

Updating and Screening Assessment

Air Quality

April 2006

1 INTRODUCTION

Local Authorities are required to review and assess air quality in their area as part of their duties under the Environmental Act 1995. The purpose of the review and assessment is to demonstrate whether the air quality objectives contained in the Air Regulations 2000 and the Air Quality (Amendment) Regulations 2002 are met within the specified time period.

National Air Quality Objectives			
Pollutant	Concentration	Measured as	Compliance
Benzene	16.25ug/m ³	Running annual mean	31 st December 2003
	5.00ug/m ³	Annual mean	31 st December 2010
1,3 - Butadiene	2.25ug/m ³	Running annual mean	31 st December 2003
Carbon monoxide	11.6mg/m ³	Running 8 hour mean	31 st December 2003
Lead	0.5ug/m ³	Annual Mean	31 st December 2004
	0.25ug/m ³	Annual Mean	31 st December 2008
Nitrogen dioxide	200ug/m ³ not to be exceeded more than 18 times per year	1 hour mean	31 st December 2005
	40ug/m ³	Annual mean	31 st December 2005
Particles (PM ₁₀)	50ug/m ³ not to be exceeded more than 35 times per year	24 hour mean	31 st December 2004
	50ug/m ³ not to be exceeded more than 7 times per year	24 hourly mean	31 st December 2010
	40ug/m ³	Annual mean	31 st December 2004
Sulphur dioxide	350ug/m ³ or 132ppb not to be exceeded more than 24 times per year	1 hour mean	31 st December 2004
	125ug/m ³ or 47ppb not to be exceeded more than 3 times per year	24 hour mean	31 st December 2004
	266ug/m ³ or 100ppb not to be exceeded more than 35 times per year	15 minute mean	31 st December 2005

If there is a significant risk that an objective will be exceeded then the Local Authority is required to declare Air Quality Management Areas and to produce an action plan to secure improvements in air quality.

Wychavon District Council undertook a review of and assessment of air quality in 2000 and concluded that there were unlikely to be any exceedences of the objectives and that the air quality in the area was good.

A second review and assessment, the updating and screening assessment (USA) was carried out in 2003, this also concluded that the air quality in Wychavon was satisfactory.

The Progress Report prepared in 2004 reported on the significant changes and developments since the 2003 Upgrading and Screening Assessment. This report, is the second Update and Screening assessment and it reviews the current status of air quality within the Wychavon district.

2 Overview of the Wychavon District Council

2.1 Location

Wychavon District Council is located in south-west Worcestershire, between Birmingham to the north and Cheltenham to the south. The district covers a total area of 260 square miles, populated by 114,990 people living in the towns of Droitwich, Evesham, Pershore and nearly 100 villages and hamlets.

2.2 Topography

The district lies on the river plain of the Avon between the Cotswold Hills to the south and the Birmingham plateau to the north. The district is relatively flat, having isolated hills, most notably Bredon Hill, 6km south of Pershore.

2.3 Bordering Local Authority Areas

Wychavon has boundaries with Worcester City, Redditch Borough, Tewkesbury Borough, Wyre Forest, Bromsgrove, Stratford on Avon, Cotswold and Malvern Hills District Councils.

2.4 Principal Transport Routes

The principal transport routes are

- The M5 motorway running along the western side of the district
- The A422 running east to west from Worcester to Stratford on Avon
- The A44 running north-east to south-west from Spetchley to Moreton in Marsh
- The A435 running south from Evesham to Cheltenham

The main railway routes are the Cheltenham to Droitwich line that splits at Droitwich to Kidderminster and Birmingham; the Worcester to Evesham and London line and the Cheltenham to Stratford on Avon line.

2.5 Industry and Commerce

Wychavon is best known for its traditional rural industries of horticulture, food manufacturing and distribution. However, light industry is growing, particularly engineering, manufacturing, warehousing and distribution, with centres in Droitwich, Evesham and Pershore.

2.6 Pollution Prevention and Control Permitted Sites

There are 4 A1 Integrated Pollution Prevention and Control installations regulated by the Environment Agency; 4 A2 Integrated Pollution Prevention and Control installations and 46 Installations permitted as Part B Installations by the Council. These are listed in appendix 2, together with the main emissions. The Council routinely inspects these premises in order to ensure compliance with the conditions in their permits.

3 Future Developments

3.1 Housing

Worcestershire County Council in its draft *Structure Plan* for the period 1996 to 2011 indicates that Wychavon District Council will be required to allocate 7,550 housing units for this period. A recent assessment of *residual housing requirement* found that approximately 1100 units are required. The majority of development will be directed towards the main urban areas. 700 of these units will be required in Droitwich. *Sustainability* is a key factor in determining where new development is to be located. Emphasis is to be placed on locating development close to the main transport corridors and to main employment centres.

3.2 Economic Development

The Council seeks to attract inward investment, promote a sustainable approach to development and to develop land and business premises in order to develop and promote the local economy in order to meet local needs. In addition, the Council aims to develop the leisure and tourism sector, but will always consider the possible detrimental effects that tourism may have on the local environment.

No major new industrial sites are planned, however, there are extensions to existing sites at Vale Park Industrial Centre Evesham, Stonebridge Cross Droitwich as well as increased availability at Keytech 7 Pershore and Hartlebury Trading Estate.

3.3 Local Transport Plan

Worcestershire County Council has produced a provisional Local Transport Plan (LTP) for the period 2006 to 2011. The final LTP was published in March 2006. The plan covers accessibility, air quality, tackling congestion and road safety. It sets out the following 6 Policies that are specific to Wychavon.

Policy WYCH1: To work in partnership with Wychavon District Council, Evesham Town Council and Advantage West Midlands to implement transport improvements within Evesham High Street as part of the Market Towns Transportation Initiative.

Policy WYCH2: To work in partnership with Wychavon District Council and Pershore Town Council to implement transport improvements in Pershore High Street to address safety, environmental and traffic management issues as part of the Market Towns Transport Initiative.

Policy WYCH3: To review the operation of the Pinvin Crossroads to identify ways to reduce congestion at this location, and work towards the construction of the Keytec Link Road should developer funding become available for this scheme.

Policy WYCH4: To work with the District Council and Droitwich Town Council to identify transport improvements that would benefit the town centre and implement these through the Market Towns Transport Initiative.

Policy WYCH5: To implement measures identified through the Vale of Evesham FQP to minimise the impact of heavy goods vehicles on local communities whilst supporting the continuing development of the agricultural industry in the area.

Policy WYCH6: To support measures to minimise the impact of traffic upon local communities within the Cotswold AONB area.

A sum of £750,000 has been allocated for the Market Towns Transport Initiative, £250,000 in 2007/08 and £500,000 in 2008/09. It is anticipated that a significant amount of this funding will be for Evesham High Street.

3.4 Sustainable Development

Sustainability underpins all the strategies described above and is an integral part of the day to day work of the Council. There are three main goals of sustainable development;

- Protecting and improving the environment
- Meeting social needs
- Promoting economic success

Our commitment to sustainability is expressed in our five year strategy, through our priorities, goals and annual promises. Our first priority is 'healthy and safe communities with a good quality environment'. This is under pinned with a goal to 'promote appropriate development and protect the environment.'

We have signed up to the Worcestershire Climate Change pledge. This includes a commitment to 'lead by example to reduce the negative environmental, social and economic impacts of climate change, locally and globally'. Whilst carbon dioxide has not been identified as one of the key pollutants to be included in the air quality review, it is a significant contributor to the "*greenhouse effect*", leading to the phenomenon known as "*global warming*".

We also have a Wychavon Travel Plan for our staff and Councillors. The aim of the plan is to promote and increase access to travel choices and to reduce the impact of our travel on people's health and the environment.

4. CARBON MONOXIDE

4.1 Objectives

The objective for carbon monoxide is 10mg/m³ as maximum daily 8hr mean concentration by 31st December 2003.

4.2 Conclusion Of Previous Air Quality Reviews

The previous review and assessments concluded that the air quality objective would be met by December 2003.

4.3 Information Considered

INFORMATION CONSIDERED	ASSESSMENT
Part A Installations	In Wychavon there still are no Part A1 or A2 installations that emit significant levels of carbon monoxide.
Part B Installations	In Wychavon there are no Part B installations which emit significant levels of carbon monoxide.
Other Installations	No significant emissions.
Emissions from Neighbouring Local Authorities	There are no existing or planned installations that may have an effect on air quality within Wychavon.
Planned Developments	There are no planned developments that will effect carbon monoxide emissions within Wychavon.
Monitoring Undertaken	No monitoring of carbon monoxide is carried out in Wychavon.
Background Levels	<i>The maximum annual mean for 2001 taken from the Air Quality Archive is 0.334 mg/m³.</i>

4.4 Updating And Screening Assessment

UPDATING AND SCREENING ASSESSMENT CHECKLIST	
Steps that must be taken to complete the assessment	Results of the updating and screening assessment
Monitoring	
(A) Monitoring data	
1. Collate all carbon monoxide monitoring data.	Wychavon DC does not monitor Carbon monoxide

UPDATING AND SCREENING ASSESSMENT CHECKLIST

Steps that must be taken to complete the assessment	Results of the updating and screening assessment
2. Ratify your local monitoring data	N/A
3. Identify the maximum daily 8hr concentrations during each year of measurement.	<i>The maximum annual mean for taken from the archive data is 0.334 mg/m³. This data has not been updated in the 2006 revision on the archive.</i>
Questions	
- Are any current maximum daily 8 hr concentrations greater than 10mg/m ³ ?	<i>We do not consider there to be any exceedence of the objectives within Wychavon.</i>
Action:	
Detailed assessment required?	No detailed assessment is required.
Road Traffic	
(B) Very busy roads or junctions in built-up areas	
1. Identify 'very busy' roads and junctions in areas where the background is expected to be above 1mg/m ³ .	There are no 'very busy' roads or junctions in built up areas as defined by the Technical Guidance.
Action:	
Detailed objective required?	A detailed assessment is not required for carbon monoxide because there are no locations within Wychavon which are relevant.

4.5 Conclusion

The updating and screening assessment indicates that the Air Quality Objective is not being exceeded, therefore a detailed assessment is not required for carbon monoxide.

5. BENZENE

5.1 Objectives

The objective for benzene is a running annual mean concentration of 16.25µg/m³ to be achieved by December 31st 2003. An additional objective has now been set for a fixed annual mean of 5µg/m³ to be achieved by 31st December 2010 in England and Wales. The second Air Quality Daughter Directive also sets a limit value for benzene, which requires an annual mean of 5µg/m³ to be achieved by 1st January 2010.

5.2 Conclusion Of Previous Air Quality Review

The previous reviews and assessments concluded that the air quality objectives would not be exceeded.

