation following the assessment of 2015 monitoring data.

Victoria Road showed 3 failures of the AQO. One monitoring point had only 7 months of data and another monitoring point returned an abnormally high result for November which, if removed from the dataset would bring the bias adjusted annual mean to below the AQO. Consequently another year of monitoring is also proposed in order to identify any trends in the air quality in this area.

However for the other proposed location of an AQMA in Eamont Bridge, there have been no failures at any points along this stretch in either 2013 or 2014. It is therefore proposed that the AQMA is not declared at present for Eamont Bridge this location. Ongoing monitoring will be continued in order that any trend in air quality levels can be confirmed. The declaration of an AQMA will be postponed until the results of 2015 monitoring have been considered.

There have been no new relevant industrial installations and no new or substantially altered roads within the District since the last report. There are also no new significant commercial, domestic or fugitive sources of emissions.

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1 Introduction

1.1 Description of Local Authority Area

Eden District Council has the largest geographical area of all Cumbrian Authorities. At 2,156 km^2 and with a population of 52,600 it is the second largest and most sparsely populated district within England. Approximately one-fifth of the District lies within the Lake District National Park and one quarter within the North Pennines Area of Outstanding Natural Beauty (AONB). It stretches from North Lakeland in the west, to the Pennines in the east, with the Eden Valley running through the centre.

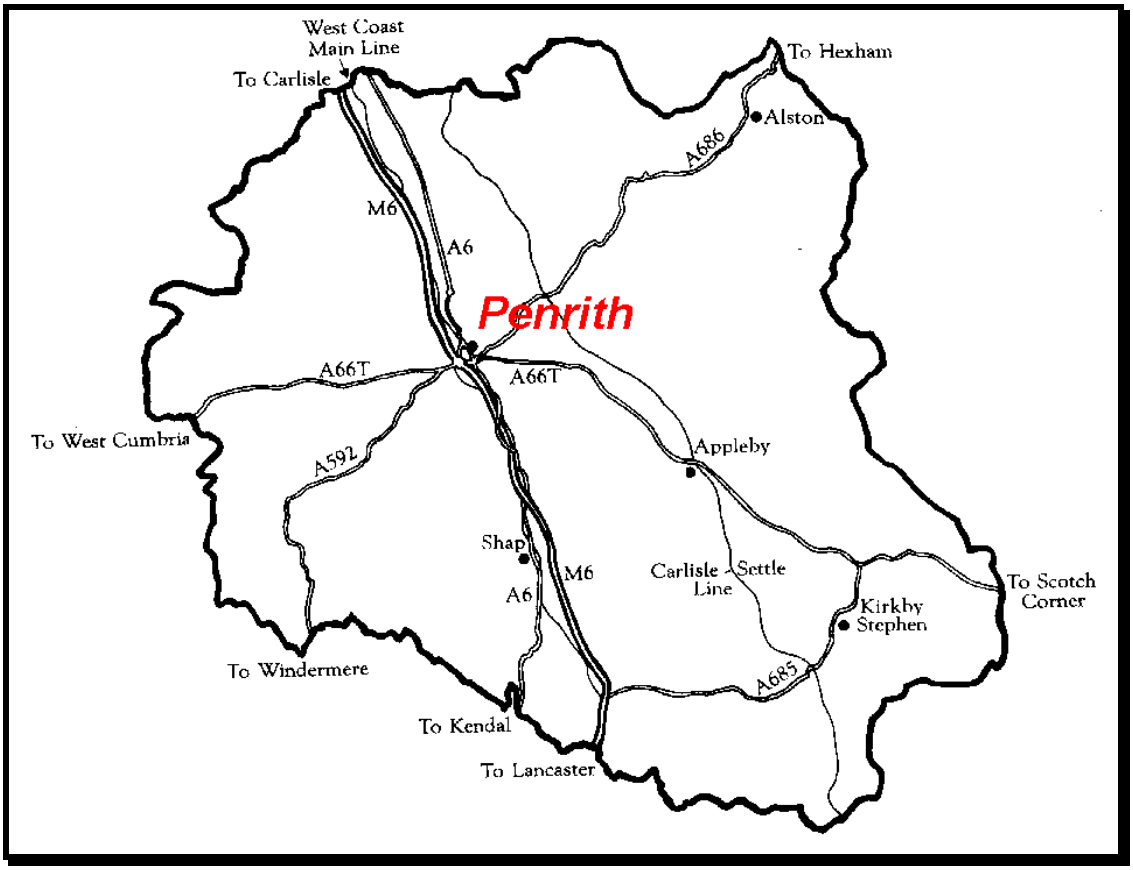
The District benefits from good road transport links running east to west along the A66 trunk road and north/south via the M6 and A6. Most of the county is within a travel time of one hour.

The West Coast Mainline provides rail links to the north and south and the regional railway link from Carlisle to Leeds (via Settle/Carlisle) is of particular importance to settlements in the Eden Valley.

The population is scattered in small villages through a wide rural area. Penrith, Kirby Stephen, Alston and Appleby are the four main towns with Penrith the largest having a population of around 15,000.

A map of the district including the location of all A-roads/trunk roads and the M6 motorway is shown below in Figure 1.1

Figure 1.1 Map of Eden District Council



Map of area showing major highways and settlements

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.

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 England** are set out in the Air Quality (England) Regulations 2000 (SI 928), The Air Quality (England) (Amendment)

Regulations 2002 (SI 3043), and are shown in Table 1.1. This table shows the objectives in units of microgrammes 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 England

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
	5.00 $\mu g/m^3$	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 than 18 times a year	1-hour mean	31.12.2005
	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 35 times a year	24-hour mean	31.12.2004
	40 $\mu g/m^3$	Annual mean	31.12.2004
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

1.4 Summary of Previous Review and Assessments

The Council has been monitoring air quality within the District since 1996 as part of it's local air quality management duties. Previous rounds of review and assessments undertaken by Eden District Council are listed in Table 1.2 below. The first stage review and assessment for Eden District Council was published in 2000. It concluded that the risk of the air quality objectives in respect of carbon monoxide, benzene, 1.3 butadiene, lead, nitrogen dioxide, sulphur dioxide and fine particulates not being met within the prescribed time scales was negligible.

To date, the Council has published four Updating and Screening Assessments of local air quality, in 2003, 2006, 2009 and 2012. The first three of these reports concluded that air quality currently was meeting the national objectives and that it was not necessary to undertake a Detailed Assessment or to declare an Air Quality Management Area (AQMA).

The Council has published eight previous Progress Reports on Air Quality, in 2004, 2005, 2007, 2008, 2010, 2011, 2013 and 2014. The results of the first five of these reports confirmed that a Detailed Assessment for air quality within Eden District Council was not required for any pollutant.

The 2011-2013 reports explained that the Council's nitrogen dioxide diffusion tube monitoring programme had been extensively reviewed during the three years which this report covers (data from 2011, 2012 and 2013). This was to better target the monitoring to areas where previous assessments had identified concerns and to monitor the impact of a new shopping development and associated changes to the road network in Penrith town centre. The monitoring confirmed that it was necessary to proceed to a Detailed Assessment for the nitrogen dioxide annual mean objective in Penrith town centre and Eamont Bridge.

The Detailed Assessment was completed and it concluded that Air Quality Management Areas should be declared for two areas of Penrith town centre and along a short stretch of the A6 at Eamont Bridge. The declaration of the AQMAs has been approved by the Council's Executive and the Order has been prepared by the Council's legal officers. Before the Order could be enacted, monitoried levels showed a significant reduction in nitrogen dioxide such that there were no exceedances of the AQO.

In 2013 there was a significant reduction in nitrogen dioxide levels recorded across the district. A detailed analysis of the data was undertaken to attempt to explain this reduction in 2013 data. It was concluded that this is likely to be due to a large change in the laboratory bias adjustment factor.

In 2011 and 2012 the bias adjustment factor was based on four collocation studies, three at automatic stations operated by Slough Borough council and one at the Marylebone Road Intercomparison site. The bias adjustment factors for 2011 were 0.82, 0.89 and 0.90 for the Slough sites and 0.86 for the Marylebone Road site, giving an overall factor of 0.87. In 2012 these were 0.84, 0.88 and 0.87 for Slough and a very much lower 0.73 for Marylebone Road, giving an overall factor of 0.84.

In 2013 there was just one site, Marylebone Road used for the computation of the bias adjustment factor and this again was 0.73, the same as the previous year but without the three higher data points from the Slough sites the overall bias adjustment factor is given as a much reduced 0.73. This appears to have contributed significantly to the apparent reduced concentrations in the Council's area.

The Council has considered the implications of this as the National Diffusion Tube Bias Adjustment Factor spreadsheet states that *"Where there is only one study for a chosen combination, you should use the adjustment factor shown with caution*". Further advice was sought in this matter, whilst increased monitoring was being undertaken in order to collect more data and the analytical laboratory was also changed for 2014.

Table 1.2 Summary of Previous Review and Assessments

YEAR	MONITORED OR CALCULATED EXCEEDENCE	DETAILED ASSESSMENT /AQMA REQUIRED?	CONCERNS	ACTIONS	COMMENTS
2000 Stage 1	N	N	N	N	N
2003 USA	N	N	N	N	N
2004 Progress Report	Y NO2 Monitoring Brunswick Rd & The Narrows – Annual mean>40	N	NO_2 results:Brunswick Rd for relevant exposure	Relocate NO_2 diifussion tube @ Brunswick Rd for relevant exposure	No relevant exposure at Narrows;diffusion tube @ Brunswick Rd too close to kerb for relevant exposure
2005 Progress Report	Y NO_2 monitoring Brunswick Rd	DA required for NO2	Brunswick Rd	Planning condition requires submission of AQ impact for proposed town centre mixed development	The proposed town centre mixed develop-ment would have potential impacts on traffic flows and air quality
2006 USA	N	Possible DA required for NO2	Brunswick Rd	Decision about Detailed Assessment delayed until modelling data received	
2007 Progress Report	N	N	N	N	p.8 mistaken reference to 50% TEA in water instead of 50% TEA in acetone lab preparation for diffusion tubes
2008 Progress Report	N	N	Air quality impacts of proposed mixed development assessed as not likely to cause AQ objectives to be exceeded	Increased NO_2 concentrations likely at some locations due to mixed dev. Examine in 2009 USA	Since this AQ report was published the development is being redesigned due to collapse of funding
2009 USA	N	N	Future of new mixed development still uncertain. Further update to be provided in the next Progress Report (due in 2010)		
2010 Progress Report	N	N	Future of new mixed development still uncertain. Further update to be provided in the next Progress Report (due in 2011)	Relocate diffusion tubes from outlying areas to Penrith urban areas	Since this AQ report was published a revised air quality impact assessment has recently been submitted which indicates that there will be exceedences of the annual mean objective adjacent to a junction which will be newly formed as part of the development. The assessment along with the proposed mitigation measures are currently being reviewed.
2011 Progress Report	Y	Y	Not based on full year's data and doesn't include New Squares development due to open at end of 2011.	Rationalise diffusion tube locations to better cover areas where exceedences may be present	Detailed Assessment likely if further monitoring confirms exceedences of the annual mean nitrogen dioxide objective in Penrith ten centre and Eamont Bridge

