

*A thesis on*

COMPARATIVE AIR POLLUTION ASSESMENT IN DELHI:  
A CASE STUDY

*submitted in the partial fulfilment of the requirement for the award of*

Degree of Master of Engineering  
(Environmental Engineering)

*By*

ANUNAY A. GOUR  
(University Roll No. 9102)

*Under the guidance of*

DR. ANUBHA MANDAL  
Scientist 'C' (U.G.C. Professor Grade)



DEPARTMENT OF CIVIL & ENVIRONMENTAL ENGINEERING

DELHI COLLEGE OF ENGINEERING

UNIVERSITY OF DELHI

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## *Certificate*

*This is to certify that Mr. Anunay A. Gour (Univ. Roll No. 9102), a student of Environmental Engineering, has submitted a thesis entitled “COMPARATIVE AIR POLLUTION ASSESSMENT IN DELHI: A CASE STUDY” in partial fulfillment of the requirement for award of Degree of Master of Engineering in Environmental Engineering, during the academic year 2010-11.*

*The work embodied in this thesis has not been submitted for the award of any other degree to the best of my knowledge.*

*Dr. Mrs. Anubha Mandal*

Scientist 'C' (U.G.C. Professor Grade)  
Civil & Environmental Engineering,  
Delhi College of Engineering  
University of Delhi

## *Declaration*

*This is to declare that the thesis entitled “COMPARATIVE AIR POLLUTION ASSESMENT IN DELHI: A CASE STUDY” has been submitted by me in the academic year 2010 -2011.*

*The work embodied in this thesis has not been submitted for the award of any other degree to the best of my knowledge.*

*Anunay A. Gour*

M. E. (Environmental Engineering)  
Univ. Roll No.: 9102

Department of Civil & Environmental Engineering  
Delhi College of Engineering  
University of Delhi

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## *Abstract*

Air Pollution is an escalating problem worldwide fuelled by increasing anthropogenic activities, hasty development, rapid industrialisation, transportation, superfluous use of fossil fuel consumption, increasing global power needs etc. Moreover, the diverse meteorological factors influence our environment to a great extent. Since the share of pollution caused by human activities is significantly large, it must be controlled. Hence a system of continuously knowing the presence of such pollutants in atmosphere is invariably important in order to check the increasing levels of pollution. Population explosion has lead to remarkable increase in vehicular population. The use of automobile vehicles solely depends upon the lifestyle of an individual. Any change in his habit would have an effect over the air we breathe. The weekly cycle of activities of the population hence explain distinct temporal variation in pollution. The pollution levels differ from weekdays (Monday to Friday) to weekend (Saturday and Sunday). Such observations explicitly express an idea about the magnitude by which the pollution can be moderated by altering some habits of the people. Hence, it can also be resolved that pollution mitigation is a function of public willingness and understanding without which it is impossible to tackle this threat.

A comprehensive database of daily averages of six pollutants, namely, CO, NO, NO<sub>2</sub>, SO<sub>2</sub>, O<sub>3</sub>, PM (10µm and 2.5µm) were analysed for the period of 2006 to 2010 at the *National Ambient Air Quality Monitoring Station* (NAAQMS) of Central Pollution Control Board (CPCB) on the main traffic intersection near Income Tax Office (ITO), Bahadur Shah Zafar Marg, New Delhi. The comparative study had come out to assert that pollution levels on weekend i.e. Sunday relate to significantly lower concentration of pollutants as compared to that on weekdays i.e. from Monday to Friday by almost 2 to 6 times on an average (increase on Sundays with respect to weekdays is CO 2.98 times, PM2.5 1.18

times, NO 1.62 times, NO<sub>2</sub> 5.76 times, SO<sub>2</sub> 1.27 times and O<sub>3</sub> 1.15 times). Levels of primary pollutants – suspended particulate matter (SPM), nitrogen oxide and sulphur dioxide – have gone up significantly in earlier decades. Similar variations are induced during Public and cultural holidays. The temporal variation in concentration of pollutant throughout the day varies with the influence of local wind parameters such as direction, speed, etc., traffic condition, land-use, mixing height and other meteorological aspects, changing pattern of vehicular traffic and the industrial activities. By and large, the pollutants like CO, NO<sub>x</sub> are from automobile exhausts, whereas use of coal based fuels causes heavy emissions of SO<sub>2</sub>.

The observed phenomena of weekend effect and holiday effect provide evidence of impact of human activity on ambient air. Pollution variation corresponds to the pattern of working on weekend and weekdays. Comparative analysis from different aspects shows that vehicular emission largely increases on weekdays and drops down on weekends. Such weekend effect or holiday effect is also seen on public and cultural holidays. A general trend of fall in concentration has been found during the season of SW Monsoon and an exceptional short term increase at festivities such as Diwali. The study also shows, in particular, higher levels of Ozone during weekends. Hence the cycle of human activities at different periodicities show their deep influence over environmental health. It can be hence stated that vehicular pollution mitigation is a function of public willingness and understanding without which it is impossible to tackle this menace.

Control of pollution can be accelerated by taking some basic steps such as proper policy formulation and honest implementation by RTO, City Police, and Environmental Bodies, Industries, and finally the masses. Each city in the world faces the same effect; hence this work can have regional as well as global applications.

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Chapter 1  
*Air Pollution in Delhi*

1.1 INTRODUCTION

Air pollution is a problem which is escalating expeditiously. The tremendous increase in concentration of pollutants can be said *unavoidable* as it is attributed to the increasing anthropogenic activities, development, rapid industrialisation, enlarged scope of transportation, superfluous use of fossil fuel, increasing global power needs, etc. Such factors being benevolent to humans are simultaneously a threat to environmental health and to health of life on earth. The fallouts of the fast paced urbanisation like deforestation and decline of vegetation cover further worsens the condition. Pollution in urban and metropolitan areas today is largely a product of increasing number of vehicles. The exhausts are alarmingly becoming a distress to life. An estimated 200 metric tonnes of air pollutants are pumped into the atmosphere every day in Delhi (ISEST 2000). Vehicular sources contribute about 63% of the total pollutants, followed by industries and thermal power plants (29%) and the rest (8%) from domestic sector (ISEST 2000).

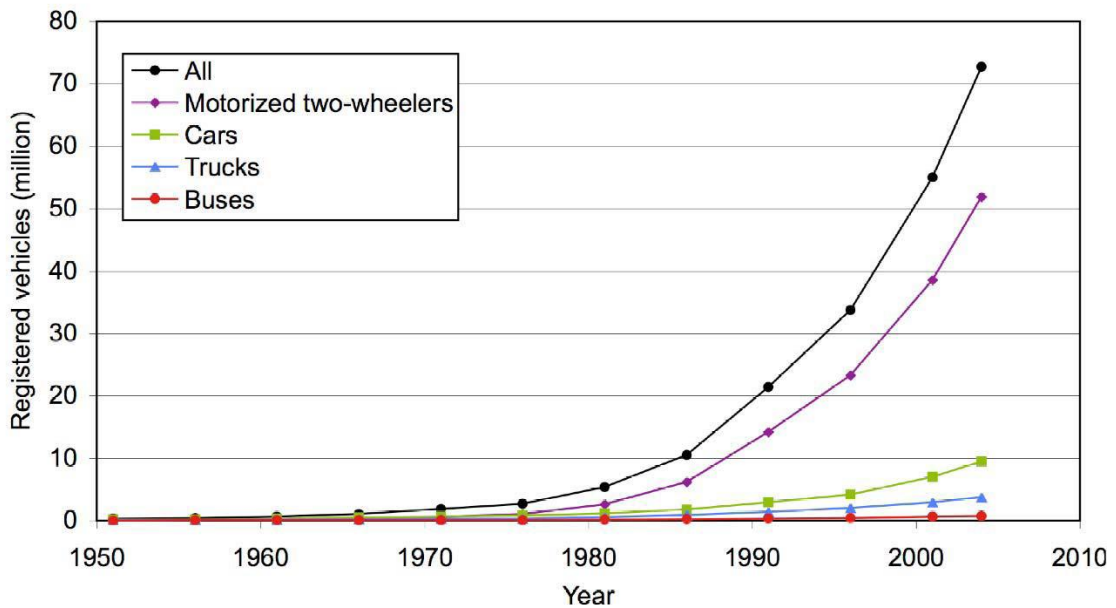


Figure 1.1 - Decadal increase in Vehicular Traffic

Population explosion has led to remarkable increase in vehicular population. The diesel based vehicles to CNG driven ones, all are a significant contributor. The urban population of India has tripled within a period of 1951 to 1991, from 62.5 million to 217.6 million; correspondingly the vehicle population has increased almost 124 times from 0.3 million to 37.2 million (MoST 2000).

The use of automobile vehicles solely depends upon the lifestyle of an individual. Any change in his habit would have an effect over the air we breathe. The weekly cycle of activities of the population hence explain distinct temporal variation in pollution. The pollution levels differ from weekdays (Monday to Friday) to weekend (Saturday and Sunday). Pollutants such as carbon monoxide (CO), particulate matter (10  $\mu\text{m}$  and 2.5  $\mu\text{m}$  size), nitrogen oxide (NO), nitrogen dioxide (NO<sub>2</sub>) and sulphur dioxide (SO<sub>2</sub>) surges high on weekdays and are at relatively lower concentrations on weekend (e.g. Charles et. al., Kakoli et. al., Pei-Hua Tan et. al., Rosiberto et. al., S. B. Debaje et. al.). Such observations explicitly express an idea about the magnitude by which the pollution can be moderated by altering some habits of the people. Unless we dramatically reduce the amount of pollution vehicles emit in actual use, or drastically cut back on the amount we drive, cleaner and smog-free air will continue to elude us. Hence, it can also be resolved that pollution mitigation is a function of public willingness and understanding without which it is impossible to tackle this threat.

The study attempts to assess the ambient air quality of Delhi and hence figure out the consequence of weekly cycle of human activities over the pollution levels by gauging pollution concentrations of six major pollutants for the period of 2006 to 2010 exhibiting weekday – weekend differences in pollution levels of daily (24h) mean, weekly cycle, monthly variation, season induced variation and inter-annual variation are also provided.

## *Chapter 2*

### *Literature Review*

It is clear that the pattern of economic growth that we are adopting is becoming increasingly associated with environmental pollution. A study comparing the rates of economic growth and the rates of growth of vehicular pollution and industrial pollution shows that during 1975–1995, the Indian economy grew by 2.5 times, but the industrial pollution load grew by 3.47 times and the vehicle pollution load by 7.5 times. Indeed, Indian cities are being exposed to high levels of air pollution and people living in these cities are paying a price for the deterioration in air quality. The World Bank has estimated that Indians are spending Rs 4550 crores every year on treatment of diseases caused by ambient air pollution. Air quality in Delhi is deteriorating. Levels of primary pollutants – suspended particulate matter (SPM), nitrogen oxide and sulphur dioxide – have gone up significantly in earlier decades. The consistently high levels of total SPM are worrying. Data available from the Central Pollution Control Board (CPCB) indicate that the levels of small particles less than 10 micron (PM<sub>10</sub>) are very high. This size of particulates is known to cause severe damage to the lungs. In fact, the World Health Organisation (WHO) reports that there is no safe level for particulate matter emissions. International studies have confirmed association between elevated levels of particulate air pollution and decline in lung function or increase in respiratory symptoms such as cough, shortness of breath, wheezing and asthma attacks. Studies have also found associations between particulate air pollution and rates of hospitalization, chronic obstructive pulmonary disease and restricted activity due to illness. A World Bank study on the health effects of air pollution in Delhi revealed that SPM in Delhi alone led to premature death of 7491 persons in 1991–1992. The study repeated for the year 1995 shows an increase to about 10,000 in just three years, which means a death rate of one person per hour due to air pollution. It is not known on what scientific database such as epidemiological studies, morbidity and mortality patterns that air quality standards published for India are arrived at. Given the knowledge of the harmful effects of particulate pollution and the high concentration of particulate matter in Delhi's air, it is needed to generate regular information on the ambient concentration levels of small particulates of diameter less than 10 micron and/or 2.5 micron and take urgent steps to control emissions of these particles. It is well known that the combustion of diesel generates small particulate matter, nitrogen oxides (NO<sub>x</sub>), sulphur dioxide (SO<sub>2</sub>) and polycyclic aromatic hydrocarbons (PAH).

Public transport in Delhi was amended by the Supreme Court of India to use Compressed Natural Gas (CNG) instead of diesel or petrol. After the implementation of CNG since April 2001, Delhi has the highest fraction of CNG-run public vehicles in the world and most of them were introduced within 20 months after the implementation of CNG, a decreasing trend was found for PAHs, SO<sub>2</sub> and CO concentrations, while the NO<sub>x</sub> level was increased in comparison to those before the implementation of CNG. Further, SPM, PM<sub>10</sub>, and BTX concentrations showed no significant change after the implementation of CNG. However, the BTX concentration demonstrated a clear relation with the benzene content of gasoline. In addition to the impact of the introduction of CNG the daily variation in PAHs levels was also studied and the PAHs concentrations were observed to be relatively high between 10 pm to 6 am, which gives a proof of a relation with the limited day entry and movement of heavy vehicles in Delhi. (Khairwal Ravindra, et.al.).

Apart from CPCB, a few other agencies and researchers have conducted studies to monitor specific pollutants in ambient air of Delhi. Ambient concentrations of CO, NO<sub>x</sub>, SO<sub>2</sub>, and TSP were measured in the centre of downtown [the Income Tax Office (ITO) located on Bahadur Shah Zafar Marg] New Delhi. The data consist of 24-h averages of SO<sub>2</sub>, NO<sub>x</sub>, and TSP as well as 8-h and 24-h averages of CO. The measurements were made in an effort to characterize air pollution in the urban environment of New Delhi and assist in the development of an air quality index. The yearly average CO, NO<sub>x</sub>, SO<sub>2</sub>, and TSP concentrations for 1997 and 1998 were found to be  $4810 \pm 2287$  and  $5772 \pm 2116$  mg/m<sup>3</sup>,  $83 \pm 35$  and  $64 \pm 22$  mg/m<sup>3</sup>, 208 and 237 mg/m<sup>3</sup>, and  $409 \pm 110$  and  $365 \pm 100$  mg/m<sup>3</sup>, respectively. In general, the maximum CO, SO<sub>2</sub>, NO<sub>x</sub>, and TSP values occurred during the winter with minimum values occurring during the summer, which can be attributed to a combination of meteorological conditions and photochemical activity in the region. The ratio of CO/NO<sub>x</sub> (approximately 50) indicates that mobile sources are the predominant contributors for these two compounds in the urban air pollution problem in New Delhi. The ratio of SO<sub>2</sub>/NO<sub>x</sub> (approximately 0.6) indicates that point sources are contributing to SO<sub>2</sub> pollution in the city. The averaged background CO concentrations in New Delhi were also calculated (approximately 1939 mg/cum) which exceed those for Eastern USA (approximately 500 mg/cum). Further, all measured concentrations exceeded the US National Ambient Air Quality Standards (NAAQS) except for SO<sub>2</sub>. TSP was identified as exceeding the standard on the most frequent basis (Chhabra S.K. et. al.).

An assessment of urban air pollution in Lucknow also raises concerns for increased pollution levels in the city. The 24 hr average concentration of SPM, RSPM, SO<sub>2</sub> and NO<sub>x</sub>

was found to be 382.3, 171.5, 24.3 and 33.8  $\mu\text{g}/\text{m}^3$  respectively in urban area and these concentrations were found to be significantly ( $p < 0.01$ ) higher by 94.8, 134.8, 107.4 and 129.6% than control site respectively. The 24 hr mean of SPM and RSPM at each location of urban area were found to be higher than prescribed limit of National Ambient Air Quality Standard (NAAQS) except SPM for industrial area. The 24 hr mean concentration of metals associated with RSPM was found to be higher than the control site by 52.3, 271.8, 408.9, 75.81, 62.7, 487.54 and 189.5 % for Fe, Cu, Pb, Zn, Ni, Mn and Cr respectively. The inter correlation of metals Pb with Mn, Fe and Cr; Zn with Ni and Cr; Ni with Cr; Mn with Fe and Cu with Cr showed significant positive relation either at  $p < 0.05$  or  $p < 0.01$  level. Metals Pb, Mn and Cr ( $p < 0.01$ ) and Cu ( $p < 0.05$ ) shows significant positive correlation with RSPM. These results indicate that ambient air quality in the urban area is affected adversely due to emission and accumulation of SPM, RSPM,  $\text{SO}_2$ ,  $\text{NO}_x$  and trace metals. These pollutants may pose detrimental effect on human health, as exposure of these are associated with cardiovascular and respiratory diseases, neurological impairments, increased risk of preterm birth and even mortality and morbidity. (S.C. Barman et. al.) An article studying the magnitude and variation of air pollution due to traffic the city of Addis Ababa measures high concentrations of CO due to prevalence of old vehicles and substandard road infrastructure. (Abera Kume et. Al.)

The temporal variation of concentration of pollutant throughout the day varies with the influence of local wind parameters such as direction, speed, etc., traffic condition, land-use, mixing height and other meteorological aspects. On the other hand, variation arises due to changing pattern of vehicular traffic and the industrial activities. By and large, the pollutants like CO,  $\text{NO}_x$  are from automobile exhausts, whereas use of coal based fuels causes heavy emissions of  $\text{SO}_2$ . Variations as in different seasons (summer, winter, NE monsoon, SW monsoon), over weekday-weekend differences also other factors such as diurnal temperature range, daily minimum temperature, daily maximum temperature, daily precipitation frequency, annual precipitation and tropical cyclonic mean maximum wind speed, and seasonal maximum and minimum temperature also affect the concentration of pollutant to great extents. The observed variation also points toward the influence of human activities over environment. Sources of pollution such as consumption of fuels for automobile and industrial purpose, and factors related to individual's lifestyle, working and non-working environment, religious and cultural practices, festivities, which act as a major factor for variation. Pollutants like carbon monoxide, particulate matter, polycyclic organic matter, volatile organics, sulphur dioxide, oxides of nitrogen and ozone are of grave

importance from the aspect of vehicular emissions. Motor vehicles also emit several other compounds namely acetaldehyde, acrolein, arsenic compounds, chromium compounds, dioxins and furans, formaldehyde, lead compounds, manganese compounds, mercuric compounds, nickel compounds, styrene, etc. Thorough observation on the weekly cycle of activities of the population with respect to use of vehicles, the data reveal that various pollutants as mentioned above falls in concentration during weekends, as there is lower traffic on roads. Hence there occurs a significant fall in the pollution levels. But ozone ( $O_3$ ), a major photochemical oxidant, increases on weekend especially on Sundays contrary to decreasing concentration of other pollutants like  $NO_x$  and some hydrocarbons which acts as its precursors. Such observations are also referred as 'Weekend effect' by many studies (Charles et al., Eric M. Fujita et al., J. G. Murphy et. al., Rosiberto et. al., Pei-Hua Tan et. al, S. Stephens et. al., S.B. Debaje et. al.). Ozone shows a composite pattern as some instances also show increase concentration of  $O_3$  on weekend (Pei-Hua Tan et. al.).

Similar variations are induced during Public and cultural holidays. On the other hand festive occasions deter the air quality to great extents. Occasion can be marriages, New Year, Diwali celebrations etc. witness the sparkling and twinkling of coloured lights which exhilarates the visual senses of one and all. When these displays are coupled with the sound of explosive bursts it is considered an expression of joyous affair. On the other hand, scientific evidence is mounting to reveal the immediate impact of such firework displays on human health through pollution of air we breathe( Arun K Attri). The effect of fireworks on the air quality as assessed from the ambient concentrations of various air pollutants ( $SO_2$ ,  $NO_2$ , PM10 and TSP) during Diwali festival in Hisar city (India), in November 1999 also finds its relation with short-term variation in air quality. During the festival the concentration of  $SO_2$  was observed to be increased 10 fold at few sites, whereas the concentrations of  $NO_2$ , PM10 and TSP increased 2-3 times, compared to the data collected on a typical winter day in December 1999. The maximum  $NO_2$  concentration was observed a day after the festival. The diurnal pattern of the above pollutants showed a slight increase in the night. The levels of these pollutants observed during Diwali were found to be moderately high, which can be associated with serious health impacts (Khaiwal Ravindra et al.). Fireworks contain chemicals such as potassium nitrates, potassium chlorate, potassium perchlorate, charcoal, sulphur, manganese, sodium oxalate, aluminium and iron dust powder, strontium nitrate, and barium nitrate, etc. (Ravindra et al., 2003; Wang et al., 2007). These firecrackers when burnt can release

various gaseous and particulate air pollutants and toxic metals to significant quantity and degrades the air quality as a whole.

A Report on Monitoring of Noise and Air Pollution during Diwali, 2006 of Maharashtra Pollution Control Board shows concern over increased noise and air pollution caused due to bursting of the firecrackers during Diwali. The fire cracker bursting cause high noise levels typically more than 100 dB. Such effects can also be related to very severe discomfort to animals. The sound nuisance is a bigger issue for them. Scientific studies prove such discomfort caused to animals. Animals such as cats and dogs are able to hear a wider range of sounds, and softer sounds than humans. The comparative hearing ranges of humans (20 Hz – 23 KHz), dogs (60 Hz – 45 KHz) and cats (45 Hz – 64 KHz). Cats and dogs also respond to a much lower intensity of sound than humans. Dogs can hear five times more acutely than humans; and cats about twice as acutely as dogs. Like Hz, dB also increases exponentially, so 30 dB is ten times as loud as 20 dB, and 40 dB is 100 times as loud. A practical example is that a whisper weighs in at about 30 dB, and a dog can hear that from almost three times as far away as a human. Cats are even more sensitive than dogs to these soft sounds. This also explain why dogs and cats are so scared by the sound of fireworks which, to us, to do not seem so loud. They are in fact at least 5 times louder to them. (Dr. M.E. de Vries - National Councils of SPCAs, Ablerton)

Chapter 3  
Methodology

3.1 DESCRIPTION OF STUDY AREA

National Capital Territory of Delhi (NCT) is the eighth largest metropolis in the world by population with more than 16.75 million inhabitants and one of the highest densities of population of 11,297 per sq. km (Census of India 2011). NCT supports the livelihood of nearly 22.2 million residents of the greater National Capital Region urban area which also includes Noida, Greater Noida, Ghaziabad, Gurgaon and Faridabad along with other smaller nearby towns, who commuting in the city. Hence, air pollution due to vehicular emission is very high with a vehicular population of more than 6.5 million registered vehicles (as on 30-Oct-2010, Transport Department, Govt. Of NCT of Delhi) in the city, which is one of the highest among all cities in the world. Public transport in the metropolis includes the Metro Rail, the Delhi Transport Corporation BRT system, auto-rickshaws, cycle-rickshaws and taxis. However, buses continue to be the most popular means of transportation for intra-city travel; they cater to about 60% (Economic Survey of Delhi 2007-08) of the total commuting requirements. Private vehicles account for 30% (Economic Survey of Delhi 2007-08) of the total demand for transportation, while the rest of the demand is met largely by auto-rickshaws, taxis, rapid transit system and railways, making it a hub for emission.



Figure 3.1 - NAAQM ITO Station on Bahadur Shah Zafar Marg

Income-Tax Office (ITO), Bahadur Shah Zafar Marg, New Delhi is one of the prime commercial locations, with numerous corporate offices, govt. offices which render it into one of the locations most affected by vehicular emissions; hence turn out to be a principle



site for pollution monitoring. Traffic jams, helped by the rush hour or peak time leads to a double jeopardy over the environmental health. Thus the pollution levels throughout the day vary according to the traffic conditions. Also the ambient air here is influenced by the emissions from two coal-fired power generation stations namely, Pragati Thermal Power Plant (Indraprastha) and Badarpur Thermal Power Plants (Badarpur), rendering a lot of particulate pollution as well as CO, NO<sub>x</sub> and SO<sub>2</sub>. With advancement, the station may also start determined steps for source analysis of pollutants.

### 3.2 METHODOLOGY

Daily averages of six pollutants, namely, CO, NO, NO<sub>2</sub>, SO<sub>2</sub>, O<sub>3</sub>, PM (10µm and 2.5µm) were analysed for the period of 2006 to 2010 at the *National Ambient Air Quality Monitoring Station* (NAAQMS) of Central Pollution Control Board (CPCB) on the main traffic intersection near Income Tax Office (ITO), Bahadur Shah Zafar Marg, New Delhi. The analysis of data has been done comprehensively -

1. To compare the variation in levels of pollution on weekdays and weekend.
2. Effect of weekly cycle of Human Activities or Weekly variation of pollution is also covered.
3. Comparison between Traffic v/s Non-Traffic Area.
4. The analysis also works with average monthly variation to point out the magnitude of variation within a year.
5. Comparison of annual average pollution levels with National Ambient Air Quality Standard (NAAQS).
6. The variation induced by seasonal changes in weather is also considered in form of average seasonal variability, and season wise inter-annual variability has been added.
7. Measure the variation in pollution levels due to change of human activities on Public Holidays.
8. Effect of short-term variation in pollution emission on festivals (Diwali) over pollution levels in the city.

## *Data Analysis, Results and Discussion*

### 4.1 METEOROLOGICAL CONDITIONS FOR POLLUTION ASSESSMENT

Meteorological conditions play a decisive role as the variations in hourly concentration have strong influence of the seasonal changes for it may be masked by the prevailing meteorological conditions and provides false data or improper analysis. Delhi is hot and humid for most of the year. The climate becomes very hot during the month of June which is followed by monsoon happening somewhere after September. Winters are very chilly which peaks in at the start of November and continues till the month of February. Delhi is situated on the banks of river Yamuna with Himalayas being in the north.

- **Summer Season:** The average temperature of New Delhi during summer ranges from 25° C to 46° C. May and June are the hottest months of the year. Summer stays till October. Summer attributes its cause to Rajasthan hot waves called "Loo", which are immensely hot. This period marks the expansion of atmosphere causing the elevation of mixing height, which gives pollutants more volume to disperse in. Hence it can be said that pollution levels may show lower concentration.
- **Monsoon (Rainy Season):** The arrival of monsoon does bring some relief in temperatures, starting from the end of June and lasting till September. October sees the end of the monsoon. Consecutively the SW Monsoon and the retreating NE Monsoon washes out the air of pollutants and gives it the cleanest character, in this period. NE Monsoon though affects eastern part of India; it has negligible effect over Delhi. The period of NE Monsoon in Delhi is more or less overlapped with the oncoming winter season.
- **Winter Season:** In comparison to summer, winters are short, which starts from the end of November and continues till February-March. The cold waves from the Himalayan region makes the winters in New Delhi very chilly. Temperatures fall substantially down to as low as 3 to 4° C at the peak of winter. January has dense fog enveloping the city reducing visibility on the streets. This is the period where the mixing height falls giving a reduced volume for the pollutants to diffuse in the air, hence show remarkable rise in pollution levels.

## 4.2 WEEKDAY AND WEEKEND COMPARISON

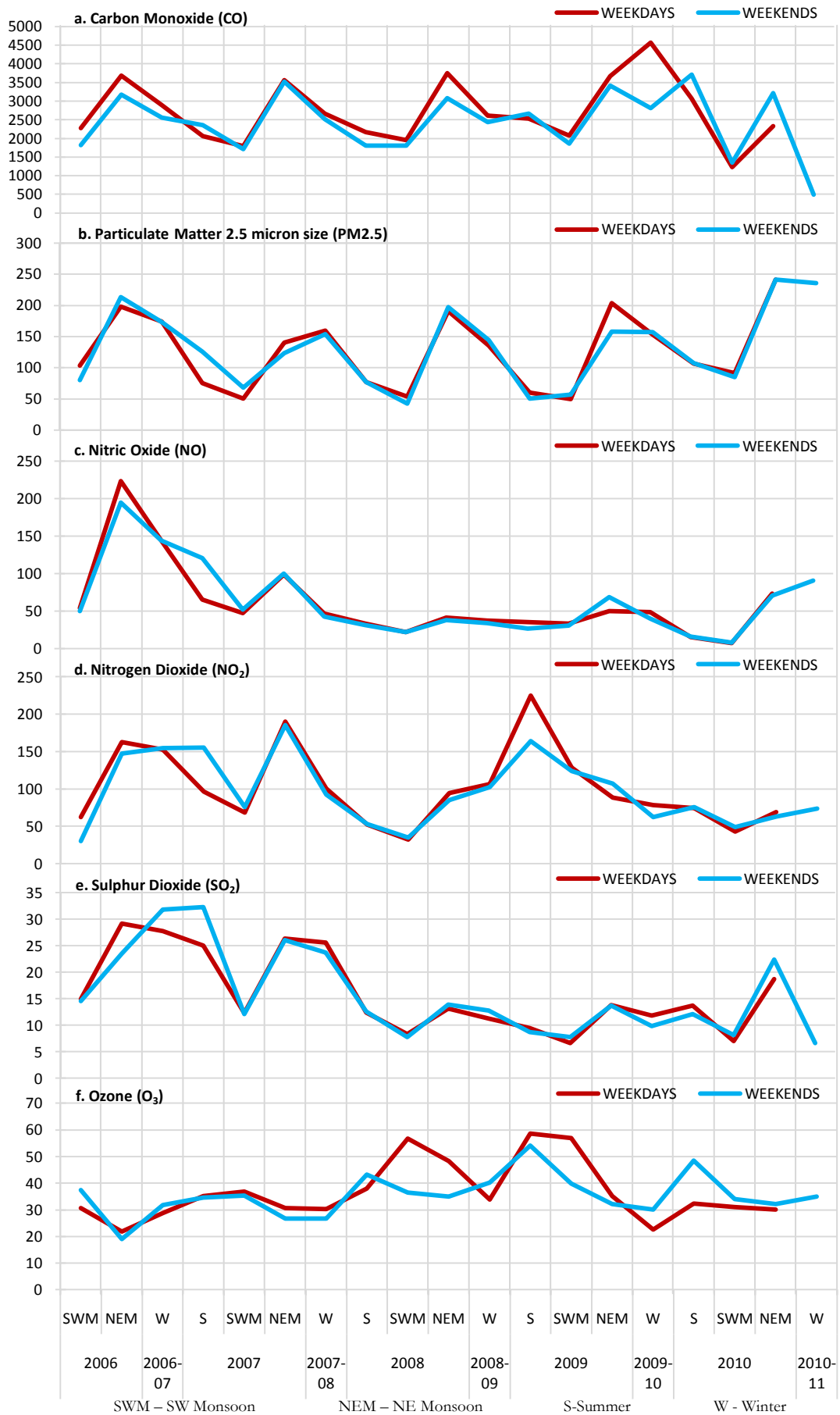


Figure 4.1 Weekday-Weekend Comparison w.r.t. Seasons

The 24-h averages of the parameters have been plotted on a continuous time scale with consecutive seasons and respective years from 2006-2010 on x-axis and concentration of respective parameters represented by the graphs of weekdays (red), weekends (blue). Seasonal grouping of data analysis provides us with similar meteorological conditions and hence can be useful in studying the season-induced variations in pollution. The observations from figure 4.1(a-f) are as follows:-

**Carbon Monoxide:** It is evident that average weekday concentration of carbon monoxide, as occurrence of co-ordinates of individual temporal ranges show a well defines sequence (blue - red) i.e. pollution levels on Weekdays is more than that on Weekends. As substantiated by existing data from 2006 to 2010, on an average, concentration of CO as on weekdays is 1.75 times as that on Saturdays and is as much as 2.98 times as that on Sundays. CO being one of the substances that are agelessly related to vehicular exhausts very well demonstrated the impact of vehicles over the environment. A well defined pattern exist, with highest concentration during NE Monsoon is seen which gradually falls through winter and summer and reaches its lowest in the season of SW Monsoon. Year 2010 shows CO with 1.5 times more concentration than that fixed for national ambient air. CO in automobiles is produced as a result of incomplete combustion of fuel; possible due to inadequate oxidation i.e. in shortage of oxygen. Mitigation of vehicular CO can be guaranteed by facilitating complete combustion of fuels.