5.3 Information Considered

INFORMATION CONSIDERED	ASSESSMENT
Part A Installations	There are no Part A1 or A2 installations which emit significant levels of benzene within Wychavon.
Part B Installations	None of the permitted Part B installations within Wychavon are significant.
Other Installations	No significant emissions.
Emissions from Neighbouring Local Authorities	There are no known existing or planned installations that may affect air quality in terms of benzene emissions within Wychavon.
Planned Developments	There are no known planned developments that will affect benzene emissions within Wychavon.
Monitoring Undertaken	No monitoring of benzene has been carried out
Background Levels	<i>The maximum annual mean for 2001 taken from the Air Quality Archive is 0.418µg/m³.</i>

5.4 Updating And Screening Assessment

UPDATING AND SCREENING ASSESSMENT CHECKLIST	
Steps that must be taken to complete the assessment	Results of the updating and screening assessment
Monitoring	
(A) Monitoring data	
1. Collate all benzene monitoring data.	No further monitoring has been carried out since the last Review and Assessment.
2. Ratify your local monitoring data	N/A
3. Calculate annual means from the data and identify the highest values.	The highest annual mean for 2001 taken from the Air Quality Archive is $0.418\mu\text{g}/\text{m}^3$.
4. If the results are for a roadside location estimate the annual mean concentrations in 2003 and 2010.	The estimated annual mean concentrations from the Air Quality Archive for the highest annual mean identified above are: 2003 = $0.396\mu\text{g}/\text{m}^3$ 2010 = $0.3\mu\text{g}/\text{m}^3$
Questions	
- Are any running annual means greater than $16.25\mu\text{g}/\text{m}^3$? - Are any annual means greater than $5\mu\text{g}/\text{m}^3$?	There are no running annual means greater than $16.25\mu\text{g}/\text{m}^3$. There are no annual means greater than $5\mu\text{g}/\text{m}^3$.
Action:	
Detailed assessment required?	The levels of benzene are well below the Air Quality Objective, therefore no further assessment is required.
(C) Very busy roads or junctions in built up areas	
1. Identify 'very busy' roads and junctions in areas where the 2010 background is expected to be above $2\mu\text{g}/\text{m}^3$.	There are no new very busy roads or junctions since the last review and assessment The data from the Archive indicates that exposure levels are predicted to be well below $2\mu\text{g}/\text{m}^3$ in 2010.

UPDATING AND SCREENING ASSESSMENT CHECKLIST

Steps that must be taken to complete the assessment	Results of the updating and screening assessment
Action:	
Detailed assessment required?	A detailed assessment is not required because we do not have any relevant locations.
(D)Industrial Sources	
1. Determine whether you have any new sources that need to be considered further.	There are no new industrial sources within Wychavon that will affect benzene levels in the area.
Action:	
Detailed assessment required?	A detailed assessment is not required.
Other Sources	
(F)Petrol Stations	
1. Identify all petrol stations with a throughput of more 2000m ³ (2 million litres per annum) and with a busy road nearby (30,000 vehicles a day).	There are new petrol stations with a throughput of 2 million litres of petrol per annum where there is a relevant exposure.
2. Determine whether there is relevant exposure within 10m of the pumps.	There are no relevant exposures within 10m of the pumps at any of the above petrol stations.
Question	
- Do the petrol stations meet the above criteria?	The petrol stations within Wychavon do not meet the above criteria.
Action:	
Detailed assessment required?	A detailed assessment is not required because we do not have any relevant locations.
(G)Major fuel storage depots (petrol only)	
1. Identify any major fuel storage depots handling petrol.	There are no major fuel storage depots that handle petrol within or neighbouring Wychavon.
Action:	
Detailed assessment required?	A detailed assessment is not required because we do not have any relevant locations.

5.4 Conclusion

The updating and screening assessment indicates that the Air Quality Objectives are not being exceeded therefore a detailed assessment is not required for Benzene.

6. 1,3-BUTADIENE

6.1 Objectives

The objective for 1,3-butadiene is a maximum running annual mean concentration $2.25\mu\text{g}/\text{m}^3$ that was to be achieved by 31st December 2003. This objective is the same as for the previous review and assessments.

6.2 Conclusion Of Previous Air Quality Review

Previous review and assessments concluded that the air quality objective was not being exceeded.

6.3 Information Considered

INFORMATION CONSIDERED	ASSESSMENT
Part A Installations	There are no known Part A1 or A2 installations that emit significant levels of 1,3-butadiene within Wychavon.
Part B Installations	There are no known Part B installations that emit significant levels of 1,3-butadiene within Wychavon.
Other Installations	No significant emissions.
Emissions from Neighbouring Local Authorities	The Polymer Latex factory is adjacent to our northern boundary it is a Part A1 installation that uses 1,3-butadiene. A thermal oxidiser was installed and this has substantially cut the emissions. The air quality in the surrounding area is satisfactory.
Planned Developments	There are no known planned developments that will effect 1,3-butadiene emissions within Wychavon.
Monitoring Undertaken	1,3-butadiene is not monitored within Wychavon.
Background Levels	<i>The maximum annual mean for 2001 taken from the Air Quality Archive is $0.219\mu\text{g}/\text{m}^3$.</i>

6.4 Updating And Screening Assessment

UPDATING AND SCREENING ASSESSMENT CHECKLIST	
Steps that must be taken to complete the assessment	Results of the updating and screening assessment
Monitoring	
(A) Monitoring data	
1. Collate all 1,3-butadiene monitoring data.	Wychavon DC does not monitor for 1,3-butadiene.
2. Ratify your local monitoring data	N/A
3. Calculate running annual means from the data and identify the highest value.	The highest annual mean for 2001 taken from the Air Quality Archive is $0.219\mu\text{g}/\text{m}^3$.
Questions	
Are any current running annual means greater than $2.25\mu\text{g}/\text{m}^3$?	The highest value is $0.219\mu\text{g}/\text{m}^3$ from the archive is which is well below the objective.
Action:	
Detailed assessment required?	A detailed assessment is not required.
(B) New Industrial Sources	
1. Determine whether you have any new sources that need to be considered further.	There are no new industrial sources within Wychavon which use 1,3-butadiene.
Action:	
Detailed assessment required?	A detailed assessment is not required because we do not have any locations that are relevant.
(C) Industrial Sources with substantially increased emissions	
1. Determine whether any of the sources identified during the first round of review and assessment as potentially significant have substantially increased emissions.	There are no new sources within or adjacent to Wychavon which have substantially increased emissions since the previous review and assessments.

UPDATING AND SCREENING ASSESSMENT CHECKLIST

Steps that must be taken to complete the assessment	Results of the updating and screening assessment
Action: Detailed assessment required?	A detailed assessment is not required because we do not have any locations that are relevant.

6.5 Conclusion

The updating and screening assessment indicates that the Air Quality Objective is not being exceeded, therefore a detailed assessment is not required for 1-3 Butadiene.

7. LEAD

7.1 Objectives

The air quality objectives for lead are 0.5µg/m³ as an annual mean that was to be achieved by 31st December 2004 and 0.25µg/m³ to be achieved by 31st December 2008.

7.2 Conclusion Of Previous Air Quality Review

The previous Reviews and Assessments concluded that the air quality objective for lead would be met by December 2004. Emissions of lead are now restricted to a variety of industrial processes.

7.3 Information Considered

INFORMATION CONSIDERED	ASSESSMENT
Part A Installations	There are no known Part A1 or A2 installations that emit significant levels of lead within Wychavon.
Part B Installations	No significant emissions.
Other Installations	No significant emissions.
Emissions from Neighbouring Local Authorities	There are no known existing or planned installations that may affect air quality in terms of lead emissions within Wychavon.
Planned Developments	No known planned developments that will affect lead emissions within Wychavon.
Monitoring Undertaken	There is no monitoring of lead within Wychavon.
Background Levels	<i>There is no background data for lead on the Air Quality Archive. Levels from National Network all well below air quality objective for lead.</i>

7.4 Updating And Screening Assessment

UPDATING AND SCREENING ASSESSMENT CHECKLIST	
Steps that must be taken to complete the assessment	Results of the Updating and Screening Assessment
Monitoring	
(A) Monitoring data outside an AQMA	
1. Collate all monitoring data.	Wychavon DC does not have any local monitoring data for lead.
2. Ratify your local monitoring data	N/A
3. Calculate annual means from the data.	Annual means from Air Quality Archive during last review was $0.012\mu\text{g}/\text{m}^3$ in the majority of the district, increasing to $0.28\mu\text{g}/\text{m}^3$ along the M5 corridor. There is currently no data on the archive relating to lead levels and no calculations available to correct these figures to 2004 and 2008. However, the results from the National Network Monitoring sites are well below the Air Quality Objective for lead.
Questions	
Are any current annual means greater than $0.5\mu\text{g}/\text{m}^3$?	Based on the results from the last air quality review and taking into account the decrease in lead levels in the air due to the exclusion of lead from petrol, it is anticipated that there will be no levels above $0.5\mu\text{g}/\text{m}^3$ or $0.25\mu\text{g}/\text{m}^3$ within the district.
Are any current annual means greater than $0.25\mu\text{g}/\text{m}^3$?	
Action:	
Detailed assessment required?	The levels do not indicate that the air quality objective will be exceeded therefore a detailed assessment is not required for this stage.
(B) New Industrial Sources	
Determine whether you have any new sources that need to be considered further.	There are no new industrial sources since the first round of review and assessment.
Action:	
Detailed assessment required?	A detailed assessment is not required because there are no relevant locations.
(C) Industrial Sources with substantially increased emissions	
Determine whether any of	There are no industrial sources within Wychavon with

UPDATING AND SCREENING ASSESSMENT CHECKLIST

Steps that must be taken to complete the assessment	Results of the Updating and Screening Assessment
the sources identified during the last round as potentially significant have substantially increased emissions.	substantially increased emissions.
Action:	
Detailed assessment required?	A detailed assessment is not required because we do not have any locations that are relevant.

7.5 Conclusion

The updating and screening assessment indicates that the Air Quality Objective for 2004 is not being exceeded and that for 2008 will not be exceeded, therefore a detailed assessment is not required for lead.

8. NITROGEN DIOXIDE

8.1 Objectives

The objectives for nitrogen dioxide are an annual mean of 40µg/m³ to be achieved by 31st December 2005, and a one hour mean of 200µg/m³ with no more than 18 exceedences, to be achieved by 31st December 2005

8.1 Conclusion Of Previous Air Quality Review

The previous review and assessments concluded that the Air Quality Objective would be met by 31st December 2005.

