

Report

**Air Quality Review and Assessment
Progress Report for Hart District
Council**

Report to Hart District Council

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Executive Summary

Under the Environment Act 1995, Local Authorities are required to undertake regular review and assessments of air quality. Local Authorities have recently completed the second round of the review and assessment process. The second round was comprised of two steps. The first step was an Updating and Screening Assessment. Where a significant risk of exceedence of one or more of the UK objectives was identified it was necessary for the Local Authority to proceed to a Detailed Assessment. Where a Local Authority did not need to undertake a Detailed Assessment, a shorter Progress Report was required instead. Hart District Council produced a progress report in April 2004 (Hart DC, PR, 2004) satisfying these requirements. Each Local Authority must also produce a Progress Report by the end of April 2005 covering monitoring data for the 2004 calendar year. This report is the equivalent of the 2005 Progress Report.

Hart District Council completed an Updating and Screening Assessment (USA) in April 2003. The results of that report showed that no pollutants were expected to exceed the air quality objectives and therefore there was no need to proceed to a detailed assessment. The 2004 Progress Report re-iterated this finding. This Progress Report follows the guidance provided in LAQM.PRG(03) and provides the latest nitrogen oxides and PM₁₀ monitoring results for Hart District Council and information on new local developments that might affect local air quality.

The results of the latest NO₂ monitoring show that at no location where monitoring is taking place are nitrogen dioxide concentrations expected to exceed the air quality objectives in 2005. However, the concentrations recorded at the Blackwater site are close to the objective and so should be closely observed. In addition, neither of the continuous monitors showed an exceedence of the 2004 PM₁₀ objectives.

There have been three small scale local developments but no significant changes in road traffic conditions in the borough since the USA was completed in April 2003.

There is one new Part B processes in the District. However the emissions are not significant and therefore no further assessment is needed.

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Appendices

Appendix 1 Monitoring Sites and Data

1 Introduction

The Environment Act 1995 introduced the Local Air Quality Management system, which requires Local Authorities to undertake regular review and assessment of air quality, with respect to the standards and objectives set in the Air Quality Strategy, and enacted through the Air Quality Regulations in 1997, 2000 and 2002. In areas where an air quality objective is predicted not to be met by the required date, Local Authorities are required to establish Air Quality Management Areas and implement action plans to improve air quality.

Following the second round of air quality review and assessments, now completed in England, Wales and Scotland, each local authority must produce a Progress Report. Progress Reports are prepared between subsequent rounds of review and assessments. The aim is to ensure continuity in the LAQM process.

The second round of air quality review and assessments comprises two steps. The first step is an Updating and Screening Assessment, which updates the Stage 1 and 2 review and assessment previously undertaken for all pollutants identified in the Air Quality Regulations. Where a significant risk of exceedence is identified for a pollutant it will be necessary for the Local Authority to proceed to a Detailed Assessment, equivalent to the previous Stage 3 assessments. Where a Local Authority does not need to undertake a Detailed Assessment, a shorter Progress Report is required instead.

A timetable for future rounds of review and assessment has been set, whereby Updating and Screening Assessments are required every three years, in 2003, 2006 and 2009. In the intervening years such as 2005, Local Authorities are required to produce a Progress Report. Hence, the need for Hart's 2005 Progress Report.

1.1 PURPOSE AND ROLE OF PROGRESS REPORTS

The Progress Report is intended to ensure continuity in the LAQM process. Its objective is to provide an annual review and update on air quality issues, including developments that might be significant to air quality. Any significant developments can then be acted upon immediately, rather than waiting for the next full round of review and assessment. The benefits to Local Authorities are set out in Box 1.1 of the Progress Report Guidance, but these include the following.

- To provide a readily accessible source of up to date information on air quality, which may be useful to Local Authority staff for dealing with enquiries from members of the public, developers carrying out environmental assessments, and to assist in other areas such as transport and land use planning.
- To ensure continuity in maintaining resourcing, capability and staff skills for LAQM within the Local Authority.
- Helping to get maximum value from the monitoring carried out by the Local Authority.

This report is equivalent to a Progress Report for Hart District Council as outlined in the Government's published guidance, Part IV of the Environment Act 1995 Local Air Quality

Management – Progress Report Guidance LAQM.PRG(03), referred to in this report as the Progress Report Guidance.

1.2 AIR QUALITY STRATEGY OBJECTIVES

The Air Quality Strategy's standards and objectives are shown in Table 1.2A. The table shows the standards in $\mu\text{g m}^{-3}$ (mg m^{-3} for CO) with the number of exceedences that are permitted (where applicable).

