Cyngor Bwrdeisdref Sirol
Blaenau Gwent
County Borough Council

## Local Air Quality Review And Assessment

# Air Quality Progress Report 2010

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

**Environment Directorate**
**Public Protection Division**
**Environmental Health Section**

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# Executive Summary

This progress report is the latest in a series of reports relating to air quality and has been compiled and published by Blaenau Gwent County Borough Council (hereafter referred to as Blaenau Gwent CBC). The report contains the latest air quality data for the calendar year of 2009 applicable to the County Borough, and provides current information relating to any new local developments or issues that may have an impact on air quality.

The UK's National Air Quality Strategy sets air quality objectives for seven key pollutants which Local Authorities are legally required to have regard to. These include Benzene, 1,3 Butadiene, Carbon Monoxide, Lead, Nitrogen Dioxide, Particulate Matter ($PM_{10}$) (gravimetric) and Sulphur Dioxide.

Local authorities are obliged to periodically review the air quality within their area to determine the risk of the air quality objectives set out in the national strategy being exceeded. If a Local Authority identifies a risk of any of the objectives being exceeded within its area then they must proceed to a Detailed Assessment for that pollutant.

The previous reports produced by Blaenau Gwent CBC have concluded that it is unlikely that any of the air quality objectives that the Council are required to have regard to, are being exceeded or will be exceeded within the Borough and therefore no Detailed Assessment for any pollutant has been carried out to-date.

This 2010 Air Quality Progress Report **does not** identify the need for Blaenau Gwent CBC to proceed to a Detailed Assessment for any of the seven pollutants identified in the UK's National Air Quality Strategy.

The next Progress Report is scheduled to be published in April 2011.

Further information regarding the UK's National Air Quality Strategy is available at

http://www.airquality.co.uk

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# 1.0 Introduction

## 1.1 Description Of Local Authority Area

The County Borough of Blaenau Gwent is located in South East Wales and was formerly part of the County of Gwent. It is approximately 20 miles south to the city of Newport, 30 miles south west to the City of Cardiff and directly north is the Brecon Beacons National Park.

Blaenau Gwent is the smallest of all the Welsh Local Authorities, at about 10,900 hectares. There are three distinctive valleys supporting the five main towns or settlements of Abertillery, Brynmawr, Ebbw Vale, Nantyglo and Blaina, and Tredegar.

Although the towns give the County Borough a busy, urban feel, Blaenau Gwent is actually a largely rural area. Forty five per cent of the land area is undeveloped, and the greater part of this is defined as open countryside.

The Borough has witnessed steady population loss over recent years. The most recent figures suggest that there are 69,300 people living in the area (Mid Year Estimate 2006). This compares to 70,064 in 2001, and 72,254 in 1991 (Censuses).

The main trunk route that runs through the County Borough is the A465, Heads of the Valleys road which provides good communication to the Midlands and the North via the M50/M5 and to London via the M4.

Much of the traditional coal and steel industry that historically populated the Borough has been replaced by a diverse industrial base comprising of businesses such as pharmaceuticals, battery and computer systems, electronic and high tech engineering companies. The closure of much of the heavy industry in the area has had an adverse impact on the local economy but conversely it has meant the removal of significant sources of air pollution.

Blaenau Gwent has experienced enormous regeneration investment in recent years, with much more to come. Major projects like the re-opening of the Ebbw Valley railway and the re-development of the former Corus steelworks site in Ebbw Vale will transform the face of the borough.

The map provided in Appendix 1 to this report outlines the administrative area of Blaenau Gwent.

## 1.2 Purpose Of This Report

This report fulfils the requirements of the Local Air Quality Management (LAQM) 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 exceedances are considered likely, the local authority must then declare an Air Quality Management Area (AQMA) and prepare an Air Quality Action Plan (AQAP) setting out the measures it intends to put in place in pursuit of the objectives.

Progress Reports are required in the intervening years between the three-yearly Updating and Screening Assessment reports. Their purpose is to maintain continuity in the Local Air Quality Management process. The last Updating and Screening Assessment report was carried out by Blaenau Gwent CBC in 2009.

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

To-date none of the reports produced by Blaenau Gwent CBC have identified the need to progress to a Detailed Assessment for Air Quality and therefore there are no declared Air Quality Management Areas with the County Borough.

## 1.3 Air Quality Objectives

The air quality objectives applicable to LAQM **in Wales** are set out in the Air Quality (Wales) Regulations 2000, No. 1940 (Wales 138), Air Quality (Amendment) (Wales) Regulations 2002, No 3182 (Wales 298), 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 exceedances 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 Wales.**

| 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 ($NO_2$)** | 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

Table 1.2 provides a comprehensive list of the reports produced by Blaenau Gwent CBC as a result of previous rounds of review and assessment of the air quality within the Borough, and summarises the main findings of each report.

**Table 1.2 - Reports Produced By Blaenau Gwent CBC As A Result Of Previous Rounds Of Local Air Quality Review And Assessment**

| Report | Review and Assessment undertaken & conclusions | Year published |
|---|---|---|
| **1999 First Stage Review and Assessment** | Initial screening of industrial, transport and other significant sources of air pollution within the Borough. Concluded that it is unlikely that there will be failure to achieve any of the air quality objectives. | 1999 |
| **2003 Updating and Screening Assessment** | In-depth review of any matters which may have changed since the last review and assessment which may lead to a risk of an air quality objective being exceeded. Concluded no significant changes and therefore unlikely that there will be failure to achieve any of the air quality objectives. | 2003 |
| **2004 Progress Report** | Review of any matters which may have changed since the last review and assessment which may lead to a risk of an air quality objective being exceeded. Concluded no significant changes and therefore unlikely that there will be failure to achieve any of the air quality objectives. | 2004 |
| **2005 Progress Report** | Review of any matters which may have changed since the last review and assessment which may lead to a risk of an air quality objective being exceeded. Concluded no significant changes and therefore unlikely that there will be failure to achieve any of the air quality objectives. | 2005 |
| **2006 Updating and Screening Assessment** | In-depth review of any matters which may have changed since the last review and assessment which may lead to a risk of an air quality objective being exceeded. Concluded no significant changes and therefore unlikely that there will be failure to achieve any of the air quality objectives. | 2006 |
| **2007 Progress Report** | Review of any matters which may have changed since the last review and assessment which may lead to a risk of an air quality objective being exceeded. Concluded no significant changes and therefore unlikely that there will be failure to achieve any of the air quality objectives. | 2007 |
| **2008 Progress Report** | Review of any matters which may have changed since the last review and assessment which may lead to a risk of an air quality objective being exceeded. Concluded no significant changes and therefore unlikely that there will be failure to achieve any of the air quality objectives. | 2008 |
| **2009 Updating and Screening Assessment** | In-depth review of any matters which may have changed since the last review and assessment which may lead to a risk of an air quality objective being exceeded. Concluded no significant changes and therefore unlikely that there will be failure to achieve any of the air quality objectives. | 2009 |

All reports produced from 2004 onwards are available to download and view free of charge at Blaenau Gwent CBC website http://www.blaenau-gwent.gov.uk/environment/2774.asp

Copies of earlier reports are available from Blaenau Gwent CBC Environmental Health Section.

# 2.0 New Monitoring Data

## 2.1 Summary Of Monitoring Undertaken

### 2.1.1 Automatic Monitoring Sites

Blaenau Gwent CBC does not currently undertake any automatic monitoring of any of the pollutants relevant to the UK National Air Quality Objectives.

However, there was an automatic monitoring station within the Borough which was undertaking monitoring for ambient levels of Lead, $PM_{10}$ and $PM_{2.5}$ at a special source orientated site. Monitoring was required at the site for a minimum period of 12 months. Monitoring at this site has now completed.

The monitoring station was located at Garnlydan Primary School, Ebbw Vale and was run by Environmental Compliance Ltd on behalf of Envirowales Ltd. Envirowales Ltd is a lead acid battery recycling plant sited at the Rassau Industrial Estate, Ebbw Vale which was given planning permission on 21st June 2005.

The provision of the monitoring station arose as a result of compliance with the requirements of a formal agreement between Envirowales Ltd and Blaenau Gwent CBC under Section 106 of the Town and Country Planning Act as previously reported in the 2008 Progress Report (Pg 37/38).

The monitoring site location was selected as it was considered to be one of the nearest sites of relevant exposure to emissions from the processes being undertaken at Envirowales Ltd. A map indicating the location of the monitoring site is provided in Appendix 2 to this report.

It was agreed that monitoring would commence at a time when the site had become fully operational and as a result monitoring began in September 2008. The monitoring station was routinely calibrated on a monthly basis, audits of the site were carried out in conjunction with the routine calibration exercises.

Table 2.1 provides a summary of information relevant to the automatic monitoring station.

**Table 2.1 - Details Of Automatic Monitoring Sites**

| Site Name | Site Type | OS Grid Ref | Pollutants Monitored | Within 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 ? |
|---|---|---|---|---|---|---|---|
| Garnlydan Primary school | Source orientated and representative of urban background | X 212449<br>Y 316694 | Lead<br>$PM_{10}$<br>$PM_{2.5}$ | N | Y (1.5m) | N/A | Y |

Reports were provided to the Local Authority by Environmental Compliance Ltd every three months from date of commencement of the monitoring exercise. Monitoring commenced at the site in September 2008. The outline of the methodology used for monitoring and analysis (including quality assurance and controls used) and the results obtained were provided in each report supplied to Blaenau Gwent CBC. A copy of each of the reports are provided in Appendix 3 to this Progress Report.

It is important to note that during the initial stage months of the monitoring exercise building works were being undertaken at the site to improve the external fabric of the School Building which were in close proximity to the monitoring station.

It is likely that the monitoring results for particulate matter during this time of the monitoring period were influenced by these works and as a result may have been elevated above normal levels. No further works are scheduled at the site in proximity to the monitoring station that the Local Authority were aware of during the monitoring exercise.

### 2.1.2 Non- Automatic Monitoring

Blaenau Gwent CBC during 2009 undertook diffusion tube monitoring at 17 sites throughout the Borough, the details of which are presented in Table 2.2. A map indicating the approximate location of each current monitoring site is provided in Appendix 4 to this report.

The diffusion tubes are exposed for four week periods in accordance with the National $NO_2$ exposure calendar.

Two laboratories are used to analyse and provide data from the $NO_2$ diffusion tube monitoring. This is due to an historical arrangement where the four of the seventeen sites namely, BGBC1,3,4 and 9, were originally part of a national survey and the remainder were locally determined monitoring sites. With the demise of the national survey the same arrangements have been maintained for future years of monitoring and there are no proposals to alter this arrangement at this time.

Harwell Scientifics is the laboratory used for the four former national survey sites (BGBC - 1,3,4 and 9), and the laboratory used for the remaining sites is Cardiff Scientific Services, both use the 50% TEA in Acetone method to prepare the diffusion tubes for analysis.

Both laboratories have indicated that they are following the procedures set out in the Harmonisation Practical Guidance.

It has also been confirmed that both laboratories demonstrated satisfactory performance in both the WASP scheme (run by the Health and Safety Laboratory) and the monthly field inter-comparison exercise run by AEA or own co-location study for the period of 2009.

Blaenau Gwent CBC does not currently undertake a co-location study for its $NO_2$ diffusion tube monitoring and so the 'National' bias adjustment factor has been used for the results of the monitoring undertaken during the period of 2009. The 'National' bias adjustment factor was taken from the spreadsheet provided on the Air Quality Review and Assessment Helpdesk Website. (http://www.uwe.ac.uk/aqm/review/)

The bias adjustment factors that were applied are outlined below:

- Harwell Scientifics – bias adjustment factor of 0.81 for 2009
- Cardiff Scientific Services - bias adjustment factor of 0.84 for 2009

## Table 2.2 Details Of Non - Automatic Monitoring Sites For 2009

| Site Name | LA Reference | Site Type | Location | Easting (X) / Northing (Y) | OS Grid Map Reference | Pollutants Monitored | Within AQMA? | Relevant Exposure? *(Y/N with distance (m) to relevant exposure)* | Height between 2 to 4 m? (Y/N) | Distance to kerb of nearest road *(N/A if not applicable)* | Worst-case Location ? | WAQF Start Date | WAQF End Date |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BGBC-01 | S1 | Near Road | The Darren, Daren-felen Road, Brynmawr | X 319538 Y 211956 | SO1911NE | $NO_2$ | N | Y (on facade) | Y | 8m | Y | Jan 1995 | N/A |
| BGBC-03 | S3 | Urban Background | 272 King Street, Brynmawr | X 319292 Y 212030 | SO1912SE | $NO_2$ | N | Y (on façade) | Y | 4m | Y | Jan 1995 | N/A |
| BGBC-04 | S4 | Urban Background | 22 Parkhill, Beaufort, Ebbw Vale | X 317298 Y 211287 | SO1711SW | $NO_2$ | N | Y (10m) | Y | N/A | N/A | Jan 1995 | N/A |
| BGBC-05 | A3 | Urban Background | Willow Tree Bungalow, Aberbeeg | X 321139 Y 201114 | SO2101SW | $NO_2$ | N | Y (1m) | Y | 10m | N/A | Jan 1995 | N/A |
| BGBC-07 | A1 | Urban Background | Aberbeeg Medical Centre, Aberbeeg | X 320942 Y 202011 | SO2002SE | $NO_2$ | N | Y (18m) | Y | 25m | N/A | Nov 1995 | N/A |
| BGBC-09 | S2 | Near Road | Ynys Dawel, Daren-felen Road, Brynmawr | X 319556 Y 211980 | SO1911NE | $NO_2$ | N | Y (7m) | Y | 33m | Y | Jan 2001 | N/A |
| BGBC-10 | C1 | Roadside | Cwm Methodist, Mill Terrace, Cwm, Ebbw Vale | X 318475 Y 205325 | N/A (Site to be closed) | $NO_2$ | N | Y (on facade) | Y | 7m | Y | Jan 2001 | Dec 2009 |
| BGBC-11 | C2 | Urban Background | 8 Cwm Graig Bungalows, Marine Street, Cwm, Ebbw Vale | X 318785 Y 204592 | SO1804NE | $NO_2$ | N | Y (on facade) | Y | 18m | N/A | Jan 2000 | N/A |
| BGBC-13 | T2 | Roadside | 3 Kings Arms Cottages, Trefil, Tredegar | X 312012 Y 212782 | SO1212NW | $NO_2$ | N | Y (on facade) | Y | 4m | Y | Oct 2000 | N/A |
| BGBC-15 | T4 | Roadside | 32 Bush Bach, Nantybwch, Tredegar | X 313119 Y 210826 | N/A (Site to be closed) | $NO_2$ | N | Y (on facade) | Y | 14m | Y | Oct 2000 | Dec 2009 |
| BGBC-16 | A5 | Near road | 49 Aberbeeg Road, Aberbeeg | X 321430 Y 202672 | SO2102NW | $NO_2$ | N | Y (on façade) | Y | 7m | Y | Oct 2005 | N/A |
| BGBC-17 | C3 | Near road | Cwmyrdderch Court, School Terrace, Cwm, Ebbw Vale | X 318429 Y 205535 | SO1805NW | $NO_2$ | N | Y (5m) | Y | 7m | Y | Oct 2005 | N/A |

## Table 2.2 Details Of Non - Automatic Monitoring Sites For 2009 (Continued)

| Site Name | LA Reference | Site Type | Location | Easting (X) / Northing (Y) | OS Grid Map Reference | Pollutants Monitored | Within AQMA? | Relevant Exposure? *(Y/N with distance (m) to relevant exposure)* | Height between 2 to 4 m? (Y/N) | Distance to kerb of nearest road *(N/A if not applicable)* | Worst-case Location ? | WAQF Start Date | WAQF End Date |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BGBC-18 | BT1 | Roadside | Welfare Hall, Beaufort Hill, Ebbw Vale | X 317543 Y 211688 | SO1711NE | $NO_2$ | N | Y (on façade) | Y | 5m | Y | Oct 2005 | N/A |
| BGBC-19 | BT2 | Roadside | 42 Beaufort Rise, Ebbw Vale | X 316670 Y 211597 | SO1611NE | $NO_2$ | N | Y (on facade) | Y | 3m | Y | Oct 2005 | N/A |
| BGBC-20 | TR1 | Roadside | 122 Beaufort Road, Tredegar | X 314858 Y 210240 | SO1410SE | $NO_2$ | N | Y (on façade) | Y | 5.5m | Y | Oct 2005 | N/A |
| BGBC-21 | TR2 | Other - Nearest residential premises to busy roundabout on Heads of Valley Road (A465) | 14 Bryn Rhosyn, Merthyr Road, Tredegar | X 312846 Y 210586 | SO1210NE | $NO_2$ | N | Y (on façade) | Y | 35m | Y | Oct 2005 | N/A |
| BGBC-22 | BR1 | Near road | 2 King Street, Brynmawr | X 319562 Y 212128 | SO1912SE | $NO_2$ | N | Y (on façade) | Y | 6m | Y | Nov 2005 | N/A |

A full audit of the sites identified in Table 2.2 was undertaken during 2009 and as a result minor amendments to the descriptors for some of the sites have been carried out and some additional information has been provided with regards to all sites.

In addition to the minor revisions of the descriptors for some of the sites it was identified as a result of the audit that some of the monitoring locations were no longer required as they were no longer representative of the areas being monitoring due to local changes. A number of new sites were also identified as a result of the information obtained during the audit and the Updating and Screening Assessment process carried out in 2009.

So that the ongoing monitoring for 2009 would not be interrupted it was decided that the existing sites would continue as per those identified in Table 2.2. until the end of the calendar year for 2009. The new monitoring locations would commence in January 2010 and the redundant sites would cease monitoring at the end of 2009.

The sites which will be made redundant include BGBC-10 and BGBC-15.

Four new monitoring locations have been identified in total that will commence in 2010. Table 2.3 below provides full details of all of the monitoring sites that will be utilised from the beginning of 2010 onwards.

A plan identifying the location of the monitoring sites which will be utilised during 2010 is provided in Appendix 5.

## Table 2.3 Details Of Non - Automatic Monitoring Sites For 2010

| Site Name | LA Reference | Site Type | Location | Easting (X) / Northing (Y) | OS Grid Map Reference | Pollutants Monitored | Within AQMA? | Relevant Exposure? *(Y/N with distance (m) to relevant exposure)* | Height between 2 to 4 m? (Y/N) | Distance to kerb of nearest road *(N/A if not applicable)* | Worst-case Location ? | WAQF Start Date | WAQF End Date |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BGBC-01 | S1 | Near Road | The Darren, Daren-felen Road, Brynmawr | X 319538 Y 211956 | SO1911NE | $NO_2$ | N | Y (on facade) | Y | 8m | Y | Jan 1995 | N/A |
| BGBC-03 | S3 | Urban Background | 272 King Street, Brynmawr | X 319292 Y 212030 | SO1912SE | $NO_2$ | N | Y (on façade) | Y | 4m | Y | Jan 1995 | N/A |
| BGBC-04 | S4 | Urban Background | 22 Parkhill, Beaufort, Ebbw Vale | X 317298 Y 211287 | SO1711SW | $NO_2$ | N | Y (10m) | Y | N/A | N/A | Jan 1995 | N/A |
| BGBC-05 | A3 | Urban Background | Willow Tree Bungalow, Aberbeeg | X 321139 Y 201114 | SO2101SW | $NO_2$ | N | Y (1m) | Y | 10m | N/A | Jan 1995 | N/A |
| BGBC-07 | A1 | Urban Background | Aberbeeg Medical Centre, Aberbeeg | X 320942 Y 202011 | SO2002SE | $NO_2$ | N | Y (18m) | Y | 25m | N/A | Nov 1995 | N/A |
| BGBC-09 | S2 | Near Road | Ynys Dawel, Daren-felen Road, Brynmawr | X 319556 Y 211980 | SO1911NE | $NO_2$ | N | Y (7m) | Y | 33m | Y | Jan 2001 | N/A |
| BGBC-11 | C2 | Urban Background | 8 Cwm Graig Bungalows, Marine Street, Cwm, Ebbw Vale | X 318785 Y 204592 | SO1804NE | $NO_2$ | N | Y (on facade) | Y | 18m | N/A | Jan 2000 | N/A |
| BGBC-13 | T2 | Roadside | 3 Kings Arms Cottages, Trefil, Tredegar | X 312012 Y 212782 | SO1212NW | $NO_2$ | N | Y (on facade) | Y | 4m | Y | Oct 2000 | N/A |
| BGBC-16 | A5 | Near road | 49 Aberbeeg Road, Aberbeeg | X 321430 Y 202672 | SO2102NW | $NO_2$ | N | Y (on façade) | Y | 7m | Y | Oct 2005 | N/A |
| BGBC-17 | C3 | Near road | Cwmyrdderch Court, School Terrace, Cwm, Ebbw Vale | X 318429 Y 205535 | SO1805NW | $NO_2$ | N | Y (5m) | Y | 7m | Y | Oct 2005 | N/A |
| BGBC-18 | BT1 | Roadside | Welfare Hall, Beaufort Hill, Ebbw Vale | X 317543 Y 211688 | SO1711NE | $NO_2$ | N | Y (on façade) | Y | 5m | Y | Oct 2005 | N/A |
| BGBC-19 | BT2 | Roadside | 42 Beaufort Rise, Ebbw Vale | X 316670 Y 211597 | SO1611NE | $NO_2$ | N | Y (on facade) | Y | 3m | Y | Oct 2005 | N/A |
| BGBC-20 | TR1 | Roadside | 122 Beaufort Road, Tredegar | X 314858 Y 210240 | SO1410SE | $NO_2$ | N | Y (on façade) | Y | 5.5m | Y | Oct 2005 | N/A |

## Table 2.3 Details Of Non - Automatic Monitoring Sites For 2010 (Continued)

| Site Name | LA Reference | Site Type | Location | Easting (X) / Northing (Y) | OS Grid Map Reference | Pollutants Monitored | Within AQMA? | Relevant Exposure? *(Y/N with distance (m) to relevant exposure)* | Height between 2 to 4 m? (Y/N) | Distance to kerb of nearest road *(N/A if not applicable)* | Worst-case Location ? | WAQF Start Date | WAQF End Date |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BGBC-21 | TR2 | Other - Nearest residential premises to busy roundabout on Heads of Valley Road (A465) | 14 Bryn Rhosyn, Merthyr Road, Tredegar | X 312846 Y 210586 | SO1210NE | $NO_2$ | N | Y (on façade) | Y | 35m | Y | Oct 2005 | N/A |
| BGBC-22 | BR1 | Near road | 2 King Street, Brynmawr | X 319562 Y 212128 | SO1912SE | $NO_2$ | N | Y (on façade) | Y | 6m | Y | Nov 2005 | N/A |
| BGBC-23 | C4 | Near road | Cwm Conservative Club, Mill Terrace, Cwm | X 318453 Y 205308 | SO1805SW | $NO_2$ | N | Y (on façade) | Y | 6m | Y | Jan 2010 | N/A |
| BGBC-24 | T5 | Roadside | 4 Glen View, Nantybwch, Tredegar | X 313145 Y 210769 | SO1310NW | $NO_2$ | N | Y (on façade) | Y | 5m | Y | Jan 2010 | N/A |
| BGBC-25 | E1 | Near road | Red Rose Care Centre, Park Road, Ebbw Vale | X 316996 Y 207898 | SO1607NE | $NO_2$ | N | Y (on façade) | Y | 8m | Y | Jan 2010 | N/A |
| BGBC-26 | E2 | Other – near road where this is an increase in traffic expected due to major works nearby | 2 The Dingle, Ebbw Vale | X 316980 Y 209842 | SO1609NE | $NO_2$ | N | Y (on façade) | Y | 10m | Y | Jan 2010 | N/A |

## 2.2 Comparison Of Monitoring Results With Air Quality Objectives

### 2.2.1 Nitrogen Dioxide

#### Automatic Monitoring Data

Blaenau Gwent CBC does not currently undertake any automatic monitoring for Nitrogen Dioxide.

#### Diffusion Tube Monitoring Data

A summary of the results obtained from the Nitrogen Dioxide diffusion monitoring undertaken at the 17 sites within the Borough for the period of 2009 is presented in Table 2.4. Full details of the monthly mean values for each site are provided in Appendix 6 to this report.

**Table 2.4 Results Of Nitrogen Dioxide Diffusion Tubes**

| Site Name | Location | Within AQMA? | Data Capture 2009 % | Annual Mean Concentrations 2009 ($\mu g/m^3$) Adjusted for bias | Air Quality Objective Annual Mean for Nitrogen Dioxide ($\mu g/m^3$) |
|---|---|---|---|---|---|
| BGBC-01 | The Darren, Daren-felen Road, Brynmawr | N | 100 | 22.9 | 40 |
| BGBC-03 | 272 King Street, Brynmawr | N | 91.7 | 15.9 | 40 |
| BGBC-04 | 22 Parkhill, Beaufort, Ebbw Vale | N | 100 | 10.7 | 40 |
| BGBC-05 | Willow Tree Bungalow, Aberbeeg | N | 91.7 | 15.3 | 40 |
| BGBC-07 | Aberbeeg Medical Centre, Aberbeeg | N | 100 | 18.3 | 40 |
| BGBC-09 | Ynys Dawel, Daren-felen Road, Brynmawr | N | 100 | 23.9 | 40 |
| BGBC-10 | Cwm Methodist, Mill Terrace, Cwm, Ebbw Vale | N | 100 | 17.3 | 40 |
| BGBC-11 | 8 Cwm Graig Bungalows, Marine Street, Cwm, Ebbw Vale | N | 91.7 | 14.7 | 40 |
| BGBC-13 | 3 Kings Arms Cottages, Trefil, Tredegar | N | 100 | 7.0 | 40 |
| BGBC-15 | 32 Bush Bach, Nantybwch, Tredegar | N | 100 | 12.8 | 40 |
| BGBC-016 | 49 Aberbeeg Road, Aberbeeg | N | 100 | 21.7 | 40 |
| BGBC-017 | Cwmyrdderch Court, School Terrace, Cwm, Ebbw Vale | N | 100 | 19.0 | 40 |
| BGBC-018 | Welfare Hall, Beaufort Hill, Ebbw Vale | N | 100 | 21.8 | 40 |
| BGBC-019 | 42 Beaufort Rise, Ebbw Vale | N | 100 | 25.5 | 40 |
| BGBC-020 | 122 Beaufort Road, Tredegar | N | 100 | 25.4 | 40 |
| BGBC-021 | 14 Bryn Rhosyn, Merthyr Road, Tredegar | N | 100 | 17.4 | 40 |
| BGBC-022 | 2 King Street, Brynmawr | N | 100 | 18.7 | 40 |

In previous reporting years the 'Nitrogen Dioxide with distance from Roads Calculator' had been used to predict the annual mean Nitrogen Dioxide concentration for receptors that are close to roadside monitoring locations but are further from the kerb than the monitor.

As a result of the audit of the monitoring locations carried out in 2009 it is now noted that this calculation is no longer required at any of the monitoring locations, as all roadside monitors are now located on the facade of the nearest receptor. There are no roadside monitoring locations where the receptor is nearer to the kerb than the monitoring site.

The results provided in Table 2.4 indicate that the Nitrogen Dioxide levels at each of the monitoring sites were considerably below the current Annual Mean Air Quality Objective of 40 $\mu g/m^3$.

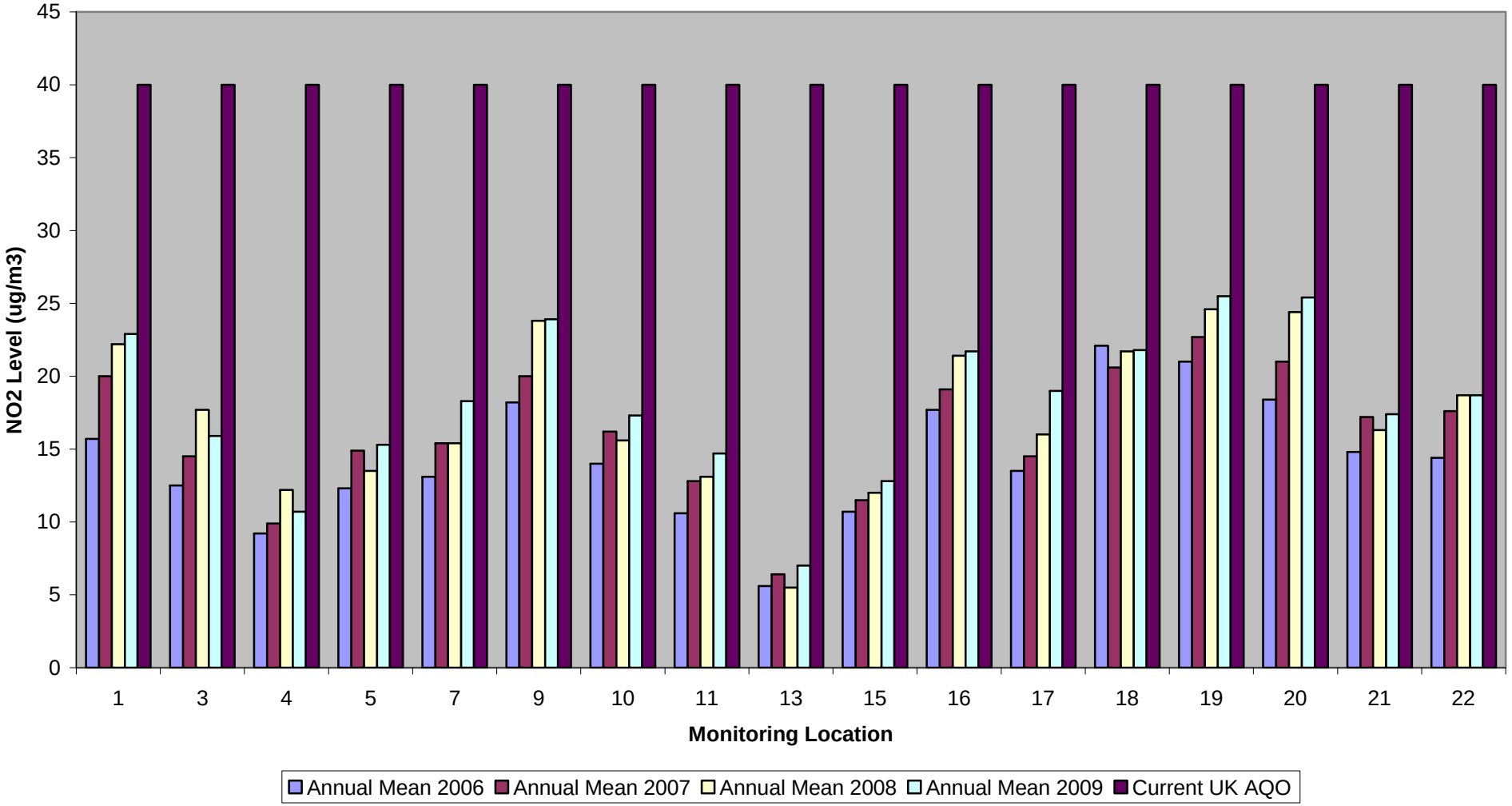
Table 2.5 provides a comparison of the results for the period of 2009 with the results of previous years monitoring for 2006, 2007, and 2009 as reported in the 2009 Updating and Screening Assessment Report (Pg 14).

**Table 2.5 Results Of Nitrogen Dioxide Diffusion Tubes For 2006, 2007, 2008 & 2009**

| Site Name | Location | Annual Mean Concentrations | | | |
|---|---|---|---|---|---|
| | | 2006 ($\mu g/m^3$) Adjusted for bias | 2007 ($\mu g/m^3$) Adjusted for bias | 2008 ($\mu g/m^3$) Adjusted for bias | 2009 ($\mu g/m^3$) Adjusted for bias |
| BGBC-01 | The Darren, Daren-felen Road, Brynmawr | 15.7 | 20.0 | 22.2 | 22.9 |
| BGBC-03 | 272 King Street, Brynmawr | 12.5 | 14.5 | 17.7 | 15.9 |
| BGBC-04 | 22 Parkhill, Beaufort, Ebbw Vale | 9.2 | 9.9 | 12.2 | 10.7 |
| BGBC-05 | Willow Tree Bungalow, Aberbeeg | 12.3 | 14.9 | 13.5 | 15.3 |
| BGBC-07 | Aberbeeg Medical Centre, Aberbeeg | 13.1 | 15.4 | 15.4 | 18.3 |
| BGBC-09 | Ynys Dawel, Daren-felen Road, Brynmawr | 18.2 | 20.0 | 23.8 | 23.9 |
| BGBC-10 | Cwm Methodist, Mill Terrace, Cwm, Ebbw Vale | 14.0 | 16.2 | 15.6 | 17.3 |
| BGBC-11 | 8 Cwm Graig Bungalows, Marine Street, Cwm, Ebbw Vale | 10.6 | 12.8 | 13.1 | 14.7 |
| BGBC-13 | 3 Kings Arms Cottages, Trefil, Tredegar | 5.6 | 6.4 | 5.5 | 7.0 |
| BGBC-15 | 32 Bush Bach, Nantybwch, Tredegar | 10.7 | 11.5 | 12.0 | 12.8 |
| BGBC-016 | 49 Aberbeeg Road, Aberbeeg | 17.7 | 19.1 | 21.4 | 21.7 |
| BGBC-017 | Cwmyrdderch Court, School Terrace, Cwm, Ebbw Vale | 13.5 | 14.5 | 16.0 | 19.0 |
| BGBC-018 | Welfare Hall, Beaufort Hill, Ebbw Vale | 22.1 | 20.6 | 21.7 | 21.8 |
| BGBC-019 | 42 Beaufort Rise, Ebbw Vale | 21.0 | 22.7 | 24.6 | 25.5 |
| BGBC-020 | 122 Beaufort Road, Tredegar | 18.4 | 21.0 | 24.4 | 25.4 |
| BGBC-021 | 14 Bryn Rhosyn, Merthyr Road, Tredegar | 14.8 | 17.2 | 16.3 | 17.4 |
| BGBC-022 | 2 King Street, Brynmawr | 14.4 | 17.6 | 18.7 | 18.7 |

Figure 1 provides a graphical representation of the 2006, 2007, 2008 and 2009 measured levels of Nitrogen Dioxide at each monitoring location in comparison with the Air Quality Objective.