2012 USA **2013 and 2014 Progress Report**	**Yes monitored exceedences in 2011 and 2012 data but none for 2013 data.**	**Y Detailed Assessment undertaken and AQMA boundaries proposed for Penrith Town Centre (2) and Eamont Bridge (1)**	**Concern over declaring AQMAs when no exceedences reported in 2013 monitoring data.**	**Declaration of AQMA in principle**	**Due to uncertainty from no exceedences in 2013 seeking advice for DEFRA and ongoing monitoing to clarify situation.**

2. New Monitoring Data

2.1 Summary of Monitoring Undertaken

2.1.1 Automatic Monitoring Sites

Eden District Council has no automatic monitoring sites within its boundaries

2.1.2 Non-Automatic Monitoring Sites

Nitrogen dioxide is currently monitored within Eden District Council through the use of passive diffusion tubes. Details of each site are shown in Table 2.1 below.

Eden District Council undertook a review of the Council's nitrogen dioxide monitoring programme following exceedances noted in previous years monitoring and in response to the Detailed Assessment undertaken by Bureau Veritas in June 2013. The assessment has led to an increase in monitoring locations within the areas where an AQMA is proposed.

The nitrogen dioxide concentrations from the diffusion tube monitoring is shown for 2014 in Table 2.2, All monitoring locations have been chosen to be directly located on building facades, at the site of a relevant receptor, and as such no distance correction is required. There are no sites of co-location within Eden and only one tube has been a triplicate - 22 Stricklandgate, Penrith.

For all the sites it can be seen that the data for the month of November gave the highest monthly reading when compared to the rest of the year which in some cases was significantly higher than the rest of the year. The laboratory confirmed the validity for these values and therefore the data has been included with the calculation of the annual mean.

Confirmation from Bureau Veritas has identified that the diffusion tubes organised through them were analysed by a different ESG laboratory in 2014 as a result of only 1 co-location study being undertaken in 2013 by ESG Glasgow. It was felt that ESG Didcot, which undertook 31 co-location studies, provided more confidence in the bias adjustment factor. ESG Didcot analyses the diffusion tubes using 50% TEA (Triethanolamine) in acetone, which are typically exposed for four week periods in accordance with the National NO_2 Network exposure calendar. The laboratory is accredited to NAMAS and UKAS BS EN ISO 9001 and has implemented the methodology set out in the Harmonisation Practical Guidance. Results from the

WASP[1] scheme show 100% for Rounds 124 to AR004 (Jan – Dec 2014) (See Appendix A)

The 2014 results have been corrected for a bias using a factor of 0.81 for ESG Didcot (R&A website, spread sheet version 06/15) (See Appendix A).

Castlegate Proposed AQMA

Following the Detailed Assessment undertaken by Bureau Veritas, the recommendation was to:

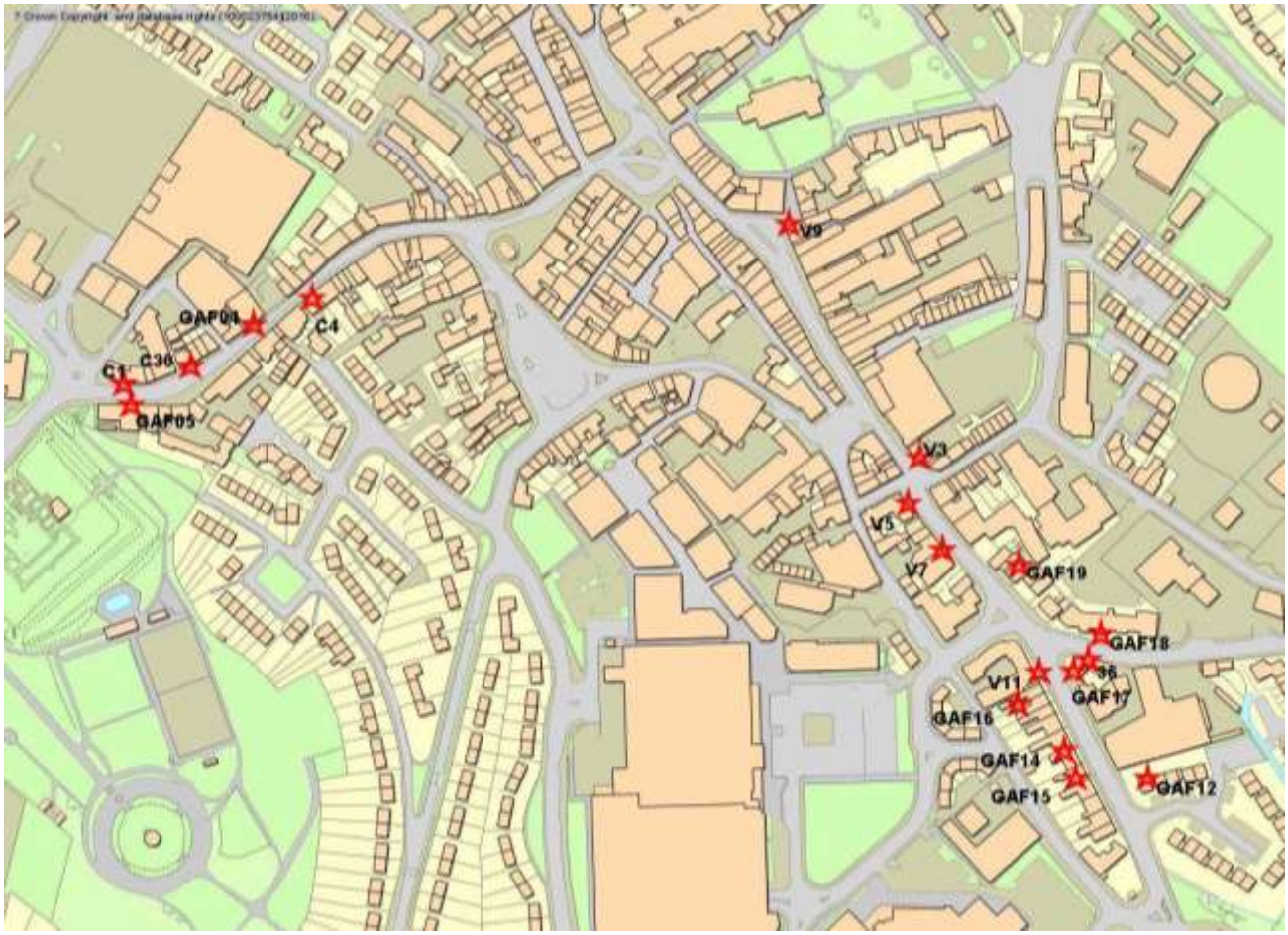
- Installing extra monitoring points at the facade of properties in the worst case locations of modelled NO2 levels was followed. (GAF04 and GAF05.)

Victoria Road Proposed AQMA

Following the Detailed Assessment undertaken by Bureau Veritas, the recommendations were to:

- installing new monitoring points at the facade of properties between Southend Road and Roper Street. Seven additional sites were identified for monitoring in 2014. Five of the points chosen (GAF12, GAF14, GAF15, GAF16, GAF17) extended the extent of the monitoring southwards along the A6 and in line with the proposed AQMA.
- Monitor the façade of the properties along Roper Street (GAF18)

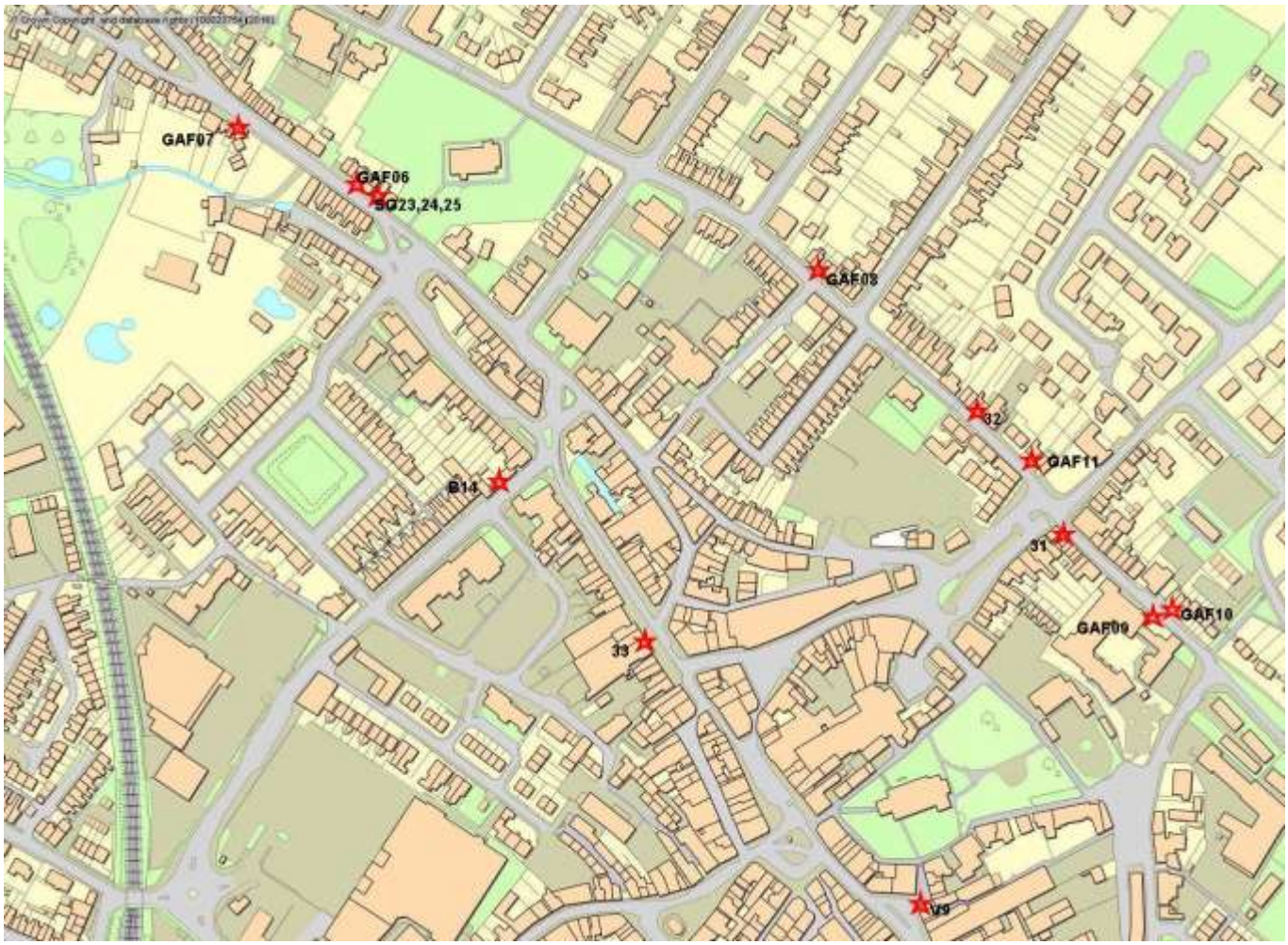
Figure 2.1a Location of Castlegate and Victoria Road monitoring points