Table 1.2A Objectives included in the Air Quality Regulations 2000 and (Amendment) Regulations 2002 for the purpose of Local Air Quality Management

Pollutant	Air Quality Objective		Date to be achieved by
	Concentration	Measured as	
Benzene			
All authorities	16.25 $\mu\text{g m}^{-3}$	running annual mean	31.12.2003
Authorities in England and Wales only	5.00 $\mu\text{g m}^{-3}$	annual mean	31.12.2010
Authorities in Scotland and Northern Ireland only	3.25 $\mu\text{g m}^{-3}$	running annual mean	31.12.2010
1,3-Butadiene	2.25 $\mu\text{g m}^{-3}$	running annual mean	31.12.2003
Carbon monoxide			
Authorities in England, Wales and Northern Ireland only	10.0 mg m^{-3}	maximum daily running 8-hour mean	31.12.2003
Authorities in Scotland only	10.0 mg m^{-3}	running 8-hour mean	31.12.2003
Lead	0.5 $\mu\text{g m}^{-3}$ 0.25 $\mu\text{g m}^{-3}$	annual mean annual mean	31.12.2004 31.12.2008
Nitrogen dioxide^a	200 $\mu\text{g m}^{-3}$ not to be exceeded more than 18 times a year 40 $\mu\text{g m}^{-3}$	1 hour mean annual mean	31.12.2005 31.12.2005
Particles (PM₁₀) (gravimetric)^b	50 $\mu\text{g m}^{-3}$ not to be exceeded more than 35 times a year 40 $\mu\text{g m}^{-3}$	24 hour mean annual mean	31.12.2004 31.12.2004
Authorities in Scotland only ^c	50 $\mu\text{g m}^{-3}$ not to be exceeded more than 7 times a year 18 $\mu\text{g m}^{-3}$	24 hour mean annual mean	31.12.2010 31.12.2010
Sulphur dioxide	350 $\mu\text{g m}^{-3}$ not to be exceeded more than 24 times a year 125 $\mu\text{g m}^{-3}$ not to be exceeded more than 3 times a year 266 $\mu\text{g m}^{-3}$ not to be exceeded more than 35 times a year	1 hour mean 24 hour mean 15 minute mean	31.12.2004 31.12.2004 31.12.2005

a. These objectives are provisional.

b. Measured using the European gravimetric transfer sampler or equivalent.

c. These 2010 Air Quality Objectives for PM₁₀ apply in Scotland only, as set out in the Air Quality (Scotland)

Amendment Regulations 2002.

There are new national particles objectives for England, Wales and Greater London. However, these are not currently included in Regulations for the purpose of LAQM. The Government and the Welsh Assembly Government however intends that the new particles objectives will be included in Regulations as soon as practicable after the review of the EU's first air quality daughter directive, which is due to be completed in 2004. The new particles objectives for England, Wales and Greater London are shown in Table 1.2B below. Whilst authorities have no obligation to review and assess against them, they may find it helpful to do so, in order to assist with longer-term planning, and the assessment of development proposals in their local areas. Assessment against these proposed objectives is provided in this report.

Table 1.2B: Proposed new particles objectives for England, Wales and Greater London (not included in Regulations)

Region	Air Quality Objective		Date to be achieved by
	Concentration	Measured as	
London	50 µg/m ³ not to be exceeded more than 10 times a year	24 hour mean	31.12.2010
London	23 µg/m ³	annual mean	31.12.2010
London	20 µg/m ³	annual mean	31.12.2015 ^a
Rest of England and Wales	50 µg/m ³ not to be exceeded more than 7 times a year	24 hour mean	31.12.2010
Rest of England and Wales	20 µg/m ³	annual mean	31.12.2010

^a this objective is provisional.

1.3 CONCLUSIONS OF PREVIOUS REVIEW AND ASSESSMENT

Hart District Council have declared no Air Quality Management Areas (AQMAs) as a result of the first and second round of Review and Assessment.

Hart District Council's Updating and Screening Assessment of April 2003 concluded that the Air Quality Strategy objectives were likely to be met, by the required dates, for all the pollutants covered by the Air Quality Regulations. These are as follows:

- Carbon Monoxide
- Benzene
- 1,3-Butadiene
- Lead
- Nitrogen Dioxide
- Sulphur Dioxide
- PM₁₀

The Updating and Screening Assessment concluded that a Detailed Assessment was not required for any pollutants.

2 New Monitoring Data

2.1 SUMMARY OF MONITORING UNDERTAKEN

2.1.1 Hook Automatic Monitoring Site

Continuous monitoring of nitrogen dioxide and PM₁₀ has been undertaken close to the residential area of Hook. The site is adjacent to the A30 (London Road) and B3349 (Reading Road) and is classified as a roadside site. Monitoring commenced in June 2002. A NO_x chemiluminescent and a PM₁₀ TEOM monitor is being used. The Updating and Screening Assessment provided results since monitoring began in June 2002 through to March 2003. A summary of the NO₂ concentrations recorded between April 2003 and March 2004 were presented in the 2004 Progress Report. This 2005 Progress Report presents the results between January and December 2004.