**Figure 1: Measured levels of Nitrogen Dioxide for 2006, 2007, 2008 & 2009 compared with current UK AQO**



The results indicate that there has been a marginal increase for the period of 2009 in the measured annual mean for Nitrogen Dioxide at the majority of the seventeen monitoring locations. However, the measured level still remains considerably below the relevant Air Quality Objective.

As can be seen from the results presented in Figure 1 at 2 of the monitoring locations BGCBC – 03 and BGCBC-04) there has been a reduction for the period of 2009 in the measured annual mean for Nitrogen Dioxide in comparison with the previous years results and at one of the monitoring locations (BGCBC-22) the results are equal to that of the previous calendar year.

Seven of the current monitoring sites used during 2006, 2007, 2008 and 2009 were not present in 2005. Table 2.6 provides a comparison of the results for the period of 2009 with the results of previous years monitoring for 2005, 2006, 2007 and 2008 for the sites where data is available as reported in the 2009 Update and Screening Assessment Report (Pg 16).

**Table 2.6 Results Of Nitrogen Dioxide Diffusion Tubes For 2005, 2006, 2007, 2008 & 2009**

| Site Name | Location | Annual Mean Concentrations | | | | |
|---|---|---|---|---|---|---|
| | | 2005 ($\mu g/m^3$) Adjusted for bias | 2006 ($\mu g/m^3$) Adjusted for bias | 2007 ($\mu g/m^3$) Adjusted for bias | 2008 ($\mu g/m^3$) Adjusted for bias | 2009 ($\mu g/m^3$) Adjusted for bias |
| BGBC-01 | The Darren, Daren-felen Road, Brynmawr | 14.5 | 15.7 | 20.0 | 22.2 | 22.9 |
| BGBC-03 | 272 King Street, Brynmawr | 12.2 | 12.5 | 14.5 | 17.7 | 15.9 |
| BGBC-04 | 22 Parkhill, Beaufort, Ebbw Vale | 7.9 | 9.2 | 9.9 | 12.2 | 10.7 |
| BGBC-05 | Willow Tree Bungalow, Aberbeeg | 12.3 | 12.3 | 14.9 | 13.5 | 15.3 |
| BGBC-07 | Aberbeeg Medical Centre, Aberbeeg | 13.1 | 13.1 | 15.4 | 15.4 | 18.3 |
| BGBC-09 | Ynys Dawel, Daren-felen Road, Brynmawr | 16.6 | 18.2 | 20.0 | 23.8 | 23.9 |
| BGBC-10 | Cwm Methodist, Mill Terrace, Cwm, Ebbw Vale | 18.0 | 14.0 | 16.2 | 15.6 | 17.3 |
| BGBC-11 | 8 Cwm Graig Bungalows, Marine Street, Cwm, Ebbw Vale | 11.5 | 10.6 | 12.8 | 13.1 | 14.7 |
| BGBC-13 | 3 Kings Arms Cottages, Trefil, Tredegar | 5.7 | 5.6 | 6.4 | 5.5 | 7.0 |
| BGBC-15 | 32 Bush Bach, Nantybwch, Tredegar | 10.7 | 10.7 | 11.5 | 12.0 | 12.8 |

Figure 2 provides a graphical representation of the 2005, 2006, 2007, 2008 & 2009 measured levels of Nitrogen Dioxide at each monitoring location in comparison with the Air Quality Objective.

It can be seen from Figures 1 and 2 that the measured Nitrogen Dioxide Levels at each of the monitoring locations for each measurement period are significantly below the current UK Annual Mean Air Quality Objective for Nitrogen Dioxide of 40 $\mu g/m^3$.

**Figure 2: Measured levels of Nitrogen Dioxide for 2005, 2006, 2007, 2008 & 2009 compared with UK AQO**

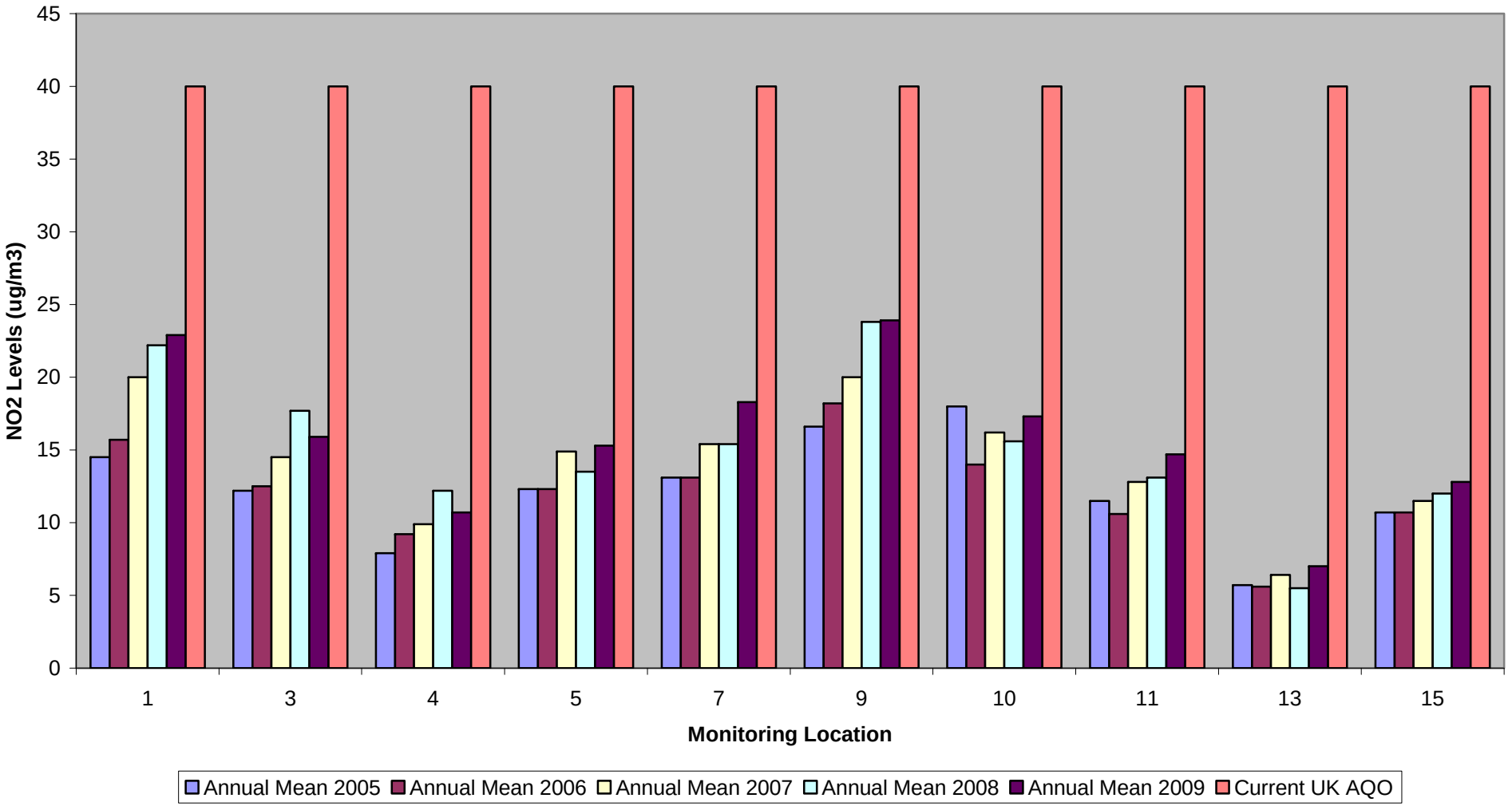


Table 2.7 indicates the projected annual mean for Nitrogen Dioxide at roadside monitoring locations based on the measured levels from 2009 using the adjustment factors provided in Box 2.1 of the DEFRA Technical Guidance document LAQM.TG(09). Figure 3 illustrates the projected levels graphically.

Based on the 2009 levels of Nitrogen Dioxide measured at roadside monitoring locations the projected levels for future years up to and including 2020 are estimated to remain well below the current Air Quality Objective.

It can be seen from Figure 3 that the levels at each monitoring location are expected to decrease each year up to and including the year 2020.

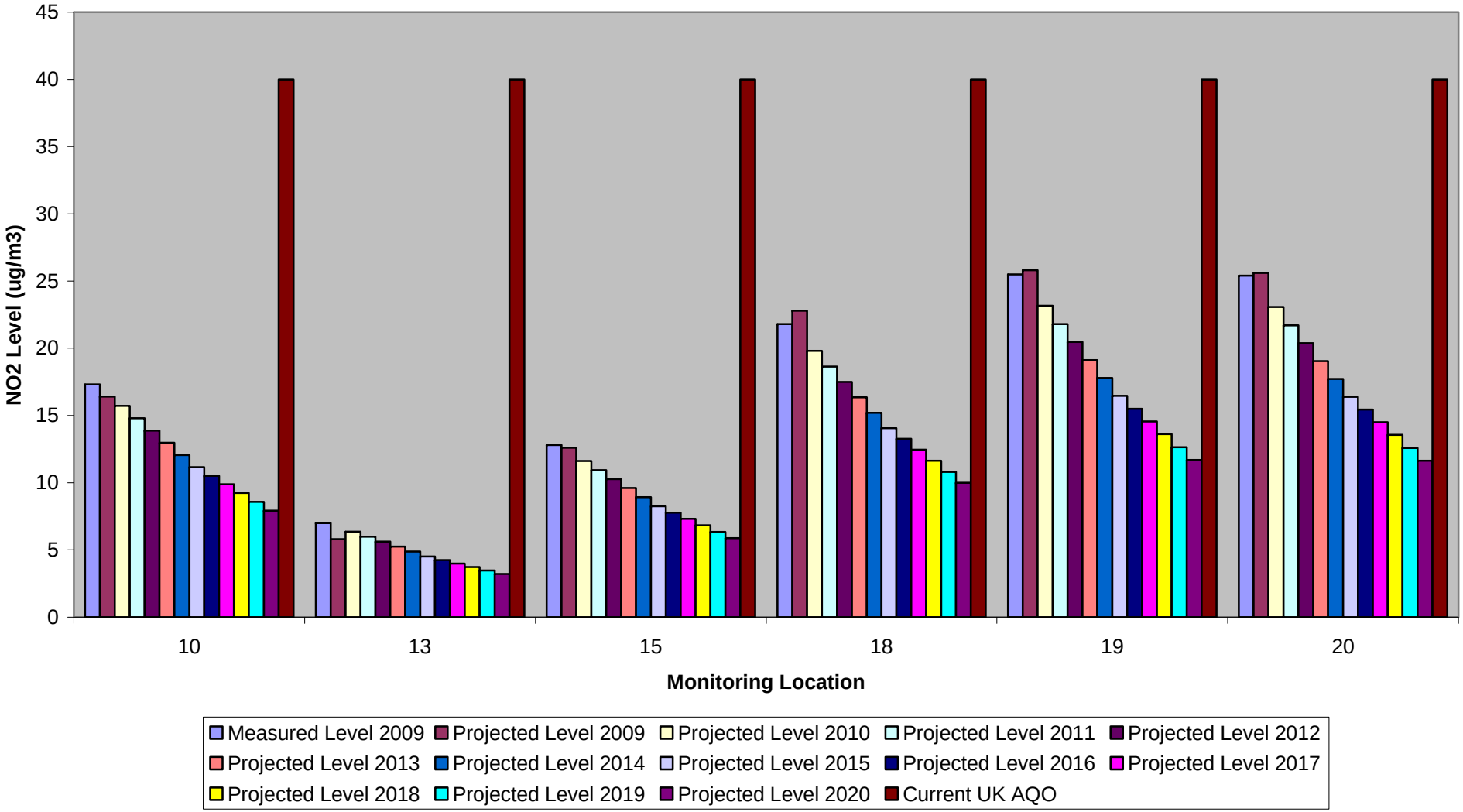
The projected results from 2009 have been compared with the measured results from 2009, it can be seen from the information provided in Table 2.7 and Figure 3 that the measured results marginally exceed the projected estimates from the 2009 Progress Report (Pg 19) at all monitoring locations.

It is proposed that the projected results for 2010 will be compared with the measured results that will be obtained from monitoring carried out during 2010 in the next round of Review and Assessment.

## Table 2.7 Projected Annual Mean Nitrogen Dioxide Concentrations At Roadside Monitoring Locations

| Site Name | Measured Annual Mean 2009 (µg/m$^3$) Adjusted for bias | Projected Annual Mean 2009 (µg/m$^3$) | Projected Annual Mean 2010 (µg/m$^3$) | Projected Annual Mean 2011 (µg/m$^3$) | Projected Annual Mean 2012 (µg/m$^3$) | Projected Annual Mean 2013 (µg/m$^3$) | Projected Annual Mean 2014 (µg/m$^3$) | Projected Annual Mean 2015 (µg/m$^3$) | Projected Annual Mean 2016 (µg/m$^3$) | Projected Annual Mean 2017 (µg/m$^3$) | Projected Annual Mean 2018 (µg/m$^3$) | Projected Annual Mean 2019 (µg/m$^3$) | Projected Annual Mean 2020 (µg/m$^3$) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BGBC-10 | 17.3 | 16.4 | 15.7 | 14.8 | 13.9 | 13.0 | 12.1 | 11.2 | 10.5 | 9.9 | 9.2 | 8.6 | 7.9 |
| BGBC-13 | 7 | 5.8 | 6.4 | 6.0 | 5.6 | 5.3 | 4.9 | 4.5 | 4.3 | 4.0 | 3.7 | 3.5 | 3.2 |
| BGBC-15 | 12.8 | 12.6 | 11.6 | 10.9 | 10.3 | 9.6 | 8.9 | 8.3 | 7.8 | 7.3 | 6.8 | 6.3 | 5.9 |
| BGBC-18 | 21.8 | 22.8 | 19.8 | 18.6 | 17.5 | 16.4 | 15.2 | 14.1 | 13.3 | 12.4 | 11.6 | 10.8 | 10.0 |
| BGBC-19 | 25.5 | 25.8 | 23.2 | 21.8 | 20.5 | 19.1 | 17.8 | 16.5 | 15.5 | 14.6 | 13.6 | 12.6 | 11.7 |
| BGBC-20 | 25.4 | 25.6 | 23.1 | 21.7 | 20.4 | 19.1 | 17.7 | 16.9 | 15.4 | 14.5 | 13.6 | 12.6 | 11.6 |

**Figure 3: Projected Nitrogen Dioxide Levels at Roadside Monitoring Locations**



### 2.2.2 $PM_{10}$

**Automatic Monitoring Data**

Table 2.8 provides a summary of the results for $PM_{10}$ obtained from the Automatic Monitoring Station for monitoring period run by Environmental Compliance Ltd which is located at Garnlydan Primary School in comparison with the Annual Mean National Air Quality Objective for each quarter and as an annual mean.

**Table 2.8 - Summary Of Results Of Automatic Monitoring For $Pm_{10}$ For Each Quarter And Overall Annual Mean Compared With Annual Mean National Air Quality Objective**

| Site Name | Monitoring Period | Data Capture | Within AQMA? | National Air Quality Objective Annual Mean [µg/m$^3$] | Mean result for monitoring period [µg/m$^3$] |
|---|---|---|---|---|---|
| **Quarterly Mean** | | | | | |
| Garnlydan Primary School | 1st September to 31st December 2008 | 100% (monitoring period) | NO | 40 | 14.0 |
| Garnlydan Primary School | 1st January 2009 to 31st March 2009 | 84% (monitoring period) NB. No results for 17th to 31st March 2009 due to temporary disconnection of power | NO | 40 | 16.3 |
| Garnlydan Primary School | 1st April 2009 to 30th June 2009 | 100% (monitoring period) | NO | 40 | 13.7 |
| Garnlydan Primary School | 1st July 2009 to 30th September 2009 | 66% (monitoring period) NB. No results for July as monitor sent for calibration | NO | 40 | 10.9 |
| Garnlydan Primary School | 1st October 2009 to 31st December 2009 | 100% (monitoring period) | NO | 40 | 22.3 |
| **Annual Mean** | | | | | |
| Garnlydan Primary School | 1st January 2009 to 31st December 2090 | 87% (calendar year) | NO | 40 | 16.3 |

The data is presented as the mean of the measured level obtained during each quarter of the monitoring period and as an annual mean based on the monitoring results recorded for each monthly monitoring period during 2009 (a breakdown of the monitoring results for each month are provided in the monitoring reports in Appendix 3 to this report).

In accordance with advice provided by the Review and Assessment Helpdesk the data has not been adjusted using the method outlined in Box 3.2 of Technical Guidance LAQM.TG(09) or presented as percentiles.

There is insufficient information in the report provided by Environmental Compliance Ltd to present the 24 hour mean monitoring results for $PM_{10}$.

### 2.2.3 Benzene

Blaenau Gwent CBC does not currently undertake any monitoring for Benzene.

### 2.2.4 1,3 Butadiene

Blaenau Gwent CBC does not currently undertake any monitoring for 1,3 Butadiene.

### 2.2.5 Sulphur Dioxide

Blaenau Gwent CBC does not currently undertake any monitoring for Sulphur Dioxide.

### 2.2.6 Carbon Dioxide

Blaenau Gwent CBC does not currently undertake any monitoring for Carbon Dioxide.

### 2.2.7 Lead

**Automatic Monitoring Data**

Table 2.9 provides a summary of the results for Lead obtained from the Automatic Monitoring Station run by Environmental Compliance Ltd which is located at Garnlydan Primary School in comparison with the Annual Mean National Air Quality Objective for each quarter and as an annual mean.

The data is presented as the mean of the measured level obtained during each quarter of the monitoring period and as an annual mean based on the monitoring results recorded for each monthly monitoring period during 2009 (a breakdown of the monitoring results for each month are provided in the monitoring reports in Appendix 3 to this report).

In accordance with advice provided by the Review and Assessment Helpdesk the data has not been adjusted using the method outlined in Box 3.2 of Technical Guidance LAQM.TG(09) or presented as percentiles.

**Table 2.9 - Summary Of Results Of Automatic Monitoring For Lead For Each Quarter And Overall Annual Mean Compared With Annual Mean National Air Quality Objective**

| Site Name | Monitoring Period | Data Capture | Within AQMA? | National Air Quality Objective Annual Mean [µg/m$^3$] | Mean result for monitoring period [µg/m$^3$] |
|---|---|---|---|---|---|
| **Quarterly Mean** | | | | | |
| Garnlydan Primary School | 1st September to 31st December 2008 | 100% (monitoring period) | NO | 0.25 | 0.109 |
| Garnlydan Primary School | 1st January 2009 to 31st March 2009 | 84% (monitoring period) NB. No results for 17th to 31st March 2009 due to temporary disconnection of power | NO | 0.25 | 0.040 |
| Garnlydan Primary School | 1st April 2009 to 30th June 2009 | 100% (monitoring period) | NO | 0.25 | 0.036 |
| Garnlydan Primary School | 1st July 2009 to 30th September 2009 | 66% (monitoring period) NB. No results for July as monitor sent for calibration | NO | 0.25 | 0.036 |
| Garnlydan Primary School | 1st October 2009 to 31st December 2009 | 100% (monitoring period) | NO | 0.25 | 0.037 |
| **Annual Mean** | | | | | |
| Garnlydan Primary School | 1st January 2009 to 31st December 2090 | 87% (calendar year) | NO | 0.25 | 0.038 |

### 2.2.8 Other Pollutants Monitored

**$PM_{2.5}$ - Automatic Monitoring Data**

Table 2.10 provides a summary of the results for $PM_{2.5}$ obtained from the Automatic Monitoring Station run by Environmental Compliance Ltd which is located at Garnlydan Primary School in comparison with the proposed Annual Mean National Air Quality Objective for each quarter and as an annual mean.

There is no statutory obligation upon Local Authorities to undertake review and assessment of air quality against the proposed Annual Mean National Air Quality Objective for $PM_{2.5}$.

The data is presented as the mean of the measured level obtained during each quarter of the monitoring period and as an annual mean based on the monitoring results recorded for each monthly monitoring period during 2009 (a breakdown of the monitoring results for each month are provided in the monitoring reports in Appendix 3 to this report).

In accordance with advice provided by the Review and Assessment Helpdesk the data has not been adjusted using the method outlined in Box 3.2 of Technical Guidance LAQM.TG(09) or presented as percentiles.

**Table 2.10 - Summary Of Results Of Automatic Monitoring For $PM_{2.5}$ For Each Quarter And Overall Annual Mean Compared With Annual Mean National Air Quality Objective**

| Site Name | Monitoring Period | Data Capture | Within AQMA? | National Air Quality Objective Annual Mean [µg/m$^3$] | Mean result for monitoring period [µg/m$^3$] |
|---|---|---|---|---|---|
| **Quarterly Mean** | | | | | |
| Garnlydan Primary School | 1st September to 31st December 2008 | 100% (monitoring period) | NO | 25 | 4.85 |
| Garnlydan Primary School | 1st January 2009 to 31st March 2009 | 84% (monitoring period) NB. No results for 17th to 31st March 2009 due to temporary disconnection of power | NO | 25 | 5.36 |
| Garnlydan Primary School | 1st April 2009 to 30th June 2009 | 100% (monitoring period) | NO | 25 | 5.87 |
| Garnlydan Primary School | 1st July 2009 to 30th September 2009 | 66% (monitoring period) NB. No results for July as monitor sent for calibration | NO | 25 | 4.15 |
| Garnlydan Primary School | 1st October 2009 to 31st December 2009 | 100% (monitoring period) | NO | 25 | 5.35 |
| **Annual Mean** | | | | | |
| Garnlydan Primary School | 1st January 2009 to 31st December 2090 | 87% (calendar year) | NO | 25 | 5.27 |

## 2.3 Summary Of Compliance With Air Quality Objectives

Blaenau Gwent CBC has examined the results from monitoring in the Borough. Concentrations are all below the objectives, therefore there is no need to proceed to a Detailed Assessment.

# 3.0 New Local Developments

## 3.1 Road Traffic Sources

### 3.1.1 Narrow Congested Streets With Residential Properties Close To The Kerb

Blaenau Gwent CBC 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 assessed in previous rounds of Review and Assessment.

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

Blaenau Gwent CBC confirms that there are no new/newly identified busy streets where people may spend 1 hour or more close to traffic.

### 3.1.3 Roads with a High Flow of Buses and/or HGVs

Based on current local knowledge Blaenau CBC confirms that there are no new/newly identified roads with high flows of buses/HGV's, that have not been adequately assessed in previous rounds of Review and Assessment.

### 3.1.4 Junctions

Blaenau Gwent CBC confirms that there are no new/newly identified busy junctions that have not been adequately assessed in previous rounds of Review and Assessment.

### 3.1.5 New Roads Constructed Or Proposed Since The Last Round Of Review And Assessment

Details of a proposed development at the former Steelworks Site in Ebbw Vale, which included proposals for a number of new roads, were presented in the 2008 Progress Report. (Please refer to Pages 41-43 and Appendix 4 of Blaenau Gwent CBC Local Air Quality Review and Assessment - Progress Report 2008).

It was concluded from the detail of the Environmental Statement provided to Blaenau Gwent in support of the proposed development that the impact of the proposed scheme would be unlikely to have any significant impact on air quality and thus be unlikely to result in an exceedance of any of the UK National Air Quality Objectives.

At the time of this Report the final stages of remediation of the former Steelworks Site are nearing completion to ensure that the land is suitable for its intended use and works have commenced to ensure that the infrastructure needed for the development to proceed is in place.

In order to monitor the impact of the ongoing works two new monitoring sites for Nitrogen Dioxide using diffusion tubes are planned at locations of relevant exposure surrounding the development site which will commence in January 2010. Details of the proposed monitoring sites are provided in Table 2.3.

Blaenau Gwent CBC will continues to assess the development as it progresses to identify any areas where further monitoring may be appropriate.

Blaenau Gwent CBC confirms that there are no other new/proposed roads that have not been adequately assessed in previous rounds of Review and Assessment.

### 3.1.6 Roads with Significantly Changed Traffic Flows

Blaenau Gwent CBC confirms that there are no new/newly identified roads with significantly changed traffic flows.

### 3.1.7 Bus and Coach Stations

Blaenau Gwent CBC confirms that there are no relevant bus stations in the Local Authority area.

The two main bus stations within Blaenau Gwent are located in Tredegar and Brynmawr. The number of bus movements per day at both locations are approximately below 500 and therefore well below the screening criteria of 2,500 movements per day as set out in Technical Guidance LAQM.TG(09)

## 3.2 Other Transport Sources

### 3.2.1 Airports

Blaenau Gwent CBC confirms that there are no airports in the Local Authority area.

### 3.2.2 Railways (Diesel and Steam Trains) - Stationary Trains

Blaenau Gwent CBC 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.

### 3.2.3 Railways (Diesel and Steam Trains) - Moving Trains

Blaenau Gwent CBC confirms that there are no locations within the Local Authority area with a large number of movements of diesel locomotives, and potential long-term relevant exposure within 30m.

### 3.2.4 Ports (Shipping)

Blaenau Gwent CBC confirms that there are no ports or shipping that meet the specified criteria within the Local Authority area.

## 3.3 Industrial Installations

### 3.3.1 New Or Proposed Installations For Which An Air Quality Assessment Has Been Carried Out

Blaenau Gwent CBC confirms that there are no new or proposed industrial installations for which planning approval has been granted which required an Air Quality Assessment within its area.

Blaenau Gwent CBC confirms that, based on current knowledge, there are no new or proposed industrial installations for which planning approval has been granted within a neighbouring authority which may have a significant impact on Air Quality within the Blaenau Gwent Borough.

### 3.3.2 Existing Installations Where Emissions Have Increased Substantially Or New Relevant Exposure Has Been Introduced

Blaenau Gwent CBC confirms that there are no existing installations within the Borough where emissions have substantially increased since the last round of review and assessment.

Blaenau Gwent CBC confirms that, based on current knowledge, there are no industrial installations with substantially increased emissions or new relevant exposure nearby in a neighbouring authority.

Blaenau Gwent CBC confirms that there are no industrial installations with new relevant exposure within its area.

### 3.3.3 New Or Significantly Changed Installations With No Previous Air Quality Assessment

Blaenau Gwent CBC confirms that there are no new or significantly changed industrial installations for which planning approval has been granted and for which an Air Quality Assessment would have been required within its area or to the best of current knowledge within a nearby neighbouring authority that would have an impact on the Air Quality within the Borough.

A list of the current Part A1, A2 and B Processes within the Borough previously regulated under the Pollution Prevention (England and Wales) Regulations 2000 (as amended) and the Environmental Permitting (England and Wales) Regulations 2007 (as amended), and which are now regulated under the Environmental Permitting (England and Wales) Regulations 2010 (as amended) is provided in Appendix 8 to this report.

There have been no significant changes to any of the existing Part A1, A2 and B processes since the 2009 Progress Report that would be likely to have a significant impact on air quality.

### 3.3.4 Major Fuel (Petrol) Storage Depots

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

### 3.3.5 Petrol Stations

Blaenau Gwent CBC confirms that there are no petrol stations meeting the specified criteria within the Local Authority area.

### 3.3.6 Poultry Farms

Blaenau Gwent CBC confirms that there are no poultry farms meeting the specified criteria within the Local Authority area.

## 3.4 Commercial And Domestic Sources

### 3.4.1 Biomass Combustion – Individual Installations

Blaenau Gwent CBC confirms that there are no biomass combustion plant in the Local Authority area to the best of current knowledge.

### 3.4.2 Biomass Combustion – Combined Impacts

The Local Authority are not aware of any commercial biomass installations within the Borough.

As reported in the previous round of Review and Assessment (Updating and Screening Assessment 2009) local knowledge indicates that there are few remaining domestic solid-fuel burning properties within the Borough.

Two areas were identified as having the highest density of solid-fuel burning appliances within domestic properties, these are located at Bedwellty Pits and Pochin Houses both located in Tredegar.

Appendix 6 of the Updating and Screening Assessment 2009 provided a breakdown of the assessment of the combined impact of small biomass combustion plant.

Blaenau Gwent CBC assessed that the combined impact of small biomass combustion plant in the 2009 report, and concluded that it was not be necessary to proceed to a Detailed Assessment. The Local Authority is not aware of any significant changes that have taken place during the calendar year of 2009 which would have altered this position.

### 3.4.3 Domestic Solid-Fuel Burning

Blaenau Gwent CBC confirms that there are no areas of significant domestic fuel use in the Local Authority area.

### 3.4.4 Small Boilers

Blaenau Gwent CBC is not aware of any boiler plant (>5$MW_{thermal}$) that burns coal or fuel oil located within the Local Authority Area.

### 3.4.5 New Or Proposed Installations For Which An Air Quality Assessment Has Been Carried Out

Blaenau Gwent CBC confirms that there are no new or proposed Biomass Combustion Installations for which an Air Quality Assessment has been carried out within the Local Authority area since the last round of Review and Assessment.

## 3.5 New Developments With Fugitive Or Uncontrolled Sources

Blaenau Gwent CBC confirms that there are no potential sources of fugitive particulate matter emissions in the Local Authority area which have not been adequately assessed in previous rounds of Review and Assessment.

# 4.0 Local / Regional Air Quality Strategy

## 4.1 Local Air Quality Management Strategy

Blaenau Gwent CBC produced a Departmental Air Pollution Control Policy and Procedure document in 2007 to facilitate the management of Air Quality with the Borough. A copy of the Air Pollution Control Policy and Procedure Document is provided in Appendix 7 to this report.

It has been identified that in light of current changes to national guidance regarding Air Quality Management the Policy and Procedure document requires some revision and it is hoped that this work will be undertaken within 2010 in conjunction with other Departments within Blaenau Gwent CBC to produce a more strategic and overarching strategy for the management of Air Quality within the Borough.

## 4.2 Regional Air Quality Management Strategy

Blaenau Gwent CBC actively participates in the work of the Welsh Air Quality Forum which assists in co-ordinating the management of Air Quality at an all Wales level amongst the 22 Local Authorities and other partners.

Further information regarding the work of the Welsh Air Quality Forum is available at http://www.welshairquality.co.uk/

# 5.0 Planning Applications And Policies

## 5.1 Planning Consultation Policy

Each week a list of new planning applications that are received by the Planning Division is provided to the Pollution Control Team within the Environmental Health Department. The Pollution Control Team then examines the applications that have been received and requests further details in relation to any applications that may have the potential to impact of local air quality.

Consultation with the Planning Applicant and the Planning Division will take place for any developments that are identified as having the potential to have a significant impact on air quality. The applicant may then be required to submit an Environmental Impact Assessment or an air quality assessment as necessary prior to any planning permission being granted.

## 4.2 New Planning Applications

Each planning application is judged on its merits and due regard is given to the Planning Policy Wales document regarding Air Quality published by the Welsh Assembly Government, and other relevant guidance.

A copy of Blaenau Gwent CBC Unitary Development Plan (UDP) and further information regarding the planning process within Blaenau Gwent and the Local Authorities policies regarding land use and development control is available at http://www.blaenau-gwent.gov.uk/business/7725.asp

A link to the Local Development Plan (LDP) is also available at the above website.

The Planning Division classify applications that are received into minor and major developments in accordance with the Welsh Office Planning Statistics guidance. Major developments are classified as being the following:

- major dwelling is 10 or more dwellings or if an outline application 0.5 hectares
- For other types of applications major equates to 1000m2 floor area or 1 hectare if the application is in outline

Table 3.1 below provides a breakdown of the major applications that were received during 2009 and comments in relation to potential impact on air quality with Blaenau Gwent.

## Table 3.1: Applications For Major Developments Received During 2009

| Planning Reference | Type of development | Location | Potential Impact on Local Air Quality |
|---|---|---|---|
| C/2008/0006 | Residential development | Beaufort Garage, Beaufort Road , Ebbw Vale | Negligible |
| C/2008/0021 | Residential development | Heol Elan, Ebbw Vale | Negligible |
| C/2008/0468 | Residential development | Land to the East of Hafod Daweland, South West of Carlin Road, Hospital Road, Brynmawr | Negligible |
| C/2008/0471 | Demolition of existing 3 No. buildings and construction of proposed support accommodation with communal accommodation | 1 - 20 Arosfa Court, Tredegar | Negligible |
| C/2009/0023 | Re-profiling/ground raising earthworks in order to raise the site approximately 3.3 metres. | Northgate One, Former Steelworks Site, Steelworks Road, Ebbw Vale | Negligible |
| C/2009/0029 | Listed Building Consent for a Two storey extension, alterations and refurishment of the existing General Offices Building to provide | General Offices Building, (Former Steelworks Site), Steelworks Road, Ebbw Vale | Negligible |
| C/2009/0030 | Two storey extension, alterations and refurbishment of the existing General Offices Building to provide accommodation for a public records | General Offices Building, (Former Steelworks Site), Steelworks Road, Ebbw Vale | Negligible |
| C/2009/0105 | Residential development | Glaslyn House, 14 Alma Street, Brynmawr | Negligible |
| C/2009/0151 | Residential development | Land at Penrhiw Estate, Abertillery | Negligible |
| C/2009/0173 | Residential development | Site of former Hafod Dawel Residential Home, Hospital Road, Brynmawr | Negligible |
| C/2009/0295 | Part 3 storey / part 4 storey education building comprising a 'learning zone' with associated landscaping and access. | Development Area 1G, Former Steelworks Site, Ebbw Vale | Negligible |
| C/2009/0322 | Proposed single and two storey extensions | Abertillery Comprehensive School, Alma Street, Abertillery | Negligible |

No applications for any mineral developments or landfill developments were received by BGCBC during the period of 2009.