**Particulate Matter:** Particulate Pollution is the category which causes major respiratory track related disorders like asthma, etc. Apart from the natural sources transportation, stationary combustion and industrial and traffic-related fugitive emissions, street dust etc. can be ways of particulate pollution. The concentration of particulate matter here, by and large, was found to be similar during weekends and weekdays under the influence of particulates like fly-ash and dust from the two thermal power generation plants nearby. As substantiated by existing data from 2006 to 2010, on an average, concentration of PM<sub>2.5</sub> as on Weekdays is 1.12 times as that on Saturdays and is as much as 1.18 times as that on Sundays. Similar to CO, PM also shows a well defined pattern with highest concentration during NE Monsoon is seen which gradually falls through winter and summer and reaches its lowest in the season of SW Monsoon. Particulates are seen to rise in year 2010. The average concentration of PM<sub>2.5</sub> throughout the period (2006-10) studied, had always been above by about 3.34 times the NAAQS permissible limit and hence can be said as an area of greater vitality for the need to mitigate pollution.

**Oxides of Nitrogen:** Nitrogen oxides are precursors of both acid precipitation and ozone, each of which is blamed for injury to plants. It is nitrogen oxide that absorbs sunlight, initiating the photochemical processes that produce nitric acid, which may precipitate with the rainfall. As substantiated by existing data from 2006 to 2010, on an average, concentration of NO as on Weekdays is 1.56 times as that on Saturdays and is as much as 1.62 times as that on Sundays. Also the concentration of NO<sub>2</sub> as on Weekdays is 1.28 times as that on Saturdays and is as much as 5.76 times as that on Sundays. Similar to CO and PM, NO<sub>x</sub> also shows a well defined pattern with higher concentration during NE Monsoon is seen which gradually falls through winter and summer and reaches its lowest in the season of SW Monsoon. After the high of 2006, level of NO lowered from 2007 to 2009 but soared again in year 2010, whereas NO<sub>2</sub> had a high in summer of 2009.

**Sulphur dioxide:** Sulphur dioxide, being an integrated component of fossil fuels, leads to emission amount of oxides of sulphur into atmosphere. Validated by the data from 2006 to 2010, on an average, concentration of SO<sub>2</sub> as on Weekdays is 1.31 times as that on Saturdays and is as much as 1.27 times as that on Sundays. Similar to CO, PM and NO<sub>x</sub>, SO<sub>x</sub> also shows a well defined pattern with higher concentration during NE Monsoon is seen which gradually falls through winter and summer and shows steep fall with the onset of SW Monsoon reaches its lowest in this season. The pattern of SO<sub>x</sub> from 2006 to 2010 is shows a falling trend.

**Ozone:** Ozone shows somewhat erratic behaviour as per the data from 2006 to 2010, on an average, concentration of CO as on Weekdays is 1.22 times as that on Saturdays and is as much as 1.15 times as that on Sundays. Comparing with respect to other pollutants studied ozone shows an opposite concentrations. The graphs somewhat remain similar with some peaks at Sundays. Contrary to CO, PM and NO<sub>x</sub>, SO<sub>x</sub> which shows higher concentration in NE Monsoon gradually falls through winter and summer and attain their lowest in SW Monsoon, Ozone shows lowest levels in NE Monsoon increases through Winter and Summer and reaches its highest levels in SW Monsoon. Ozone shows significant influence of solar radiation and obliquity to sun. The rain-washed air during SW Monsoon gives way to increased insolation and causes increased photo-oxidation of NO<sub>x</sub> and HCs. It has been observed that ozone shows higher levels where NO<sub>x</sub> shows lower levels and vice versa. Years 2008 and 2009 shows higher levels of O<sub>3</sub>.

### 4.3 WEEKLY VARIATION

Figures 4.2 (a-f) observes that the concentration of the pollutants such as CO, NO, NO<sub>2</sub> drastically falls as we reach Sundays i.e. towards the end of the week. It is found so because of the changing pattern of vehicular usage of individuals in urban areas, which shows a cyclic behaviour of a periodicity of 1 week. Sunday being a day of official off becomes the day for rest and entertainment for the population; hence it is envisaged with clearer roads, lesser traffic flow, hence less pollution as compared to that on other days. On Sundays, it is evident that the concentration of pollutants even at the normal peak times is far below the average weekday's level of pollutants. Similar trend can be observed as most of the government offices and private offices observe a half-day at work on Saturday; hence rendering a pollution level slightly above than that on Sundays but assertively below the pollution levels on Weekdays.

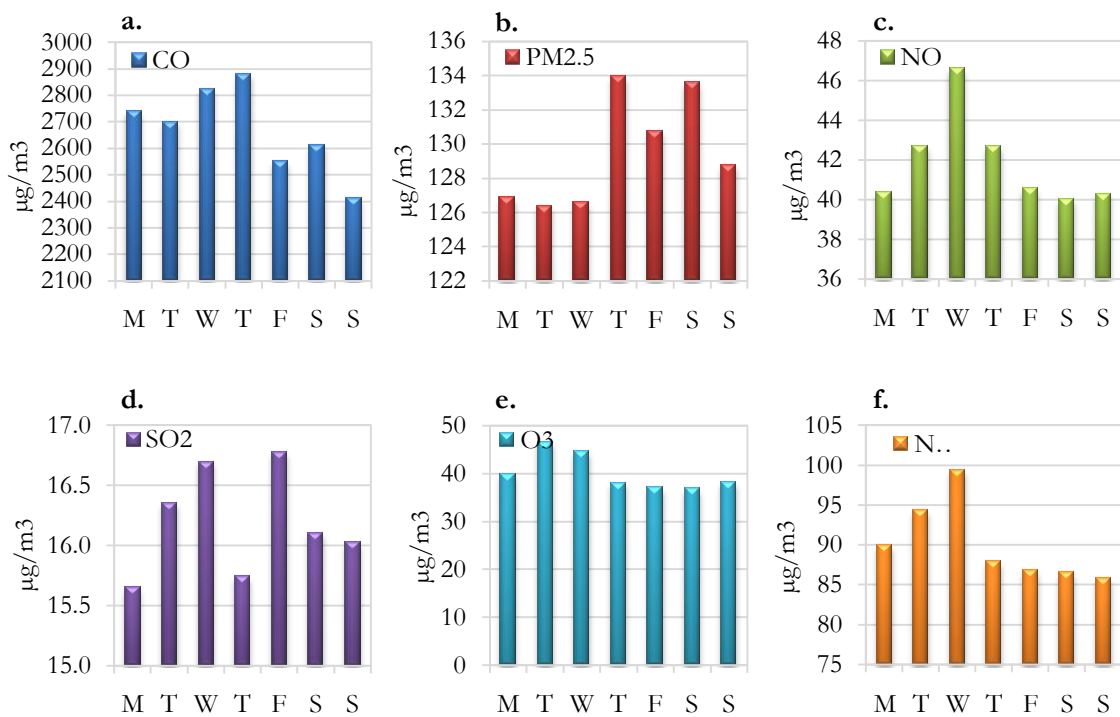


Figure 4.2 - Average Weekly Variation

#### 4.4 24-H ANNUAL AVERAGE (TRAFFIC V/S NON-TRAFFIC AREA)

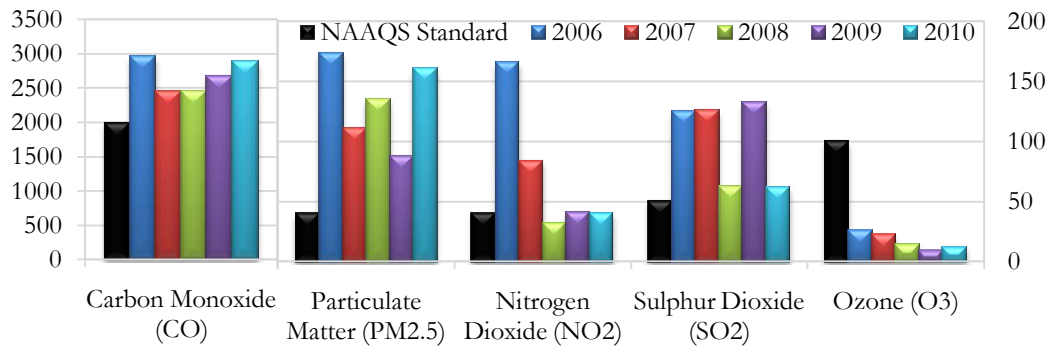


Figure 4.3(a) - 24-h Annual Average at a Traffic Intersection (ITO STATION)

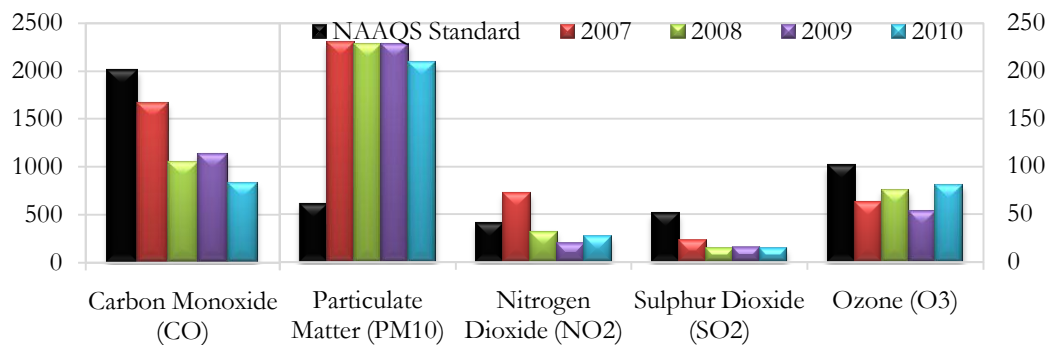


Figure 4.3(b) - 24-h Annual Average at a Non-Traffic Area (DCE STATION)

It also show the effect of the vehicular emission over the concentration of pollutants, taking into consideration the Income Tax Office (ITO) station, which is located at the main traffic intersection, is under heavy traffic flow throughout the day whereas DCE Station is located inside Delhi College of Engineering campus where a negligible traffic with very restricted entry of vehicles exists and a low influence of some small scale industries nearby. The principal emissions from vehicles include CO and SO<sub>2</sub>, combustion and heating also cause formation of NO<sub>2</sub>. It was found that level of CO is alarmingly high at ITO whereas below permissible limit at DCE. Differences exists in concentration of ozone, which shows higher pollution levels at the DCE station whereas the heavy traffic area shows relatively low levels of ozone. This can be explained as; a highly polluted area has an envelope of dust and pollutant gases which retards the solar radiation which in turn slows down photo-oxidation of NO<sub>x</sub>. Hence, rather being below NAAQ Standard's permissible value, DCE shows higher levels of ozone than that at ITO. A general falling trend is visible in 24-h annual average from 2006 to 2010.

#### 4.5 AVERAGE ANNUAL POLLUTION LEVELS

The pattern showed by the 24h annual averages shows increasing levels of carbon-monoxide and particulates, whereas a falling trend in terms of sulphur dioxide, nitrogen dioxide and ozone. Despite of increasing number of vehicles on road the level of SO<sub>2</sub> is seen to be falling. This can be due to new motor regulations, use of CNG, catalytic convertors, etc. Increased influence of the surrounding (e.g. coal powered power stations) leads to rise in level of particulates and CO, although, a general fall of consecutive year's pollution levels is evident from the data studied.

Table 4.1 - 24-h averages for the period of 2006 - 2010

Parameter ( $\mu\text{g}/\text{m}^3$ )	CO <sup>#</sup>	PM2.5 <sup>*</sup>	NO <sup>*</sup>	NO <sub>2</sub> <sup>*</sup>	SO <sub>2</sub> <sup>*</sup>	O <sub>3</sub> <sup>#</sup>
NAAQS	2000	40	-	40	50	100
Average	2608.93	127.68	61.79	97.62	16.19	38.14

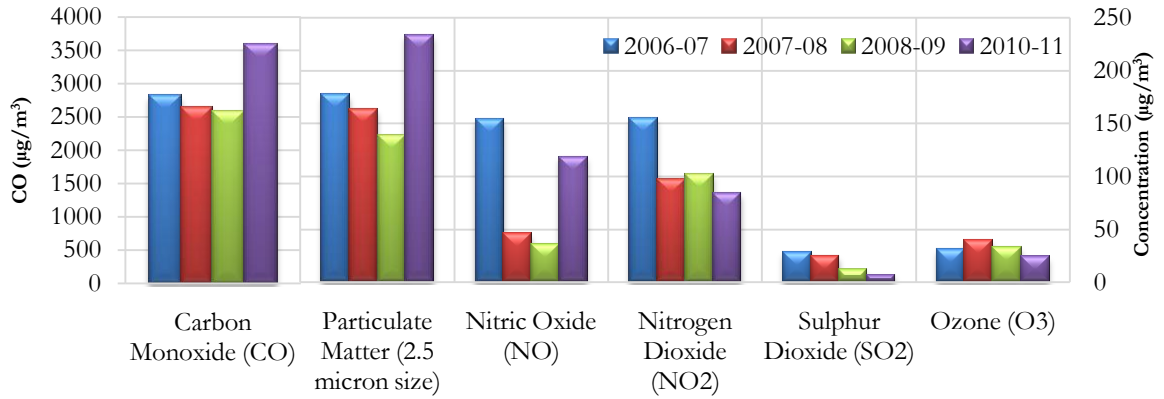
# Annual 8-h average    \* Annual 24-h average

The average concentration of pollutants from 2006 to 2010 shows levels of CO, PM and NO<sub>2</sub> persistent violating the permissible limits as assumed in the National Ambient Air Quality Standard. CO exceeds by 30% more than NAAQS, similarly, PM2.5 shows 220% excess concentration. The concentration of NO is in excess by more than 50% of its permissible value, concentration SO<sub>2</sub>, O<sub>3</sub> and PM10 were found to be lower than limits.

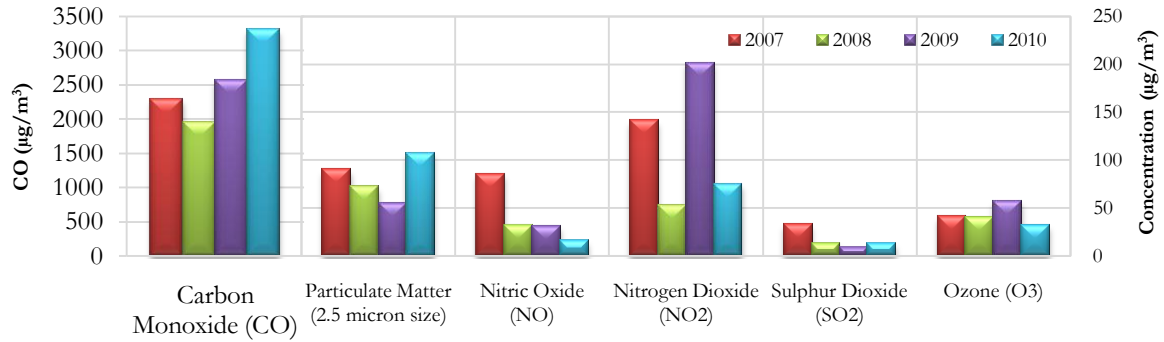


#### 4.6 INTER-ANNUAL SEASONAL VARIATION IN POLLUTION LEVELS

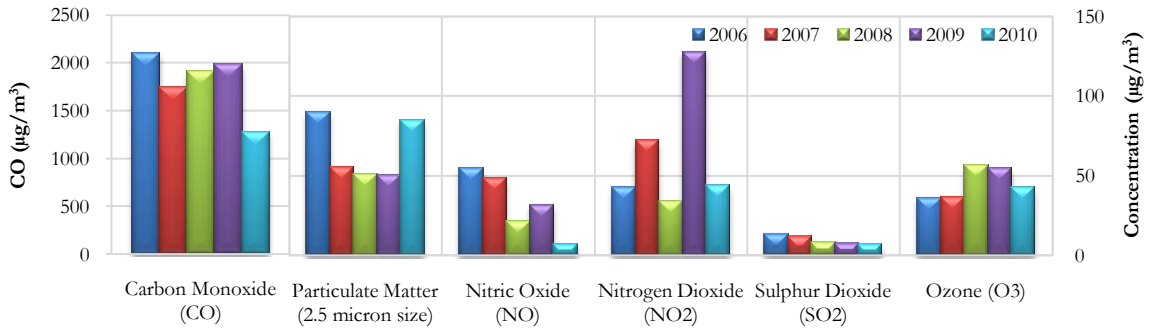
##### a. Winter Season (December - March)



##### b. Summer Season (April - May)



##### c. South-West Monsoon Season (June - September)



##### d. North-East Monsoon Season (October - November)

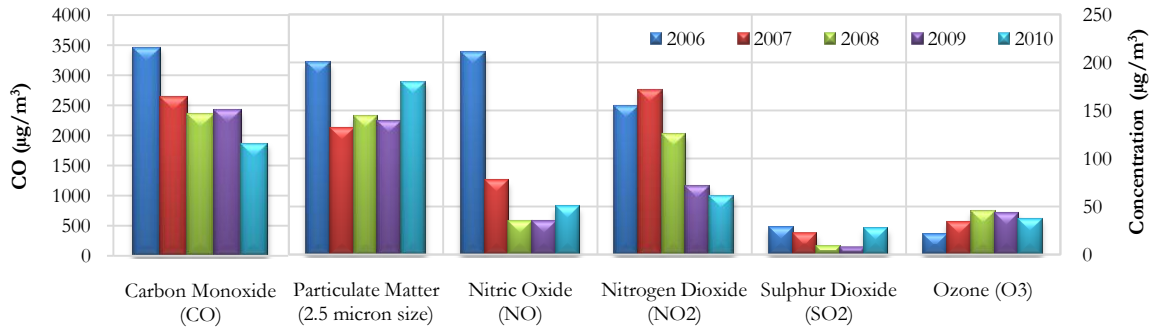


Figure 4.4 - Inter-Annual Variation with respect to Seasons

A methodology involving grouping of the parameters of pollution into similar meteorological and weather conditions through different seasons can be considered as an effective medium to give proper analytical conclusion. Concentrations of parameters for the respective years show a falling trend throughout and hence give a healthy sign of reducing pollution. But the existing levels are also alarmingly high for mitigation. The changes brought about in the fuels for reducing sulphur content can be said effective as the falling trend of SO<sub>2</sub> in all seasons is evident.

**Winter Season:** The season of winter in 2010 shows pollutants with higher levels of concentration than the preceding years. It cannot be directly related to higher pollution emission during this phase. Such increased concentration can be largely attributed to the prevailing changed meteorological conditions of this duration. It was known that wind speed and mixing height were considerably low for 2010 as compared to yesteryears. The levels are also accompanied increasing vehicular emissions and by some special occurrences such as festivity of Diwali which emit on a large scale, throughout the country.

**Summer Season:** The rising trend of CO and particulate matter in winter and summer relates itself to the increasing number of vehicles, annually, in the city, which have grown 124 times from 1951 to 1991, and still growing exponentially.

**SW Monsoon (SWM):** The comparison of seasonal averages for years from 2006 to 2010 confirms that season of SW Monsoon shows a significant fall in concentrations of pollutants as compared to higher concentrations in winter. This can be explained on the grounds that pollutants gets absorbed and precipitated with rain-water during the SW Monsoon season. The rain-washed air is further maintained clean for the reason that a large sector of population using private vehicles avoids travelling during this season. On a divergent note, the concentration of ozone increases during SW monsoon which can be related to clarity of atmosphere and fair insolation. Sunlight splits the nitrogen dioxide into nitric oxide and atomic oxygen, the atomic oxygen then combines with molecular oxygen to yield ozone.

**NE Monsoon Season (NEM):** NEM shows higher levels of pollution; during this period the clarified air after the SWM starts to hold greater concentration of pollutants than earlier. It also shows similar levels during summer and NE-monsoon seasons.

#### 4.7 AVERAGE SEASONAL VARIATION

Averaging the seasonal variation for the preceding years some more observations can be fetched as all parameters show strong relation for variability in their concentration with different seasons. The following table gives the factor by which pollutants can change from their minimum level (the factor for which is considered as unity or 1).

Table 4.2 – Average Seasonal Variation factor

Season	CO	PM2.5	NO	NO <sub>2</sub>	SO <sub>2</sub>	O <sub>3</sub>
Winter	1.61	2.68	2.69	1.71	1.85	1
Summer	1.40	1.23	1.25	1.84	1.76	1.34
SW Monsoon	1	1	1	1	1	1.42
NE Monsoon	1.41	2.40	2.47	1.82	1.94	1.14

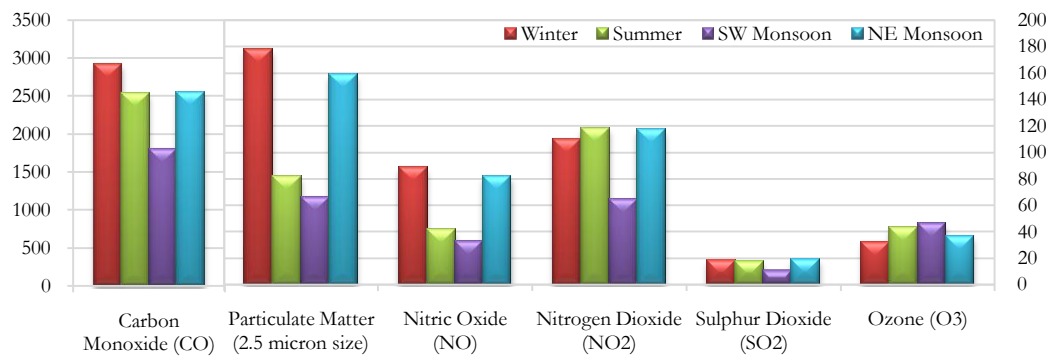


Figure 4.5 - Seasonal Averages from 2006 - 2010

CO, PM, NO<sub>x</sub> and SO<sub>x</sub> show lowest levels (factor = 1) in SWM and reaches the winter or NEM to show their maximum levels (shown in table). Concentration of the parameters in winter can increase by almost 1.61 to 2.69 times their concentration in SWM and similarly by 1.23 to 1.4 in summer; 1.41 to 2.47 times in NEM. Contrarily, ozone shows its minimum levels (factor = 1) in winter due to obliquity to sunrays, whereas reaches its maximum (factor = 1.42) in SWM where sun is still perpendicular and air is clearer when compared to rest of the year. Maximum concentrations of pollutants occur during winter season, as the atmosphere is dry in the winter and also due to the lowered mixing height. Similarly it can be stated that since the tropopause is formed at a relatively higher altitude during summers, the atmosphere gets an increased volume of air for dispersion of pollutants. The data, as studied, show near concentration of pollutants between winter and summer seasons. This demonstrates that in reality, summers have higher level due to greater dispersion of pollution than in winters.

#### 4.8 MONTHLY AVERAGES

A joint look towards the monthly concentration shows a falling trend from February, gradually extending till the month of August; attains a rising gradient from August till it reaches the highest in November then the trend again falls till February. This forms an annual cycle of change in the pollution levels.

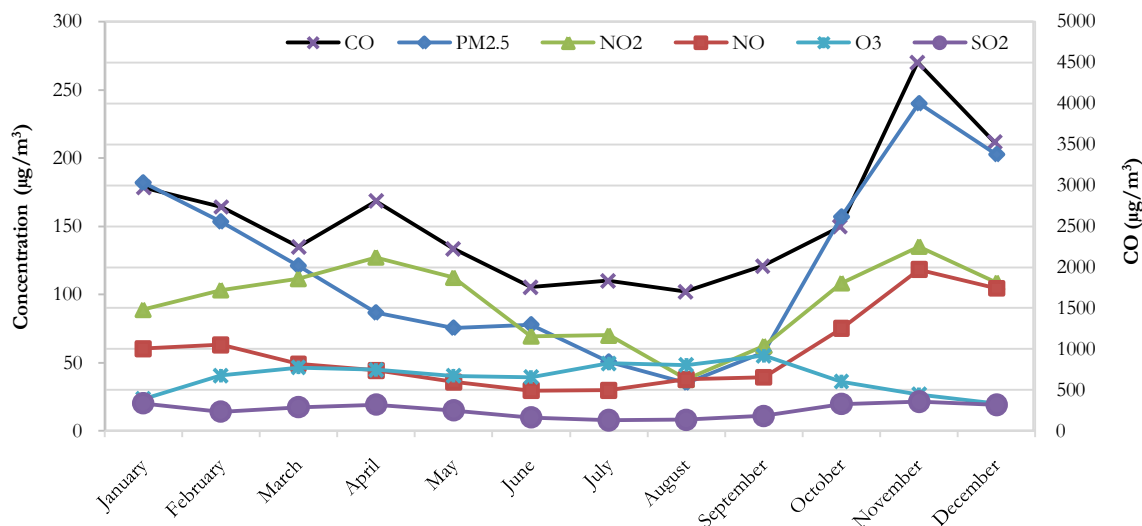


Figure 4.6 – Monthly Variation

Considering each parameter individually, it can be stated average concentration of SO<sub>2</sub>, O<sub>3</sub>, NO, NO<sub>2</sub>, PM<sub>2.5</sub> have highest concentration in the month of November. This high concentration of pollutants in November can be attributed to seasonal changes (due to falling of mixing height during November as it is the period of winter season), increased vehicular emissions and the festival of Diwali more or less comes in the months of October and November.

It has been observed that meteorological conditions play a decisive role in variation in the concentration of the pollutants. The months of winter and N-E monsoon have by and large similar conditions with lower temperatures in winters with dry conditions prevailing causing higher concentration of pollutants.

#### 4.9 PUBLIC HOLIDAYS

A gazetted holiday marks the day-off for the Govt. Offices, CPSUs and other such institutions as stated in the Gazette of India. The effect of such a leave can be well demonstrated at the area under observation i.e. ITO which is one of the prime commercial locations, with numerous govt. offices and corporate offices which makes it into one of the locations most affected by vehicular emissions. Gazetted holidays for the period of

2006 to 2010 (18 gazetted holidays per year) were analysed and found that if pollution earlier was unity (1) the pollution reduces by at least 4% for O<sub>3</sub> and PM, 11 to 14 % for NO, CO and NO<sub>2</sub> from the pollution levels of the respective parameters in the same week. The pollution levels falls on the GH and again starts rising from the next day.

Table 4.3 – Pollution Levels on Public Holidays

Event	CO	PM2.5	NO	NO <sub>2</sub>	SO <sub>2</sub>	O <sub>3</sub>
Before GH	1	1	1	1	1	1
GH	0.88	0.96	0.89	0.86	0.97	0.96
After GH	0.97	0.93	0.95	0.96	0.91	0.89
% reduction	12	4	11	14	3	4

Table 4.3 above gives a general idea about the effect of a holiday on pollution; but if the effect of the weekly cycle of human activities over the pollution levels near public holidays is intended to study; it can be done so by grouping the parameters on the PH by the day on which it occurs. Hence all PH were grouped and their averaged 24-h pollution concentration was analysed.

Following table analyses the data by representing the factor (<1 = ‘decrease’ and vice versa) after comparing the pollution levels with average level of 3 days (i.e. taking earlier level = 1 or unity) before the PH on a particular day.

Table 4.4 – Pollution Levels on Public Holidays w.r.t. day of occurrence

Day	CO	PM2.5	NO	NO <sub>2</sub>	SO <sub>2</sub>	O <sub>3</sub>
Monday	0.77	0.65	0.47	0.73	0.67	1.27
Tuesday	1.13	0.90	0.76	0.89	0.86	1.15
Wednesday	0.61	0.99	1.73	1.03	1.04	0.91
Thursday	0.89	1.00	1.30	0.74	0.95	0.37
Friday	0.89	0.96	0.76	0.83	0.96	1.14
Saturday	0.89	1.05	1.02	0.94	1.06	1.04
Sunday	0.87	0.85	0.80	0.93	0.92	1.22

The shaded areas show the levels above average pollution. Keen analysis shows if the PH occurs in the start of the week (i.e. on Monday or Tuesday), hence the pollution levels can be expected to be much lower than even weekends. Most pollution is observed if PH occurs on mid-week (Wednesday) or at weekends (Saturdays). The reason for such a pattern of emission owes the responsibility solely over the human psyche and lifestyle.

4.10 FESTIVITIES: POLLUTION SCENARIO DURING DIWALI

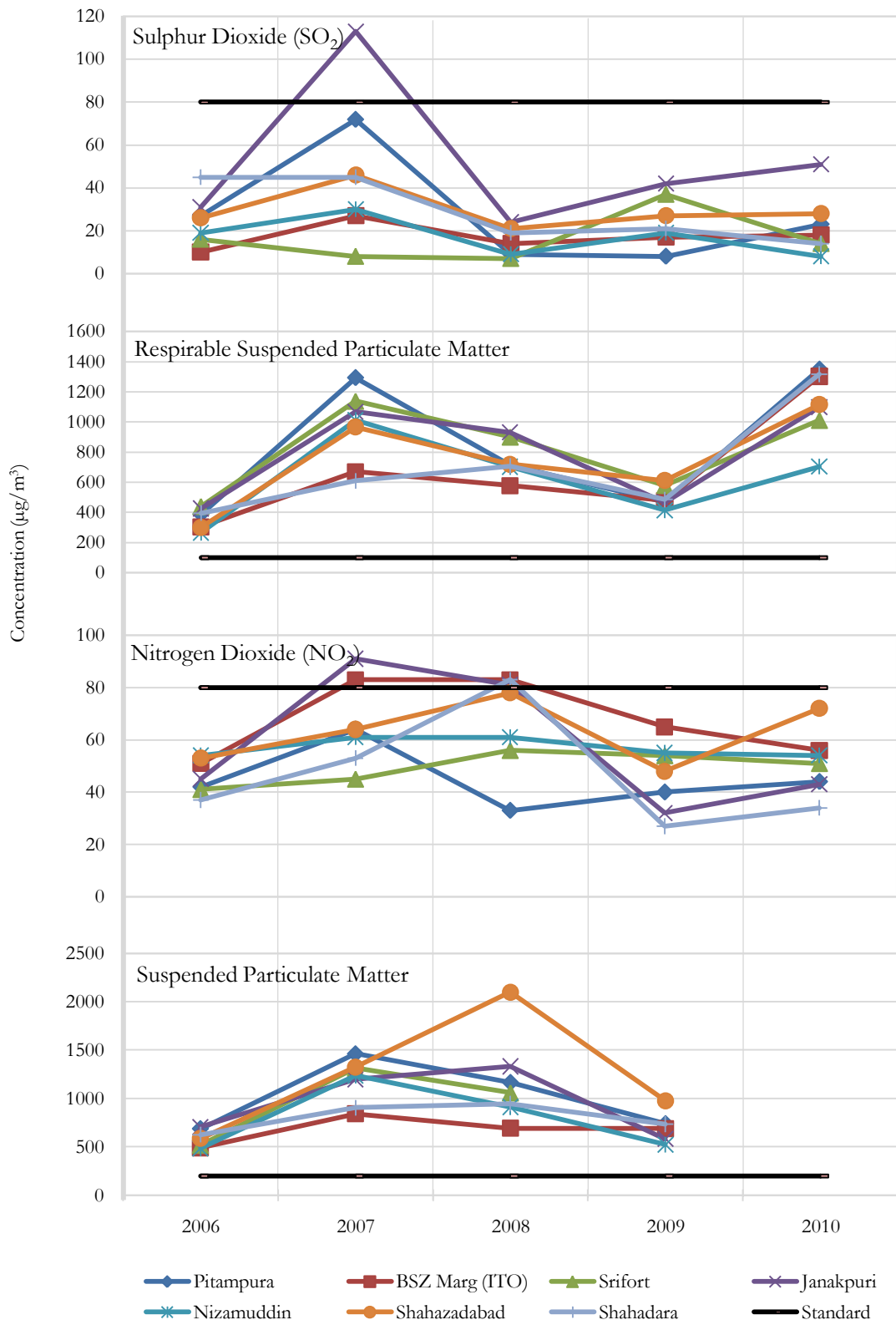


Figure 4.7 - Pollution Levels of Diwali for years 2006 to 2010

In festivities and occasions such as Diwali, marriages, sports meet, etc., firework are an integral part of the event. Pollution on the festival of light, Diwali, which on one hand signifies the victory of truth over injustice, light over darkness also has a dark side to be thought about. The harmful chemicals emitted through smoke of firecrackers are known to cause asthma, allergic rhinitis, bronchitis and other respiratory problems. It is known to affect children, pregnant women, asthmatics and senior citizens much more than the rest of the population. Atmosphere during and after an event of fireworks burning has elevated concentrations of particulate matter, oxides of sulphur ( $\text{SO}_2$ ) and nitrogen ( $\text{NO}$ ,  $\text{NO}_2$ ), polycyclic organic hydrocarbons (PAHs) and volatile organic carbons (VOCs) accompanied with metal fumes. A panoramic view of pollution on the day of Diwali in Delhi can be observed from the Special Monitoring Program undertaken by CPCB, which can provide a simplistic idea of level of pollution caused due to cracking of fireworks on Diwali. The pollutants pose a threat to the sensitive and may even lead to fatal consequences. The air pollution pattern across the territory at seven stations namely ITO (Central Delhi), Janakpuri (West Delhi), Nizamuddin (South Delhi), Pitampura (North-West Delhi), Shahdara (East Delhi), Shahzada Bagh (Delhi) and Sri Fort (South Delhi). For deeper analysis up to hourly level was done for ITO was considered.

