Appendix 1

Summary of the Health Effects and main sources of the Pollutants Covered by the Air Quality Strategy

Pollutant	*Main Health Effects*
Carbon monoxide	Exposure to very high concentrations may promote the formation of carboxyhaemoglobin in the blood, which reduces the capacity to carry oxygen. Effects are most pronounced in those suffering from an existing disease which affects the delivery of oxygen to the heart or brain.
Benzene	A genotoxic human carcinogen, related to excess risk of leukaemia.
1,3-butadiene	A genotoxic human carcinogen, linked to cancers of the lymphoid system and blood forming tissues, lymphomas and leukaemia.
Lead	Exposure to very high levels may result in toxic biochemical effects, causing problems in the synthesis of haemoglobin and the possible inhibition of intellectual development in infants as well as effects on the kidneys, gastrointestinal tract, joints and reproductive system, and acute or chronic damage to the nervous system.
Nitrogen dioxide	Short-term exposure to high concentrations may cause inflammation of respiratory airways. Long-term exposure may affect lung function and enhance responses to allergens in sensitised individuals. Asthmatics will be particularly at risk.
Sulphur dioxide	Very high concentrations may constrict respiratory airways by stimulating nerves in the lining of the nose, throat and lung. Asthmatics and those with chronic lung disease will be particularly at risk.
Airborne particles	Long-term exposure to particulate matter is associated with a marked reduction in life expectancy, primarily due to increased heart and lung disease and lung cancer mortality. Impaired lung function in both children and adults has also been identified. Short-term exposure is associated with increased mortality in particularly susceptible individuals.

Pollutant	*Main Sources*
Carbon monoxide	Motor vehicles and combustion processes. Carbon monoxide is formed by the incomplete combustion of carbon containing fuels.
Benzene	The main source of atmospheric benzene in Europe is combustion by petrol vehicles, which accounts for about 70% of emissions.
1,3-butadiene	The main source of 1,3-Butadiene is principally from road traffic, in the combustion process of petrol and diesel vehicles. Unlike benzene it is not a constituent of fuel but is produced through the combustion of olefins.
Lead	Additive to petrol which makes the engine run smoother.
Nitrogen dioxide	Nitric oxide (NO) is produced during high temperature burning of fuel (e.g. road vehicles, heaters and cookers). When this mixes with air, NO2 is formed. Levels are highest in urban areas as it is a traffic-related pollutant.
Sulphur dioxide	Fuel combustion for domestic heating, power stations and chemical processes, waste incineration, diesel vehicles.
Airborne particles	Fuel combustion for domestic heating, power stations, industrial boilers, transport (mainly diesel) waste incinerators, road dust, pollen mineral extraction.

Appendix 2

Summary of the First Round of Review and Assessment

Stage 1	December 1998
Benzene	No further assessment required.
1,3 butadiene	No further assessment required.
Carbon monoxide	**Stage 2 required**.
Lead	No further assessment required.
Nitrogen dioxide	**Stage 2 required**.
PM_{10}	**Stage 2 required**.
Sulphur dioxide	**Stage 2 required**.
Appraisal Summary	Conclusions not accepted for benzene, 1,3 butadiene or lead. No evidence provided to show that Part A processes are not significant for these pollutants. Fugitive PM_{10} and SO_2 from boilers >5MW not considered. States incorrect background PM_{10} concentration.

Stage 2	December 2000
Benzene	Monitoring data show no problems. No part A or B processes within or near to Thanet. No need for further assessment.
1,3 butadiene	No monitoring. No part A or B processes within or near to Thanet. No need for further assessment.
Lead	No part A or B processes open which emit significant quantities of lead. No need for further assessment.
Carbon monoxide	DMRB showed no exceedences. No part A or B processes within Thanet. Pfizer, Sandwich outside district considered but not significant. No need for further assessment.
Nitrogen dioxide	No measured exceedences using diffusion tubes. No continuous data. No exceedences predicted at relevant locations using the DMRB. No part A or B processes within Thanet. 1 process at Pfizer nearby. EA method indicated that this was not significant. No need for further assessment.
PM_{10}	No monitoring. No exceedences predicted at relevant locations using the DMRB. No Part A processes. Crematorium and cement and metal coating process potentially significant. Crematorium not significant, coating process insufficient information to assess. Pfizer not significant (based on EA guidance). No quarry or landfill sites. 2 cement batching plants with adequate controls. MoD fire training facility burns kerosene. This is potentially significant. Fire training facility needs further assessment.
Sulphur dioxide	No >5MW boilers. No part A or B processes within Thanet. Pfizer outside, based on EA method, not significant. No need for further assessment.
Appraisal Summary	Conclusions accepted for all pollutants other than PM_{10} and NO_2 . No evidence that DMRB calculations were carried out correctly and that there is no potential exceedence measured at a relevant location. No evidence that the Fire Testing Establishment should not be considered for PM_{10} at Stage 3.

Notes	Further correspondence, showed that the DMRB calculations were carried out correctly. A report was provided which showed that a similar Fire Training Ground in Chorley would not lead to any exceedences of the PM_{10} objectives. Conclusions accepted.

Summary of the Second Round of Review and Assessment

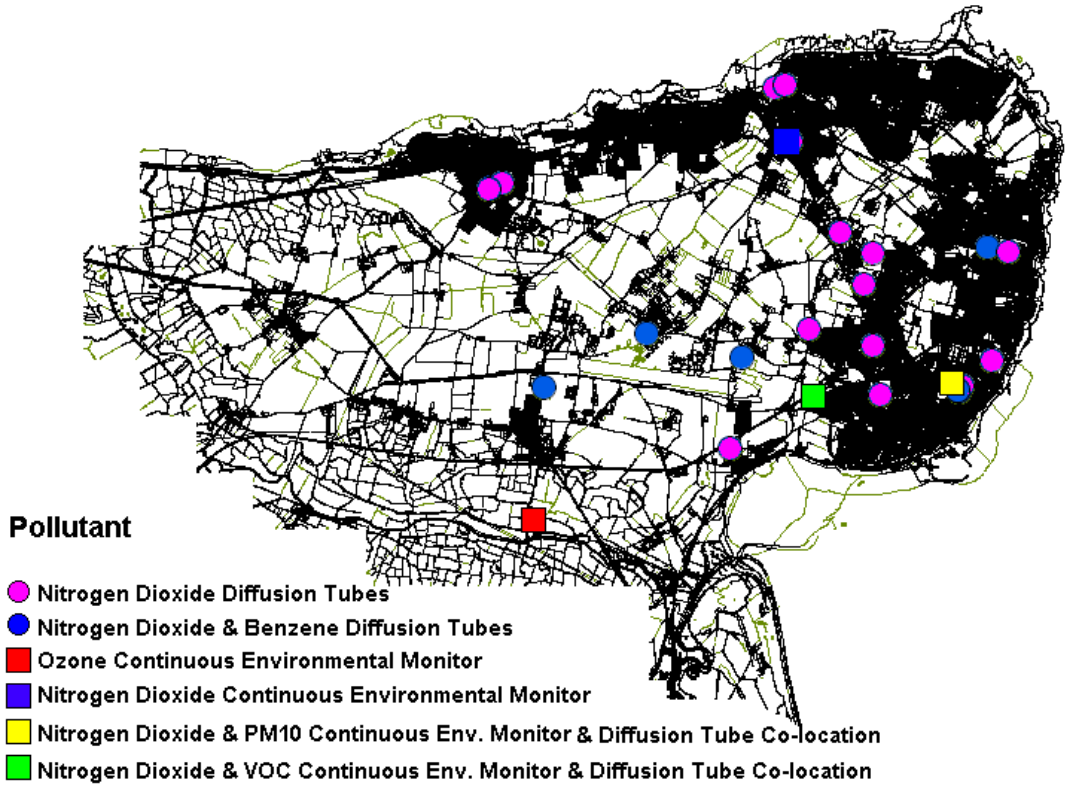
USA	May 2003
Benzene	Local monitoring data show continued decrease. No significant sources. No further action required.
1,3 butadiene	No monitoring. No significant sources. No further action required.
Lead	No monitoring. No significant sources. No further action required.
Carbon monoxide	KMAQMN monitoring data show no problems and concentrations expected to decline. No further action required.
Nitrogen dioxide	No measured exceedences using diffusion tubes at 13 locations. Insufficient continuous data for analysis. KMAQMN monitoring data show that the annual mean is likely to be exceeded at some busy roadside locations in Kent. No exceedences predicted at relevant locations using the DMRB. No other significant sources identified. No further action required.
PM_{10}	KMAQMN monitoring data show annual mean objective unlikely to be exceeded. New continuos monitor recently installed but insufficient data available for use in this assessment. No exceedences predicted at relevant junctions using the DMRB. No roads with high flows or relevant exposure. Airport has an equivalent passenger throughput <10 million passengers per annum. Detailed assessment is not required.
Sulphur dioxide	No >5MW boilers. No industrial processes within Thanet. Shipping movements <5000. No other significant sources. No need for further assessment.
Appraisal Summary	The USA concluded that there were no potential exceedences of the air quality objectives within the District of Thanet. Conclusions accepted for all pollutants.

APR	May 2004
Appraisal Summary	Seven busy junctions identified as requiring a Detailed Assessment for nitrogen dioxide, five also for fine particles. The APR conclusions accepted.