8.3 Information Considered

INFORMATION CONSIDERED	ASSESSMENT
Part A Installations	There are no Part A1 or A2 installations that emit significant levels of nitrogen dioxide within Wychavon.
Part B Installations	There are no known Part B installations which emit significant levels of nitrogen dioxide within Wychavon.
Other Processes	No significant emissions.
Emissions from Neighbouring Local Authorities	There are no known existing or planned installations that may affect air quality in terms of nitrogen dioxide emissions within Wychavon.
Planned Developments	There have been no developments that will effect nitrogen dioxide emissions within Wychavon.
Monitoring Undertaken	Wychavon monitors nitrogen dioxide using diffusion tubes. No continuous monitoring of nitrogen dioxide is carried out.
Background Levels	<i>The maximum annual mean for 2005 taken from the Air Quality Archive is 22.6µg/m³ which meets the air quality objective.</i>

8.4 Updating And Screening Assessment

UPDATING AND SCREENING ASSESSMENT CHECKLIST	
Steps that must be taken to complete the assessment	Results of the updating and screening assessment
Monitoring	
(A) Monitoring data outside an AQMA	
1. Collate all monitoring data.	21 sites are monitored with diffusion tubes (Appendix 2). At 4 of the sites there are triple tubes. The results for 2005 (Appendix 3) have been corrected using national bias (see Appendix 4 result 1) and the local bias derived from a tube co-located with the chemiluminescence monitor in Hereford and for distance see (Appendix 4 result 2)
2. Ratify your local monitoring data	Gradko International Ltd supply and analysis the tubes. The tube preparation is 20%TEA/Water and the results have been adjusted using the 2005 national bias correction that is 1.03 see Appendix 4 result 1) and the local bias that is 0.96 see Appendix 4 result 2).
3. Calculate annual means from the data.	The annual means from previous years are shown in Appendix 5 and graphs .
4. Estimate the annual mean concentrations in the current year	The estimate annual means for 2005 and 2010 projected forward from the 2004 figures are shown in Appendix 6. The estimated figure for 2005 is lower that the actual monitoring results.
5. Calculate the number of 1-hour exceedences of $200\mu\text{gm}^3$ in a full year, or the 99.8 th percentile of hourly means.	Wychavon does not carry out any continuous monitoring of nitrogen dioxide. As the annual means are all below $60\mu\text{gm}^3$ the results of the study "Analysis of the relationship between 1 hour and annual mean nitrogen dioxide at UK roadside/kerbside monitoring sites suggest that there will not be exceedences of the 1 hour objective.
Questions	
Are any annual mean concentrations greater than $40\mu\text{gm}^3$?	The results using the national bias for 2005 when corrected for the distances to facades (see Appendix 4 result 3) indicate exceedences at one site on the southbound slip road Junction 5 of the M5 and in Swan Lane and Port Street Evesham. Using the local bias there are no exceedences. (see Appendix 4 result 4) except for slip road on M5 Junction 5.
Are there more than 18 exceedences of $200\mu\text{gm}^3$, or are any 99.8 th percentiles	As the annual means are all below $60\mu\text{gm}^3$ the results of the study "Analysis of the relationship between 1 hour and annual mean nitrogen dioxide at UK roadside/kerbside monitoring sites suggests no exceedences of the 1 hour objective

UPDATING AND SCREENING ASSESSMENT CHECKLIST

Steps that must be taken to complete the assessment	Results of the updating and screening assessment
greater than 200µgm ³ ?	
Action:	
Detailed assessment required?	Using the monitoring results corrected with the nation bias a detailed assessment of the annual mean objective is required for those sites in Evesham with results above 40µgm ³ We will also review those sites with levels very close to the objective.
(B) Monitoring data within an AQMA	
There no AQMA's within Wychavon DC, therefore this section is not relevant.	
(C) Narrow congested streets with residential properties close to the kerb	
1. Check whether these locations were assessed during the previous rounds of review and assessment.	The areas of narrow streets in Evesham and Pershore have been assessed previously and found not to be of concern, but the diffusion tube results for 2005 show that in Swan Lane and Port Street Evesham there are exceedences of the annual mean.
2. Identify all areas where there may be narrow congested streets with residential properties within 5m of the kerb (where road is less than 10m wide).	The areas with narrow streets within the district remain: <ul style="list-style-type: none"> - Port Street, Evesham - Swan Lane, Evesham - High Street, Pershore
3. Obtain information on traffic flows sufficient to list those roads identified above that have a flow greater than 10,000 vehicles a day.	The traffic information received is as follows: <ul style="list-style-type: none"> - Port Street, Evesham – 11,263 - Swan Lane, Evesham – 13,859 - High Street, Pershore – 11,758.
4. Use the DMRB screening model to predict the annual mean in 2005 at relevant locations.	The results of the DMRB calculations indicate levels below the objective. <ul style="list-style-type: none"> - Port Street, Evesham – 22.8µgm³ - Swan Lane, Evesham – 23.2µgm³ - High Street, Pershore – 17.9µgm³
Question	
Are any of the predicted annual means in 2005 greater than 40µgm ³ ?	The results of the diffusion tube monitoring in Port Street and Swan Lane show levels above 40µgm ³ .

UPDATING AND SCREENING ASSESSMENT CHECKLIST

Steps that must be taken to complete the assessment	Results of the updating and screening assessment										
Action:											
Detailed assessment required?	A detailed assessment is required for those sites in Evesham because although the premises are mostly commercial there are a few residential properties and occupied flats above shops.										
(D) Junctions											
1. Identify busy junctions.	<p>There following busy junctions have identified:</p> <ul style="list-style-type: none"> - Whittington Junction M5 roundabout - A4133 Ombersley roundabout - Wychbold Junction M5 roundabout - A38 Westlands roundabout - Junctions on Evesham Bypass Roundabouts - Worcester Road/Greenhill Evesham - Swan Lane/ High Street Evesham - Waterside/ Cheltenham Road Evesham - Waterside/ Port Street Evesham - Terrace Road/ A44 Pinvin - Station Road/ High street Pershore - High Street/ Broad Street Pershore 										
2. Determine whether there is any relevant exposure within 10m of the kerb.	<p>Of these the following junctions have places of relevant exposure (i.e. residential properties)</p> <ul style="list-style-type: none"> - A4133 Ombersley roundabout - Swan Lane/ High Street Evesham - Waterside/ Cheltenham Road Evesham - Waterside/ Port Street Evesham - Station Road/ High street Pershore 										
3. Obtain detailed information on traffic flows, speeds and the proportion of different vehicle types.	Worcestershire County Council have provided some information in respect of traffic flows and percentage of heavy vehicles. The information is not complete but conservative estimates have been made for example on average speeds										
4. Use the DMRB screening model to predict the annual mean concentrations in 2005 at relevant locations.	<p>The results from the DMRB screening model are</p> <table style="width: 100%; border: none;"> <tbody> <tr> <td style="padding-left: 20px;">- A4133 Ombersley roundabout</td> <td style="text-align: right;">22.2μgm^3</td> </tr> <tr> <td style="padding-left: 20px;">- Swan Lane/ High Street Evesham</td> <td style="text-align: right;">26.4μgm^3</td> </tr> <tr> <td style="padding-left: 20px;">- Waterside/ Cheltenham Road Evesham</td> <td style="text-align: right;">23.6μgm^3</td> </tr> <tr> <td style="padding-left: 20px;">- Waterside/ Port Street Evesham</td> <td style="text-align: right;">26.6μgm^3</td> </tr> <tr> <td style="padding-left: 20px;">- Station Road/ High street Pershore</td> <td style="text-align: right;">21.9μgm^3</td> </tr> </tbody> </table>	- A4133 Ombersley roundabout	22.2 μgm^3	- Swan Lane/ High Street Evesham	26.4 μgm^3	- Waterside/ Cheltenham Road Evesham	23.6 μgm^3	- Waterside/ Port Street Evesham	26.6 μgm^3	- Station Road/ High street Pershore	21.9 μgm^3
- A4133 Ombersley roundabout	22.2 μgm^3										
- Swan Lane/ High Street Evesham	26.4 μgm^3										
- Waterside/ Cheltenham Road Evesham	23.6 μgm^3										
- Waterside/ Port Street Evesham	26.6 μgm^3										
- Station Road/ High street Pershore	21.9 μgm^3										

UPDATING AND SCREENING ASSESSMENT CHECKLIST

Steps that must be taken to complete the assessment	Results of the updating and screening assessment
Question:	
Are any of the predicted annual mean concentrations in 2005 greater than $40\mu\text{gm}^3$?	The results of the diffusion tube monitoring in Port Street and Swan Lane show levels above $40\mu\text{gm}^3$.
Action:	
Detailed assessment required?	A detailed assessment is required for those sites in Evesham because although the premises are mostly commercial there are a few residential properties and occupied flats above shops.
(E) Busy streets where people may spend 1 hour or more close to traffic	
1. Check whether such locations were assessed during the previous rounds of review and assessment.	Port Street Evesham and High Street Pershore are potentially considered as a 'busy streets'.
2. Identify all the busy streets where members of the public may be exposed within 5m of the kerb for 1 hour or more.	Busy streets are streets with flows of 10,000 vehicles or more a day. <ul style="list-style-type: none"> - Port Street, Evesham -11263 - High Street, Pershore -11758
3. Obtain detailed information on traffic flows, speeds and proportion of different vehicle types.	The results of the DMRB calculations are shown in Appendix 5 and they indicate levels below the objective. <ul style="list-style-type: none"> - Port Street, Evesham – $22.8\mu\text{gm}^3$ - High Street, Pershore – $17.9\mu\text{gm}^3$
Action:	
Detailed assessment required?	The results of the diffusion tube monitoring show the annual means are all below $60\mu\text{gm}^3$. The results of the study "Analysis of the relationship between 1 hour and annual mean nitrogen dioxide at UK roadside/kerbside monitoring sites suggest that there will not be exceedences of the 1hour objective
(F) Roads with high flow of buses and/or HGV's	
1. Check whether such locations were assessed during previous rounds of review and assessment.	<i>No areas are considered to have high flows of buses or HGV's.</i>

UPDATING AND SCREENING ASSESSMENT CHECKLIST

Steps that must be taken to complete the assessment	Results of the updating and screening assessment
2. Identify all roads with an unusually high proportion of heavy duty vehicles.	There are no areas within Wychavon District Council with high flows of buses or HGV's. We do not, therefore, need to continue with this section.
Action:	
Detailed assessment required?	A detailed assessment is not required for this section because there are no relevant locations.
(G) New roads or proposed since previous rounds of review and assessment.	
Approach 1	
1. Check whether an air quality assessment has already been carried out for the new road.	A new section of road has been constructed to link the A44 at the junction with the B4624 to the Tywford roundabout on the Evesham By-pass. No air quality assessments were carried out as there are no relevant exposures and there is a gain as it takes traffic off The Squires away for houses.
Approach 2	
1. Establish whether the traffic flow on the new road is greater than 10,000 vehicles per day, or whether the new road has increased traffic flow on existing roads.	Assessment not needed.
Action:	
Detailed assessment required?	A detailed assessment is not required.
(H) Roads with significantly changed traffic flows	
1. Identify any roads with more than 10,000 vehicles per day that have experienced 'large' increases in traffic.	No roads with more than 10,000 vehicles per day have experienced 25% increases in traffic since the previous rounds of review and assessments.
2. Determine whether these roads had previously been identified as being at risk of exceeding the objectives.	No relevant roads have been issued.
Action:	