The figure show respective levels of pollutants on the y-axis at various stations (as different lines on graph) for the years 2006-10 on the x-axis. Fireworks generally emit high levels of oxides of sulphur and nitrogen and particulate matter which causes foggy conditions with smoke. It was found that NAAQS standard were violated by SPM and RSPM at all seven stations, ITO shows increased concentration of  $\text{NO}_2$  (1.42 times NAAQS) and CO (4.03 times NAAQS), whereas  $\text{SO}_2$  and  $\text{O}_3$  were within permissible limits. Huge deviation of hourly concentration of parameters from the average also amplifies during Diwali showing peak levels in the night after the firework event to acquire levels of  $\text{SO}_2$  (4.05 times the average),  $\text{O}_3$  (5.22 times the average),  $\text{NO}_2$  (2.60 times the average), NO (4.14 times the average) and CO (3.33 times the average). It is observed that pollution levels of 2010 rose steeply with respect to 2009, as Diwali in 2010 was celebrated in November where winter just starts, with lower temperatures (lowering of mixing height) and wind speed (affecting dispersal) as observed in the meteorological conditions and year 2007 shows highest emission throughout. It also shows residential areas to emit higher levels of pollution as compared to industrial or commercial areas.

**Sulphur Dioxide ( $\text{SO}_2$ )** – is found more or less more or less within the prescribed limits by NAAQS, whereas almost all the stations show significant rise in levels of  $\text{SO}_2$  in 2007

and 2009, partly due to unfavourable meteorological conditions and partly because of excessive fireworks, at Janakpuri Station in particular. Year 2010 on the contrary shows unfavourable condition show lower SO<sub>2</sub> emission, this is because of some of the scientific guidelines provided to the fireworks manufacturers with regard to pollution.

**Respirable Suspended Particulate Matter (RSPM)** – throughout the history of Diwali had shown very high level of pollution at all the stations. Some steps which were taken have reduced the pollution but not to that extent to keep the pollution within prescribed limits.

**Oxides of Nitrogen (NO<sub>x</sub>)** – besides showing somewhat erratic behaviours NO<sub>x</sub> is being more or less showing patterns within permissible limits the trend of pollution extrapolates to a level of pollution which may cross the permissible limits if not checked upon.

**Suspended Particulate Matter (SPM)** – had also shown similar pattern of existence as that of RSPM being of the similar origin. Both SPM and RSPM were present at treacherous levels.

The time scaled graph showing the hourly variation of concentration of the parameters for a period of 72 h (24-h before Diwali, 24-h on Diwali Day and 24h after the Diwali day) reveal the typical peak times and the peak levels of pollution. The deviation of parameters from the average for the days around Diwali (for years 2006 to 2010) shows highest levels for SO<sub>2</sub> (12.27 times the average at ITO, 2009 and 18.83 at DCE, 2006) and CO, NO<sub>2</sub>, O<sub>3</sub> and SO<sub>2</sub> of increase as given in Table 4.2. Deviation index (DI), which is the average of all deviations for the years, is taken into consideration to observe the level of distortion of parameters in general. It was hence verified by DI that SO<sub>2</sub> had the maximum deviation (increase) from its average concentration followed by NO<sub>x</sub>, O<sub>3</sub> and CO.

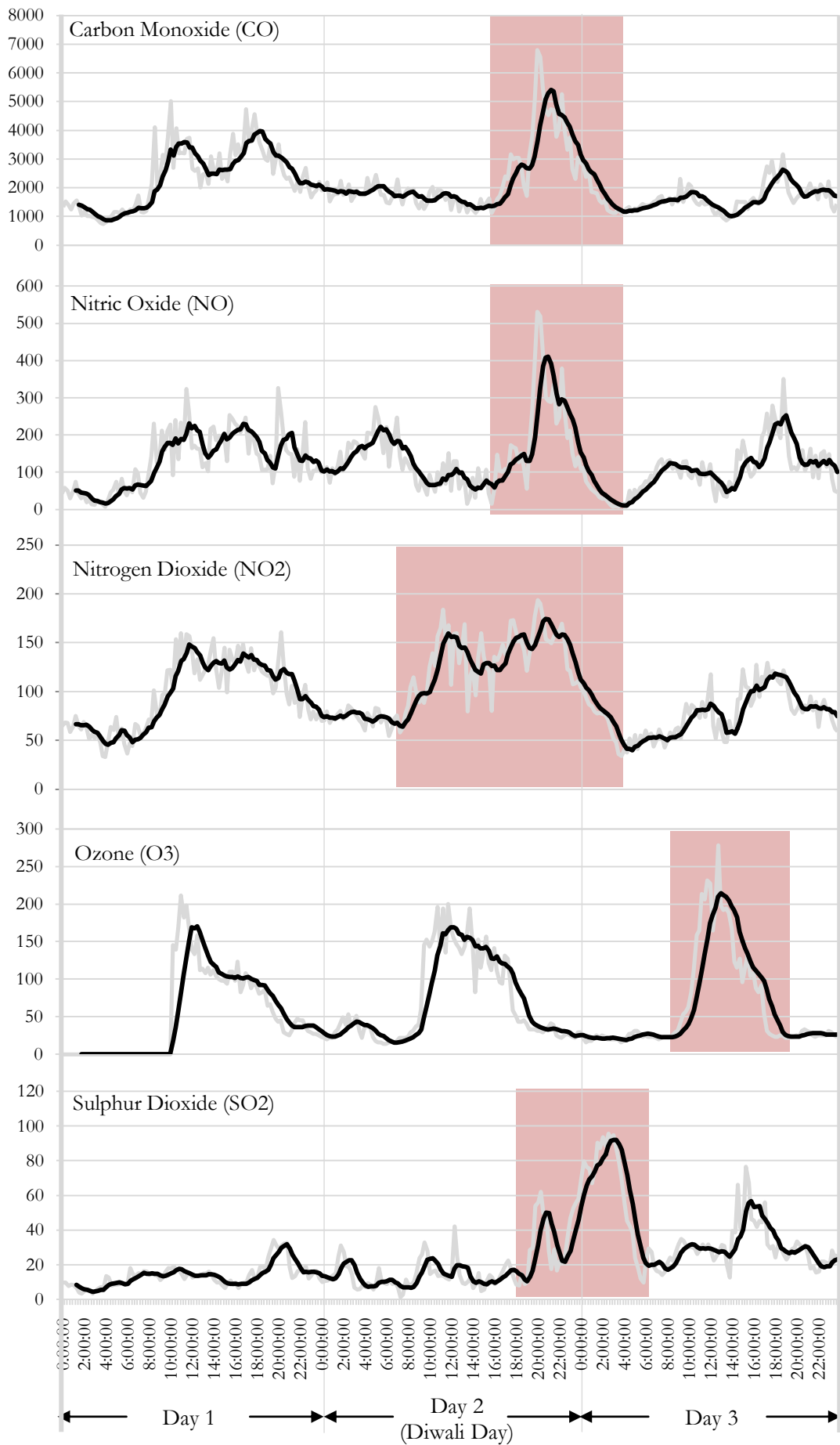
Table 4.5 - Deviation of Maximum hourly concentration from average (within 72h)

Parameter	ITO STATION						DCE STATION					
	2006	2007	2008	2009	2010	DI*	2006	2007	2008	2009	2010	DI*
Carbon Monoxide (CO)	3.26	3.24	4.56	3.86	3.33	3.65	2.26	2.15	2.65	4.36	2.96	2.87
Nitric Oxide (NO)	4.17	5.27	5.32	6.93	4.14	5.17	1.50	4.51	2.72	1.00	3.20	2.59
Nitrogen Dioxide (NO <sub>2</sub> )	2.01	3.09	4.14	5.40	2.60	3.45	2.17	4.19	2.54	1.19	1.92	2.40
Ozone (O <sub>3</sub> )	6.83	3.91	5.46	2.80	5.22	4.84	6.17	3.82	2.33	2.53	4.41	3.86
Sulphur Dioxide (SO <sub>2</sub> )	3.59	2.56	5.21	12.27	4.05	5.54	18.83	5.13	5.62	3.49	2.92	7.20

\* Deviation Index



Figure 4.8 - Typical hourly variation of pollutants during Diwali at ITO Station



The Deviation Index can be related to the ingredient of firework which causes them. Thus, keeping the observations in view, sulphur and carbon contents or SO<sub>x</sub> and CO producing chemical ingredients of fireworks needs increased efforts for their control. The increased in levels of O<sub>3</sub> related to the increase NO<sub>x</sub>, as NO<sub>x</sub> acts as a secondary source of surface ozone due to photo-oxidation.

The temporal analysis show the following observations -

**DAY 1:** After a rising trend post-4:00 pm the pollutants attains a relatively constant levels between 8:00 pm

**DAY 2:** falls gradually from 3:00 am, similar to that on a normal day. The graph then starts to fall after 3:00 am i.e. on Diwali Day Morning, finally, reaching a minimum concentration at about 1:00 pm noon

**DAY 2 (effect of Diwali):** The influence in pollutant is evident as the graph shows a steep rise from 4:30 pm as some cracking of the fireworks begin and increases steeply from 10:00 pm to reach its maximum on Day 3.

**DAY 3:** Pollution attains its peak near 2:00 am. The pollution persists at high levels till 8:00 am and starts falls gradually after 9:00 am.

Ozone shows relatively low influence of the firework event as it mainly depends on the solar energy and hence achieves a peak normally at about 2:00 pm noon with the increasing trend starting from 7:30 pm and fall after 4:00 pm. Deeper observations into the variation of O<sub>3</sub> shows lower concentration on Day 2 and a higher concentration on Day 3 (more than that on Day 1) due to addition of NO<sub>x</sub>.

Differentiating observation between (2) and (4), most of the pollution accumulated during the day 1 is dispersed till 3:00 am on a normal day whereas on Day 3 this dispersion starts near 9:00 am. This demonstrates a delay in the dispersion time which is clearly evident. Hence, an additional load to disperse immediately extends by 6 hrs from the normal and disturbs the environment in the future by being persistent till the next 6 to 15 days.

## Conclusion

**Annual averages w.r.t. NAAQS** show average concentrations from 2006 to 2010 of CO, PM and NO<sub>2</sub> persistently violate the NAAQ permissible limits. CO exceeds NAAQS by more than 30%, similarly, PM<sub>2.5</sub> shows 220% excess concentration.; NO excess by more than 50% of its permissible value, concentration SO<sub>2</sub>, O<sub>3</sub> and PM<sub>10</sub> were found to be within limits. The pattern showed by the 24h annual averages shows increasing levels of carbon-monoxide and particulates, whereas a falling trend in terms of sulphur dioxide, nitrogen dioxide and ozone.

**Weekend-Weekday Analysis** validate that the emission from vehicular usage by individuals in urban areas shows a cyclic behaviour with periodicity of 1 week. As substantiated by the data from 2006 to 2010, concentration of CO as on weekdays is 1.75 times as that on Saturdays and is as much as 2.98 times as that on Sundays. Year 2010 shows CO with 1.5 times more concentration than that fixed for national ambient air. Particulates are seen to rise in year 2010 and its average concentration as on Weekdays is 1.12 times as that on Saturdays and is as much as 1.18 times as that on Sundays. The average concentration of PM<sub>2.5</sub> throughout the period (2006-10) had been more than 3.34 times the NAAQS. NO on Weekdays show concentration 1.56 times as that on Saturdays and is as much as 1.62 times as that on Sundays. Also the concentration of NO<sub>2</sub> as on Weekdays is 1.28 times as that on Saturdays and is as much as 5.76 times as that on Sundays. Average concentration of SO<sub>2</sub> as on Weekdays is 1.31 times as that on Saturdays and is as much as 1.27 times as that on Sundays. The pattern of SO<sub>x</sub> from 2006 to 2010 is shows a falling trend. O<sub>3</sub> shows erratic behaviour, on an average, concentration of CO as on Weekdays is 1.22 times as that on Saturdays and is as much as 1.15 times as that on Sundays. It has been observed that ozone shows higher levels where NO<sub>x</sub> shows lower levels and vice versa. Years 2008 and 2009 shows higher levels of O<sub>3</sub>.

**Seasonal and monthly pollution analysis** infers an annual cycle in monthly concentration as the trend starts falling from February, gradually extending till the month of August; attains a rising gradient from August till it reaches the highest in November then the trend again falls till February. The season of winter in 2010 shows pollutants with higher levels of concentration than the preceding years. CO, PM and NO<sub>x</sub>, SO<sub>x</sub> generally show higher concentration in NE Monsoon gradually falls through winter and summer

and attain their lowest in SW Monsoon, on a contrary note, Ozone shows lowest levels in NE Monsoon increases through Winter and Summer and reaches its highest levels in SW Monsoon. Concentration of the parameters in winter can increase by almost 1.61 to 2.69 times their concentration in SWM and similarly by 1.23 to 1.4 in summer; 1.41 to 2.47 times in NEM. Contrarily, ozone shows its minimum levels (factor = 1) in winter due to obliquity to sunrays, whereas reaches its maximum (factor = 1.42) in SWM

**Gazetted holidays** show that the pollution levels reduce by at least 4% for O<sub>3</sub> and PM and up to 11 to 14 % for NO, CO and NO<sub>2</sub> from the pollution levels in the same week. PH if occurs in the start of the week (i.e. on Monday or Tuesday) pollution levels show lower than even weekends. Most pollution is observed if PH occurs on mid-week (Wednesday) or at weekends (Saturdays).

**Festival of Diwali** shows that NAAQS standard were violated by SPM and RSPM at all seven stations in the city. ITO showed increased concentration of NO<sub>2</sub> (1.42 times NAAQS) and CO (4.03 times NAAQS), whereas SO<sub>2</sub> and O<sub>3</sub> were within permissible limits. The deviation of parameters from the average for the days around Diwali (for years 2006 to 2010) shows highest levels for SO<sub>2</sub> (12.27 times the average at ITO, 2009 and 18.83 at DCE, 2006) and CO, NO<sub>2</sub>, O<sub>3</sub> and SO<sub>2</sub> of increase.

To wrap up, the assessment differentiates air pollutant concentration between weekdays and weekend. The observed phenomena of weekend effect and holiday effect provide evidence of impact of human activity on ambient air. Pollution variation corresponds to the pattern of working on weekend and weekdays. Comparative analysis from different aspects shows that vehicular emission largely increases on weekdays and drops down on weekends. Such weekend effect or holiday effect is also seen on public and cultural holidays. A general trend of fall in concentration has been found during the season of SW Monsoon and an exceptional short term increase at festivities such as Diwali. The study also shows, in particular, higher levels of Ozone during weekends. Hence the cycle of human activities at different periodicities show their deep influence over environmental health. It can be hence stated that vehicular pollution mitigation is a function of public willingness and understanding without which it is impossible to tackle this menace. Control of pollution can further be accelerated by taking some basic steps such as proper policy formulation and honest implementation by RTO, City Police, and Environmental Bodies, Industries, etc. Each city in the world faces the same effect; hence this work can have regional as well as global applications.

## *Suggestions for Pollution Mitigation*

Each and every individual on Earth must understand, help and support the cause of pollution mitigation and control, realising the responsibility and liability towards the planet. An ethical emotion of societal responsibilities must inculcate in the minds of masses towards the environment. Moreover it is the public awareness that can gear up the process to mitigate pollution in all forms. Secondly, it is the lifestyle of the people that matters a number of problems on earth. The load of population and their demand is consuming the planet. More the population more is the consumption; more is the consumption more is the wastes; more wastes means more pollution. The above cycle remain same for all aspects of life and for our environment. It is well understood that there is an unlimited scope for innovative thinking, coming up of efficient and novel technologies, environment friendly equipment, low exhaust vehicles, newer non-conventional renewable less polluting fuels, development of new energy sources and a host of technological advancement to go further globally. Some of them being enlisted as below accompanied with the simple or minor precautions of grave importance to be observed by the masses i.e. at the consumer or user end.

**Intelligent Transport System:** An intelligent transportation system (ITS) is a system of hardware, software, and operators that allow better monitoring and control of traffic in order to optimize traffic flow. As the number of vehicle lane miles travelled per year continues to increase dramatically, and as the number of vehicle lane miles constructed per year has not been keeping pace, this has led to ever-increasing traffic congestion. As a cost-effective solution toward optimizing traffic, ITS presents a number of technologies to reduce congestion by monitoring traffic flows through the use of sensors and live cameras or analysing cellular phone-data travelling in cars (floating car data) and in turn rerouting traffic as needed through the use of variable message boards (VMS), highway advisory radio, on board or off board navigation devices and other systems through integration of traffic data with navigation systems. Additionally, the roadway network has been increasingly fitted with additional communications and control infrastructure to allow traffic operations personnel to monitor weather conditions, for dispatching maintenance crews to perform snow or ice removal, as well as intelligent systems such as automated bridge de-icing systems which help to prevent accidents.

**Faster Traffic not compromising safety on road:** Study of traffic is the very basic step for vehicular pollution control. The traffic condition or pattern at a particular site determines the likelihood of pollution control. Very heavy traffic or stopped traffic or what is most frequently said as a ‘Traffic Jam’ must be taken care of. Despite of public awareness being disseminated ‘to turn the engines off at red signals’, they are rarely followed. Hence, such situations become a cause for creation of an *area* source of pollution. Such sources of pollution must be avoided at all places as they hold comparatively higher levels of emission. This problem can be easily addresses by aiding some of the following conditions:

- Free Flowing traffic and greatly reduced to No Stoppage – pollution emissions at stopped traffic has terrible consequence over the environment.
- Faster traffics – faster movement of vehicles on road would mean clear roads, less congestion, it in turn would mean cleaner air as vehicles are operational for less time.
- Less Traffic Jams – It is very much evident that traffic jams due to many reasons lead to various losses in form of delayed ambulance service and medical services; it acts as a retardant for Fire fighting vehicle movement. Similar other emergencies are further are let behind schedule or belated due to Road Jams.

A simpler alternative to such problem can be creation of Non-Stop Road Networks - the construction of flyovers bypassing the signals and railway crossing or multi-level or multi-grade intersection/crossroads/crossing such as clover leaf interchange system. Other smaller but effective methods such as promotion of features like roundabout, road stones, dividers, information signs, minimum and maximum speed limits, lane separation for fast and slow moving traffic, provisions must be made for service lanes/roads for repairs and stopping alongside the carriageway.

**Traffic Policies:** Some cities adopt policies to reduce rush-hour traffic and pollution and encourage the use of public transportation. For example, in São Paulo, Manila and in Mexico City, each vehicle has a specific day of the week in which it is forbidden from travelling the roads during rush hour. The day for each vehicle is taken from the license plate number, and this rule is enforced by traffic police and also by hundreds of strategically positioned traffic cameras backed by computerized image-recognition systems that issue tickets to offending drivers.



Figure 6.1 - The Kathipara clover-leaf interchange in Chennai, India is the largest in Asia

In the United States and Canada, several expressways have a special lane (called an "HOV Lane" - High Occupancy Vehicle Lane) that can only be used by cars carrying two (some locations-three) or more people. Also, many major cities have instituted strict parking prohibitions during rush hour on major arterial streets leading to and from the central business district. During designated weekday hours, vehicles parked on these primary routes are subject to prompt ticketing and towing at owner expense. The purpose of these restrictions is to make available an additional traffic lane in order to maximize available traffic capacity. Additionally, several cities offer a public telephone service where citizens can arrange rides with others depending on where they live and work. The purpose of these policies is to reduce the number of vehicles on the roads and thus reduce rush-hour traffic intensity.

**Metered freeways** are also a solution for controlling rush hour traffic. In Phoenix, Arizona and Seattle, Washington, among other places, metered on-ramps have been implemented. During rush hour, traffic signals are used with green lights to allow one car per blink of the light to proceed on to the freeway.

**Pre-emption:** In some areas, emergency responders are provided with specialized equipment, such as a Mobile Infrared Transmitter, which allows emergency response vehicles, particularly fire fighting apparatus, to have high-priority travel by having the lights along their route change to green. The technology behind these methods has evolved, from panels at the fire department (which could trigger and control green lights for certain major corridors) to optical systems (which the individual fire apparatus can be equipped

with to communicate directly with receivers on the signal head). In other areas, public transport buses have special equipment to get green lights.

During emergencies where evacuation of a heavily populated area is required, local authorities may institute **contra flow lane reversal**, in which all lanes of a road lead away from a danger zone regardless of their original flow. Aside from emergencies, contra flow may also be used to ease traffic congestion during rush hour or at the end of a sports event (where a large number of cars are leaving the venue at the same time). For example, the six lanes of the Lincoln Tunnel can be changed from three in-bound and three out-bound to a two/four configuration depending on traffic volume. The Brazilian highways Rodovia dos Imigrantes and Rodovia Anchieta connect São Paulo to the Atlantic coast. Almost all lanes of both highways are usually reversed during weekends to allow for heavy seaside traffic. The reversibility of the highways requires many additional highway ramps and complicated interchanges.

**The Government, Fuel Corporations, Electricity Boards, etc.:** These institutions can serve to development and introduce alternate fuels which can replace the conventional fossil fuels. Coal being 60% contributor of Indian Energy needs with 30% contribution of Petroleum leads to jeopardise the environmental conditions.

- Newer technologies from abroad must be given due importance and favoured.
- Rather having the potential renewable forms of energy such as hydropower, wind energy, solar energy are not been taken advantageously.
- It has become an issue of vital importance to check the pilferage and losses in energy production, transmission and consumption.

**Central and State Pollution Control Authorities:** Must concentrate their efforts on effective attainment of pollution cutting goals and have ample scope for Environmental Policy Formulators to contribute to control pollution

- Environmental Policy of control of air pollution must be formulation based on achievability of targets and comprehensively studied and analysed as a perpetual exercise.
- The ambient standards for pollutant concentrations must be studied and formulated well to take into account the benefits to human health and to sensitive ecosystems of reducing exposure to pollution; the concentration levels achievable by pollution prevention and control measures; and the costs involved in meeting the standards.



- Industrial Centres must be studied in detail in anticipation to pollution control and the proneness to damage to environment must be calculated.
- Stringent action must be taken over vehicles of very low fuel efficiency, government and public vehicles of inappropriate condition must be phased out with newer fuel efficient vehicles which comply with the Global Emission Limits like EURO, BHARAT, BS, etc.
- It is observed in many countries, that every day a number of vehicles are barred to move in the city. The strategy adopted is well accepted by the people who understand the rationale.

**The Automobile Manufacturing Sector:** must focus upon playing a responsible role so as not to design engines to enhance performance at the cost of pollution emission and fuel consumption. But to create-

- Newer Fuel Efficient Engines Modifications
- Fuel Modification for its Complete Combustion must be studied
- Use of Hybrid Fuels

**The individual's duties** being an automobile user:-

- Unless we dramatically reduce the amount of pollution vehicles emit in actual use, or drastically cut back on the amount we drive, smog-free air will continue to elude many cities.
- The only way to ensure healthy air is to markedly reduce our use of vehicles like cars or to switch to fuels that are inherently cleaner than conventional petrol/gasoline/diesel.
- Auto emissions account for about 60% of air pollution (especially ozone smog) in cities. Reformulated gasoline and Inspection and maintenance programs such as PUC have been introduced in many areas to reduce emissions. These programs, however, are only short term solutions to the problem.
- Routine maintenance of your automobile creates other hazardous wastes, such as used motor oil, used anti-freeze, tires, and other waste. It is important that we dispose of these wastes in accordance with state and municipal environmental regulations.
- Walk, ride a bicycle, use public transportation, or carpool whenever possible. Driving less is the best way to reduce automobile pollution.

- Consider purchasing the most fuel-efficient model in its size/category.
- While changing lubricant make sure you use the recommended brand and more important the grade of oil. Never use the wrong grade of oil.
- Maintain car in good, efficient working condition to decrease air and water pollution. More than 80% of auto emissions come from less than 30% of the cars.
- Change oil only when necessary. Recycle used motor oil. Each year over 140 million gallons of used motor oil end up in landfills.
- New cars are cleaner than ever, but we have more of them every year. Vehicle maintenance is essential for low emissions.
- Establishing public transportation reduces pollution, and energy consumption, and that ultimately means less pollution, more energy and lower prices for everyone. Public Transportation Also conserves resources. Fewer cars mean less pollution, less streets and parking lots.
- Check tyre pressure regularly because low tyre pressure causes drag which increases fuel consumption.
- If the vehicle has been parked unused for a long time, have the engine tuned and engine oil replaced.
- Inspect spark plug clearance, clean and adjust gap. Replace plugs, if necessary.
- Do not use leaded or low leaded fuel in vehicle fitted with Catalytic Convertor. Always use unleaded fuel.
- Old commercial vehicles must be phased out in cases of non-compliance with emission standards as in PUC certification.
- Such practices can be done voluntarily by the acts or practice of car-pooling, use of fuel efficient vehicles, restriction over SUVs and other high fuel consumer vehicles.

*Further scope*

Plainly the pollution data reveals very few aspects of pollution. A comprehensive assessment needs prior SOURCE DETERMINATION of different pollutants. Hence this can help to impart target environmental policies and steps toward the mitigation from various sources of pollution.

Often, it is said that a particular year was 'good' or 'bad' with respect to concentrations of pollutants. However, rarely are such assertions based on an analysis of the causes of high or low concentrations. For this reason, an approach that is sometimes used is METEOROLOGICAL NORMALISATION. The idea here is to 'account' for meteorological variation by building explanatory models for pollutant concentrations. If good models are developed i.e. they explain most of the variation in concentrations, it is then possible to use the model to predict concentrations over a fixed assumptions for meteorology – concentrations are normalised. The term used here is meteorologically-averaged because the predictions most closely relate to mean meteorological conditions.

Pollutants like carbon monoxide, particulate matter, polycyclic organic matter, volatile organics, sulphur dioxide, oxides of nitrogen and ozone are of grave importance from the aspect of vehicular emissions. Moreover the motor vehicles also emit several other compounds namely acetaldehyde, acrolein, arsenic compounds, chromium compounds, dioxins and furans, formaldehyde, lead compounds, manganese compounds, mercuric compounds, nickel compounds, styrene, etc. Such parameters must also have an eye on so as to check their concentrations and find their relation with various sources.

## APPENDIX I - NAAQS

Table I - National Ambient Air Quality Standards (NAAQS), 2009

Pollutant	Time-Weighted Average	Conc. in Ambient Air		Method of measurement
		Industrial, Residential, Rural and Other Areas	Ecologically sensitive Area (notified by Central Government)	
Sulphur Dioxide (SO <sub>2</sub> )	Annual*	50 µg/m <sup>3</sup>	20 µg/m <sup>3</sup>	Improved West and Geake Method, Ultraviolet Fluorescence
	24 hours**	80 µg/m <sup>3</sup>	80 µg/m <sup>3</sup>	
Nitrogen Dioxide (NO <sub>2</sub> )	Annual*	40 µg/m <sup>3</sup>	30 µg/m <sup>3</sup>	Modified Jacob & Hochheiser (Sodium – Arsenite Method), Chemiluminescence
	24 hours**	80 µg/m <sup>3</sup>	80 µg/m <sup>3</sup>	
Particulate Matter (size less than 10µm) or PM10	Annual*	60 µm	60 µm	Gravimetric TOEM
	24 hours**	100 µm	100 µm	
Particulate Matter (size less than 2.5µm) or PM2.5	Annual*	40 µm	40 µm	Gravimetric TOEM
	24 hours**	60 µm	60 µm	
Ozone (O <sub>3</sub> )	8 hours**	100 µg/m <sup>3</sup>	100 µg/m <sup>3</sup>	UV Photometric Chemiluminescence
	1 hours**	180 µg/m <sup>3</sup>	180 µg/m <sup>3</sup>	
Lead (Pb)	Annual*	0.50 µg/m <sup>3</sup>	0.50 µg/m <sup>3</sup>	ASS Method after sampling using EPM 2000 or equivalent Filter paper ED-XRF using Teflon filter
	24 hours**	1.0 µg/m <sup>3</sup>	1.0 µg/m <sup>3</sup>	
Ammonia (NH <sub>3</sub> )	Annual*	100 µg/m <sup>3</sup>	100 µg/m <sup>3</sup>	Chemiluminescence Indophenol Blue Method
	24 hours**	400 µg/m <sup>3</sup>	400 µg/m <sup>3</sup>	
Carbon Monoxide (CO)	8 hours**	2 mg/m <sup>3</sup>	2 mg/m <sup>3</sup>	Non Dispersive Infra Red (NDIR) Spectroscopy
	1 hour**	4 mg/m <sup>3</sup>	4 mg/m <sup>3</sup>	
Benzene (C <sub>6</sub> H <sub>6</sub> )	Annual*	5 µg/m <sup>3</sup>	5 µg/m <sup>3</sup>	Gas Chromatography based continuous analyzer Adsorption and Description followed by GC analysis
Benzo(a) Pyrene(BaP)-particulate phase only	Annual*	1 ng/m <sup>3</sup>	1 ng/m <sup>3</sup>	Solvent extraction followed by HPLC/GC analysis
Arsenic (As)	Annual*	6 ng/m <sup>3</sup>	6 ng/m <sup>3</sup>	AAS/ICP method after sampling on EPM 2000 or equivalent filter paper
Nickel (Ni)	Annual*	20 ng/m <sup>3</sup>	20 ng/m <sup>3</sup>	AAS/ICP method after sampling on EPM 2000 or equivalent filter paper

\*Annual Arithmetic Mean of minimum 104 measurements in a year taken twice a week 24 hourly at uniform interval.

\*\*24-hourly/8-hourly values should be met 98% of the time in a year. However, 2% of the time, it may exceed but not on the two consecutive days.