# 6.0 Local Transport Plans And Stratgies

## 6.1 Regional Transport Plan

Local Authorities are no longer required to develop and produce Local Transport Plans, they are now required to work with neighbouring Authorities to produce Regional Transport Plans in order to promote efficient and effective services.

The first Regional Transport Plan which includes Blaenau Gwent has been developed and published and can be viewed at the following website:

http://www.sewta.gov.uk/strategy.htm

The final version of the document was submitted to the Welsh Assembly on the 30th September 2009. This document is a five year plan considering both local and regional transport networks.

Part of the process of the development of the Regional Transport Plan requires the production of a Strategic Environmental Assessment (SEA) which will give consideration to air quality issues.

The Strategic Environmental Assessment Baseline Study Report and Scoping Report are also available at the above website.

# 7.0 Climate Change Strategies

## 7.1 Corporate Energy Policy

As past of its commitment to corporate contribution towards the reduction of greenhouse gases emissions from all its activities and as part of the Climate Change programme Blaenau Gwent CBC has developed an Energy Policy to ensure the effective and efficient use and management of energy.

The Energy Policy compliments the seven core values of the Councils Community plan and contributes to the overall strategic aims of the Local Authority.

At present the Energy Policy is not available on the Blaenau Gwent CBC website and the document currently subject to ongoing review.

A copy of the current document will be made available to the Welsh Assembly Government on request and it is envisaged that upon the finalisation of the review of the current policy and its subsequent publication this document will be made available on the Blaenau Gwent CBC website.

# 8.0 Conclusions And Proposed Actions

## 8.1 Conclusions From New Monitoring Data

Blaenau Gwent CBC has examined the results from monitoring in the Borough of Blaenau Gwent for the period of 2009. Concentrations are all below the relevant UK National Air Quality Objectives.

## 8.2 Conclusions Relating To New Local Developments

Blaenau Gwent CBC has assessed all new or significantly changed sources in the Borough and relevant new or significantly changes sources in nearby Local Authority areas and has concluded that it is unlikely that the impact of these will result in a potential exceedance of any of the UK National Air Quality Objectives within the Borough.

## 8.3 Other Conclusions And Proposed Actions

The 2010 Progress Report has not identified the need to proceed to a Detailed Assessment for any pollutant relevant to the UK National Air Quality Objectives.

Blaenau Gwent CBC will continue to monitor for Nitrogen Dioxide subject to the findings of the audit of the existing monitoring sites. Monitoring for the calendar year of 2010 will be carried out at all monitoring locations identified in Table 2.3 of this Report.

It is proposed that the results of monitoring carried out during the calendar year of 2010 will be presented in the 2011 Progress Report.

# References


Air Quality Review and Assessment Helpdesk Website, aqm-review@uwe.ac.uk

Blaenau Gwent CBC, (1999), 1999 First Stage Review and Assessment, http://www.blaenau-gwent.gov.uk/environment/2774.asp

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Environmental Compliance Ltd, (2009), Ambient Air Quality Survey at Garnlydan School – Prepared for Envirowales Ltd, Rassau Industrial Estate, Environmental Compliance Ltd, Pontypridd.

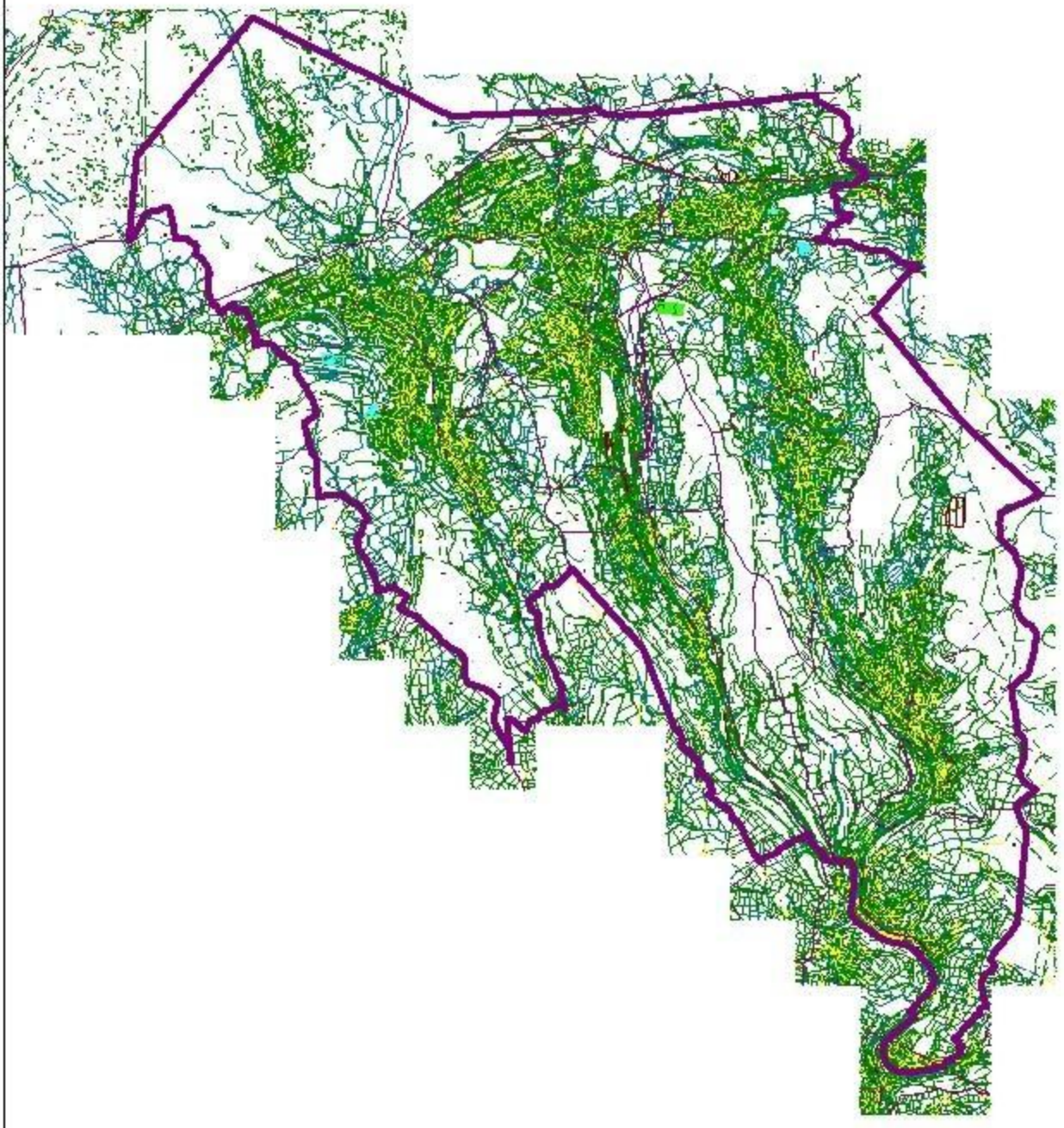
SEWTA, (2009), Regional Transport Plan and Strategic Environmental Assessment http://www.sewta.gov.uk/strategy.htm

UK Air Quality Archive, http://www.airquality.co.uk/data_and_statistics.php.

Welsh Air Quality Forum Website, http://www.welshairquality.co.uk/

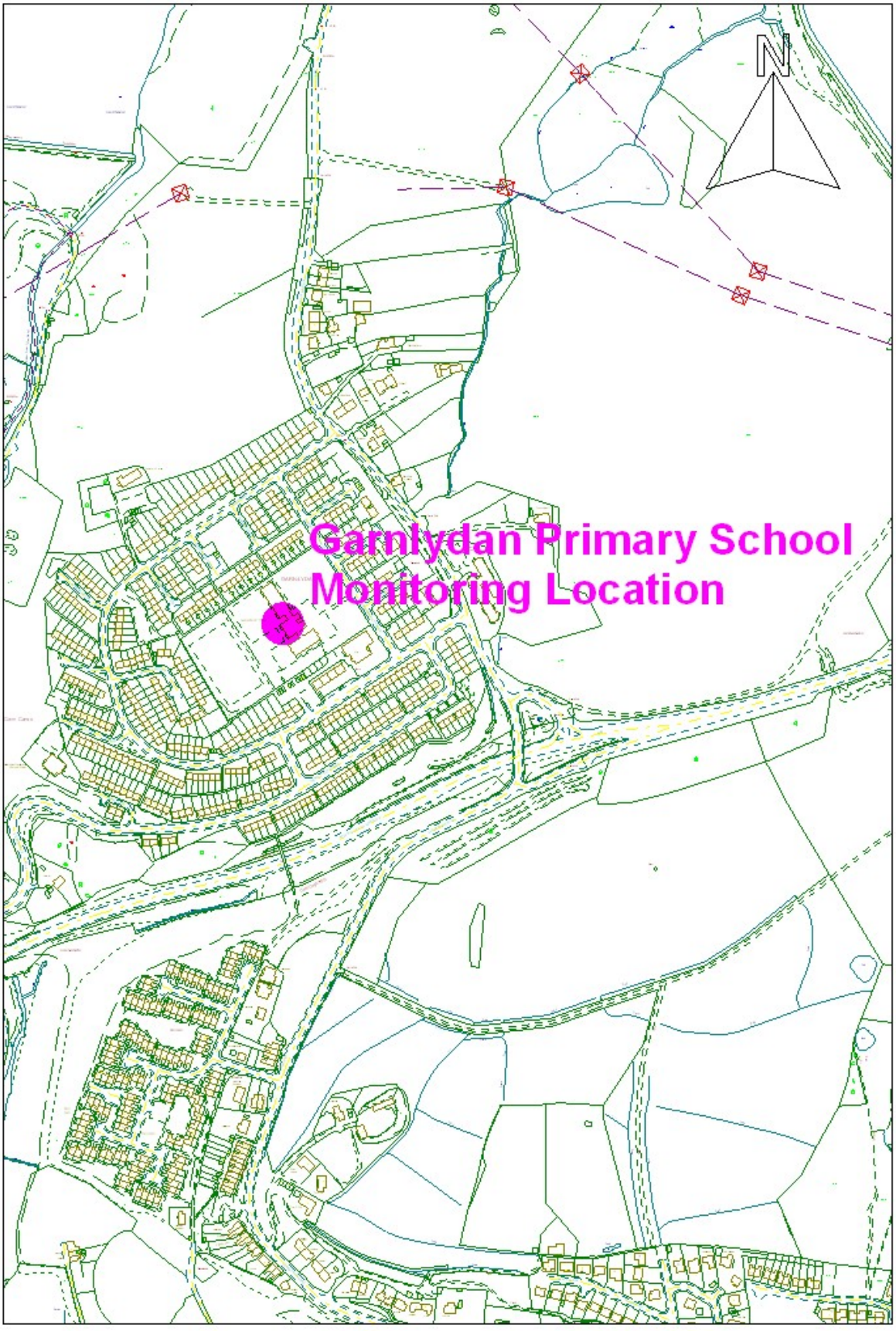
# Appendix 1

## Administrative Area of Blaenau Gwent



# Appendix 2

## Location of Automatic Monitoring Station for Ambient Lead Levels



# Appendix 3

## Monitoring Data Supplied By Envirowales Ltd

# AMBIENT AIR QUALITY SURVEY AT GARNLYDAN SCHOOL

**Prepared for:**

## Envirowales Ltd
## Rassau Industrial Estate

| | |
|---|---|
| **Permit Number:** | **EP3230BW** |
| **Job Number:** | **C519** |
| **Report Number:** | **R004** |
| **Report Issue Date:** | **5th March 2009** |
| **Survey Dates:** | **September - December 2008** |


**Prepared by:**

**Environmental Compliance Limited**

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# DOCUMENT CONTROL SHEET

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| ***Date:*** | 05/02/2009 | ***Date:*** | 05/03/2009 |

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# 1. INTRODUCTION

## 1.1. Overview of Study

Environmental Compliance Ltd ("ECL") was commissioned by Envirowales Ltd to carry out an ambient air monitoring survey at Garnlydan School, Rassau.

The monitoring was undertaken to assess the concentrations of airborne particulate and lead in the area.

The monitoring commenced on the 1st of September 2008 and will continue until further notice. This report covers data obtained from the 1st September to 31st December 2008.

## 1.2. Scope of Study

Sampling for **particulate matter and lead** was carried out to meet the requirements of ***'Monitoring Methods for Ambient Air, Technical Guidance Note M9'.*** Collection of the samples was carried out using a Topas sampler serial number TNT1235 calibrated at the manufacturers recommended frequency. The photometer used in the Topas instrument gives a continuous and simultaneous indication of $PM_{2.5}$, $PM_{10}$ and TSP (total particles) mass fractions in microgrammes per cubic metre ($\mu g/m^3$). The Topas sampler has an integral filter holder unit that can be fitted with a 25mm GFA filter. It is possible to collect dust particles that can be removed and subsequently analysed for lead.

The Topas sampler was positioned at a suitable location at Garnlydan school following consultation with Envirowales Ltd, Blaenau Gwent Council and the Headmistress. The Topas sampler was calibrated at the manufacturers recommended frequency.

This report details the results of the $PM_{10}$ & $PM_{2.5}$ particles at the monitoring location. Further analysis of the integral filter within the unit has been undertaken so that airborne dust levels could be determined.

The results have been compared to the respective National Air Quality Strategy Objectives, available at:-

http://www.defra.gov.uk/environment/airquality/strategy/pdf/air-qualitystrategy-vol1.pdf

# 2. APPROACH AND METHODOLOGY

## 2.1. General

The monitor ran continuously between 1st September 2008 and 31st December 2008 at its location at Garnlydan School. There were no deviations recorded.

## 2.2. Methodology

Environmental Compliance Limited carried out the download of data from the Topas sampler on a monthly basis. At the same time the 25mm GFA filter housed within the sampler was exchanged and replaced with a new one. The collected filter was then sent for lead analysis at RPS Laboratories, Manchester, who have UKAS accreditation for this analysis on filters. A field blank was undertaken for each survey carried out and submitted at the same time for data integrity

# 3. RESULTS

The results of the survey are presented in the Tables Section, and are also presented graphically in the Figures Section.

## 3.1. Airborne Exposure Limits

The results of the ambient monitoring survey were compared to the National Air Quality Standard Objectives (The Air Quality Strategy for England, Scotland, Wales and Northern Ireland, Volume1, July 2007 – Page 20, Table 2) which are as follows:-

Particulates ($PM_{10}$) – Annual Mean of 40 $\mu g/m^3$

Particulates ($PM_{2.5}$) – Annual Mean of 25 $\mu g/m^3$

Lead – Annual Mean of 0.5 $\mu g/m^3$ maintained by and after December 2004

*Lead – Annual Mean of 0.25 $\mu g/m^3$ maintained by and after December 2008

Note * this is the new level for lead after 31st December 2008.

## 3.2. Particulate Results

The results of the particulate fractions are detailed in Table 1 & 2.

The particulate ($PM_{10}$ & $PM_{2.5}$) results were obtained for the four months from 1st September to 31st December 2008, data sets were available for each complete month. The average figures for these four months were 13.99 $\mu g/m^3$ and 4.85 $\mu g/m^3$ respectively, which are considerably lower than the National Air Quality Strategy (AQS) Objectives of 40$\mu g/m^3$and 25$\mu g/m^3$ respectively.

## 3.3. Lead Results

The lead results are detailed in Table 3.

The lead results have been compared against the current AQS value as the Annual Mean of 0.5 $\mu g/m^3$, this is due to change at the end of December 2008 to 0.25 $\mu g/m^3$.

The average figures for these months are all well below the AQS value, if the values continue the same trend the annual mean will be below the new 0.25 $\mu g/m^3$.

## Table 1

### $PM_{2.5}$ Particulate Results from TNT1235 at Garnlydan School

| Month | $PM_{2.5}$ Particulate Concentration ($\mu g/m^3$) | Results as a percentage of the AQS (%) | Quarterly Average $PM_{2.5}$ ($\mu g/m^3$) |
|---|---|---|---|
| September | 5.64 | 22.6 | … |
| October | 4.27 | 17.1 | … |
| November | 4.75 | 19.0 | 4.88 |
| December | 4.75 | 19.0 | … |
| **End of 2008 Mean** | **4.85** | **19.4** | … |

## Table 2

### $PM_{10}$ Particulate Results from TNT1235 at Garnlydan School

| Month | $PM_{10}$ Particulate Concentration ($\mu g/m^3$) | Results as a percentage of the AQS (%) | Quarterly Average PM10 ($\mu g/m^3$) |
|---|---|---|---|
| September | 17.26 | 43.2 | … |
| October | 9.49 | 23.7 | … |
| November | 14.40 | 36.0 | 13.72 |
| December | 14.83 | 37.1 | … |
| **End of 2008 Mean** | **13.99** | **34.9** | … |

# Table 3

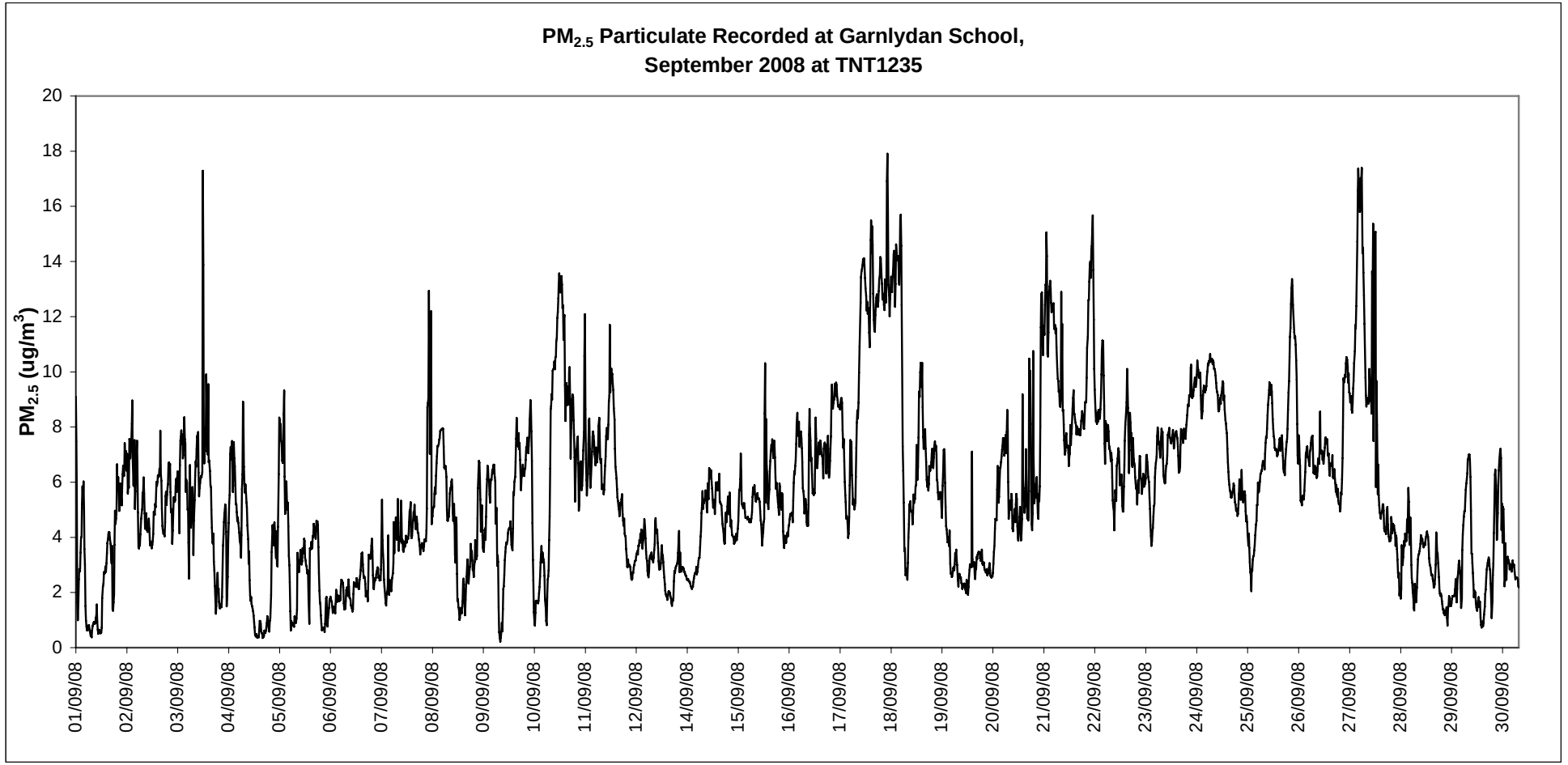
## Lead Results from TNT1235 at Garnlydan School

| Month | Airborne Lead Concentration ($\mu$g/m$^3$) | [1] Results as a percentage of the AQS (%) | Rolling Average Lead Concentration ($\mu$g/m$^3$) | Quarterly Average Lead ($\mu$g/m$^3$) |
|---|---|---|---|---|
| September | 0.039 | 7.8 | 0.039 | … |
| October | 0.193 | 38.6 | 0.116 | … |
| November | 0.037 | 7.4 | 0.090 | 0.090 |
| December | 0.168 | 33.6 | 0.109 | … |
| **Mean** | **0.109** | **21.8** | **…** | **…** |

Note [1] The comparison has been made with the Lead Annual Mean of **0.5 $\mu$g/m$^3$**

# Figures

**Figure 1**


PM2.5 Particulate Recorded at Garnlydan School,
September 2008 at TNT1235
PM2.5 (ug/m3)
0
2
4
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8
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12
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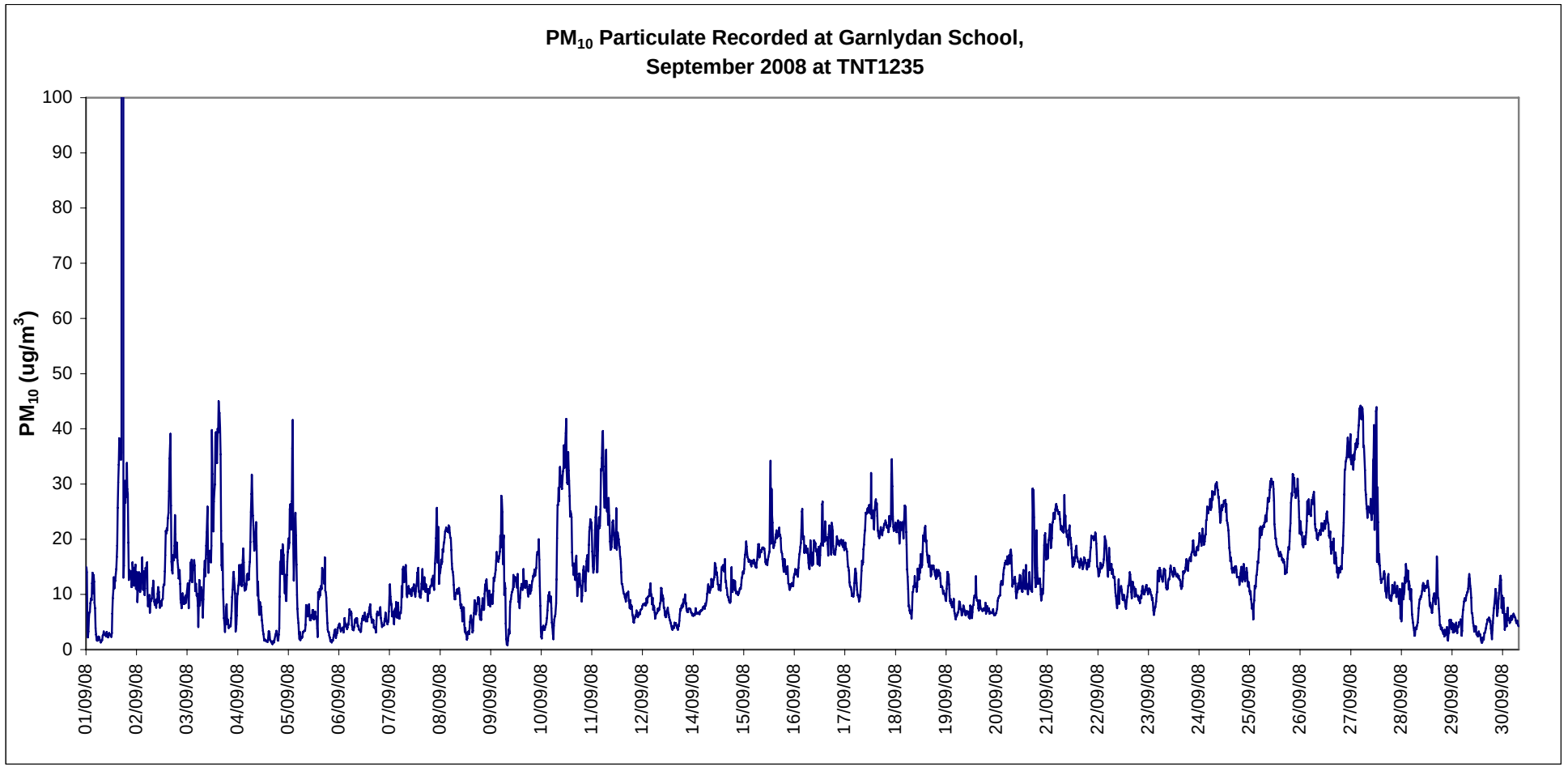
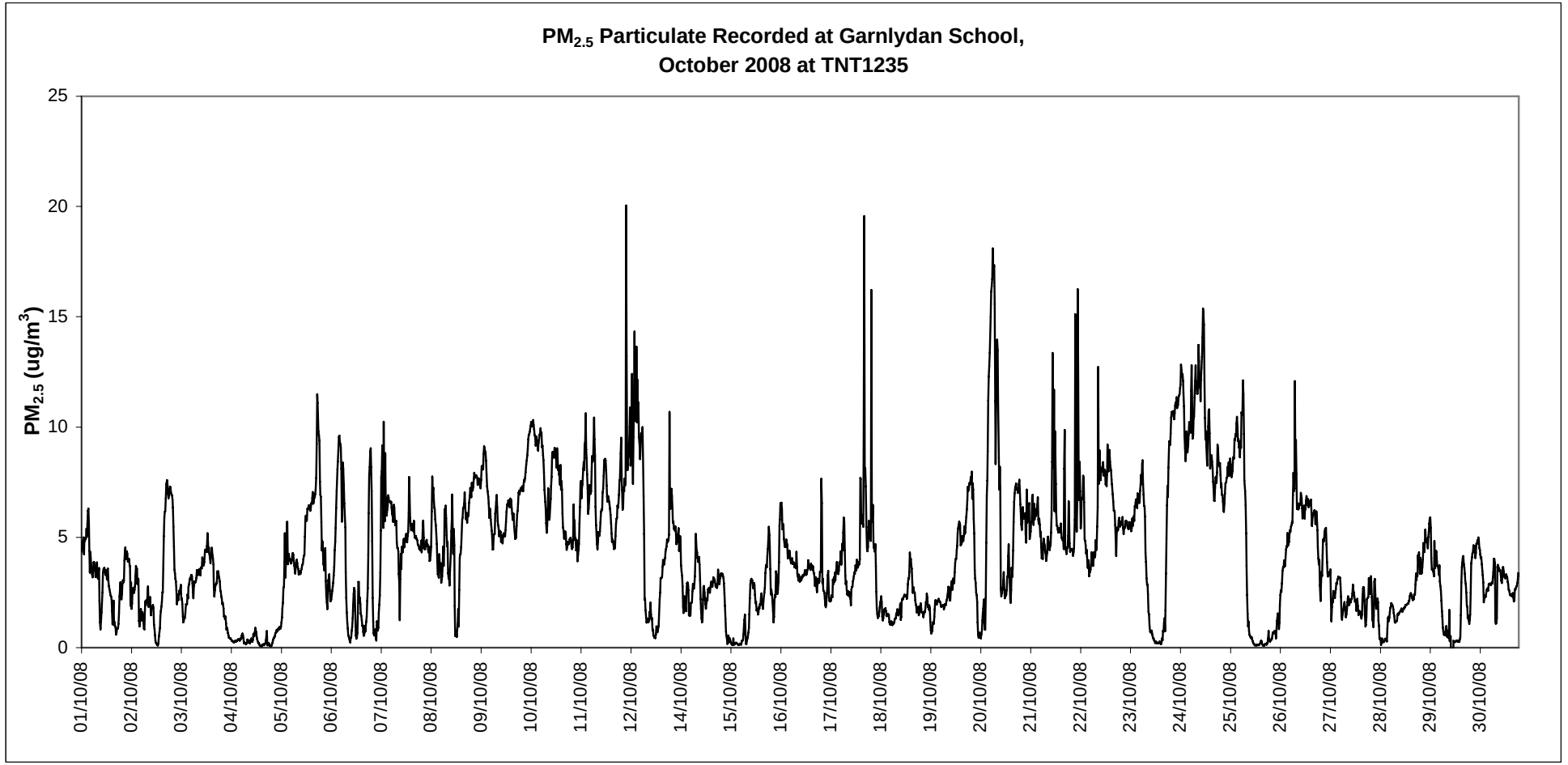
**Figure 2***




* **Please note that there was a spike at 4389$\mu$g/m³ on the 2nd at 06:00am (off the scale of the chart)**

**Figure 3**


PM2.5 Particulate Recorded at Garnlydan School,
October 2008 at TNT1235
PM2.5 (ug/m3)
25
20
15
10
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01/10/08
02/10/08
03/10/08
04/10/08
05/10/08
06/10/08
07/10/08
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**Figure 4**

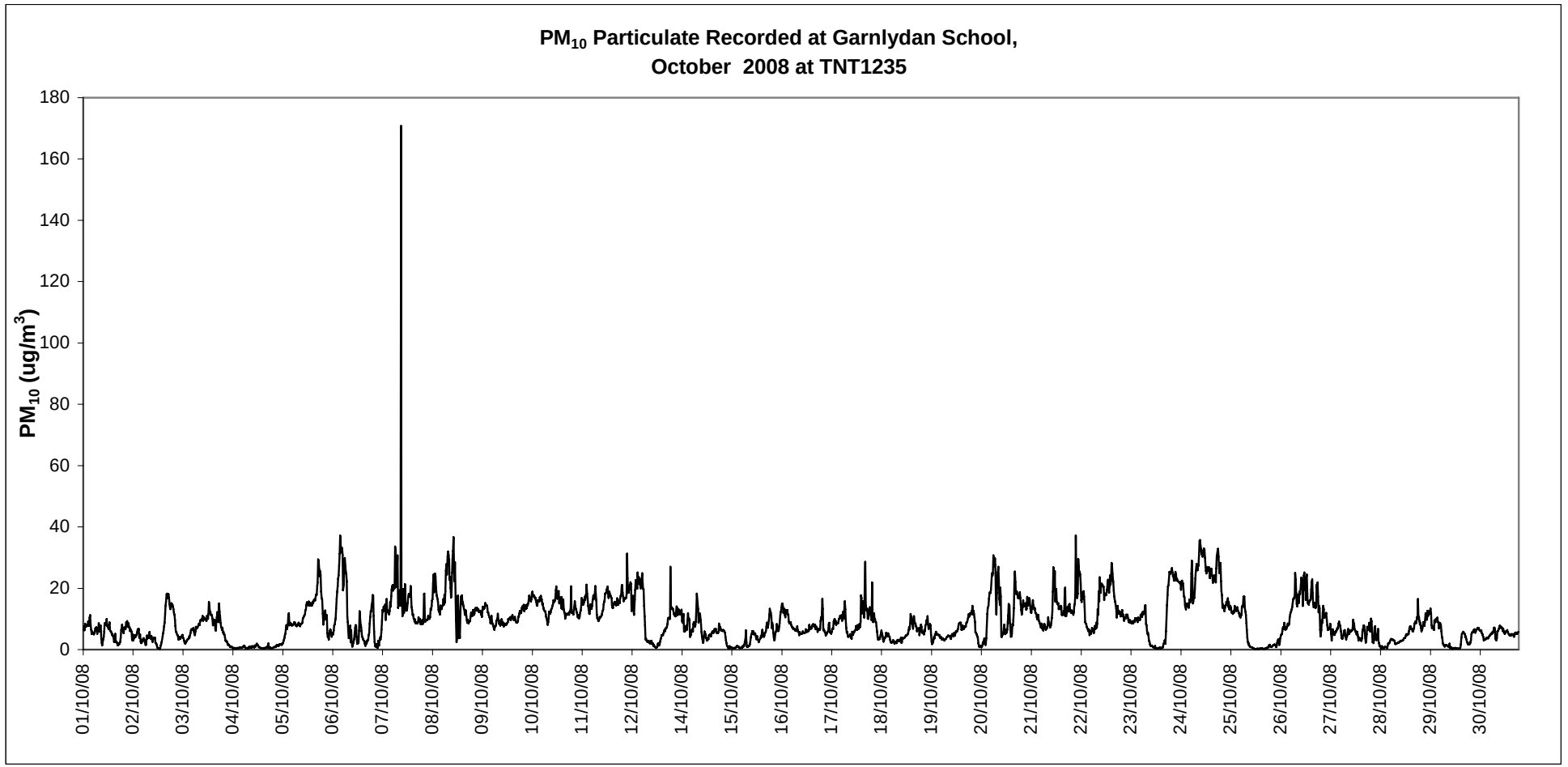
PM10 Particulate Recorded at Garnlydan School,
October 2008 at TNT1235
PM10 (ug/m3)
180
160
140
120
100
80
60
40
20
0
01/10/08
02/10/08
03/10/08
04/10/08
05/10/08
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**Figure 5**