UPDATING AND SCREENING ASSESSMENT CHECKLIST

Steps that must be taken to complete the assessment	Results of the updating and screening assessment
Detailed assessment required?	A detailed assessment is not required because we do not have any relevant locations.
(I) Bus Stations	
1. Collect information on the daily movements of buses at the bus station.	<i>There are no bus stations that have not previously been assessed.</i>
2. Determine whether there is any relevant exposure within 10m of the bus station.	It is considered that there is no relevant exposure within 10m of any bus station sites within Wychavon.
Action:	
Detailed assessment required?	A detailed assessment is not required because we do not have any relevant locations.
(J) New Industrial Sources	
Approach 1	
Check whether an air quality assessment has already been carried out for the new industrial source.	There are no new industrial sources.
Approach 2	
Use the checklist in Annex 2 to determine whether the source needs considering further	There are no new industrial sources.
Action:	
Detailed assessment required?	A detailed assessment is not required because we do not have any relevant locations.
(K) Industrial Sources with substantially increased emissions	
1. Determine whether any of the sources identified during the first round of review and assessment as potentially significant have substantially increased emissions.	There are no industrial sources that have substantially increased emissions that may affect nitrogen dioxide levels with Wychavon.
Action:	
Detailed assessment required?	A detailed assessment is not required for this section because there are no relevant locations.

UPDATING AND SCREENING ASSESSMENT CHECKLIST

Steps that must be taken to complete the assessment	Results of the updating and screening assessment
(L) Aircraft	
1. Establish whether there is relevant exposure within 1000m of the airport boundary.	There are no airports within or on the boundary of Wychavon District Council.
Action:	
Detailed assessment required?	A detailed assessment is not required for this section.

8.5 Conclusion

The diffusion tube results for 2005 indicate that the annual mean Air Quality Objective is being exceeded in Swan Lane and Port Street Evesham, therefore a detailed assessment is required for these sites. Further consideration is also required for sites at Whittington and Wychbold where the diffusion tube results are very close to the annual mean.

9. SULPHUR DIOXIDE

9.1 Objectives

The objectives for sulphur dioxide are a 15 minute mean of $266\mu\text{g}/\text{m}^3$, not be exceeded more than 35 times a year by 31st December 2005, a 1 hr mean objective of $350\mu\text{g}/\text{m}^3$, to be exceeded no more than 24 times a year, and a 24 hr objective of $125\mu\text{g}/\text{m}^3$ to be exceeded no more than 3 times per year, to be achieved by 31st December 2004

These objectives are unchanged since the previous Review and Assessments.

9.2 Conclusion Of Previous Air Quality Review

The previous Review and Assessments concluded that the air quality objectives would not be exceeded.

9.3 Information Considered

INFORMATION CONSIDERED	ASSESSMENT
Part A Installations	There are no known Part A1 or A2 installations that emit significant levels of sulphur dioxide within Wychavon.
Part B Installations	There are three Part B installations known within Wychavon which emit small quantities of sulphur. These emissions are not considered to be significant.
Other Processes	All power generation within Wychavon has less than 5MW thermal rating, therefore not producing significant emissions.
Emissions from Neighbouring Local Authorities	There are no new developments that will impact on the air quality in Wychavon.
Planned Developments	No known planned developments that will effect sulphur dioxide emissions within Wychavon.
Monitoring Undertaken	Sulphur dioxide is not monitored within Wychavon.
Background Levels	<i>The maximum annual mean for 2001 taken from the Air Quality Archive is $9.68\mu\text{g}/\text{m}^3$.</i>

9.4 Updating And Screening Assessment

UPDATING AND SCREENING ASSESSMENT CHECKLIST	
Steps that must be taken to complete the assessment	Results of the Updating and Screening Assessment
Monitoring	
(A) Monitoring data outside an AQMA	
1. Collate all monitoring data.	Wychavon does not carry out any monitoring of sulphur dioxide.
2. Ratify your local monitoring data	N/A
3. Calculate the number of 15 minute exceedences of $266\mu\text{g}/\text{m}^3$ in a full year.	Wychavon has no continuous monitoring data for sulphur dioxide.
4. Calculate the number of 1hr exceedences of $350\mu\text{g}/\text{m}^3$ in a full year.	Wychavon has no continuous monitoring data for sulphur dioxide.
5. Calculate the number of 24hr exceedences of $125\mu\text{g}/\text{m}^3$ in a full year.	Wychavon has no continuous monitoring data for sulphur dioxide.
6. For monitoring with bubblers in 8 port samplers identify the maximum daily mean	Wychavon does not monitor for sulphur dioxide
Questions:	
Are there currently more than 35 15 minute exceedences greater than $266\mu\text{g}/\text{m}^3$ a year? Are there currently more than 24 1hr exceedences greater than $350\mu\text{g}/\text{m}^3$ a year? Are there currently more than 3 24hr exceedences greater than $125\mu\text{g}/\text{m}^3$ a year? Does the maximum daily mean bubbler result exceed $80\mu\text{g}/\text{m}^3$?	Wychavon has no continuous monitoring data for sulphur dioxide.

UPDATING AND SCREENING ASSESSMENT CHECKLIST

Steps that must be taken to complete the assessment	Results of the Updating and Screening Assessment
Action:	
Detailed assessment required?	The levels obtained from the Air Quality Archive are well below the objective levels, a detailed assessment is not considered necessary for this section.
<p>(B) Monitoring data within an AQMA There are no AQMA's within Wychavon DC.</p>	
<p>(C) New Industrial Sources</p>	
1. Check whether an air quality assessment has already been carried out for the new industrial source.	There are no new industrial sources within Wychavon that will effect levels of sulphur dioxide in the air.
Action:	
Detailed assessment required?	A detailed assessment is not required, because we do not have any locations that are relevant.
<p>(D) Industrial Sources with substantially increased emissions</p>	
1. Determine whether any of the sources identified during the last round as potentially significant have 'substantially' increased emissions.	There are no industrial sources within Wychavon which are potentially significant and have substantially increased emissions.
Action:	
Detailed assessment required?	A detailed assessment is not required for because we do not have any locations that are relevant.
<p>(E) Areas of domestic burning</p>	
1. Identify areas where significant coal burning still takes place.	There are no areas within Wychavon which have significant levels of coal burning.
Action:	
Detailed assessment required?	A detailed assessment is not required for these section because we do not have any locations which are relevant.

UPDATING AND SCREENING ASSESSMENT CHECKLIST	
Steps that must be taken to complete the assessment	Results of the Updating and Screening Assessment
(F) Small boilers >5 MW <small>(thermal)</small>	
1. Identify all boiler plant >5 MW <small>(thermal)</small> that burn coal or fuel oil.	Wychavon does not have any boiler plant within this category.
Action:	
Detailed assessment required?	A detailed assessment is not required, because we do not have any locations that are relevant.
(G) Shipping	
1. Establish whether there is relevant exposure within 1km of the berths and main areas of manoeuvring.	There are no shipping areas within Wychavon.
Action:	
Detailed assessment required?	A detailed assessment is not required.
(H) Railway Locomotives	
1. Identify areas where locomotives are stationary for periods of 15 minutes or more.	There are no areas within the district where locomotives are stationary for more than 15 minutes.
Action:	
Detailed assessment required?	A detailed assessment is not required, because we do not have any relevant locations.

9.5 Conclusion

The updating and screening assessment concludes that the Air Quality Objectives are not being exceeded, therefore a detailed assessment is not required for sulphur dioxide.

10. PARTICULATE MATTER PM₁₀

10.1 Objectives

The current objectives for PM₁₀ are as follows:

2004 Objectives (EU Stage 1 Limit Values)

40µg/m³ – annual mean

50µg/m³ – fixed 24 hour mean (not to be exceeded no more than 35 days per year)

The objectives are unchanged from those reviewed during the previous rounds of Air Quality Review. However, the EU have set indicative limit values for PM₁₀ which have to be achieved by 1st January 2010. These are more stringent and are as follows:

2010 Objectives (EU Stage 2 Limit Values)

20µg/m³ – annual mean

50µg/m³ – fixed 24 hour mean (not to be exceeded no more than 7 days per year)

10.2 Conclusion Of Previous Air Quality Review

Previous review and assessments concluded that air quality objectives would be met by 31st December 2004.

10.3 Information Considered

INFORMATION CONSIDERED	ASSESSMENT
Part A Installations	<p>The Part A1 installations that may emit significant levels of PM₁₀ within Wychavon are.</p> <p>Severn Waste Services, Hill and Moor Landfill Pershore</p> <p>Biffa Waste Services, Waresley Landfill Hartlebury.</p> <p>The A2 installations that may emit significant levels of PM₁₀ within Wychavon are</p> <p>Baggeridge Brick Plc Hartlebury (brick manufacture & quarry)</p> <p>Baggeridge Brick Plc Waresley (brick manufacture & quarry)</p>
Part B Installations	<p>The Part B installations which may contribute to PM₁₀ levels in the area are:</p> <ul style="list-style-type: none">- S E Davies (mobile crushing plant)

INFORMATION CONSIDERED	ASSESSMENT
	<ul style="list-style-type: none"> - Smiths Quarry (mobile crushing plant) - MRW (mobile crushing plant) <p>Emissions are controlled by the permit for the installations and it is considered that they will not impact on the overall levels.</p>
Other Installations	No significant emissions.
Emissions from Neighbouring Local Authorities	There are no known existing or planned developments that may affect air quality in terms of PM ₁₀ emissions within Wychavon.
Planned Developments	A new landfill site planned at Hartlebury adjacent to Hartlebury Brickworks and it will affect PM ₁₀ emissions within area.
Monitoring Undertaken	Currently PM ₁₀ is not monitored within Wychavon.
Background Levels	<i>The maximum annual mean for 2005 taken from the Air Quality Archive is 25µg/m³.</i>