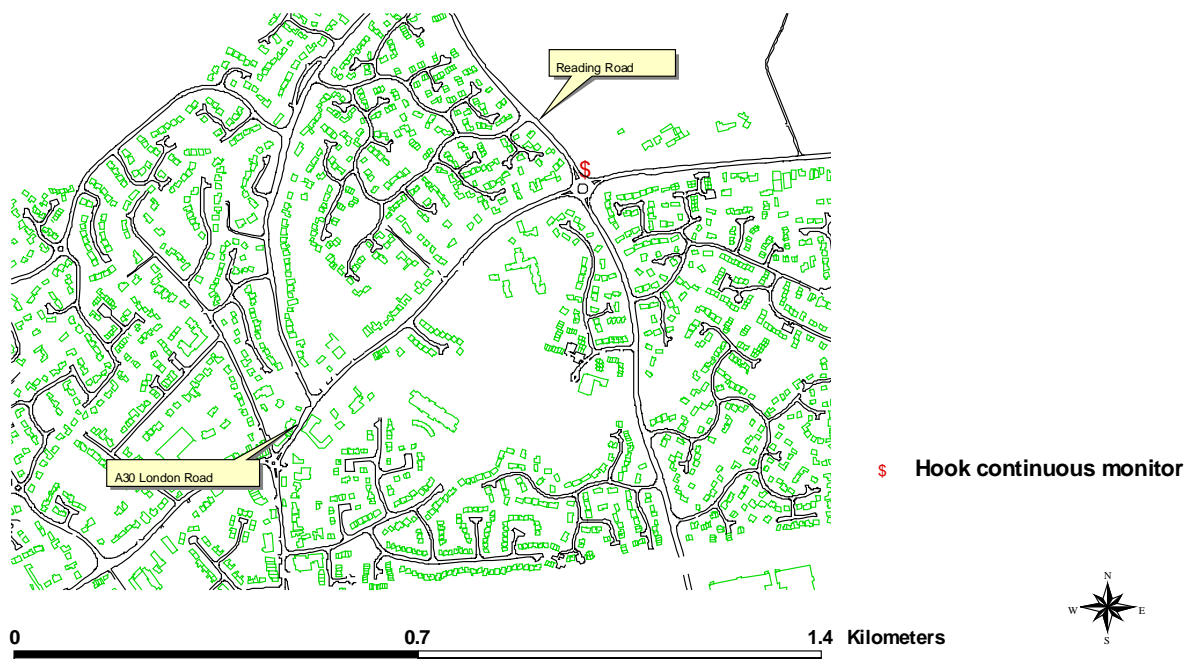
QA/QC procedures have been carried out by Casella Stanger. Data capture rates are shown in the table below:

Pollutant	Data period	% data capture
NO ₂	Jan – Sept 2004	100%
NO ₂	Oct – Dec 2004	79.6%
PM ₁₀	Jan – June 2004	100%
PM ₁₀	July – Sept 2004	91%
PM ₁₀	Oct – Dec 2004	100%

The site location is shown in Figure 2.1. below.

Figure 2.1A. The Hook monitoring site

The location of the continuous monitor in Hook



2.1.2 Blackwater Automatic Monitoring Site

Continuous monitoring of nitrogen oxides and PM₁₀ has also taken place at Blackwater. This station was commissioned in June 2003 as part of Hart D.C’s continuing commitment to Local Air Quality Management under Part IV of the Environment Act 1995. The monitoring site is located adjacent to the A30 (London Road) at the junction with Vicarage Road. It is approximately 3 metres from the kerbside of a busy road. There are commercial and residential properties within 10 metres of the site. Monitoring started in June 2003. The monitoring equipment is housed in an air conditioned purpose built static cabin. A PM₁₀ TEOM and NO_x chemiluminescent monitor are being used. The concentrations recorded at this site between July 2003 and March 2004 inclusively were presented in the 2004 Hart Progress Report. This report presents the continuous monitoring results from January to December 2004 inclusively.