Wider Penrith Town Centre

- Following the Detailed Assessment undertaken by Bureau Veritas, the recommendations were to:
- Install further monitoring along Scotland Road (GAF06 and GAF07)
- Install further monitoring at relevant locations along Meeting House Lane (GAF11 and GAF08)
- Install further monitoring at relevant locations along Benson Row (GAF09 and GAF10)

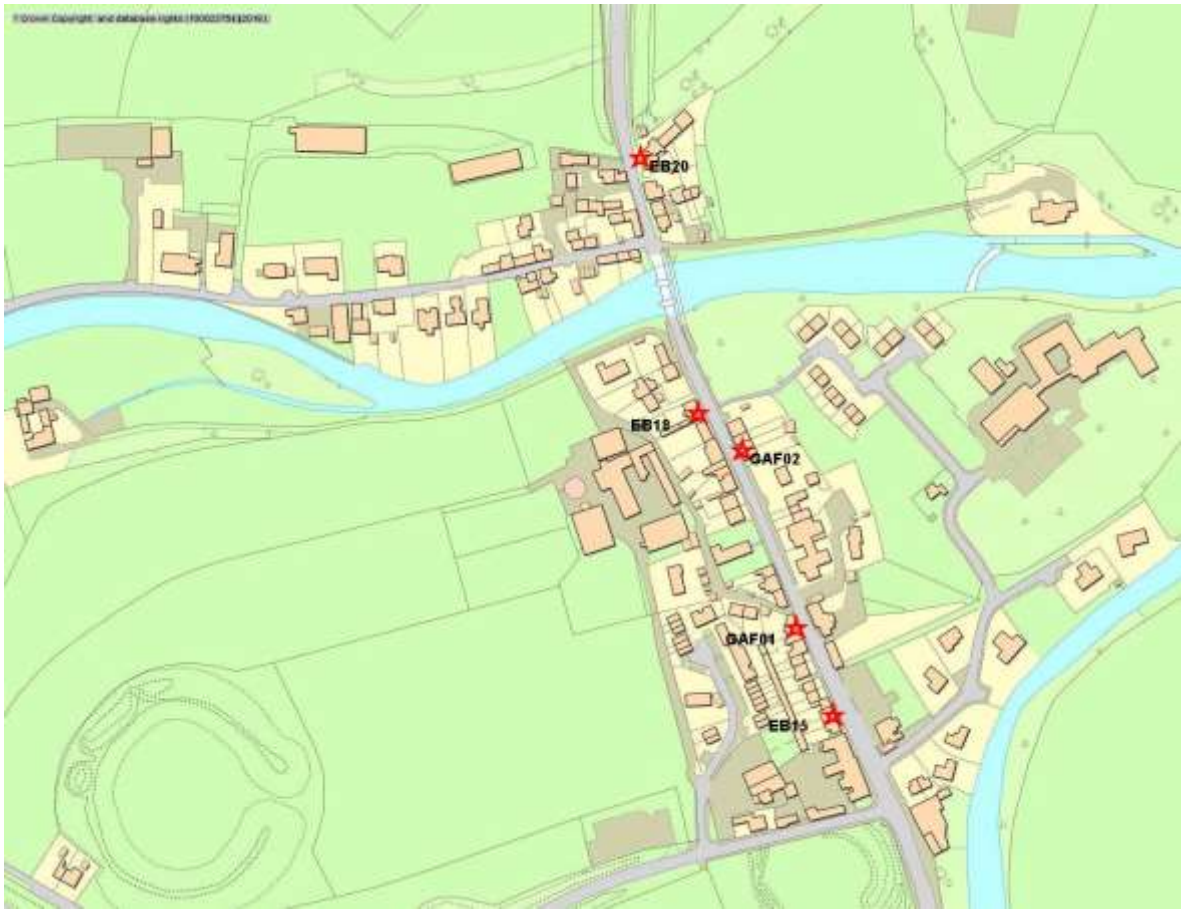
Figure 2.1b Locations of wider Penrith town centre monitoring points



Eamont Bridge Proposed AQMA

- Following the Detailed Assessment undertaken by Bureau Veritas, the recommendations were to:
- Install further monitoring at relevant locations along the A6 (GAF01 and GAF02)

Figure 2.1c Locations of Eamont Bridge monitoring points



Within this report, existing monitoring sites with historical data are considered together with the additional sites commenced in 2014. The diffusion tube locations used for 2014 are shown in Table 2.2 below:

Table 2.1 Details of Non-Automatic Monitoring Sites For Nitrogen Dioxide

Site Ref	Site Name	Site Type	X OS Grid Ref	Y OS Grid Ref	In AQMA?	Is monitoring collocated with a Continuous Analyser (Y/N)	Relevant Exposure? (Y/N with distance (m) to relevant exposure)	Distance to kerb of nearest road (N/A if not applicable)	Does this location represent worst-case exposure?
Castlegate, Penrith Proposed AQMA									
C1	Railway Tavern	Roadside	351298	530006	N	N	Y(0)	1.0m	Y
C4	18 Castlegate	Roadside	351396	530051	N	N	Y(0)	1.0m	Y
C30	40 Castlegate	Roadside	351333	530016	N	N	Y(0)	1.5m	Y
GAF04	New Vic	Roadside	351363	530046	N	N	Y(0)	1.0m	Y
GAF05	Station Hotel	Roadside	351302	529989	N	N	Y(0)	2.5m	Y

Site Ref	Site Name	Site Type	X OS Grid Ref	Y OS Grid Ref	In AQMA?	Is monitoring collocated with a Continuous Analyser (Y/N)	Relevant Exposure? (Y/N with distance (m) to relevant exposure)	Distance to kerb of nearest road (N/A if not applicable)	Does this location represent worst-case exposure?
Victoria Road, Penrith Proposed AQMA									
V3	25b King Street	Roadside	351720	529966	N	N	Y(0)	2.0m	Y
V5	Front Victoria Rd / Langton Cott	Roadside	351713	529941	N	N	Y(0)	1.0m	Y
V7	Café 15	Roadside	351733	528918	N	N	Y(0)	2.5m	Y
V11	RAFA	Roadside	351785	529852	N	N	Y(0)	1.0m	Y
GAF12	1 Glasson court	Roadside	351843	529797	N	N	Y(0)	5.0m	Y

Site Ref	Site Name	Site Type	X OS Grid Ref	Y OS Grid Ref	In AQMA?	Is monitoring collocated with a Continuous Analyser (Y/N)	Relevant Exposure? (Y/N with distance (m) to relevant exposure)	Distance to kerb of nearest road (N/A if not applicable)	Does this location represent worst-case exposure?
GAF14	Tynedale, Victoria Road	Roadside	351797	529811	N	N	Y(0)	2.0m	Y
GAF15	Abbey House. Victoria Road	Roadside	351804	529797	N	N	Y(0)	2.0m	Y
GAF16	Landels Court corner	Roadside	351774	529838	N	N	Y (0)	2.0m	Y
GAF17	Lamppost 36 Victoria Road	Roadside	351805	529855	N	N	Y(0)	1.0m	Y
GAF19	25 Victoria Road	Roadside	351774	529910	N	N	Y(0)	1.5m	Y

Other Penrith monitoring locations									
V9	Front 9b King St	Roadside	351651	530085	N	N	Y(0)	2.0m	Y
B14	4 Brunswick Road	Roadside	351394	530344	N	N	Y(0)	2.0m	Y
SG23	22 Stricklandgate	Roadside	351321	530516	N	N	Y(0)	2.0m	Y
SG24	22 Stricklandgate	Roadside	351321	530516	N	N	Y(0)	2.0m	Y
SG25	22 Stricklandgate	Roadside	351321	530516	N	N	Y(0)	2.0m	Y
SG26	99a Scotland Rd	Roadside	351136	530673	N	N	Y(0)	1.0m	Y
SG27	8 Scotland Rd	Roadside	351171	530649	N	N	Y(0)	1.0m	Y
GAF06	Thompson Court, Stricklandgate	Roadside	351316	530533	N	N	Y(0)	2.5m	Y

Site Ref	Site Name	Site Type	X OS Grid Ref	Y OS Grid Ref	In AQMA ?	Is monitoring collocated with a Continuous Analyser (Y/N)	Relevant Exposure? (Y/N with distance (m) to relevant exposure)	Distance to kerb of nearest road (N/A if not applicable)	Does this location represent worst-case exposure?
GAF07	63 Stricklandgate	Roadside	351236	530533	N	N	Y(0)	1.0m	Y
GAF08	5 Arthur Terarce	Roadside	351595	530479	N	N	Y(0)	2.0m	Y
GAF09	7 Benson Row	Roadside	351820	530266	N	N	Y(0)	1.0m	Y
GAF10	Benson Row, Opp Ex Greggs site	Roadside	351820	530266	N	N	Y(0)	3.0m	Y
GAF11	18 Sandgate	Roadside	351727	530363	N	N	Y(0)	2.5m	Y
GAF13	The Arches, Opp Leisure Centre	Roadside	351819	529754	N	N	Y(0)	1.0m	Y
GAF18	1 Whelpdale House (entrance)	Roadside	351823	529879	N	N	Y(0)	2.0m	Y