10.4 Updating And Screening Assessment

UPDATING AND SCREENING ASSESSMENT CHECKLIST	
Steps that must be taken to complete the assessment	Results of the Updating and Screening Assessment
Monitoring	
(A) Monitoring data outside an AQMA	
1. Collate all monitoring data.	Currently Wychavon DC does not monitor for PM ₁₀ . Turnkey monitoring equipment has been purchased to enable us to carry out screening monitoring.
2. Ratify your local monitoring data	N/A
3. Calculate annual means and the number of 24hr exceedences of 50µg/m ³ .	The highest annual mean taken from the background data is 25µg/m ³ . This is well below the objectives for PM ₁₀ . No monitoring has been undertaken within Wychavon, therefore there is no data to determine 24 hour exceedences.
4. Estimate the number of 24 hour exceedences of 50µg/m ³ in 2004.	Monitoring has not been undertaken within Wychavon, therefore there is no data to determine 24 hour exceedences.
5. Estimate the annual mean concentrations in 2010 (Scotland only).	Although this is for Scotland only, it is recommended that the EU Stage 2 limit values be taken into account when undertaking this review. The maximum annual means taken from the background data from the Air Quality Archive for 2010

UPDATING AND SCREENING ASSESSMENT CHECKLIST

Steps that must be taken to complete the assessment	Results of the Updating and Screening Assessment
	is 23.5µg/m ³ , which is just below the EU limit values for 2010.
Questions	
For 2004 objectives: - Are there more than 35 predicted 24 hr exceedences of 50µg/m ³ in 2004?	We do not have any continuous monitoring data to answer this question.
Action:	
Detailed assessment required?	See outcome of the USA section L.
(B) Monitoring data within an AQMA	
There are no AQMA's within Wychavon DC, therefore this section is not relevant.	
(C) Busy roads and junctions in Scotland	
1. Identify busy roads and junctions	This section for Scotland only, therefore it has not been taken into consideration during this review.
(D) Junctions	
1. Identify busy junctions.	There following busy junctions have identified: <ul style="list-style-type: none"> - Whittington Junction M5 roundabout - A4133 Ombersley roundabout - Wychbold Junction M5 roundabout - A38 Westlands roundabout - Junctions on Evesham Bypass Roundabouts - Worcester Road/Greenhill Evesham - Swan Lane/ High Street Evesham - Waterside/ Cheltenham Road Evesham - Waterside/ Port Street Evesham - Terrace Road/ A44 Pinvin - Station Road/ High street Pershore - High Street/ Broad Street Pershore
2. Determine whether there is any relevant exposure within 10m of the kerb.	Of these the following junctions have places of relevant exposure (i.e. residential properties) <ul style="list-style-type: none"> - A4133 Ombersley roundabout - Swan Lane/ High Street Evesham - Waterside/ Cheltenham Road Evesham - Waterside/ Port Street Evesham

UPDATING AND SCREENING ASSESSMENT CHECKLIST

Steps that must be taken to complete the assessment	Results of the Updating and Screening Assessment										
	- Station Road/ High street Pershore										
3. Obtain detailed information on traffic flows, speeds and proportion of vehicle types.	Worcestershire County Council have provided some information in respect of traffic flows and percentage of heavy vehicles. The information is not complete but conservative estimates have been made for example on average speeds										
4. Use DMRB screening model to predict the number of 24 hr exceedences of 50µg/m ³ in 2004 at relevant locations.	<p>The results from the DMRB screening model are</p> <table style="width: 100%; border: none;"> <tr> <td style="padding-left: 20px;">- A4133 Ombersley roundabout</td> <td style="text-align: right;">23.6µgm³</td> </tr> <tr> <td style="padding-left: 20px;">- Swan Lane/ High Street Evesham</td> <td style="text-align: right;">28.8µgm³</td> </tr> <tr> <td style="padding-left: 20px;">- Waterside/ Cheltenham Road Evesham</td> <td style="text-align: right;">23.2µgm³</td> </tr> <tr> <td style="padding-left: 20px;">- Waterside/ Port Street Evesham</td> <td style="text-align: right;">24.3µgm³</td> </tr> <tr> <td style="padding-left: 20px;">- Station Road/ High street Pershore</td> <td style="text-align: right;">23.1µgm³</td> </tr> </table>	- A4133 Ombersley roundabout	23.6µgm ³	- Swan Lane/ High Street Evesham	28.8µgm ³	- Waterside/ Cheltenham Road Evesham	23.2µgm ³	- Waterside/ Port Street Evesham	24.3µgm ³	- Station Road/ High street Pershore	23.1µgm ³
- A4133 Ombersley roundabout	23.6µgm ³										
- Swan Lane/ High Street Evesham	28.8µgm ³										
- Waterside/ Cheltenham Road Evesham	23.2µgm ³										
- Waterside/ Port Street Evesham	24.3µgm ³										
- Station Road/ High street Pershore	23.1µgm ³										
Question											
Are there more than 35, 24 hr exceedences of 50µg/m ³ predicted in 2004?	The DMRB calculations used for the above indicate that at each of the above sites the number of exceedences is significantly less than 35.										
Action:											
Detailed assessment required?	The levels of PM ₁₀ indicated from the data are well below the Air Quality Objectives, therefore a detailed assessment is not required.										
(E) Roads with a high flow of buses and/or HGVs											
1. Identify all roads with unusually high proportion of heavy duty vehicles	There are no roads with an unusually high proportion of HDV's. The current level is approximately 11% county-wide.										
Action:											
Detailed assessment required?	A detailed assessment is not required because we do not have any relevant locations.										
(F) New roads constructed or proposed since first round of R&A											
Approach 1											
1. Check whether an air quality assessment has already been carried out for the new road.	New roads have been constructed around the village of Wyre Piddle and the Chadbury Twyford link, they were opened in 2002 and 2004. Air quality assessments were not carried out as they took traffic away from relevant receptors.										

UPDATING AND SCREENING ASSESSMENT CHECKLIST

Steps that must be taken to complete the assessment	Results of the Updating and Screening Assessment
Approach 2	
1. Establish whether the traffic flow on the new road is more than 10,000 vehicles per day (AADT) or whether the new road has increased traffic flow on existing roads previously identified as having more than 30, 24hr exceedences of 50µg/m ³ in 2004.	<p>The traffic flow on the new roads iare currently about 13,000 vehicles a day but there are no relevant exposures.</p> <p>The new roads bypass the village of Wyre Piddle and the Link in Evesham and therefore actually decrease the traffic flow near the areas of relevant exposure, therefore there will be decrease the levels of PM₁₀ .</p> <p>The estimated background level of PM₁₀ for this area in 2004 is 17.8µg/m³, which is well below the objective for 2004. It is therefore unlikely that the objective will be exceeded in this location.</p>
Action:	
Detailed assessment required?	A detailed assessment is not required for this section.
(G) Roads with significantly changed traffic flows or new relevant exposure	
There are no roads where the traffic flows have increased significantly or where there are new relevant exposures.	
(H) Roads close to the objective during the second round of Review and Assessment	
No roads were identified as being close to the objective during the second round and that this has not changed.	
(I) New industrial sources	
There are no new industrial sources that have contributed to additional particulate matter in atmosphere. A new landfill is planned.	
(J) Industrial sources with significantly increased emissions	
There are no industrial sources with significantly increased emissions in the district.	
(K) Areas with domestic solid fuel burning	
In Wychavon there are no areas that rely on solid fuel burning. Heating is mainly by gas.	
<u>(L) Quarries, landfill sites, opencast coal, handling of dusty cargoes at ports etc</u>	
1. Establish whether there is relevant exposure	There are several landfill sites, quarries and sites on which crushers are used within the district of Wychavon these are:

UPDATING AND SCREENING ASSESSMENT CHECKLIST

Steps that must be taken to complete the assessment	Results of the Updating and Screening Assessment
<p>'near' to the sources of dust emission.</p>	<ul style="list-style-type: none"> - Hill & Moor Landfill site, Throckmorton - Smiths Quarry, Broadway - S E Davies, Astwood Bank - MRW Long Marston - Quarries at Baggeridge Brick, Hartlebury - Biffa Landfill Hartlebury <p>Hill & Moor Landfill, Throckmorton</p> <p>The estimated background annual mean of PM₁₀ for this site for 2005 is 17.4µg/m³ and the estimated background for 2010 is 16µg/m³. These values are below the 27µg/m³ for 2004 and at the 16µg/m³ for 2010, however there are no areas of relevant exposure within 200m of this site.</p> <p>Smiths Quarry, Broadway</p> <p>The estimated background annual mean of PM₁₀ for this site for 2005 is 17.7µg/m³. This is well below the exposure limit for 2004. (The estimated background for 2010 is 16.3µg/m³, which is also below the exposure limit for 2010). There are no areas of relevant exposure within 200m of this site.</p> <p><u>SE Davies, Astwood Bank</u></p> <p>The estimated background annual mean of PM₁₀ for this site for 2005 is 18.2µg/m³. This is well below the exposure limit for 2004. (The estimated background for 2010 is 16.2µg/m³, which is also below the exposure limit for 2010). There are no areas of relevant exposure within 200m of this site.</p> <p>Quarries at Baggeridge Brick, Hartlebury</p> <p>There are two sites at Baggeridge Brick Hartlebury, both functioning quarries for clay.</p> <p>The estimated background annual mean of PM₁₀ for these sites for 2005 is 25µg/m³ and for 2010 is 23.5µg/m³.</p> <p><u>There are relevant exposures within 200m of one of the sites.</u></p>
<p>2. Determine whether there are dust concerns associated with the facility.</p>	<p>There have been complaints from nearby residents relating to dust from the stock-pile area at Baggeridge Brick Hartlebury site.</p>

UPDATING AND SCREENING ASSESSMENT CHECKLIST

Steps that must be taken to complete the assessment	Results of the Updating and Screening Assessment
Questions	
- Are there recent complaints about dust?	There have been complaints regarding dust from Baggeridge Brick Hartlebury site.
- Does visual inspection indicate significant dust?	Visual assessments indicate that there is some dust from the site.
Action:	
Detailed assessment required?	The assessment for Baggeridge Brick Hartlebury and the proposed landfill site adjacent to it suggest that we need to carry out a detailed assessment in this location for both objectives.
(M) Aircraft There are no airports with the district of Wychavon and none in the vicinity, therefore this section is not relevant.	

10.5 Conclusion

The updating and screening assessment suggests that the Air Quality Objectives may be exceeded in the vicinity of Hartlebury Brickworks, therefore a detailed assessment is required for PM₁₀.