## APPENDIX II – CLIMATE OF DELHI

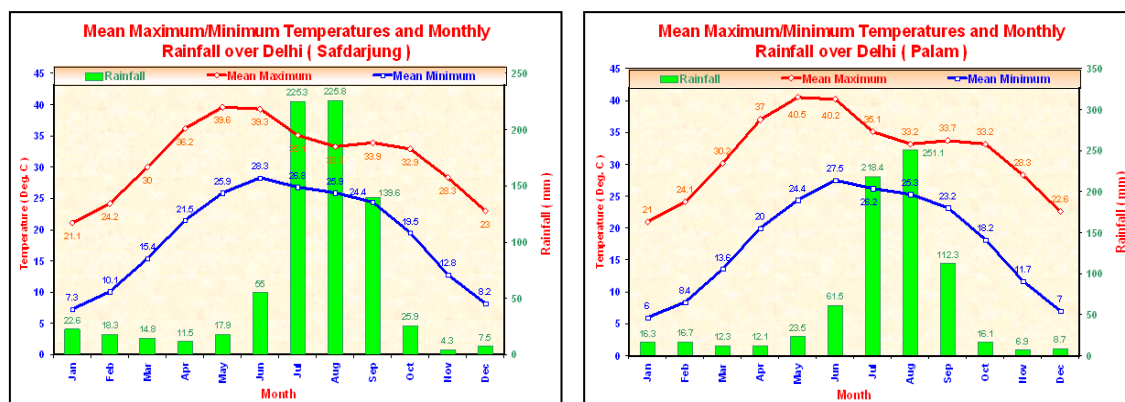
Table II - Average Climatic Condition

Month	Climate (1901 to 2000)			Wind Condition (1961 to 1991)	
	Mean Temperature (°C)		Mean Monthly Rainfall (mm)	Mean Monthly Wind Speed (m/sec)	Mean Monthly Wind Speed (km/hr)
	Maximum	Minimum			
January	20.8	7.8	20.9	2.2	15.84
February	23.7	10.3	21	2.5	18
March	29.6	15.4	14.5	2.8	20.16
April	36	21.5	10.7	3.1	22.32
May	39.8	26.2	14.1	3.1	22.32
June	39.4	28.3	66.3	3.1	22.32
July	35.2	27	198.4	2.5	18
August	33.6	26.2	206.5	2.2	15.84
September	34	24.7	130.3	2.2	15.84
October	32.9	19.4	20.8	1.7	12.24
November	28	12.8	3.9	1.4	10.08
December	22.7	8.4	8.8	1.9	13.68

Source: Indian Meteorological Department

Source: freemeteo.com

Figure II - Climate Chart for Delhi



Source: Regional Meteorological Centre, New Delhi

## APPENDIX III - DATA TABLES

Table III.1 – Comparison with NAAQS - ITO STATION

	NAAQS	Yearly Average Concentrations ( $\mu\text{g}/\text{m}^3$ )				
		2006	2007	2008	2009	2010
Carbon Monoxide (CO)	2000	2954.80	2460.60	2461.88	2684.20	2896.50
Particulate Matter (PM2.5)	60	173.50	111.00	135.34	87.40	161.00
Nitrogen Dioxide (NO <sub>2</sub> )	80	124.82	125.56	62.40	132.17	62.25
Sulphur Dioxide (SO <sub>2</sub> )	80	25.94	22.67	14.37	9.43	12.59
Ozone (O <sub>3</sub> )	180	24.58	34.71	47.61	43.26	30.75

Table III.2 – Comparison with NAAQS - DCE STATION

	NAAQS	Yearly Average Concentrations ( $\mu\text{g}/\text{m}^3$ )				
		2006	2007	2008	2009	2010
Carbon Monoxide (CO)	2000	1641.11	1659.21	1044.30	1124.50	826.18
Particulate Matter (PM10)	100	150.67	229.41	227.26	227.55	208.74
Nitrogen Dioxide (NO <sub>2</sub> )	80	33.56	70.93	31.20	18.33	25.61
Sulphur Dioxide (SO <sub>2</sub> )	80	12.05	21.68	13.71	14.37	13.72
Ozone (O <sub>3</sub> )	180	28.92	61.68	74.47	51.83	79.99

Table III.3 - 24h Averages For Year 2006- 2010

Date	CO	Date	PM2.5	Date	NO	Date	NO <sub>2</sub>	Date	SO <sub>2</sub>	Date	O <sub>3</sub>
03/08/2006	2963.50	05/09/2006	54.90	03/08/2006	126.20	03/08/2006	54.90	22/08/2006	1.70	03/08/2006	36.80
04/08/2006	2259.50	06/09/2006	52.50	04/08/2006	101.20	04/08/2006	13.40	23/08/2006	3.40	04/08/2006	67.30
05/08/2006	1752.90	07/09/2006	62.00	05/08/2006	72.20	05/08/2006	0.20	24/08/2006	3.80	05/08/2006	60.50
06/08/2006	1499.30	08/09/2006	40.80	06/08/2006	65.40	06/08/2006	0.80	25/08/2006	3.50	06/08/2006	81.40
07/08/2006	1840.90	09/09/2006	27.90	07/08/2006	69.00	07/08/2006	0.50	26/08/2006	1.70	07/08/2006	65.10
22/08/2006	963.90	10/09/2006	45.00	22/08/2006	15.50	22/08/2006	31.70	27/08/2006	4.20	22/08/2006	18.80
23/08/2006	2622.80	11/09/2006	43.90	23/08/2006	33.60	23/08/2006	68.80	28/08/2006	4.30	23/08/2006	34.50
24/08/2006	1614.10	12/09/2006	38.60	24/08/2006	19.40	24/08/2006	51.40	29/08/2006	4.20	24/08/2006	26.00
25/08/2006	1508.90	13/09/2006	57.70	25/08/2006	19.10	25/08/2006	45.20	30/08/2006	5.00	25/08/2006	73.80
26/08/2006	1155.70	14/09/2006	79.40	26/08/2006	17.40	26/08/2006	28.50	31/08/2006	5.80	26/08/2006	53.40
27/08/2006	1675.10	15/09/2006	82.40	27/08/2006	28.00	27/08/2006	44.60	01/09/2006	3.70	27/08/2006	62.20
28/08/2006	1395.70	16/09/2006	135.50	28/08/2006	18.60	28/08/2006	32.10	02/09/2006	5.10	28/08/2006	33.80
29/08/2006	1446.60	17/09/2006	130.10	29/08/2006	26.20	29/08/2006	46.40	03/09/2006	4.40	29/08/2006	33.60
30/08/2006	1886.60	18/09/2006	113.10	30/08/2006	46.50	30/08/2006	50.50	04/09/2006	4.20	30/08/2006	53.80
31/08/2006	2078.30	19/09/2006	82.40	31/08/2006	47.70	31/08/2006	39.90	05/09/2006	7.60	31/08/2006	26.00
01/09/2006	1972.50	20/09/2006	73.10	01/09/2006	36.20	01/09/2006	30.10	06/09/2006	5.40	01/09/2006	34.90
02/09/2006	2041.80	21/09/2006	46.20	02/09/2006	35.60	02/09/2006	27.10	07/09/2006	13.20	02/09/2006	24.90
03/09/2006	1407.10	22/09/2006	61.50	03/09/2006	23.10	03/09/2006	24.10	08/09/2006	8.30	03/09/2006	36.30
04/09/2006	1823.50	23/09/2006	64.20	04/09/2006	15.40	04/09/2006	25.80	09/09/2006	16.40	04/09/2006	30.00
05/09/2006	2801.20	24/09/2006	77.00	05/09/2006	39.90	05/09/2006	69.80	10/09/2006	11.40	05/09/2006	78.20
06/09/2006	2156.00	25/09/2006	99.80	06/09/2006	47.20	06/09/2006	50.10	11/09/2006	9.90	06/09/2006	27.10
07/09/2006	4893.80	26/09/2006	87.90	07/09/2006	133.60	08/09/2006	7.50	12/09/2006	13.00	07/09/2006	16.20
08/09/2006	2175.20	27/09/2006	70.90	08/09/2006	42.40	09/09/2006	2.80	13/09/2006	16.30	08/09/2006	25.70
09/09/2006	1980.00	28/09/2006	104.20	09/09/2006	32.90	10/09/2006	4.40	14/09/2006	13.40	09/09/2006	24.70
10/09/2006	1598.00	29/09/2006	515.40	10/09/2006	27.20	11/09/2006	2.70	15/09/2006	25.00	10/09/2006	26.10
11/09/2006	1867.20	03/10/2006	226.30	11/09/2006	29.20	12/09/2006	2.40	16/09/2006	23.90	11/09/2006	25.60
12/09/2006	2286.60	09/10/2006	201.20	12/09/2006	19.10	13/09/2006	0.80	17/09/2006	21.10	12/09/2006	28.00
13/09/2006	1848.20	10/10/2006	63.90	13/09/2006	0.50	19/09/2006	53.50	18/09/2006	28.80	13/09/2006	28.10
14/09/2006	3505.60	11/10/2006	142.40	19/09/2006	80.70	20/09/2006	78.90	19/09/2006	27.70	14/09/2006	21.30
15/09/2006	2712.50	12/10/2006	82.80	20/09/2006	89.10	21/09/2006	63.30	20/09/2006	22.10	15/09/2006	30.80
16/09/2006	2381.50	13/10/2006	119.00	21/09/2006	129.30	22/09/2006	75.20	21/09/2006	39.70	16/09/2006	29.10
17/09/2006	2338.80	14/10/2006	95.00	22/09/2006	101.10	23/09/2006	79.40	22/09/2006	29.30	17/09/2006	29.00
18/09/2006	3156.40	15/10/2006	147.60	23/09/2006	102.50	24/09/2006	87.60	23/09/2006	27.10	18/09/2006	27.00
19/09/2006	2958.30	16/10/2006	137.70	24/09/2006	93.30	25/09/2006	86.20	24/09/2006	29.80	19/09/2006	21.40

Date	CO	Date	PM2.5	Date	NO	Date	NO <sub>2</sub>	Date	SO <sub>2</sub>	Date	O <sub>3</sub>
20/09/2006	2195.80	17/10/2006	174.70	25/09/2006	68.00	26/09/2006	94.20	25/09/2006	24.40	20/09/2006	22.70
21/09/2006	2546.80	18/10/2006	222.30	26/09/2006	99.30	27/09/2006	78.30	26/09/2006	21.80	21/09/2006	16.50
22/09/2006	2215.30	19/10/2006	76.90	27/09/2006	59.90	28/09/2006	78.10	27/09/2006	8.60	22/09/2006	26.00
23/09/2006	2249.40	20/10/2006	80.80	28/09/2006	57.90	29/09/2006	84.40	28/09/2006	11.60	23/09/2006	32.10
24/09/2006	1773.50	21/10/2006	200.30	29/09/2006	64.30	03/10/2006	122.90	29/09/2006	18.90	24/09/2006	41.60
25/09/2006	1885.00	22/10/2006	235.90	03/10/2006	243.10	04/10/2006	107.40	03/10/2006	31.70	25/09/2006	28.90
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20/11/2006	2025.90	14/12/2006	132.10	25/11/2006	126.20	26/11/2006	139.70	29/11/2006	58.90	20/11/2006	22.60
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26/11/2006	1772.50	20/12/2006	338.30	01/12/2006	99.00	02/12/2006	127.50	05/12/2006	54.30	26/11/2006	16.00
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28/11/2006	3305.80	22/12/2006	477.90	03/12/2006	255.90	04/12/2006	192.60	07/12/2006	30.60	28/11/2006	16.50
29/11/2006	3181.40	23/12/2006	223.90	04/12/2006	209.70	05/12/2006	183.30	08/12/2006	42.60	29/11/2006	17.50
30/11/2006	1997.50	24/12/2006	238.90	05/12/2006	227.60	06/12/2006	132.40	09/12/2006	32.50	30/11/2006	14.00
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07/12/2006	1876.10	31/12/2006	101.00	12/12/2006	98.10	13/12/2006	115.20	16/12/2006	27.80	07/12/2006	14.70
08/12/2006	1783.90	01/01/2007	101.00	13/12/2006	121.10	14/12/2006	124.80	17/12/2006	32.00	08/12/2006	19.80
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11/12/2006	2637.80	04/01/2007	115.70	16/12/2006	92.80	17/12/2006	125.30	20/12/2006	51.50	11/12/2006	13.60
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13/12/2006	2227.90	06/01/2007	119.60	18/12/2006	298.10	19/12/2006	261.10	22/12/2006	141.80	13/12/2006	16.20
14/12/2006	2154.50	07/01/2007	363.10	19/12/2006	470.80	20/12/2006	240.20	23/12/2006	6.50	14/12/2006	18.40
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02/02/2007	4636.70	27/02/2007	86.80	08/02/2007	128.10	08/02/2007	129.50	12/02/2007	15.80	02/02/2007	17.70
03/02/2007	4842.90	28/02/2007	49.20	10/02/2007	110.40	10/02/2007	106.60	13/02/2007	15.20	03/02/2007	18.30
04/02/2007	1883.80	01/03/2007	53.80	11/02/2007	85.60	11/02/2007	98.50	14/02/2007	15.10	04/02/2007	32.50
05/02/2007	3551.70	02/03/2007	86.60	12/02/2007	125.30	12/02/2007	105.30	15/02/2007	21.10	05/02/2007	22.50
06/02/2007	4802.40	03/03/2007	92.50	13/02/2007	103.40	13/02/2007	116.70	16/02/2007	20.20	06/02/2007	19.40
07/02/2007	2798.50	04/03/2007	91.20	14/02/2007	178.90	14/02/2007	172.30	17/02/2007	26.70	07/02/2007	20.90
08/02/2007	2450.90	05/03/2007	56.50	15/02/2007	225.30	15/02/2007	183.50	18/02/2007	23.70	08/02/2007	18.20
10/02/2007	1541.50	06/03/2007	754.00	16/02/2007	117.70	16/02/2007	138.10	19/02/2007	26.50	10/02/2007	27.30
11/02/2007	1705.40	08/03/2007	102.60	17/02/2007	120.20	17/02/2007	129.60	20/02/2007	22.00	11/02/2007	45.70
12/02/2007	2362.30	09/03/2007	174.90	18/02/2007	262.30	18/02/2007	231.30	21/02/2007	16.80	12/02/2007	19.40
13/02/2007	2196.60	10/03/2007	97.80	19/02/2007	108.60	19/02/2007	134.20	22/02/2007	26.30	13/02/2007	18.80
14/02/2007	3105.50	11/03/2007	72.70	20/02/2007	58.20	20/02/2007	102.30	23/02/2007	25.00	14/02/2007	15.90



Date	CO	Date	PM2.5	Date	NO	Date	NO <sub>2</sub>	Date	SO <sub>2</sub>	Date	O <sub>3</sub>
15/02/2007	2447.70	12/03/2007	50.60	21/02/2007	55.70	21/02/2007	110.00	24/02/2007	33.50	15/02/2007	14.30
16/02/2007	2715.90	13/03/2007	47.10	22/02/2007	64.90	22/02/2007	117.00	25/02/2007	32.80	16/02/2007	11.70
17/02/2007	1785.60	14/03/2007	51.90	23/02/2007	55.80	23/02/2007	111.50	26/02/2007	27.50	17/02/2007	15.30
18/02/2007	3939.40	15/03/2007	46.40	24/02/2007	118.00	24/02/2007	173.20	27/02/2007	26.10	18/02/2007	12.10
19/02/2007	1857.30	16/03/2007	41.70	25/02/2007	124.20	25/02/2007	165.90	28/02/2007	23.20	19/02/2007	27.70
20/02/2007	1611.90	17/03/2007	54.90	26/02/2007	100.70	26/02/2007	152.10	01/03/2007	28.10	20/02/2007	29.00
21/02/2007	1638.60	18/03/2007	87.80	27/02/2007	131.20	27/02/2007	178.90	02/03/2007	56.80	21/02/2007	27.60
22/02/2007	1629.10	19/03/2007	101.90	28/02/2007	75.80	28/02/2007	118.70	03/03/2007	34.10	22/02/2007	37.80
23/02/2007	1752.90	20/03/2007	85.90	01/03/2007	65.20	01/03/2007	116.80	04/03/2007	35.70	23/02/2007	31.00
24/02/2007	2727.70	21/03/2007	80.50	02/03/2007	55.30	02/03/2007	102.90	05/03/2007	30.50	24/02/2007	27.20
25/02/2007	2906.90	22/03/2007	83.10	03/03/2007	48.70	03/03/2007	110.90	06/03/2007	27.60	25/02/2007	31.40
26/02/2007	2317.50	23/03/2007	38.70	04/03/2007	14.40	04/03/2007	67.80	08/03/2007	24.00	26/02/2007	41.30
27/02/2007	2900.20	26/03/2007	52.80	05/03/2007	40.10	05/03/2007	89.90	09/03/2007	39.20	27/02/2007	61.20
28/02/2007	2456.20	27/03/2007	58.20	06/03/2007	12.80	06/03/2007	47.00	10/03/2007	41.50	28/02/2007	117.80
01/03/2007	1924.90	28/03/2007	81.70	08/03/2007	335.40	08/03/2007	278.20	11/03/2007	41.70	01/03/2007	94.80
02/03/2007	1784.60	29/03/2007	120.40	09/03/2007	227.70	09/03/2007	238.90	12/03/2007	28.10	02/03/2007	71.10
03/03/2007	1651.00	30/03/2007	160.10	10/03/2007	101.00	10/03/2007	165.70	13/03/2007	17.80	03/03/2007	58.40
04/03/2007	1313.20	31/03/2007	197.60	11/03/2007	104.80	11/03/2007	149.30	14/03/2007	14.90	04/03/2007	78.80
05/03/2007	1603.40	01/04/2007	160.90	12/03/2007	78.30	12/03/2007	120.00	15/03/2007	16.60	05/03/2007	106.70
06/03/2007	927.10	02/04/2007	55.20	13/03/2007	101.70	13/03/2007	122.30	16/03/2007	19.80	06/03/2007	102.00
08/03/2007	4743.60	03/04/2007	41.00	14/03/2007	65.10	14/03/2007	101.60	17/03/2007	19.40	08/03/2007	131.10
09/03/2007	3123.70	04/04/2007	52.10	15/03/2007	37.20	15/03/2007	93.30	18/03/2007	16.00	09/03/2007	58.90
10/03/2007	2031.80	05/04/2007	73.80	16/03/2007	32.10	16/03/2007	85.80	19/03/2007	19.30	10/03/2007	52.90
11/03/2007	2169.90	06/04/2007	76.40	17/03/2007	48.80	17/03/2007	99.20	20/03/2007	21.00	11/03/2007	60.00
12/03/2007	1774.50	08/04/2007	50.10	18/03/2007	88.90	18/03/2007	128.40	21/03/2007	18.60	12/03/2007	48.60
13/03/2007	2259.40	09/04/2007	55.70	19/03/2007	125.30	19/03/2007	166.60	22/03/2007	22.60	13/03/2007	51.00
14/03/2007	1822.60	10/04/2007	73.00	20/03/2007	108.30	20/03/2007	151.10	23/03/2007	10.50	14/03/2007	48.30
15/03/2007	1158.30	11/04/2007	97.30	21/03/2007	113.90	21/03/2007	141.00	26/03/2007	14.00	15/03/2007	57.80
16/03/2007	1711.40	12/04/2007	284.40	22/03/2007	67.10	22/03/2007	111.50	27/03/2007	14.60	16/03/2007	100.20
17/03/2007	1742.80	13/04/2007	164.90	23/03/2007	26.90	23/03/2007	59.80	28/03/2007	21.60	17/03/2007	62.20
18/03/2007	1388.20	14/04/2007	162.20	26/03/2007	52.10	26/03/2007	122.00	29/03/2007	41.40	18/03/2007	54.50
19/03/2007	2464.40	15/04/2007	129.20	27/03/2007	46.90	27/03/2007	102.10	30/03/2007	26.50	19/03/2007	56.40
20/03/2007	1967.80	16/04/2007	138.40	28/03/2007	70.60	28/03/2007	127.00	31/03/2007	48.10	20/03/2007	47.70
21/03/2007	2330.20	17/04/2007	99.00	29/03/2007	139.80	29/03/2007	172.70	01/04/2007	27.70	21/03/2007	37.30
22/03/2007	1861.90	18/04/2007	70.00	30/03/2007	245.50	30/03/2007	240.10	02/04/2007	24.00	22/03/2007	44.40
23/03/2007	1214.70	19/04/2007	81.20	31/03/2007	227.40	31/03/2007	249.10	03/04/2007	21.30	23/03/2007	34.10
26/03/2007	1566.30	20/04/2007	120.80	01/04/2007	189.20	01/04/2007	187.40	04/04/2007	18.20	26/03/2007	47.80
27/03/2007	1341.50	21/04/2007	70.20	02/04/2007	35.40	02/04/2007	84.80	05/04/2007	30.00	27/03/2007	46.60
28/03/2007	1952.00	22/04/2007	78.30	03/04/2007	35.80	03/04/2007	90.10	06/04/2007	50.40	28/03/2007	39.90
29/03/2007	2783.80	23/04/2007	141.10	04/04/2007	42.80	04/04/2007	92.70	08/04/2007	17.20	29/03/2007	43.30
30/03/2007	3805.00	24/04/2007	100.10	05/04/2007	35.00	05/04/2007	88.20	09/04/2007	16.10	30/03/2007	43.10
31/03/2007	3031.30	25/04/2007	121.10	06/04/2007	23.70	06/04/2007	86.80	10/04/2007	28.60	31/03/2007	39.00
01/04/2007	2538.00	26/04/2007	100.40	08/04/2007	69.10	08/04/2007	134.20	11/04/2007	25.10	01/04/2007	87.30
02/04/2007	1707.70	27/04/2007	133.80	09/04/2007	53.10	09/04/2007	101.70	12/04/2007	30.30	02/04/2007	77.00
03/04/2007	1196.90	28/04/2007	137.70	10/04/2007	78.20	10/04/2007	117.90	13/04/2007	47.80	03/04/2007	68.40
04/04/2007	1331.30	29/04/2007	143.90	11/04/2007	78.70	11/04/2007	116.40	14/04/2007	50.30	04/04/2007	45.90
05/04/2007	1923.20	30/04/2007	87.90	12/04/2007	124.50	12/04/2007	140.20	15/04/2007	40.50	05/04/2007	35.40
06/04/2007	1241.90	01/05/2007	68.00	13/04/2007	176.50	13/04/2007	174.00	16/04/2007	39.20	06/04/2007	26.90
08/04/2007	1114.00	02/05/2007	77.30	14/04/2007	225.00	14/04/2007	181.20	17/04/2007	59.90	08/04/2007	34.90
09/04/2007	1134.10	03/05/2007	106.40	15/04/2007	143.70	15/04/2007	149.40	18/04/2007	39.20	09/04/2007	30.40
10/04/2007	1967.20	04/05/2007	94.60	16/04/2007	143.80	16/04/2007	152.50	19/04/2007	38.90	10/04/2007	29.40
11/04/2007	1720.40	05/05/2007	83.00	17/04/2007	122.50	17/04/2007	160.80	20/04/2007	36.30	11/04/2007	32.10
12/04/2007	2497.50	06/05/2007	80.30	18/04/2007	75.60	18/04/2007	110.40	21/04/2007	28.60	12/04/2007	11.50
13/04/2007	3441.80	07/05/2007	71.60	19/04/2007	121.40	19/04/2007	146.60	22/04/2007	33.70	13/04/2007	45.40
14/04/2007	2915.40	08/05/2007	72.50	20/04/2007	93.60	20/04/2007	126.50	23/04/2007	29.60	14/04/2007	32.10
15/04/2007	2414.90	09/05/2007	68.60	21/04/2007	64.60	21/04/2007	114.60	24/04/2007	23.70	15/04/2007	37.40
16/04/2007	2657.30	10/05/2007	64.50	22/04/2007	188.10	22/04/2007	152.60	25/04/2007	39.10	16/04/2007	42.10
17/04/2007	2826.90	11/05/2007	72.20	23/04/2007	167.40	23/04/2007	138.40	26/04/2007	47.20	17/04/2007	22.90
18/04/2007	1424.00	12/05/2007	65.10	24/04/2007	59.50	24/04/2007	85.80	27/04/2007	32.00	18/04/2007	41.40
19/04/2007	2856.80	13/05/2007	64.30	15/05/2007	21.30	15/05/2007	70.00	28/04/2007	38.50	19/04/2007	41.20
20/04/2007	1905.50	14/05/2007	134.40	16/05/2007	53.00	16/05/2007	181.50	29/04/2007	65.30	20/04/2007	46.70
21/04/2007	1743.90	15/05/2007	79.10	17/05/2007	32.90	17/05/2007	232.30	30/04/2007	48.80	21/04/2007	34.60
22/04/2007	2783.80	16/05/2007	81.10	18/05/2007	22.70	18/05/2007	216.00	01/05/2007	77.30	22/04/2007	32.10
23/04/2007	2619.20	17/05/2007	40.80	19/05/2007	19.40	19/05/2007	168.40	02/05/2007	32.50	23/04/2007	41.60
24/04/2007	2539.60	18/05/2007	67.40	20/05/2007	19.20	20/05/2007	158.90	03/05/2007	45.30	24/04/2007	30.30
25/04/2007	3070.70	19/05/2007	52.30	21/05/2007	18.00	21/05/2007	142.70	04/05/2007	46.70	25/04/2007	28.10
26/04/2007	3781.60	20/05/2007	78.50	22/05/2007	45.70	22/05/2007	132.90	05/05/2007	28.70	26/04/2007	44.10
27/04/2007	2930.70	21/05/2007	78.80	23/05/2007	72.60	23/05/2007	194.90	06/05/2007	24.30	27/04/2007	34.80
28/04/2007	2485.50	22/05/2007	54.60	24/05/2007	132.10	24/05/2007	239.90	07/05/2007	30.70	28/04/2007	39.30
29/04/2007	2623.10	23/05/2007	94.10	25/05/2007	92.10	25/05/2007	202.70	08/05/2007	36.90	29/04/2007	40.70
30/04/2007	2349.90	24/05/2007	78.50	26/05/2007	37.60	26/05/2007	113.80	09/05/2007	44.40	30/04/2007	40.00
01/05/2007	1859.20	25/05/2007	72.90	27/05/2007	69.10	27/05/2007	165.00	10/05/2007	41.60	01/05/2007	32.00