Site Ref	Site Name	Site Type	X OS Grid Ref	Y OS Grid Ref	In AQMA?	Is monitoring collocated with a Continuous Analyser (Y/N)	Relevant Exposure? (Y/N with distance (m) to relevant exposure)	Distance to kerb of nearest road (N/A if not applicable)	Does this location represent worst-case exposure?
31	3 Benson Row	Roadside	351741	530313	N	N	Y(0)	1.0m	Y
32	Penrith Nursery	Roadside	351687	530387	N	N	Y(0)	1.0m	Y
33	Middlegate	Roadside	351485	530248	N	N	Y(0)	7.0m	Y
36	Roper St	Roadside	351810	529861	N	N	Y(0)	1.0m	Y

Eamont Bridge Proposed AQMA									
Site Ref	**Site Name**	**Site Type**	**X OS Grid Ref**	**Y OS Grid Ref**	**In AQMA?**	**Is monitoring collocated with a Continuous Analyser (Y/N)**	**Relevant Exposure? (Y/N with distance (m) to relevant exposure)**	**Distance to kerb of nearest road (N/A if not applicable)**	**Does this location represent worst-case exposure?**
GAF01	2 The Bungalow, Eamont Bridge	Roadside	352302	528529	N	N	Y(0)	1.0m	Y
GAF02	4 Old Post Row, Eamont Bridge	Roadside	352272	528642	N	N	Y(0)	1.0m	Y
EB15	Glendale	Roadside	352329	528475	N	N	Y(0)	1.0m	Y
EB18	Cherry Cottage	Roadside	352246	528667	N	N	Y(0)	2.5m	Y

EB20	2 Kemplay Rd	Roadside	352207	528827	N	N	Y(0)	4.0m	Y
Kirkby Thore									
35	Kirkby Thore	Roadside	363523	525329	N	N	Y(0)	5.0m	Y

2.2 Comparison of Monitoring Results with Air Quality Objectives

2.2.1 Nitrogen Dioxide

Diffusion Tube Monitoring Data

The nitrogen dioxide concentrations from the diffusion tube monitoring is shown for 2014 in Table 2.2, All monitoring locations have been chosen to be directly located on building facades, at the site of a relevant receptor, and as such no distance correction is required. There are no sites of co-location within Eden and only one tube has been a triplicate - 22 Stricklandgate, Penrith.

For all the sites, it can be seen that the data for the month of November gave the highest monthly reading when compared to the rest of the year, which in some cases was significantly higher than the rest of the year. The laboratory confirmed the validity for these values and therefore the data has been included with the calculation of the annual mean. In the 11 years of monitoring air quality in Eden District, there has never been results of this level recorded and therefore the authenticity of the data for this month, whilst validated by the laboratory is viewed with scepticism.

For sites with less than 9 months data the mean has been annualised using the methodology in Box 3.2 of TG(09). Full details of these calculations are shown in Appendix A.

Full monthly data is shown in Appendix C.

Table 2.2 Results of Nitrogen Dioxide Diffusion Tubes in 2014

Site Ref	Site Name	Site Type	Within AQMA?	Triplicate or Collocated Tube	Data Capture (%)	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 = 0.81) 2014 (µg/m^3)
Castlegate Proposed AQMA								
C1	Railway Tavern	Roadside	N	N	92	n/a	N	30
C4	18 Castlegate	Roadside	N	N	75	n/a	N	39
C30	40 Castlegate	Roadside	N	N	92	n/a	N	37
GAF04	**New Vic**	**Roadside**	**N**	**N**	**58**	**Y**	**N**	**48**
GAF05	Station Hotel	Roadside	N	N	75	n/a	N	33
Victoria Road Proposed AQMA								
V3	25b King Street	Roadside	N	N	83	n/a	N	33
V5	**Front Victoria Rd / Langton Cottage**	**Roadside**	**N**	**N**	**58**	**Y**	**N**	**41**

Site Ref	Site Name	Site Type	Within AQMA?	Triplicate or Collocated Tube	Data Capture (%)	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 = 0.81) 2014 (µg/m^3)
V7	**Café 15**	**Roadside**	**N**	**N**	**92**	**n/a**	**N**	**51**
V11	RAFA	Roadside	N	N	92	n/a	N	28
GAF12	1 Glasson Court	Roadside	N	N	100	n/a	N	19
GAF14	**Tynedale, Victoria Road**	**Roadside**	**N**	**N**	**100**	**n/a**	**N**	**42**
GAF15	Abbey House. Victoria Road	Roadside	N	N	100	n/a	N	32
GAF16	Landels Court corner	Roadside	N	N	100	n/a	N	28
GAF17	Lamppost 36 Victoria Road	Roadside	N	N	100	n/a	N	35
GAF19	25 Victoria Road	Roadside	N	N	100	n/a	N	32
Other Penrith Monitoring Data								
V9	Front 9b King St	Roadside	N	N	92	n/a	N	26
B14	4 Brunswick Road	Roadside	N	N	92	n/a	N	33

Site Ref	Site Name	Site Type	Within AQMA?	Triplicate or Collocated Tube	Data Capture (%)	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 = 0.81) 2014 (µg/m^3)
SG23	22 Stricklandgate	Roadside	N	Triplicate	100	n/a	N	30
SG24	22 Stricklandgate	Roadside	N	Triplicate	100	n/a	N	28
SG25	22 Stricklandgate	Roadside	N	Triplicate	92	n/a	N	32
SG26	99a Scotland Rd	Roadside	N	N	92	n/a	N	35
SG27	8 Scotland Rd	Roadside	N	N	92	n/a	N	32
GAF06	Thompson Court, Stricklandgate	Roadside	N	N	100	n/a	N	28
GAF07	63 Stricklandgate	Roadside	N	N	42	Y	N	24
GAF08	5 Arthur Terrace	Roadside	N	N	92	n/a	N	22
GAF09	7 Benson Row	Roadside	N	N	100	n/a	N	19
GAF10	Benson Row, Opp Ex Greggs site	Roadside	N	N	100	n/a	N	28
GAF11	18 Sandgate	Roadside	N	N	100	n/a	N	27

Site Ref	Site Name	Site Type	Within AQMA?	Triplicate or Collocated Tube	Data Capture (%)	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 = 0.81) 2014 (µg/m^3)
GAF13	The Arches, Opp Leisure Centre	Roadside	N	N	92	n/a	N	21
GAF18	1 Whelpdale House (entrance)	Roadside	N	N	100	n/a	N	25
31	3 Benson Row	Roadside	N	N	100	n/a	N	31
32	Penrith Nursery	Roadside	N	N	67	Y	N	39
33	Middlegate	Roadside	N	N	75	n/a	N	32
36	Roper St	Roadside	N	N	100	n/a	N	30
Eamont Bridge Proposed AQMA								
GAF01	2 The Bungalow, Eamont Bridge	Roadside	N	N	100	n/a	N	38
GAF02	4 Old Post Row, Eamont Bridge	Roadside	N	N	100	n/a	N	36
EB15	Glendale	Roadside	N	N	100	n/a	N	35

Site Ref	Site Name	Site Type	Within AQMA?	Triplicate or Collocated Tube	Data Capture (%)	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 = 0.81) 2014 (µg/m^3)
EB18	Cherry Cottage	Roadside	N	N	100	n/a	N	38
EB20	2 Kemplay Rd	Roadside	N	N	100	n/a	N	34
Kirkby Thore								
35	Kirkby Thore	Roadside	N	N	100	n/a	N	33

Due to changes in diffusion tube site locations it is not possible to show the trends in annual mean nitrogen dioxide concentrations for all sites. Those sites with sufficient data are shown in Table 2.3

Table 2.3 Results of Nitrogen Dioxide Diffusion Tubes (2011 to 2014)

		Annual Mean Nitrogen Dioxide Concentration μg/m^3			
Site	***Location***	**2011**	**2012**	**2013**	**2014**
Castlegate					
C1	Railway Tavern	33	35	28	30
C4	18 Castlegate	**63**	**42**	37	39
C30	40 Castlegate	26		35	37
Victoria Road					
V3	25b King St	33	39	33	33
V5	Front Victoria Rd/Langton Cott	37	38	32	**41**
V7	Cafe15	36	**48**	34	**51**
V11	*RAFA*	27	31	25	28
Other Penrith sites					
V9	Front 9b King St		27	22	26
SG23	22 Stricklandgate(N)	34	34	26	30
SG24	22 Stricklandgate(S)	36	34	25	28
SG25	22 Stricklandgate(W)	31	36	26	32
SG27	8 Scotland Rd	33	37	31	32
33	Middlegate	32	36	24	32
36	Roper ST		34	27	30
B14	4 Brunswick Rd	37	38	32	33

31	3 Benson Row			28	31
32	Opp Penrith Nursery	28	37	33	39
SG29	The Royal	32	42	28	
	Eamont Bridge				
EB15	Glendale	36	37	32	35
EB18	Cherry Cottage	**40**	**42**	35	38
EB20	2 Kemplay Rd		38	31	34
	Kirby Thore				
35	Kirby Thore	33	33	29	33

Summary of Compliance with AQS Objectives

Castlegate Proposed AQMA

Castlegate is a narrow street forming part of the one-way system. There are residential properties just 1m from the carriageway and it also has a fairly steep gradient with a mini roundabout at the top such that traffic is typically slower moving up the hill with standing traffic at peak times.

In 2015 there have been five monitoring points located along Castlegate. Site GAF04 is the only location to have failed the AQO with an annualised mean of 48 µg/m^3 following 7 tubes being collected in 2014. The other 5 tubes were absent following unauthorised removal during the monitoring period. The annualised mean was calculated using the method set out in Box 3.2 in LAQM TG(09).

There is only historical data for site locations C4 and C30. C30 recorded an annual mean (with 11 months of data) of 37µg/m^3.C4 has shown consistently high concentrations. In 2014, 8 of the 9 months where tubes could be collected (3 tubes were absent following unauthorised removal) have also recorded high concentrations. The data collected for the month of September was abnormally low recording a value of just 3.8µg/m3 which may have skewed the annual mean lower, which at 39µg/m3 is close to the AQO.

Both GAF04 and C4 are partway up Castlegate where the road is particularly narrow and canyoned with the relevant receptors just 1m from the kerbside.