DA	February 2005
Nitrogen dioxide	When modelled, only one of the seven junctions identified in the APR failed nitrogen dioxide objectives.
PM_{10}	Modelling indicates exceedence of annual and 24hr objective one busy junction.
Appraisal Summary	Initiate declaration of AQMA for NO_2 and PM_{10} at The Square, Birchington.

Appendix 3

Air Quality Monitoring Locations 2005



Appendix 4

Table 2. Summary of nitrogen dioxide data from Passive Diffusion Tubes in Thanet for 2004

SITE CODE	GRID REF	LOCATION	SITE TYPE	Concentration (µg/m^3)		
				2004	2004[1]	2005[2]
TH26	TR 385 655	KING STREET RAMSGATE	KERBSIDE	45.6	42.0	40.9
TH30	TR 374 645	MARINE GARDENS MARGATE	KERBSIDE	36.2	33.3	32.4
TH04	TR 393 659	St JAMES AVENUE RAMSGATE	URBAN B/GROUND	29.2	26.9	26.2
TH27	TR 370 663	AVEBURY AVENUE RAMSGATE	URBAN B/GROUND	25.7	23.7	23.0
TH05	TR 390 680	THE BROADWAY BROADSTAIRS	KERBSIDE	40.9	37.6	36.6
TH23	TR 354 708	CECIL SQUARE MARGATE	KERBSIDE	46.2	42.5	41.4
TH10	TR 355 698	COLLEGE ROAD MARGATE	KERBSIDE	37.0	34.1	33.2
TH16	TR 344 643	EARLSMEDE CRESCENT CLIFFSEND	BACKGROUND	22.6	20.8	20.2
TH37	TR 359 654	KENTMERE AVE RAMSGATE	SUBURBAN	26.0	23.9	23.3
TH38	CO-LOCATE	KENTMERE AVE RAMSGATE	SUBURBAN	23.7	21.8	21.2
TH33	TR 311 654	HILL HOUSE DRIVE MINSTER	URBAN BACKGROUND	20.9	19.2	18.7
TH32	TR 329 664	BELL-DAVIES DRIVE MANSTON	URBAN BACKGROUND	27.3	25.1	24.5
TH31	TR 346 660	HIGH STREET MANSTON	URBAN BACKGROUND	21.0	19.3	18.8
TH39	TR 358 694	RAMSGATE ROAD, MARGATE (QEQM)	KERBSIDE	34.2	31.5	30.6
TH40	TR 358 664	HAINE ROAD RAMSGATE	KERBSIDE	39.7	36.5	35.6
TH13	TR 302 690	BIRCHINGTON SQUARE	KERBSIDE	48.8	44.9	43.7
TH41	TR 314 695	CANTERBURY ROAD WEST (Sch)	KERBSIDE	31.3	28.8	28.1
TH42	TR 344 651	CANTERBURY ROAD EAST (Jentex)	KERBSIDE	25.0	23.0	22.4
TH43	TR 380 680	BROADSTAIRS ROAD BROADSTAIRS	KERBSIDE	32.1	29.5	28.8
TH35	TR 364 678	MARGATE ROAD RAMSGATE	KERBSIDE	48.6	44.7	43.5
TH36	TR 364 682	RAMSGATE ROAD, MARGATE (Star Lane)	KERBSIDE	39.4	36.3	35.3

[1] 0.92 bias correction applied
[2] Yearly adjustment factor applied: 0.97 (0.892/0.915) nitrogen dioxide roadside ref. LAQM. TG (03) Box 6.6

Appendix 4

Table 4. Summary of Benzene data from Passive Diffusion Tubes in Thanet for 2004

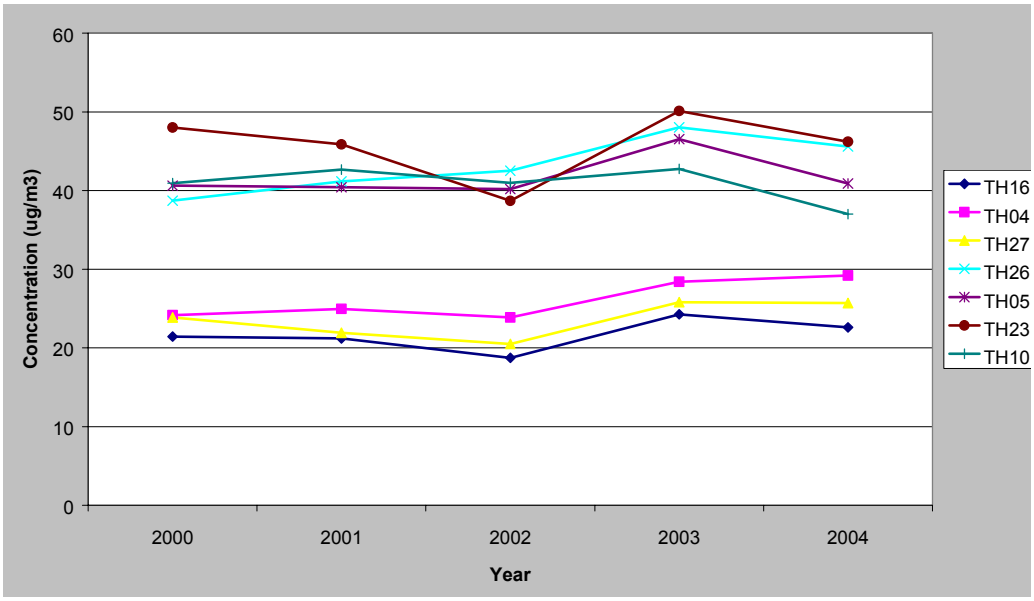
SITE CODE	GRID REF	LOCATION	SITE TYPE	Concentration (µg/m^3)	
				2004	2010[1]
TH26	TR 385 655	KING STREET RAMSGATE	KERBSIDE	2.8	2.2
TH05	TR 390 680	THE BROADWAY BROADSTAIRS	KERBSIDE	3.2	2.5
TH23	TR 354 708	CECIL SQUARE MARGATE	KERBSIDE	1.8	1.4
TH10	TR 355 698	COLLEGE ROAD MARGATE	KERBSIDE	2.6	2.1
TH37	TR 359 654	KENTMERE AVE RAMSGATE	SUBURBAN	0.9	0.7
TH33	TR 311 654	HILL HOUSE DRIVE MANSTON	URBAN BACKGROUND	0.7	0.6
TH32	TR 329 664	BELL-DAVIES DRIVE MANSTON	URBAN BACKGROUND	0.7	0.6
TH31	TR 346 660	HIGH STREET MANSTON	URBAN BACKGROUND	0.7	0.6

[1] Yearly adjustment factor applied: 0.791 (0.647/0.817) benzene roadside ref. LAQM. TG (03) Box 3.4

Appendix 4

Figure 1

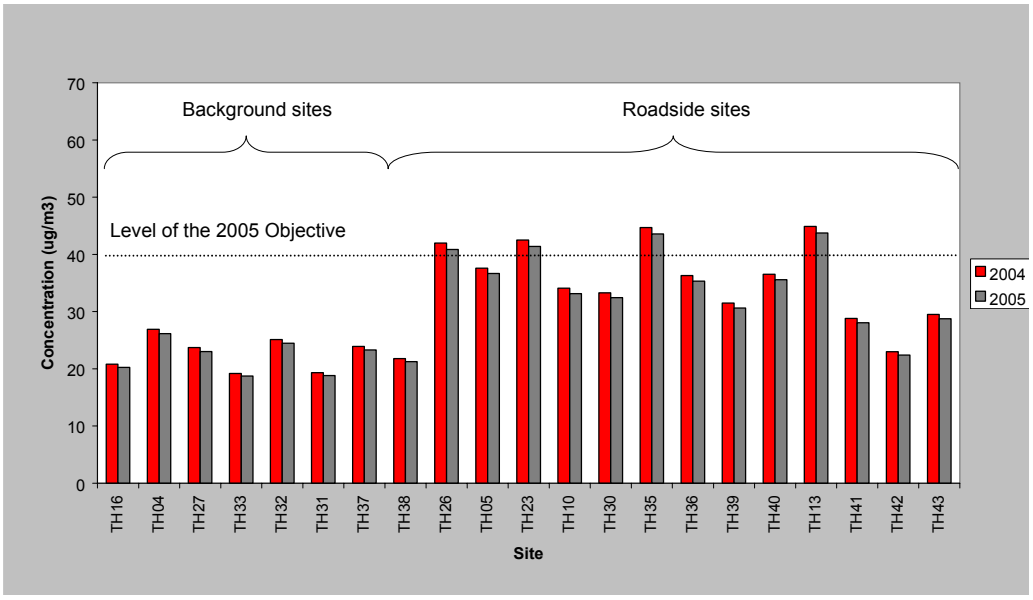
Annual mean nitrogen dioxide diffusion tube concentration trends (no bias correction applied)



Site reference codes and their corresponding locations are given in Table 2 Appendix 4

Figure 2

Annual Mean Nitrogen Dioxide Concentration (µg/m^3) measured by Diffusion Tube at Locations in Thanet during 2004 (bias correction applied)