Appendix 1

Pollution Prevention and Control Permitted Installations

Permitted		Installations Part B			
Auth No	Name	Address	Map Ref		Description
WYC/PPC/4/1/03	Morganite Crucible Ltd	Woodbury lane Norton Worcester	389142	251169	Manufacture of ceramic crucibles
WYC/PPC/6/1/03	Tarmac Western Ltd	Terrace Road Pinvin Pershore	395220	248050	Roadstone Coating Plant
WYC/PPC/7/1/03	RMC (Western) Ltd	Terrace Road Pinvin Pershore	395160	248120	Concrete Batching Plant
WYC/PPC/8/1/04	Doncasters Precision Castings Ltd	Vines Lane Droitwich	389670	263870	Ferrous Metal
WYC/PPC/13/1/04	Koito Europe Ltd	Kingswood Road Hampton Lovett Droitwich	388188	265374	Coating Metal and Plastic
WYC/PPC/14/1/03	S E Davis & Son Ltd	Sandhills Farm Edgioake Lane Astwood Bank Redditch	404121	261314	Mobile Crushing Plant
WYC/PPC/15/1/03	Hanson Southern Premix	Weston Subedge Bretforton Evesham	411472	241664	Concrete Batching Plant
WYC/PPC/16/1/03	Hanson Concrete Ltd	Aston Mill Pit Aston Mill Kemerton Tewkesbury	394167	235106	Concrete Batching Plant
WYC/PPC/17/1/03	Tarmac Topmix	Sandhills Farm Edgioake Lane Astwood Bank Redditch	404082	261330	Concrete Batching Plant
WYC/PPC/20/1/03	Smiths Limestone	Broadway Quarry Broadway	411870	236920	Quarry Process
WYC/PPC/25/1/03	Supreme Concrete Ltd	Weston Road Bretforton Evesham	411512	241716	Concrete Batching Plant for posts
WYC/PPC/32/1/05	Roger Dyson Recovery Systems Ltd	Long Bank Bery Hill Industrial Estate Droitwich	389270	264921	Vehicle Respraying
WYC/PPC/33/1/04	Avondale Autobodies Ltd	Unit 19 Brair Close Insustrial Estate Evesham	403483	244465	Vehicle Respraying
WYC/PPC/37/1/04	Inductotherm Europe Ltd	The Furlong Berry Hill Industrial Estate Droitwich	389532	264172	Metal Decontamination
WYC/PPC/40/1/05	Vale Services	Cheltenham Road Ashton under Hill	399015	235863	Petrol Vapour Recovery
WYC/PPC/41/1/05	Wales&West Utilities Ltd	Chidswickham			Gas Odourisation
WYC/PPC/42/1/05	Dunhampton Service Station	Worcester Road Dunhampton	384652	266459	Petrol Vapour Recovery
WYC/PPC/43/1/05	Wm Morrisons	Four Pools Industrial Estate Evesham	404351	242061	Petrol Vapour Recovery
WYC/PPC/44/1/05	Tescos	Worcester Road Evesham	403432	244703	Petrol Vapour Recovery
WYC/PPC/45/1/05	Cheltenham Service Station	Cheltenham Road Evesham	403490	242724	Petrol Vapour Recovery
WYC/PPC/46/1/05	Hartlebury Service Station	Waresley Kidderminster	384219	269522	Petrol Vapour Recovery
WYC/PPC/48/1/05	Abbey Garage	79 High Street Pershore	394857	246059	Petrol Vapour Recovery
WYC/PPC/49/1/05	Murco Service Station	Wychbold Droitwich	392357	266171	Petrol Vapour Recovery
WYC/PPC/50/1/05	RoadChef	Strensham M5 Strensham Worcs	390494	239871	Petrol Vapour Recovery
WYC/PPC/51/1/05	Three Springs Filling Station	Three Springs Road Pershore	394336	246081	Petrol Vapour Recovery
WYC/PPC/52/1/05	Droitwich Service Station	130 Worcester Road Droitwich	389634	262553	Petrol Vapour Recovery
WYC/PPC/53/1/05	TCS	Worcester Road Droitwich	389629	262453	Petrol Vapour Recovery
WYC/PPC/54/1/05	Vale Motor Centre Ltd	2 Broadway Road Evesham Worcs	404505	243503	Petrol Vapour Recovery
WYC/PPC/56/1/05	Wrye Piddle Filling Station	Wrye Piddle Pershore Worcs	397269	247417	Petrol Vapour Recovery
WYC/PPC/57/1/05	Cox's Cars Ltd	Three Springs Road Pershore	394225	245777	Petrol Vapour Recovery
WYC/PPC/59/1/05	Malthurst Droitwich	Worcester Road Droitwich Worcs	389191	261792	Petrol Vapour Recovery

WYC/PPC/60/1/05	Swan Service Station	Worcester Road Upton Warren Bromsgrove	393250	267270	Petrol Vapour Recovery
WYC/PPC/62/1/05	Twyford Services	Evesham Bypass Evesham Worcs	404240	246106	Petrol Vapour Recovery
WYC/PPC/63/1/04	Roloflex Ltd	Ascot Road Keytec 7 Pershore	395520	247800	Printing of Flexible Packaging
WYC/PPC/64/1/04	E M Coating Ltd	Vale Park Evesham Worcs	404730	241630	Coating of Metal and Plastic
WYC/PPC/66/1/04	E H Taylor Co Ltd	Oak Park Elmley Lovett	386510	270310	Powder Coating
WYC/PPC/67/1/03	Vale Tyre Exhaust & Service	Unit 5 Vale Link Vale Park Evesham	404558	241601	Waste Oil Burner
WYC/PPC/68/1/03	Pipe Supports Ltd	Salwarpe Road Droitwich WR9 9BH	388777	265022	Di-isocyanate Process
WYC/PPC/70/1/05	Station Garage	Station Road Broadway	408883	270210	Petrol Vapour Recovery
WYC/PPC/72/1/03	Carr's Paints	Church Lane Norton Worcester	387774	269948	Coating Manufacture
WYC/PPC/74/1/03	S E Davis and Sons Ltd	Sandhills Farm Edgioake Lane Astwood Bank Redditch	404121	261314	Mobile Crusher
WYC/PPC/75/1/03	MRW Ltd	Long Marston	415496	256582	Mobile Crushing Plant
WYC/PPC/76/1/03	M J Palmer & Sons Ltd	Crowle Garage Crowle Worcester WR7 4AA	392096	256582	Waste Oil Burner
WYC/PPC/77/1/04	SMH Fleet Solutions Ltd	Church Lane Norton Worcester WR5 2PR	387350	25165	Vehicle Refinishing

A2 Installations

WYC/IPPC/1/1/03	Amcor Flexibles Evesham	Orleans Close Evesham WR11 2XL	403554	242419	Printing of Flexible Packaging
WYC/IPPC/2/1/03	Polestar Varnicoat Ltd	Terrace Road Pinvin Pershore WR10 2DN	395220	248190	Printing on Paper
WYC/IPPC/4/1/04	Baggeridge Brick Plc	Waresley Works Hartlebury Trading Estate DY10 4JB	385070	270820	Brickworks
WYC/IPPC/5/1/04	Baggeridge Brick Plc	Hartlebury Works Whitlengge Lane Hartlebury	385453	270218	Brickworks

A1 Insatllations

BV3677	Baxendon Chemicals Ltd	Union Street Droitwich			Acids/Organic Chemicals
BJ4710	Robert Wiseman & Sons	Hampton Lovett Droitwich			Treatment of Milk
BW0029	Biffa Waste Services	Hartlebury Kidderminster			Landfill
BV2794	Biffa Waste Services	Hartlebury Kidderminster			Landfill
BW0223	Severn Waste Services	Hill and Moor Pershore			Landfill

Appendix 2 Diffusion Tube Sites

Norton	Church Lane	Roadside near M5
Whittington	Nr Swan (LP 50)	Roadside near A44
Whittington	Nr Swan (LP 50)	Roadside near A44
Whittington	Nr Swan (LP 50)	Roadside near A44
Swinesherd	Homeleigh	At house M5 30 metres
Strensham	Mill Lane	Roadside near M5
Pershore	Civic Centre	Urban Background
Pershore	High Street	Roadside
Pershore	40 High Street	Roadside
Pershore	St. Andrews Road	Urban Background
Pershore	Broad Street	Roadside
Broadway	High Street	Roadside
Broadway	Leamington Road	Roadside
Evesham	Swan Lane	Roadside Evesham Town Centre
Evesham	Port Street	Roadside Evesham Town Centre
Evesham	High Street	Roadside Evesham Town Centre
Droitwich	Ombersley Street East	Roadside Droitwich Town Centre
Droitwich	St. Andrews Road	Roadside Droitwich Town Centre
Droitwich	Hanbury Road (LP34)	Residential Area M5 50 metres
Droitwich	Mayflower Road (1)	Residential Area M5 40 metres
Droitwich	Mayflower Road (2)	Residential Area M5 40 metres
Droitwich	Mayflower Road (3)	Residential Area M5 40 metres
Droitwich	Tagwell Close (LP4) - (1)	Residential Area M5 30 m
Droitwich	Tagwell Close (LP4) - (2)	Residential Area M5 30 m
Droitwich	Tagwell Close (LP4) - (3)	Residential Area M5 30 m
Droitwich	Westlands	Roadside at roundabout
Wychbold	A38 Road	Roadside slip road M5
Wychbold	Worcester Road (1)	Roadside off M5 junction 5
Wychbold	Worcester Road (2)	Roadside off M5 junction 5
Wychbold	Worcester Road (3)	Roadside off M5 junction 5