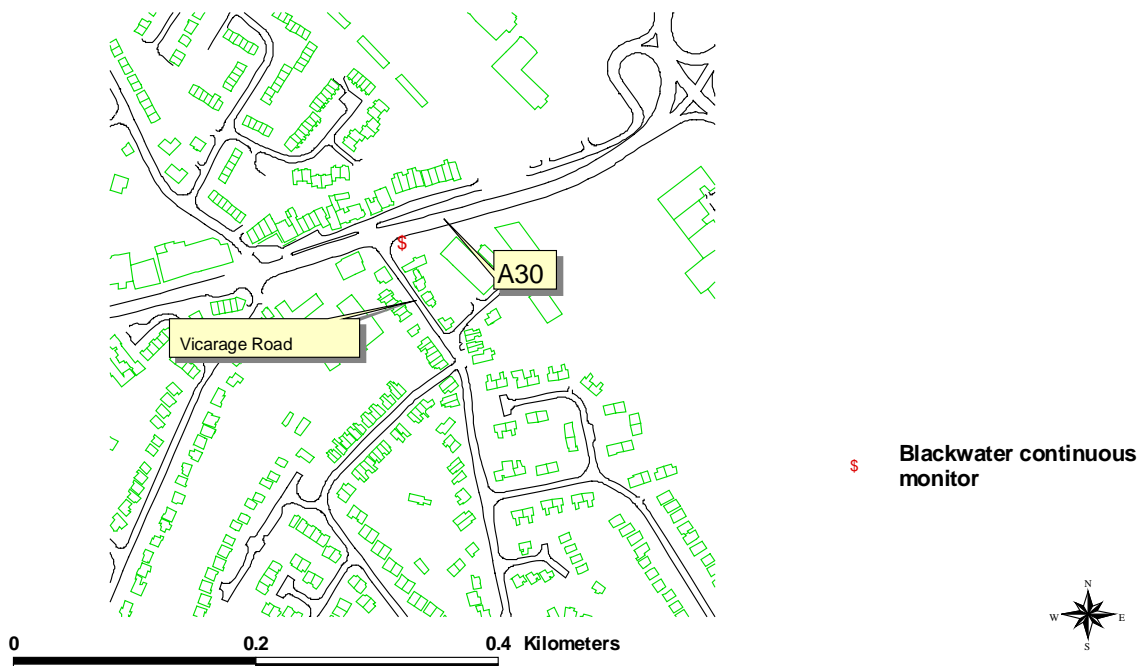
Data capture rates are shown in the table below:

Pollutant	Data period	% data capture
NO ₂	Jan – March 2004	93.2%
NO ₂	April – Sept 2004	<52%
NO ₂	Oct – Dec 2004	91.4%
PM ₁₀	Jan – March 2004	93.2%
PM ₁₀	April – Sept 2004	<52%
PM ₁₀	Oct – Dec 2004	87.9%

Due to the low data capture at this site between April to September 2004 inclusive, caution should be taken when assessing the results.

Figure 2.1B. The Blackwater monitoring site

The location of the continuous monitor in Blackwater



2.1.3 Diffusion Tube Monitoring Sites

Nitrogen dioxide concentrations have been measured at 9 locations in Hart District during 2004. The diffusion tubes are analysed by Gradko and are prepared using 20% TEA in water methodology. In addition, there has been co-location of three diffusion tubes with the continuous monitor at Hook. Details of the locations are provided in Table 2.3.2B.

2.2 NEW MONITORING

2.2.1 New Monitoring

There have been no new continuous monitoring sites set up since the 2004 Hart Progress Report.

There is one new location where diffusion tube monitoring has commenced since the previous Progress Report. This is at Elvetham Heath adjacent to the M3 motorway (M3EH). Nitrogen dioxide monitoring commenced at this site in November 2004. The results are not presented in this report (but are available in the Appendix) due to only two months of data being available during 2004.

2.2.2 Discontinued Monitoring sites

Since the 2004 Progress Report was undertaken, diffusion tube monitoring at Wellington Country Park and Elvetham Road has been discontinued.

2.3 MONITORING RESULTS

2.3.1 Automatic NO₂ Results

As discussed above automatic monitoring has been taking place at 2 sites in Hart District Council. The results are presented in Table 2.3 below.

Table 2.3 - Annual mean NO₂ concentrations and number of exceedences of the hourly mean objective recorded between January 2004 and December 2004 by the continuous monitors at Blackwater and Hook.

Site	Average NO ₂ conc (µg/m ³) 2004	Number of exceedences of 1 hour mean (200µg/m ³)
Blackwater A30	39.3	1
Hook	23.0	0

The annual average NO₂ objective is generally the most stringent of the NO₂ objectives. Neither of the monitoring sites showed an exceedence of the annual mean NO₂ objective throughout the period of monitoring. However, the annual average NO₂ concentration recorded at the Blackwater site is only marginally below the objective. It is worth noting though that data capture was low particularly during the summer months and the nearest residential properties are 15-20 metres away. NO₂ concentrations this distance from the monitor are likely to be in the region of 25% lower. However, it should be

closely observed. There was one exceedence of the hourly mean standard at the Blackwater site during the period of monitoring.