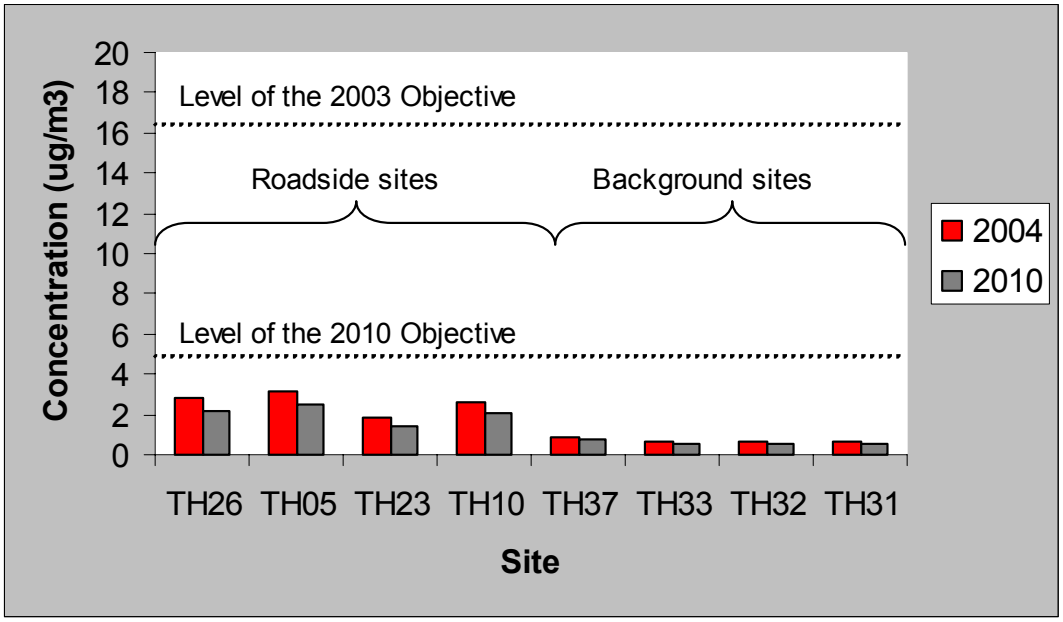


Site reference codes and their corresponding locations are given in Table 2 Appendix 4.

Appendix 4

Figure 3

Annual Mean Benzene Concentration (µg/m^3) measured at diffusion tube locations in Thanet during 2004



Site reference codes and their corresponding locations are given in Table 4 Appendix 4

Appendix 5
Continuous Monitoring Results

Table 5. Air Quality Objectives

Air Quality Strategy Objectives generated for the 12 month period commencing 1-jan-2004

Pollutant	Objective	Result	Achieved Objective?
ZH1 Thanet Rural - Minster			
Ozone	No more than 10 days where maximum rolling 8hr mean >100ug/m3	11	NO
ZH2 Thanet Background - Margate			
Nitrogen Dioxide	Annual mean not exceeding 40ug/m3	23	YES
Nitrogen Dioxide	No more than 18 occurences of hourly mean >200ug/m3	0	YES
ZH3 Thanet Airport - Manston			
Nitrogen Dioxide	Annual mean not exceeding 40ug/m3	22	YES
Nitrogen Dioxide	No more than 18 occurences of hourly mean >200ug/m3	0	YES
Benzene	Annual mean not exceeding 5.00 ug/m3	1.1	YES
ZH4 Thanet Roadside – Ramsgate			
Nitrogen Dioxide	Annual mean not exceeding 40ug/m3	28	YES
Nitrogen Dioxide	No more than 18 occurences of hourly mean >200ug/m3	0	YES
PM10 Particulate	Annual mean less than 40ug/m3 (gravimetric)	32	YES
PM10 Particulate	No more than 35 days where daily mean >50ug/m3 (gravimetric)	36	NO

Thanet Airport - Manston: All data fully ratified

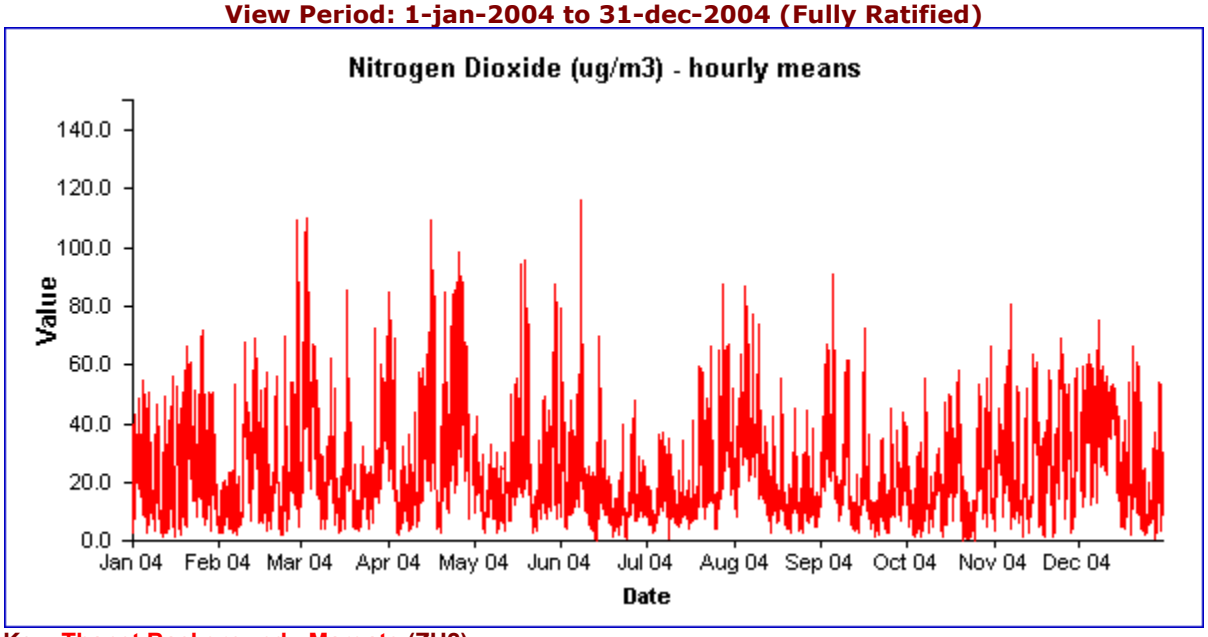
Thanet Background - Margate: All data fully ratified

Thanet Roadside - Ramsgate: All data fully ratified

Thanet Rural - Minster: All data fully ratified

Figure 4.

View Period: 1-jan-2004 to 31-dec-2004 (Fully Ratified)

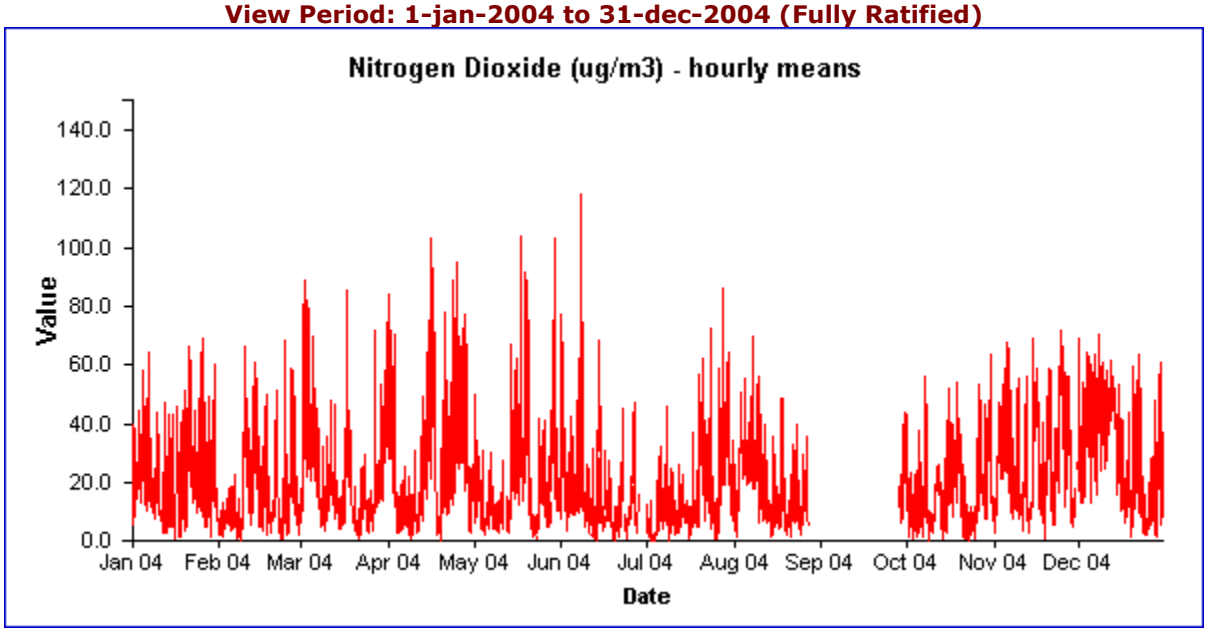


Key: Thanet Background - Margate (ZH2)

99% data capture and an annual average of 23µg/m^3

Figure 5.