Appendix 3 Roadside Concentrations 2005

			Jan	Feb	March	April	May	Jun	July	Aug	Sept	Oct	Nov	Dec	average
EPS1	Norton	Church Lane	29.80	40.65	38.59	31.11	29.30					29.14	39.12	36.22	34.24
EPS2	Whittington	Nr Swan (LP 50)	40.85	53.88	61.46	45.19	49.45	38.91	52.02	39.97	50.13	56.33	68.26	52.72	50.76
EPS3	Whittington	Nr Swan (LP 50)	48.95	54.53	61.70	47.41	35.65	47.02	47.79	41.81	47.05	58.01	64.23	57.97	51.01
EPS4	Whittington	Nr Swan (LP 50)	45.38	55.12	59.72	46.30	41.65	39.16	50.58	40.75	50.95	50.50	71.23	55.98	50.61
EPS5	Swinesherd	Homeleigh	37.39	39.88	31.95	29.95	20.50	27.51	27.51	30.19	30.69		65.01	38.12	34.43
EPS6	Pershore	Civic Centre	35.02	33.79	35.16	23.85	17.88	18.54	17.31	16.40	19.35	22.92	34.75	37.16	26.01
EPS7	Pershore	High Street	33.49	41.71	41.96	32.56	24.81	27.39	23.51	24.57	27.69	35.76	42.09	38.07	32.80
EPS8	Pershore	40 High Street	38.75	43.96	46.50	37.01	29.30	21.53	26.89	23.52	32.86	35.14	39.01	41.02	34.62
EPS9	Pershore	St. Andrews Road	20.28	27.47	23.98			13.24	11.19	12.12	15.91		28.42	35.13	20.86
EPS10	Pershore	Broad Street	65.44	37.34	40.45	28.88	27.73	29.15	28.46	31.36	25.11	31.16	44.00		35.37
EPS11	Broadway	High Street	23.40	26.11	24.91	21.43	13.16	15.86	15.29	13.40	15.18	21.80	24.77	24.30	19.97
EPS12	Broadway	Leamington Road	24.53	28.83	27.70	21.58	17.18	16.96	19.15	17.68				29.98	22.62
EPS13	Evesham	Swan Lane	43.63	55.18	50.58		31.22	35.07	35.92	32.58	35.94	34.36	50.95	42.56	40.73
EPS14	Evesham	Port Street	35.30	39.82	48.72	48.67	42.93	48.73	35.34	35.64	42.34	44.78	47.86	50.45	43.38
EPS15	Evesham	High Street	44.59	56.82	54.77	49.54	34.19	41.29	31.47	32.58	33.77	48.70	53.80	58.61	45.01
EPS16	Droitwich	Ombersley Street East	34.46	39.88	42.31	67.34	17.65	26.53	26.26	24.30	29.19	31.95	40.86	38.85	34.97
EPS17	Droitwich	St. Andrews Road	27.35	30.19			20.45			18.24	25.34		36.21	40.75	28.36
EPS18	Droitwich	Hanbury Road (LP34)	27.79	37.34	43.42	36.48	28.08	26.23		40.86	30.23	42.03		34.04	34.65
EPS19	Droitwich	Mayflower Road (1)	29.27	45.14	46.39	42.52			32.68		27.38	50.55	40.97	43.74	39.85
EPS20	Droitwich	Mayflower Road (2)	29.81	42.18	48.60	40.73			29.85		28.92	60.47	35.25	43.15	39.88
EPS21	Droitwich	Mayflower Road (3)	27.02	47.03	43.13	38.61			25.81		28.60	55.99	44.50	42.47	39.24
EPS22	Droitwich	Tagwell Close (LP4) - (1)	28.61	47.03	41.38	30.96	25.28	27.81	21.63	18.35	23.39	43.60	35.31	38.39	31.81
EPS23	Droitwich	Tagwell Close (LP4) - (2)	29.92	44.96	45.69	36.62	24.93	31.84	31.74	16.79	23.48	47.25	33.29	44.56	34.26
EPS24	Droitwich	Tagwell Close (LP4) - (3)	26.59	44.84		36.67	29.18	33.85	32.91	17.23	28.74	44.95	38.11	41.84	34.08
EPS25	Droitwich	Westlands	43.14	45.67	54.30	46.73	42.29		74.86	33.75	49.32	51.34	52.91		49.43
EPS26	Wychbold	A38 Road	60.23	66.88	72.29	63.76	48.64	52.39	62.09	52.15	44.24	45.68	69.72	50.27	57.36
EPS27	Wychbold	Worcester Road (1)	59.14	35.80	65.19		50.91	46.23	37.68	49.09	46.60		61.43	57.16	50.92
EPS28	Wychbold	Worcester Road (2)	58.70	66.05	62.18		39.44	48.24	39.25	43.20	34.72		66.02	54.17	51.20

EPS29	Wychbold	Worcester Road (3)	56.62	60.26	62.39		38.15	50.14	45.63	38.58	49.50		69.50	51.90	52.27
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Appendix 4 2005 Roadside Concentrations corrected for Bias and Distance

			Annual Level	Bias 1	Bias 2	Result 1	Result 2	Distance	Result 3	Result 4
EPS1	Norton	Church Lane	34.24	1.03	0.96	35.27	32.87	0.9	31.74	29.58
EPS2	Whittington	Nr Swan (LP 50)	50.76	1.03	0.96	52.28	48.73	0.75	39.21	36.55
EPS3	Whittington	Nr Swan (LP 50)	51.01	1.03	0.96	52.54	48.97	0.75	39.41	36.73
EPS4	Whittington	Nr Swan (LP 50)	50.61	1.03	0.96	52.13	48.59	0.75	39.10	36.44
EPS5	Swinesherd	Homeleigh	34.43	1.03	0.96	35.46	33.05	1	35.46	33.05
EPS6	Pershore	Civic Centre	26.01	1.03	0.96	26.79	24.97	1	26.79	24.97
EPS7	Pershore	High Street	32.8	1.03	0.96	33.78	31.49	0.9	30.41	28.34
EPS8	Pershore	40 High Street	34.62	1.03	0.96	35.66	33.24	0.95	33.88	31.57
EPS9	Pershore	St. Andrews Road	20.86	1.03	0.96	21.49	20.03	1	21.49	20.03
EPS10	Pershore	Broad Street	35.37	1.03	0.96	36.43	33.96	0.75	27.32	25.47
EPS11	Broadway	High Street	19.97	1.03	0.96	20.57	19.17	0.95	19.54	18.21
EPS12	Broadway	Leamington Road	22.62	1.03	0.96	23.30	21.72	0.9	20.97	19.54
EPS13	Evesham	Swan Lane	40.73	1.03	0.96	41.95	39.10	0.95	39.85	37.15
EPS14	Evesham	Port Street	43.38	1.03	0.96	44.68	41.64	0.95	42.45	39.56
EPS15	Evesham	High Street	45.01	1.03	0.96	46.36	43.21	0.9	41.72	38.89
EPS16	Droitwich	Ombersley Street East	34.97	1.03	0.96	36.02	33.57	0.9	32.42	30.21
EPS17	Droitwich	St. Andrews Road	28.36	1.03	0.96	29.21	27.23	0.9	26.29	24.50
EPS18	Droitwich	Hanbury Road (LP34)	34.65	1.03	0.96	35.69	33.26	0.9	32.12	29.94
EPS19	Droitwich	Mayflower Road (1)	39.85	1.03	0.96	41.05	38.26	0.75	30.78	28.69
EPS20	Droitwich	Mayflower Road (2)	39.88	1.03	0.96	41.08	38.28	0.75	30.81	28.71
EPS21	Droitwich	Mayflower Road (3)	39.24	1.03	0.96	40.42	37.67	0.75	30.31	28.25
EPS22	Droitwich	Tagwell Close (LP4) - (1)	31.81	1.03	0.96	32.76	30.54	0.75	24.57	22.90
EPS23	Droitwich	Tagwell Close (LP4) - (2)	34.26	1.03	0.96	35.29	32.89	0.75	26.47	24.67
EPS24	Droitwich	Tagwell Close (LP4) - (3)	34.08	1.03	0.96	35.10	32.72	0.75	26.33	24.54
EPS25	Droitwich	Westlands	49.43	1.03	0.96	50.91	47.45	0.75	38.18	35.59
EPS26	Wychbold	A38 Road	57.36	1.03	0.96	59.08	55.07	0.75	44.31	41.30

EPS27	Wychbold	Worcester Road (1)	50.92	1.03	0.96	52.45	48.88	0.75	39.34	36.66
EPS28	Wychbold	Worcester Road (2)	51.2	1.03	0.96	52.74	49.15	0.75	39.55	36.86
EPS29	Wychbold	Worcester Road (3)	52.27	1.03	0.96	53.84	50.18	0.75	40.38	37.63