2.3.2 NO₂ diffusion tube results.

There was co-location of 3 diffusion tubes with the Blackwater continuous monitor between May and December 2004 inclusively.

The calculation of the bias adjustment factor is shown in Table 2.3.2A below.

Table 2.3.2A Bias correction of NO₂ diffusion tube data.

Average DT concentration (µg/m ³) May to Dec 04	35.9
Average CM concentration (µg/m ³) May to Dec 04	36.4
Bias adjustment factor = CM/DM	1.01

The co-located diffusion tubes comprised of 8 months of data. TG(03) states that if the co-location is based on a period of less than 9 months, then the factor should not be applied to the results of a 12 month survey. Therefore this bias adjustment factor has only been applied to diffusion tube concentrations recorded between May and December 2004. These results are shown in Table 2.3.2B below.

Table 2.3.2B. NO₂ diffusion tube results for May 2004 to December 2004 inclusively corrected using the results from the co-location at the Hook site (µg/m³).

Site	Site Ref	Location	May – Dec 2004	Bias corrected
Clover Leaf, Odiham	OD1	R	21	22
The Poachers, South Warnborough	SW1	K	25	27
Hart Leisure Centre, Fleet	FL2	R	17	17
The Phoenix, Hartley Wintney	HW2	K	33*	33
Dorchester Arms, Hook	HO2	K	31	32
Yateley Comprehensive, Yateley	YA1	B	16	16
Bramshill Police College	BH1	B	13	13
M3 Northbound	M31	R	28	28
Vicarage Road, Blackwater	BL1	K	27	28

* There was no sample/ NO₂ diffusion tube result for The Phoenix, Hartley Wintney monitoring site in May, thus the value was taken between June and December.

The diffusion tube results show that at no location where monitoring is taking place do annual average nitrogen dioxide concentrations exceed 40 µg/m³.

R = roadside, K = kerbside & B = background.

Annual average diffusion tube concentrations (corrected for bias) recorded between 2000 and 2004 are presented in Appendix 1. (For each year, the results have been bias corrected using the UWE diffusion tube survey spreadsheet.)

To correct the 2004 annual mean NO₂ diffusion tube concentrations, a bias adjustment factor of 0.94 has been used. This has been taken from the UWE diffusion tube survey spreadsheet. The 2004 results are presented in Table 2.3.2C below. The diffusion tube results have been corrected forward to 2005 using the correction factors provided in TG(03).

Table 2.3.2C. 2004 NO₂ diffusion tube results (µg/m³).

Site	Site Ref	Location	2004 annual average	Bias corrected	Predicted 2005
Clover Leaf, Odiham	OD1	R	24	22	22
The Poachers, South Warnborough	SW1	K	27	26	25
Hart Leisure Centre, Fleet	FL2	R	19	18	17
The Phoenix, Hartley Wintney	HW2	K	35*	33	32
Dorchester Arms, Hook	HO2	K	33	31	30
Yateley Comprehensive, Yateley	YA1	B	17	16	16
Bramshill Police College	BH1	B	15	15	14
M3 Northbound	M31	R	30	28	27
Vicarage Road, Blackwater	BL1	K	28**	26	25

* No sample in May, i.e. average of 11 months

** There was no NO₂ diffusion tube result for the Vicarage Road, Blackwater monitoring site in March, i.e. average of 11 months

2.3.3 PM₁₀

Continuous monitoring of PM₁₀ is undertaken at Hook and Blackwater. The Hook site has been in operation since June 2002 and the Blackwater site since June 2003. The PM₁₀ concentrations recorded at the Hook site up until March 2003 were presented in the Updating and Screening Assessment. The 2004 Hart Progress Report presented results for April 2003 to March 2004. This report presents results for January to December 2004 inclusively.

Table 2.3.3 - Annual mean PM₁₀ concentrations recorded by the continuous monitors at Blackwater and Hook recorded between January 2004 and December 2004 (gravimetric).

Site	Average PM ₁₀ conc (µg/m ³) 2004	Number of exceedences of 24 hour mean (50 µg/m ³)
Blackwater A30	17.8	2
Hook	16.8	0

2.3.4 Other pollutants

No monitoring of carbon monoxide, benzene, 1,3-butadiene, lead or sulphur dioxide is currently undertaken in Hart District Council.

2.4 COMPARISON WITH AQS OBJECTIVES

2.4.1 Nitrogen Dioxide

The latest monitoring results show that at no location is the annual mean NO₂ objective expected to be exceeded in 2005. The annual mean NO₂ objective is the most stringent of the NO₂ objectives and therefore if this is predicted to be met, then it is likely that the hourly objective will also be met. The Blackwater monitoring site showed that concentrations were close to the annual mean objective. However, this site is a kerbside site and is 15-20 metres from the closest residential properties. Concentrations at this distance from the kerb are likely to be in the region of 25% lower.