View Period: 1-jan-2004 to 31-dec-2004 (Fully Ratified)

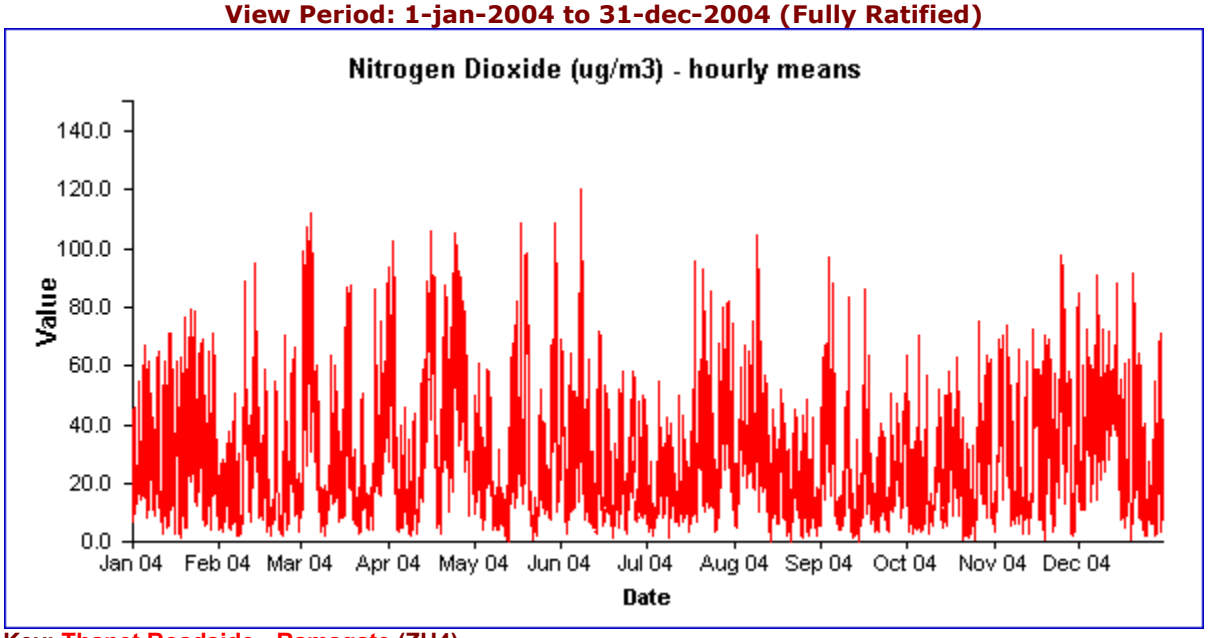


Key: Thanet Airport - Manston (ZH3)

89% data capture and an annual average of 22µg/m^3

Figure 6.

View Period: 1-jan-2004 to 31-dec-2004 (Fully Ratified)

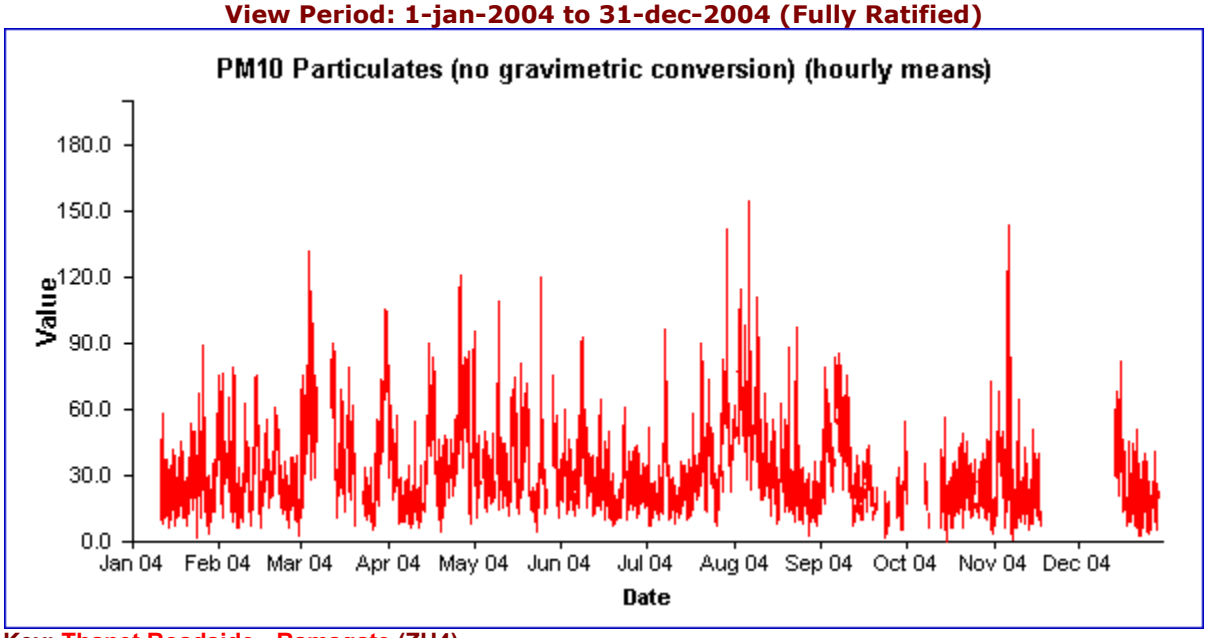


Key: Thanet Roadside - Ramsgate (ZH4)

99% data capture and an annual average 28µg/m^3

Figure 7.

View Period: 1-jan-2004 to 31-dec-2004 (Fully Ratified)

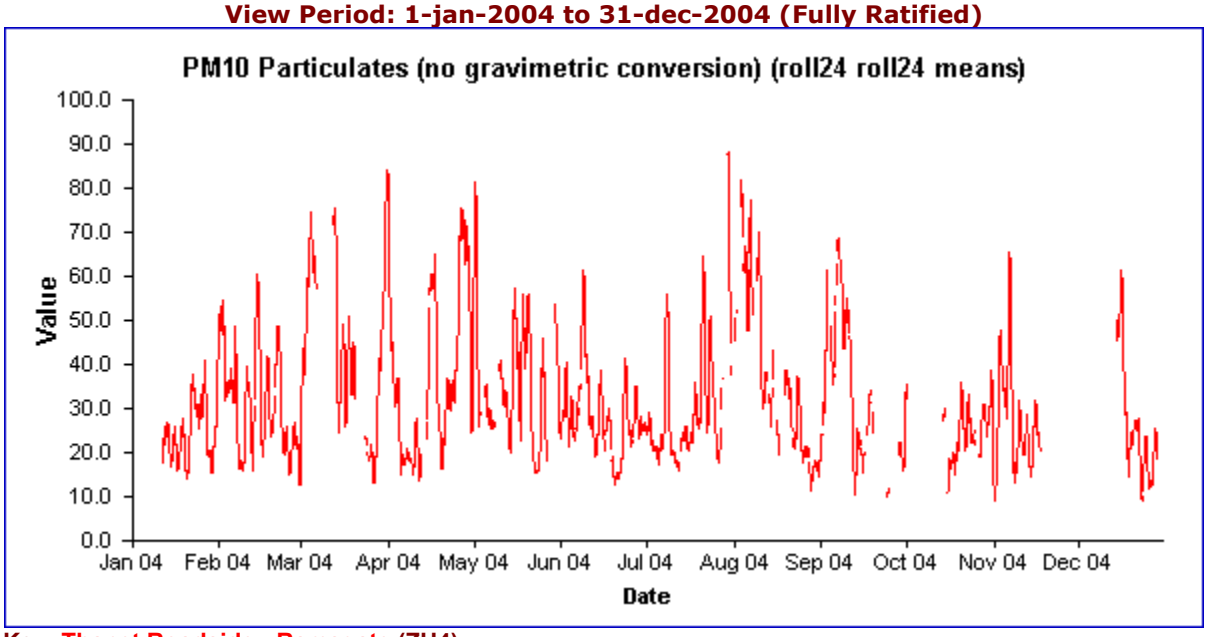


Key: Thanet Roadside - Ramsgate (ZH4)

78% data capture and an annual average 32µg/m^3

Figure 8.

View Period: 1-jan-2004 to 31-dec-2004 (Fully Ratified)

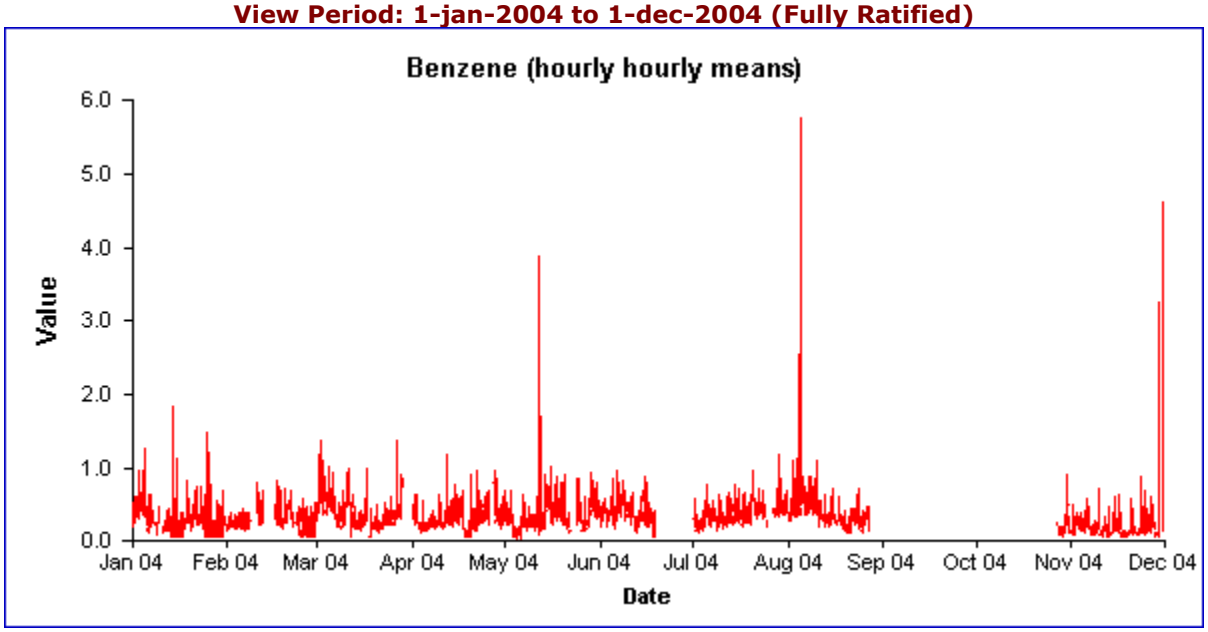


Key: Thanet Roadside - Ramsgate (ZH4)

Number of days exceeding >50µg/m^3 36

Figure 9.