Victoria Road Proposed AQMA

In 2014 there were 11 monitoring points within the proposed AQMA area. These identified failures of the AQO at 3 points V5, V7 and GAF14. The November value for V7 was extraordinarily high at 243µg/m^3. This level was 480% higher than the annual

mean for the year. The next closest monthly value was 64μg/m^3 in October. There was no recorded reason to explain this dramatic increase in NO_2 levels for this month. If the level was considered to be an erroneous result and removed from the annual dataset then the annual mean for V7 is reduced to 37μg/m^3.

V5 dataset was annualised as only 7 tubes were collected for the year (5 tubes were absent following unauthorised removal). This introduces a degree of uncertainty with the value of the annual mean which was calculated to be just in excess of the AQO at 41μg/m^3. GAF14 however did have 12 months of monitoring data and gave an annual mean of 42μg/m^3.

V5 and V7 are set along a section of Victoria Road just preceedinga busy right turn onto Old London Road. There is frequently standing traffic alongthis section of the road. The junction is not traffic controlled.

Eamont Bridge Proposed AQMA

In 2014 there were 5 points monitored along the A6 through Eamont Bridge. A full year of monitoring data was collected and this showed that there were no exceedances of the AQO at any of the points along this stretch.

Other Penrith Monitoring Locations

There were no exceedances of the AQO at any other monitoring locations within Penrith.

Conclusions

In light of the lack of exceedances of the AQO within Eamont Bridge in 2014 it is proposed that another year of monitoring is undertaken and a decision regarding the declaration of an AQMA in this location is postponed until another year of data has been collected.

For Castlegate and Victoria Road the data for 2013 showed no failures of the AQO. In 2014 the monitoring points that ifdentified failures all have issues with the accuracy of the bias adjusted annual mean calculated. It is proposed that another year of monitoring is undertaken and a decision regarding the declaration of AQMAs is postponed until another year of data has been collected.

2.2.2 PM10

No monitoring for particulates has been undertaken by the Council. Previous review and assessments have not identified any significant sources.

2.2.3 Sulphur Dioxide

There is currently no automatic or non-automatic monitoring of SO_2 concentrations carried out by Eden District Council. Previous monitoring for many years using a bubbler has indicated that it is unlikely that the Air Quality objectives will be exceeded.

In 2002, the Council set up a continuous analyser to measure SO_2 in the most densely populated part of Penrith (Castletown). At no time were any of the objective levels reached.

2.2.4 Benzene

No monitoring for benzene has been undertaken by the Council. Previous Review and Assessment Reports have not identified any significant sources affecting the district.

2.2.5 Other pollutants monitored

No other pollutants are monitored by the Council. Previous Review and Assessment Reports have not identified any other pollutants that may be affecting the district.

2.2.6 Summary of Compliance with AQS Objectives

Eden District Council has examined the results from monitoring in the district. Concentrations outside of the ***proposed*** AQMAs are all below the objectives at relevant locations, therefore there is no need to proceed to a Detailed Assessment.

3 Road Traffic Sources

3.1 Narrow Congested Streets with Residential Properties Close to the Kerb

There are three areas where narrow, busy streets have been identified which may be a cause for concern in terms of air quality. All three streets have been proposed as Air Quality Management Areas following detailed assessment by Bureau Veritas in 2013. The first is Castlegate in particular, but the town centre generally in Penrith, which has seen a large new retail development with car parking built (The New Squares Development). Not only is this likely to be attracting more traffic into the town centre, the development involved creating two new traffic light controlled junctions which has altered the traffic flow.

Eden District 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.

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

Busy street locations (more than 10,000 vehicles per day) where individuals may regularly spend 1 hour or more have been considered and identified in previous review and assessment work i.e. the town centres shopping areas of Penrith, Kirby Stephen, Alston and Appleby. Monitoring at these locations has not identified any exceedences of either objective level for nitrogen dioxide.

There are no streets where people will regularly spend 1-hour or longer as detailed in Section A.2 of Box 5.3 to the Technical Guidance TG (09).

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

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

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

3.4 Junctions

Eden District Council confirms that there are no new/newly identified busy junctions/busy roads.

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

There is a housing development proposed (Raiselands) on the outskirts of the north side of Penrith for 230 homes. An Air quality assessment has been undertaken for this. However the the assessment is still under discussion and as yet no planning decision has been taken. The conclusion from this report will be reported once it has been finalised.

Eden District Council confirms that there are no new/proposed roads.

3.6 Roads with Significantly Changed Traffic Flows

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

3.7 Bus and Coach Stations

There are no bus and coach stations in the Council's area that have not been previously considered.

Eden District Council confirms that there are no relevant bus stations in the Local Authority area.

4 Other Transport Sources

4.1 Airports

Eden District Council confirms that there are no airports in the Local Authority area.

4.2 Railways (Diesel and Steam Trains)

4.2.1 Stationary Trains

There are two railway lines passing through the District. The west coast mainline, which has a station close to Penrith town centre and the Leeds to Carlisle railway which has a number of small rural stations within the Council's area. None of these are in locations where trains are regularly stationary for 15 minutes or longer.

There are also rail loading facilities at a mineral works in Shap Blue Quarry and British Gypsum.

Previous assessments have concluded there is no potential for outdoor exposure from loading of quarry products at Shap Blue Quarry or unloading of material at British Gypsum.

Eden District 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.

4.2.2 Moving Trains

None of the sections of rail lines identified as having a large number of diesel passenger trains shown in Table 5.1 of the Technical Guidance TG(09) are within the Council's boundary.

Eden District Council confirms that there are no locations with a large number of movements of diesel locomotives, and potential long-term relevant exposure within 30m.

4.3 Ports (Shipping)

There are no ports or shipping within the Council area.

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

5 Industrial Sources

5.1 Industrial Installations

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

There are no significant industrial pollutant sources within the Council's area or in any neighbouring Councils' areas which would have a significant impact on air quality in terms of the annual mean and short-term Air Quality Objectives

Eden District 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.

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

There are no installations with substantially increased industrial emissions nor are there any new relevant exposures near to existing emissions within the Council's area

Eden District 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.

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

There are no new or significantly changed installations or proposed installations within the Council's area or neighbouring Councils' areas.

Eden District 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.

5.2 Major Fuel (Petrol) Storage Depots

There are no major fuel storage depots within the Council's area

Eden District Council confirms that there are no major fuel (petrol) storage depots within the Local Authority area.

5.3 Petrol Stations

There are no petrol filling stations near to busy roads with a throughput in excess of 2000m^3 with a relevant exposure within 10m of the pump or that does not have a Stage 2 petrol vapour recovery system installed.

Eden District Council confirms that there are no petrol stations meeting the specified criteria**.**

5.4 Poultry Farms

There are three poultry farms within the District that house in excess of 200,000 birds and are considered naturally ventilated by the Environment Agency who permit these premises. Of these, 2 sites meet the criteria laid out within Box C.4.

Table 5.4 Relevant Poultry Farms

Site	Number of poultry	Relevant receptor within 100m of the unit	Does the unit meet the criteria?
Beck House, Southwaite	375,000	Yes, residential property on site.	Yes
Greengill Foot , Bowscar	336,000	Yes, residential property on site.	Yes
Beaver Lodge Poultry Farm, Maidenhill	392,000	No relevant receptors within 100m.	No

A Frequently Asked Question was published on the Defra LAQM website and the response indicated that until further guidance had been provided there was no requirement to proceed to Detailed Assessment. Consequently the Council will undertake further assessment once additional guidance has been issued by Defra and will report the findings in future reports.

Eden District Council has identified 2 poultry farms meeting the specified criteria, and

proposes to consider this further once additional guidance has been issued by Defra.

6 Commercial and Domestic Sources

6.1 Biomass Combustion – Individual Installations

Table 6.1 New biomass boilers in 2014

Site Name	Location	Biomass size /kW
Penrith Rugby Club	Winters Park, Penrith	199kW
Penrith Golf Club	Salkeld Road, Penrith	130kW
Melkinthorpe Poultry Farm	Melkinthorpe	221kW

These biomass boilers were approved through planning applications in 2014 however Environmental Protection were not consulted on the applications and have no details regarding the emissions from these boilers. The 2 listed as Penrith are both on the outskirts of Penrith and away from the densely populated areas and the proposed AQMAs. The biomass boiler in Melkinthorpe is away from any densely populated areas. Environmental Protection will contact each of these sites and request details as to the operation and emissions from each of these plants. These will be considered in future assessments.

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

6.1 Biomass Combustion – Combined Impacts

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

6.3 Domestic Solid-Fuel Burning

Eden District covers an area of 2,156 km^2 with a population of around 52,600. Penrith, the largest population centre, has around 15,000 residents. The population of Eden DC is therefore distributed throughout the area in relatively small population centres. There is only one possible area within the District where more than 100 properties may have solid fuel appliances: the Castletown area of Penrith. This was considered in the 2003 USA, previous monitoring indicated that objectives for both SO_2 and PM_{10} were not exceeded.

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

7 Fugitive or Uncontrolled Sources

There are no known sources of fugitive particulate matter that have not been assessed in previous rounds of review and assessment nor are there any new relevant locations near to such sources.

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

8 Conclusions and Proposed Actions

8.1 Conclusions from New Monitoring Data

Following the completion of a Detailed Assessment of the two areas in Penrith and Eamont Bridge, additional monitoring locations were included in line with the recommendations of the assessment. AQMAs have been drafted for these areas however as yet they have not beenfully implemented due to concerns over the quality of the monitoring data in 2013 which did not identify any failures of the AQO for nitrogen dioxide at any of the monitoring points. Concerns with the quality of this data were raised with DEFRA since the bias adjustment factor for the laboratory used was particularly low (0.73) with the precision identified as poor in 2013. In light of this the declaration of the AQMAs was postponed until a response from DEFRA was received.

In 2014 a different laboratory was used with a bias adjustment factor of 0.81 and good precision. The month of November did return elevated levels of nitrogen dioxide across the whole monitoring network. The results were confirmed with the laboratory and in the absence of any justification have been included with the calculations of the annual mean.

Castlegate

This area had five monitoring points located along the roadside. All were positioned at the point of a relevant receptor and therefore required no distance adjustment.

One failure of the AQO was identified within this area (GAF04) 50µg/m^3 however it should be noted that this was following annualisation of the data since only 7 months of data were collected. The monitoring tube was missing on the other 5 occasions. The data over the 7 months recorded elevated levels of nitrogen dioxide with the exception of September when a level of 1.4µg/m^3 was reported by the laboratory. It is considered that this is highly likely to be an erroneous result. This monitoring location is where the street is particularly narrow, with the relevant receptor located just 1m from the kerbside. It should be noted however that the properties in this area are directly onto the pavement and possibly as a result of security issues, as well as slow traffic, windows are never observed open along this road. There are no gardens where people may sit outside and have direct, prolonged exposure to the atmosphere.