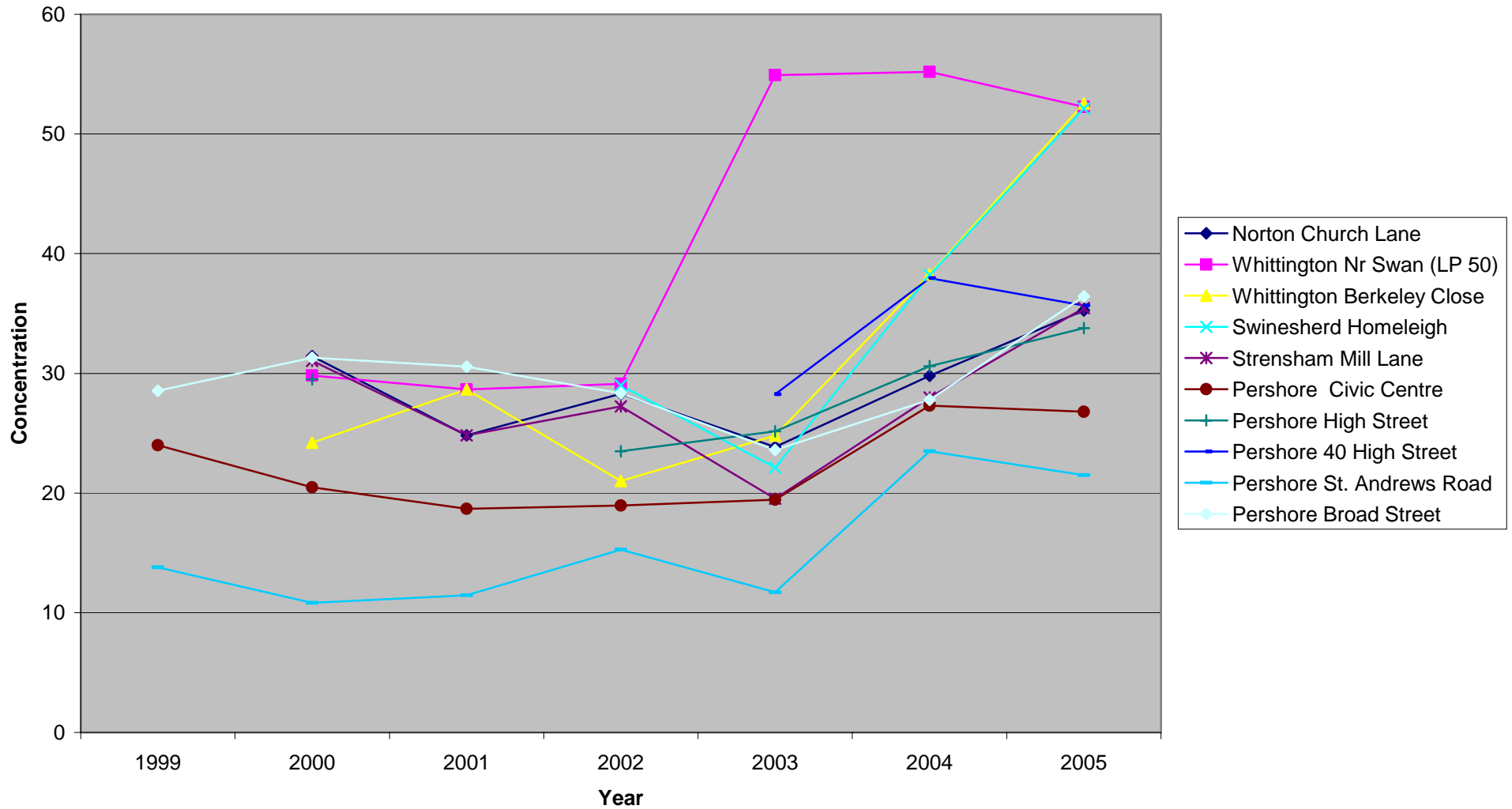
Appendix 5

Results from Previous Years

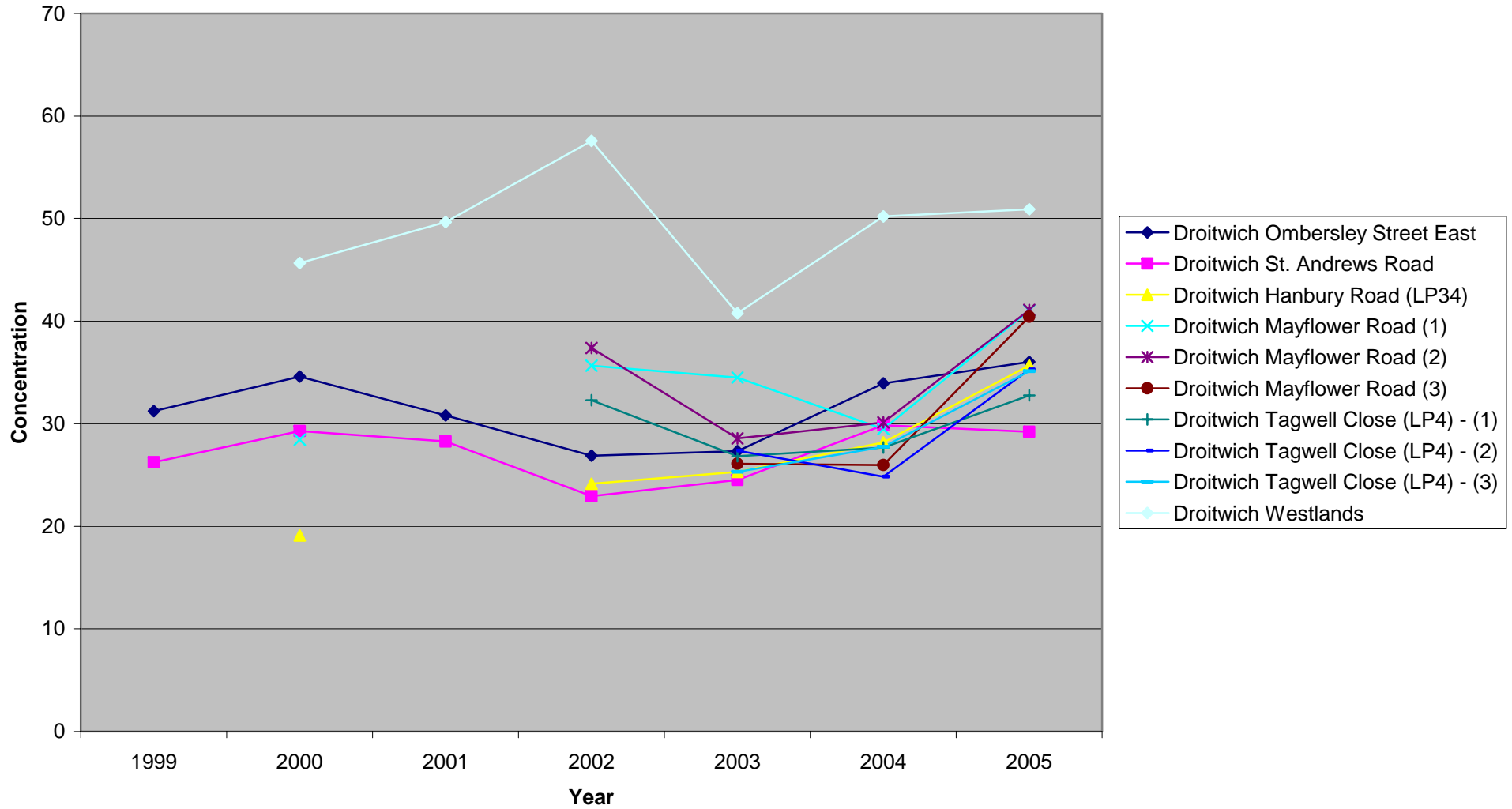
		1998	1999	2000	2001	2002	2003	2004	2005
Norton	Church Lane			31.42	24.83	28.3	23.85	29.79	35.27
Whittington	Nr Swan (LP 50)			29.83	28.65	29.13	54.92	55.19	52.28
Whittington	Nr Swan (LP 50)							38.26	52.54
Whittington	Nr Swan (LP 50)							38.2	52.13
Swinesherd	Homeleigh					29	22.13	27.98	35.46
Pershore	Civic Centre	33.37	24	20.49	18.68	18.95	19.44	27.29	26.79
Pershore	High Street			29.5		23.49	25.17	30.61	33.78
Pershore	40 High Street						28.26	37.95	35.66
Pershore	St. Andrews Road	13.79	13.79	10.82	11.46	15.28	11.72	23.49	21.49
Pershore	Broad Street	28.54	28.54	31.3	30.56	28.33	23.6	27.79	36.43
Broadway	High Street	23.3	15.15	20.15	18.26	18.15	14.58	18.77	20.57
Broadway	Leamington Road	23.89	15.58	16.67	17.67	16.64	17.88	21.69	23.3
Evesham	Swan Lane						33.1	35.17	41.95
Evesham	Port Street						32.96	38.58	44.68
Evesham	High Street	49	36.08	36.29	40.3	45.46	32.39	40.76	46.36
Droitwich	Ombersley Street East	40.53	31.24	34.59	30.82	26.89	27.34	33.93	36.02
Droitwich	St. Andrews Road	33.76	26.24	29.28	28.27	22.92	24.51	29.86	29.21
Droitwich	Hanbury Road (LP34)			19.1		24.14	25.3	28.17	35.69
Droitwich	Mayflower Road (1)			28.43		35.66	34.5	29.47	41.05
Droitwich	Mayflower Road (2)					37.38	28.57	30.13	41.08
Droitwich	Mayflower Road (3)						26.1	25.98	40.42
Droitwich	Tagwell Close (LP4) - (1)					32.3	26.83	27.68	32.76
Droitwich	Tagwell Close (LP4) - (2)						27.37	24.82	35.29
Droitwich	Tagwell Close (LP4) - (3)						25.3	27.76	35.1
Droitwich	Westlands			45.65	49.66	57.57	40.77	39.72	50.91
Wychbold	A38 Road			50.71	45.84	42.08	42.34	50.22	59.08
Wychbold	Worcester Road (1)						35.15	48.52	52.45

Wychbold	Worcester Road (2)						35.15	51.33	52.74
Wychbold	Worcester Road (3)						34.46	49.62	53.84

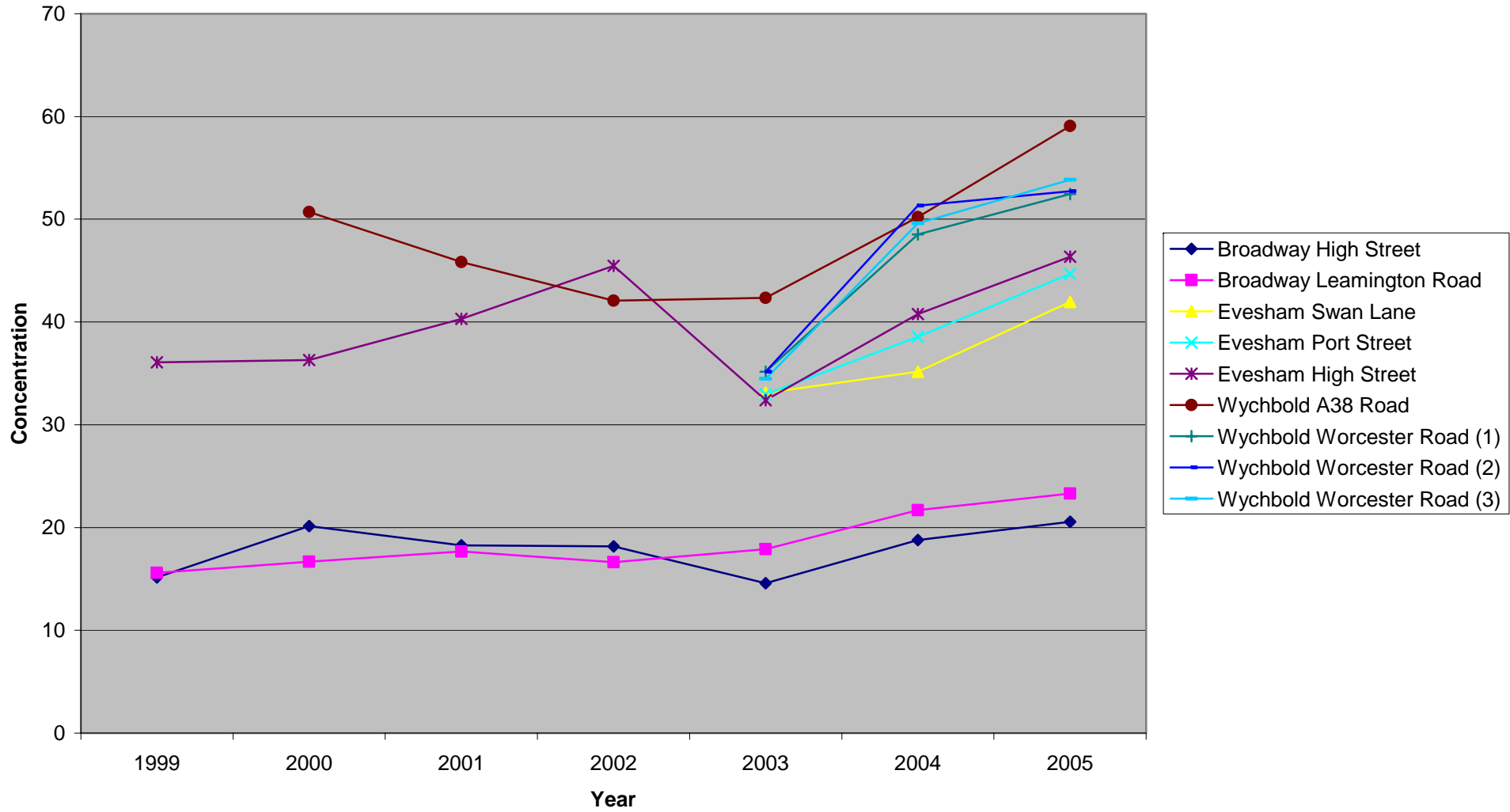
Roadside Diffusion Tube Results 1999 to 2005



Roadside Diffusion Tube Results 1999 to 2005



Roadside Diffusion Tubes 1999 to 2005



Roadside Diffusion Tube Results 2005 Corrected for distance to Receptor