View Period: 1-jan-2004 to 1-dec-2004 (Fully Ratified)

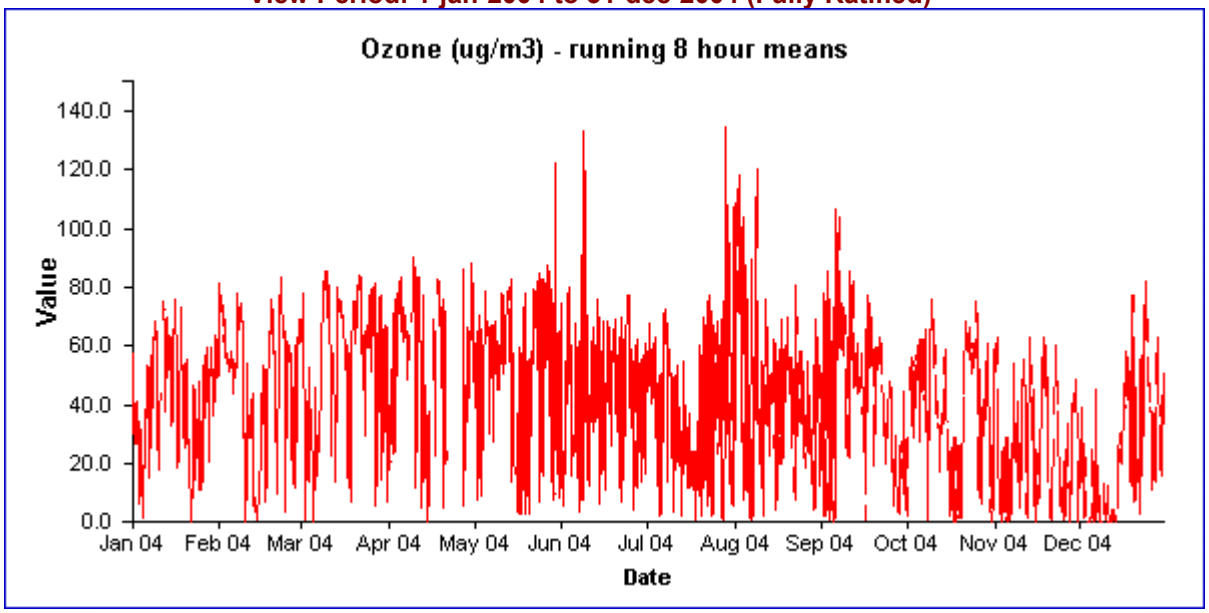


Key: Thanet Airport - Manston (ZH3)

71% data capture and an annual average of 0.3 ppb or 1.1 µg/m^3

Figure 10.

View Period: 1-jan-2004 to 31-dec-2004 (Fully Ratified)

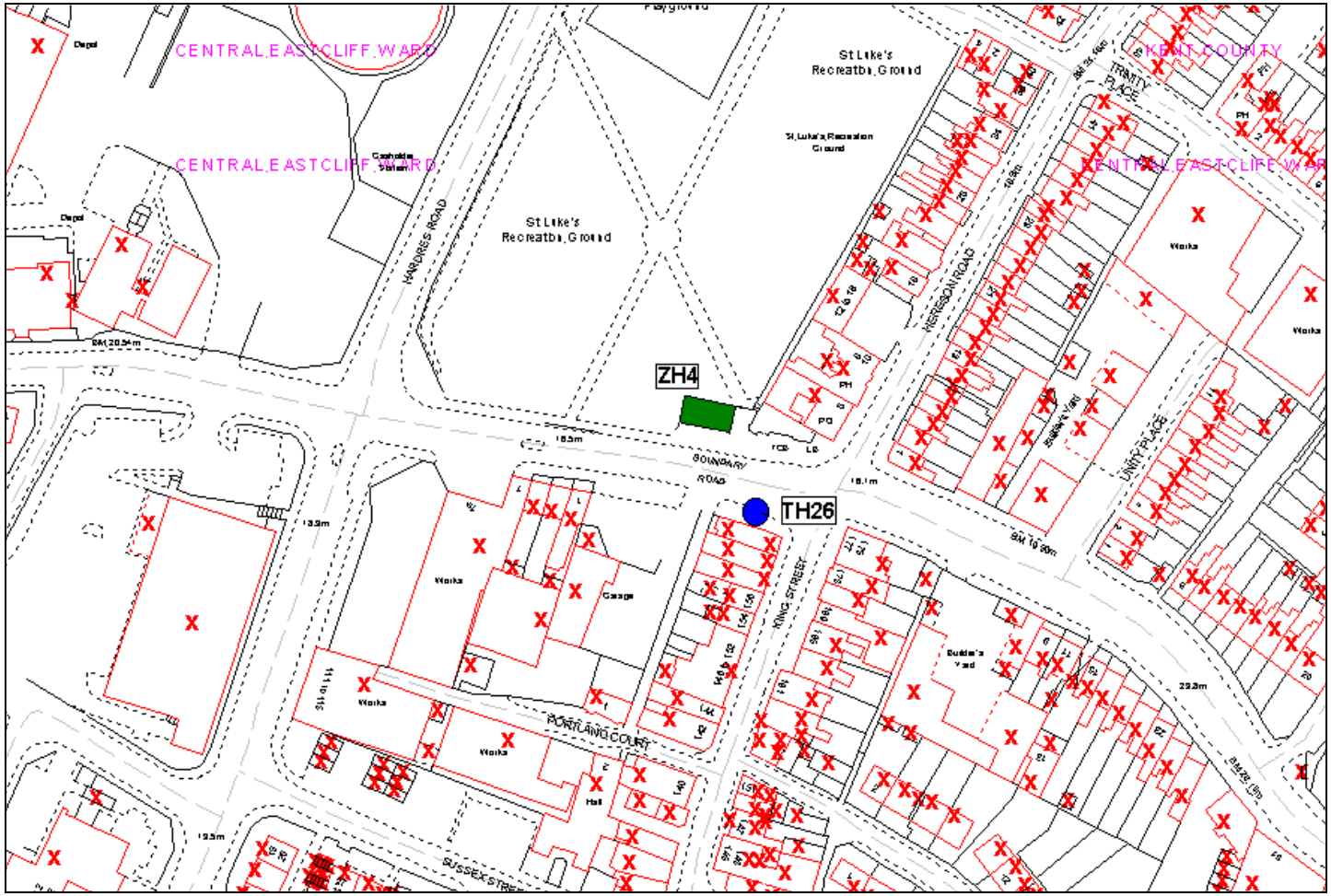


Key: Thanet Rural - Minster (ZH1)

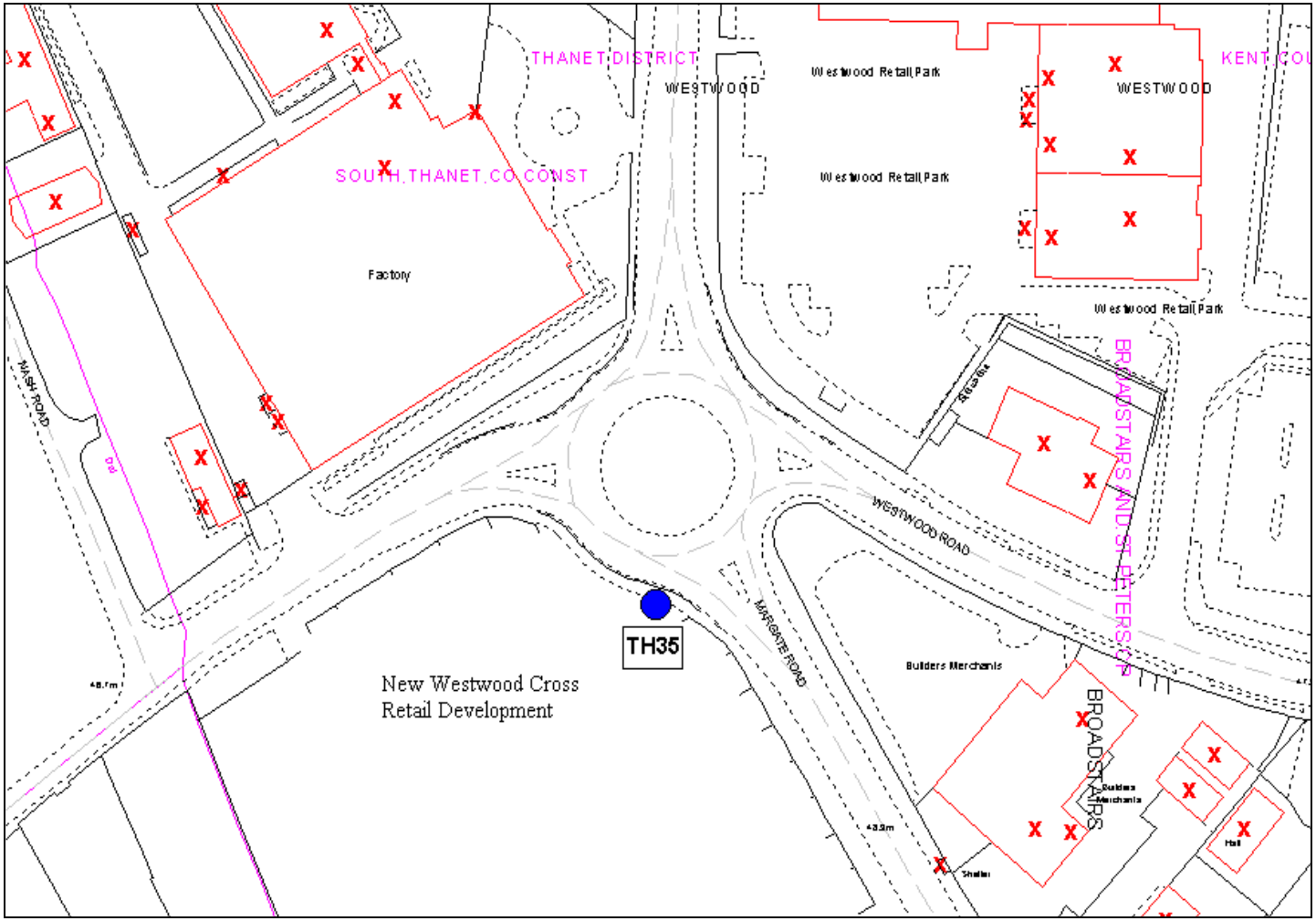
95% data capture and an annual average of 41.9 µg/m^3