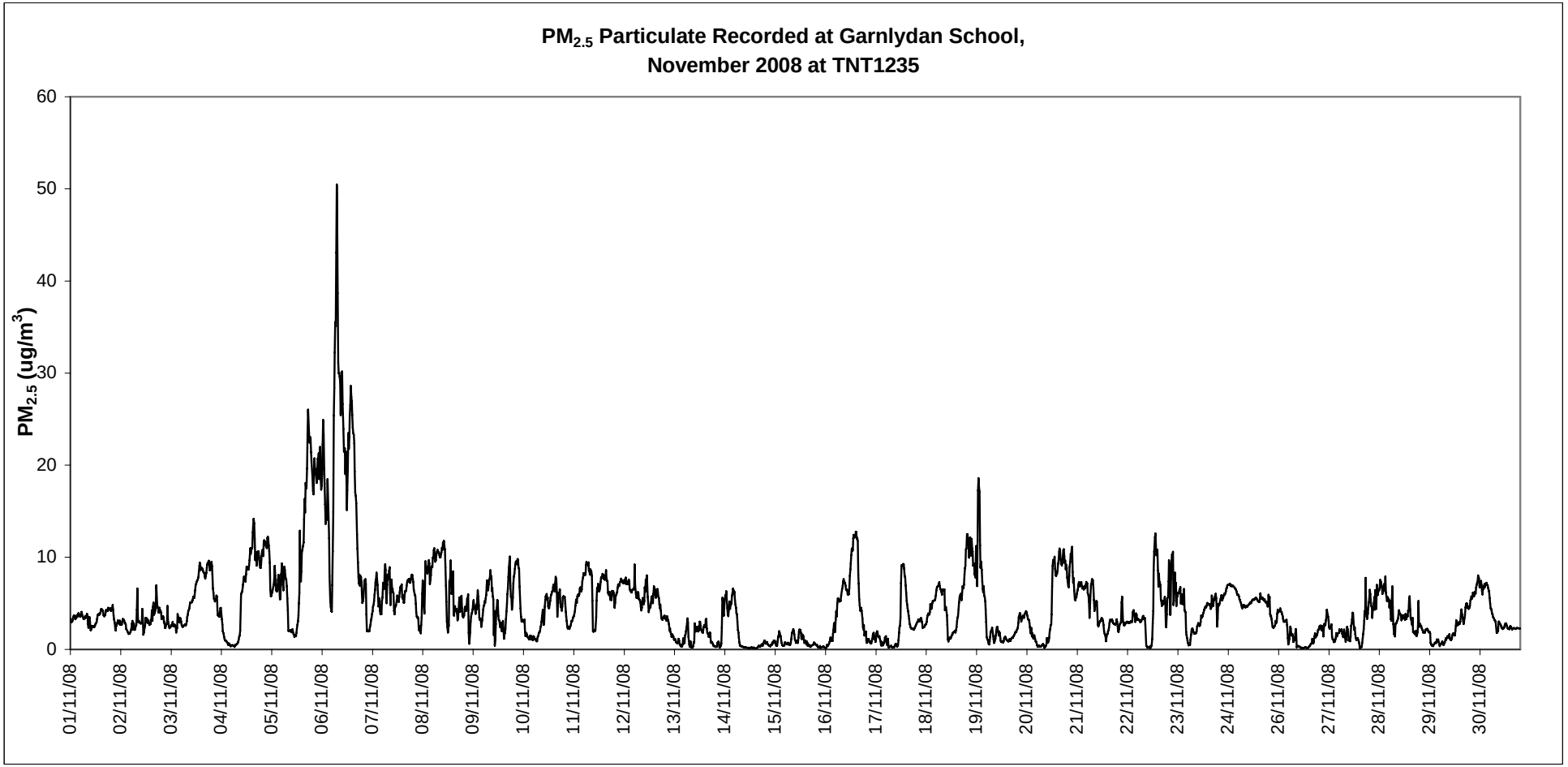
PM2.5 Particulate Recorded at Garnlydan School,
November 2008 at TNT1235
PM2.5 (ug/m3)
60
50
40
30
20
10
0
01/11/08
02/11/08
03/11/08
04/11/08
05/11/08
06/11/08
07/11/08
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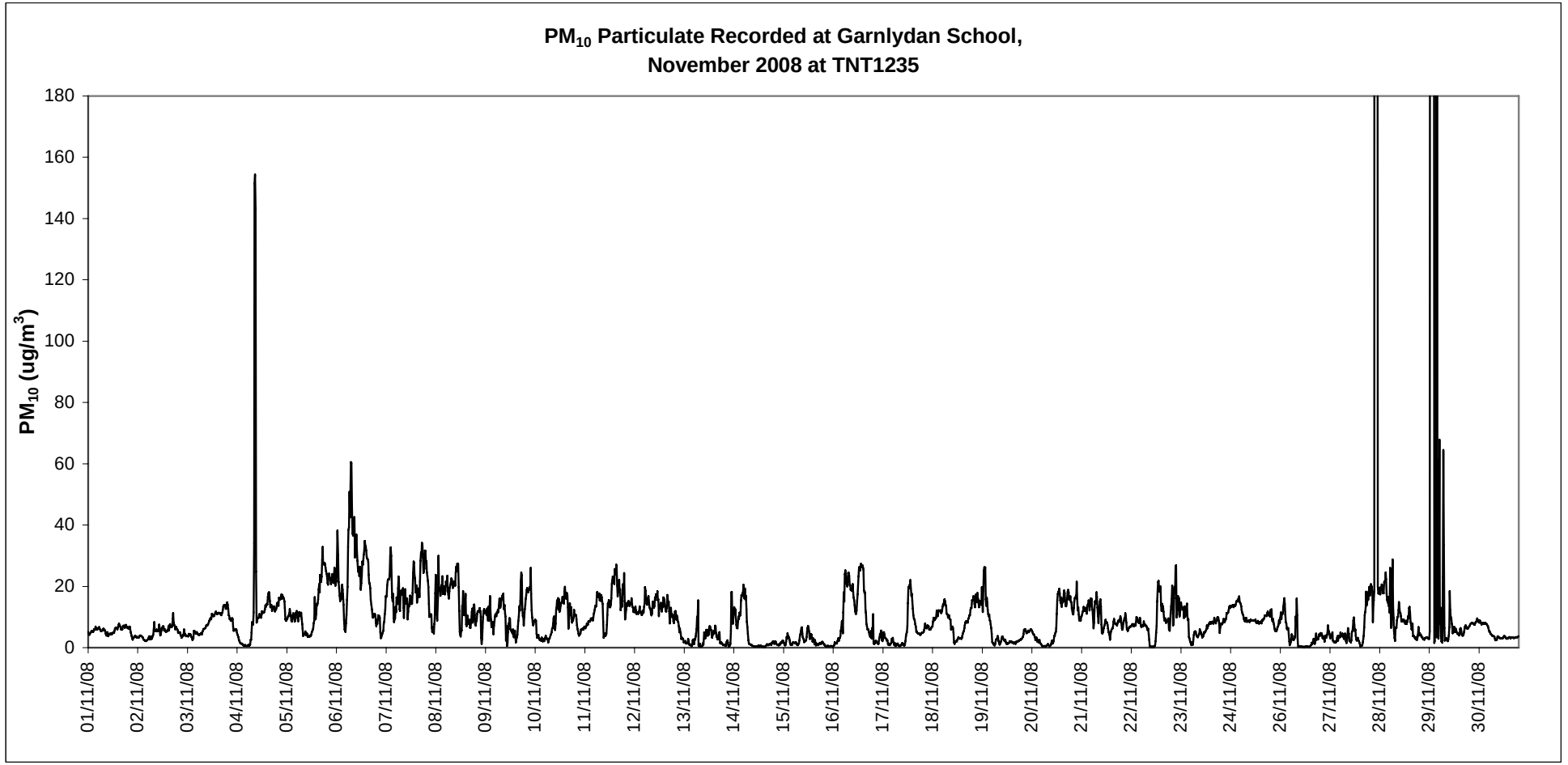
**Figure 6***




*** Please note the spikes at 2430.1$\mu$g/m³ on the 28th at 00:15am and 1537.3$\mu$g/m³ on the 29th at 04:00am (off the scale of the chart)**

**Figure 7**

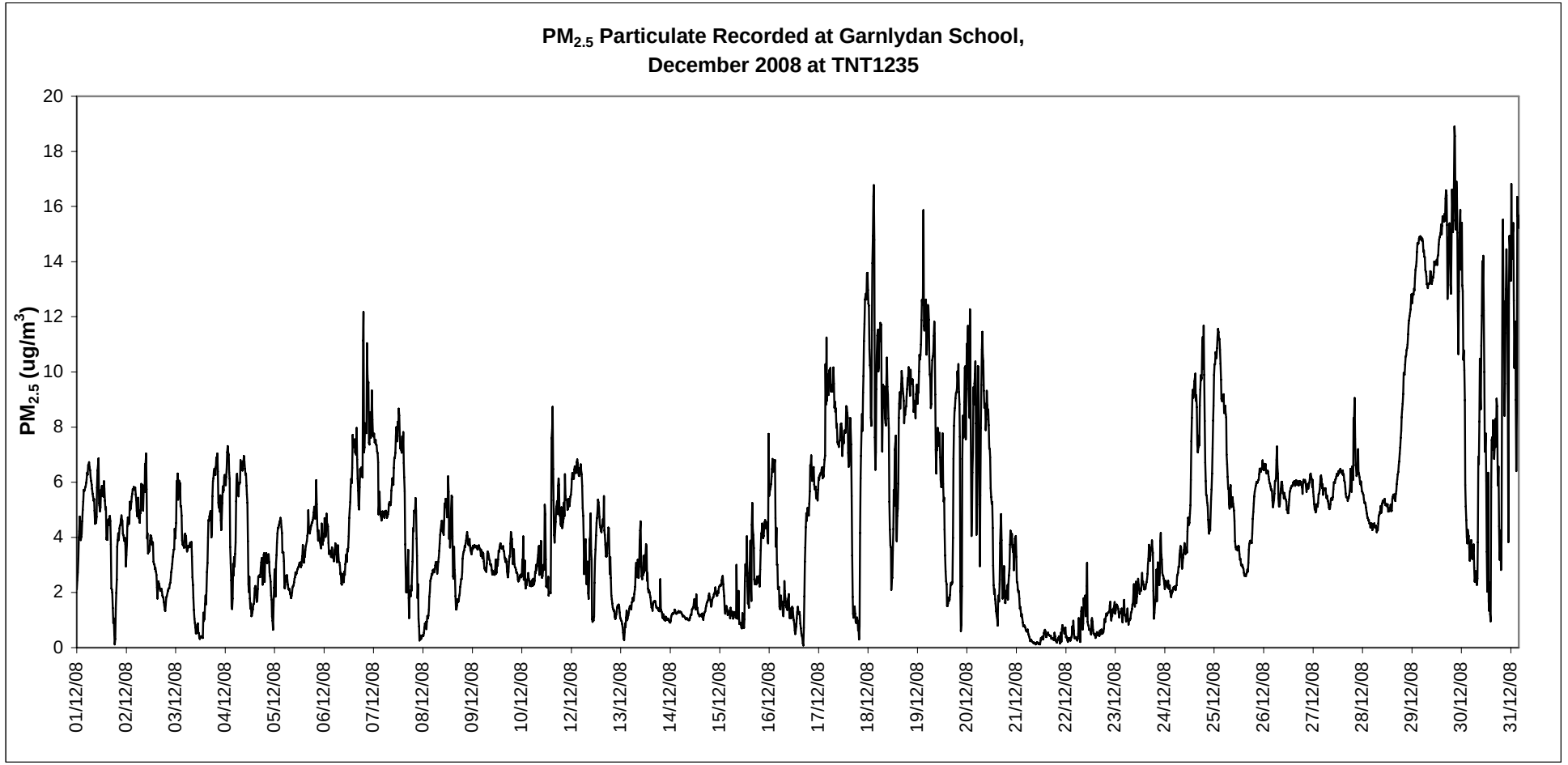

PM2.5 Particulate Recorded at Garnlydan School,
December 2008 at TNT1235
PM2.5 (ug/m3)
0
2
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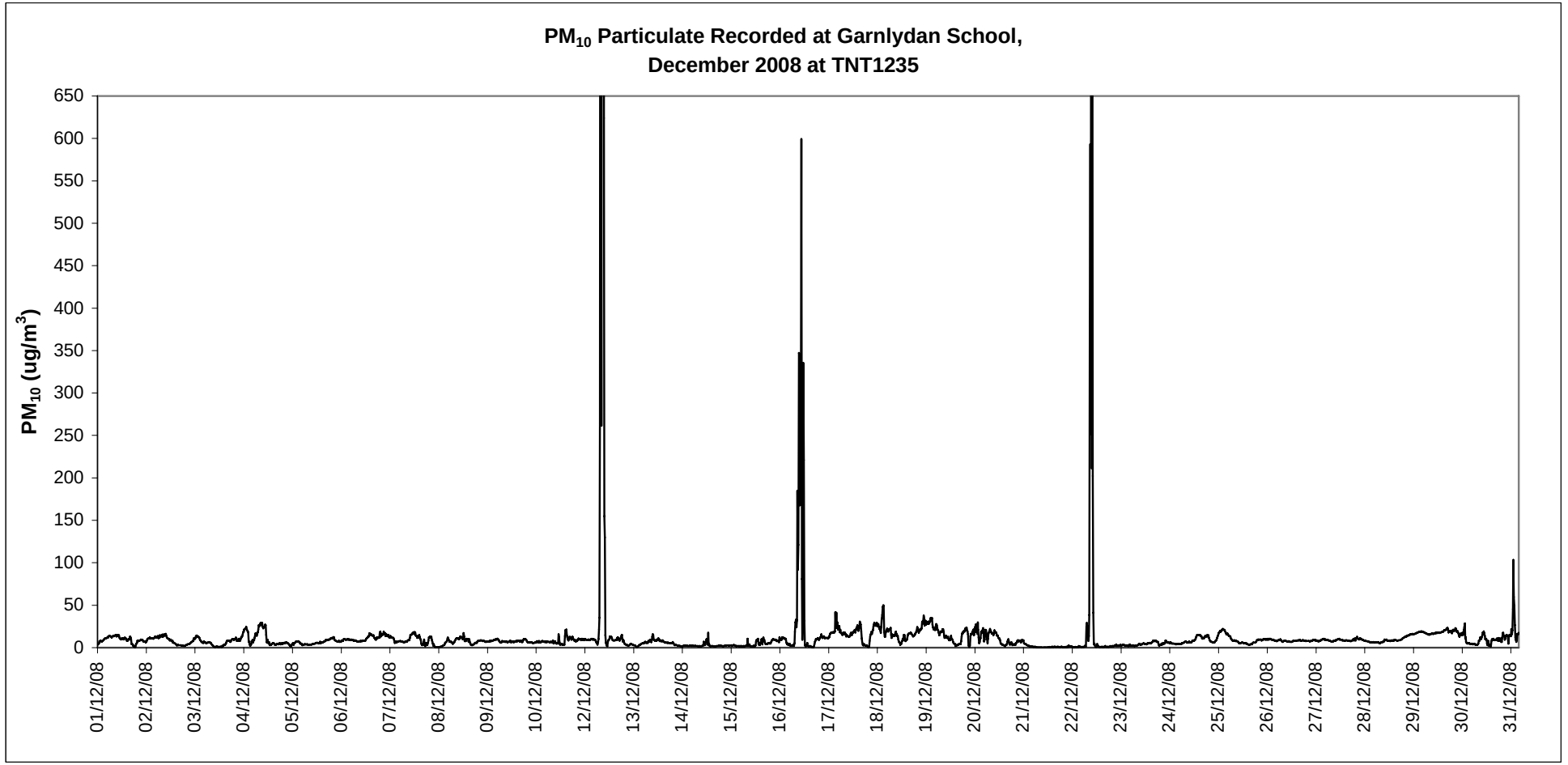
**Figure 8***




*** Please note the spikes at 1797.9 $\mu$g/m³ on the 12th at 09:30am, 1600.1 $\mu$g/m³ on the 22nd at 20:15pm and 1011.1 $\mu$g/m³ on the 1st January 2009 at 02:30am (off the scale of the chart)**

# AMBIENT AIR QUALITY SURVEY AT GARNLYDAN SCHOOL

**Prepared for:**

## Envirowales Ltd
## Rassau Industrial Estate

| | |
|---|---|
| **Permit Number:** | **EP3230BW** |
| **Job Number:** | **P227** |
| **Report Number:** | **R001, Quarter 1** |
| **Report Issue Date:** | **5th June 2009** |
| **Survey Dates:** | **January 2009 – March 2009** |


**Prepared by:**

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| ***Date:*** | 05/06/2009 | ***Date:*** | 05/06/2009 |

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# 1. INTRODUCTION

## 1.1. Overview of Study

Environmental Compliance Ltd ("ECL") was commissioned by Envirowales Ltd to carry out an ambient air monitoring survey at Garnlydan School, Rassau.

The monitoring was undertaken to assess the concentrations of airborne particulate and lead in the area.

The monitoring commenced on the 1st of September 2008 and will continue until further notice. This report covers Quarter 1 incorporating data obtained from the 1st January 2009 to 31st March 2009.

## 1.2. Scope of Study

Sampling for **particulate matter and lead** was carried out to meet the requirements of ***'Monitoring Methods for Ambient Air, Technical Guidance Note M9'.*** Collection of the samples was carried out using a Topas sampler serial number TNT1235 calibrated at the manufacturers recommended frequency. The photometer used in the Topas instrument gives a continuous and simultaneous indication of $PM_1$, $PM_{2.5}$, $PM_{10}$ and TSP (total particles) mass fractions in microgrammes per cubic metre ($\mu g/m^3$). The Topas sampler has an integral filter holder unit that can be fitted with a 25mm GFA filter. It is possible to collect dust particles on this filter which can then be removed and subsequently analysed for lead.

The Topas sampler was positioned at a suitable location at Garnlydan school following consultation with Envirowales Ltd, Blaenau Gwent Council and the Headmistress. The Topas sampler was calibrated at the manufacturers recommended frequency.

This report details the results of $PM_{2.5}$ & $PM_{10}$ particles and airborne lead at the monitoring location.

The results have been compared to the respective National Air Quality Strategy Objectives, available at:-

http://www.defra.gov.uk/environment/airquality/strategy/pdf/air-qualitystrategy-vol1.pdf

# 2. APPROACH AND METHODOLOGY

## 2.1. General

The monitor was in place to run continuously between 1st January 2009 and 31st March 2009 at its location at Garnlydan School. However there was a loss of power and although a temporary supply was installed this in turn was disconnected. This led to the monitor using up its internal battery which ran out on the 16th of March. As a result there was no data logged from this date onwards. Thus the averages for the particulate for this month have been taken from the 1st of March to the 16th of March.

## 2.2. Methodology

Environmental Compliance Limited carried out the download of data from the Topas sampler on a monthly basis. At the same time the 25mm GFA filter housed within the sampler was exchanged and replaced with a new one. The collected filter was then sent for lead analysis at RPS Laboratories, Manchester, who have UKAS accreditation for this analysis on filters. A field blank was undertaken for each survey carried out and submitted at the same time for data integrity.

# 3. RESULTS

The results of the survey are presented in the Tables Section, and are also presented graphically in the Figures Section.

## 3.1. Airborne Exposure Limits

The results of the ambient monitoring survey were compared to the National Air Quality Standard Objectives (The Air Quality Strategy for England, Scotland, Wales and Northern Ireland, Volume1, July 2007 – Page 20, Table 2) which are as follows:-

Particulates ($PM_{2.5}$) – Annual Mean of 25$\mu g/m^3$ (AQS target value)

Particulates ($PM_{10}$) – Annual Mean of 40$\mu g/m^3$

Lead – Annual Mean of 0.25$\mu g/m^3$*

Note * this is the new level for lead introduced on 31st December 2008.

## 3.2. Particulate Results

The results of the particulate fractions are detailed in Table 1 & 2.

The particulate ($PM_{2.5}$ & $PM_{10}$) results were obtained for three months covering the period from the January 2009 to March 2009. Full data sets were available for January and February however as noted earlier the average for March was taken between 01/03/2009 and 16/03/2009. The average $PM_{2.5}$ & $PM_{10}$ figures for this quarter were 5.36$\mu g/m^3$ and 16.32$\mu g/m^3$ respectively, which are considerably lower than the National Air Quality Strategy (AQS) Objectives of 25$\mu g/m^3$ and 40$\mu g/m^3$ respectively.

## 3.3. Lead Results

The lead results are detailed in Table 3.

The lead results have been compared against the new AQS value of 0.25$\mu g/m^3$ annual mean that came into force at the end of December 2008. The average lead concentration for this quarter of 0.040$\mu g/m^3$ falls well below this figure.

## Table 1

### $PM_{2.5}$ Particulate Results from TNT1235 at Garnlydan School

| Month | $PM_{2.5}$ Particulate Concentration ($\mu g/m^3$) | Results as a percentage of the AQS (%) | Quarterly Average $PM_{2.5}$ ($\mu g/m^3$) |
|---|---|---|---|
| January 2009 | 6.86 | 27.4 | ... |
| February 2009 | 3.76 | 15.0 | ... |
| March 2009* | 5.47 | 21.9 | 5.36 |

Note * The average was taken between the 1st March and the 16th of March

## Table 2

### $PM_{10}$ Particulate Results from TNT1235 at Garnlydan School

| Month | $PM_{10}$ Particulate Concentration ($\mu g/m^3$) | Results as a percentage of the AQS (%) | Quarterly Average PM10 ($\mu g/m^3$) |
|---|---|---|---|
| January 2009 | 22.78 | 57.0 | ... |
| February 2009 | 15.14 | 37.9 | ... |
| March 2009* | 11.13 | 27.8 | 16.32 |

Note * The average was taken between the 1st March and the 16th of March

## Table 3

### Lead Results from TNT1235 at Garnlydan School

| Month | Airborne Lead Concentration ($\mu g/m^3$) | Results as a percentage of the AQS (%) | Rolling Average Lead Concentration* ($\mu g/m^3$) | Quarterly Average Lead ($\mu g/m^3$) |
|---|---|---|---|---|
| January 2009 | 0.041 | 16.4 | 0.096 | ... |
| February 2009 | 0.036 | 14.4 | 0.086 | ... |
| March 2009 | 0.044** | 17.6 | 0.080 | 0.040 |

Note * This rolling average commenced September 2008

Note ** Due to power loss the lead result was calculated using an assumed volume (as if it were sampling all month). This was done as the result came back below the limit of detection thus if it was calculated using the actual volume sampled (up until the 16/03/2009) then there would have been insufficient volume sampled leading to an unrepresentative concentration.

# Figures

Figure 1

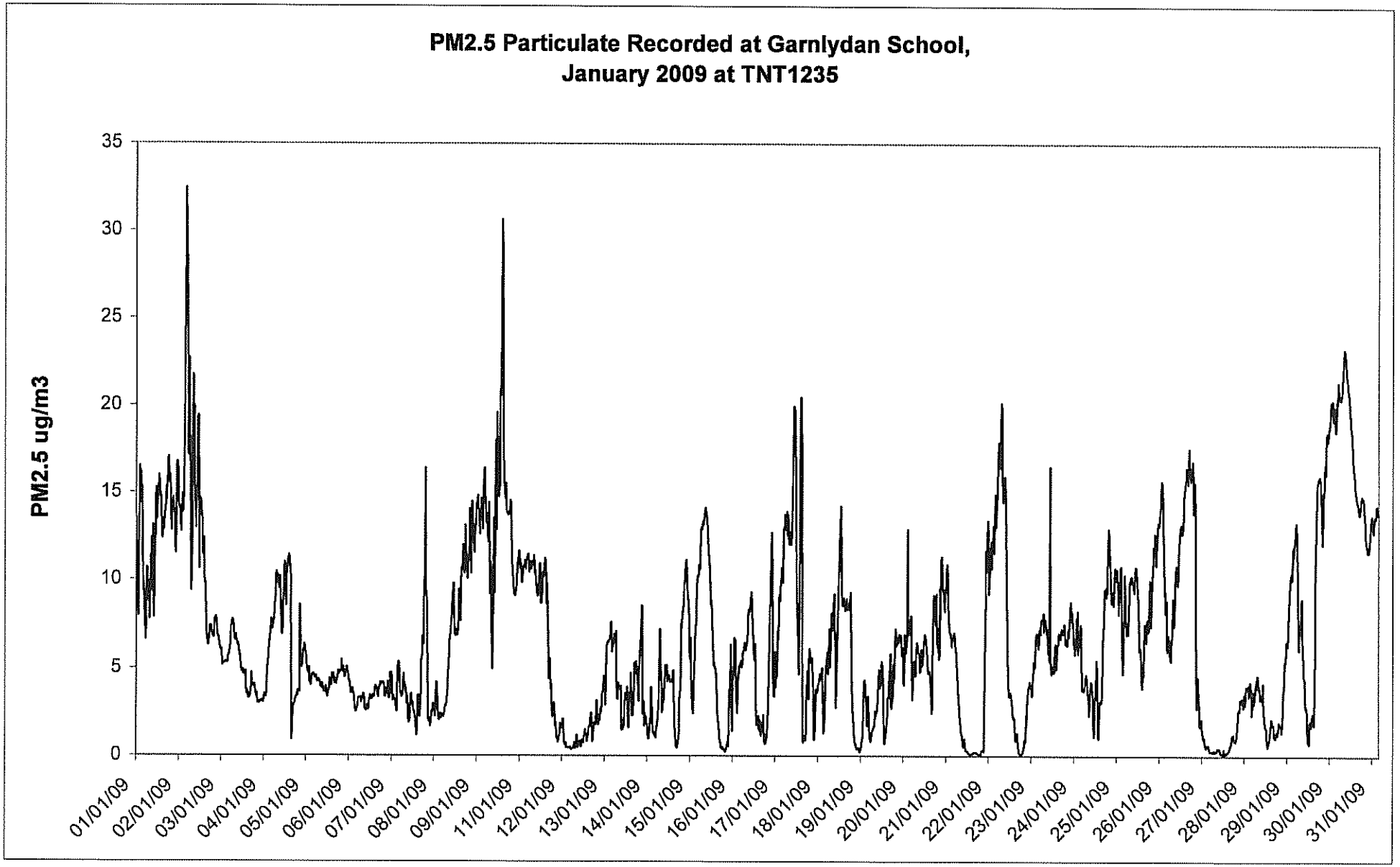
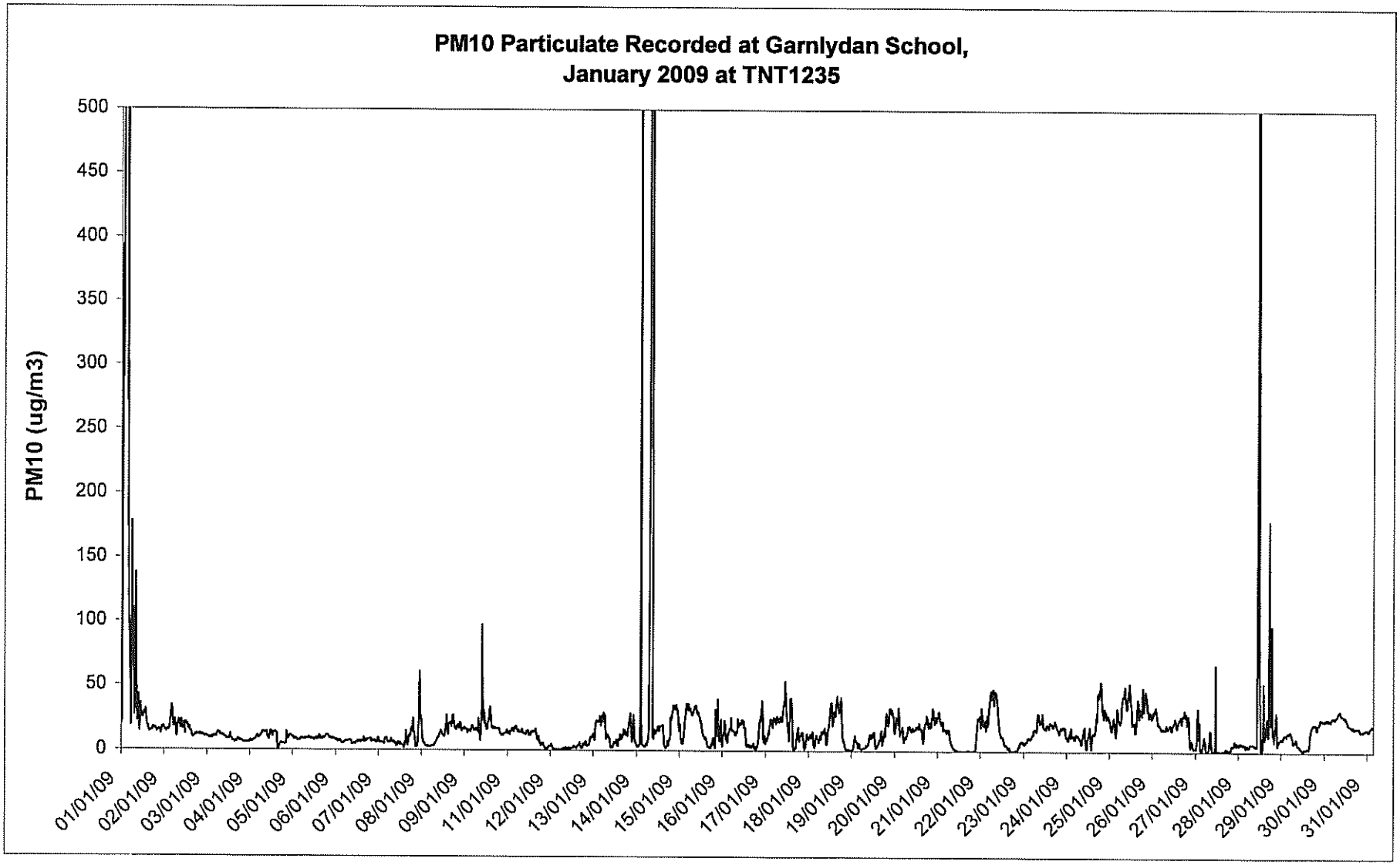

PM2.5 Particulate Recorded at Garnlydan School,
January 2009 at TNT1235
PM2.5 ug/m3
35
30
25
20
15
10
5
0
01/01/09
02/01/09
03/01/09
04/01/09
05/01/09
06/01/09
07/01/09
08/01/09
09/01/09
11/01/09
12/01/09
13/01/09
14/01/09
15/01/09
16/01/09
17/01/09
18/01/09
19/01/09
20/01/09
21/01/09
22/01/09
23/01/09
24/01/09
25/01/09
26/01/09
27/01/09
28/01/09
29/01/09
30/01/09
31/01/09

Figure 2*




Note * the spikes of up to 1011.1$\mu$g/m$^3$ on the 01/01/09, 3544.9$\mu$g/m$^3$ on the 14/01/2009 and 784.8$\mu$g/m$^3$ on the 29/01/09.