Date	CO	Date	PM2.5	Date	NO	Date	NO <sub>2</sub>	Date	SO <sub>2</sub>	Date	O <sub>3</sub>
02/05/2007	3106.90	26/05/2007	45.80	28/05/2007	100.10	28/05/2007	212.20	11/05/2007	39.30	02/05/2007	15.40
03/05/2007	2678.10	27/05/2007	53.70	30/05/2007	126.30	30/05/2007	61.80	12/05/2007	44.60	03/05/2007	37.00
04/05/2007	2340.40	28/05/2007	79.00	31/05/2007	117.40	31/05/2007	78.50	13/05/2007	37.30	04/05/2007	32.70
05/05/2007	2192.00	29/05/2007	42.80	01/06/2007	129.30	01/06/2007	71.10	14/05/2007	49.30	05/05/2007	20.00
06/05/2007	2448.50	30/05/2007	49.00	02/06/2007	154.70	02/06/2007	62.90	15/05/2007	24.10	06/05/2007	74.40
07/05/2007	2768.10	31/05/2007	113.30	03/06/2007	96.70	03/06/2007	51.10	16/05/2007	30.20	07/05/2007	40.10
08/05/2007	2364.40	01/06/2007	112.00	04/06/2007	66.70	04/06/2007	44.50	17/05/2007	17.00	08/05/2007	39.30
09/05/2007	2160.50	02/06/2007	86.40	05/06/2007	65.00	05/06/2007	46.80	18/05/2007	34.10	09/05/2007	30.90
10/05/2007	2080.50	03/06/2007	62.80	06/06/2007	75.60	06/06/2007	43.00	19/05/2007	31.50	10/05/2007	35.70
11/05/2007	2249.40	04/06/2007	136.20	07/06/2007	67.50	07/06/2007	46.90	20/05/2007	26.00	11/05/2007	48.00
12/05/2007	2113.50	05/06/2007	61.40	08/06/2007	68.50	08/06/2007	38.20	21/05/2007	13.00	12/05/2007	26.30
13/05/2007	2002.90	06/06/2007	54.50	09/06/2007	99.20	09/06/2007	40.30	22/05/2007	14.00	13/05/2007	37.60
14/05/2007	2918.60	07/06/2007	66.20	10/06/2007	72.00	10/06/2007	32.70	23/05/2007	33.00	14/05/2007	40.50
15/05/2007	2143.70	08/06/2007	63.20	11/06/2007	122.90	11/06/2007	69.10	24/05/2007	22.30	15/05/2007	29.10
16/05/2007	2098.40	09/06/2007	148.70	12/06/2007	60.80	12/06/2007	73.40	25/05/2007	17.20	16/05/2007	53.30
17/05/2007	1856.40	10/06/2007	94.10	13/06/2007	50.20	13/06/2007	102.60	26/05/2007	25.00	17/05/2007	26.70
18/05/2007	1855.20	11/06/2007	68.80	14/06/2007	40.00	14/06/2007	79.50	27/05/2007	29.10	18/05/2007	35.60
19/05/2007	1962.80	12/06/2007	48.00	15/06/2007	59.80	15/06/2007	95.40	28/05/2007	24.90	19/05/2007	44.70
20/05/2007	2151.00	13/06/2007	57.70	16/06/2007	45.40	16/06/2007	101.30	29/05/2007	13.60	20/05/2007	43.50
21/05/2007	1836.60	14/06/2007	52.50	17/06/2007	46.50	17/06/2007	103.00	30/05/2007	10.20	21/05/2007	37.10
22/05/2007	2776.00	15/06/2007	61.20	19/06/2007	33.40	19/06/2007	102.70	31/05/2007	23.10	22/05/2007	37.60
23/05/2007	1729.30	16/06/2007	131.90	20/06/2007	48.60	20/06/2007	113.60	01/06/2007	25.70	23/05/2007	110.60
24/05/2007	2423.40	17/06/2007	657.00	21/06/2007	44.80	21/06/2007	92.60	02/06/2007	20.80	24/05/2007	47.90
25/05/2007	2206.10	19/06/2007	121.50	22/06/2007	42.80	22/06/2007	93.20	03/06/2007	12.10	25/05/2007	28.80
26/05/2007	3759.50	20/06/2007	145.40	23/06/2007	9.50	23/06/2007	46.80	04/06/2007	8.20	26/05/2007	44.70
27/05/2007	2246.50	21/06/2007	64.80	24/06/2007	45.10	24/06/2007	133.90	05/06/2007	9.50	27/05/2007	53.30
28/05/2007	3712.00	22/06/2007	60.90	25/06/2007	55.30	25/06/2007	113.00	06/06/2007	8.90	28/05/2007	54.90
29/05/2007	1537.80	23/06/2007	48.40	26/06/2007	22.40	26/06/2007	55.30	07/06/2007	11.40	29/05/2007	44.90
30/05/2007	1614.00	24/06/2007	32.70	27/06/2007	38.70	27/06/2007	79.30	08/06/2007	9.10	30/05/2007	48.90
31/05/2007	1972.00	25/06/2007	142.00	28/06/2007	51.30	28/06/2007	77.80	09/06/2007	13.60	31/05/2007	47.90
01/06/2007	2070.00	26/06/2007	25.50	29/06/2007	67.10	29/06/2007	91.10	10/06/2007	17.60	01/06/2007	47.20
02/06/2007	2195.20	27/06/2007	34.80	30/06/2007	49.10	30/06/2007	115.10	11/06/2007	55.40	02/06/2007	39.30
03/06/2007	1276.40	28/06/2007	41.00	01/07/2007	38.60	01/07/2007	72.20	12/06/2007	57.40	03/06/2007	32.00
04/06/2007	1226.10	29/06/2007	71.20	02/07/2007	43.20	02/07/2007	80.30	13/06/2007	27.20	04/06/2007	34.10
05/06/2007	1286.20	30/06/2007	46.20	03/07/2007	51.80	03/07/2007	84.80	14/06/2007	16.10	05/06/2007	37.70
06/06/2007	1285.40	01/07/2007	32.90	04/07/2007	49.00	04/07/2007	74.80	15/06/2007	16.70	06/06/2007	27.30
07/06/2007	1369.60	02/07/2007	41.80	05/07/2007	54.80	05/07/2007	86.50	16/06/2007	8.70	07/06/2007	39.80
08/06/2007	1436.70	03/07/2007	35.60	06/07/2007	46.70	06/07/2007	83.20	17/06/2007	6.60	08/06/2007	21.50
09/06/2007	1817.50	04/07/2007	45.50	07/07/2007	49.60	07/07/2007	141.00	19/06/2007	8.50	09/06/2007	25.90
10/06/2007	1252.80	05/07/2007	48.80	08/07/2007	38.80	08/07/2007	80.10	20/06/2007	19.30	10/06/2007	15.00
11/06/2007	2342.50	06/07/2007	63.50	09/07/2007	46.70	09/07/2007	89.90	21/06/2007	21.70	11/06/2007	20.40
12/06/2007	1863.40	07/07/2007	29.20	10/07/2007	26.30	10/07/2007	70.30	22/06/2007	30.80	12/06/2007	20.90
13/06/2007	1907.80	08/07/2007	12.40	12/07/2007	45.50	12/07/2007	63.80	23/06/2007	10.60	13/06/2007	25.20
14/06/2007	1808.00	09/07/2007	32.20	13/07/2007	40.70	13/07/2007	102.80	24/06/2007	38.10	14/06/2007	24.30
15/06/2007	2133.20	10/07/2007	38.80	14/07/2007	41.40	14/07/2007	98.90	25/06/2007	34.30	15/06/2007	17.30
16/06/2007	1958.30	12/07/2007	33.00	15/07/2007	36.60	15/07/2007	88.70	26/06/2007	11.20	16/06/2007	20.10
17/06/2007	1525.80	13/07/2007	48.30	16/07/2007	61.80	16/07/2007	91.80	27/06/2007	7.90	17/06/2007	14.50
19/06/2007	1530.30	14/07/2007	41.70	17/07/2007	46.10	17/07/2007	85.30	28/06/2007	6.70	19/06/2007	19.60
20/06/2007	1666.20	15/07/2007	64.30	18/07/2007	40.70	18/07/2007	67.40	29/06/2007	6.40	20/06/2007	28.40
21/06/2007	1742.90	16/07/2007	39.10	19/07/2007	42.40	19/07/2007	52.40	30/06/2007	16.70	21/06/2007	13.10
22/06/2007	1852.30	17/07/2007	58.10	20/07/2007	45.30	20/07/2007	46.20	01/07/2007	10.80	22/06/2007	13.90
23/06/2007	1178.70	18/07/2007	64.30	21/07/2007	51.40	21/07/2007	44.60	02/07/2007	21.30	23/06/2007	9.20
24/06/2007	1437.80	19/07/2007	42.40	22/07/2007	52.50	22/07/2007	53.90	03/07/2007	7.40	24/06/2007	103.60
25/06/2007	2031.80	20/07/2007	36.20	23/07/2007	56.50	23/07/2007	55.70	04/07/2007	6.40	25/06/2007	21.80
26/06/2007	1186.00	21/07/2007	12.20	24/07/2007	60.40	24/07/2007	72.10	05/07/2007	5.60	26/06/2007	18.80
27/06/2007	1721.10	22/07/2007	44.10	25/07/2007	48.90	25/07/2007	69.70	06/07/2007	7.00	27/06/2007	31.00
28/06/2007	1859.00	23/07/2007	35.90	26/07/2007	56.60	26/07/2007	64.90	07/07/2007	9.70	28/06/2007	15.90
29/06/2007	2216.30	24/07/2007	48.70	27/07/2007	47.30	27/07/2007	52.20	08/07/2007	16.30	29/06/2007	21.80
30/06/2007	1775.80	25/07/2007	30.00	28/07/2007	57.80	28/07/2007	74.10	09/07/2007	9.80	30/06/2007	25.20
01/07/2007	1509.30	26/07/2007	28.50	29/07/2007	62.30	29/07/2007	77.80	10/07/2007	9.60	01/07/2007	28.60
02/07/2007	1679.30	27/07/2007	12.50	30/07/2007	78.00	30/07/2007	98.80	12/07/2007	5.20	02/07/2007	27.70
03/07/2007	1846.40	28/07/2007	35.60	31/07/2007	56.30	31/07/2007	78.20	13/07/2007	5.90	03/07/2007	15.90
04/07/2007	2020.30	29/07/2007	40.10	01/08/2007	51.20	01/08/2007	39.00	14/07/2007	7.10	04/07/2007	17.00
05/07/2007	2104.60	30/07/2007	39.90	02/08/2007	14.60	02/08/2007	17.80	15/07/2007	6.30	05/07/2007	18.90
06/07/2007	1976.40	31/07/2007	65.60	06/08/2007	82.30	06/08/2007	88.70	16/07/2007	7.90	06/07/2007	27.20
07/07/2007	1839.20	01/08/2007	38.80	07/08/2007	59.10	07/08/2007	77.50	17/07/2007	6.30	07/07/2007	28.80
08/07/2007	1433.70	02/08/2007	24.90	08/08/2007	42.20	08/08/2007	59.00	18/07/2007	7.00	08/07/2007	23.90
09/07/2007	1824.50	06/08/2007	42.40	09/08/2007	46.80	09/08/2007	62.30	19/07/2007	6.00	09/07/2007	19.20
10/07/2007	1432.60	07/08/2007	41.80	10/08/2007	43.00	10/08/2007	65.00	20/07/2007	6.20	10/07/2007	17.80
12/07/2007	1600.70	08/08/2007	26.50	11/08/2007	29.00	11/08/2007	45.00	21/07/2007	7.60	12/07/2007	34.00
13/07/2007	1847.20	09/08/2007	30.90	12/08/2007	38.40	12/08/2007	48.50	22/07/2007	7.10	13/07/2007	26.20
14/07/2007	1923.00	10/08/2007	35.30	13/08/2007	33.80	13/08/2007	45.90	23/07/2007	6.90	14/07/2007	43.10

Date	CO	Date	PM2.5	Date	NO	Date	NO <sub>2</sub>	Date	SO <sub>2</sub>	Date	O <sub>3</sub>
15/07/2007	1576.00	11/08/2007	14.50	14/08/2007	29.10	14/08/2007	40.10	24/07/2007	7.40	15/07/2007	76.90
16/07/2007	2101.60	12/08/2007	21.00	15/08/2007	23.40	15/08/2007	27.40	25/07/2007	7.10	16/07/2007	49.10
17/07/2007	1796.40	13/08/2007	17.20	16/08/2007	28.70	16/08/2007	36.40	26/07/2007	6.20	17/07/2007	45.30
18/07/2007	1601.20	14/08/2007	31.70	17/08/2007	27.90	17/08/2007	38.10	27/07/2007	6.30	18/07/2007	32.90
19/07/2007	1398.40	15/08/2007	26.80	19/08/2007	53.20	19/08/2007	76.50	28/07/2007	7.70	19/07/2007	24.20
20/07/2007	1326.80	16/08/2007	24.30	20/08/2007	52.00	20/08/2007	63.90	29/07/2007	9.90	20/07/2007	23.10
21/07/2007	1811.90	17/08/2007	24.30	21/08/2007	47.90	21/08/2007	64.50	30/07/2007	7.90	21/07/2007	21.00
22/07/2007	1780.60	19/08/2007	41.70	22/08/2007	49.20	22/08/2007	60.20	31/07/2007	7.70	22/07/2007	22.30
23/07/2007	2062.90	20/08/2007	25.90	23/08/2007	51.50	23/08/2007	65.70	01/08/2007	6.80	23/07/2007	22.30
24/07/2007	2173.50	21/08/2007	38.20	24/08/2007	29.90	24/08/2007	46.40	02/08/2007	6.20	24/07/2007	30.00
25/07/2007	1773.70	22/08/2007	37.90	25/08/2007	40.70	25/08/2007	60.40	06/08/2007	5.90	25/07/2007	53.30
26/07/2007	1872.60	23/08/2007	39.10	26/08/2007	31.60	26/08/2007	45.70	07/08/2007	12.80	26/07/2007	29.00
27/07/2007	1605.90	24/08/2007	23.70	27/08/2007	48.10	27/08/2007	61.60	08/08/2007	14.10	27/07/2007	26.10
28/07/2007	1938.40	28/08/2007	15.00	28/08/2007	39.50	28/08/2007	64.30	09/08/2007	7.80	28/07/2007	31.10
29/07/2007	1809.50	29/08/2007	38.10	29/08/2007	42.40	29/08/2007	70.40	10/08/2007	7.60	29/07/2007	68.70
30/07/2007	2227.20	30/08/2007	42.10	30/08/2007	47.10	30/08/2007	74.20	11/08/2007	7.60	30/07/2007	31.40
31/07/2007	2104.20	31/08/2007	41.80	31/08/2007	46.90	31/08/2007	83.40	12/08/2007	6.30	31/07/2007	27.10
01/08/2007	1681.90	01/09/2007	45.40	01/09/2007	44.40	01/09/2007	77.10	13/08/2007	7.00	01/08/2007	19.50
02/08/2007	909.10	02/09/2007	37.00	02/09/2007	44.60	02/09/2007	61.10	14/08/2007	5.60	02/08/2007	24.50
06/08/2007	2512.60	03/09/2007	53.50	03/09/2007	38.50	03/09/2007	77.90	15/08/2007	5.30	06/08/2007	26.40
07/08/2007	2020.40	04/09/2007	81.50	04/09/2007	36.50	04/09/2007	51.20	16/08/2007	6.20	07/08/2007	25.00
08/08/2007	1858.70	05/09/2007	54.10	05/09/2007	28.50	05/09/2007	77.40	17/08/2007	5.90	08/08/2007	25.30
09/08/2007	1900.10	06/09/2007	38.10	06/09/2007	41.10	06/09/2007	70.20	19/08/2007	6.10	09/08/2007	26.00
10/08/2007	1865.50	07/09/2007	42.10	07/09/2007	28.60	07/09/2007	62.10	20/08/2007	9.50	10/08/2007	32.60
11/08/2007	1540.10	08/09/2007	33.40	08/09/2007	25.00	08/09/2007	51.20	21/08/2007	11.20	11/08/2007	29.90
12/08/2007	1490.90	09/09/2007	31.40	09/09/2007	29.00	09/09/2007	50.30	22/08/2007	9.60	12/08/2007	83.90
13/08/2007	1657.30	10/09/2007	38.30	10/09/2007	30.00	10/09/2007	62.60	23/08/2007	11.60	13/08/2007	17.60
14/08/2007	1381.10	11/09/2007	39.70	11/09/2007	23.60	11/09/2007	53.30	24/08/2007	6.20	14/08/2007	22.80
15/08/2007	1106.70	12/09/2007	29.70	12/09/2007	24.40	12/09/2007	49.70	25/08/2007	8.20	15/08/2007	28.00
16/08/2007	1384.60	13/09/2007	29.40	13/09/2007	26.80	13/09/2007	57.10	26/08/2007	7.70	16/08/2007	32.90
17/08/2007	1371.00	14/09/2007	23.90	14/09/2007	30.90	14/09/2007	63.30	27/08/2007	14.40	17/08/2007	35.40
19/08/2007	1955.10	15/09/2007	60.00	15/09/2007	52.80	15/09/2007	96.40	28/08/2007	10.70	19/08/2007	36.40
20/08/2007	1940.50	16/09/2007	59.90	16/09/2007	28.90	16/09/2007	69.30	29/08/2007	7.20	20/08/2007	20.30
21/08/2007	1777.70	17/09/2007	137.50	17/09/2007	50.80	17/09/2007	86.10	30/08/2007	8.70	21/08/2007	21.80
22/08/2007	1904.40	18/09/2007	31.50	18/09/2007	30.60	18/09/2007	64.50	31/08/2007	9.80	22/08/2007	18.30
23/08/2007	1920.60	19/09/2007	88.40	19/09/2007	58.80	19/09/2007	111.80	01/09/2007	12.00	23/08/2007	25.10
24/08/2007	1548.60	20/09/2007	72.80	20/09/2007	52.00	20/09/2007	105.50	02/09/2007	13.30	24/08/2007	37.40
25/08/2007	1876.40	21/09/2007	63.70	21/09/2007	68.20	21/09/2007	112.20	03/09/2007	10.10	25/08/2007	25.40
26/08/2007	1489.40	22/09/2007	51.60	22/09/2007	66.00	22/09/2007	110.70	04/09/2007	6.30	26/08/2007	27.40
27/08/2007	2361.20	23/09/2007	44.20	23/09/2007	66.40	23/09/2007	116.50	05/09/2007	10.60	27/08/2007	29.40
28/08/2007	1768.20	24/09/2007	69.10	24/09/2007	52.50	24/09/2007	106.20	06/09/2007	10.10	28/08/2007	28.20
29/08/2007	2020.70	25/09/2007	47.80	25/09/2007	35.80	25/09/2007	78.80	07/09/2007	6.40	29/08/2007	21.50
30/08/2007	2103.60	26/09/2007	29.20	26/09/2007	35.80	26/09/2007	60.20	08/09/2007	6.50	30/08/2007	33.40
31/08/2007	2073.10	27/09/2007	33.10	27/09/2007	38.30	27/09/2007	62.00	09/09/2007	7.00	31/08/2007	22.90
01/09/2007	1917.10	28/09/2007	41.00	28/09/2007	41.00	28/09/2007	69.80	10/09/2007	7.40	01/09/2007	23.70
02/09/2007	1755.20	29/09/2007	62.00	29/09/2007	44.40	29/09/2007	82.40	11/09/2007	6.80	02/09/2007	23.30
03/09/2007	2033.40	30/09/2007	12.40	30/09/2007	52.40	30/09/2007	90.70	12/09/2007	7.30	03/09/2007	29.80
04/09/2007	1783.60	01/10/2007	25.30	01/10/2007	28.70	01/10/2007	77.90	13/09/2007	9.60	04/09/2007	37.60
05/09/2007	1571.60	02/10/2007	64.00	02/10/2007	53.40	02/10/2007	111.70	14/09/2007	8.60	05/09/2007	33.10
06/09/2007	1888.10	03/10/2007	103.10	03/10/2007	122.60	03/10/2007	211.60	15/09/2007	16.40	06/09/2007	22.40
07/09/2007	1499.50	04/10/2007	73.20	04/10/2007	104.90	04/10/2007	197.40	16/09/2007	9.90	07/09/2007	36.80
08/09/2007	1365.00	05/10/2007	74.00	05/10/2007	57.20	05/10/2007	142.20	17/09/2007	11.60	08/09/2007	34.00
09/09/2007	1429.50	10/10/2007	49.90	06/10/2007	46.40	06/10/2007	123.30	18/09/2007	12.90	09/09/2007	26.50
10/09/2007	1699.60	11/10/2007	145.40	08/10/2007	32.70	08/10/2007	98.70	19/09/2007	18.70	10/09/2007	24.30
11/09/2007	1452.70	12/10/2007	99.00	09/10/2007	36.00	09/10/2007	102.10	20/09/2007	16.70	11/09/2007	37.60
12/09/2007	1330.90	13/10/2007	100.30	10/10/2007	62.40	10/10/2007	136.10	21/09/2007	20.50	12/09/2007	46.80
13/09/2007	1315.20	14/10/2007	163.90	11/10/2007	58.00	11/10/2007	132.90	22/09/2007	17.40	13/09/2007	50.00
14/09/2007	1435.80	15/10/2007	188.40	12/10/2007	34.10	12/10/2007	102.90	23/09/2007	32.40	14/09/2007	33.20
15/09/2007	1923.00	16/10/2007	91.70	13/10/2007	38.80	13/10/2007	103.80	24/09/2007	31.70	15/09/2007	86.00
16/09/2007	1704.00	17/10/2007	81.60	14/10/2007	84.60	14/10/2007	175.60	25/09/2007	14.70	16/09/2007	71.90
17/09/2007	2019.30	18/10/2007	161.70	15/10/2007	75.10	15/10/2007	162.70	26/09/2007	9.00	17/09/2007	63.20
18/09/2007	1712.30	19/10/2007	201.70	16/10/2007	65.30	16/10/2007	124.30	27/09/2007	9.50	18/09/2007	62.00
19/09/2007	1984.20	21/10/2007	89.30	17/10/2007	37.60	17/10/2007	94.30	28/09/2007	16.70	19/09/2007	99.20
20/09/2007	2084.90	22/10/2007	125.50	18/10/2007	42.50	18/10/2007	131.20	29/09/2007	8.70	20/09/2007	100.70
21/09/2007	2494.70	23/10/2007	216.80	19/10/2007	25.30	19/10/2007	106.20	30/09/2007	14.10	21/09/2007	115.50
22/09/2007	2159.90	24/10/2007	242.70	21/10/2007	83.60	21/10/2007	186.50	01/10/2007	11.50	22/09/2007	97.40
23/09/2007	1842.60	25/10/2007	211.40	22/10/2007	102.80	22/10/2007	216.60	02/10/2007	12.30	23/09/2007	145.20
24/09/2007	1809.20	26/10/2007	240.50	23/10/2007	111.60	23/10/2007	243.30	03/10/2007	22.90	24/09/2007	128.10
25/09/2007	1514.00	27/10/2007	141.30	24/10/2007	104.40	24/10/2007	231.60	04/10/2007	19.40	25/09/2007	112.10
26/09/2007	1467.40	05/12/2007	234.50	25/10/2007	112.40	25/10/2007	243.90	05/10/2007	21.60	26/09/2007	46.70
27/09/2007	1566.60	06/12/2007	313.10	26/10/2007	116.60	26/10/2007	253.20	06/10/2007	10.50	27/09/2007	63.00
28/09/2007	1882.00	07/12/2007	345.10	27/10/2007	107.90	27/10/2007	233.70	08/10/2007	14.10	28/09/2007	22.60

Date	CO	Date	PM2.5	Date	NO	Date	NO <sub>2</sub>	Date	SO <sub>2</sub>	Date	O <sub>3</sub>
29/09/2007	1982.60	09/12/2007	230.30	28/10/2007	52.90	28/10/2007	142.10	09/10/2007	16.60	29/09/2007	26.10
30/09/2007	1873.90	10/12/2007	264.10	29/10/2007	96.90	29/10/2007	226.10	10/10/2007	18.60	30/09/2007	40.00
01/10/2007	1467.70	11/12/2007	173.60	30/10/2007	166.40	30/10/2007	325.70	11/10/2007	24.20	01/10/2007	50.50
02/10/2007	1904.40	12/12/2007	176.30	31/10/2007	167.30	31/10/2007	338.10	12/10/2007	17.20	02/10/2007	47.30
03/10/2007	3556.40	13/12/2007	178.60	01/11/2007	104.70	01/11/2007	232.80	13/10/2007	18.50	03/10/2007	46.00
04/10/2007	3276.10	14/12/2007	119.30	02/11/2007	90.20	02/11/2007	220.80	14/10/2007	29.60	04/10/2007	40.30
05/10/2007	2310.50	15/12/2007	103.20	03/11/2007	126.40	03/11/2007	272.30	15/10/2007	27.00	05/10/2007	41.20
06/10/2007	1645.50	16/12/2007	152.10	04/11/2007	162.00	04/11/2007	336.80	16/10/2007	20.60	06/10/2007	17.50
08/10/2007	1561.80	17/12/2007	154.70	05/11/2007	133.90	05/11/2007	286.10	17/10/2007	24.70	08/10/2007	45.90
09/10/2007	1684.80	18/12/2007	175.30	06/11/2007	87.80	06/11/2007	209.50	18/10/2007	22.80	09/10/2007	35.20
10/10/2007	2210.10	19/12/2007	317.50	07/11/2007	99.90	07/11/2007	179.00	19/10/2007	27.80	10/10/2007	31.80
11/10/2007	2050.20	20/12/2007	241.00	08/11/2007	60.10	08/11/2007	98.70	21/10/2007	14.20	11/10/2007	41.10
12/10/2007	1556.70	21/12/2007	150.60	09/11/2007	78.20	09/11/2007	110.60	22/10/2007	18.00	12/10/2007	32.60
13/10/2007	1507.10	22/12/2007	95.40	10/11/2007	108.80	10/11/2007	141.70	23/10/2007	24.10	13/10/2007	33.30
14/10/2007	2692.20	23/12/2007	121.40	11/11/2007	77.10	11/11/2007	117.40	24/10/2007	25.10	14/10/2007	34.70
15/10/2007	2708.70	24/12/2007	153.10	12/11/2007	124.30	12/11/2007	186.00	25/10/2007	23.50	15/10/2007	44.20
16/10/2007	2083.20	25/12/2007	205.80	13/11/2007	101.70	13/11/2007	181.40	26/10/2007	24.50	16/10/2007	15.50
17/10/2007	1522.60	26/12/2007	154.80	14/11/2007	107.40	14/11/2007	181.60	27/10/2007	24.70	17/10/2007	26.60
18/10/2007	1793.80	27/12/2007	129.60	15/11/2007	109.10	15/11/2007	178.40	28/10/2007	20.10	18/10/2007	33.20
19/10/2007	1556.50	28/12/2007	119.10	16/11/2007	65.90	16/11/2007	126.50	29/10/2007	28.90	19/10/2007	20.80
21/10/2007	2222.70	29/12/2007	217.70	17/11/2007	54.20	17/11/2007	113.40	30/10/2007	36.60	21/10/2007	34.10
22/10/2007	2955.10	30/12/2007	217.50	18/11/2007	95.70	18/11/2007	153.00	31/10/2007	32.80	22/10/2007	28.10
23/10/2007	3607.40	31/12/2007	217.20	19/11/2007	150.60	19/11/2007	228.50	01/11/2007	23.00	23/10/2007	32.30
24/10/2007	3571.50	01/01/2008	217.70	20/11/2007	50.30	20/11/2007	106.70	02/11/2007	26.30	24/10/2007	35.20
25/10/2007	3869.10	02/01/2008	185.50	21/11/2007	94.30	21/11/2007	157.10	03/11/2007	31.30	25/10/2007	35.70
26/10/2007	3960.20	03/01/2008	191.70	22/11/2007	212.50	22/11/2007	305.10	04/11/2007	30.40	26/10/2007	23.90
27/10/2007	3828.40	04/01/2008	190.40	23/11/2007	201.40	23/11/2007	284.90	05/11/2007	29.00	27/10/2007	34.70
28/10/2007	2495.40	05/01/2008	230.40	24/11/2007	188.40	24/11/2007	255.90	06/11/2007	22.50	28/10/2007	29.50
29/10/2007	3597.50	06/01/2008	212.90	25/11/2007	172.30	25/11/2007	236.60	07/11/2007	21.80	29/10/2007	32.70
30/10/2007	4422.50	07/01/2008	247.80	26/11/2007	171.00	26/11/2007	242.40	08/11/2007	32.90	30/10/2007	29.70
31/10/2007	4930.00	08/01/2008	161.80	27/11/2007	168.10	27/11/2007	273.60	09/11/2007	31.80	31/10/2007	42.90
01/11/2007	3588.40	09/01/2008	133.70	28/11/2007	165.10	28/11/2007	279.60	10/11/2007	53.00	01/11/2007	37.60
02/11/2007	3271.70	10/01/2008	112.30	29/11/2007	148.80	29/11/2007	276.30	11/11/2007	23.00	02/11/2007	29.20
03/11/2007	4130.80	11/01/2008	93.20	30/11/2007	89.70	30/11/2007	181.30	12/11/2007	41.40	03/11/2007	33.10
04/11/2007	5462.90	12/01/2008	71.20	01/12/2007	126.20	01/12/2007	213.80	13/11/2007	34.30	04/11/2007	25.50
05/11/2007	5269.90	13/01/2008	66.80	02/12/2007	69.60	02/12/2007	137.30	14/11/2007	35.00	05/11/2007	27.10
06/11/2007	3520.10	14/01/2008	83.40	03/12/2007	24.90	03/12/2007	75.10	15/11/2007	28.40	06/11/2007	34.90
07/11/2007	3937.40	15/01/2008	76.50	04/12/2007	36.30	04/12/2007	90.70	16/11/2007	17.40	07/11/2007	25.60
08/11/2007	2696.50	16/01/2008	91.40	05/12/2007	116.90	05/12/2007	180.90	17/11/2007	18.50	08/11/2007	21.20
09/11/2007	3011.80	17/01/2008	130.50	06/12/2007	134.60	06/12/2007	224.80	18/11/2007	25.20	09/11/2007	21.90
10/11/2007	3394.00	18/01/2008	122.00	07/12/2007	119.50	07/12/2007	183.70	19/11/2007	33.00	10/11/2007	21.60
11/11/2007	3184.50	19/01/2008	77.80	09/12/2007	56.80	09/12/2007	126.50	20/11/2007	22.20	11/11/2007	24.40
12/11/2007	4625.90	20/01/2008	86.70	10/12/2007	106.40	10/12/2007	191.00	21/11/2007	30.60	12/11/2007	26.30
13/11/2007	4093.70	21/01/2008	70.60	11/12/2007	60.20	11/12/2007	115.10	22/11/2007	40.90	13/11/2007	26.40
14/11/2007	3855.50	22/01/2008	122.40	12/12/2007	103.90	12/12/2007	161.40	23/11/2007	34.90	14/11/2007	24.80
15/11/2007	4447.00	23/01/2008	142.60	13/12/2007	36.80	13/12/2007	76.60	24/11/2007	34.80	15/11/2007	27.10
16/11/2007	3008.20	24/01/2008	131.70	14/12/2007	26.50	14/12/2007	67.30	25/11/2007	30.80	16/11/2007	24.00
17/11/2007	3003.90	25/01/2008	149.20	15/12/2007	35.40	15/12/2007	79.60	26/11/2007	35.00	17/11/2007	24.80
18/11/2007	3704.60	26/01/2008	163.50	16/12/2007	45.40	16/12/2007	99.10	27/11/2007	41.50	18/11/2007	31.90
19/11/2007	5218.60	27/01/2008	108.00	17/12/2007	37.80	17/12/2007	93.60	28/11/2007	28.50	19/11/2007	34.80
20/11/2007	2522.90	28/01/2008	197.10	18/12/2007	115.40	18/12/2007	183.40	29/11/2007	35.40	20/11/2007	31.80
21/11/2007	3958.90	29/01/2008	228.70	19/12/2007	196.30	19/12/2007	290.40	30/11/2007	26.30	21/11/2007	31.90
22/11/2007	5738.40	30/01/2008	273.40	20/12/2007	84.90	20/12/2007	154.20	01/12/2007	40.40	22/11/2007	23.40
23/11/2007	7187.60	31/01/2008	220.20	21/12/2007	27.40	21/12/2007	83.40	02/12/2007	38.10	23/11/2007	27.60
24/11/2007	6139.30	01/02/2008	211.00	22/12/2007	20.20	22/12/2007	57.30	03/12/2007	34.80	24/11/2007	21.40
25/11/2007	5843.70	02/02/2008	283.10	23/12/2007	35.60	23/12/2007	83.10	04/12/2007	21.60	25/11/2007	26.60
26/11/2007	7554.20	03/02/2008	191.10	24/12/2007	34.30	24/12/2007	88.80	05/12/2007	23.90	26/11/2007	23.00
27/11/2007	6529.90	04/02/2008	189.40	25/12/2007	36.30	25/12/2007	101.00	06/12/2007	34.60	27/11/2007	25.20
28/11/2007	5693.20	05/02/2008	200.50	26/12/2007	25.50	26/12/2007	81.30	07/12/2007	28.60	28/11/2007	19.50
29/11/2007	4845.10	06/02/2008	244.50	27/12/2007	21.40	27/12/2007	75.10	09/12/2007	17.40	29/11/2007	12.10
30/11/2007	3801.90	07/02/2008	174.50	28/12/2007	24.10	28/12/2007	76.10	10/12/2007	55.40	30/11/2007	14.90
01/12/2007	4779.30	08/02/2008	142.10	29/12/2007	24.50	29/12/2007	83.40	11/12/2007	45.00	01/12/2007	22.00
02/12/2007	2680.60	11/02/2008	94.70	30/12/2007	17.70	30/12/2007	70.70	12/12/2007	52.40	02/12/2007	19.30
03/12/2007	1443.80	12/02/2008	98.00	31/12/2007	19.60	31/12/2007	72.50	13/12/2007	15.40	03/12/2007	18.50
04/12/2007	1905.70	13/02/2008	109.50	01/01/2008	46.50	01/01/2008	122.40	14/12/2007	12.50	04/12/2007	20.40
05/12/2007	3590.50	14/02/2008	161.70	02/01/2008	43.90	02/01/2008	116.80	15/12/2007	15.00	05/12/2007	20.80
06/12/2007	6096.50	15/02/2008	259.30	03/01/2008	24.40	03/01/2008	89.40	16/12/2007	20.80	06/12/2007	17.60
07/12/2007	3996.90	18/02/2008	174.00	04/01/2008	26.20	04/01/2008	90.40	17/12/2007	20.50	07/12/2007	7.70
09/12/2007	2084.10	19/02/2008	181.40	05/01/2008	48.50	05/01/2008	132.60	18/12/2007	26.10	09/12/2007	26.30
10/12/2007	3737.80	20/02/2008	256.30	06/01/2008	35.60	06/01/2008	98.80	19/12/2007	45.70	10/12/2007	10.30
11/12/2007	2366.70	21/02/2008	249.20	07/01/2008	78.60	07/01/2008	185.20	20/12/2007	23.90	11/12/2007	10.20
12/12/2007	3445.50	22/02/2008	159.60	08/01/2008	52.40	08/01/2008	126.70	21/12/2007	21.30	12/12/2007	11.50