Appendix 6

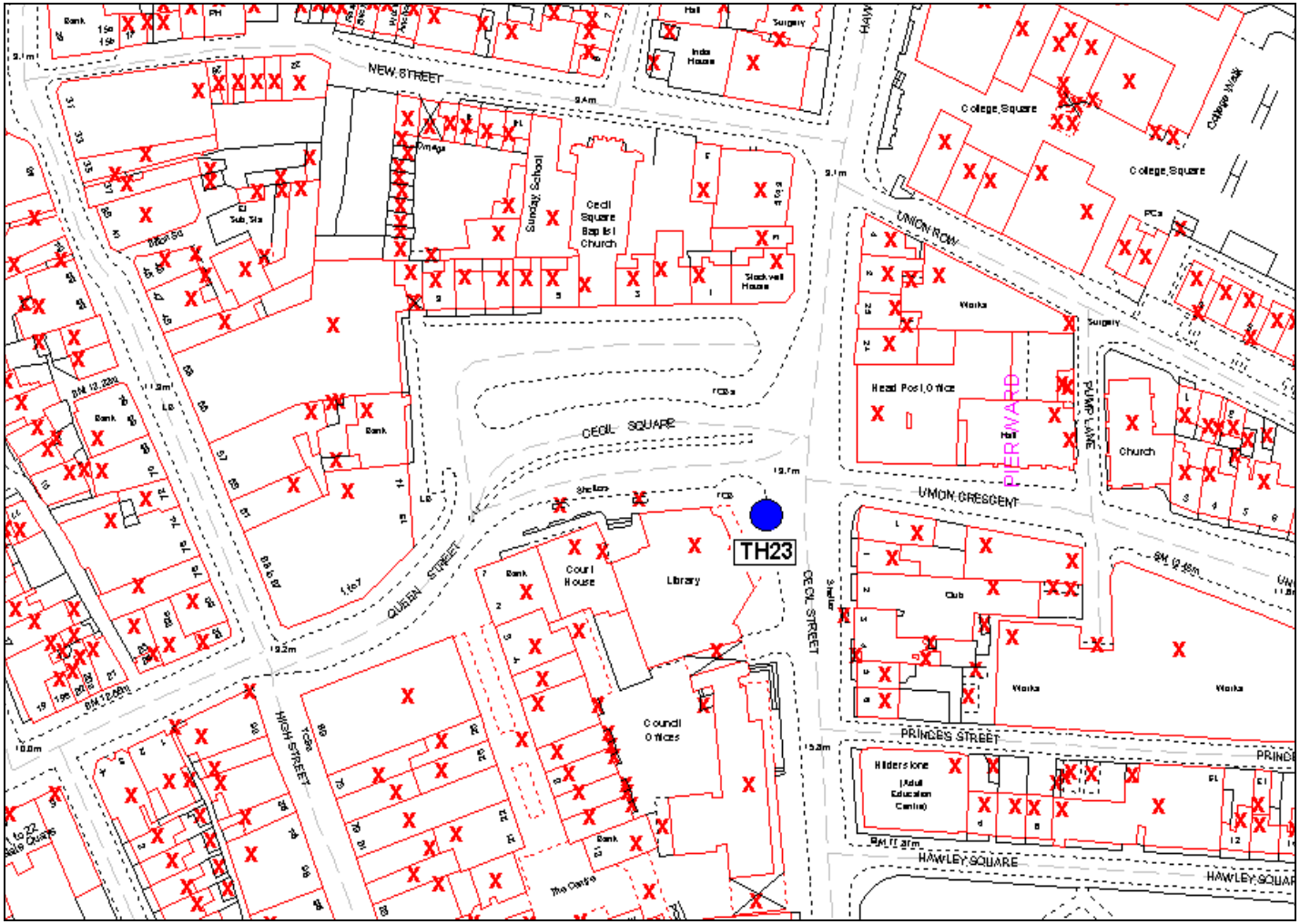
(Map A) Diffusion Tube Location at Kings Street [TH26] & Continuous Monitor at Boundary Road [ZH4], Ramsgate



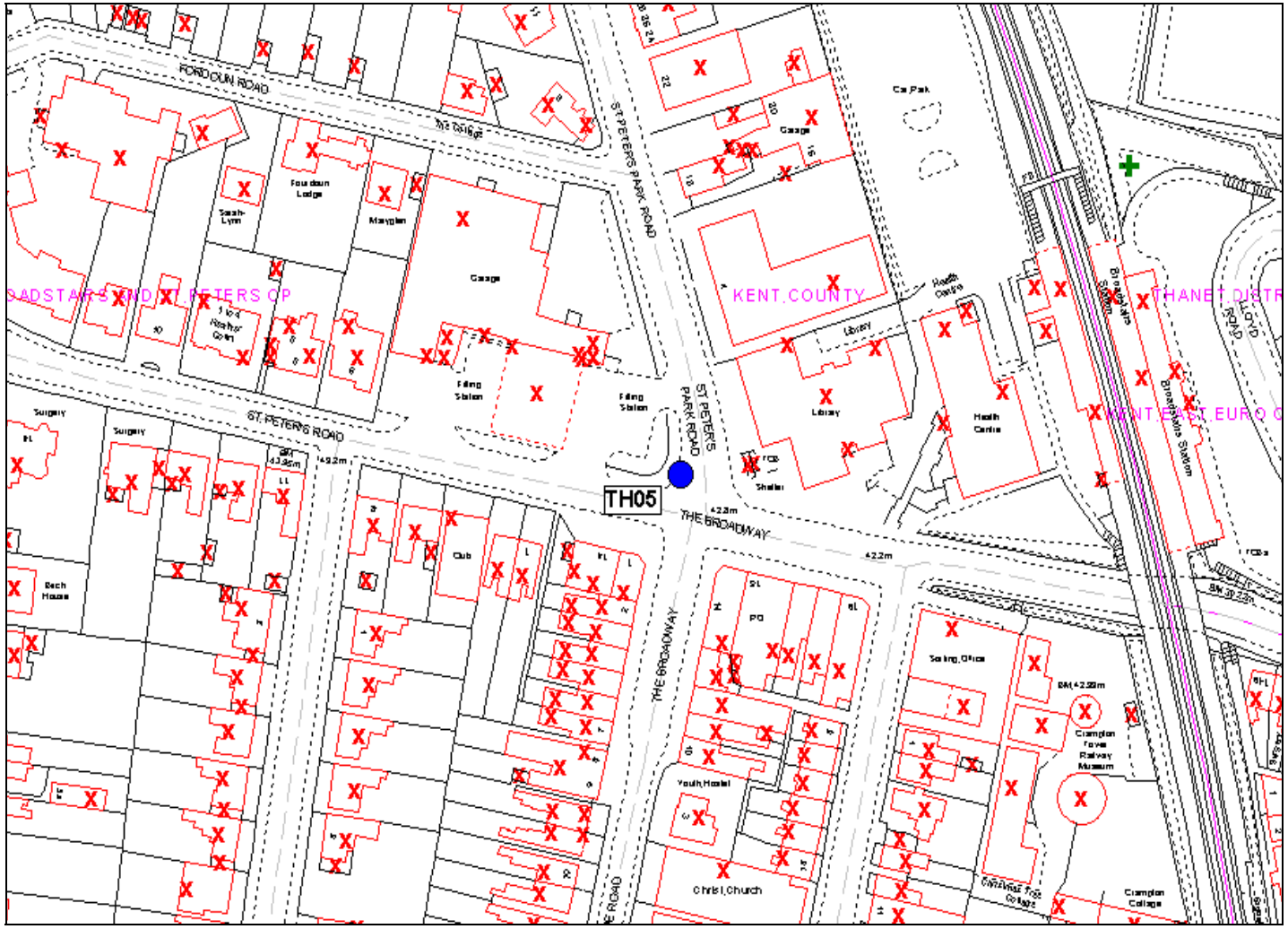
Map B - Diffusion Tube Location at Margate Road, Ramsgate [TH35]