**Figure 3**

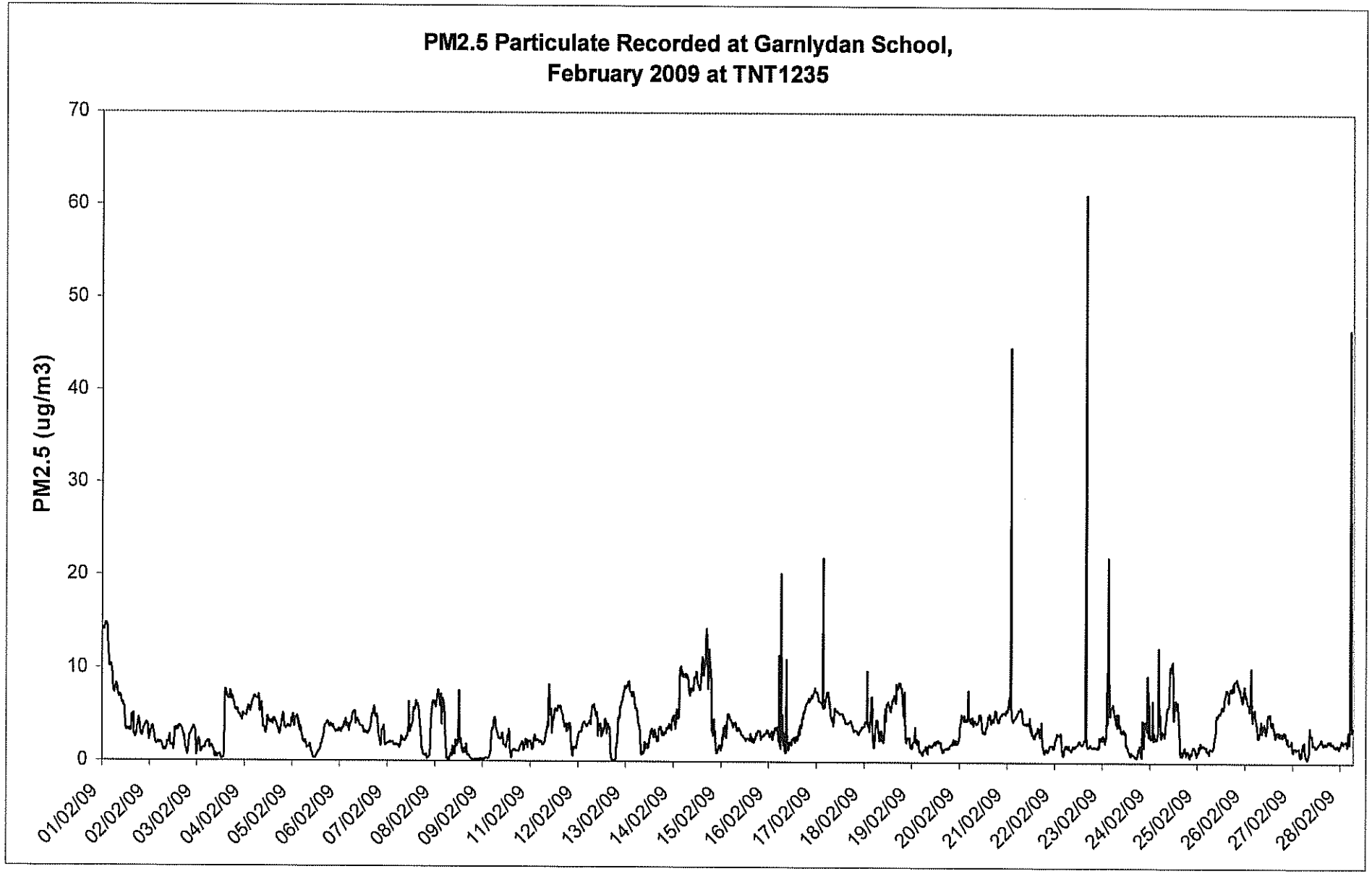
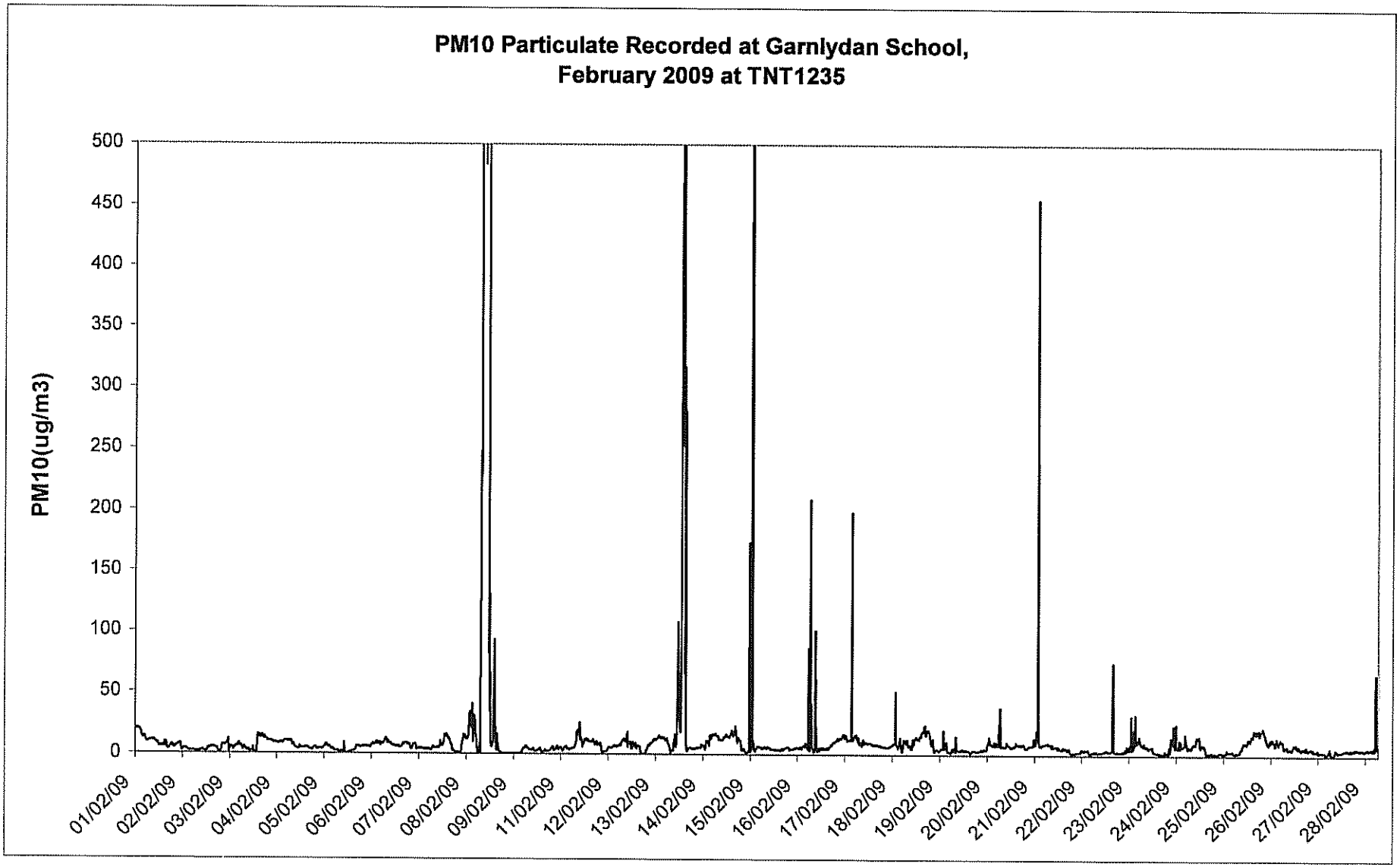

PM2.5 Particulate Recorded at Garnlydan School,
February 2009 at TNT1235
PM2.5 (ug/m3)
70
60
50
40
30
20
10
0
01/02/09
02/02/09
03/02/09
04/02/09
05/02/09
06/02/09
07/02/09
08/02/09
09/02/09
11/02/09
12/02/09
13/02/09
14/02/09
15/02/09
16/02/09
17/02/09
18/02/09
19/02/09
20/02/09
21/02/09
22/02/09
23/02/09
24/02/09
25/02/09
26/02/09
27/02/09
28/02/09

Figure 4*




Note * the spikes of up to 2098.8$\mu$g/m$^3$ on the 09/02/09, 1363.69$\mu$g/m$^3$ on the 13/02/09 and 823.29$\mu$g/m$^3$ on the 15/02/09.

Figure 5

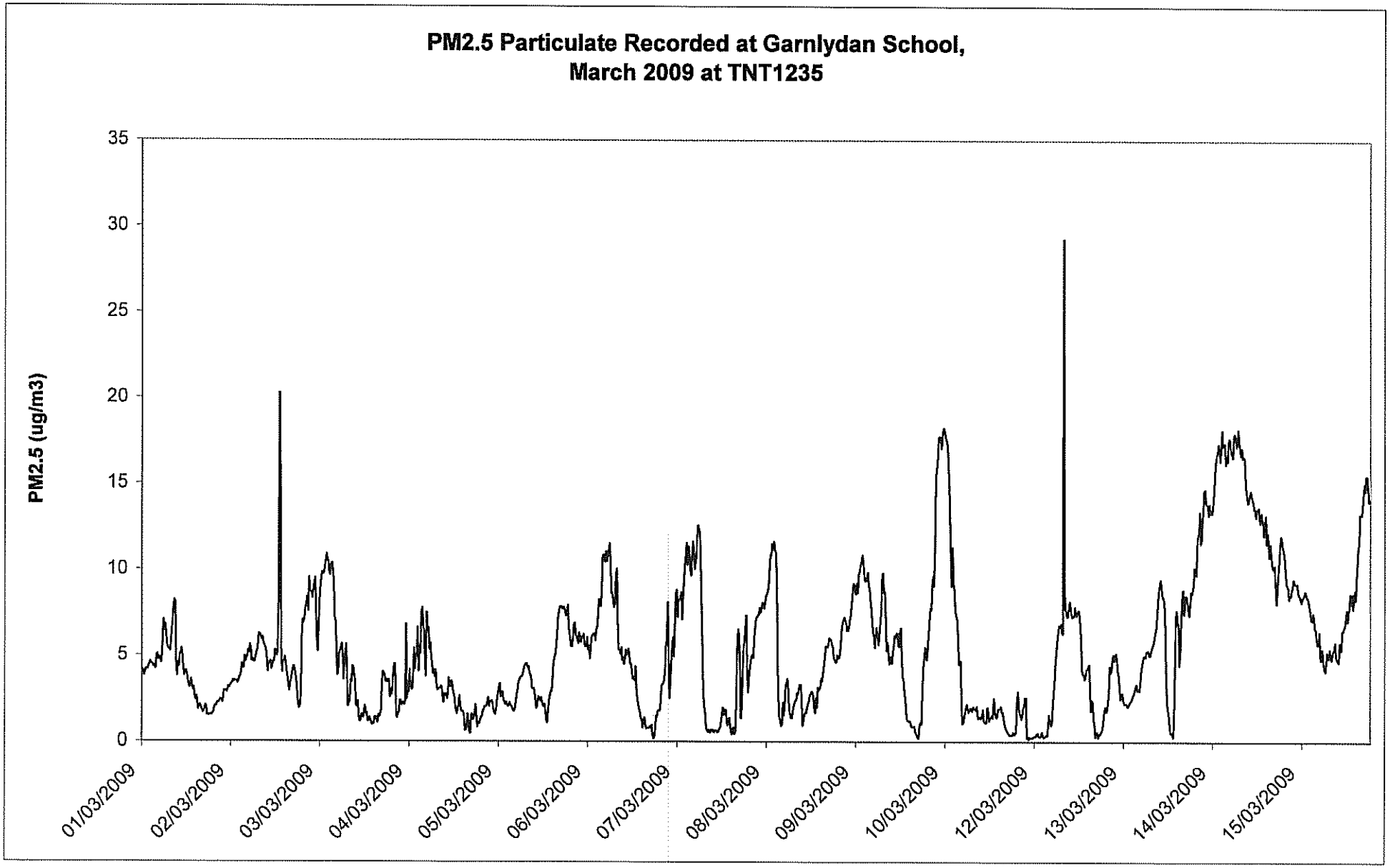
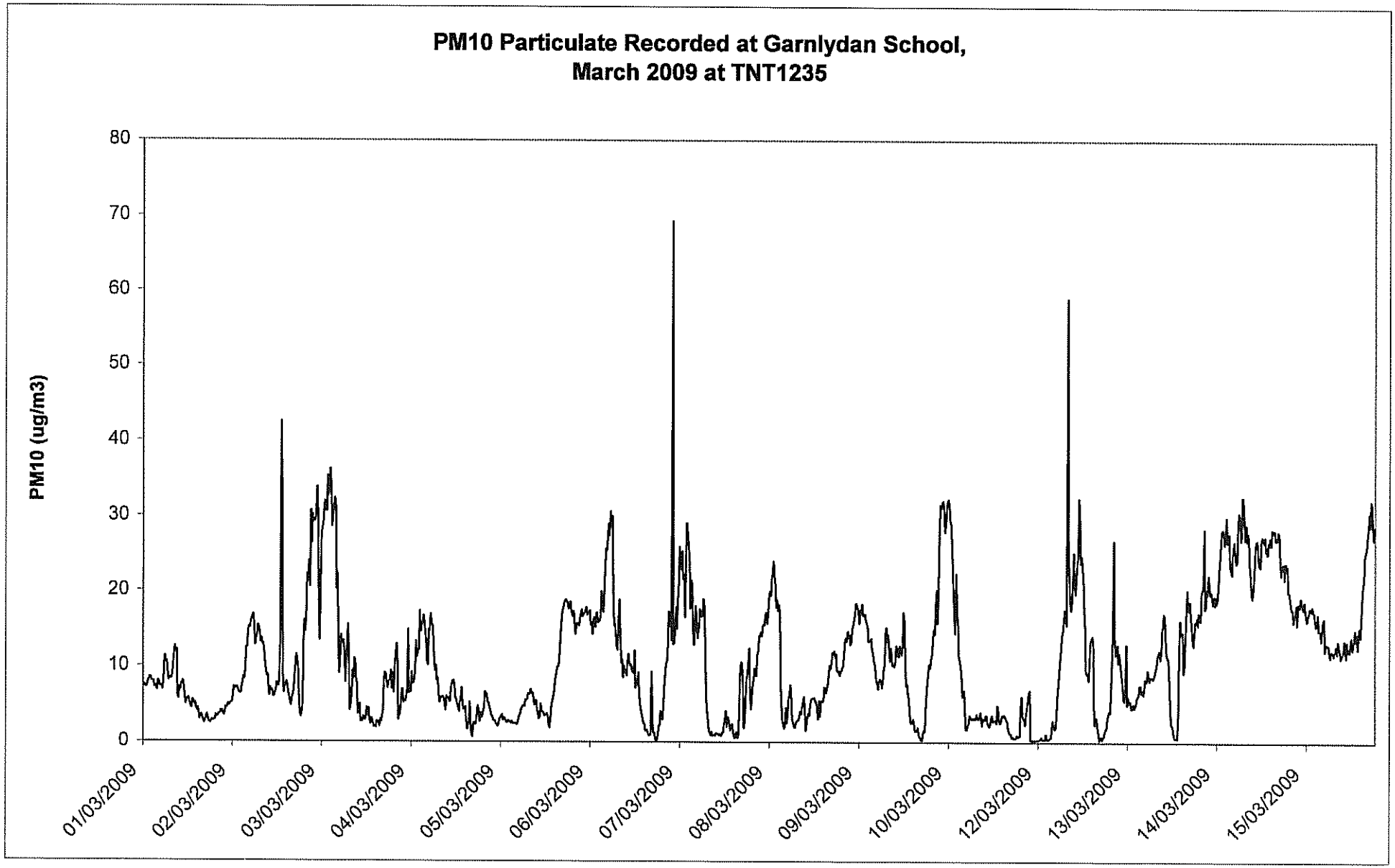

PM2.5 Particulate Recorded at Garnlydan School,
March 2009 at TNT1235
PM2.5 (ug/m3)
35
30
25
20
15
10
5
0
01/03/2009
02/03/2009
03/03/2009
04/03/2009
05/03/2009
06/03/2009
07/03/2009
08/03/2009
09/03/2009
10/03/2009
12/03/2009
13/03/2009
14/03/2009
15/03/2009

Figure 6


PM10 Particulate Recorded at Garnlydan School,
March 2009 at TNT1235
PM10 (ug/m3)
80
70
60
50
40
30
20
10
0
01/03/2009
02/03/2009
03/03/2009
04/03/2009
05/03/2009
06/03/2009
07/03/2009
08/03/2009
09/03/2009
10/03/2009
12/03/2009
13/03/2009
14/03/2009
15/03/2009

# AMBIENT AIR QUALITY SURVEY AT GARNLYDAN SCHOOL

**Prepared for:**

## Envirowales Ltd
## Rassau Industrial Estate

| | |
|---|---|
| **Permit Number:** | **EP3230BW** |
| **Job Number:** | **P227** |
| **Report Number:** | **R003, Quarter 2** |
| **Report Issue Date:** | **6th August 2009** |
| **Survey Dates:** | **April - June 2009** |


**Prepared by:**

**Environmental Compliance Limited**

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**Pontypridd**

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**Tel: 01443 841760**
**Fax: 01443 841761**

# DOCUMENT CONTROL SHEET

| Report Issue: | | FINAL | |
|---|---|---|---|
| **Report Prepared by:** | | **Report Reviewed & Approved by:** | |
| ***Name:*** | Sam Brookes | ***Name:*** | Martin Futter |
| ***Date:*** | 06/08/2009 | ***Date:*** | 06/08/2009 |

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# 1. INTRODUCTION

## 1.1. Overview of Study

Environmental Compliance Ltd ("ECL") was commissioned by Envirowales Ltd to carry out an ambient air monitoring survey at Garnlydan School, Rassau.

The monitoring was undertaken to assess the concentrations of airborne particulate and lead in the area.

The monitoring commenced on the 1st of September 2008 and will continue until further notice. This report covers Quarter 2 incorporating data obtained from the 1st of April 2009 to the 30th of June 2009.

## 1.2. Scope of Study

Sampling for **particulate matter and lead** was carried out to meet the requirements of ***'Monitoring Methods for Ambient Air, Technical Guidance Note M9'.*** Collection of the samples was carried out using a Topas sampler serial number TNT1235 calibrated at the manufacturers recommended frequency. The photometer used in the Topas instrument gives a continuous and simultaneous indication of $PM_1$, $PM_{2.5}$, $PM_{10}$ and TSP (total particles) mass fractions in microgrammes per cubic metre ($\mu g/m^3$). The Topas sampler has an integral filter holder unit that can be fitted with a 25mm GFA filter. It is possible to collect dust particles on this filter which can then be removed and subsequently analysed for lead.

The Topas sampler was positioned at a suitable location at Garnlydan School following consultation with Envirowales Ltd, Blaenau Gwent Council and the Headmistress. The Topas sampler was calibrated at the manufacturers recommended frequency.

This report details the results of $PM_{2.5}$ & $PM_{10}$ particles and airborne lead at the monitoring location.

The results have been compared to the respective National Air Quality Strategy Objectives, available at:-

http://www.defra.gov.uk/environment/airquality/strategy/pdf/air-qualitystrategy-vol1.pdf

# 2. APPROACH AND METHODOLOGY

## 2.1. General

The monitor ran between 1st April 2009 and 30th of June 2009 at its location at Garnlydan School. There were no deviations from the scope of work.

## 2.2. Methodology

Environmental Compliance Limited carried out the download of data from the Topas sampler on a monthly basis. At the same time the 25mm GFA filter housed within the sampler was exchanged and replaced with a new one. The collected filter was then sent for lead analysis at RPS Laboratories, Manchester, who have UKAS accreditation for this analysis on filters. A field blank was undertaken for each survey carried out and submitted at the same time for data integrity.

# 3. RESULTS

The results of the survey are presented in the Tables Section, and are also presented graphically in the Figures Section.

## 3.1. Airborne Exposure Limits

The results of the ambient monitoring survey were compared to the National Air Quality Standard Objectives (The Air Quality Strategy for England, Scotland, Wales and Northern Ireland, Volume1, July 2007 – Page 20, Table 2) which are as follows:-

Particulates ($PM_{2.5}$) – Annual Mean of 25$\mu g/m^3$ (AQS target value)

Particulates ($PM_{10}$) – Annual Mean of 40$\mu g/m^3$

Lead – Annual Mean of 0.25$\mu g/m^3$*

Note * this is the new level for lead introduced on 31st December 2008.

## 3.2. Particulate Results

The results of the particulate fractions are detailed in Table 1 & 2.

The particulate ($PM_{2.5}$ & $PM_{10}$) results were obtained for three months covering the period from April 2009 to June 2009. Full data sets were available for each month. The average $PM_{2.5}$ & $PM_{10}$ figures for this quarter were 5.87$\mu g/m^3$ and 13.69$\mu g/m^3$ respectively, which are considerably lower than the National Air Quality Strategy (AQS) Objectives of 25$\mu g/m^3$ and 40$\mu g/m^3$ respectively.

## 3.3. Lead Results

The lead results are detailed in Table 3.

The lead results have been compared against the new AQS value of 0.25$\mu g/m^3$ annual mean that came into force at the end of December 2008. The average lead concentration for this quarter of 0.036$\mu g/m^3$ falls well below this figure.

## Table 1

### $PM_{2.5}$ Particulate Results from TNT1235 at Garnlydan School

| Month | $PM_{2.5}$ Particulate Concentration ($\mu g/m^3$) | Results as a percentage of the AQS (%) | Quarterly Average $PM_{2.5}$ ($\mu g/m^3$) |
|---|---|---|---|
| April | 7.37 | 29.48 | ... |
| May | 5.96 | 23.84 | ... |
| June | 4.28 | 17.12 | 5.87 |

## Table 2

### $PM_{10}$ Particulate Results from TNT1235 at Garnlydan School

| Month | $PM_{10}$ Particulate Concentration ($\mu g/m^3$) | Results as a percentage of the AQS (%) | Quarterly Average $PM_{10}$ ($\mu g/m^3$) |
|---|---|---|---|
| April | 13.26 | 33.15 | ... |
| May | 13.37 | 33.42 | ... |
| June | 14.43 | 36.07 | 13.69 |

## Table 3

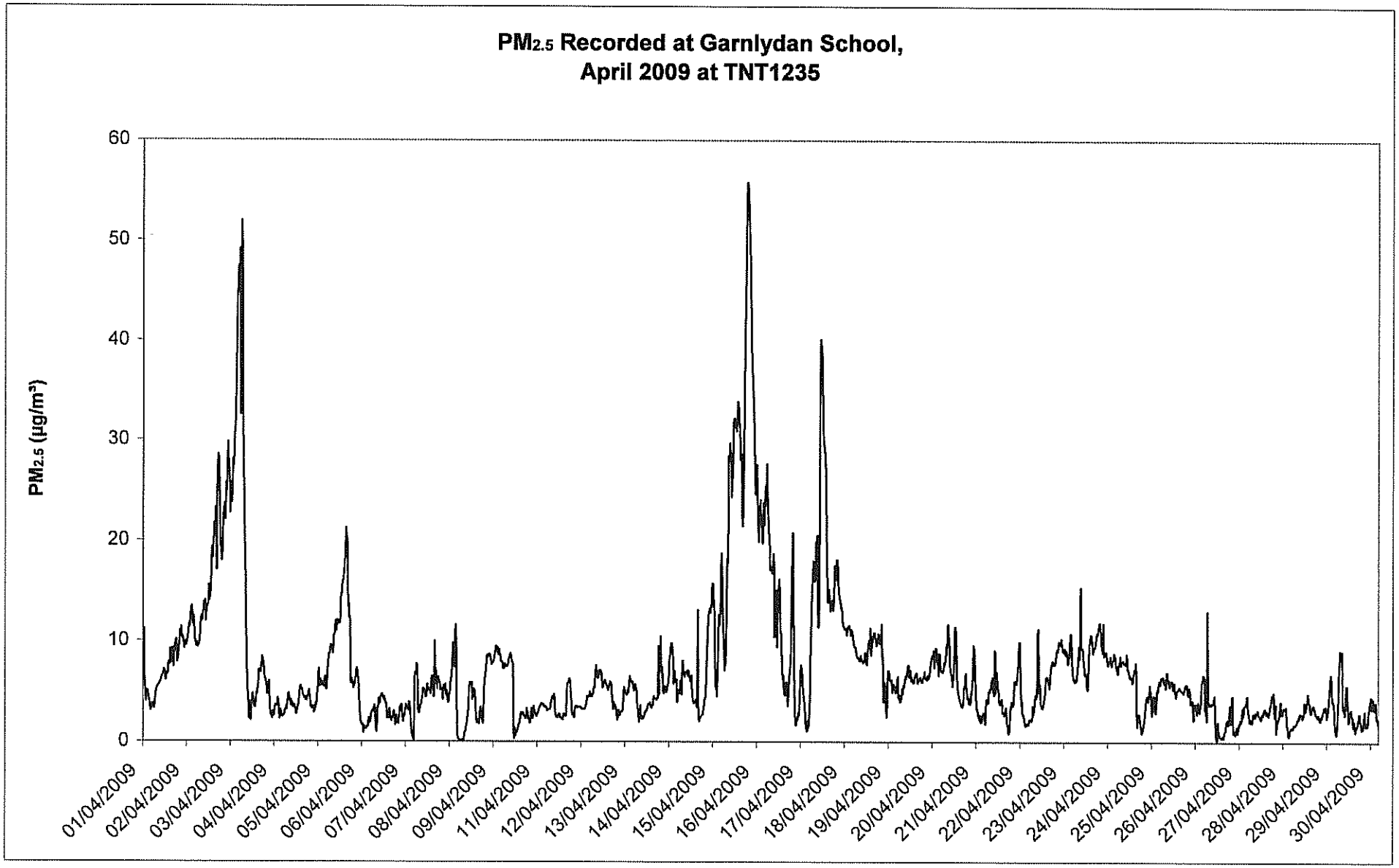
### Lead Results from TNT1235 at Garnlydan School

| Month | Airborne Lead Concentration ($\mu g/m^3$) | Results as a percentage of the AQS (%) | Rolling Average Lead Concentration ($\mu g/m^3$)* | Quarterly Average Lead ($\mu g/m^3$) |
|---|---|---|---|---|
| April | 0.039 | 15.6 | 0.075 | ... |
| May | 0.037 | 14.8 | 0.071 | ... |
| June | 0.033 | 13.2 | 0.067 | 0.036 |

* Rolling average started on September 2008

# Figures

**Figure 1**


PM2.5 Recorded at Garnlydan School,
April 2009 at TNT1235
PM2.5 (µg/m³)
60
50
40
30
20
10
0
01/04/2009
02/04/2009
03/04/2009
04/04/2009
05/04/2009
06/04/2009
07/04/2009
08/04/2009
09/04/2009
11/04/2009
12/04/2009
13/04/2009
14/04/2009
15/04/2009
16/04/2009
17/04/2009
18/04/2009
19/04/2009
20/04/2009
21/04/2009
22/04/2009
23/04/2009
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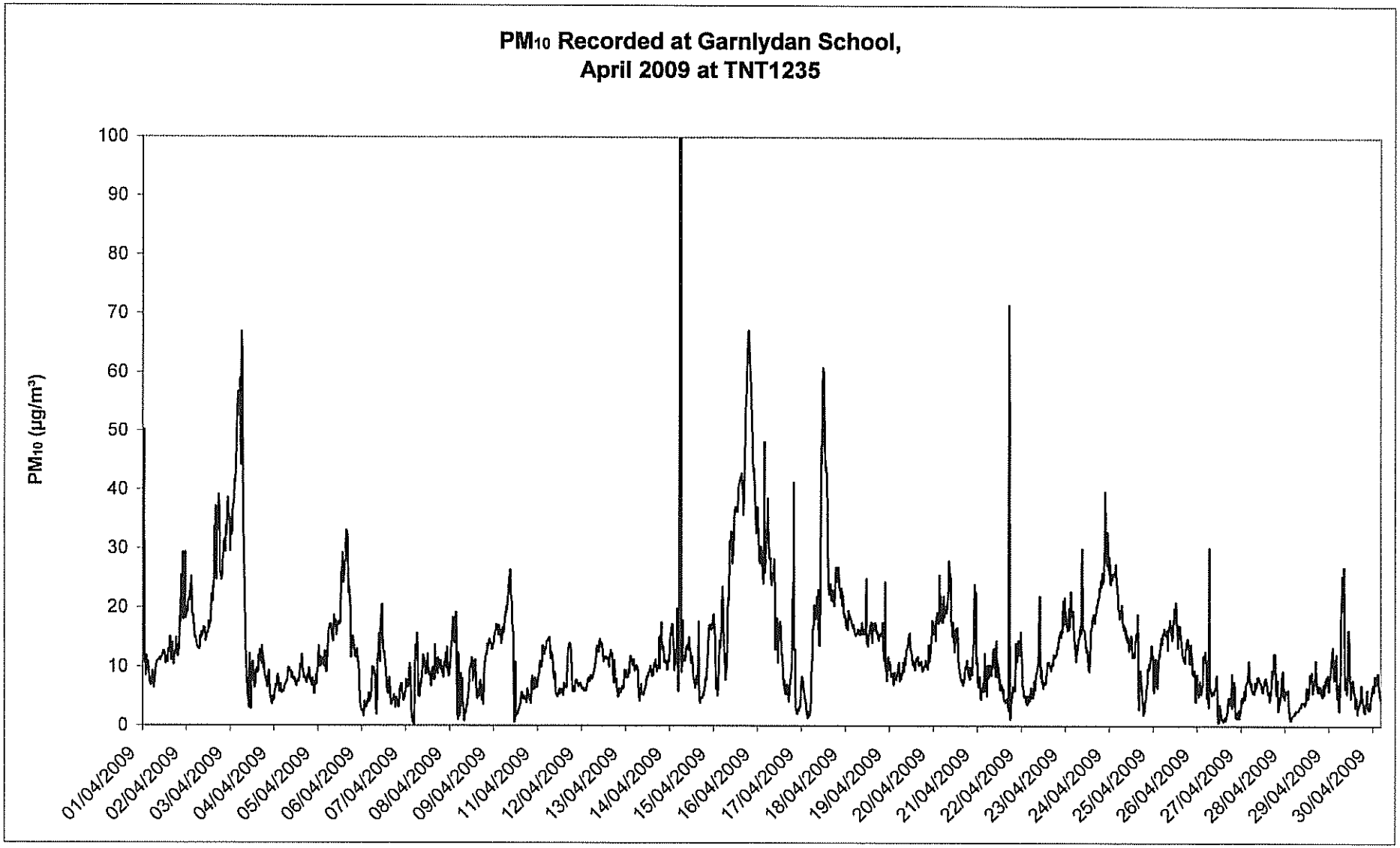
25/04/2009
26/04/2009
27/04/2009
28/04/2009
29/04/2009
30/04/2009

**Figure 2***




**Note * the spike of up to 711.6$\mu g/m^3$ on the 14/04/09.**

**Figure 3**

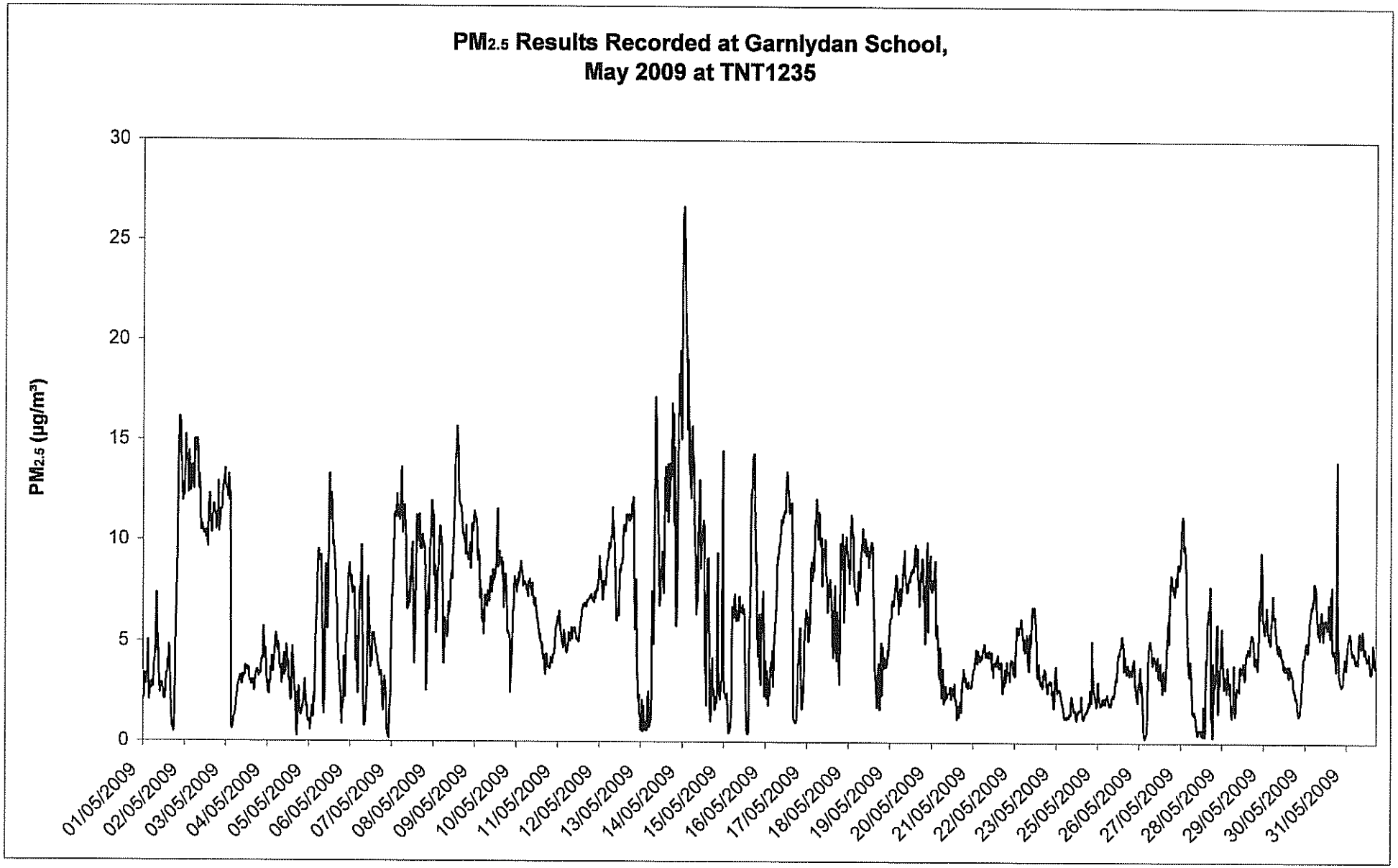

PM2.5 Results Recorded at Garnlydan School,
May 2009 at TNT1235
PM2.5 (µg/m³)
30
25
20
15
10
5
0
01/05/2009
02/05/2009
03/05/2009
04/05/2009
05/05/2009
06/05/2009
07/05/2009
08/05/2009
09/05/2009
10/05/2009
11/05/2009
12/05/2009
13/05/2009
14/05/2009
15/05/2009
16/05/2009
17/05/2009
18/05/2009
19/05/2009
20/05/2009
21/05/2009
22/05/2009
23/05/2009
25/05/2009
26/05/2009
27/05/2009
28/05/2009
29/05/2009
30/05/2009
31/05/2009