Date	CO	Date	PM2.5	Date	NO	Date	NO <sub>2</sub>	Date	SO <sub>2</sub>	Date	O <sub>3</sub>
13/12/2007	1957.70	23/02/2008	157.70	09/01/2008	34.00	09/01/2008	82.90	22/12/2007	16.50	13/12/2007	8.90
14/12/2007	1601.10	24/02/2008	177.50	10/01/2008	34.00	10/01/2008	81.40	23/12/2007	23.80	14/12/2007	12.40
15/12/2007	1746.90	25/02/2008	108.60	11/01/2008	20.50	11/01/2008	54.20	24/12/2007	26.30	15/12/2007	19.40
16/12/2007	1799.10	26/02/2008	94.80	12/01/2008	14.20	12/01/2008	45.10	25/12/2007	21.60	16/12/2007	20.20
17/12/2007	1433.80	27/02/2008	129.30	13/01/2008	12.30	13/01/2008	37.60	26/12/2007	21.20	17/12/2007	18.40
18/12/2007	4158.30	28/02/2008	154.20	14/01/2008	17.70	14/01/2008	54.50	27/12/2007	25.00	18/12/2007	21.70
19/12/2007	5710.10	29/02/2008	250.40	15/01/2008	18.90	15/01/2008	63.70	28/12/2007	20.20	19/12/2007	13.40
20/12/2007	3035.90	01/03/2008	367.90	16/01/2008	21.80	16/01/2008	78.80	29/12/2007	26.70	20/12/2007	14.90
21/12/2007	1740.40	03/03/2008	207.90	17/01/2008	53.00	17/01/2008	148.40	30/12/2007	23.50	21/12/2007	21.00
22/12/2007	1331.30	04/03/2008	203.00	18/01/2008	32.90	18/01/2008	95.90	31/12/2007	22.10	22/12/2007	28.60
23/12/2007	1911.90	05/03/2008	206.20	19/01/2008	16.80	19/01/2008	62.60	01/01/2008	26.40	23/12/2007	24.60
24/12/2007	1641.10	07/03/2008	154.60	20/01/2008	16.80	20/01/2008	62.30	02/01/2008	42.10	24/12/2007	16.30
25/12/2007	2487.70	08/03/2008	156.00	21/01/2008	17.10	21/01/2008	63.50	03/01/2008	29.30	25/12/2007	20.40
26/12/2007	2135.80	09/03/2008	152.40	22/01/2008	21.40	22/01/2008	77.30	04/01/2008	23.50	26/12/2007	19.50
27/12/2007	1456.60	10/03/2008	152.20	23/01/2008	17.80	23/01/2008	68.80	05/01/2008	34.80	27/12/2007	15.70
28/12/2007	6982.20	11/03/2008	125.90	24/01/2008	23.40	24/01/2008	78.80	06/01/2008	27.80	28/12/2007	26.80
29/12/2007	2202.00	12/03/2008	106.50	25/01/2008	20.00	25/01/2008	75.80	07/01/2008	37.00	29/12/2007	21.10
30/12/2007	1970.10	13/03/2008	121.40	26/01/2008	8.80	26/01/2008	42.30	08/01/2008	33.70	30/12/2007	24.40
31/12/2007	1894.60	14/03/2008	120.50	27/01/2008	22.90	27/01/2008	79.80	09/01/2008	37.00	31/12/2007	22.90
01/01/2008	3033.60	15/03/2008	114.20	28/01/2008	32.60	28/01/2008	106.60	10/01/2008	21.40	01/01/2008	23.10
02/01/2008	2617.00	16/03/2008	98.10	29/01/2008	34.10	29/01/2008	112.20	11/01/2008	23.10	02/01/2008	19.70
03/01/2008	2221.40	17/03/2008	114.60	30/01/2008	33.60	30/01/2008	112.20	12/01/2008	15.00	03/01/2008	23.80
04/01/2008	2521.90	18/03/2008	142.20	31/01/2008	26.90	31/01/2008	91.80	13/01/2008	13.10	04/01/2008	23.90
05/01/2008	3005.70	19/03/2008	182.30	01/02/2008	44.80	01/02/2008	129.30	14/01/2008	16.30	05/01/2008	23.00
06/01/2008	2534.90	20/03/2008	118.60	02/02/2008	74.70	02/02/2008	199.00	15/01/2008	21.10	06/01/2008	17.70
07/01/2008	4824.80	21/03/2008	97.30	03/02/2008	32.10	03/02/2008	104.50	16/01/2008	21.30	07/01/2008	14.60
08/01/2008	2969.60	22/03/2008	89.90	04/02/2008	35.10	04/02/2008	106.90	17/01/2008	32.10	08/01/2008	12.70
09/01/2008	2924.30	23/03/2008	87.30	05/02/2008	16.30	05/02/2008	50.70	18/01/2008	27.20	09/01/2008	10.30
10/01/2008	2876.10	24/03/2008	81.90	06/02/2008	65.80	06/02/2008	156.50	19/01/2008	34.60	10/01/2008	13.40
11/01/2008	1723.10	25/03/2008	109.50	07/02/2008	34.80	07/02/2008	105.30	20/01/2008	13.10	11/01/2008	17.30
12/01/2008	3683.10	26/03/2008	126.30	08/02/2008	11.90	08/02/2008	46.30	21/01/2008	24.50	12/01/2008	26.70
13/01/2008	7042.90	27/03/2008	101.20	11/02/2008	19.40	11/02/2008	91.10	22/01/2008	34.60	13/01/2008	25.00
14/01/2008	3792.20	28/03/2008	151.40	12/02/2008	12.30	12/02/2008	66.00	23/01/2008	36.70	14/01/2008	33.30
15/01/2008	1970.00	29/03/2008	148.00	13/02/2008	17.90	13/02/2008	62.40	24/01/2008	36.80	15/01/2008	25.50
16/01/2008	1914.40	30/03/2008	134.00	14/02/2008	23.80	14/02/2008	83.20	25/01/2008	55.60	16/01/2008	21.70
17/01/2008	3369.70	31/03/2008	120.50	15/02/2008	50.40	15/02/2008	91.70	26/01/2008	36.20	17/01/2008	17.10
18/01/2008	2041.30	01/04/2008	78.50	18/02/2008	70.70	18/02/2008	117.50	27/01/2008	30.60	18/01/2008	15.80
19/01/2008	1667.40	02/04/2008	106.10	19/02/2008	76.40	19/02/2008	132.10	28/01/2008	25.20	19/01/2008	21.30
20/01/2008	2357.20	03/04/2008	77.80	20/02/2008	136.40	20/02/2008	154.00	29/01/2008	86.00	20/01/2008	25.10
21/01/2008	3203.60	04/04/2008	91.00	21/02/2008	34.30	21/02/2008	58.70	30/01/2008	161.50	21/01/2008	26.60
22/01/2008	2515.80	05/04/2008	57.10	22/02/2008	48.00	22/02/2008	86.60	31/01/2008	38.00	22/01/2008	18.20
23/01/2008	1550.70	06/04/2008	50.50	23/02/2008	50.20	23/02/2008	96.10	01/02/2008	43.70	23/01/2008	27.10
24/01/2008	1516.10	07/04/2008	65.30	24/02/2008	24.60	24/02/2008	56.40	02/02/2008	47.10	24/01/2008	22.70
25/01/2008	1725.20	08/04/2008	78.60	25/02/2008	25.10	25/02/2008	57.90	03/02/2008	33.60	25/01/2008	20.30
26/01/2008	1507.30	09/04/2008	91.50	26/02/2008	26.90	26/02/2008	59.40	04/02/2008	30.40	26/01/2008	12.50
27/01/2008	1499.70	10/04/2008	88.80	27/02/2008	37.20	27/02/2008	74.20	05/02/2008	13.40	27/01/2008	37.20
28/01/2008	2325.60	12/04/2008	106.30	28/02/2008	69.00	28/02/2008	103.30	06/02/2008	8.30	28/01/2008	20.20
29/01/2008	2326.40	13/04/2008	144.10	29/02/2008	136.90	29/02/2008	183.00	07/02/2008	8.70	29/01/2008	80.00
30/01/2008	2154.80	24/04/2008	32.00	01/03/2008	207.90	01/03/2008	227.90	08/02/2008	10.20	30/01/2008	242.70
31/01/2008	1769.00	25/04/2008	55.50	03/03/2008	44.50	03/03/2008	93.20	11/02/2008	11.70	31/01/2008	15.70
01/02/2008	2887.90	26/04/2008	66.20	04/03/2008	53.00	04/03/2008	90.70	12/02/2008	10.50	01/02/2008	19.40
02/02/2008	3195.00	27/04/2008	74.90	05/03/2008	53.50	05/03/2008	91.40	13/02/2008	9.50	02/02/2008	10.60
03/02/2008	1678.80	28/04/2008	73.20	07/03/2008	49.60	07/03/2008	85.50	14/02/2008	10.90	03/02/2008	9.80
04/02/2008	2356.60	29/04/2008	101.00	08/03/2008	40.80	08/03/2008	76.90	15/02/2008	13.60	04/02/2008	11.70
05/02/2008	1386.10	30/04/2008	113.20	09/03/2008	27.40	09/03/2008	56.20	18/02/2008	6.50	05/02/2008	14.50
06/02/2008	3562.70	01/05/2008	33.50	10/03/2008	30.00	10/03/2008	60.60	19/02/2008	7.90	06/02/2008	23.00
07/02/2008	2001.20	07/05/2008	33.70	11/03/2008	20.10	11/03/2008	45.70	20/02/2008	7.60	07/02/2008	17.30
08/02/2008	1267.00	08/05/2008	85.70	12/03/2008	14.30	12/03/2008	34.70	21/02/2008	12.70	08/02/2008	15.80
11/02/2008	1652.60	09/05/2008	58.90	13/03/2008	50.60	13/03/2008	77.20	22/02/2008	23.70	12/02/2008	477.90
12/02/2008	2917.40	10/05/2008	59.40	14/03/2008	50.00	14/03/2008	81.90	23/02/2008	25.80	13/02/2008	154.20
13/02/2008	1518.80	11/05/2008	81.40	15/03/2008	25.50	15/03/2008	54.90	24/02/2008	20.30	14/02/2008	201.10
14/02/2008	8433.20	12/05/2008	47.80	16/03/2008	39.10	16/03/2008	66.00	25/02/2008	8.90	15/02/2008	185.50
15/02/2008	3228.00	13/05/2008	50.50	17/03/2008	71.70	17/03/2008	100.20	26/02/2008	8.60	19/02/2008	230.80
18/02/2008	3242.70	14/05/2008	93.60	18/03/2008	71.70	18/03/2008	97.60	27/02/2008	11.60	20/02/2008	54.20
19/02/2008	3304.60	15/05/2008	90.10	19/03/2008	50.80	19/03/2008	88.80	28/02/2008	12.90	21/02/2008	27.70
20/02/2008	3837.60	16/05/2008	110.10	20/03/2008	52.80	20/03/2008	91.00	29/02/2008	22.00	22/02/2008	17.60
21/02/2008	3832.20	17/05/2008	64.30	21/03/2008	19.60	21/03/2008	54.40	01/03/2008	24.50	23/02/2008	23.70
22/02/2008	2393.40	18/05/2008	119.80	22/03/2008	11.20	22/03/2008	34.50	03/03/2008	28.00	24/02/2008	41.30
23/02/2008	2604.60	19/05/2008	64.30	23/03/2008	24.90	23/03/2008	49.40	04/03/2008	12.90	25/02/2008	44.00
24/02/2008	1419.80	20/05/2008	63.60	24/03/2008	28.50	24/03/2008	64.00	05/03/2008	17.50	26/02/2008	46.20
25/02/2008	1501.10	21/05/2008	22.60	25/03/2008	46.30	25/03/2008	96.90	07/03/2008	18.60	27/02/2008	38.70
26/02/2008	1578.90	23/05/2008	24.70	26/03/2008	35.70	26/03/2008	94.10	08/03/2008	12.70	28/02/2008	41.70

Date	CO	Date	PM2.5	Date	NO	Date	NO <sub>2</sub>	Date	SO <sub>2</sub>	Date	O <sub>3</sub>
27/02/2008	2140.70	24/05/2008	47.50	27/03/2008	19.50	27/03/2008	65.90	09/03/2008	11.20	29/02/2008	44.80
28/02/2008	2822.70	25/05/2008	50.60	28/03/2008	35.90	28/03/2008	91.20	10/03/2008	13.90	01/03/2008	23.80
29/02/2008	5031.60	26/05/2008	52.50	29/03/2008	48.40	29/03/2008	110.50	11/03/2008	11.40	03/03/2008	28.10
01/03/2008	7097.50	27/05/2008	56.50	30/03/2008	62.10	30/03/2008	135.60	12/03/2008	15.70	04/03/2008	46.50
03/03/2008	3297.20	28/05/2008	59.60	31/03/2008	33.70	31/03/2008	79.90	13/03/2008	15.00	05/03/2008	46.40
04/03/2008	3145.70	29/05/2008	66.40	01/04/2008	42.00	01/04/2008	97.60	14/03/2008	14.40	07/03/2008	18.20
05/03/2008	2418.10	30/05/2008	52.90	02/04/2008	46.10	02/04/2008	106.80	15/03/2008	11.50	08/03/2008	17.90
07/03/2008	3364.20	31/05/2008	72.90	03/04/2008	24.40	03/04/2008	61.80	16/03/2008	11.10	09/03/2008	28.30
08/03/2008	2672.40	01/06/2008	52.10	04/04/2008	39.20	04/04/2008	87.20	17/03/2008	15.90	10/03/2008	34.80
09/03/2008	1906.50	02/06/2008	84.50	05/04/2008	32.50	05/04/2008	77.40	18/03/2008	21.20	11/03/2008	56.00
10/03/2008	1908.70	03/06/2008	77.80	06/04/2008	21.80	06/04/2008	64.20	19/03/2008	23.00	12/03/2008	69.60
11/03/2008	1769.90	04/06/2008	61.80	07/04/2008	21.70	07/04/2008	63.80	20/03/2008	32.30	13/03/2008	44.30
12/03/2008	1396.90	05/06/2008	58.40	08/04/2008	20.60	08/04/2008	56.80	21/03/2008	18.70	14/03/2008	47.10
13/03/2008	2746.50	06/06/2008	72.80	09/04/2008	19.60	09/04/2008	56.60	22/03/2008	12.90	15/03/2008	46.40
14/03/2008	2078.20	07/06/2008	49.50	10/04/2008	21.30	10/04/2008	54.00	23/03/2008	14.40	16/03/2008	47.80
15/03/2008	1597.80	08/06/2008	42.90	12/04/2008	69.00	12/04/2008	124.40	24/03/2008	12.90	17/03/2008	47.90
16/03/2008	2079.80	09/06/2008	48.30	13/04/2008	52.50	13/04/2008	105.80	25/03/2008	16.40	18/03/2008	29.90
17/03/2008	3123.50	10/06/2008	51.10	14/04/2008	29.00	14/04/2008	75.00	26/03/2008	19.00	19/03/2008	29.60
18/03/2008	3167.60	11/06/2008	60.00	15/04/2008	50.20	15/04/2008	86.70	27/03/2008	17.90	20/03/2008	44.90
19/03/2008	2441.20	12/06/2008	50.80	16/04/2008	25.70	16/04/2008	30.70	28/03/2008	19.10	21/03/2008	60.20
20/03/2008	2243.30	13/06/2008	43.00	18/04/2008	21.30	18/04/2008	27.10	29/03/2008	31.80	22/03/2008	61.30
21/03/2008	1323.30	14/06/2008	41.40	19/04/2008	22.10	19/04/2008	30.70	30/03/2008	27.80	23/03/2008	54.80
22/03/2008	1519.70	15/06/2008	35.20	20/04/2008	17.40	20/04/2008	22.10	31/03/2008	13.70	24/03/2008	46.10
23/03/2008	1499.80	16/06/2008	42.40	21/04/2008	20.40	21/04/2008	29.00	01/04/2008	20.90	25/03/2008	46.20
24/03/2008	1938.40	17/06/2008	50.40	22/04/2008	25.70	22/04/2008	39.80	02/04/2008	18.90	26/03/2008	48.80
25/03/2008	2190.10	18/06/2008	38.90	23/04/2008	47.50	23/04/2008	45.50	03/04/2008	12.30	27/03/2008	58.50
26/03/2008	1898.60	19/06/2008	36.40	24/04/2008	40.90	24/04/2008	54.40	04/04/2008	15.40	28/03/2008	42.30
27/03/2008	1636.10	20/06/2008	30.40	25/04/2008	30.20	25/04/2008	58.70	05/04/2008	8.10	29/03/2008	42.70
28/03/2008	1943.30	21/06/2008	28.30	26/04/2008	25.60	26/04/2008	54.50	06/04/2008	10.20	30/03/2008	37.80
29/03/2008	2144.60	22/06/2008	27.30	27/04/2008	28.10	27/04/2008	58.20	07/04/2008	10.90	31/03/2008	37.10
30/03/2008	2352.80	23/06/2008	27.40	28/04/2008	43.70	28/04/2008	73.60	08/04/2008	12.50	01/04/2008	29.50
31/03/2008	1529.40	24/06/2008	42.50	29/04/2008	62.80	29/04/2008	69.40	09/04/2008	11.10	02/04/2008	32.50
01/04/2008	2167.20	25/06/2008	56.50	30/04/2008	68.40	30/04/2008	50.60	10/04/2008	14.70	03/04/2008	43.00
02/04/2008	1983.40	26/06/2008	86.70	01/05/2008	33.50	01/05/2008	36.90	12/04/2008	14.10	04/04/2008	27.80
03/04/2008	1201.90	27/06/2008	62.00	02/05/2008	36.30	02/05/2008	33.80	13/04/2008	24.00	05/04/2008	19.10
04/04/2008	1828.30	28/06/2008	49.80	03/05/2008	50.10	03/05/2008	37.60	14/04/2008	16.40	06/04/2008	46.90
05/04/2008	1678.70	29/06/2008	35.30	04/05/2008	41.20	04/05/2008	30.10	15/04/2008	20.90	07/04/2008	50.80
06/04/2008	1071.20	30/06/2008	43.00	05/05/2008	22.90	05/05/2008	28.90	16/04/2008	26.90	08/04/2008	42.60
07/04/2008	1191.30	01/07/2008	38.40	06/05/2008	15.80	06/05/2008	27.10	18/04/2008	11.60	09/04/2008	45.70
08/04/2008	1004.30	02/07/2008	51.70	07/05/2008	32.30	07/05/2008	37.00	19/04/2008	19.20	10/04/2008	44.10
09/04/2008	1241.90	03/07/2008	57.50	08/05/2008	37.00	08/05/2008	36.30	20/04/2008	16.80	12/04/2008	54.80
10/04/2008	1237.90	04/07/2008	78.20	09/05/2008	17.60	09/05/2008	23.30	21/04/2008	16.00	13/04/2008	37.40
12/04/2008	2623.20	05/07/2008	65.80	10/05/2008	22.10	10/05/2008	28.20	22/04/2008	15.60	14/04/2008	47.80
13/04/2008	1763.00	06/07/2008	35.50	11/05/2008	30.70	11/05/2008	31.90	23/04/2008	14.20	15/04/2008	48.80
14/04/2008	1260.10	07/07/2008	44.80	12/05/2008	29.10	12/05/2008	34.70	24/04/2008	13.70	16/04/2008	43.80
15/04/2008	1854.10	06/10/2008	79.00	13/05/2008	17.50	13/05/2008	28.90	25/04/2008	12.80	18/04/2008	68.90
16/04/2008	1287.70	07/10/2008	79.00	14/05/2008	59.30	14/05/2008	44.60	26/04/2008	22.80	19/04/2008	53.40
18/04/2008	1105.30	08/10/2008	36.50	15/05/2008	34.60	15/05/2008	33.80	27/04/2008	16.90	20/04/2008	43.40
19/04/2008	1210.80	09/10/2008	71.50	16/05/2008	32.60	16/05/2008	32.40	28/04/2008	16.80	21/04/2008	47.00
20/04/2008	1215.60	10/10/2008	167.00	17/05/2008	22.60	17/05/2008	27.50	29/04/2008	18.10	22/04/2008	47.50
21/04/2008	1335.10	11/10/2008	176.20	18/05/2008	23.20	18/05/2008	25.50	30/04/2008	19.80	23/04/2008	40.50
22/04/2008	1253.20	12/10/2008	133.40	19/05/2008	22.40	19/05/2008	26.60	01/05/2008	12.10	24/04/2008	39.70
23/04/2008	1784.80	13/10/2008	175.00	20/05/2008	19.70	20/05/2008	29.30	02/05/2008	11.30	25/04/2008	40.10
24/04/2008	1734.20	19/10/2008	183.70	21/05/2008	12.80	21/05/2008	19.30	03/05/2008	12.80	26/04/2008	47.50
25/04/2008	1519.90	20/10/2008	284.70	22/05/2008	39.80	22/05/2008	86.60	04/05/2008	13.10	27/04/2008	48.80
26/04/2008	1508.80	21/10/2008	216.80	23/05/2008	27.80	23/05/2008	68.30	05/05/2008	15.60	28/04/2008	44.40
27/04/2008	1432.90	27/10/2008	50.00	24/05/2008	21.80	24/05/2008	61.60	06/05/2008	9.80	29/04/2008	54.00
28/04/2008	2228.20	28/10/2008	143.40	25/05/2008	29.10	25/05/2008	69.40	07/05/2008	16.80	30/04/2008	49.50
29/04/2008	3815.90	29/10/2008	184.00	26/05/2008	30.60	26/05/2008	74.40	08/05/2008	16.00	01/05/2008	49.80
30/04/2008	3492.40	30/10/2008	181.40	27/05/2008	36.00	27/05/2008	78.10	09/05/2008	9.50	02/05/2008	49.20
01/05/2008	2045.30	31/10/2008	212.60	28/05/2008	32.60	28/05/2008	71.60	10/05/2008	8.90	03/05/2008	33.40
02/05/2008	2674.00	01/11/2008	136.10	29/05/2008	19.20	29/05/2008	52.80	11/05/2008	8.90	04/05/2008	27.70
03/05/2008	2746.30	02/11/2008	274.80	30/05/2008	22.90	30/05/2008	59.90	12/05/2008	10.50	05/05/2008	29.90
04/05/2008	1870.00	03/11/2008	150.10	31/05/2008	23.60	31/05/2008	55.50	13/05/2008	11.00	06/05/2008	51.20
05/05/2008	2146.40	04/11/2008	242.70	01/06/2008	17.90	01/06/2008	51.90	14/05/2008	14.20	07/05/2008	34.30
06/05/2008	1867.90	05/11/2008	220.60	02/06/2008	26.00	02/06/2008	74.90	15/05/2008	8.30	08/05/2008	35.50
07/05/2008	2586.60	06/11/2008	173.40	03/06/2008	28.40	03/06/2008	52.80	16/05/2008	8.40	09/05/2008	39.10
08/05/2008	2354.30	07/11/2008	303.50	04/06/2008	26.20	04/06/2008	54.10	17/05/2008	6.60	10/05/2008	47.40
09/05/2008	1547.40	08/11/2008	316.70	05/06/2008	20.60	05/06/2008	41.00	18/05/2008	7.70	11/05/2008	37.10
10/05/2008	1906.30	09/11/2008	342.50	06/06/2008	23.90	06/06/2008	41.80	19/05/2008	7.40	12/05/2008	37.50
11/05/2008	1781.10	10/11/2008	357.10	07/06/2008	22.50	07/06/2008	32.80	20/05/2008	6.90	13/05/2008	43.10
12/05/2008	2346.30	11/11/2008	290.90	08/06/2008	19.20	08/06/2008	33.30	21/05/2008	5.10	14/05/2008	14.30

Date	CO	Date	PM2.5	Date	NO	Date	NO <sub>2</sub>	Date	SO <sub>2</sub>	Date	O <sub>3</sub>
13/05/2008	1886.40	12/11/2008	300.20	09/06/2008	18.10	09/06/2008	32.10	22/05/2008	7.70	15/05/2008	25.90
14/05/2008	3755.20	13/11/2008	255.90	10/06/2008	18.60	10/06/2008	31.60	23/05/2008	6.00	16/05/2008	27.20
15/05/2008	2461.00	14/11/2008	186.80	11/06/2008	23.10	11/06/2008	29.50	24/05/2008	6.40	17/05/2008	45.80
16/05/2008	1996.40	15/11/2008	233.20	12/06/2008	25.50	12/06/2008	29.90	25/05/2008	7.20	18/05/2008	31.90
17/05/2008	1925.30	16/11/2008	249.70	13/06/2008	18.40	13/06/2008	20.80	26/05/2008	7.90	19/05/2008	27.70
18/05/2008	2175.90	17/11/2008	214.40	14/06/2008	15.00	14/06/2008	26.80	27/05/2008	10.50	20/05/2008	33.80
19/05/2008	2263.50	18/11/2008	221.10	15/06/2008	20.20	15/06/2008	18.10	28/05/2008	10.90	21/05/2008	33.50
20/05/2008	1877.20	19/11/2008	205.50	16/06/2008	25.10	16/06/2008	24.00	29/05/2008	9.60	22/05/2008	13.00
21/05/2008	1658.50	20/11/2008	100.60	17/06/2008	18.50	17/06/2008	22.80	30/05/2008	10.40	23/05/2008	23.50
22/05/2008	3569.40	21/11/2008	101.20	18/06/2008	22.40	18/06/2008	26.40	31/05/2008	10.30	24/05/2008	31.70
23/05/2008	2501.90	22/11/2008	107.30	19/06/2008	23.00	19/06/2008	21.40	01/06/2008	10.50	25/05/2008	48.20
24/05/2008	2419.90	23/11/2008	137.90	20/06/2008	22.60	20/06/2008	25.30	02/06/2008	14.60	26/05/2008	43.80
25/05/2008	1832.70	24/11/2008	157.10	21/06/2008	18.60	21/06/2008	36.60	03/06/2008	11.40	27/05/2008	47.40
26/05/2008	2315.70	25/11/2008	213.60	22/06/2008	16.10	22/06/2008	31.10	04/06/2008	12.90	28/05/2008	37.60
27/05/2008	2593.70	26/11/2008	307.20	23/06/2008	20.60	23/06/2008	27.90	05/06/2008	9.30	29/05/2008	53.30
28/05/2008	2403.70	27/11/2008	313.20	24/06/2008	20.20	24/06/2008	33.60	06/06/2008	11.10	30/05/2008	47.70
29/05/2008	1082.50	28/11/2008	198.60	25/06/2008	17.50	25/06/2008	32.30	07/06/2008	9.70	31/05/2008	30.50
30/05/2008	2167.60	29/11/2008	142.80	26/06/2008	30.20	26/06/2008	42.90	08/06/2008	9.00	01/06/2008	38.70
31/05/2008	1834.00	30/11/2008	142.90	27/06/2008	25.10	27/06/2008	29.60	09/06/2008	9.70	02/06/2008	42.20
01/06/2008	2371.00	01/12/2008	143.00	28/06/2008	20.40	28/06/2008	44.60	10/06/2008	10.30	03/06/2008	21.70
02/06/2008	2849.50	02/12/2008	176.20	29/06/2008	21.50	29/06/2008	38.10	11/06/2008	10.60	04/06/2008	66.60
03/06/2008	2368.60	03/12/2008	226.60	30/06/2008	18.50	30/06/2008	45.90	12/06/2008	13.50	05/06/2008	27.30
04/06/2008	2297.80	04/12/2008	194.20	01/07/2008	22.10	01/07/2008	39.50	13/06/2008	9.10	06/06/2008	34.30
05/06/2008	2623.40	05/12/2008	231.60	02/07/2008	20.20	02/07/2008	35.90	14/06/2008	8.50	07/06/2008	27.60
06/06/2008	2483.80	06/12/2008	205.50	03/07/2008	22.90	03/07/2008	29.10	15/06/2008	8.70	08/06/2008	38.70
07/06/2008	1908.70	07/12/2008	161.10	04/07/2008	19.40	04/07/2008	22.80	16/06/2008	9.30	09/06/2008	36.50
08/06/2008	1603.00	08/12/2008	204.00	05/07/2008	28.30	05/07/2008	23.50	17/06/2008	8.50	10/06/2008	49.00
09/06/2008	2429.30	09/12/2008	226.40	06/07/2008	26.20	06/07/2008	20.80	18/06/2008	8.50	11/06/2008	43.30
10/06/2008	2652.90	10/12/2008	196.30	07/07/2008	21.70	07/07/2008	21.70	19/06/2008	8.40	12/06/2008	69.80
11/06/2008	2463.60	11/12/2008	108.70	08/07/2008	20.10	08/07/2008	23.50	20/06/2008	7.40	13/06/2008	54.20
12/06/2008	2779.20	12/12/2008	111.60	09/07/2008	24.60	09/07/2008	26.70	21/06/2008	7.30	14/06/2008	45.80
13/06/2008	2834.00	13/12/2008	160.20	10/07/2008	20.60	10/07/2008	18.00	22/06/2008	6.80	15/06/2008	35.80
14/06/2008	1580.80	14/12/2008	178.50	11/07/2008	32.70	11/07/2008	35.30	23/06/2008	7.70	16/06/2008	49.60
15/06/2008	2085.50	15/12/2008	146.30	12/07/2008	22.50	12/07/2008	25.90	24/06/2008	7.50	17/06/2008	45.70
16/06/2008	2777.40	16/12/2008	168.00	13/07/2008	19.20	13/07/2008	22.00	25/06/2008	7.40	18/06/2008	59.90
17/06/2008	2118.40	17/12/2008	164.10	14/07/2008	17.40	14/07/2008	25.40	26/06/2008	8.50	19/06/2008	45.60
18/06/2008	2461.90	18/12/2008	126.20	15/07/2008	20.60	15/07/2008	23.50	27/06/2008	6.80	20/06/2008	53.20
19/06/2008	2165.20	19/12/2008	80.80	16/07/2008	18.50	16/07/2008	22.70	28/06/2008	6.80	21/06/2008	49.80
20/06/2008	2439.80	20/12/2008	246.00	17/07/2008	22.90	17/07/2008	25.00	29/06/2008	7.10	22/06/2008	76.10
21/06/2008	1842.30	21/12/2008	194.30	18/07/2008	22.40	18/07/2008	28.10	30/06/2008	7.70	23/06/2008	78.80
22/06/2008	1685.80	22/12/2008	79.30	19/07/2008	16.10	19/07/2008	23.00	01/07/2008	7.10	24/06/2008	67.70
23/06/2008	2293.00	23/12/2008	130.00	20/07/2008	17.70	20/07/2008	24.80	02/07/2008	7.40	25/06/2008	81.10
24/06/2008	2070.80	24/12/2008	157.20	21/07/2008	16.50	21/07/2008	24.80	03/07/2008	7.40	26/06/2008	75.70
25/06/2008	2261.80	25/12/2008	261.40	22/07/2008	23.60	22/07/2008	28.50	04/07/2008	7.20	27/06/2008	45.80
26/06/2008	2760.40	26/12/2008	306.20	23/07/2008	22.20	23/07/2008	26.10	05/07/2008	8.10	28/06/2008	43.20
27/06/2008	1373.20	27/12/2008	318.00	24/07/2008	26.20	24/07/2008	28.40	06/07/2008	7.30	29/06/2008	51.70
28/06/2008	2047.70	28/12/2008	309.00	25/07/2008	30.40	25/07/2008	39.40	07/07/2008	7.50	30/06/2008	62.80
29/06/2008	1932.80	29/12/2008	237.50	26/07/2008	29.70	26/07/2008	32.00	08/07/2008	7.40	01/07/2008	59.00
30/06/2008	1765.30	30/12/2008	224.00	27/07/2008	27.80	27/07/2008	22.80	09/07/2008	7.10	02/07/2008	77.30
01/07/2008	2164.00	31/12/2008	154.00	28/07/2008	28.60	28/07/2008	31.10	10/07/2008	8.00	03/07/2008	58.10
02/07/2008	2018.00	01/01/2009	216.20	29/07/2008	27.50	29/07/2008	31.60	11/07/2008	7.20	04/07/2008	56.40
03/07/2008	1619.40	02/01/2009	280.90	30/07/2008	27.60	30/07/2008	29.80	12/07/2008	7.60	05/07/2008	44.80
04/07/2008	2187.50	03/01/2009	214.10	31/07/2008	23.70	31/07/2008	16.70	13/07/2008	7.40	06/07/2008	49.60
05/07/2008	2198.00	04/01/2009	218.80	01/08/2008	25.50	01/08/2008	25.90	14/07/2008	7.30	07/07/2008	35.40
06/07/2008	2313.60	05/01/2009	256.40	02/08/2008	28.10	02/08/2008	27.80	15/07/2008	7.40	08/07/2008	35.70
07/07/2008	1728.30	06/01/2009	200.40	03/08/2008	27.10	03/08/2008	30.70	16/07/2008	6.70	09/07/2008	23.40
08/07/2008	1787.10	07/01/2009	110.50	04/08/2008	28.80	04/08/2008	28.10	17/07/2008	7.20	10/07/2008	48.10
09/07/2008	2294.60	08/01/2009	110.70	05/08/2008	34.20	05/08/2008	29.70	18/07/2008	7.00	11/07/2008	24.30
10/07/2008	2154.20	09/01/2009	142.30	06/08/2008	26.30	06/08/2008	31.00	19/07/2008	7.00	12/07/2008	25.10
11/07/2008	2798.40	10/01/2009	153.50	07/08/2008	19.60	07/08/2008	23.20	20/07/2008	7.20	13/07/2008	55.90
12/07/2008	2010.00	16/01/2009	166.80	08/08/2008	30.50	08/08/2008	24.90	21/07/2008	7.20	14/07/2008	61.60
13/07/2008	1782.90	17/01/2009	154.00	09/08/2008	25.50	09/08/2008	29.70	22/07/2008	8.20	15/07/2008	37.80
14/07/2008	1828.90	18/01/2009	168.40	10/08/2008	37.00	10/08/2008	36.30	23/07/2008	8.20	16/07/2008	45.50
15/07/2008	1772.50	19/01/2009	132.00	11/08/2008	30.70	11/08/2008	26.30	24/07/2008	8.70	17/07/2008	42.70
16/07/2008	1646.90	20/01/2009	75.10	12/08/2008	25.10	12/08/2008	19.70	25/07/2008	9.10	18/07/2008	51.70
17/07/2008	1450.60	21/01/2009	78.20	13/08/2008	27.10	13/08/2008	20.00	26/07/2008	9.10	19/07/2008	59.50
18/07/2008	2356.80	22/01/2009	111.20	14/08/2008	31.30	14/08/2008	20.20	27/07/2008	8.90	20/07/2008	32.80
19/07/2008	1712.80	23/01/2009	99.30	15/08/2008	17.60	15/08/2008	15.90	28/07/2008	8.50	21/07/2008	49.60
20/07/2008	1864.80	24/01/2009	109.20	16/08/2008	22.50	16/08/2008	17.90	29/07/2008	9.30	22/07/2008	52.70
21/07/2008	1632.30	25/01/2009	193.00	17/08/2008	21.70	17/08/2008	17.40	30/07/2008	11.30	23/07/2008	41.10
22/07/2008	1929.80	26/01/2009	135.60	18/08/2008	20.20	18/08/2008	17.00	31/07/2008	8.30	24/07/2008	37.90
23/07/2008	1888.90	27/01/2009	154.90	19/08/2008	18.90	19/08/2008	18.60	01/08/2008	8.80	25/07/2008	61.20