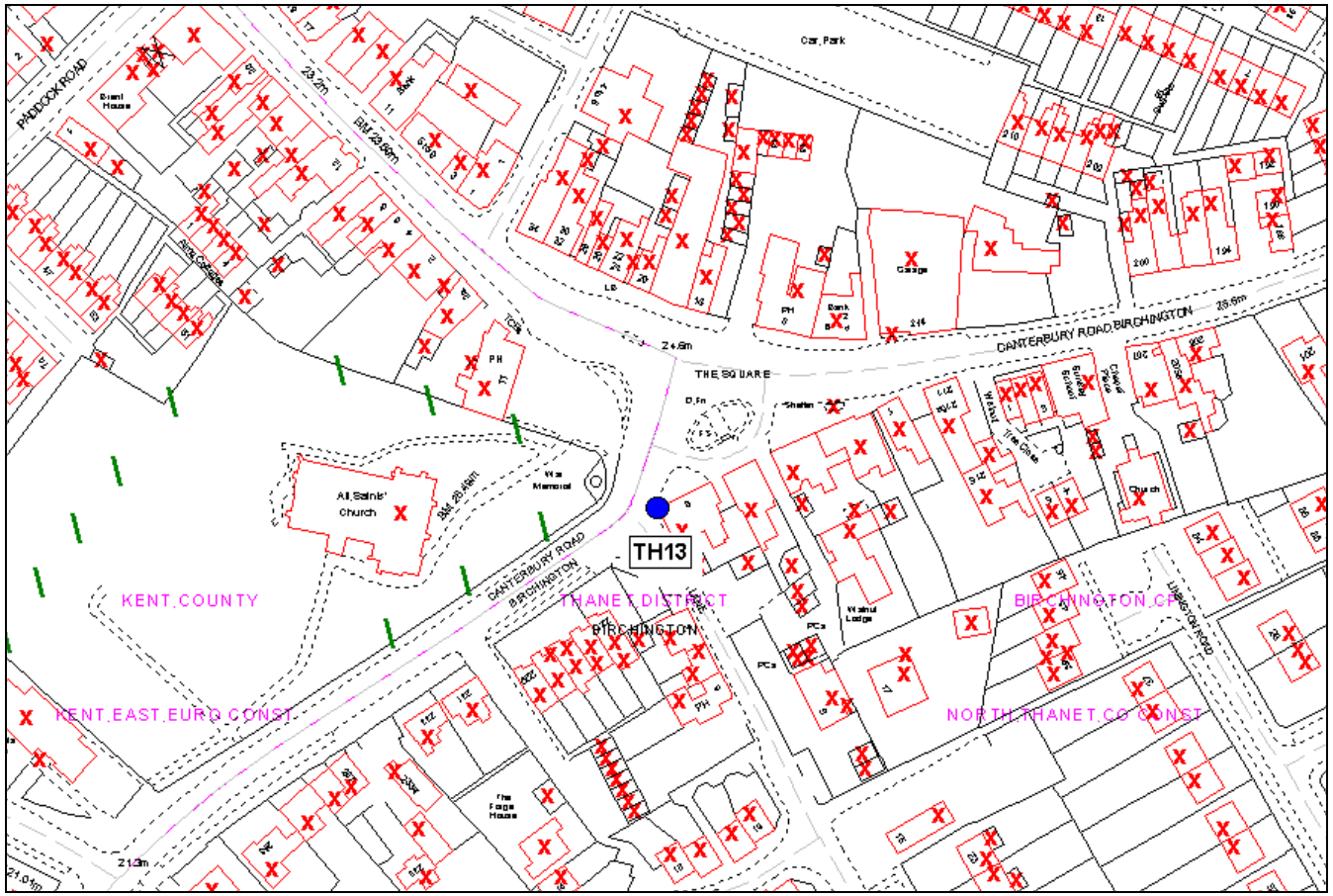
Map C - Diffusion Tube Location at Cecil Square, Margate [TH23]



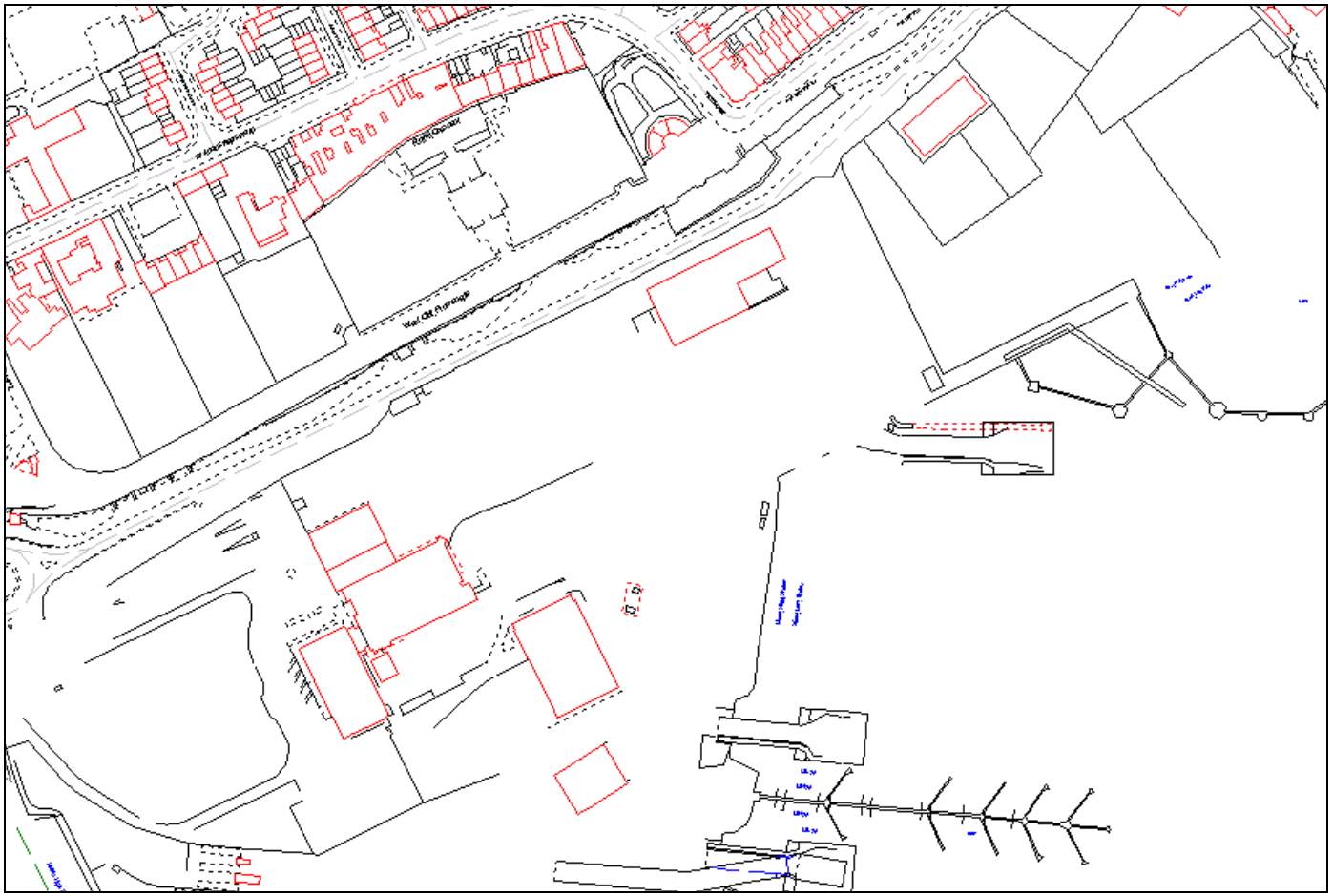
Map D - Diffusion Tube Location at The Broadway, Broadstairs [TH05]



Map E - Diffusion Tube Location at The Square, Birchington [TH13]