Figure 4

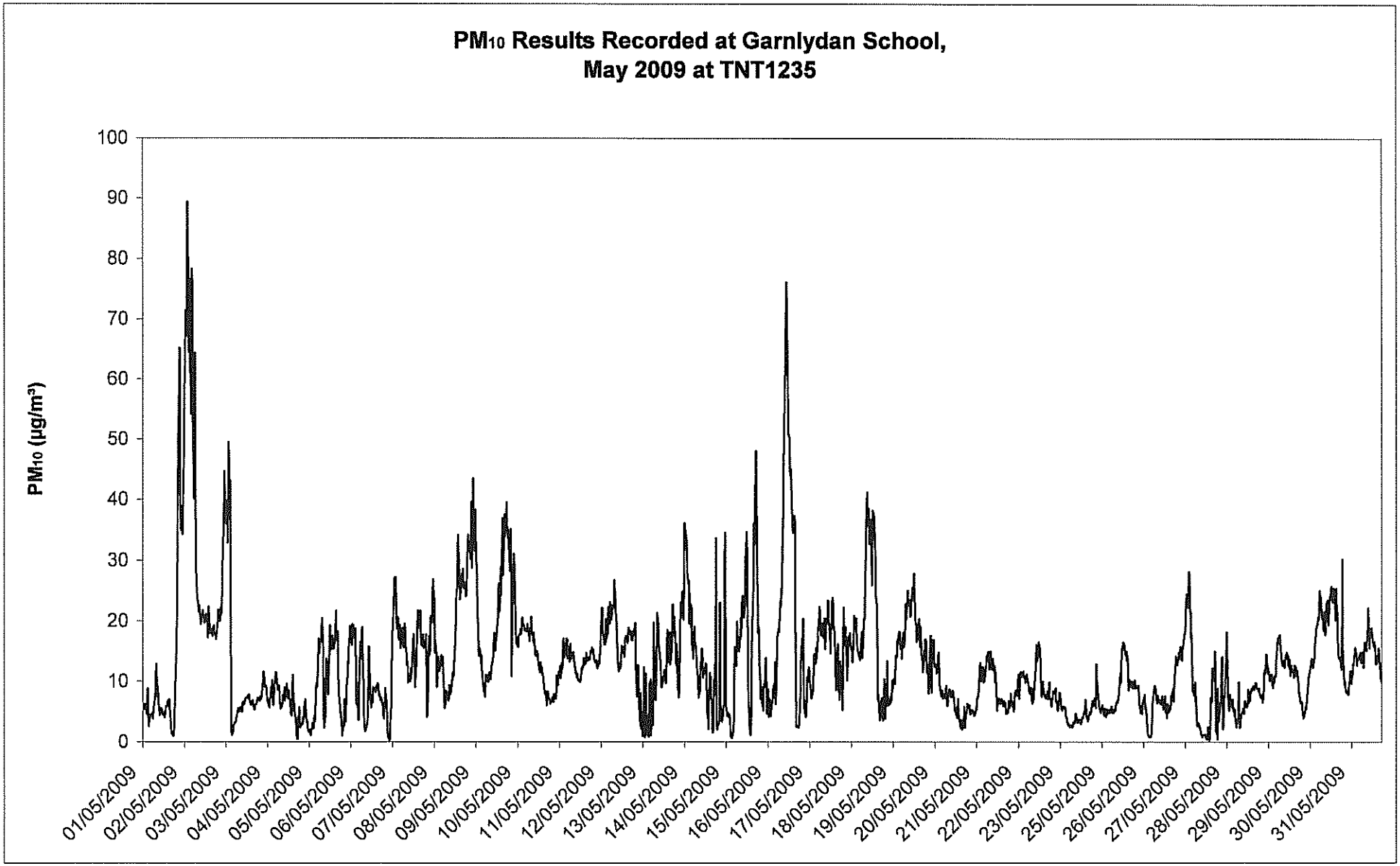

PM10 Results Recorded at Garnlydan School,
May 2009 at TNT1235
PM10 (µg/m³)
100
90
80
70
60
50
40
30
20
10
0
01/05/2009
02/05/2009
03/05/2009
04/05/2009
05/05/2009
06/05/2009
07/05/2009
08/05/2009
09/05/2009
10/05/2009
11/05/2009
12/05/2009
13/05/2009
14/05/2009
15/05/2009
16/05/2009
17/05/2009
18/05/2009
19/05/2009
20/05/2009
21/05/2009
22/05/2009
23/05/2009
25/05/2009
26/05/2009
27/05/2009
28/05/2009
29/05/2009
30/05/2009
31/05/2009

**Figure 5**

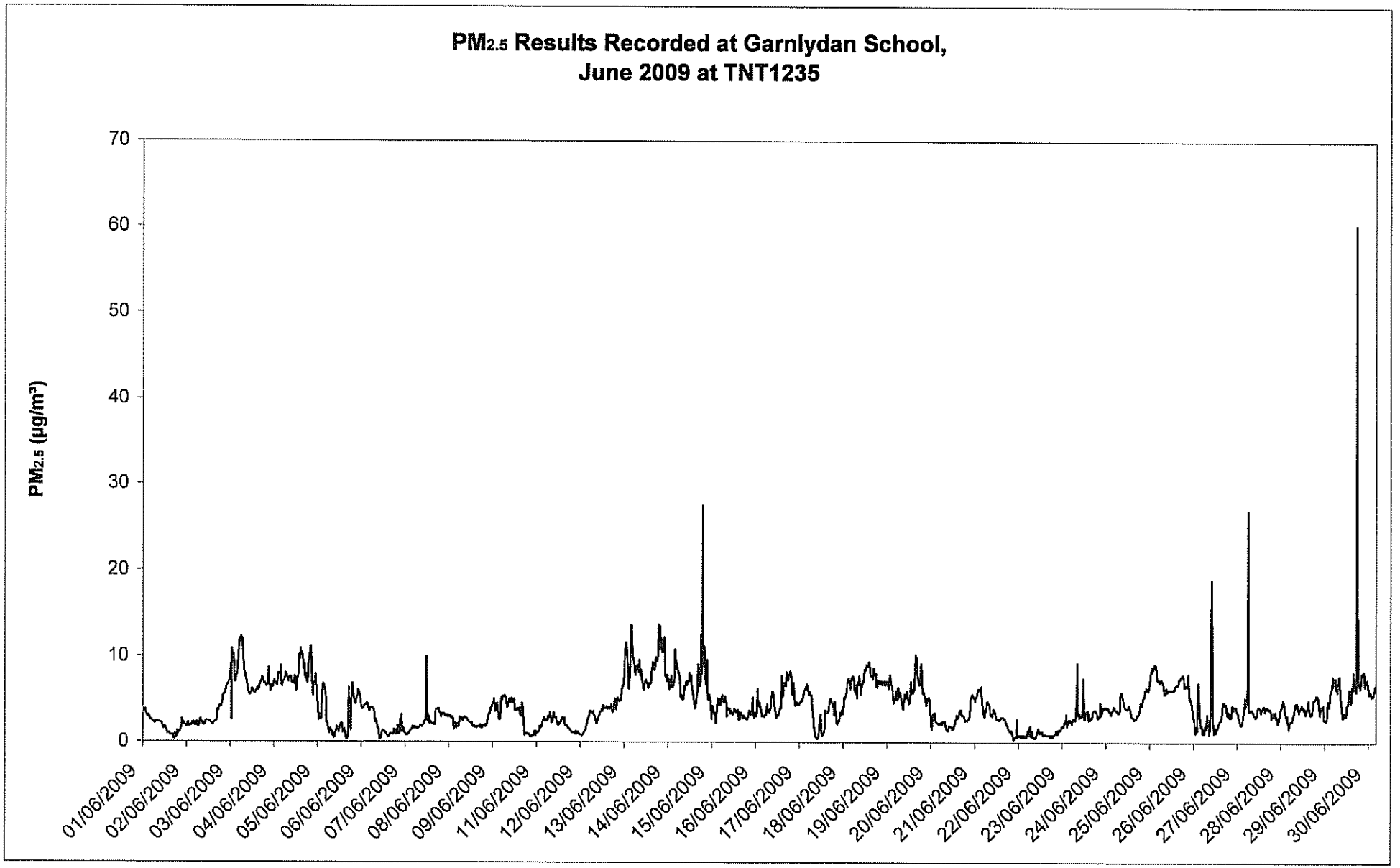
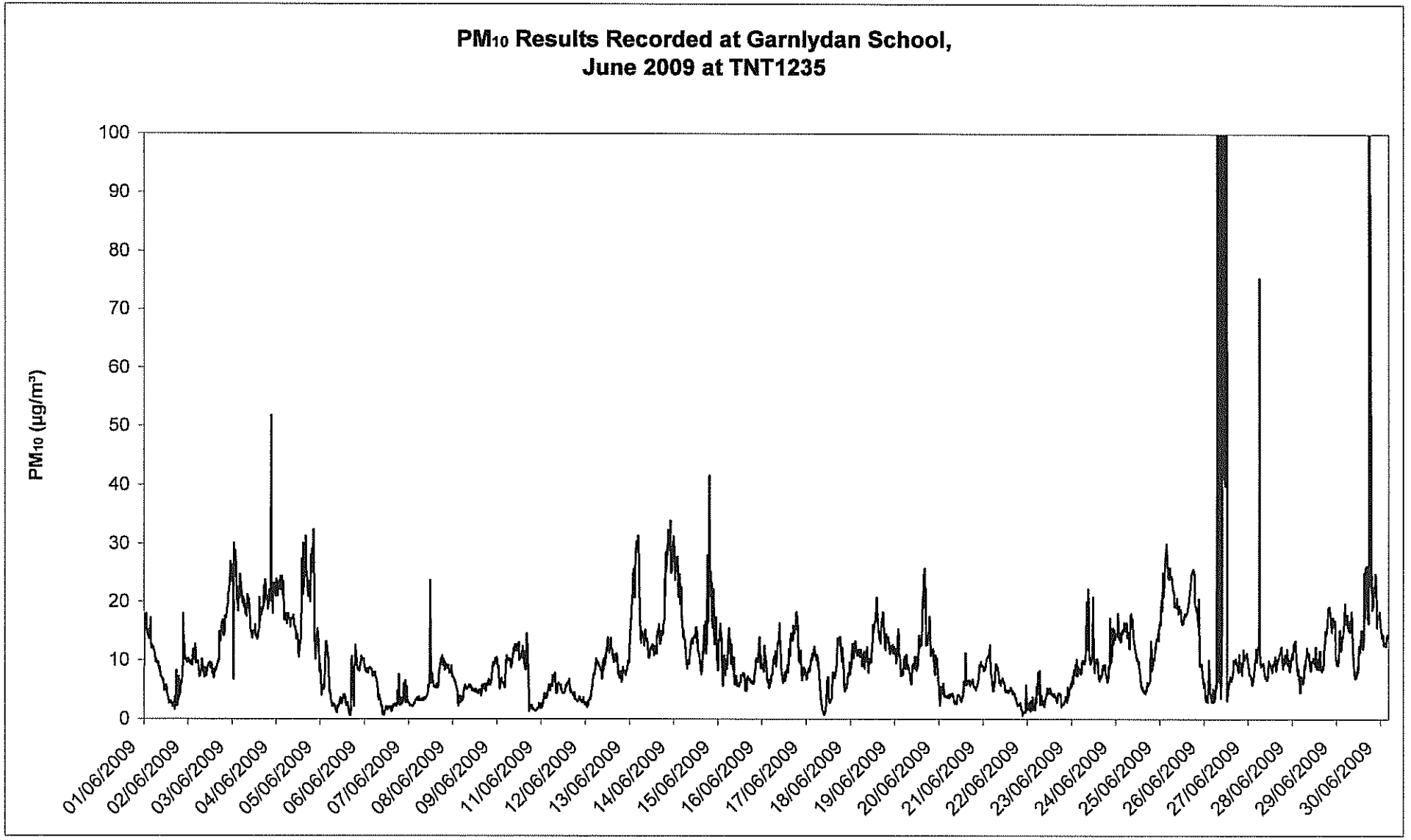

PM2.5 Results Recorded at Garnlydan School,
June 2009 at TNT1235
PM2.5 (µg/m³)
70
60
50
40
30
20
10
0
01/06/2009
02/06/2009
03/06/2009
04/06/2009
05/06/2009
06/06/2009
07/06/2009
08/06/2009
09/06/2009
11/06/2009
12/06/2009
13/06/2009
14/06/2009
15/06/2009
16/06/2009
17/06/2009
18/06/2009
19/06/2009
20/06/2009
21/06/2009
22/06/2009
23/06/2009
24/06/2009
25/06/2009
26/06/2009
27/06/2009
28/06/2009
29/06/2009
30/06/2009

**Figure 6***




**Note * the spikes of up to 1527.9µg/m³ on the 26/06/09, 1389.1µg/m³ on the 27/06/09 and 987.9µg/m³ on the 30/06/09.**

# AMBIENT AIR QUALITY SURVEY AT GARNLYDAN SCHOOL

**Prepared for:**

## Envirowales Ltd
## Rassau Industrial Estate

| | |
|---|---|
| **Permit Number:** | **EP3230BW** |
| **Job Number:** | **P227, TNT1235** |
| **Report Number:** | **R005, Quarter 3** |
| **Report Issue Date:** | **12th November 2009** |
| **Survey Dates:** | **July - September 2009** |


**Prepared by:**

**Environmental Compliance Limited**

**Unit G1**

**Pontypridd**

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# DOCUMENT CONTROL SHEET

| **Report Issue:** | | **FINAL** | |
|---|---|---|---|
| **Report Prepared by:** | | **Report Reviewed & Approved by:** | |
| ***Name:*** | Sam Brookes | ***Name:*** | Martin Futter |
| ***Date:*** | 12/11/2009 | ***Date:*** | 12/11/2009 |

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Environmental Compliance Ltd gives written agreement prior to such release and,

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# 1. INTRODUCTION

## 1.1. Overview of Study

Environmental Compliance Ltd ("ECL") was commissioned by Envirowales Ltd to carry out an ambient air monitoring survey at Garnlydan School, Rassau.

The monitoring was undertaken to assess the concentrations of airborne particulate and lead in the area.

The monitoring commenced on the 1st of September 2008 and will continue until further notice. This report covers Quarter 3 incorporating data obtained from the 1st of July 2009 to the 30th of September 2009.

## 1.2. Scope of Study

Sampling for **particulate matter and lead** was carried out to meet the requirements of ***'Monitoring Methods for Ambient Air, Technical Guidance Note M9'.*** Collection of the samples was carried out using a Topas sampler serial number TNT1235 calibrated at the manufacturers recommended frequency. The photometer used in the Topas instrument gives a continuous and simultaneous indication of $PM_1$, $PM_{2.5}$, $PM_{10}$ and TSP (total particles) mass fractions in microgrammes per cubic metre ($\mu g/m^3$). The Topas sampler has an integral filter holder unit that can be fitted with a 25mm GFA filter. It is possible to collect dust particles on this filter which can then be removed and subsequently analysed for lead.

The Topas sampler was positioned at a suitable location at Garnlydan School following consultation with Envirowales Ltd, Blaenau Gwent Council and the Headmistress. The Topas sampler was calibrated at the manufacturers recommended frequency.

This report details the results of $PM_{2.5}$ & $PM_{10}$ particles and airborne lead at the monitoring location.

The results have been compared to the respective National Air Quality Strategy Objectives, available at:-

http://www.defra.gov.uk/environment/airquality/strategy/pdf/air-qualitystrategy-vol1.pdf

# 2. APPROACH AND METHODOLOGY

## 2.1. General

The monitor ran between 1st July 2009 and 30th of September 2009 at its location at Garnlydan School. However during July the monitor was sent away for its annual calibration therefore there is no particulate or lead data for this month. The monitor was re-installed at the end of July and there were complete sets of data for both August and September.

## 2.2. Methodology

Environmental Compliance Limited carried out the download of data from the Topas sampler on a monthly basis. At the same time the 25mm GFA filter housed within the sampler was exchanged and replaced with a new one. The collected filter was then sent for lead analysis at RPS Laboratories, Manchester, who have UKAS accreditation for this analysis on filters. A field blank was undertaken for each survey carried out and submitted at the same time for data integrity.

# 3. RESULTS

The results of the survey are presented in the Tables Section, and are also presented graphically in the Figures Section.

## 3.1. Airborne Exposure Limits

The results of the ambient monitoring survey were compared to the National Air Quality Standard Objectives (The Air Quality Strategy for England, Scotland, Wales and Northern Ireland, Volume1, July 2007 – Page 20, Table 2) which are as follows:-

Particulates ($PM_{2.5}$) – Annual Mean of 25$\mu$g/m$^3$ (AQS target value)

Particulates ($PM_{10}$) – Annual Mean of 40$\mu$g/m$^3$

Lead – Annual Mean of 0.25$\mu$g/m$^3$*

Note * this is the new level for lead introduced on 31$^{st}$ December 2008.

## 3.2. Particulate Results

The results of the particulate fractions are detailed in Table 1 & 2.

The particulate ($PM_{2.5}$ & $PM_{10}$) results were obtained for three months covering the period from July 2009 to September 2009. Full data sets were available for each month. The average $PM_{2.5}$ & $PM_{10}$ figures for this quarter were 4.15$\mu$g/m$^3$ and 10.91$\mu$g/m$^3$ respectively, which are considerably lower than the National Air Quality Strategy (AQS) Objectives of 25$\mu$g/m$^3$ and 40$\mu$g/m$^3$ respectively.

## 3.3. Lead Results

The lead results are detailed in Table 3.

The lead results have been compared against the new AQS value of 0.25$\mu$g/m$^3$ annual mean that came into force at the end of December 2008. The average lead concentration for this quarter of 0.036$\mu$g/m$^3$ falls well below this figure.

## Table 1

### $PM_{2.5}$ Particulate Results from TNT1235 at Garnlydan School

| Month | $PM_{2.5}$ Particulate Concentration ($\mu g/m^3$) | Results as a percentage of the AQS (%) | Quarterly Average $PM_{2.5}$ ($\mu g/m^3$) |
|---|---|---|---|
| July | See note below* | | … |
| August | 3.43 | 13.72 | … |
| September | 4.88 | 19.52 | 4.15 |

* There are no particulate results for July as the monitor was sent away for calibration

## Table 2

### $PM_{10}$ Particulate Results from TNT1235 at Garnlydan School

| Month | $PM_{10}$ Particulate Concentration ($\mu g/m^3$) | Results as a percentage of the AQS (%) | Quarterly Average $PM_{10}$ ($\mu g/m^3$) |
|---|---|---|---|
| July | See note below* | | … |
| August | 8.50 | 21.25 | … |
| September | 13.33 | 33.32 | 10.91 |

* There are no particulate results for July as the monitor was sent away for calibration

## Table 3

### Lead Results from TNT1235 at Garnlydan School

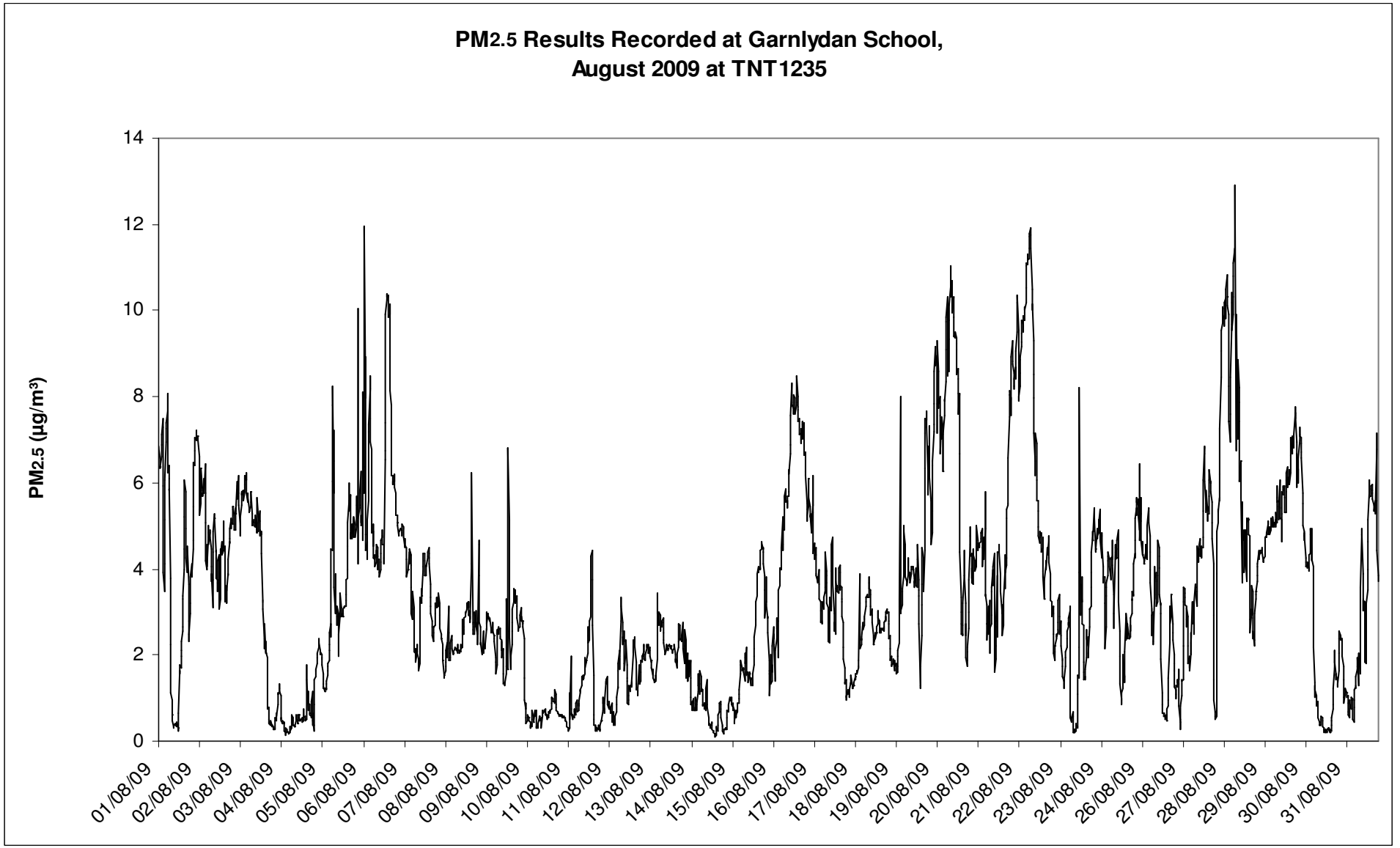
| Month | Airborne Lead Concentration ($\mu g/m^3$) | Results as a percentage of the AQS (%) | Rolling Average Lead Concentration ($\mu g/m^3$)* | Quarterly Average Lead ($\mu g/m^3$) |
|---|---|---|---|---|
| July | See note below** | | | … |
| August | 0.035 | 14 | 0.064 | … |
| September | 0.038 | 15.2 | 0.062 | 0.036 |

* Rolling average started on September 2008

** No filter was submitted for analysis for July as the monitor was sent away for calibration.

# Figures

**Figure 1**


PM2.5 Results Recorded at Garnlydan School,
August 2009 at TNT1235
PM2.5 (µg/m³)
0
2
4
6
8
10
12
14
01/08/09
02/08/09
03/08/09
04/08/09
05/08/09
06/08/09
07/08/09
08/08/09
09/08/09
10/08/09
11/08/09
12/08/09
13/08/09
14/08/09
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21/08/09
22/08/09
23/08/09
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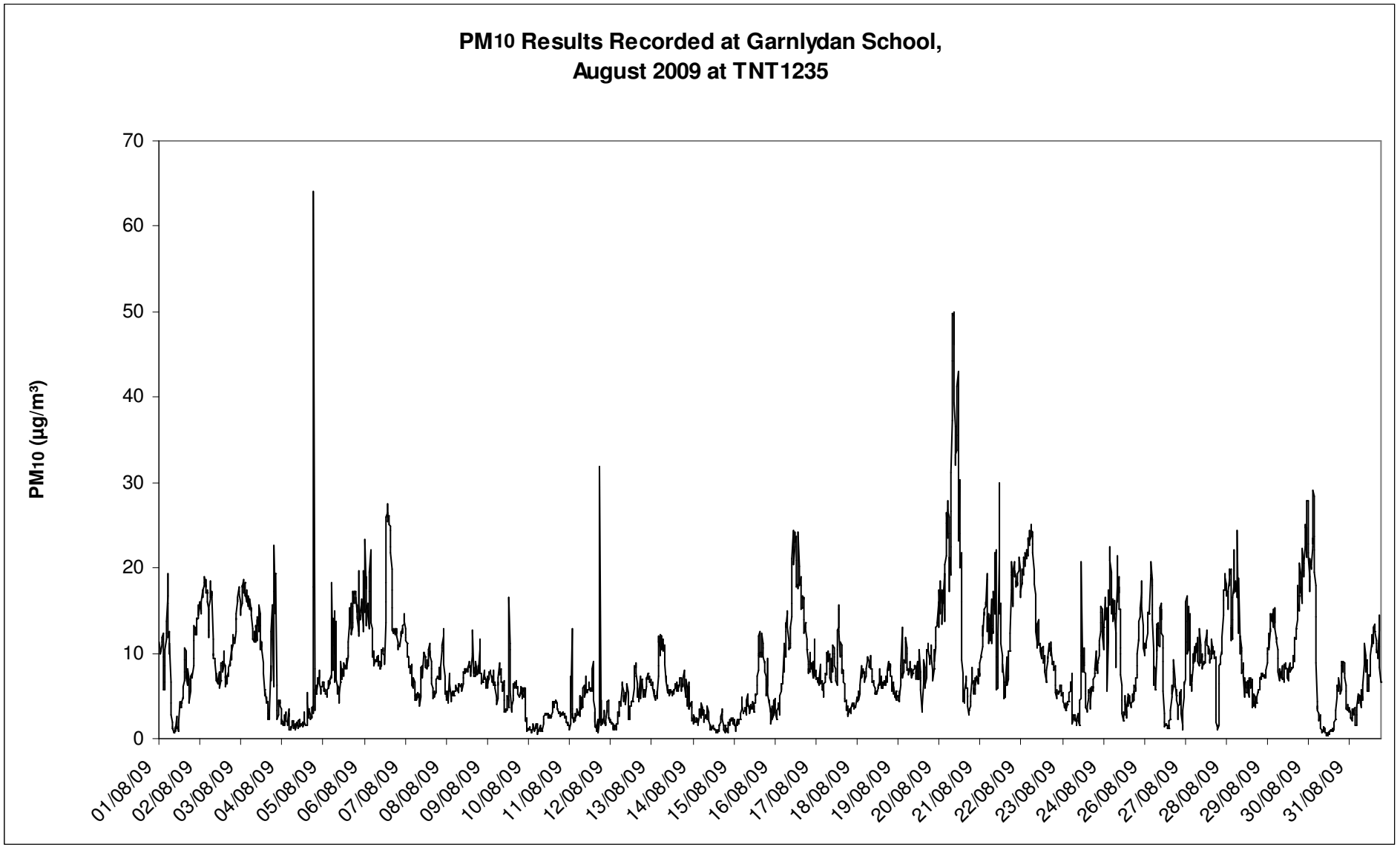
30/08/09
31/08/09

**Figure 2**


PM10 Results Recorded at Garnlydan School,
August 2009 at TNT1235
PM10 (µg/m3)
70
60
50
40
30
20
10
0
01/08/09
02/08/09
03/08/09
04/08/09
05/08/09
06/08/09
07/08/09
08/08/09
09/08/09
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11/08/09
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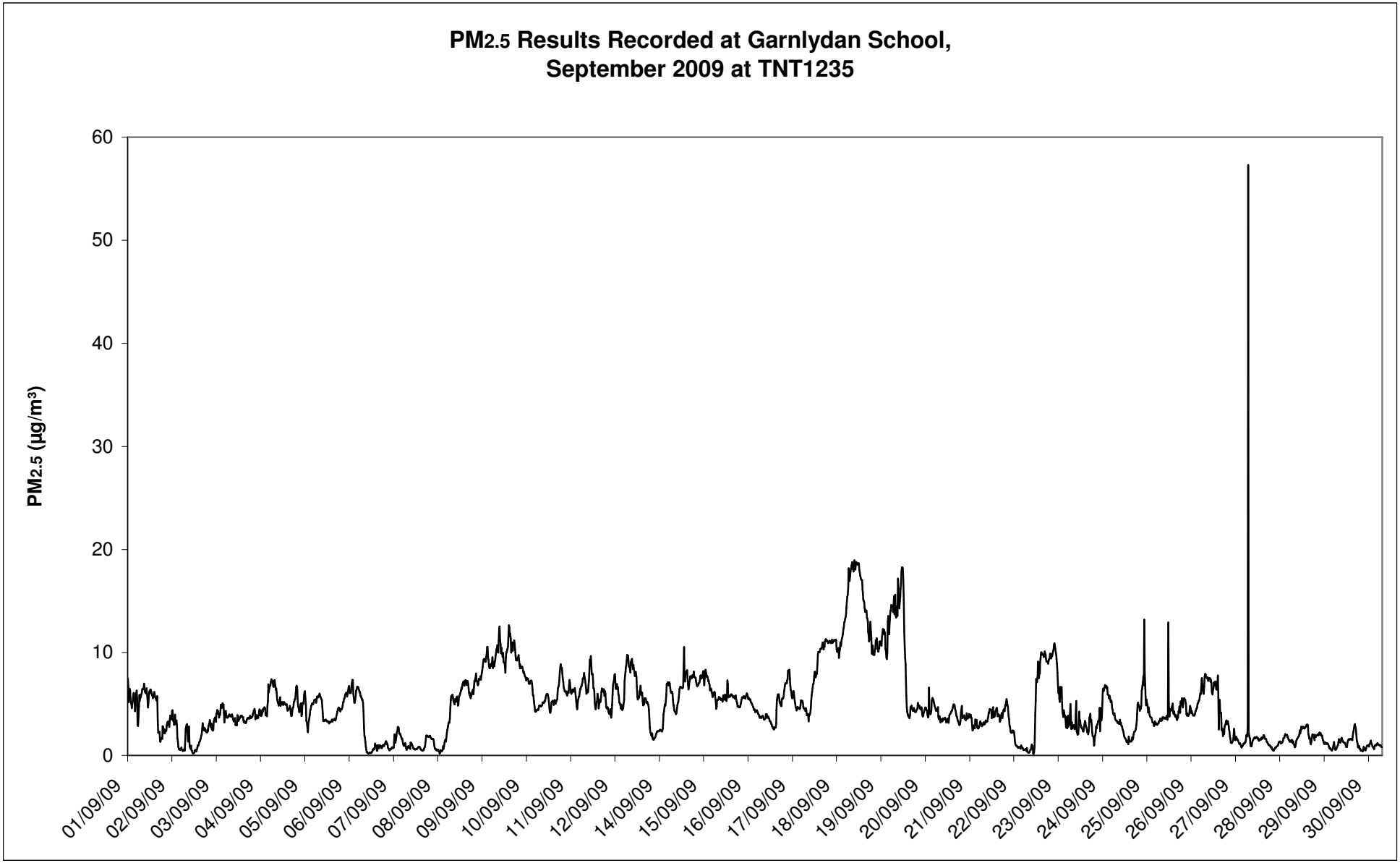
30/08/09
31/08/09

**Figure 3**


PM2.5 Results Recorded at Garnlydan School,
September 2009 at TNT1235
PM2.5 (µg/m³)
60
50
40
30
20
10
0
01/09/09
02/09/09
03/09/09
04/09/09
05/09/09
06/09/09
07/09/09
08/09/09
09/09/09
10/09/09
11/09/09
12/09/09
14/09/09
15/09/09
16/09/09
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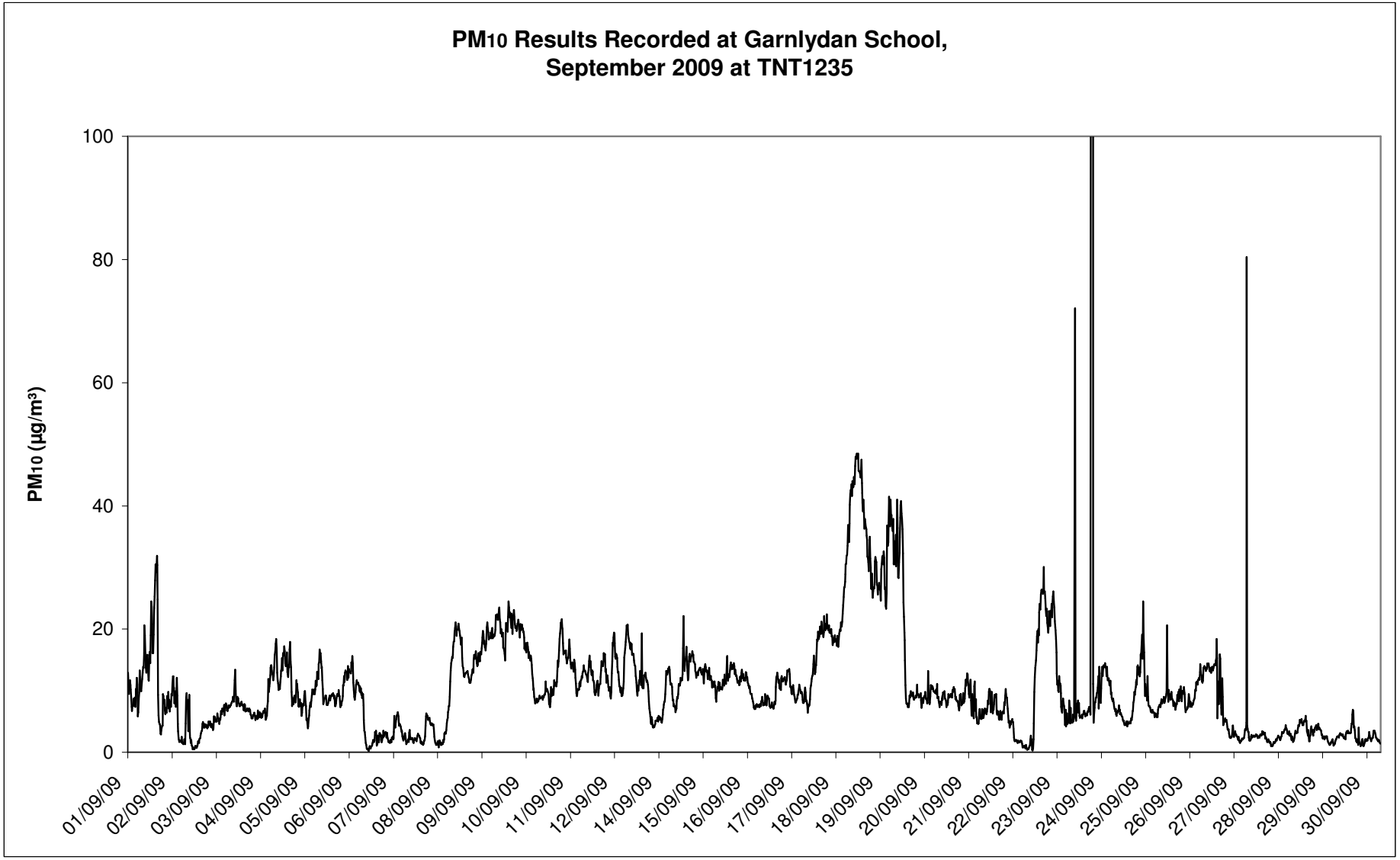
30/09/09

**Figure 4 ***




**Note * the spike of up to 3663.3$\mu$g/m³ on the 24/09/09.**

# AMBIENT AIR QUALITY SURVEY
## AT GARNLYDAN SCHOOL

**Prepared for:**

**EnviroWales Ltd**
**Rassau Industrial Estate**
**Ebbw Vale**
**NP23 5SD**

| | |
|---|---|
| **Permit Number:** | **EP3230BW** |
| **Job Number:** | **P227, TNT1235** |
| **Report Number:** | **R006, Quarter 4** |
| **Report Issue Date:** | **15th February 2010** |
| **Survey Dates:** | **October - December 2009** |


**Prepared by:**

**Environmental Compliance Limited**

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## DOCUMENT CONTROL SHEET

| **Report Issue:** | | **FINAL** | |
|---|---|---|---|
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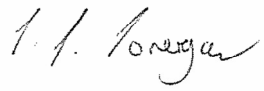
| | | ***Signature:*** |  |
| ***Date:*** | 5th February 2010 | ***Date:*** | 15th February 2010 |

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Any Opinions and Interpretation expressed within the results section are outside the scope of the UKAS accreditation.