2.4.2 PM₁₀

The continuous monitoring shows that at neither location is the 2004 annual average PM₁₀ objective exceeded. However, the 24 hour objective is the most stringent of the PM₁₀ objectives. 35 exceedences of the 50 µg/m³ daily mean are allowed. At Blackwater in 2004, only two days exceeded the 24 hour PM₁₀ 2004 standard. At Hook, no exceedences of the daily mean standard were recorded. Therefore no site exceeded either the annual mean or daily mean PM₁₀ objectives in 2004.

The annual mean objective is the most stringent of the provisional 2010 objectives. Both the Hook and Blackwater sites show an annual mean PM₁₀ concentration less than 20 µg/m³. Therefore it is likely that the 2010 objective will be achieved at these locations.

3 New Developments – Industrial Processes

3.1 PART A INDUSTRIAL PROCESSES

No new Part A industrial processes have been authorised in Hart District since the last Progress Report in April 2004.

3.2 PART A2 INDUSTRIAL PROCESSES

No new Part A2 industrial processes have been authorised in Hart District since the last Progress Report in April 2004.

3.3 PART B INDUSTRIAL PROCESSES

One new Part B industrial process has been authorised in Hart DC since the last Progress Report in April 2004.

- 0.4MW Waste oil burner – TJ Services, Sandy Lane, Fleet, Hampshire.

However, Appendix E (A2.182) of TG(03) indicates that emissions from waste oil combustion processes can be ignored and do not need to be assessed further.

3.4 NEW LANDFILL, QUARRYING AND MINERAL PROCESSES

There are no new quarrying or mineral processes taking place in Hart District Council since April 2004 when the Progress Report was produced.

There are no new landfill sites established in Hart DC since April 2004 and none of the landfill sites have closed since April 2004.

3.5 INDUSTRIAL PROCESS CLOSURES

No major industrial processes have closed since the Updating and Screening Assessment was completed.

4 New Developments - Transport

4.1 NEW ROAD DEVELOPMENTS

No new roads in Hart have been constructed since the Progress Report was completed in 2004.

4.2 SIGNIFICANT CHANGES TO EXISTING ROADS

4.2.1 Road Layout Changes and Roadworks

There are no new road layouts or roadworks thought to give rise to a significant change in traffic levels or emissions.

There are no new street canyons in Hart DC.

4.2.2 Significant Changes to Annual Average Daily Traffic Flow (AADTF)

There have been no significant changes to road traffic since the USA was completed. None of the roads listed in the report have traffic growth greater than 25% since April 2003. Hampshire County Council Highways have confirmed this.

4.3 OTHER TRANSPORT SOURCES

4.3.1 Trains

There have been no significant changes to the activity of trains in Hart DC since the Updating and Screening Assessment was completed. There are no areas where railway engines are run for more than 15 minutes continuously and where members of the public might be exposed.

4.3.2 Airports

There are no airports in Hart or neighbouring authorities that have a throughput of 5 million passengers per year and / or 500,000 tonnes of freight.

4.3.3 Bus stations

The largest bus station within Hart DC has less than 1,000 movements per day which is the threshold level requiring further investigation.

4.3.4 Shipping

Hart District Council is inland and therefore there are no emissions from coastal shipping in Hart.

5 New Developments - Residential, Commercial and Public

5.1 NEW HOUSING / COMMERCIAL / PUBLIC DEVELOPMENTS

The following is a list of developments and / or potential developments in Hart DC since the Progress Report was completed in April 2004:

- Elvetham Heath. 1,200 dwellings have now been completed and sold on the site. A further 600 will be constructed in 2005/6.
- Velmead Farm Site. This site is not currently being developed.
- QE II barracks. Planning permission for the development of 1,132 properties is being sought. Unlikely to commence within 2005/6.
- Dilly Lane. The land is currently reserved.
- Holt Lane. Phase 1 (110 units is nearing completion). Phase 2 (220 properties) is currently under construction.
- Pyestock. There is the potential for a medium scale residential development at this site. Planning permission is being sought.
- Martin Lines. There is the potential for a medium scale residential development at this site. Planning permission is being sought.
- Clarks Farm. Planning permission is currently being sought for residential development at this site.
- Redfields. Approximately 60 residential properties have been constructed.
- Waterfront business park – Approximately 300 residential properties are proposed. The developers are seeking to commence development in 2005/6.

At present, none of these developments appear to have had a significant impact on local traffic flows. If these or with any further new developments, traffic flows are shown to have increased significantly then the impact of the traffic will need to be assessed at the time of the next Updating and Screening Report.