Victoria Road

This area includes the recent road junction that was created with the New Squares development. There were 3 exceedances of the AQO within the proposed AQMA at 41 µg/m^3 (GAF14), 41 µg/m^3 (V5) and 51 µg/m^3 (V7). The sample V5 only returned 7 months of data as the tube was missing on the other 5 months. The result was annualised which introduces an element of inaccuracy. The monitoring tubes located immediately around the new road junction have not identified any exceedances of the AQO.

Eamont Bridge

In 2014 the were again no exceedances of the annual AQO for nitrogen dioxide within Eamont Bridge. This is with the additional monitoring points now included. The

bias adjusted annual mean varied from 34 – 38 µg/m^3. This was following 12 complete months of data being collected.

8.2 Conclusions from Assessment of Sources

The screening assessment has not identified any other concerns relating to any other sources or pollutants.

8.3 Proposed Actions

It is therefore proposed to collect a further 12 months of data across the District in order to identify any trends and provide additional confidence following the results of the monitoring data in 2013 and 2014. The 2015 Progress report will review the situation.

9 References

Technical Guidance LAQM.TG(09)

Eden District Council Air Quality Review and Assessment Reports:-

- Air Quality Review and Assessment Stage 1 Report
- Air Quality Review and Assessment 2003 Updating and Screening Assessment
- Air Quality Review and Assessment 2004 Progress Report
- Air Quality Review and Assessment 2005 Progress Report
- Air Quality Review and Assessment 2006 Updating and Screening Assessment
- Air Quality Review and Assessment 2007 Progress Report
- Air Quality Review and Assessment 2008 Progress Report
- Air Quality Review and Assessment Updating and Screening Report 2009
- Air Quality Review and Assessment Progress Report 2010
- Air Quality Review and Assessment Progress Report 2011
- Eden District Council Penrith and Eamont Bridge Detailed Assessment; Bureau Veritas June 3013.
- 2012 Air Quality Updating and Screening Assessment incorporating the 2013 and 2014 Progress Reports

DEFRA Local Authority Support Website

www.defra.gov.uk/environment/quality/air/airquality/local/

Appendices

Appendix A: QA:QC Data

Diffusion Tube Bias Adjustment Factors

Nitrogen dioxide is currently monitored within Eden District Council through the use of passive diffusion tubes. Details of each site are shown in Table A.1 below. The Council utilises tubes provided and analysed by ESG Didcot using 50% TEA (Triethanolamine) in acetone, which are typically exposed for four week periods in accordance with the National NO_2 Network exposure calendar. The laboratory is accredited to NAMAS and UKAS BS EN ISO 9001 and has implemented the methodology set out in the Harmonisation Practical Guidance.

Table A.1 2014 Bias Adjustment Factor for ESG Didcot nitrogen dioxide diffusion tubes

National Diffusion Tube Bias Adjustment Factor Spreadsheet — Spreadsheet Version Number: 09/16

Follow the steps below in the correct order to show the results of relevant co-location studies
Data only apply to tubes exposed monthly and are not suitable for correcting individual short-term monitoring periods
Whenever presenting adjusted data, you should state the adjustment factor used and the version of the spreadsheet
This spreadsheet will be updated every few months: the factors may therefore be subject to change. This should not discourage their immediate use.

This spreadsheet will be updated at the end of March 2017

The LAQM Helpdesk is operated on behalf of Defra and the Devolved Administrations by Bureau Veritas, in conjunction with contract partners AECOM and the National Physical Laboratory.

Spreadsheet maintained by the National Physical Laboratory. Original compiled by Air Quality Consultants Ltd.

Step 1: Select the Laboratory that Analyses Your Tubes from the Drop-Down List. If a laboratory is not shown, we have no data for this laboratory.

Step 2: Select a Preparation Method from the Drop-Down List. If a preparation method is not shown, we have no data for this method at this laboratory.

Step 3: Select a Year from the Drop-Down List. If a year is not shown, we have no data.

Step 4: Where there is only one study for a chosen combination, you should use the adjustment factor shown with caution. Where there is more than one study, use the overall factor shown in blue at the foot of the final column.

If you have your own co-location study then see footnote. If uncertain what to do then contact the Local Air Quality Management Helpdesk at LAQMHelpdesk@uk.bureauveritas.com or 0800 0327953

Analysed By	Method	Year	Site Type	Local Authority	Length of Study (months)	Diffusion Tube Mean Conc. (Dm) (μg/m³)	Automatic Monitor Mean Conc. (Cm) (μg/m³)	Bias (B)	Tube Precision	Bias Adjustment Factor (A) (Cm/Dm)
ESG Didcot	50% TEA in acetone	2014	R	Cambridge City Council	12	47	37	25.5%	G	0.80
ESG Didcot	50% TEA in acetone	2014	UB	Falkirk	12	23	19	20.5%	G	0.83
ESG Didcot	50% TEA in acetone	2014	UB	Gravesham Borough Council	12	27	25	11.8%	P	0.90
ESG Didcot	50% TEA in acetone	2014	UB	Gravesham Borough Council	12	40	31	29.6%	G	0.77
ESG Didcot	50% TEA in acetone	2014	UB	Kingston upon Hull City Council	12	32	26	22.6%	G	0.82
ESG Didcot	50% TEA in acetone	2014	KS	Marylebone Road Intercomparison	12	109	80	35.2%	P	0.74
ESG Didcot	50% TEA in acetone	2014	R	North East Lincolnshire Council	11	34	33	3.8%	G	0.96
ESG Didcot	50% TEA in acetone	2014	R	North East Lincolnshire Council	12	37	34	9.7%	P	0.91
ESG Didcot	50% TEA in acetone	2014	R	North East Lincolnshire Council	12	58	47	22.1%	G	0.82
ESG Didcot	50% TEA in acetone	2014	B	Pembrokeshire Council	11	7	3	110.8%	P	0.47
ESG Didcot	50% TEA in acetone	2014	KS	South Northamptonshire Council	11	43	31	36.5%	G	0.73
ESG Didcot	50% TEA in acetone	2014	UI	Stockton on Tees	11	25	22	17.7%	P	0.85
ESG Didcot	50% TEA in acetone	2014	R	Stockton on Tees	12	21	16	35.2%	G	0.74
ESG Didcot	50% TEA in acetone	2014	R	Swale Borough Council	9	42	33	28.4%	P	0.78
ESG Didcot	50% TEA in acetone	2014	R	Swale Borough Council	12	50	38	31.7%	P	0.76
ESG Didcot	50% TEA in acetone	2014	SU	Thanet District Council	12	19	17	9.0%	P	0.92
ESG Didcot	50% TEA in acetone	2014	R	Thanet District Council	12	28	27	6.0%	P	0.94
ESG Didcot	50% TEA in acetone	2014	R	Wrexham County Borough Council	10	23	22	5.6%	G	0.95
ESG Didcot	50% TEA in acetone	2014	UB	City of York Council	11	24	19	28.4%	P	0.78
ESG Didcot	50% TEA in acetone	2014	R	City of York Council	10	37	27	36.7%	G	0.73
ESG Didcot	50% TEA in acetone	2014	R	City of York Council	11	32	28	12.4%	G	0.89
ESG Didcot	50% TEA in acetone	2014	R	City of York Council	11	40	36	12.7%	G	0.89
ESG Didcot	50% TEA in acetone	2014	R	Horsham District Council	12	30	27	11.7%	G	0.90
ESG Didcot	50% TEA in acetone	2014	R	Medway Council	12	32	28	26.0%	G	0.79
ESG Didcot	50% TEA in acetone	2014	B	Medway Council	12	21	15	43.3%	P	0.70
ESG Didcot	50% TEA in acetone	2014	R	Sandwell MBC	10	56	47	17.6%	G	0.85
ESG Didcot	50% TEA in acetone	2014	KS	Suffolk Coastal District Council	10	46	39	17.7%	G	0.85
ESG Didcot	50% TEA in acetone	2014	R	Vale of White Horse District Council	12	34	30	14.0%	G	0.88
ESG Didcot	50% TEA in acetone	2014	R	West Oxfordshire District Council (WODC)	12	48	36	32.4%	G	0.76
ESG Didcot	50% TEA in acetone	2014	R	Dumfries and Galloway Council	12	35	30	16.7%	G	0.86
ESG Didcot	50% TEA in acetone	2014	R	Hambleton District Council	12	24	20	20.4%	G	0.83
ESG Didcot	50% TEA in acetone	2014		Overall Factor (31 studies)					Use	0.81

The 2014 results have been corrected for a bias using a factor of 0.81 for ESG Didcot (R&A website, spread sheet version 06/15).

QA/QC of diffusion tube monitoring

Summary of Laboratory Performance in AIR/WASP NO2 Proficiency Testing Scheme.

Background AIR is an independent analytical proficiency-testing (PT) scheme, operated by LGC Standards and supported by the Health and Safety Laboratory (HSL). AIR PT is a new scheme, started in April 2014, which combines two long running PT schemes: LGC Standards STACKS PT scheme and HSL WASP PT scheme.

AIR offers a number of test samples designed to test the proficiency of laboratories undertaking analysis of chemical pollutants in ambient indoor, stack and workplace air. One such sample is the AIR NO2 test sample type that is distributed to participants in a quarterly basis.

AIR NO2 PT forms an integral part of the UK NO2 Network's QA/QC, and is a useful tool in assessing the analytical performance of those laboratories supplying diffusion tubes to Local Authorities for use in the context of Local Air Quality Management (LAQM). With consent from the participating laboratories, LGC Standards provides summary proficiency testing data to the LAQM Helpdesk for hosting on the webpages at http://laqm.defra.gov.uk/diffusion-tubes/qa-qc-framework.html. This information will be updated on a quarterly basis following completion of each AIR PT round.

Defra and the Devolved Administrations advise that diffusion tubes used for Local Air Quality Management should be obtained from laboratories that have demonstrated satisfactory performance in the AIR PT scheme. Laboratory performance in AIR PT is also assessed, by the National Physical Laboratory (NPL), alongside laboratory data from the monthly NPL Field Intercomparison Exercise carried out at Marylebone Road, central London.

The monitoring data for 2014 (the period covered by this report) is subject to Rounds 214 to AR004 which shown in Table 1 below. The ESG laboratory used by Eden District Council scored 100% for each of the periods as shown below.