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# 1. INTRODUCTION

## 1.1. Overview of Study

Environmental Compliance Ltd (ECL) was commissioned by **EnviroWales Ltd** to carry out an ambient air monitoring survey at **Garnlydan School, Rassau** in accordance with quote reference **seb/P227/Q004**.

The monitoring commenced on the 1st of September 2008 and was undertaken to assess the concentrations of airborne particulate and lead in the area.

This report covers Quarter 4 incorporating data obtained from the 1st of October 2009 to the 31st of December 2009.

## 1.2. Scope of Study

Sampling for **particulate matter and lead** was carried out to meet the requirements of ***'Monitoring Methods for Ambient Air, Technical Guidance Note M9'.*** Collection of the samples was carried out using a Topas ambient air monitor serial number TNT1235 calibrated at the manufacturers recommended frequency (annually).

The photometer used in the Topas monitor gives a continuous and simultaneous indication of $PM_1$, $PM_{2.5}$, $PM_{10}$ and TSP (total particles) mass fractions in microgrammes per cubic metre ($\mu g/m^3$). The Topas also has an integral filter holder unit that can be fitted with a 25mm GFA filter. It is possible to collect dust particles on this filter which can then be removed and subsequently analysed for lead.

The Topas monitor was positioned at a suitable location at Garnlydan School following consultation with Envirowales Ltd, Blaenau Gwent Council and the Headmistress.

This report details the results of $PM_{2.5}$ & $PM_{10}$ particles and airborne lead at the monitoring location.

The results have been compared to their respective limits defined in the latest '*Air Quality Strategy for England, Scotland, Wales and Northern Ireland'*, published on 17th July 2007.

# 2. APPROACH AND METHODOLOGY

## 2.1. General

The monitor ran continuously between 1st October 2009 and 31st of December 2009 at its location at Garnlydan School. Data was downloaded on a monthly basis.

## 2.2. Methodology

Environmental Compliance Limited carried out the download of data from the Topas monitor on a monthly basis. At the same time as the download the 25mm GFA filter housed within the sampler was exchanged and replaced with a new one.

The collected filter was then sent for lead analysis at **RPS Laboratories (RPS)** who are situated in **Manchester**. **RPS** are UKAS accredited for this analysis on filters.

A field blank was undertaken for each survey carried out and submitted at the same time for data integrity.

# 3. RESULTS

The results of the survey are presented in the Tables Section, and are also presented graphically in the Figures Section.

## 3.1. Airborne Exposure Limits

The results of the ambient monitoring survey were compared to the National Air Quality Standard Objectives (The Air Quality Strategy for England, Scotland, Wales and Northern Ireland, Volume1, July 2007 – Page 20, Table 2) which are as follows:-

Particulates ($PM_{2.5}$) – Annual Mean of 25$\mu$g/m$^3$ *

Particulates ($PM_{10}$) – Annual Mean of 40$\mu$g/m$^3$

Lead – Annual Mean of 0.25$\mu$g/m$^3$

Note * this target value is a new objective to be achieved by 2020.

## 3.2. Particulate Results

The results of the particulate fractions are detailed in Table 1 & 2.

The particulate ($PM_{2.5}$ & $PM_{10}$) results were obtained for three months covering the period from October 2009 to December 2009. Full data sets were available for each month. The average $PM_{2.5}$ & $PM_{10}$ figures for this quarter were 5.35$\mu$g/m$^3$ and 22.34$\mu$g/m$^3$ respectively, which are lower than the National Air Quality Strategy (AQS) Objectives of 25$\mu$g/m$^3$ and 40$\mu$g/m$^3$ respectively.

## 3.3. Lead Results

The lead results are detailed in Table 3.

The lead results have been compared against the new AQS value of 0.25$\mu$g/m$^3$ annual mean that came into force at the end of December 2008. The average lead concentration for this quarter of 0.037$\mu$g/m$^3$ falls below this figure.

# TABLES

## Table 1 – $PM_{2.5}$

**$PM_{2.5}$ Results from TNT1235 at Garnlydan School, Quarter 4 2009**

| Month | $PM_{2.5}$ Particulate Concentration ($\mu g/m^3$) | Results as a percentage of the AQS (%) | Quarterly Average $PM_{2.5}$ ($\mu g/m^3$) |
|---|---|---|---|
| October | 6.29 | 25 | … |
| November | 5.53 | 22 | … |
| December | 4.22 | 17 | 5.35 |

## Table 2 – $PM_{10}$

**$PM_{10}$ Results from TNT1235 at Garnlydan School, Quarter 4 2009**

| Month | $PM_{10}$ Particulate Concentration ($\mu g/m^3$) | Results as a percentage of the AQS (%) | Quarterly Average $PM_{10}$ ($\mu g/m^3$) |
|---|---|---|---|
| October | 21.36 | 53 | … |
| November | 16.96 | 42 | … |
| December | 28.70 | 72 | 22.34 |

## Table 3 – Lead

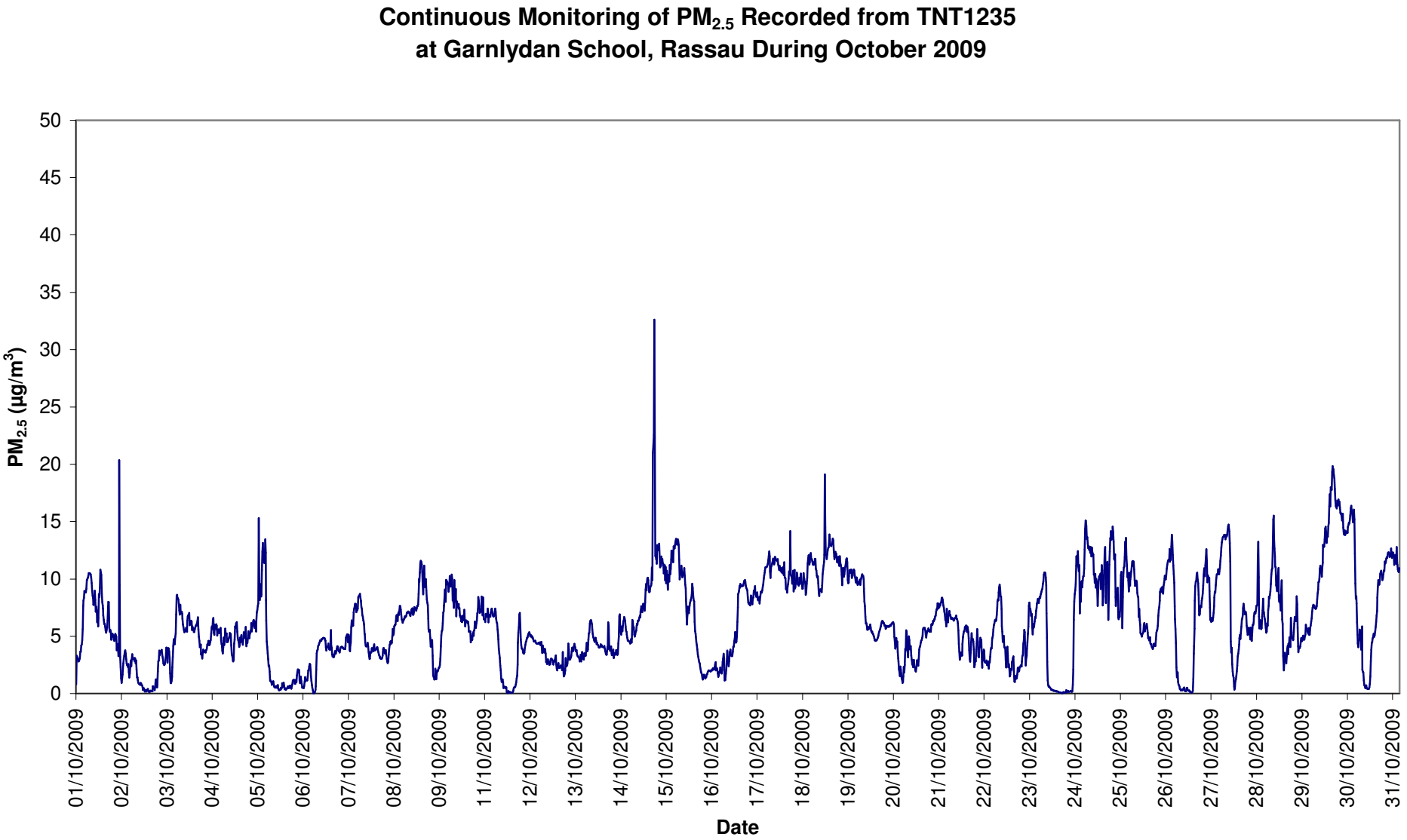
**Lead Results from TNT1235 at Garnlydan School, Quarter 4 2009**

| Month | Airborne Lead Concentration ($\mu g/m^3$) | Results as a percentage of the AQS (%) | On-going Rolling Average Lead Concentration ($\mu g/m^3$)* | Quarterly Average Lead ($\mu g/m^3$) |
|---|---|---|---|---|
| October | 0.028 | 11 | 0.059 | … |
| November | 0.046 | 18 | 0.058 | … |
| December | 0.037 | 15 | 0.057 | 0.037 |

* Please note that the rolling average began on September 2008

# FIGURES

**Figure 1**


Continuous Monitoring of PM2.5 Recorded from TNT1235
at Garnlydan School, Rassau During October 2009
PM2.5 (µg/m3)
50
45
40
35
30
25
20
15
10
5
0
01/10/2009
02/10/2009
03/10/2009
04/10/2009
05/10/2009
06/10/2009
07/10/2009
08/10/2009
09/10/2009
11/10/2009
12/10/2009
13/10/2009
14/10/2009
15/10/2009
16/10/2009
17/10/2009
18/10/2009
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21/10/2009
22/10/2009
23/10/2009
24/10/2009
25/10/2009
26/10/2009
27/10/2009
28/10/2009
29/10/2009
30/10/2009
31/10/2009
Date

**Figure 2 (excluding peaks)**

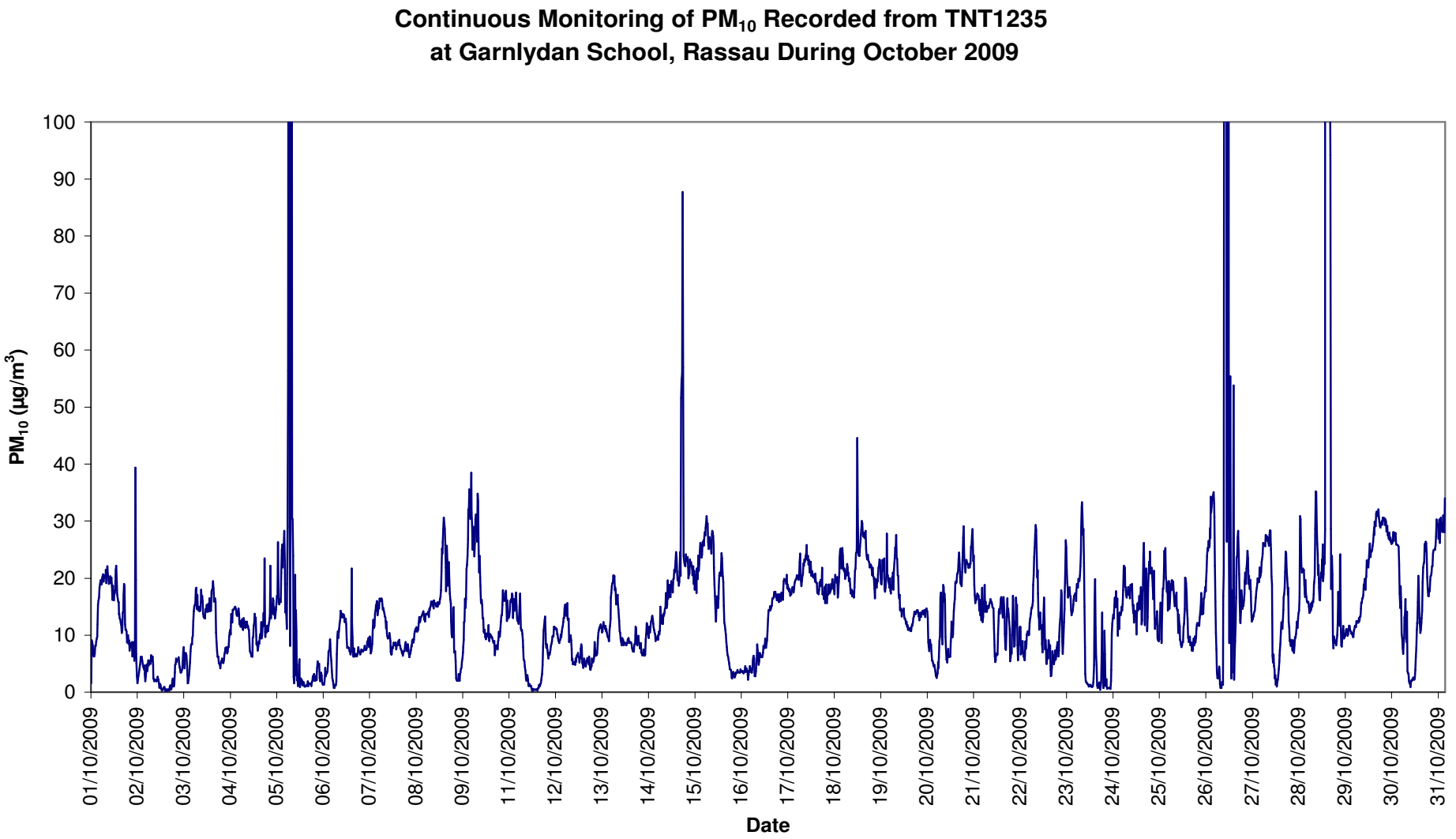


**Figure 3 (including peaks)**

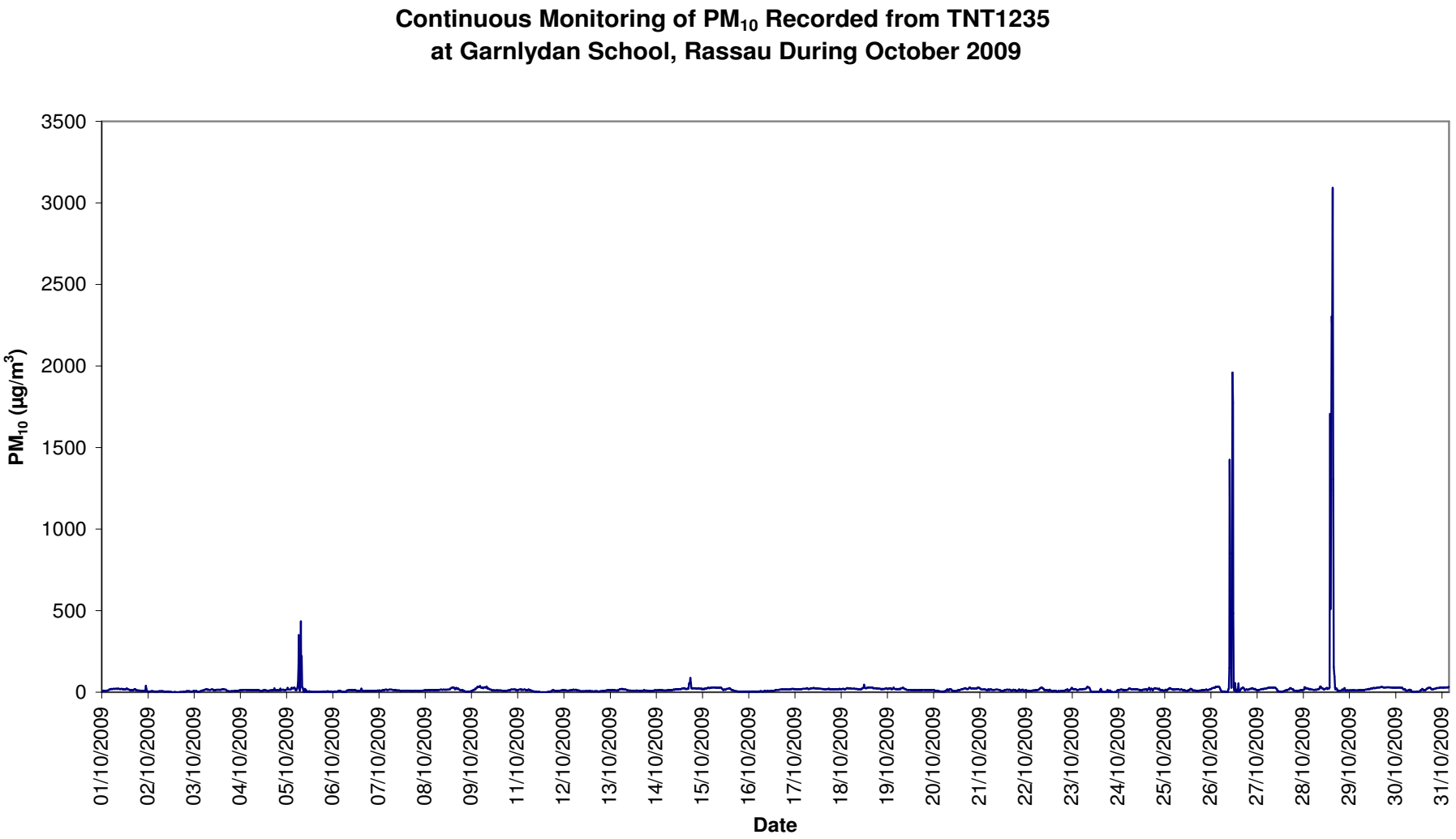
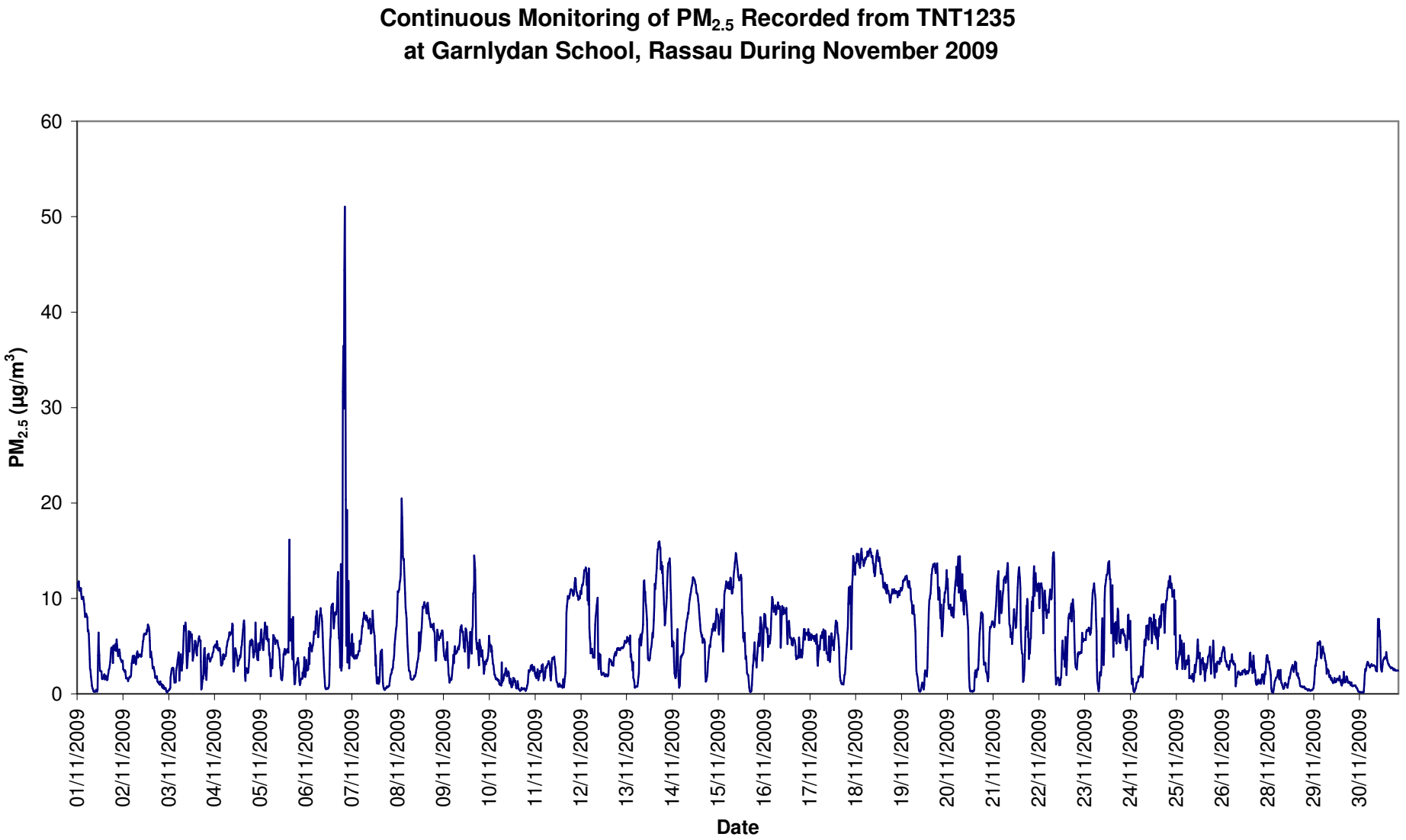


**Figure 4**


Continuous Monitoring of PM2.5 Recorded from TNT1235
at Garnlydan School, Rassau During November 2009
PM2.5 (µg/m3)
60
50
40
30
20
10
0
01/11/2009
02/11/2009
03/11/2009
04/11/2009
05/11/2009
06/11/2009
07/11/2009
08/11/2009
09/11/2009
10/11/2009
11/11/2009
12/11/2009
13/11/2009
14/11/2009
15/11/2009
16/11/2009
17/11/2009
18/11/2009
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21/11/2009
22/11/2009
23/11/2009
24/11/2009
25/11/2009
26/11/2009
28/11/2009
29/11/2009
30/11/2009
Date

**Figure 5 (excluding peaks)**

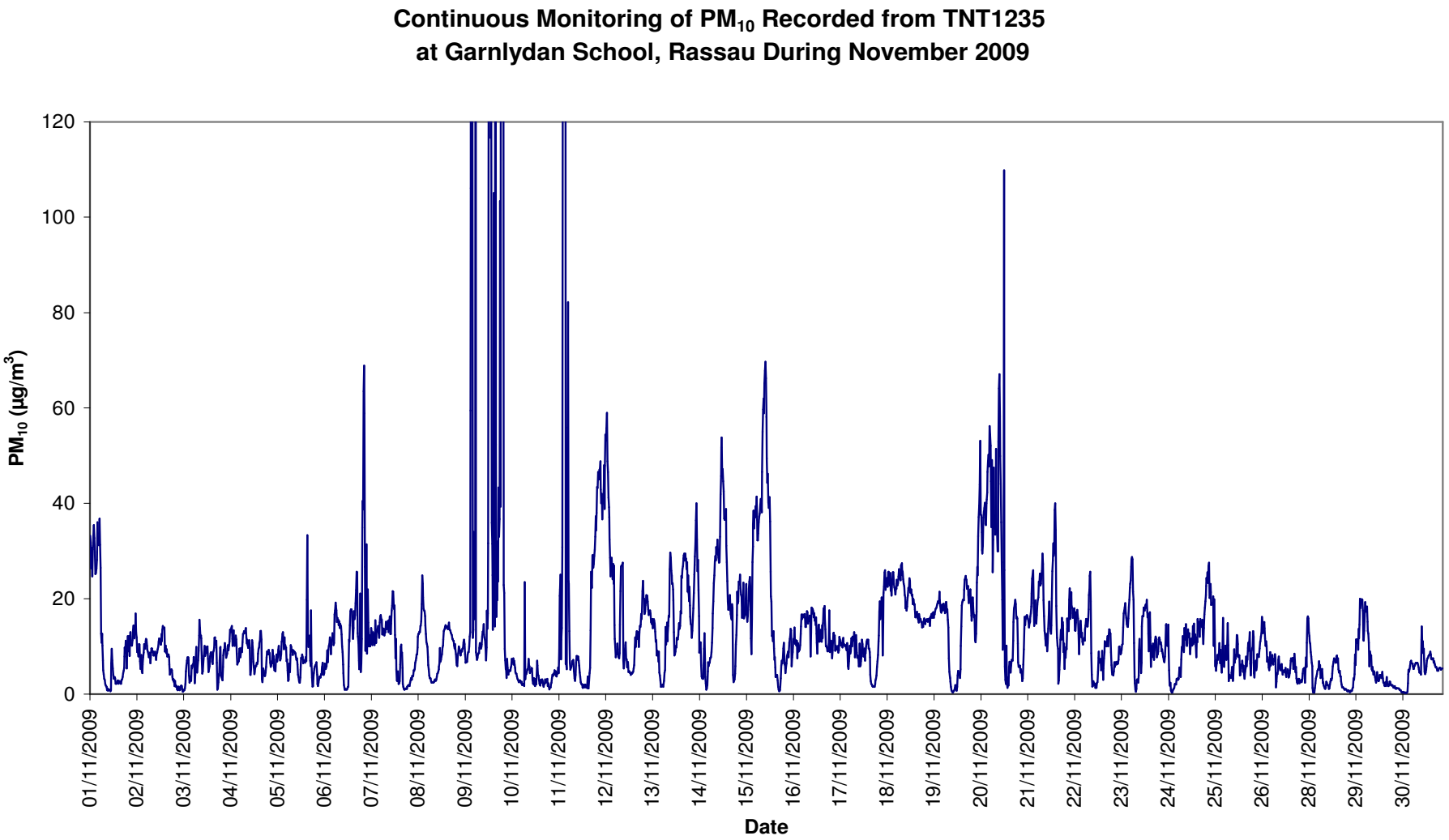


**Figure 6 (including peaks)**

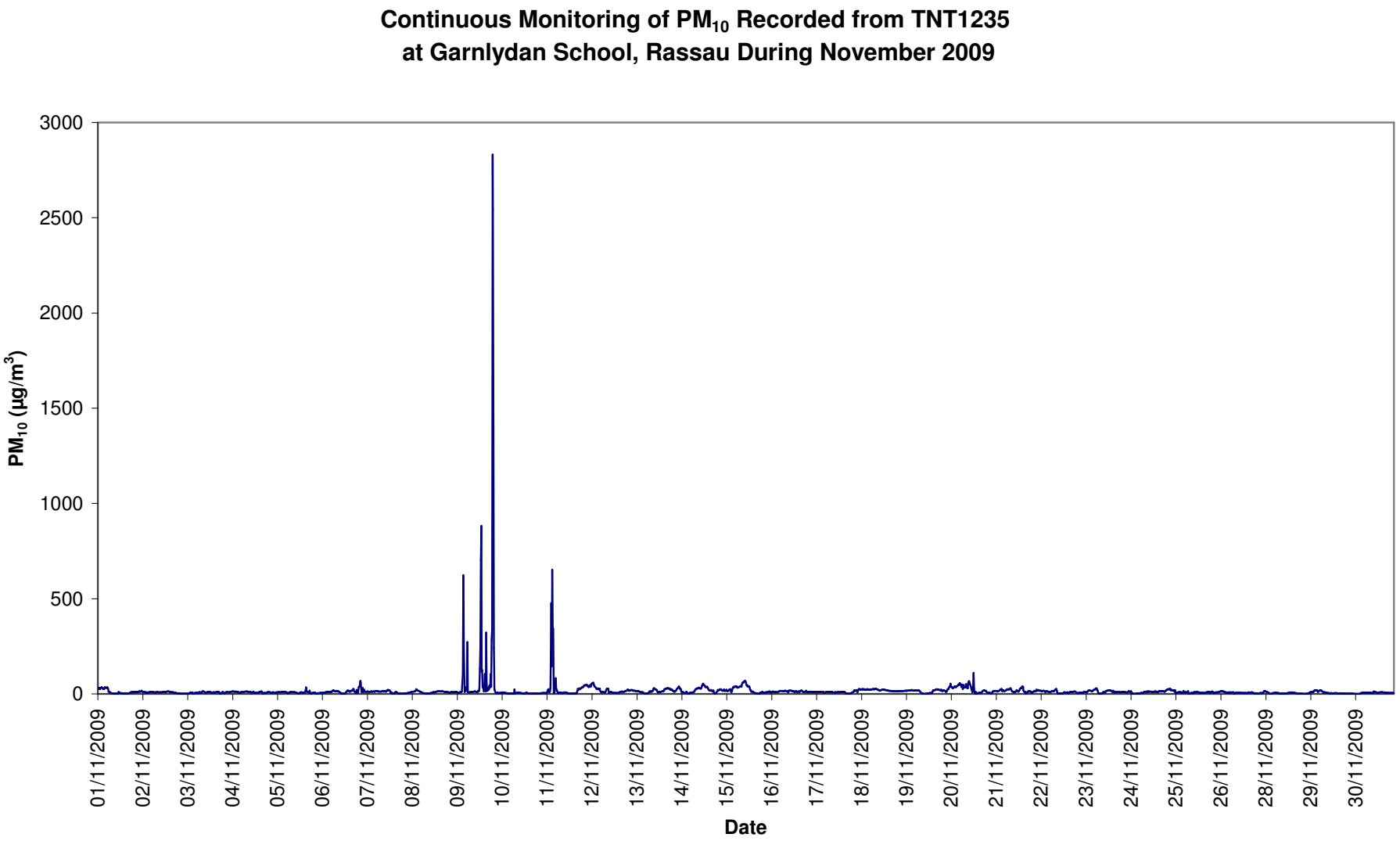
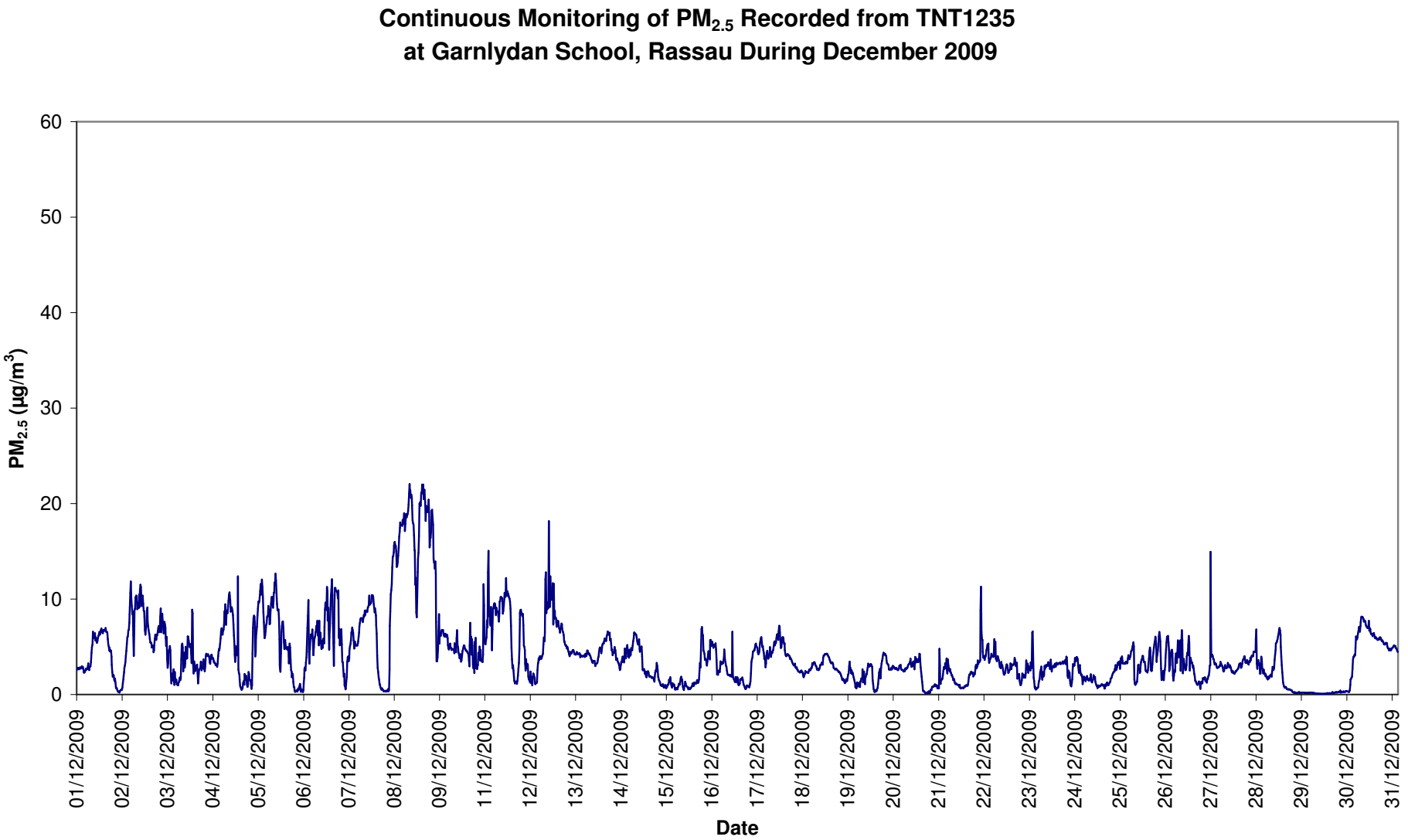