6 Conclusions and Recommendations

The latest results show that at all locations where monitoring is taking place, NO₂ and PM₁₀ concentrations are predicted to be below the relevant objectives for 2004/5. However, the concentrations recorded at the Blackwater site were very close to the objective. This site is a kerbside site and the nearest residential properties and therefore relevant exposure is 15-20 metres away. This site should be closely observed.

There are no processes with substantially changed emissions since the last review and assessment report. There have been no changes to quarries, mining and landfills in Hart District since April 2003.

There have been no new road developments in the district. No roads in the district have had significant traffic growth since the last Progress Report in April 2004.

There are no changes to other transport sources.

There have been small developments at Elvetham Heath, Holt Lane and Redfields since April 2003 when the USA was completed. However, they have not had a significant impact on local traffic flows.

7 References

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8 Acknowledgements

We are grateful for the help of Neil Hince, Senior Environmental Health Officer (Pollution).

Appendices

CONTENTS

Appendix 1 Details of Monitoring Sites

Appendix 1

Details of Monitoring Sites

Diffusion tube monitoring sites in Hart

Monthly average diffusion tube NO₂ concentrations in 2004.

Annual average diffusion tube NO₂ concentrations 2000 – 2004.

Monthly average NO₂ results from the continuous monitors at Hook and Blackwater

Monthly average PM₁₀ results from the continuous monitors at Hook and Blackwater

Hart District Council diffusion tube locations post 2003

Site	Site Ref	Location type
Clover Leaf, Odiham	OD1	Roadside
The Poachers, South Warnborough	SW1	Kerbside
Hart Leisure Centre, Fleet	FL2	Roadside
The Phoenix, Hartley Wintney	HW2	Kerbside
Dorchester Arms, Hook	HO2	Kerbside
Yateley Comprehensive, Yateley	YA1	Background
Bramshill Police College	BH1	Background
M3 Northbound	M31	Roadside
Vicarage Road, Blackwater	BL1	Kerbside
Elvetham Road	EH1 - 6	Kerbside
Elvetham Heath	M3EH	Kerbside
Blackwater AQM	BL (AQM) 1 - 3	Roadside

Annual average NO₂ concentrations corrected for bias (µg/m³).

Site	2000	2001	2002	2003	2004
OD1	20	24	24	28	22
SW1	22	26	24	26	25
FL2	16	20	17	21	17
HW2	31	36	35	38	33
HO2	28	26	29	35	31
YA1	18	21	20	23	16
BH1	14	14	14	19	14
WE1	13	15	13	17	N/A
M31	31	33	32	35	28
BL1	37	42	32	39	26
EH1	N/A	N/A	N/A	32	N/A
EH2	N/A	N/A	N/A	30	N/A
EH3	N/A	N/A	N/A	30	N/A
EH4	N/A	N/A	N/A	29	N/A
EH5	N/A	N/A	N/A	32	N/A
EH6	N/A	N/A	N/A	31	N/A

Raw monthly NO₂ diffusion tube concentrations (January - December 2004) in µg/m³.

	Jan-04	Feb-04	Mar-04	April 04	May 04	Jun 04	July 04	Aug 04	Sept 04	Oct 04	Nov 04	Dec 04
OD1	25	36	31	22	18	17	21	16	21	21	30	25
SW1	29	36	33	26	20	22	22	22	21	28	34	31
FL2	19	31	24	17	16	12	11	10	14	19	27	23
HW2	41	44	37	35	N/A	27	31	18	39	29	46	40
HO2	36	43	38	26	33	28	26	28	29	29	39	37
M3EH	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	44	34
YA1	20	29	26	0	12	11	10	9	13	20	25	26
BH1	17	25	20	17	16	9	10	8	12	15	17	20
WE1	12	22	15	13	12	9	8	8	12	12	N/A	N/A
M31	34	32	37	31	27	25	29	21	30	34	25	29
BL1	39	46	N/A	32	2	22	25	23	28	33	45	40
BL (AQM1)	N/A	N/A	N/A	N/A	22	16	16	11	19	19	24	20
BL (AQM2)	N/A	N/A	N/A	N/A	22	14	15	11	22	20	25	23
BL (AQM3)	N/A	N/A	N/A	N/A	20	18	16	13	1	20	25	23

Average monthly NO₂ concentrations recorded at the Hook and Blackwater continuous monitoring sites (µg/m³)

Location	Jan-04	Feb-04	Mar-04	Apr-04	May-04	Jun-04	Jul-04	Aug-04	Sep-04	Oct-04	Nov-04	Dec-04
Hook	24	25.6	28	25.3	22.7	19.5	20.7	19.2	19.6	22	26.9	22.2
Blackwater	36.4	52.5	52.9	38	47	27.6	26.3	29.3	32.9	32	43.1	53.2