Date	CO	Date	PM2.5	Date	NO	Date	NO <sub>2</sub>	Date	SO <sub>2</sub>	Date	O <sub>3</sub>
24/07/2008	1398.10	28/01/2009	99.80	20/08/2008	16.00	20/08/2008	33.10	02/08/2008	8.50	26/07/2008	42.30
25/07/2008	2486.00	29/01/2009	124.70	21/08/2008	19.50	21/08/2008	23.10	03/08/2008	9.70	27/07/2008	43.90
26/07/2008	1924.30	30/01/2009	107.80	22/08/2008	28.70	22/08/2008	20.90	04/08/2008	9.00	28/07/2008	53.80
27/07/2008	2072.90	31/01/2009	86.20	23/08/2008	45.40	23/08/2008	34.30	05/08/2008	9.00	29/07/2008	57.80
28/07/2008	2084.10	01/02/2009	84.90	24/08/2008	30.90	24/08/2008	31.80	06/08/2008	9.10	30/07/2008	46.90
29/07/2008	2013.70	02/02/2009	132.20	25/08/2008	20.10	25/08/2008	44.60	07/08/2008	8.30	31/07/2008	51.30
30/07/2008	1735.80	03/02/2009	203.20	26/08/2008	24.40	26/08/2008	12.80	08/08/2008	5.90	01/08/2008	41.30
31/07/2008	1540.30	04/02/2009	213.90	27/08/2008	16.10	27/08/2008	8.60	09/08/2008	5.10	02/08/2008	49.30
01/08/2008	1605.10	05/02/2009	215.70	28/08/2008	15.50	28/08/2008	15.20	10/08/2008	5.20	03/08/2008	37.40
02/08/2008	1591.40	06/02/2009	215.60	29/08/2008	13.00	29/08/2008	13.50	11/08/2008	7.60	04/08/2008	45.90
03/08/2008	1287.10	07/02/2009	215.00	30/08/2008	16.80	30/08/2008	9.70	12/08/2008	8.10	05/08/2008	55.50
04/08/2008	1640.70	08/02/2009	214.10	31/08/2008	15.40	31/08/2008	6.70	13/08/2008	9.10	06/08/2008	49.00
05/08/2008	1841.50	09/02/2009	214.50	01/09/2008	14.40	01/09/2008	11.00	14/08/2008	10.70	07/08/2008	91.00
06/08/2008	1211.60	10/02/2009	187.40	02/09/2008	10.00	02/09/2008	7.30	15/08/2008	7.40	08/08/2008	122.40
07/08/2008	636.10	11/02/2009	84.50	05/09/2008	16.80	05/09/2008	27.70	16/08/2008	7.80	09/08/2008	106.00
08/08/2008	2131.20	12/02/2009	85.80	06/09/2008	14.20	06/09/2008	28.10	17/08/2008	8.10	10/08/2008	136.90
09/08/2008	1578.00	13/02/2009	100.30	07/09/2008	16.00	07/09/2008	27.80	18/08/2008	8.60	11/08/2008	128.60
10/08/2008	1645.40	14/02/2009	111.80	08/09/2008	14.50	08/09/2008	27.00	19/08/2008	7.80	12/08/2008	72.90
11/08/2008	1837.20	15/02/2009	64.70	09/09/2008	13.90	09/09/2008	20.10	20/08/2008	8.40	13/08/2008	62.80
12/08/2008	1591.00	16/02/2009	82.30	10/09/2008	16.20	10/09/2008	15.50	21/08/2008	8.50	14/08/2008	33.10
13/08/2008	1537.50	17/02/2009	120.20	11/09/2008	25.70	11/09/2008	15.60	22/08/2008	8.60	15/08/2008	45.60
14/08/2008	1635.40	18/02/2009	86.60	12/09/2008	26.40	12/09/2008	25.60	23/08/2008	9.40	16/08/2008	47.60
15/08/2008	1359.90	19/02/2009	74.90	13/09/2008	18.90	13/09/2008	20.10	24/08/2008	8.60	17/08/2008	51.70
16/08/2008	1106.30	20/02/2009	91.60	14/09/2008	16.50	14/09/2008	15.80	25/08/2008	8.70	18/08/2008	62.90
17/08/2008	902.60	21/02/2009	60.80	15/09/2008	16.90	15/09/2008	12.70	26/08/2008	9.10	19/08/2008	48.70
18/08/2008	1347.30	22/02/2009	71.70	16/09/2008	12.80	16/09/2008	17.50	27/08/2008	9.00	20/08/2008	63.60
19/08/2008	1155.30	23/02/2009	102.30	17/09/2008	14.20	17/09/2008	24.60	28/08/2008	8.90	21/08/2008	63.40
20/08/2008	1512.60	24/02/2009	147.90	18/09/2008	17.30	18/09/2008	24.00	29/08/2008	7.60	22/08/2008	43.00
21/08/2008	1603.50	25/02/2009	82.80	19/09/2008	16.90	19/09/2008	19.10	30/08/2008	9.70	23/08/2008	50.80
22/08/2008	2014.30	26/02/2009	61.20	20/09/2008	15.60	20/09/2008	19.10	31/08/2008	8.40	24/08/2008	78.90
23/08/2008	2600.40	27/02/2009	57.10	21/09/2008	21.30	21/09/2008	23.40	01/09/2008	9.10	25/08/2008	64.60
24/08/2008	1006.40	28/02/2009	63.00	22/09/2008	19.40	22/09/2008	24.40	02/09/2008	9.40	26/08/2008	74.80
25/08/2008	1817.70	01/03/2009	60.80	23/09/2008	11.80	23/09/2008	74.20	05/09/2008	8.70	27/08/2008	64.90
26/08/2008	2082.70	02/03/2009	80.70	24/09/2008	14.20	24/09/2008	142.80	06/09/2008	6.80	28/08/2008	48.00
27/08/2008	1711.30	03/03/2009	114.10	25/09/2008	14.50	25/09/2008	143.30	07/09/2008	5.70	29/08/2008	71.40
28/08/2008	1379.20	04/03/2009	104.80	26/09/2008	16.10	26/09/2008	156.60	08/09/2008	7.90	30/08/2008	70.10
29/08/2008	1169.50	05/03/2009	99.90	27/09/2008	22.00	27/09/2008	185.70	09/09/2008	9.20	31/08/2008	80.70
30/08/2008	1979.50	06/03/2009	72.20	28/09/2008	17.50	28/09/2008	151.20	10/09/2008	8.00	01/09/2008	70.10
31/08/2008	1392.20	07/03/2009	80.30	29/09/2008	21.30	29/09/2008	188.40	11/09/2008	7.60	02/09/2008	78.80
01/09/2008	1794.70	08/03/2009	70.00	30/09/2008	35.80	30/09/2008	316.90	12/09/2008	8.40	05/09/2008	50.40
02/09/2008	1603.60	09/03/2009	122.90	06/10/2008	23.60	06/10/2008	130.00	13/09/2008	7.80	06/09/2008	70.40
05/09/2008	1725.10	10/03/2009	83.60	07/10/2008	15.90	07/10/2008	91.40	14/09/2008	6.60	07/09/2008	71.00
06/09/2008	2028.60	11/03/2009	64.70	08/10/2008	32.50	08/10/2008	104.30	15/09/2008	7.40	08/09/2008	74.70
07/09/2008	1892.10	12/03/2009	53.90	09/10/2008	17.60	09/10/2008	66.20	16/09/2008	9.00	09/09/2008	53.00
08/09/2008	2029.70	13/03/2009	98.10	10/10/2008	13.40	10/10/2008	59.00	17/09/2008	6.90	10/09/2008	90.40
09/09/2008	1785.40	14/03/2009	105.80	11/10/2008	8.20	11/10/2008	41.20	18/09/2008	8.00	11/09/2008	52.70
10/09/2008	1730.20	15/03/2009	144.40	12/10/2008	41.60	12/10/2008	126.60	19/09/2008	8.10	12/09/2008	66.10
11/09/2008	2115.40	16/03/2009	136.00	13/10/2008	36.70	13/10/2008	119.40	20/09/2008	7.90	13/09/2008	77.40
12/09/2008	2164.50	17/03/2009	147.90	19/10/2008	52.10	19/10/2008	127.50	21/09/2008	8.30	14/09/2008	94.40
13/09/2008	2031.20	18/03/2009	131.00	20/10/2008	41.10	20/10/2008	110.10	22/09/2008	8.40	15/09/2008	78.00
14/09/2008	1939.60	19/03/2009	101.00	21/10/2008	39.10	21/10/2008	124.60	23/09/2008	7.20	16/09/2008	98.90
15/09/2008	2292.40	20/03/2009	20.30	22/10/2008	51.50	22/10/2008	157.90	24/09/2008	4.90	17/09/2008	54.80
16/09/2008	2157.60	21/03/2009	71.40	23/10/2008	47.70	23/10/2008	148.60	25/09/2008	5.00	18/09/2008	56.80
17/09/2008	1918.80	22/03/2009	86.70	24/10/2008	52.10	24/10/2008	173.20	26/09/2008	5.00	19/09/2008	54.00
18/09/2008	1739.70	23/03/2009	74.20	25/10/2008	50.90	25/10/2008	163.60	27/09/2008	5.70	20/09/2008	57.30
19/09/2008	1869.20	24/03/2009	89.20	26/10/2008	56.60	26/10/2008	157.20	28/09/2008	5.50	21/09/2008	52.50
20/09/2008	1653.50	25/03/2009	58.20	27/10/2008	33.40	27/10/2008	108.70	29/09/2008	5.30	22/09/2008	73.80
21/09/2008	1711.30	26/03/2009	75.30	28/10/2008	16.10	28/10/2008	79.20	30/09/2008	6.60	23/09/2008	62.80
22/09/2008	2025.90	27/03/2009	62.90	29/10/2008	38.40	29/10/2008	125.60	06/10/2008	6.60	24/09/2008	63.90
23/09/2008	1399.90	28/03/2009	101.30	30/10/2008	25.00	30/10/2008	88.40	07/10/2008	7.80	25/09/2008	47.20
24/09/2008	1693.20	29/03/2009	79.90	31/10/2008	7.80	31/10/2008	50.00	08/10/2008	8.90	26/09/2008	32.80
25/09/2008	1889.10	30/03/2009	75.70	01/11/2008	15.50	01/11/2008	64.00	09/10/2008	7.70	27/09/2008	40.70
26/09/2008	2021.20	31/03/2009	52.50	02/11/2008	23.30	02/11/2008	88.00	10/10/2008	7.20	28/09/2008	59.20
27/09/2008	2397.70	10/04/2009	24.90	03/11/2008	11.00	03/11/2008	37.40	11/10/2008	7.10	29/09/2008	45.10
28/09/2008	1524.40	11/04/2009	45.40	04/11/2008	22.40	04/11/2008	82.20	12/10/2008	8.00	30/09/2008	96.80
29/09/2008	2182.70	12/04/2009	82.60	05/11/2008	34.80	05/11/2008	100.10	13/10/2008	12.30	06/10/2008	41.70
30/09/2008	2687.10	13/04/2009	84.60	06/11/2008	35.60	06/11/2008	84.80	19/10/2008	9.70	07/10/2008	48.90
06/10/2008	2656.80	14/04/2009	57.90	07/11/2008	31.10	07/11/2008	80.10	20/10/2008	10.00	08/10/2008	38.60
07/10/2008	2086.60	15/04/2009	41.50	08/11/2008	4.00	08/11/2008	5.10	21/10/2008	11.20	09/10/2008	42.90
08/10/2008	3381.70	24/05/2009	45.10	09/11/2008	4.00	09/11/2008	4.80	22/10/2008	9.50	10/10/2008	51.30
09/10/2008	123.00	25/05/2009	49.20	10/11/2008	2.20	10/11/2008	2.60	23/10/2008	10.00	11/10/2008	66.20
10/10/2008	45.40	26/05/2009	54.80	11/11/2008	72.30	11/11/2008	93.60	24/10/2008	8.20	12/10/2008	69.90



Date	CO	Date	PM2.5	Date	NO	Date	NO <sub>2</sub>	Date	SO <sub>2</sub>	Date	O <sub>3</sub>
11/10/2008	15.70	27/05/2009	85.10	12/11/2008	98.60	12/11/2008	155.20	25/10/2008	10.10	13/10/2008	46.40
12/10/2008	601.90	28/05/2009	75.40	13/11/2008	61.20	13/11/2008	106.80	26/10/2008	8.90	19/10/2008	73.00
13/10/2008	553.30	29/05/2009	37.10	14/11/2008	52.50	14/11/2008	92.70	27/10/2008	8.50	20/10/2008	56.70
19/10/2008	3616.70	30/05/2009	40.70	15/11/2008	132.20	15/11/2008	160.90	28/10/2008	8.90	21/10/2008	53.20
20/10/2008	4314.50	31/05/2009	47.20	16/11/2008	107.00	16/11/2008	144.30	29/10/2008	17.20	22/10/2008	41.10
21/10/2008	4866.30	01/06/2009	95.40	17/11/2008	70.90	17/11/2008	107.20	30/10/2008	16.80	23/10/2008	36.00
22/10/2008	4010.60	02/06/2009	100.40	18/11/2008	45.20	18/11/2008	84.70	31/10/2008	14.20	24/10/2008	39.00
23/10/2008	2999.70	03/06/2009	103.10	19/11/2008	66.80	19/11/2008	117.70	01/11/2008	10.90	25/10/2008	24.80
24/10/2008	4936.00	04/06/2009	100.30	20/11/2008	13.60	20/11/2008	40.60	02/11/2008	17.30	26/10/2008	7.70
25/10/2008	3155.90	05/06/2009	99.10	21/11/2008	12.50	21/11/2008	39.60	03/11/2008	18.20	27/10/2008	24.40
26/10/2008	245.40	06/06/2009	83.10	22/11/2008	13.70	22/11/2008	45.10	04/11/2008	22.40	28/10/2008	44.40
27/10/2008	1206.80	07/06/2009	73.40	23/11/2008	13.60	23/11/2008	48.40	05/11/2008	19.50	29/10/2008	27.60
28/10/2008	2278.90	08/06/2009	36.30	24/11/2008	13.50	24/11/2008	50.90	06/11/2008	22.50	30/10/2008	26.30
29/10/2008	3557.60	09/06/2009	36.30	25/11/2008	82.50	25/11/2008	106.30	07/11/2008	23.80	31/10/2008	32.90
30/10/2008	2098.60	10/06/2009	38.60	26/11/2008	92.40	26/11/2008	111.50	08/11/2008	35.30	01/11/2008	40.30
31/10/2008	2480.90	11/06/2009	61.60	27/11/2008	132.00	27/11/2008	129.30	09/11/2008	28.10	02/11/2008	39.90
01/11/2008	3311.40	12/06/2009	93.80	28/11/2008	35.40	28/11/2008	68.30	10/11/2008	21.10	03/11/2008	32.10
02/11/2008	4031.40	13/06/2009	92.20	29/11/2008	15.30	29/11/2008	42.30	11/11/2008	16.60	04/11/2008	126.60
03/11/2008	3103.10	14/06/2009	76.70	30/11/2008	34.40	30/11/2008	63.60	12/11/2008	14.00	05/11/2008	84.50
04/11/2008	3983.00	15/06/2009	63.20	01/12/2008	74.00	01/12/2008	99.60	13/11/2008	7.90	06/11/2008	26.90
05/11/2008	5277.20	16/06/2009	46.00	02/12/2008	77.20	02/12/2008	87.40	14/11/2008	5.10	07/11/2008	57.40
06/11/2008	4238.00	17/06/2009	54.60	03/12/2008	26.40	03/12/2008	59.90	15/11/2008	14.20	08/11/2008	24.50
07/11/2008	5171.60	18/06/2009	50.10	04/12/2008	38.90	04/12/2008	60.60	16/11/2008	19.70	09/11/2008	27.10
08/11/2008	5986.30	19/06/2009	79.60	05/12/2008	68.50	05/12/2008	84.40	17/11/2008	13.10	10/11/2008	23.00
09/11/2008	3087.20	20/06/2009	67.10	06/12/2008	30.00	06/12/2008	50.30	18/11/2008	11.10	11/11/2008	75.50
10/11/2008	5832.00	21/06/2009	58.00	07/12/2008	21.00	07/12/2008	42.70	19/11/2008	13.20	12/11/2008	297.20
11/11/2008	5878.70	22/06/2009	62.20	08/12/2008	43.90	08/12/2008	62.60	20/11/2008	5.60	13/11/2008	1.90
12/11/2008	5847.90	23/06/2009	29.30	09/12/2008	60.50	09/12/2008	76.90	21/11/2008	6.30	14/11/2008	0.20
13/11/2008	4140.80	24/06/2009	63.90	10/12/2008	36.00	10/12/2008	49.30	22/11/2008	7.20	17/11/2008	42.00
14/11/2008	3779.00	25/06/2009	66.10	11/12/2008	8.50	11/12/2008	22.60	23/11/2008	8.00	18/11/2008	41.20
15/11/2008	6482.80	26/06/2009	83.00	12/12/2008	24.60	12/12/2008	37.30	24/11/2008	7.10	19/11/2008	17.20
16/11/2008	5953.50	27/06/2009	83.00	13/12/2008	37.60	13/12/2008	50.90	25/11/2008	11.60	20/11/2008	35.40
17/11/2008	5264.50	28/06/2009	83.20	14/12/2008	21.40	14/12/2008	37.20	26/11/2008	20.60	21/11/2008	37.20
18/11/2008	4117.50	29/06/2009	84.00	15/12/2008	6.20	15/12/2008	20.50	27/11/2008	26.60	22/11/2008	45.40
19/11/2008	4661.80	30/06/2009	18.10	16/12/2008	5.60	16/12/2008	19.50	28/11/2008	19.80	23/11/2008	42.90
20/11/2008	1927.60	01/07/2009	30.70	17/12/2008	26.00	17/12/2008	42.40	29/11/2008	12.10	24/11/2008	48.40
21/11/2008	1962.80	02/07/2009	30.90	18/12/2008	11.90	18/12/2008	29.10	30/11/2008	12.30	25/11/2008	28.10
22/11/2008	1917.00	03/07/2009	82.60	19/12/2008	11.80	19/12/2008	22.20	01/12/2008	16.90	26/11/2008	28.90
23/11/2008	1995.90	04/07/2009	94.50	20/12/2008	45.20	20/12/2008	50.10	02/12/2008	23.10	27/11/2008	36.10
24/11/2008	2376.20	05/07/2009	85.90	21/12/2008	24.80	21/12/2008	31.30	03/12/2008	18.40	28/11/2008	49.30
25/11/2008	5744.50	06/07/2009	61.70	22/12/2008	11.40	22/12/2008	22.70	04/12/2008	13.00	29/11/2008	38.60
26/11/2008	5963.80	07/07/2009	22.50	23/12/2008	23.00	23/12/2008	39.40	05/12/2008	26.00	30/11/2008	27.00
27/11/2008	7588.30	08/07/2009	12.40	24/12/2008	48.20	24/12/2008	62.30	06/12/2008	31.10	01/12/2008	15.00
28/11/2008	3156.10	09/07/2009	32.30	25/12/2008	92.10	25/12/2008	99.80	07/12/2008	16.30	02/12/2008	32.30
29/11/2008	2237.90	10/07/2009	40.60	26/12/2008	135.90	26/12/2008	143.10	08/12/2008	21.80	03/12/2008	37.40
30/11/2008	3315.90	11/07/2009	47.40	27/12/2008	115.30	27/12/2008	127.40	09/12/2008	17.90	04/12/2008	35.10
01/12/2008	5888.70	12/07/2009	31.90	28/12/2008	117.80	28/12/2008	124.70	10/12/2008	18.80	05/12/2008	39.10
02/12/2008	5347.10	13/07/2009	59.70	29/12/2008	26.70	29/12/2008	48.90	11/12/2008	5.40	06/12/2008	32.10
03/12/2008	3391.30	14/07/2009	54.20	30/12/2008	31.90	30/12/2008	47.40	12/12/2008	5.00	07/12/2008	35.00
04/12/2008	3735.40	15/07/2009	59.00	31/12/2008	17.00	31/12/2008	29.50	13/12/2008	5.00	08/12/2008	14.30
05/12/2008	5388.70	16/07/2009	59.00	01/01/2009	12.60	01/01/2009	29.60	14/12/2008	5.00	09/12/2008	18.50
06/12/2008	2944.00	17/07/2009	59.00	02/01/2009	110.30	02/01/2009	119.00	15/12/2008	5.00	10/12/2008	27.10
07/12/2008	2712.20	18/07/2009	59.00	03/01/2009	46.50	03/01/2009	57.90	16/12/2008	8.60	11/12/2008	29.60
08/12/2008	3666.30	19/07/2009	59.00	04/01/2009	30.80	04/01/2009	46.50	17/12/2008	10.40	12/12/2008	40.10
09/12/2008	4900.80	20/07/2009	59.00	05/01/2009	31.00	05/01/2009	51.70	18/12/2008	10.50	13/12/2008	37.30
10/12/2008	2954.40	09/08/2009	34.00	06/01/2009	21.30	06/01/2009	34.10	19/12/2008	5.20	14/12/2008	36.10
11/12/2008	1736.00	10/08/2009	61.10	07/01/2009	8.70	07/01/2009	22.90	20/12/2008	7.90	15/12/2008	40.10
12/12/2008	2750.90	11/08/2009	60.70	08/01/2009	30.70	08/01/2009	59.10	21/12/2008	17.50	16/12/2008	23.00
13/12/2008	3354.10	12/08/2009	61.10	09/01/2009	17.10	09/01/2009	48.80	22/12/2008	5.30	17/12/2008	28.70
14/12/2008	2532.20	18/08/2009	12.00	10/01/2009	13.70	10/01/2009	41.00	23/12/2008	8.40	18/12/2008	23.20
15/12/2008	2233.00	19/08/2009	12.00	16/01/2009	47.10	16/01/2009	88.20	24/12/2008	8.30	19/12/2008	22.00
16/12/2008	2438.00	20/08/2009	19.60	17/01/2009	43.90	17/01/2009	67.40	25/12/2008	25.10	20/12/2008	10.10
17/12/2008	3077.30	21/08/2009	31.60	18/01/2009	45.30	18/01/2009	66.70	26/12/2008	31.90	21/12/2008	15.50
18/12/2008	2134.20	24/08/2009	24.50	19/01/2009	23.20	19/01/2009	38.00	27/12/2008	43.10	22/12/2008	27.30
19/12/2008	1939.80	25/08/2009	37.70	20/01/2009	9.30	20/01/2009	26.00	28/12/2008	46.80	23/12/2008	29.10
20/12/2008	4446.10	26/08/2009	37.70	21/01/2009	9.70	21/01/2009	30.60	29/12/2008	26.50	24/12/2008	29.60
21/12/2008	2590.80	27/08/2009	53.00	22/01/2009	11.20	22/01/2009	38.70	30/12/2008	22.70	25/12/2008	28.40
22/12/2008	1822.50	28/08/2009	46.10	23/01/2009	8.30	23/01/2009	30.70	31/12/2008	7.80	26/12/2008	20.00
23/12/2008	2407.80	29/08/2009	38.40	24/01/2009	21.10	24/01/2009	43.60	01/01/2009	12.00	27/12/2008	14.90
24/12/2008	3605.90	30/08/2009	48.20	25/01/2009	45.20	25/01/2009	68.00	02/01/2009	22.00	28/12/2008	16.30
25/12/2008	4774.20	31/08/2009	54.90	26/01/2009	26.70	26/01/2009	44.10	03/01/2009	24.50	29/12/2008	22.60
26/12/2008	6958.50	01/09/2009	65.80	27/01/2009	51.80	27/01/2009	80.70	04/01/2009	12.00	30/12/2008	18.30