Table 1: Laboratory summary performance for WASP NO2 PT Rounds 121-124 and AIR NO_2 PT rounds AR001, 3, 4 and 6

The following table lists those UK laboratories undertaking LAQM activities that have participated in recent WASP/AIR NO_2 PT rounds and the percentage (%) of results submitted which were subsequently determined to be **satisfactory** based upon a z-score of $\leq \pm 2$ as defined above.

WASP Round	**WASP R121**	**WASP R122**	**WASP R123**	**WASP R124**	**AIR PT AR001**	**AIR PT AR003**	**AIR PT AR004**	**AIR PT AR006**
Round conducted in the period	April – June 2013	July – September 2013	October – December 2013	January – March 2014	April – May 2014	July – August 2014	October – November 2014	January – February 2015
Aberdeen Scientific Services	100 %	100 %	NR [2]	75 %	100 %	100 %	100 %	100 %
Cardiff Scientific Services	100 %	100 %	100 %	100 %	NR [3]	NR [3]	NR [3]	NR [3]
Edinburgh Scientific Services	100 %	75 %	100 %	100 %	100 %	100 %	100 %	75 %
Environmental Services Group, Didcot [1]	100 %	100 %	100 %	100 %	100 %	100 %	100 %	87.5 %
Exova (formerly Clyde Analytical)	NR [2]	NR [2]	NR [2]	50 %	NR [3]	NR [3]	NR [3]	NR [3]
Glasgow Scientific Services	25 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %
Gradko International [1]	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %
Kent Scientific Services	75 %	100 %	100 %	100 %	NR [3]	NR [3]	NR [3]	NR [3]
Kirklees MBC	100 %	100 %	100 %	100 %	100 %	100 %	100 %	75 %
Lambeth Scientific Services	0 %	50 %	75 %	25 %	50 %	100 %	100 %	25 %
Milton Keynes Council	100 %	75 %	75 %	75 %	100 %	100 %	75 %	100 %
Northampton Borough Council	100 %	100 %	100 %	100 %	100 %	0 %	0 %	100 %
Somerset Scientific Services	100 %	75 %	100 %	100 %	100 %	100 %	100 %	100 %
South Yorkshire Air Quality Samplers	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %
Staffordshire County Council	100 %	100 %	100 %	100 %	100 %	25 %	100%	100 %
Tayside Scientific Services (formerly Dundee CC)	100 %	100 %	100 %	100 %	NR [2]	100 %	100 %	100 %
West Yorkshire Analytical Services	100 %	50 %	100 %	75 %	75 %	100 %	75 %	100 %

[1] Participant subscribed to two sets of test samples (2 x 4 test samples) in each WASP/AIR PT round.
[2] NR No results reported
[3] Kent Scientific Services, Cardiff Scientific Services and Exova (formerly Clyde Analytical) no longer carry out NO2 diffusion tube monitoring and therefore did not submit results.

For sites with less than 9 months data an annualised mean was calculated using the methodology in Box 3.2 of TG(09)

Location	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec		Annual Mean	Period Mean	Ratio Am/Pm		Annualised Mean	Bias Adj 0.81
Blackpool	20.3	15.6	20.42	16.56	11.36	9.95	9.48	8.15	15.97	17.25	27.53	21.19		16.15					
Eskdalemuir	4.2	2.67	2.86	2.66	1.66	1.01	1.02	1.13	2.32	1.74	5.07	1.41		2.31					
Peebles	2.18	1.56	1.67	1.17	0.98	0.95	0.96	1.02	1.61	2.05	3.3	3.16		1.72					
GAF04			**55.5**	**80.3**	**70.9**			**62.7**	**1.4**		**90.6**	**77.5**		62.70				58.74	47.58
Blackpool			20.42	16.56	11.36			8.15	15.97		27.53	21.19			17.31	0.93			
Eskdalemuir			2.86	2.66	1.66			1.13	2.32		5.07	1.41			2.44	0.95			
Peebles			1.67	1.17	0.98			1.02	1.61		3.3	3.16			1.84	0.93			
																0.94	Average		
V5	**68.4**		**50.7**	**42.95**			**42.4**	**38.3**	**48**	**45.4**				48.02				51.06	41.36
Blackpool	20.3		20.42	16.56			9.48	8.15	15.97	17.25					15.45	1.05			
Eskdalemuir	4.2		2.86	2.66			1.02	1.13	2.32	1.74					2.28	1.02			
Peebles	2.18		1.67	1.17			0.96	1.02	1.61	2.05					1.52	1.13			
																1.06	Average		
GAF07	**42.6**			**31.38**	**30.54**						**44.9**	**36.6**		37.20				29.76	24.11
Blackpool	20.3			16.56	11.36						27.53	21.19			19.39	0.83			
Eskdalemuir	4.2			2.66	1.66						5.07	1.41			3.00	0.77			
Peebles	2.18			1.17	0.98						3.3	3.16			2.16	0.80			
																0.80	Average		
32		**48.4**		**43.8**		**34.2**	**43.2**	**38.5**	**46.7**	**39.8**	**61**			44.45				47.58	38.54
Blackpool		15.6		16.56		9.95	9.48	8.15	15.97	17.25	27.53				15.06	1.07			
Eskdalemuir		2.67		2.66		1.01	1.02	1.13	2.32	1.74	5.07				2.20	1.05			
Peebles		1.56		1.17		0.95	0.96	1.02	1.61	2.05	3.3				1.58	1.09			
																1.07	Average		

Appendix B: Nitrogen Dioxide Diffusion Tube Monitoring – Full Monthly Data

Tube Ref	Site Name		X	Y	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Data Capture months
Castlegate																	
C1	Railway Tavern	Roadside	351298	530006	33.3	41.7	35.9	37.6	33.0	31.4	31.8	34.3		38.3	45.3	41.1	11
C4	18 Castlegate	Roadside	351396	530051	55.1	61.8			52.2	46.1	49.5		3.8	43.6	72.4	44.0	9
C30	40 Castlegate	Roadside	351333	530016	37.6	45.9	49.6	46.6		38.1	39.2	45.9	50.2	41.7	56.5	53.6	11
GAF04	New Vic, Castlegate	Roadside	351363	530046			55.5	80.3	70.9			62.7	1.4		90.6	77.5	7
GAF05	Station Hotel, Castlegate	Roadside	351302	529989	45.4	43.5	40.2	42.1	35.9	30.0	35.4				55.5	43.5	9
Victoria Road																	
V3	25b King Street	Roadside	351720	529966	39.2	44.8	47.0	39.8	37.7	33.9	27.4	36.1			68.8	30.5	10
V5	Front Victoria Rd / Langton Cott	Roadside	351713	529941	68.4		50.7	42.9			42.4	38.3	48.0	45.4			7
V7	Café 15	Roadside	351733	528918	41.1	54.9	46.8	41.3	37.4	35.8	35.1	53.9	43.4	64.1	243.0		11

V11	RAFA	Roadside	351785	529852	39.1	45.3	36.6	30.2	27.0	21.9	31.0	28.2	32.7	41.7	50.6		11
GAF12	1 Glasson court	Roadside	351843	529797	27.1	25.7	26.5	21.2	18.6	14.5	19.5	19.9	23.9	26.5	34.5	27.6	12
GAF14	Tynedale, Victoria Road	Roadside	351797	529811	47.4	48.8	44.4	37.2	26.0	30.2	30.3	38.1	40.7	62.6	113.4	100.5	12
GAF15	Abbey House. Victoria Road	Roadside	351804	529797	48.2	43.1	41.8	37.6	35.3	29.0	36.6	35.7	37.0	38.0	42.3	44.8	12
GAF16	Landels Court corner	Roadside	351774	529838	44.6	42.4	38.6	34.7	25.9	21.0	26.1	25.8	35.0	42.4	50.8	32.5	12
GAF17	Lamppost 36 Victoria Road	Roadside	351805	529855	54.0	43.6	43.9	44.0	36.1	36.0	36.9	31.3	42.8	46.3	67.4	42.3	12
GAF19	25 Victoria Road	Roadside	351774	529910	44.0	37.7	45.4	40.1	34.0	32.7	33.0	32.9	39.7	38.4	50.9	39.2	12
Tube Ref	**Site Name**		**X**	**Y**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Data Capture months**
Other Penrith monitoring locations																	
V9	Front 9b King St	Roadside	351651	530085	33.6	34.2	36.3	29.6	24.7	24.6	40.8	24.0	31.1	33.2		43.2	11
B14	4 Brunswick Road	Roadside	351394	530344	40.1		43.3	42.4	33.6	32.6	37.7	41.2	33.1	46.6	56.8	42.3	11

SG23	22 Stricklandgate	Roadside	351321	530516	36.0	38.1	37.5	32.1	30.2	30.6	33.3	32.5	40.3	36.2	58.7	35.8	12
SG24	22 Stricklandgate	Roadside	351321	530516	5.4	41.0	36.1	35.8	35.1	28.1	26.8	27.9	41.4	40.5	57.1	42.0	12
SG25	22 Stricklandgate	Roadside	351321	530516	38.9	44.0	40.3	39.2	34.8	33.3		31.2	44.2	38.6	55.2	38.6	11
SG26	99a Scotland Rd	Roadside	351136	530673	43.8	46.2	40.1	41.8	39.1		32.5	31.7	48.8	43.2	72.3	29.4	11
SG27	8 Scotland Rd	Roadside	351171	530649	39.0	48.4	40.2	39.0	31.9	28.0	34.4	34.9	42.2	43.2	54.2	40.5	12
GAF06	Thompson Court, Stricklandgate	Roadside	351316	530533	41.1	39.8	33.9	31.8	30.6	26.0	28.8	26.8	36.6	34.4	48.8	33.6	12
GAF07	63 Stricklandgate	Roadside	351236	530533	42.6			31.4	30.5						44.9	36.6	5
GAF08	5 Arthur Terrace	Roadside	351595	530479	33.4	31.3	31.0	24.4	22.0	19.5	21.5	18.8	28.2	27.9	44.0		11
GAF09	7 Benson Row	Roadside	351820	530266	26.8	28.0	22.7	18.4	17.9	15.5	18.7	19.1	24.0	23.2	37.8	25.5	12
GAF10	Benson Row, Opp Ex Greggs site	Roadside	351802	530268	40.2	33.4	34.1	32.3	29.4	25.0	29.2	26.7	39.2	35.8	57.8	35.6	12
GAF11	18 Sandgate	Roadside	351719	530361	53.2	41.7	35.2	32.8	26.1	22.2	27.0	20.8	28.1	33.2	49.2	30.2	12