**Figure 7**


Continuous Monitoring of PM2.5 Recorded from TNT1235
at Garnlydan School, Rassau During December 2009
PM2.5 (µg/m3)
60
50
40
30
20
10
0
01/12/2009
02/12/2009
03/12/2009
04/12/2009
05/12/2009
06/12/2009
07/12/2009
08/12/2009
09/12/2009
11/12/2009
12/12/2009
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15/12/2009
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21/12/2009
22/12/2009
23/12/2009
24/12/2009
25/12/2009
26/12/2009
27/12/2009
28/12/2009
29/12/2009
30/12/2009
31/12/2009
Date

**Figure 8 (excluding peaks)**

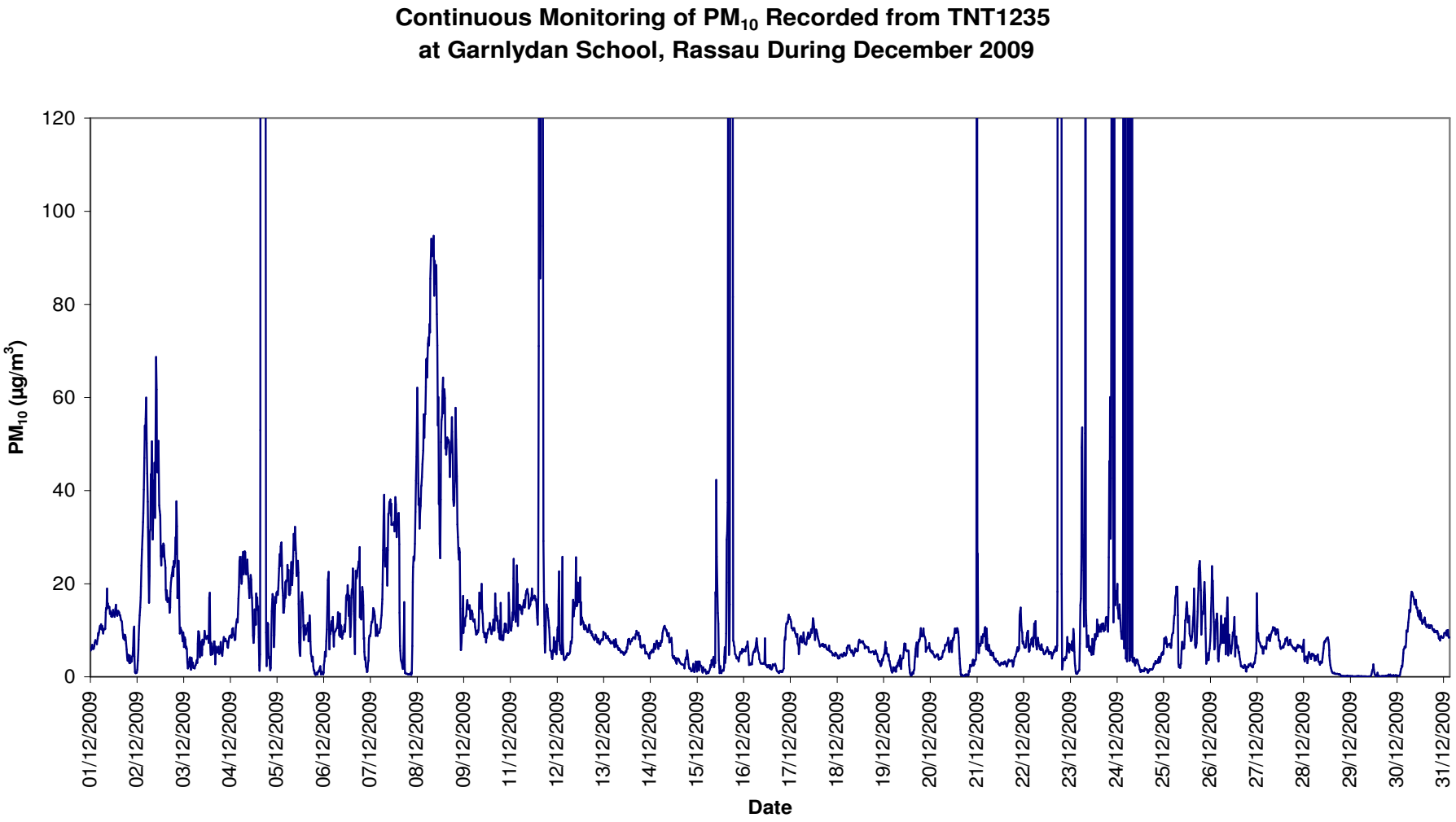
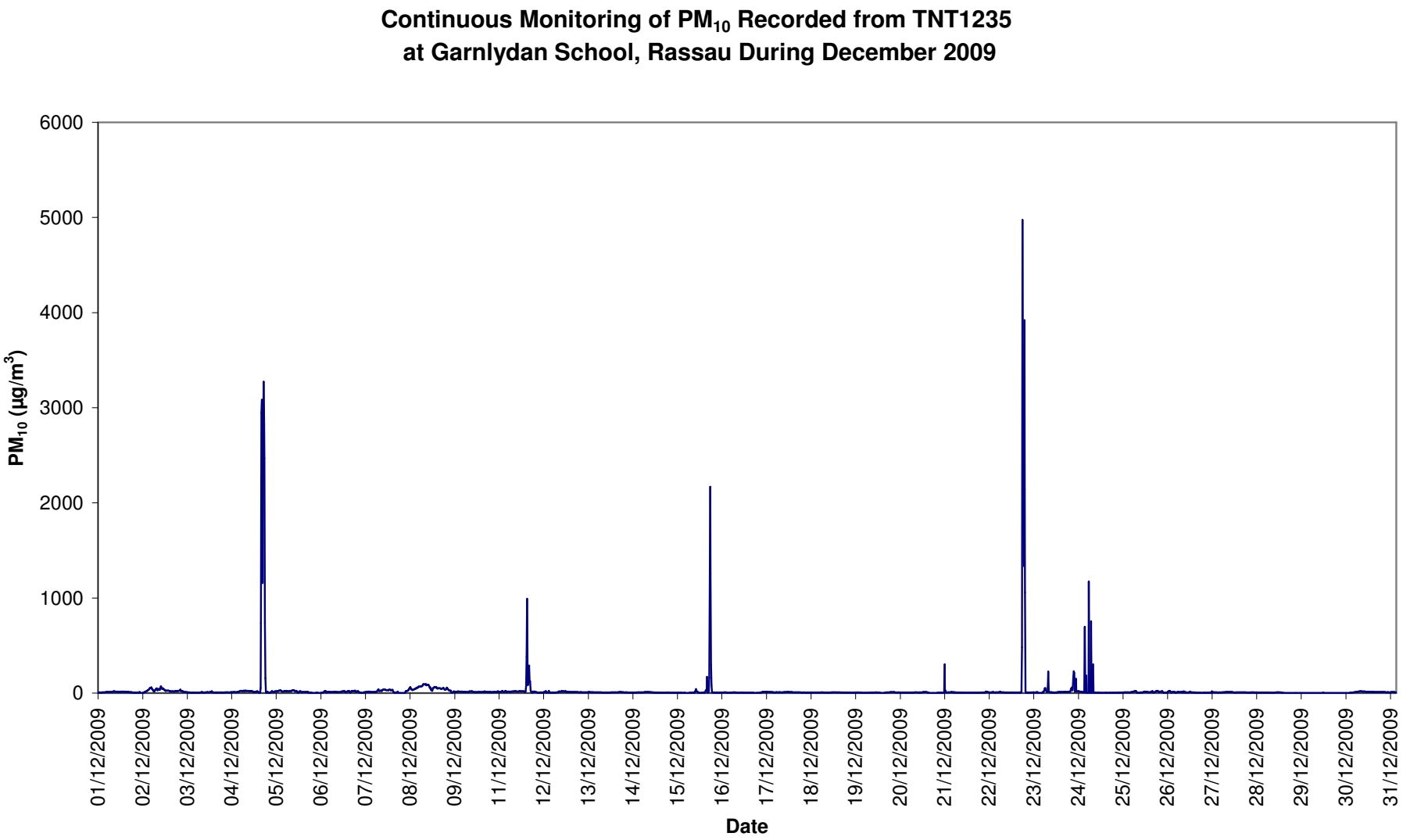
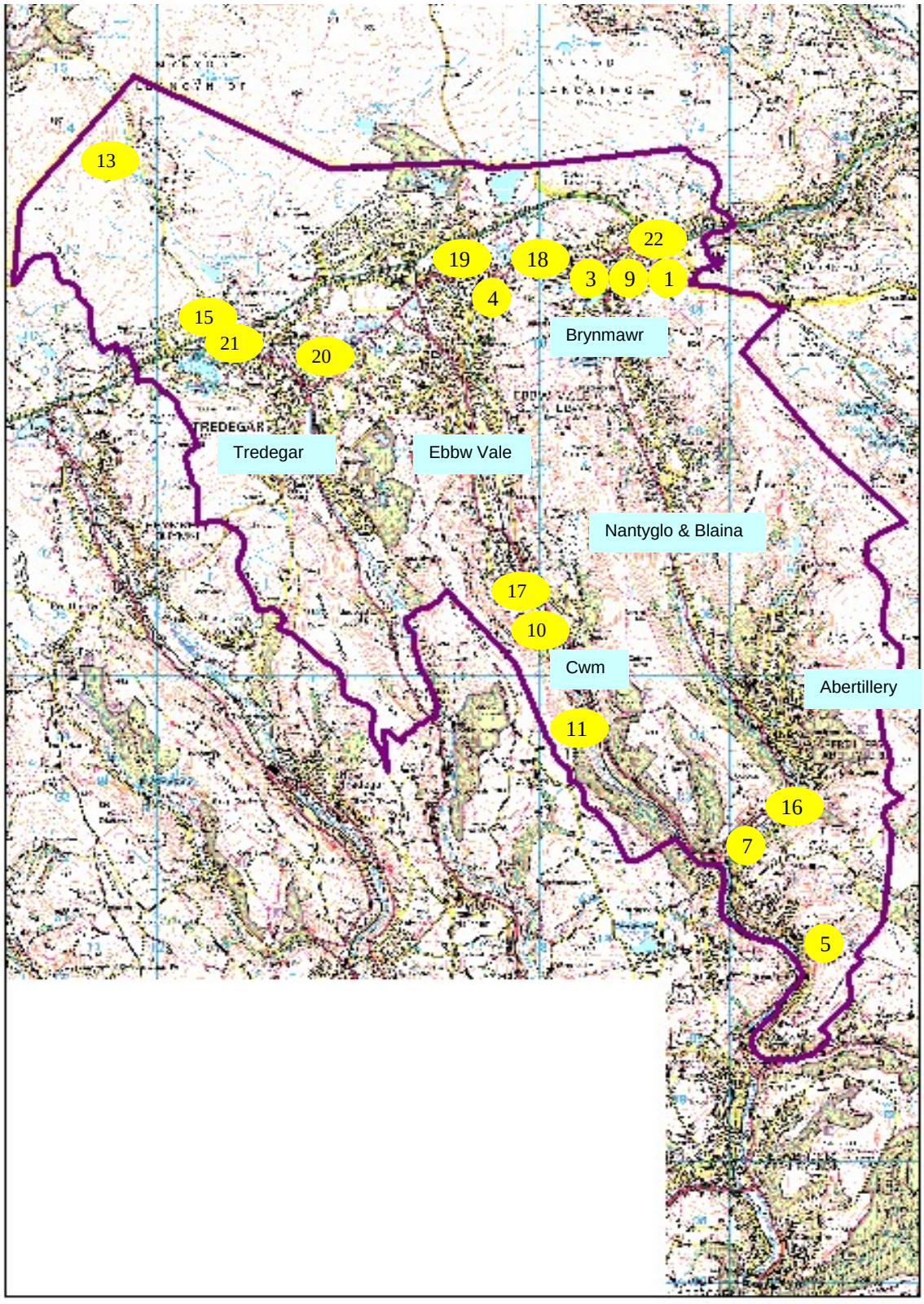


**Figure 9 (including peaks)**



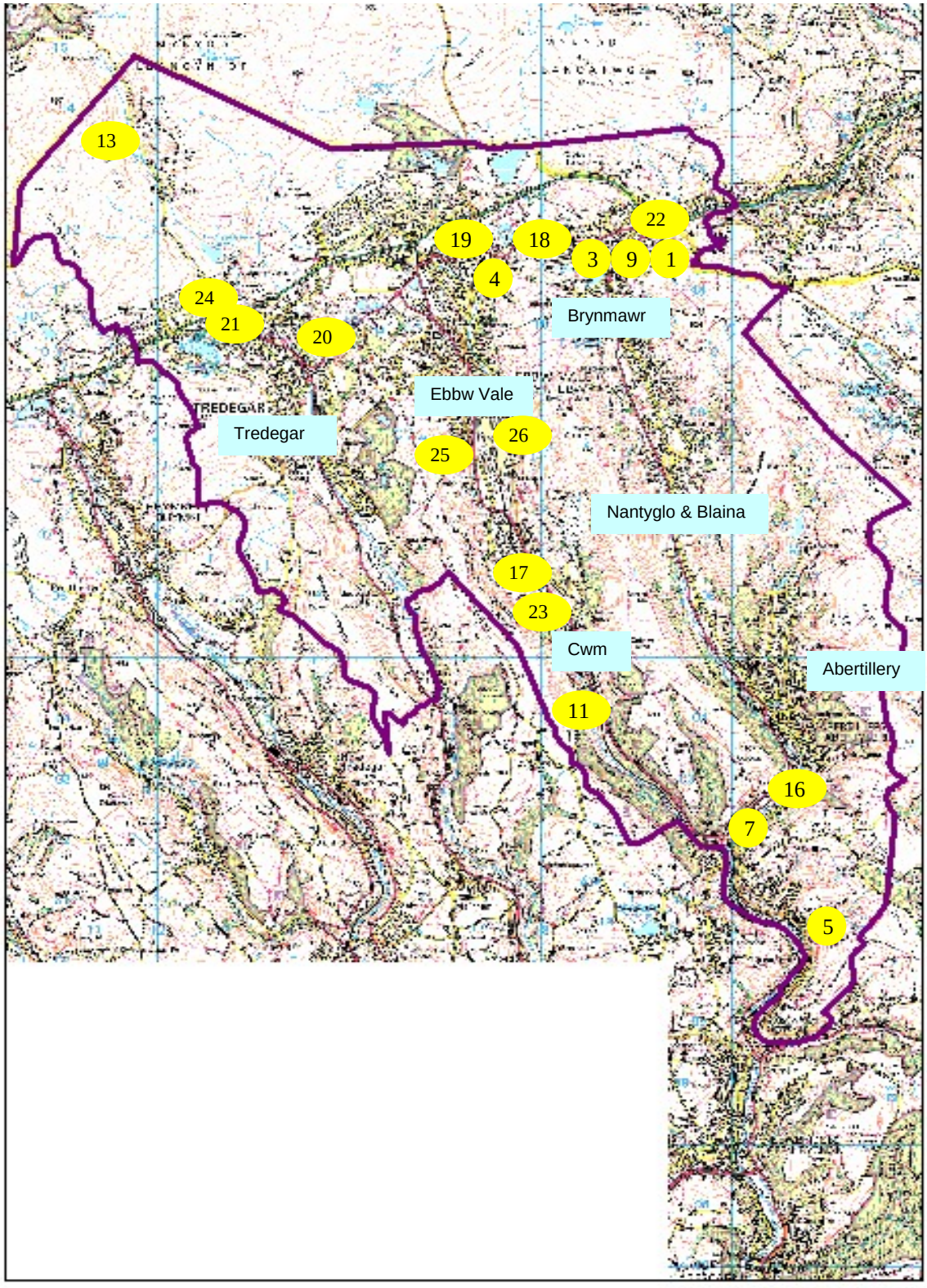
# Appendix 4

## Location of $NO_2$ Monitoring Sites within Blaenau Gwent



# Appendix 5

## Location of $NO_2$ Monitoring Sites within Blaenau Gwent 2010



# Appendix 6

## $NO_2$ Diffusion Tube Monitoring Monthly Mean Values 2009

* DAMAGED TUBE  ** TUBE MISSING

| SITE | 07/01-04/02 | 04/02-04/03 | 04/03-01/04 | 01/04-01/05 | 01/05-03/06 | 03/06-01/07 | 01/07-29/07 | 29/07-02/09 | 02/09-30/09 | 30/09-04/11 | 04/11-02/12 | 02/12-08/01 | Annual Mean | Bias Factor | Adjusted Annual Mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BGBC-007 | 27 | 29 | 19 | 18 | 14 | 10 | 15 | 14 | 16 | 20 | 21 | 26 | 19.1 | 0.84 | 18.26 |
| BGBC-005 | 21 | 23 | 16 | 15 | 10 | 14 | 9 | * | 14 | 18 | 13 | 24 | 16.1 | 0.84 | 15.26 |
| BGBC-010 | 39 | 23 | 17 | 19 | 11 | 13 | 12 | 12 | 13 | 19 | 13 | 26 | 18.1 | 0.84 | 17.26 |
| BGBC-011 | 20 | 23 | 16 | 15 | 9 | 10 | 1 * | 10 | 12 | 16 | 14 | 26 | 15.5 | 0.84 | 14.66 |
| BGBC-013 | 14 | 9 | 5 | 8 | 6 | 5 | 4 | 14 | 4 | 8 | 6 | 11 | 7.8 | 0.84 | 6.96 |
| BGBC-015 | 21 | 17 | 14 | 15 | 10 | 9 | 12 | 8 | 9 | 16 | 14 | 18 | 13.6 | 0.84 | 12.76 |
| BGBC-016 | 31 | 31 | 23 | 25 | 15 | 18 | 19 | 18 | 17 | 25 | 20 | 28 | 22.5 | 0.84 | 21.66 |
| BGBC-017 | 28 | 29 | 18 | 21 | 12 | 16 | 12 | 14 | 18 | 24 | 15 | 30 | 19.8 | 0.84 | 18.96 |
| BGBC-018 | 37 | 29 | 26 | 16 | 17 | 17 | 15 | 14 | 16 | 28 | 21 | 35 | 22.6 | 0.84 | 21.76 |
| BGBC-019 | 34 | 31 | 25 | 30 | 22 | 24 | 23 | 19 | 18 | 30 | 25 | 34 | 26.3 | 0.84 | 25.46 |
| BGBC-020 | 36 | 30 | 23 | 26 | 25 | 26 | 24 | 18 | 25 | 29 | 21 | 31 | 26.2 | 0.84 | 25.36 |
| BGBC-021 | 22 | 24 | 22 | 19 | 14 | 16 | 13 | 11 | 19 | 21 | 12 | 25 | 18.2 | 0.84 | 17.36 |
| BGBC-022 | 26 | 26 | 20 | 24 | 16 | 18 | 13 | 11 | 16 | 23 | 13 | 28 | 19.5 | 0.84 | 18.66 |
| BGBC-001 | 30.9 | 30.3 | 23.9 | 33.4 | 21.8 | 30.2 | 11.8 | 12.4 | 21.5 | 23.7 | 18.3 | 26.1 | 23.7 | 0.81 | 22.89 |
| BGBC-009 | 33.7 | 34.2 | 25.4 | 30.5 | 15.3 | 24.6 | 16.5 | 18.6 | 21.9 | 26.5 | 20.5 | 28.2 | 24.7 | 0.81 | 23.89 |
| BGBC-003 | 30.7 | 24.6 | 20.0 | 16.5 | 9.2 | 13.3 | 9.5 | 8.0 | 13.1 | 19.1 | 0.6 * | 13.6 | 16.1 | 0.81 | 15.92 |
| BGBC-004 | 25.5 | 16.5 | 13.1 | 9.9 | 7.8 | 8.7 | 6.6 | 6.9 | 9.0 | 12.2 | 13.2 | 9.0 | 11.5 | 0.81 | 10.69 |

# Appendix 7

## Blaenau Gwent CBC Air Pollution Control Policy And Procedure

Cyngor Bwrdeisdref Sirol
Blaenau Gwent
County Borough Council

Pollution and General Services Team
Policy and Procedures Document

# Air Pollution Control

**Environment Directorate**
**Public Protection Division**
**Environmental Health Section**

To carry out the statutory function of enforcing The Environmental Protection Act 1990, the Clean Air Act 1993 and the Environment Act 1995 to control the quality of the air in Blaenau Gwent and safeguard residents and visitors health.

## Purpose

These procedures set out how the Authority will investigate complaints about Air Pollution in the County Borough and how Local Air Quality will be assessed and managed.

## Scope

This procedure applies to all officers within the Pollution and General Services Team who will investigate complaints about air pollution and take appropriate action to resolve them and those with responsibility for Local Air Quality Management.

## Legislation and Guidance

- Environmental Protection Act 1990
- Clean Air Act 1993
- British Standard BS2742:1969.
- Environment Act 1995
- Air Quality (Amendment) Regulations 2002
- DEFRA Air Quality Guidance Documents

# PROCEDURES

The procedures are split into two parts. Each deals with the enforcement of specific pieces of legislation, which control air pollution levels within the County Borough of Blaenau Gwent. Some of the procedures, especially in relation to the burning of waste on bonfires, will apply to commercial, trade and industrial premises as well as a domestic premises.

# PART ONE
# Statutory Nuisance

It must be noted that all other types of nuisance e.g. penetrating dampness, are dealt with under the Policy and Procedure document on General District Work. Noise Nuisance is documented in the Noise Control Policy and Procedure Document.

## 1.1 Control of Bonfires

1.1.1 Once a complaint regarding a bonfire is received by the administration section it will be immediately entered onto the FLARE system. The complaint will then be passed to the Environmental Health Officer within four hours of it being received, contacting the officer on his/her mobile phone, where applicable.

1.1.2 If the complaint is about a large or very smoky bonfire that is burning at the time of the complaint the officer will visit the site of the fire as soon as possible, and certainly on the same day that the complaint is received. If the officer is satisfied that the smoke from the bonfire constitutes a statutory nuisance then a legal notice will be served on the owner/occupier/person responsible, as appropriate within three working days.

1.1.3 If the complaint is about bonfires at a certain premises that are a recurrent problem the officer will dispatch a set of monitoring forms o the complainant. The forms will be dispatched within three working days of the complaint being received.

1.1.4 If a set of completed monitoring forms are returned the EHO will arrange to visit the site at an appropriate time. This time will be established by following any patterns that are identified from the monitoring forms and from discussions with the complainant. Again, if when the site is visited, be it on the first or an any number of subsequent visits, and a statutory nuisance is established then a legal notice will be served on the owner/occupier/person responsible, as appropriate.

1.1.5 Once a notice has been served the officer will return to the site once it has expired to verify compliance with the notice.

1.1.6 If a complaint is received that a bonfire is in progress, possibly in contravention of a notice, the EHO will visit as soon as possible and certainly on the same working day to establish whether or not the conditions of the notice have been breached.

## 1.2 Odour from commercial premises.

1.2.1 Once a complaint regarding a smell from commercial premises is received by the administration section it will be immediately entered onto the FLARE system. The complaint will then be passed to the Environmental Health Officer as soon as practicable and certainly within four hours of it being received, contacting the officer on his/her mobile phone, where applicable.

1.2.2 It will then be for the EHO to decide which course of action is most appropriate. If the complaint is about an on-going smell that appears to be a one-off occurrence the officer will visit the complaint's address as soon as possible and certainly on the same day that the complaint is made. If a statutory nuisance is witnessed then it will be for the EHO to take the appropriate formal action by serving a legal notice on the owner/occupier/person responsible for the nuisance. This notice will be served within three working days.

1.2.3 If the complaint is about an odour from a certain commercial premises that is a recurrent problem the officer will dispatch a set of monitoring forms to the complainant. The forms will be dispatched within three working days of the complaint being received.

1.2.4 If a set of completed monitoring forms are returned the EHO will arrange to visit the site at an appropriate time. This time will be established by following any patterns that are identified from the monitoring forms and from discussions with the complainant. Again, if when the site is visited, be it on the first or an any number of subsequent visits, and a statutory nuisance is established then a legal notice will be served on the owner/occupier/person responsible, as appropriate. This will be served within three working days.

1.2.5 Once a notice has been served the officer will return to the site once it has expired to verify compliance.

1.2.6 If a complaint is received that a bonfire is in progress, possibly in contravention of a notice, the EHO will visit as soon as possible and certainly on the same working day to establish whether or not the conditions of the notice have been breached.

# *PART TWO*

# *Dark Smoke Control*

*It must be noted that the controls of the Clean Air Act 1993 provision do not apply to processes permitted under the Pollution Prevention and Control Regulations 2000.*

2.1 Dark Smoke from an Industrial or Trade Premises

2.1.1 Once a complaint regarding dark smoke from an industrial or trade premises is received by the administration section it will be immediately entered onto the FLARE system. The complaint will then be passed to the Environmental Health Officer as soon as practicable and certainly within four hours of it being received, contacting the officer on his/her mobile phone, where applicable.

2.1.2 It will usually be the case that the EHO will need to visit the site in question as soon as possible to witness the events. The officer will visit the premises as soon as possible, and certainly on the same day that the complaint is received.

2.1.3 As it is a strict liability offence to produce dark smoke it is important that the officer either has suitable experience in assessing dark smoke or they compare it to a Ringelmann Chart. Dark smoke is smoke that would appear to be as dark, or darker, than shade two on the Ringlemann Chart.

2.1.4 If the officer is satisfied that the smoke is dark as defined in the regulations and is being emitted from an industrial or trade premises he/she shall formally caution the owner of the premises in line with the policy on legal action.

2.1.5 Prosecution will usually follow this type of offence having due regard to the Environmental Health Enforcement Policy.

2.2 Dark Smoke from Chimneys

2.2.1 This procedure applies to the emission of dark smoke from a chimney of any building. It also applies to chimneys not attached to a building serving furnaces of fixed boilers or industrial plant.

2.2.2 Once a complaint regarding dark smoke from a chimney is received by the administration section it will be immediately entered onto the FLARE system. The complaint will then be passed to the Environmental Health Officer as soon as practicable and certainly within four hours of it being received, contacting the officer on his/her mobile phone, where applicable.

2.2.3 It will usually be the case that the EHO will need to visit the site in question as soon as possible to witness the events. The officer will visit the premises as soon as possible, and certainly on the same day that the complaint is received.

2.2.4 As it is a strict liability offence to produce dark smoke it is important that the officer either has suitable experience in assessing dark smoke or they compare it to a Ringelmann Chart. Dark smoke is smoke that would appear to be as dark, or darker, than shade two on the Ringlemann Chart.

2.2.5 It is important that the EHO gives due regard to the four defences available for dark/black smoke emission.

2.2.6 If the officer is satisfied that the smoke is dark as defined in the regulations and is being emitted from an industrial or trade premises he/she shall formally caution the owner of the premises in line with the policy on legal action.

2.2.7 Prosecution will usually follow this type of offence having due regard to the Environmental Health Enforcement Policy.

# *PART THREE*

# *Local Air Quality Management*

3.1 The Authority is under a statutory duty to assess and manage local air quality. As part of this process the local Authority carries out NOx diffusion tube monitoring. The Senior Environmental Technician changes these tubes monthly. The tubes are sent to two laboratories for analysis. The Senior Environmental Technical is responsible for this process and keeping a log of the results obtained.

3.2 The Authority are required to carry out regular assessments of Local Air Quality. The Senior EHO is conjunction with the Team Leader and the Head of Environmental Health will prepare these reports.

3.3 All reports will be prepared and submitted to WAG within the prescribed timescales.

3.4 In conjunction with the Environment Agency, the Planning Section and the Highways Division consolations for developments will be considered with the air quality objectives being an important factor in deciding the suitability of such development. Comments on Air Quality will be made in accordance with the policy document on Planning Consultation.

3.5 All relevant departments of the Authority will be consulted when preparing statutory reports.

## SUMMARY OF RESPONSE TIMES

1. Upon receipt of complaint it will be entered on to the Flare system immediately.

2. The complaint will be passed to the Environmental Health Officer within four hours of the complaint being received.

3. Monitoring forms (where necessary) will be dispatched within three working days of the complaint being received.

4. An ongoing bonfire will be visited within the same working day.

5. Notice to be served within three working days of a statutory nuisance being witnessed.

# Appendix 8

## List of Part A1, A2 and B installations.

***Part A1 Installations:***

| Company Name | Address of Installation | Activity Permitted |
|---|---|---|
| Silent Valley Landfill Site | Silent Valley Waste Services, Beechwood House, Cwm, Ebbw Vale, NP23 6PZ | Landfill Site |
| Continental Tea Leaves (UK) Limited | Waun Y Pound Industrial Est., Ebbw Vale, NP23 6PL | Surface Treatment of Metals |
| Yuasa Battery UK Ltd | Unit 22 Rassau Industrial Estate, Ebbw Vale, NP23 5SD | Melting of Non-Ferrous Metals |
| Envirowales Ltd | Rassau Industrial Estate, Ebbw Vale, NP23 5SD | Melting of Non-Ferrous Metals |
| High Chemicals | Tarfarnaubach Industrial Estate, Tredegar. NP22 3AA | Production of Ferric Chloride |
| Tredegar Biodiesel BioTech Oils Uk Ltd | Tarfarnaubach Industrial Estate, Tredegar, NP22 3AA | Production of bio-diesel |

***Part A2 Installations:***

| Company Name | Address of Installation | Activity Permitted |
|---|---|---|
| GTS Flexible Materials Ltd | Unit 41, Rassau Industrial Estate, Ebbw Vale, Blaenau Gwent. NP23 5SD | Film Coating |
| Corus Colours Consumer Products | Tarfarnaubach, Tarfarnaubach Industrial Estate, Tredegar. NP22 3AA. | Coil Coating |

***Part B Installations:***

| Company Name | Address of Installation | Activity Permitted |
|---|---|---|
| Tarmac Topmix Limited | Trefil Quarry, Trefil, Tredegar, NP22 4HF | Cement Batching |
| Hanson Premix Limited | Waun-y-Poud Industrial Estate, Ebbw Vale, NP23 6PL | Cement Batching |
| Thomas Waste Management | Hafod Garage Transfer Station, Old Abergavenny Road, Brynmawr, NP23 4BU | Mobile Crushing and Screening |
| Studiosmart Ltd (Formerly known as Cardinal Packaging Limited) | Unit 29 Rassau Industrial Estate, Ebbw Vale, NP23 5SD | Printing of Flexible Packaging |
| Blackwood Engineering Works Limited | Glandwr Industrial Estate, Aberbeeg, Abertillery, NP13 2LN | Coating of Metal Counterweights |
| Yamada Europe Limited | Festival Drive, Ebbw Vale, NP23 6XS | Casting of Aluminium |
| Cotech Senitising Ltd | Units 13-16 Tarfarnaubach Industrial Estate, Tredegar. NP22 3AA. | Film Coating |
| Gryphonn Quarries Ltd | Trefil Quarry, Trefil, Tredegar. NP12 4HG. | Mobile Crushing and Screening |
| Capert Tile Factory Ltd (formerly know as Tandus Europe Ltd) | Units 8 & 9, Rising Sun Industrial Estate, Blaina, NP13 3JW | Tar and Bitumen process |
| Lafarge Roofing Limited | Unit 15, Rassau Industrial Estate, Ebbw Vale, NP23 5SD | Fibre and Reinforced Plastics |
| Sogefi Filtration Ltd | Crown Business park, Tredegar, Blaenau Gwent, NP22 4EF. | Di-isocynate Process |
| Chapel Road Garage | Blaina Road, Nantyglo, NP23 4PT | Unloading of Petrol at Filling Station |
| Central Garage, | Abertillery Road, Blaina, NP13 3DN | Unloading of Petrol at Filling Station |

***Part B Installations (Continued):***

| Company Name | Address of Installation | Activity Permitted |
|---|---|---|
| Festival Service Station | By-pass Road, Ebbw Vale, NP23 8UW | Unloading of Petrol at Filling Station |
| Nantybwch Service Station | Nantybwch, Tredegar, NP22 3SB | Unloading of Petrol at Filling Station |
| Hilltop Garage | King Street, Brynmawr. NP23 4JD. | Unloading of Petrol at Filling Station |
| Tesco Service Station | Castle Street, Abertillery, NP13 1UR | Unloading of Petrol at Filling Station |
| Tesco Service Station | North Western Approach, Ebbw Vale, NP23 6TS | Unloading of Petrol at Filling Station |
| Roundabout Services, Sirhowy Bridge | Dukestown Road, Tredegar, NP22 4XL | Unloading of Petrol at Filling Station |
| Morrisons Service Station | Bryn Serth Road, Beaufort, Ebbw Vale, NP23 5YD | Unloading of Petrol at Filling Station |