Appendix 7 - Port Ramsgate



Appendix 8

Local Authority Air Pollution Control (LAPPC)
Permitted Installations 2004

Operator	Site Address	Date Applied	Reg Section Number	PGN Code	Process Description	Pollutants
Frape Garage	Wyndham Avenue Cliftonville Kent. CT9 2DR	24.2.92	Section 1.3 Combustion Process	PG 1/1	Oil Burner	Particulate matter
Drome Garage	Manston Road Margate Kent	09.11.95	Section 1.3 Combustion Process	PG 1/1	Oil Burner	Particulate matter
BP/Safeway	233 – 235 Canterbury Road, Garlinge Kent	20.03.00	Section 1.4 Petroleum Process	PG 1/14	Vapour Recovery	VOC
Montrose	5-7 Westcliff Road Ramsgate Kent CT11 9JW	01.12.98	Section 1.4 Petroleum Process	PG 1/14	Vapour Recovery	VOC
J Sainsbury PLC	426 Margate Road Westwood Broadstairs, Kent	04.03.99	Section 1.4 Petroleum Process	PG 1/14	Vapour Recovery	VOC
Murco	155 Hereson Road Ramsgate Kent CT11 7EL	10.12.98	Section 1.4 Petroleum Process	PG 1/14	Vapour Recovery	VOC
Tesco	475 Margate Rd, Westwood Broadstairs, Kent	14.09.01	Section 1.4 Petroleum Process	PG1/14	Vapour Recovery	VOC
Seaview	361 Canterbury Road Birchington Kent CT7 9TZ	31.12.98	Section 1.4 Petroleum Process	PG 1/14	Vapour Recovery	VOC
J C Morrisons	36-40 High Street St Lawrence Ramsgate Kent. CT11 0QW	16.02.99	Section 1.4 Petroleum Process	PG 1/14	Vapour Recovery	VOC
J C Morrison	Broadway Garage Broadstairs Kent CT10 2AY	16.02.99	Section 1.4 Petroleum Process	PG 1/14	Vapour Recovery	VOC
Royal Oak	Canterbury Road East Ramsgate Kent. CT11 OLB	11.11.98	Section 1.4 Petroleum Process	PG 1/14	Vapour Recovery	VOC
Northdown	292 Northdown Road Cliftonville, Margate Kent CT9 2PT	19.05.97	Section 1.4 Petroleum Process	PG 1/14	Vapour Recovery	VOC
Cross Channel	Mount Pleasant, Minster Kent CT12 4AU	19.5.97	Section 1.4 Petroleum Process	PG 1/14	Vapour Recovery	VOC

Pegwell	Sandwich Road Cliffsend Ramsgate CT12 5JB	12.01.00	Section 1.4 Petroleum Process	PG 1/14	Vapour Recovery	VOC

Brett Concrete	Dane Valley Road Broadstairs, Kent	30.3.92	Section 3.1 Mineral Industry	PG 3/1	Cement & Lime	Dust
RMC - Ready Mixed Concrete	Manston Road Margate Kent CT9 4LX	26.3.92	Section 3.1 Mineral Industry	PG 3/1	Cement & Lime	Dust

Brown & Mason	Court Mount Canterbury Road, Birchington CT7 9TA	27.1.00	Section 3.4 Other mineral industries	PG 3/16	Concrete Crushing	Dust
Downfast Demolition	71 Monkton Street Monkton Kent CT12 4JF	28.5.97	Section 3.4 Other mineral industries	PG 3/16	Concrete Crushing	Dust

Thanet Crematorium	Manston Road Margate, Kent	2.8.91	Section 5.1 Incineration	PG 5/2	Incinerator	Particulate matter, carbon monoxide & Hydrogen chloride

Cummins	Continental Approach Westwood Industrial Estate Margate Kent CT9 4GL	7.12.01	Section 6.5 Coating process & printing	PG 6/23	Coating Process	VOC, isocyanate & Particulate matter
Cummins	Manston Park Columbus Avenue Manston Ramsgate	19.12.00	Section 6.5 Coating process & printing	PG 6/23	Coating Process	VOC, isocyanate & Particulate matter
Blaze Neon	Patricia Way Pysons Road Broadstairs Kent CT10 2XZ	15.1.93	Section 6.5 Coating process & printing	PG 6/23	Coating Process	VOC & Particulate matter

Sericol	Pysons Road Broadstairs Kent. CT10 2LE	12.10.92	Section 6.6 Manufacture of printing ink	PG 6/11	Manufacture of Printing Ink	VOC & Particulate matter

BSW Timber Systems Ltd	Manston Rd Ramsgate Kent CT12 6HP	17.2.94	Section 6.7 Timber process	PG 6/3	Wood Treatment	VOC

Appendix 8

Integrated Pollution Prevention & Control (IPPC)
Permitted Installations 2004

Operator	Site Address	Reg	Description	Permit ref
Thor Overseas Ltd	Ramsgate Rd, Margate CT9 4JY	s.4.1	Organic Chemicals	BV3898
AEM Ltd	15 Leigh Road, Ramsgate CT12 5EU	s.2.3	Surface Treatment of Metals & Plastics	BX3937
Pfizer Ltd <15km of TDC	Ramsgate Rd, Sandwich CT13 9NJ	s.1.1	Combustion	AF8211
		s.4.1	Organic Chemicals	AK8139
		s.4.1	Organic Chemicals	AL0427
		s.6.8	Animal, Vegetable & Food	AU8083

Appendix 9

Quality Assurance of Monitoring Data

Continuous Monitoring QA/QC

All continuous monitoring in Thanet is carried out as part of the Kent & Medway Air Quality Monitoring Network, which is operated by the Kings College London, Environmental Research Group (ERG). The QA/QC procedures for the network are equivalent to the Government's UK Automatic Urban and Rural Network (site operators manual available at www.airquality.co.uk), with the following exceptions:

- Independent intercalibrations are carried out every 12 months
- No chart recorders are used.
- No NO_2 span gas is used at routine site visits.
- 12 hourly polling and 24 hourly manual data checks.

Data measured by the analysers are retained by the data loggers as 15 minute raw averages. These values are collected remotely every 12 hours by telemetry automatically by the central computer, where calibration factors are applied to calculate scaled 15 minute average pollutant concentrations. At each polling, algorithms are used to apply automatic validity checks and flag any suspect measurements for possible future editing, rescaling or rejection. In addition to the automatic systems, trained staff inspect the results each morning (365 days per year) and investigate any suspicious data. The resulting provisional data sets are then released as data or statistics to the network internet pages and distributed to interested parties via daily or weekly emails.

In addition to this initial screening process, data are further scrutinised in monthly blocks, then again at the end of each calendar year, in order to provide a final ratified dataset. These definitive results are suitable for publication and use by local authorities for LAQM analysis. This data ratification process requires the detailed examination of a variety of site and analyser outputs. These include site records, calibration records, network intercalibration results, site servicing and equipment records supplied by the site operators and equipment engineers.

Passive Monitoring QA/QC

Details of the passive diffusion tube sampling methods used for nitrogen dioxide and benzene are provided in the following tables.

Nitrogen Dioxide Diffusion Tube Monitoring QA/QC

Supply	Harwell Scentifics
Analysis	Kent Scientific Services
Preparation method	50% TEA in acetone
Type of tube	Palmes tube
Type of absorbent	Doped triethanolamine mesh
Membership of inter-laboratory comparison scheme	WASP and Netcen intercomparison carried out on behalf of Defra
Method accreditation	UKAS

Benzene Diffusion Tube Monitoring QA/QC

Supply	Drager
Analysis	Kent Scientific Services
Type of tube	ORSA 5
Type of absorbent	Charcoal (activated)
Membership of inter-laboratory comparison scheme	WASP
Method accreditation	UKAS
Intake rate	Adsorbtion capacity max. 10mg Uptake rate 0.859 cm^3/sec

Appendix 10

Calculation of Diffusion Tube Bias

The diffusion tubes used by Thanet Council are supplied by Harwell Scientifics and analysed by Kent Scientific Services. To account for any bias a comparison has been made between the results of diffusion tube monitoring and continuous monitoring at Kentmere Avenue, Ramsgate. Annual means were compared to produce a percentage accuracy and bias factor.

The calculated bias is based on a comparison with the continuous annual nitrogen dioxide value. The recommended method is to co-locate three tubes with a continuous nitrogen dioxide analyser for a 12 month period.

The data capture for the analyser during 2004 was 89% unfortunately diffusion tube data for this period was only reliable for 4 months (Jan, Feb, Mar & Dec). This was due to an unsolicited change of supplier between April and November from Harwell Scientifics to Gradko. After discussion with the Review and Assessment helpdesk, ERG and other Kent LAs, it was agreed to omit these data from the Annual Progress Report until a reliable bias correction is obtained from studies carried out by NETCEN. The intervening 8 months data are presented in Appendix 4 but are not considered in this report.

The results presented in the tables below indicate that, the diffusion tubes located in Thanet, tend to over-estimate nitrogen dioxide concentrations by an average of 8.4%. An adjustment factor of 0.92 has been applied to all the nitrogen dioxide diffusion tube results for 2004. This compares well with the 2003 bias adjustment factor of 0.97.

There is an element of uncertainty in this adjustment factor and therefore all diffusion tube results should be treated with an element of caution. In should be borne in mind that the actual results could be in the region of at least $\pm$ 1 standard deviation. Therefore if the adjusted concentration reported is above 36 $\mu g/m^3$ it should be considered that there is a risk the objective may be exceeded.

To improve future accuracy, Nitrogen Dioxide diffusion tubes have also been co-located with the continuous monitoring station in Boundary Road, Ramsgate.

Data used to calculate bias and an adjustment factor for nitrogen dioxide diffusion tubes

Thanet Council Collocation	Length of Study (months)	Diffusion Tube Annual Mean Conc. ($\mu g/m^3$) (Dm)	Automatic Monitor Mean Conc.) (Cm)	Bias (B) (Dm-Cm) /Cm	Adjustment Factor (A) (Cm/Dm)
ZH3, Kentmere Ave, Ramsgate	4 (Dm) 11 (Cm)	24.9	25	0%	1.0

Short-term data adjustment

Long term site	Annual Mean 2003 (Am)	Period mean (Pm)	Ratio
Avebury Ave, Ramsgate	25.8	25.7	1.00
High Street, Manston	24.8	20.97	1.18
		Average (Ra)	1.09

Dm x Ra = 24.9 x 1.09 = 27.1$\mu g/m^3$

A = Cm / Dm = 25/27.1 = **0.92**

B = (Dm-Cm) / Cm = (27.1- 25) / 25 = 0.084 i.e. the tubes over-read by **8.4**%