GAF13	The Arches, Opp Leisure Centre	Roadside	351819	529754	31.8	27.2	23.1	23.5	20.6	19.0	20.9	19.5		27.1	38.6	27.8	11
GAF18	1 Whelpdale House (entrance)	Roadside	351823	529879	35.7	34.4	32.4	28.8	27.1	25.5	27.6	23.7	31.3	31.8	45.9	31.4	12
31	3 Benson Row	Roadside	351741	530313	32.6	41.0	38.0	40.3	31.0	29.3	34.6	34.0	44.0	40.1	59.4	39.9	12
32	Penrith Nursery	Roadside	351687	530387		48.4		43.8		34.2	43.2	38.5	46.7	39.8	61.0		8
33	Middlegate	Roadside	351485	530248		42.0	40.6	36.2	31.3		32.6		37.7	41.0	52.0	41.2	9
36	Roper St	Roadside	351810	529861	33.1	44.3	31.3	34.7	29.3	28.5	32.8	30.6	37.9	43.5	53.9	37.7	12
Tube Ref	**Site Name**		**X**	**Y**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Data Capture months**
Eamont Bridge																	
GAF01	2 The Bungalow, Eamont Bridge	Roadside	352302	528529	52.0	50.0	47.6	48.7	36.4	36.7	50.3	40.8	51.9	47.0	62.4	45.2	12
GAF02	4 Old Post Row, Eamont	Roadside	352272	528642	48.3	40.4	39.7	46.8	46.5	38.2	44.6	37.8	51.4	42.2	62.0	41.9	12

	Bridge																
EB15	Glendale	Roadside	352329	528475	35.8	45.3	42.4	44.6	42.6	31.2	42.1	38.4	49.1	45.3	55.0	42.3	12
EB18	Cherry Cottage	Roadside	352246	528667	34.7	45.0	49.4	46.7	42.8	34.3	50.9	47.5	47.3	50.7	58.6	50.1	12
EB20	2 Kemplay Rd	Roadside	352207	528827	38.1	41.9	40.9	44.6	43.4	37.6	41.6	31.4	46.6	38.9	67.6	34.8	12
Kirkby Thore																	
35	Kirkby Thore	Roadside	363523	525329	39.2	39.8	36.3	44.8	41.9	33.0	42.9	34.2	44.7	38.8	51.7	39.0	12

Appendix C:

Pollution Prevention & Control Act 1999
Operating Installations as at 1 April 2014
Part A2 Installations: Responsibility of Local Authority

Operator	Reference Number	Date of Application	Date of Permit
Omega Proteins Ltd Wildriggs Penrith	EPA39		20/04/06 HIGH

Part B Installations: Responsibility of Local Authority

	Operator	Reference Number	Date of Application	Date of Permit Risk Rating
Timber Installations				
1	Jeldwen (Penrith UK) Ltd Mardale Road Penrith Industrial Estate Penrith Cumbria	EPA12	30/09/91	24/09/92 MEDIUM
2	A W Jenkinson Forest Products Clifton Moor Clifton Cumbria	EPA84	18/04/00	15/06/00 LOW
Animal Feed Manufacturers				
3	J Stobart & Sons Limited Newlands Mill Hesket Newmarket Wigton Cumbria	EPA40	29/09/92	22/07/93 LOW

Operator		Reference Number	Date of Application	Date of Permit Risk Rating
Cement and Lime Manufacture				
4	Hanson Limited (Premix Plant) The Brickworks Station Yard Blencowe Penrith Cumbria	EPA19	16/03/92	26/11/92 LOW
5	PD Bricks Ltd The Brickworks Blencowe Penrith Cumbria	EPA22	24/03/92	26/11/92 LOW
6	Hope Construction [Bulk Cement] Gilwilly Industrial Estate Penrith Cumbria	EPA29	25/03/92	25/02/93 LOW
7	Lakeland Concrete Products Flusco House Penrith Cumbria	EPA43	29/07/93	07/10/93 MEDIUM
8	L Hoist UK Ltd Hartley Quarry Hartley Kirkby Stephen CA17 4JJ	EPA55	30/04/97	01/07/97 LOW
9	Russell Hogg and Sons Old Depot Crackenthorpe Appleby Cumbria	EPA56	08/12/97	13/03/97 LOW

Operator		Reference Number	Date of Application	Date of Permit Risk Rating
Mineral Process				
10	Cemex - Hartley Quarry Kirkby Stephen Cumbria	EPA18	19/02/92 Mothballed 2009/10	25/02/93 LOW
11	Hanson Aggregates Shap Beck Quarry Shap Penrith Cumbria	EPA24	11/03/92	25/02/93 LOW
12	Cemex Shap Blue Quarry Shap Penrith Cumbria	EPA32	11/03/92	25/02/93 LOW
13	Sherburn Stone Company Ltd Helbeck Quarry Brough Cumbria	EPA33	30/03/92	25/02/93 MEDIUM
Iron and Steel Process				
14	Bonds Precision Casting Ltd Potters Loaning Alston Cumbria	EPA23	25/03/92	25/02/93 MEDIUM
Carbon Manufacture Process				
15	Lakeland Carbons Limited Flusco Penrith Cumbria	EPA44	10/01/94	24/02/94 LOW

Mobile Crushers/Screeners

Operator		Reference Number	Date of Application	Date of Permit Risk Rating
16	Metcalfe Plant Hire Ltd Gilwilly Road Gilwilly Industrial Estate Penrith CA11 9BL	EPA79 Extec Robotrac Screener 5872	13/10/99	17/10/99 LOW
17	Metcalfe Plant Hire Ltd Gilwilly Road Gilwilly Industrial Estate Penrith Cumbria	EPA94 Extec C-12 Crusher 9401	21/04/05	09/08/05 LOW
18	Metcalfe Plant Hire Ltd Gilwilly Road Gilwilly Industrial Estate Penrith CA11 9BL	EPA98 Maxtrac 1000 Cone Crusher 100679FC	21/06/10	17/11/10 LOW
19	Metcalfe Plant Hire Ltd Gilwilly Road Gilwilly Industrial Estate Penrith CA11 9BL	EPA99 Warrior Screener 140000122 JDGA2035 3	21/06/10	25/11/10 LOW
Waste Oil Burners				
20	Armstrong & Fleming Limited Roper Street Penrith CA11 8HT	EPA1	30/05/91	26/11/92 LOW
21	Firwood Garage Winskill Penrith CA10 1PA	EPA3	20/09/91	27/05/93 LOW
22	Potter Brothers Garage Rowgate Garage Kirkby Stephen CA17 4SR	EPA5	27/09/91	27/05/93 LOW
23	New Rent Workshop Hutton in the Forest Penrith	EPA9	09/10/91	27/05/93

Operator		Reference Number	Date of Application	Date of Permit Risk Rating
	Cumbria			LOW
24	Bridge Street Garage Appleby Cumbria	EPA13	24/10/91	27/05/93 LOW
25	J S & M G Bowness Bridge Garage Bampton Penrith Cumbria	EPA35	09/10/92	07/10/93 LOW
26	Braithwaite Garage Newbiggin Stainton Penrith Cumbria	EPA45	03/02/94	26/05/94 LOW
27	Neil Bousfield Motors Cromwell Road Penrith Cumbria	EPA81	20/01/00	07/02/00 LOW
28	Chambers Garage Tirril Penrith Cumbria	EPA88	02/04/02	30/06/02 LOW
29	Thompsons of Penrith Ltd The Garage Mardale Road Penrith Industrial Estate Penrith Cumbria	EPA89	24/02/04	17/03/04 LOW
30	Mr C Griffiths Manor House Garage Ltd Manor House Garage Plumpton Penrith Cumbria	EPA91	07/07/04	14/07/04 LOW
31	Laces The Garage Kirkoswald Penrith	EPA95	14/08/06	05/09/06 LOW

Operator		Reference Number	Date of Application	Date of Permit Risk Rating
	CA10 1DG			
32	Metcalfe Plant Hire Ltd Gilwilly Road Gilwilly Industrial Estate Penrith CA11 9BL	EPR01	23/03/11	23/03/11 LOW
Petrol Filling Stations				
33	Johnstone Garage Kirkby Stephen Cumbria	EPA61	06/05/98	17/07/98 LOW
34	KTEE Ltd Kirkby Thore Penrith Cumbria	EPA62	08/06/98	20/08/98 LOW
35	Hills Corby Hill Scotland Road Penrith Cumbria	EPA63	08/06/98	25/08/98 LOW
36	M6 Diesel Services Junction 38 Tebay Penrith Cumbria	EPA64	12/06/98	30/07/98 LOW
37	Westmorland Motorway Services North-Bound Tebay Service Area Orton Penrith	EPA65	01/07/98	11/08/98 LOW PVR I & II
38	Davidsons Garage Penrith Ltd Scotland Road Penrith Cumbria	EPA67	29/10/98	16/12/98 LOW
39	Wm Morrison Supermarkets Plc Brunswick Road	EPA68	02/11/98	16/11/98 LOW

Operator		Reference Number	Date of Application	Date of Permit Risk Rating
	Penrith Cumbria			PVR I & II
40	Shell UK Bridge Lane Penrith Cumbria	EPA69	05/11/98	23/11/98 MEDIUM PVR I & II
41	Moto Services (North) Southwaite Filling Station M6 Penrith Cumbria	EPA70	07/12/98	14/12/98 LOW
42	Euro Garages Ltd (Esso) Bridge Lane Service Station Penrith Cumbria	EPA71	27/11/98	06/10/98 LOW
43	Mark Johns Motors Edensyde Garage Kirkby Stephen Cumbria	EPA72	18/12/99	18/01/00 LOW
44	Ullswater Body Repairs Ltd Ullswater Road Penrith Cumbria	EPA73	18/12/98	19/02/99 MEDIUM
45	Moto Services (South) Southwaite Filling Station M6 Penrith Cumbria	EPA74	07/12/98	14/12/98 LOW
46	Westmorland Services Southbound Tebay Service Area Orton Penrith	EPA75	26/01/99	04/02/99 LOW
	Hopes Garage Meadow Court			

Operator		Reference Number	Date of Application	Date of Permit Risk Rating
47	Langwathby Penrith Cumbria	EPA80	22/12/99	18/01/00 LOW
48	Westmorland Motorway Services Ltd Rheged Filling Station Redhills Penrith Cumbria	EPA83	28/02/98	01/06/00 LOW PVR I & II
49	GEM Alston Town Foot Alston	EPR003	17/01/12	19/03/12 LOW PVR I & II