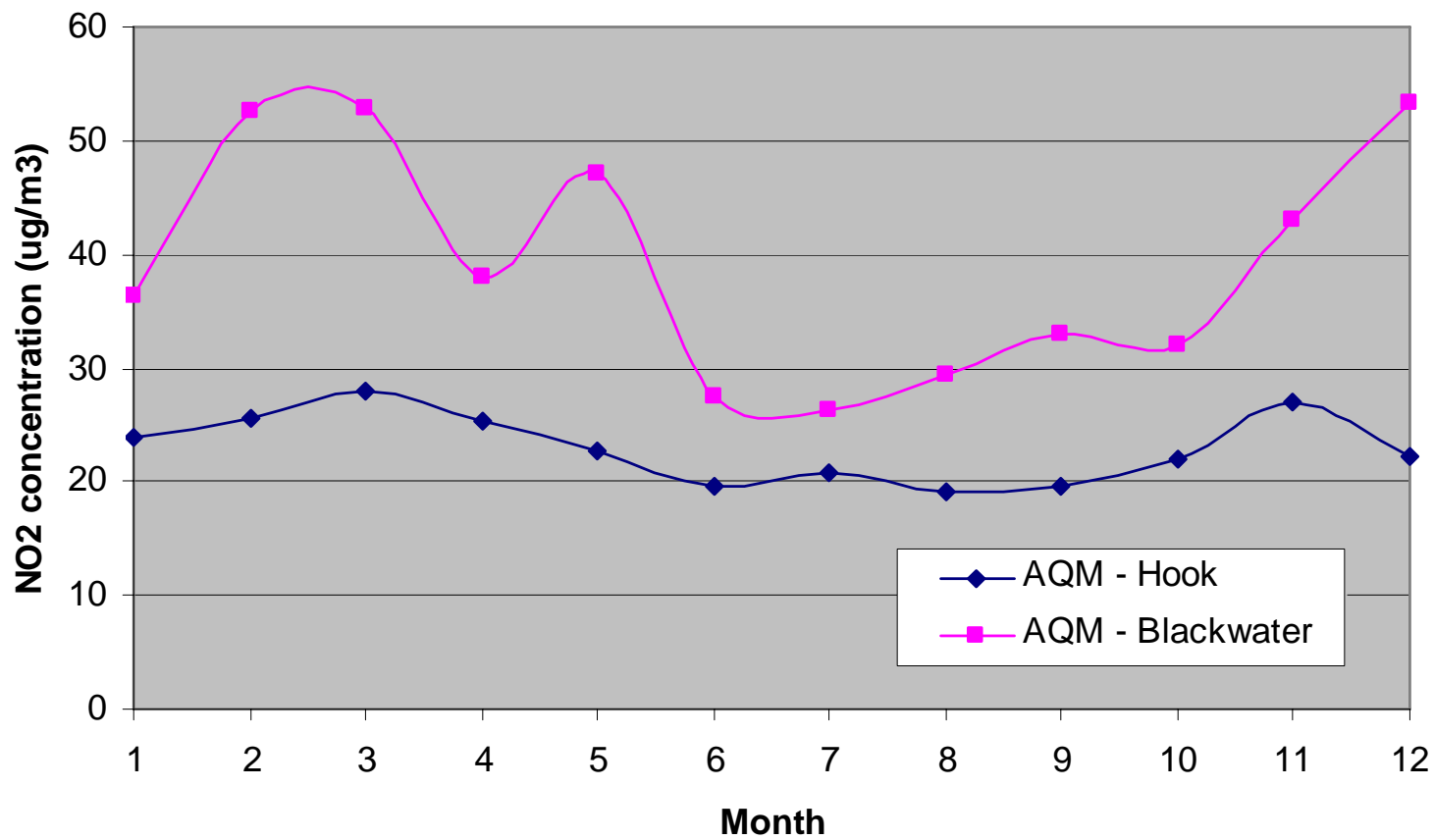
Please note the low data capture during April – Sept 2004.

Average monthly PM₁₀ concentrations recorded at the Hook and Blackwater continuous monitoring sites (µg/m³)

Location	Jan-04	Feb-04	Mar-04	Apr-04	May-04	Jun-04	Jul-04	Aug-04	Sep-04	Oct-04	Nov-04	Dec-04
Hook	14.9	18	18.7	15.8	17.7	15.6	15.5	16.6	16.7	15	17.2	19.8
Blackwater	14.6	20	19.2	16.6	21.1	10.2	13.4	16.5	25.2	16.2	19.1	21.6

Please note the low data capture during April – Sept 2004.

Monthly average NO2 concentrations at the Hook & Blackwater sites



Monthly average PM10 concentrations at the Hook & Blackwater sites