Date	CO	Date	PM2.5	Date	NO	Date	NO <sub>2</sub>	Date	SO <sub>2</sub>	Date	O <sub>3</sub>
27/12/2008	5478.20	02/09/2009	54.80	28/01/2009	13.70	28/01/2009	42.80	05/01/2009	15.70	31/12/2008	14.90
28/12/2008	5899.70	03/09/2009	55.20	29/01/2009	29.90	29/01/2009	71.90	06/01/2009	19.10	01/01/2009	9.20
29/12/2008	3146.90	04/09/2009	15.30	30/01/2009	26.70	30/01/2009	63.70	07/01/2009	5.70	02/01/2009	20.90
30/12/2008	2858.10	05/09/2009	12.20	31/01/2009	9.50	31/01/2009	35.90	08/01/2009	5.90	03/01/2009	9.90
31/12/2008	2211.20	06/09/2009	12.00	01/02/2009	12.80	01/02/2009	41.30	09/01/2009	6.30	04/01/2009	10.90
01/01/2009	2140.20	07/09/2009	12.50	02/02/2009	52.50	02/02/2009	100.60	10/01/2009	5.10	05/01/2009	26.50
02/01/2009	6578.20	08/09/2009	12.00	03/02/2009	145.00	03/02/2009	271.10	16/01/2009	5.90	06/01/2009	126.30
03/01/2009	2568.90	09/09/2009	13.50	04/02/2009	163.00	04/02/2009	330.40	17/01/2009	7.00	07/01/2009	30.20
04/01/2009	2392.90	10/09/2009	13.40	05/02/2009	82.40	05/02/2009	203.60	18/01/2009	10.40	08/01/2009	29.50
05/01/2009	2886.10	11/09/2009	40.60	06/02/2009	30.60	06/02/2009	87.70	19/01/2009	7.10	09/01/2009	18.50
06/01/2009	2124.60	12/09/2009	42.30	07/02/2009	4.30	10/02/2009	38.90	20/01/2009	9.70	10/01/2009	24.50
07/01/2009	1800.50	13/09/2009	20.60	08/02/2009	4.60	11/02/2009	62.70	21/01/2009	10.20	16/01/2009	29.40
08/01/2009	2116.60	14/09/2009	12.20	09/02/2009	4.70	12/02/2009	71.40	22/01/2009	11.70	17/01/2009	12.40
09/01/2009	1909.70	15/09/2009	12.00	10/02/2009	16.60	13/02/2009	35.50	23/01/2009	11.70	18/01/2009	9.30
10/01/2009	1914.70	16/09/2009	12.30	11/02/2009	15.90	17/02/2009	45.10	24/01/2009	10.40	19/01/2009	14.70
16/01/2009	3982.70	17/09/2009	31.70	12/02/2009	21.60	18/02/2009	75.80	25/01/2009	19.70	20/01/2009	28.60
17/01/2009	3265.80	18/09/2009	33.10	13/02/2009	11.50	19/02/2009	75.70	26/01/2009	14.20	21/01/2009	33.20
18/01/2009	3006.20	19/09/2009	50.90	14/02/2009	4.40	20/02/2009	94.70	27/01/2009	14.20	22/01/2009	32.30
19/01/2009	2172.90	21/09/2009	54.00	15/02/2009	4.50	21/02/2009	63.90	28/01/2009	4.90	23/01/2009	41.40
20/01/2009	1668.40	22/09/2009	54.60	16/02/2009	4.70	22/02/2009	78.80	29/01/2009	4.80	24/01/2009	35.90
21/01/2009	1759.20	23/09/2009	42.70	17/02/2009	11.50	23/02/2009	193.60	30/01/2009	5.80	25/01/2009	14.10
22/01/2009	1870.60	24/09/2009	67.90	18/02/2009	15.70	24/02/2009	193.70	31/01/2009	5.00	26/01/2009	31.20
23/01/2009	1757.20	25/09/2009	53.40	19/02/2009	21.30	25/02/2009	73.50	01/02/2009	5.00	27/01/2009	12.60
24/01/2009	2405.40	26/09/2009	65.70	20/02/2009	25.90	26/02/2009	66.00	02/02/2009	7.00	28/01/2009	28.80
25/01/2009	3096.70	28/09/2009	50.00	21/02/2009	15.00	27/02/2009	60.40	03/02/2009	16.60	29/01/2009	29.20
26/01/2009	2845.60	29/09/2009	14.20	22/02/2009	28.40	28/02/2009	53.10	04/02/2009	10.60	30/01/2009	30.50
27/01/2009	2987.20	01/10/2009	30.90	23/02/2009	94.30	01/03/2009	54.50	05/02/2009	6.60	31/01/2009	34.90
28/01/2009	1945.70	02/10/2009	17.80	24/02/2009	105.20	02/03/2009	91.40	06/02/2009	5.00	01/02/2009	36.80
29/01/2009	2715.20	03/10/2009	45.30	25/02/2009	23.10	03/03/2009	200.10	07/02/2009	5.00	02/02/2009	33.00
30/01/2009	1893.00	04/10/2009	41.50	26/02/2009	13.90	04/03/2009	133.50	08/02/2009	5.00	03/02/2009	39.90
31/01/2009	1800.70	05/10/2009	30.20	27/02/2009	12.20	05/03/2009	76.20	09/02/2009	5.30	04/02/2009	27.60
01/02/2009	1836.80	06/10/2009	29.80	28/02/2009	10.80	06/03/2009	138.60	10/02/2009	8.50	05/02/2009	21.90
02/02/2009	3449.20	07/10/2009	18.90	01/03/2009	11.80	07/03/2009	129.00	11/02/2009	5.50	06/02/2009	24.30
03/02/2009	5574.70	09/10/2009	29.60	02/03/2009	28.30	08/03/2009	81.90	12/02/2009	5.40	07/02/2009	34.40
04/02/2009	4936.70	10/10/2009	92.20	03/03/2009	76.60	09/03/2009	149.50	13/02/2009	5.60	08/02/2009	44.50
05/02/2009	3124.10	14/10/2009	33.30	04/03/2009	39.50	10/03/2009	116.10	14/02/2009	7.60	09/02/2009	33.00
06/02/2009	2341.90	15/10/2009	192.90	05/03/2009	14.30	11/03/2009	37.90	15/02/2009	5.00	10/02/2009	17.20
07/02/2009	1777.80	16/10/2009	231.20	06/03/2009	45.50	12/03/2009	66.10	16/02/2009	4.60	11/02/2009	24.60
08/02/2009	1731.10	17/10/2009	170.20	07/03/2009	40.20	13/03/2009	227.70	17/02/2009	7.10	12/02/2009	24.70
09/02/2009	2303.90	18/10/2009	345.90	08/03/2009	18.10	14/03/2009	338.80	18/02/2009	7.40	13/02/2009	31.80
10/02/2009	2570.00	19/10/2009	252.30	09/03/2009	44.30	15/03/2009	330.50	19/02/2009	6.30	14/02/2009	37.50
11/02/2009	1709.90	20/10/2009	162.20	10/03/2009	34.20	16/03/2009	250.00	20/02/2009	8.70	15/02/2009	39.70
12/02/2009	1841.20	21/10/2009	158.60	11/03/2009	6.40	17/03/2009	282.90	21/02/2009	8.30	16/02/2009	41.00
13/02/2009	3076.50	22/10/2009	240.40	12/03/2009	10.10	18/03/2009	390.40	22/02/2009	6.80	17/02/2009	43.30
14/02/2009	1760.10	23/10/2009	206.40	13/03/2009	42.80	19/03/2009	356.00	23/02/2009	10.70	18/02/2009	40.60
15/02/2009	1657.80	24/10/2009	151.30	14/03/2009	83.50	20/03/2009	171.60	24/02/2009	17.60	19/02/2009	44.30
16/02/2009	1920.50	25/10/2009	217.20	15/03/2009	91.60	21/03/2009	124.30	25/02/2009	11.50	20/02/2009	38.20
17/02/2009	1693.20	26/10/2009	243.50	16/03/2009	55.60	22/03/2009	192.40	26/02/2009	10.00	21/02/2009	35.50
18/02/2009	1130.90	27/10/2009	260.80	17/03/2009	57.30	23/03/2009	237.00	27/02/2009	8.10	22/02/2009	34.40
19/02/2009	1581.20	17/02/2010	51.00	18/03/2009	61.50	24/03/2009	205.70	28/02/2009	7.10	23/02/2009	29.80
20/02/2009	1700.30	18/02/2010	135.70	19/03/2009	53.40	25/03/2009	205.50	01/03/2009	6.70	24/02/2009	36.10
21/02/2009	1331.10	19/02/2010	186.60	20/03/2009	25.20	26/03/2009	188.40	02/03/2009	8.30	25/02/2009	34.60
22/02/2009	1566.90	24/02/2010	218.60	21/03/2009	11.60	27/03/2009	210.20	03/03/2009	14.40	26/02/2009	47.60
23/02/2009	3044.40	25/02/2010	142.10	22/03/2009	23.90	28/03/2009	259.50	04/03/2009	7.90	27/02/2009	50.60
24/02/2009	2583.30	26/02/2010	273.00	23/03/2009	32.50	29/03/2009	284.90	05/03/2009	8.70	28/02/2009	57.20
25/02/2009	191.80	02/03/2010	83.90	24/03/2009	31.20	30/03/2009	110.30	06/03/2009	7.00	01/03/2009	56.70
26/02/2009	4790.20	03/03/2010	129.10	25/03/2009	28.00	31/03/2009	82.50	07/03/2009	9.80	02/03/2009	42.10
27/02/2009	1194.40	04/03/2010	201.70	26/03/2009	26.90	10/04/2009	161.80	08/03/2009	5.80	03/03/2009	21.50
28/02/2009	1143.20	05/03/2010	84.90	27/03/2009	26.60	11/04/2009	146.10	09/03/2009	10.70	04/03/2009	35.80
01/03/2009	1250.30	06/03/2010	112.70	28/03/2009	40.60	12/04/2009	132.40	10/03/2009	9.50	05/03/2009	44.20
02/03/2009	2123.80	07/03/2010	81.20	29/03/2009	45.60	13/04/2009	293.10	11/03/2009	5.70	06/03/2009	58.60
03/03/2009	3204.80	08/03/2010	90.10	30/03/2009	11.90	14/04/2009	610.20	12/03/2009	5.10	07/03/2009	41.70
04/03/2009	2097.30	09/03/2010	126.90	31/03/2009	8.40	15/04/2009	919.20	13/03/2009	12.30	08/03/2009	56.60
05/03/2009	1337.20	10/03/2010	126.00	10/04/2009	15.20	16/04/2009	142.70	14/03/2009	13.20	09/03/2009	38.80
06/03/2009	1910.60	11/03/2010	178.80	11/04/2009	13.20	17/04/2009	177.80	15/03/2009	21.60	10/03/2009	54.40
07/03/2009	1214.20	12/03/2010	183.50	12/04/2009	17.00	18/04/2009	139.40	16/03/2009	16.00	11/03/2009	72.50
08/03/2009	1015.90	13/03/2010	199.00	13/04/2009	29.30	19/04/2009	134.90	17/03/2009	17.20	12/03/2009	64.00
09/03/2009	1422.90	17/03/2010	79.50	14/04/2009	56.80	20/04/2009	216.00	18/03/2009	9.10	13/03/2009	39.50
10/03/2009	1502.50	18/03/2010	339.20	15/04/2009	103.90	21/04/2009	280.70	19/03/2009	11.10	14/03/2009	38.10
11/03/2009	813.30	23/03/2010	152.40	16/04/2009	10.60	22/04/2009	372.50	20/03/2009	6.70	15/03/2009	48.30
12/03/2009	985.70	25/03/2010	191.40	17/04/2009	13.40	23/04/2009	154.90	21/03/2009	6.70	16/03/2009	56.00
13/03/2009	2189.30	26/03/2010	129.50	18/04/2009	11.00	24/04/2009	187.00	22/03/2009	7.30	17/03/2009	59.70

Date	CO	Date	PM2.5	Date	NO	Date	NO <sub>2</sub>	Date	SO <sub>2</sub>	Date	O <sub>3</sub>
14/03/2009	2831.00	30/03/2010	36.30	19/04/2009	11.70	25/04/2009	218.30	23/03/2009	5.50	18/03/2009	43.10
15/03/2009	2540.70	31/03/2010	109.60	20/04/2009	20.10	26/04/2009	206.60	24/03/2009	8.50	19/03/2009	51.70
16/03/2009	2699.70	01/04/2010	197.00	21/04/2009	31.00	27/04/2009	240.30	25/03/2009	9.50	20/03/2009	10.20
17/03/2009	2292.50	02/04/2010	72.60	22/04/2009	47.00	28/04/2009	145.90	26/03/2009	19.00	21/03/2009	51.60
18/03/2009	1894.90	03/04/2010	64.10	23/04/2009	10.80	29/04/2009	41.20	27/03/2009	16.20	22/03/2009	45.10
19/03/2009	2003.40	04/04/2010	111.60	24/04/2009	12.40	30/04/2009	99.50	28/03/2009	17.90	23/03/2009	43.20
20/03/2009	393.60	05/04/2010	107.40	25/04/2009	15.80	01/05/2009	258.00	29/03/2009	15.60	24/03/2009	37.10
21/03/2009	1217.20	06/04/2010	77.20	26/04/2009	14.60	02/05/2009	239.40	30/03/2009	15.60	25/03/2009	25.70
22/03/2009	1165.90	07/04/2010	97.40	27/04/2009	19.00	03/05/2009	199.50	31/03/2009	13.90	26/03/2009	43.50
23/03/2009	680.30	08/04/2010	55.90	28/04/2009	9.20	04/05/2009	180.10	10/04/2009	9.00	27/03/2009	23.20
24/03/2009	1607.10	09/04/2010	121.30	29/04/2009	8.70	05/05/2009	177.10	11/04/2009	10.60	28/03/2009	28.50
25/03/2009	3117.00	10/04/2010	103.40	30/04/2009	8.90	06/05/2009	89.50	12/04/2009	11.50	29/03/2009	29.50
26/03/2009	3048.90	11/04/2010	140.00	01/05/2009	44.80	07/05/2009	65.60	13/04/2009	14.30	30/03/2009	34.90
27/03/2009	2580.80	12/04/2010	119.30	02/05/2009	47.30	08/05/2009	127.40	14/04/2009	7.10	31/03/2009	45.20
28/03/2009	2763.30	13/04/2010	74.00	03/05/2009	33.30	09/05/2009	129.60	15/04/2009	10.30	10/04/2009	58.70
29/03/2009	3128.60	14/04/2010	77.30	04/05/2009	24.30	10/05/2009	200.00	16/04/2009	7.80	11/04/2009	58.80
30/03/2009	2711.60	15/04/2010	27.20	05/05/2009	29.10	11/05/2009	157.40	17/04/2009	11.90	12/04/2009	48.20
31/03/2009	2654.70	16/04/2010	13.10	06/05/2009	13.30	12/05/2009	213.50	18/04/2009	10.40	13/04/2009	44.80
13/04/2009	773.80	17/04/2010	69.50	07/05/2009	9.60	13/05/2009	183.70	19/04/2009	9.70	14/04/2009	53.50
14/04/2009	2494.60	18/04/2010	61.90	08/05/2009	22.60	14/05/2009	184.60	20/04/2009	10.10	15/04/2009	37.60
15/04/2009	2045.00	19/04/2010	111.70	09/05/2009	22.60	15/05/2009	154.00	21/04/2009	12.30	16/04/2009	46.10
16/04/2009	2191.70	20/04/2010	86.90	10/05/2009	58.10	16/05/2009	145.10	22/04/2009	10.00	17/04/2009	53.10
17/04/2009	2643.30	21/04/2010	92.00	11/05/2009	35.70	17/05/2009	132.20	23/04/2009	10.30	18/04/2009	63.70
18/04/2009	2626.90	22/04/2010	121.80	12/05/2009	64.20	24/05/2009	123.40	24/04/2009	10.40	19/04/2009	63.40
19/04/2009	2597.10	23/04/2010	136.70	13/05/2009	42.00	25/05/2009	181.30	25/04/2009	9.90	20/04/2009	54.00
20/04/2009	2986.80	24/04/2010	138.10	14/05/2009	40.90	26/05/2009	202.10	26/04/2009	9.10	21/04/2009	52.60
21/04/2009	2778.70	25/04/2010	138.00	15/05/2009	32.80	27/05/2009	303.10	27/04/2009	9.30	22/04/2009	55.10
22/04/2009	3256.80	26/04/2010	138.00	16/05/2009	31.90	28/05/2009	191.40	28/04/2009	9.90	23/04/2009	68.00
23/04/2009	2300.40	27/04/2010	137.40	17/05/2009	32.10	29/05/2009	202.40	29/04/2009	9.50	24/04/2009	59.50
24/04/2009	2263.60	28/04/2010	137.90	24/05/2009	21.60	30/05/2009	140.40	30/04/2009	12.20	25/04/2009	62.70
25/04/2009	2104.50	29/04/2010	121.50	25/05/2009	38.90	31/05/2009	166.70	01/05/2009	10.00	26/04/2009	67.90
26/04/2009	1547.40	30/04/2010	111.90	26/05/2009	62.30	01/06/2009	126.40	02/05/2009	9.40	27/04/2009	56.00
27/04/2009	1376.10	01/05/2010	111.50	27/05/2009	104.40	02/06/2009	114.70	03/05/2009	9.20	28/04/2009	71.70
28/04/2009	1622.20	02/05/2010	111.60	28/05/2009	54.50	03/06/2009	64.20	04/05/2009	9.30	29/04/2009	161.40
29/04/2009	4135.50	03/05/2010	101.30	29/05/2009	48.90	04/06/2009	82.60	05/05/2009	8.10	30/04/2009	94.20
30/04/2009	3624.40	04/05/2010	119.70	30/05/2009	29.60	05/06/2009	117.30	06/05/2009	8.50	01/05/2009	114.60
01/05/2009	3545.80	05/05/2010	120.00	31/05/2009	38.10	06/06/2009	181.50	07/05/2009	8.00	02/05/2009	87.80
02/05/2009	3894.30	06/05/2010	154.80	01/06/2009	23.40	07/06/2009	138.80	08/05/2009	8.60	03/05/2009	64.50
03/05/2009	3324.30	07/05/2010	95.40	02/06/2009	28.00	08/06/2009	203.10	09/05/2009	8.60	04/05/2009	66.10
04/05/2009	3059.40	08/05/2010	123.90	03/06/2009	12.60	09/06/2009	204.60	10/05/2009	8.70	05/05/2009	55.90
05/05/2009	2387.60	09/05/2010	98.30	04/06/2009	15.70	10/06/2009	178.60	11/05/2009	8.60	06/05/2009	71.10
06/05/2009	63.60	10/05/2010	114.80	05/06/2009	34.70	11/06/2009	131.50	12/05/2009	8.70	07/05/2009	84.60
07/05/2009	783.60	11/05/2010	88.00	06/06/2009	48.80	12/06/2009	98.60	13/05/2009	8.40	08/05/2009	59.20
08/05/2009	2168.80	12/05/2010	96.50	07/06/2009	30.90	13/06/2009	130.20	14/05/2009	8.40	09/05/2009	62.10
09/05/2009	3422.00	13/05/2010	56.40	08/06/2009	61.80	14/06/2009	138.80	15/05/2009	8.20	10/05/2009	28.10
10/05/2009	3212.30	14/05/2010	97.80	09/06/2009	61.40	15/06/2009	112.40	16/05/2009	8.00	11/05/2009	32.90
11/05/2009	3127.50	15/05/2010	87.30	10/06/2009	52.50	16/06/2009	71.70	17/05/2009	8.00	12/05/2009	38.50
12/05/2009	3211.50	16/05/2010	136.00	11/06/2009	26.90	17/06/2009	86.10	24/05/2009	6.60	13/05/2009	35.20
13/05/2009	2869.70	17/05/2010	179.90	12/06/2009	16.60	18/06/2009	103.70	25/05/2009	6.30	14/05/2009	26.40
14/05/2009	3386.40	18/05/2010	137.60	13/06/2009	21.60	19/06/2009	108.70	26/05/2009	7.50	15/05/2009	37.30
15/05/2009	3004.80	19/05/2010	112.80	14/06/2009	34.30	20/06/2009	94.60	27/05/2009	15.60	16/05/2009	35.20
16/05/2009	3170.80	20/05/2010	116.60	15/06/2009	25.30	21/06/2009	104.80	28/05/2009	8.80	17/05/2009	15.40
17/05/2009	2914.60	21/05/2010	93.60	16/06/2009	12.40	22/06/2009	106.90	29/05/2009	5.30	24/05/2009	71.40
24/05/2009	1432.00	22/05/2010	172.10	17/06/2009	12.10	23/06/2009	85.70	30/05/2009	5.10	25/05/2009	35.20
25/05/2009	2303.50	23/05/2010	96.60	18/06/2009	14.40	24/06/2009	88.60	31/05/2009	5.00	26/05/2009	48.40
26/05/2009	2473.20	24/05/2010	116.20	19/06/2009	21.50	25/06/2009	91.40	01/06/2009	4.90	27/05/2009	60.90
27/05/2009	3424.00	25/05/2010	79.30	20/06/2009	11.80	26/06/2009	136.40	02/06/2009	9.80	28/05/2009	47.70
28/05/2009	2429.30	26/05/2010	180.10	21/06/2009	14.60	27/06/2009	132.10	03/06/2009	5.00	29/05/2009	35.70
29/05/2009	2999.00	27/05/2010	149.40	22/06/2009	14.60	28/06/2009	95.30	04/06/2009	5.00	30/05/2009	42.30
30/05/2009	1990.60	28/05/2010	78.90	23/06/2009	12.90	29/06/2009	117.20	05/06/2009	5.00	31/05/2009	28.10
31/05/2009	2269.60	29/05/2010	78.90	24/06/2009	13.80	30/06/2009	79.80	06/06/2009	6.50	01/06/2009	46.50
01/06/2009	1989.50	30/05/2010	87.60	25/06/2009	18.00	01/07/2009	101.10	07/06/2009	5.90	02/06/2009	32.10
02/06/2009	1780.70	31/05/2010	63.20	26/06/2009	28.40	02/07/2009	147.90	08/06/2009	8.10	03/06/2009	49.70
03/06/2009	1935.10	01/06/2010	88.20	27/06/2009	36.30	03/07/2009	211.80	09/06/2009	10.10	04/06/2009	42.90
04/06/2009	2009.30	02/06/2010	58.50	28/06/2009	25.80	04/07/2009	247.40	10/06/2009	9.60	05/06/2009	32.10
05/06/2009	1781.90	03/06/2010	176.10	29/06/2009	26.90	05/07/2009	222.30	11/06/2009	5.20	06/06/2009	31.80
06/06/2009	2784.70	04/06/2010	122.50	30/06/2009	19.10	06/07/2009	249.50	12/06/2009	4.50	07/06/2009	47.30
07/06/2009	1745.10	05/06/2010	205.70	01/07/2009	24.70	07/07/2009	196.90	13/06/2009	5.10	08/06/2009	54.10
08/06/2009	2497.20	06/06/2010	108.50	02/07/2009	35.80	08/07/2009	152.60	14/06/2009	5.00	09/06/2009	60.60
09/06/2009	2463.00	07/06/2010	101.10	03/07/2009	64.50	09/07/2009	130.40	15/06/2009	4.90	10/06/2009	36.10
10/06/2009	1700.60	08/06/2010	99.10	04/07/2009	64.90	10/07/2009	100.20	16/06/2009	4.90	11/06/2009	43.10
11/06/2009	1529.20	09/06/2010	96.40	05/07/2009	64.00	11/07/2009	111.80	17/06/2009	5.20	12/06/2009	56.80

Date	CO	Date	PM2.5	Date	NO	Date	NO <sub>2</sub>	Date	SO <sub>2</sub>	Date	O <sub>3</sub>
12/06/2009	1284.10	10/06/2010	61.40	06/07/2009	84.90	12/07/2009	113.30	18/06/2009	4.90	13/06/2009	63.80
13/06/2009	1632.80	11/06/2010	87.30	07/07/2009	41.80	13/07/2009	182.20	19/06/2009	4.90	14/06/2009	52.10
14/06/2009	2029.40	13/06/2010	74.20	08/07/2009	38.60	14/07/2009	100.60	20/06/2009	5.50	15/06/2009	43.90
15/06/2009	1939.00	14/06/2010	68.00	09/07/2009	37.80	15/07/2009	151.20	21/06/2009	5.50	16/06/2009	68.00
16/06/2009	1674.50	15/06/2010	114.50	10/07/2009	33.40	16/07/2009	135.20	22/06/2009	5.50	17/06/2009	71.80
17/06/2009	1685.50	16/06/2010	117.80	11/07/2009	40.20	17/07/2009	118.20	23/06/2009	5.10	18/06/2009	73.90
18/06/2009	1605.10	17/06/2010	91.70	12/07/2009	22.20	18/07/2009	19.20	24/06/2009	5.20	19/06/2009	69.20
19/06/2009	1683.30	18/06/2010	93.90	13/07/2009	59.30	19/07/2009	0.20	25/06/2009	6.00	20/06/2009	71.60
20/06/2009	1338.40	19/06/2010	107.70	14/07/2009	31.30	09/10/2009	38.90	26/06/2009	4.80	21/06/2009	73.80
21/06/2009	1294.70	20/06/2010	73.20	15/07/2009	63.20	10/10/2009	96.40	27/06/2009	6.40	22/06/2009	72.20
22/06/2009	1445.50	21/06/2010	79.00	16/07/2009	49.00	11/10/2009	66.50	28/06/2009	5.20	23/06/2009	57.70
23/06/2009	1531.40	22/06/2010	109.40	17/07/2009	37.80	12/10/2009	92.60	29/06/2009	4.50	24/06/2009	56.00
24/06/2009	1484.60	23/06/2010	126.50	18/07/2009	7.30	13/10/2009	103.10	30/06/2009	5.30	25/06/2009	49.30
25/06/2009	1224.50	24/06/2010	60.70	19/07/2009	4.00	14/10/2009	75.10	01/07/2009	5.00	26/06/2009	33.90
26/06/2009	2327.20	25/06/2010	12.90	20/07/2009	4.00	15/10/2009	89.20	02/07/2009	5.00	27/06/2009	38.40
27/06/2009	2148.50	03/07/2010	12.40	09/10/2009	8.30	16/10/2009	89.10	03/07/2009	7.00	28/06/2009	32.10
28/06/2009	1849.40	04/07/2010	56.70	10/10/2009	46.00	17/10/2009	21.60	04/07/2009	7.50	29/06/2009	25.00
29/06/2009	1972.30	05/07/2010	42.50	11/10/2009	34.30	18/10/2009	26.80	05/07/2009	8.80	30/06/2009	25.10
30/06/2009	1889.00	06/07/2010	73.50	12/10/2009	41.30	19/10/2009	24.30	06/07/2009	8.70	01/07/2009	22.60
01/07/2009	2042.60	07/07/2010	84.80	13/10/2009	48.30	20/10/2009	30.50	07/07/2009	6.40	02/07/2009	25.20
02/07/2009	2218.40	15/07/2010	120.70	14/10/2009	38.30	21/10/2009	43.20	08/07/2009	5.10	03/07/2009	40.20
03/07/2009	2523.00	16/07/2010	35.40	15/10/2009	45.80	22/10/2009	53.20	09/07/2009	5.00	04/07/2009	23.50
04/07/2009	2890.80	17/07/2010	51.70	16/10/2009	52.00	23/10/2009	58.50	10/07/2009	4.90	05/07/2009	43.80
05/07/2009	2527.80	18/07/2010	68.10	17/10/2009	8.60	24/10/2009	80.00	11/07/2009	4.80	06/07/2009	54.50
06/07/2009	2321.30	19/07/2010	28.40	18/10/2009	15.50	25/10/2009	100.70	12/07/2009	5.20	07/07/2009	44.20
07/07/2009	2039.10	01/10/2010	112.30	19/10/2009	9.00	26/10/2009	108.10	13/07/2009	5.00	08/07/2009	22.50
08/07/2009	2356.30	02/10/2010	180.50	20/10/2009	14.80	27/10/2009	103.50	14/07/2009	4.90	09/07/2009	16.00
09/07/2009	2265.80	03/10/2010	182.60	21/10/2009	24.60	28/10/2009	128.50	15/07/2009	5.80	10/07/2009	24.30
10/07/2009	2337.80	04/10/2010	173.30	22/10/2009	25.20	29/10/2009	81.10	16/07/2009	5.70	11/07/2009	26.60
11/07/2009	2387.00	05/10/2010	199.20	23/10/2009	18.50	30/10/2009	49.50	17/07/2009	4.90	12/07/2009	41.50
12/07/2009	2176.70	06/10/2010	176.90	24/10/2009	40.60	31/10/2009	85.50	18/07/2009	5.00	13/07/2009	56.00
13/07/2009	3490.20	07/10/2010	249.50	25/10/2009	57.40	01/11/2009	73.50	19/07/2009	5.00	14/07/2009	108.10
14/07/2009	2427.20	08/10/2010	216.90	26/10/2009	62.90	02/11/2009	62.50	20/07/2009	4.90	15/07/2009	65.50
15/07/2009	2968.20	09/10/2010	161.80	27/10/2009	61.30	03/11/2009	72.40	09/08/2009	7.20	16/07/2009	62.80
16/07/2009	2579.60	10/10/2010	127.00	28/10/2009	78.90	04/11/2009	87.80	10/08/2009	7.90	17/07/2009	58.70
17/07/2009	2296.70	11/10/2010	60.50	29/10/2009	30.70	05/11/2009	115.60	11/08/2009	15.00	18/07/2009	94.00
18/07/2009	2026.10	12/10/2010	81.20	30/10/2009	9.60	06/11/2009	96.20	12/08/2009	74.50	19/07/2009	66.50
19/07/2009	1792.40	13/10/2010	81.10	31/10/2009	53.50	07/11/2009	127.70	14/08/2009	5.00	20/07/2009	71.30
20/07/2009	1411.70	14/10/2010	100.40	01/11/2009	38.40	08/11/2009	128.80	15/08/2009	5.00	09/08/2009	57.60
09/08/2009	158.90	15/10/2010	170.60	02/11/2009	28.80	22/11/2009	357.90	16/08/2009	5.00	10/08/2009	46.80
10/08/2009	701.50	16/10/2010	227.30	03/11/2009	45.20	23/11/2009	192.80	17/08/2009	5.00	11/08/2009	62.50
11/08/2009	1511.30	17/10/2010	87.00	04/11/2009	65.80	24/11/2009	93.20	18/08/2009	5.30	12/08/2009	109.80
12/08/2009	360.60	18/10/2010	67.90	05/11/2009	91.90	25/11/2009	149.80	19/08/2009	10.00	14/08/2009	32.90
14/08/2009	2015.80	19/10/2010	161.20	06/11/2009	65.90	26/11/2009	113.00	20/08/2009	18.50	15/08/2009	36.50
15/08/2009	1606.10	20/10/2010	311.60	07/11/2009	78.20	27/11/2009	96.10	21/08/2009	7.60	16/08/2009	34.90
16/08/2009	1876.90	21/10/2010	313.80	08/11/2009	87.70	28/11/2009	131.70	22/08/2009	22.70	17/08/2009	38.00
17/08/2009	1756.50	22/10/2010	158.00	22/11/2009	304.00	29/11/2009	109.30	23/08/2009	25.80	18/08/2009	55.60
18/08/2009	1489.40	23/10/2010	89.90	23/11/2009	135.40	30/11/2009	184.00	24/08/2009	8.00	19/08/2009	93.20
19/08/2009	2155.30	24/10/2010	119.80	24/11/2009	36.90	01/12/2009	233.50	25/08/2009	8.00	20/08/2009	82.70
20/08/2009	1436.90	25/10/2010	177.00	25/11/2009	96.90	02/12/2009	128.10	26/08/2009	8.00	21/08/2009	36.40
21/08/2009	2443.90	26/10/2010	271.40	26/11/2009	71.50	03/12/2009	181.90	27/08/2009	5.60	22/08/2009	36.90
22/08/2009	2284.50	27/10/2010	288.30	27/11/2009	48.40	04/12/2009	250.70	28/08/2009	7.10	23/08/2009	35.30
23/08/2009	1746.60	28/10/2010	219.80	28/11/2009	78.40	05/12/2009	208.60	29/08/2009	7.90	24/08/2009	35.90
24/08/2009	1650.70	29/10/2010	265.80	29/11/2009	59.50	06/12/2009	143.60	30/08/2009	8.00	25/08/2009	39.20
25/08/2009	1948.30	30/10/2010	358.40	30/11/2009	126.90	07/12/2009	98.40	31/08/2009	8.00	26/08/2009	35.80
26/08/2009	1885.30	31/10/2010	391.60	01/12/2009	179.60	08/12/2009	98.60	01/09/2009	6.40	27/08/2009	41.40
27/08/2009	2582.70	01/11/2010	389.20	02/12/2009	70.40	09/12/2009	176.90	02/09/2009	8.30	28/08/2009	32.80
28/08/2009	2023.20	02/11/2010	348.80	03/12/2009	137.10	10/12/2009	158.20	03/09/2009	6.90	29/08/2009	38.20
29/08/2009	1899.90	03/11/2010	328.70	04/12/2009	200.20	11/12/2009	86.30	04/09/2009	8.00	30/08/2009	43.30
30/08/2009	1785.00	04/11/2010	373.40	05/12/2009	163.90	12/12/2009	73.90	05/09/2009	8.00	31/08/2009	73.00
31/08/2009	2555.10	05/11/2010	442.90	06/12/2009	103.20	13/12/2009	81.90	06/09/2009	7.10	01/09/2009	76.00
01/09/2009	2515.90	06/11/2010	560.40	07/12/2009	56.90	14/12/2009	85.70	07/09/2009	7.10	02/09/2009	46.10
02/09/2009	3193.00	07/11/2010	473.90	08/12/2009	57.80	15/12/2009	113.40	08/09/2009	7.90	03/09/2009	49.80
03/09/2009	2110.60	08/11/2010	291.30	09/12/2009	110.40	16/12/2009	110.00	09/09/2009	8.00	04/09/2009	60.50
04/09/2009	1755.40	09/11/2010	246.60	10/12/2009	106.40	17/12/2009	82.70	10/09/2009	8.00	05/09/2009	38.80
05/09/2009	1666.20	10/11/2010	351.90	11/12/2009	40.60	18/12/2009	103.00	11/09/2009	8.00	06/09/2009	38.90
06/09/2009	1661.50	11/11/2010	479.70	12/12/2009	39.20	19/12/2009	103.00	12/09/2009	8.00	07/09/2009	51.20
07/09/2009	2314.90	12/11/2010	444.30	13/12/2009	51.70	20/12/2009	89.60	13/09/2009	7.90	08/09/2009	59.10
08/09/2009	1852.30	13/11/2010	412.80	14/12/2009	49.00	21/12/2009	74.20	14/09/2009	7.50	09/09/2009	79.50
09/09/2009	1718.00	14/11/2010	293.70	15/12/2009	82.70	22/12/2009	70.90	15/09/2009	8.60	10/09/2009	63.00
10/09/2009	1947.70	15/11/2010	315.70	16/12/2009	79.00	23/12/2009	117.80	16/09/2009	9.80	11/09/2009	46.30
11/09/2009	1284.90	16/11/2010	281.00	17/12/2009	48.60	24/12/2009	121.40	17/09/2009	7.30	12/09/2009	71.10

Date	CO	Date	PM2.5	Date	NO	Date	NO <sub>2</sub>	Date	SO <sub>2</sub>	Date	O <sub>3</sub>
12/09/2009	1498.40	17/11/2010	322.90	18/12/2009	66.70	25/12/2009	47.80	18/09/2009	8.00	13/09/2009	80.20
13/09/2009	2097.70	18/11/2010	125.00	19/12/2009	72.30	28/12/2009	32.40	19/09/2009	8.00	14/09/2009	122.80
14/09/2009	2772.10	19/11/2010	176.10	20/12/2009	53.90	29/12/2009	56.00	21/09/2009	8.00	15/09/2009	119.60
15/09/2009	2298.10	20/11/2010	219.10	21/12/2009	37.10	30/12/2009	101.00	22/09/2009	8.00	16/09/2009	94.40
16/09/2009	2874.10	21/11/2010	175.00	22/12/2009	37.00	31/12/2009	44.40	23/09/2009	8.00	17/09/2009	94.90
17/09/2009	2109.60	22/11/2010	315.50	23/12/2009	85.10	01/01/2010	37.20	24/09/2009	6.50	18/09/2009	100.20
18/09/2009	1757.50	23/11/2010	283.40	24/12/2009	87.00	02/01/2010	46.10	25/09/2009	1.20	19/09/2009	88.30
19/09/2009	1958.60	24/11/2010	126.90	25/12/2009	19.60	03/01/2010	26.90	29/09/2009	0.70	21/09/2009	114.00
21/09/2009	2448.10	25/11/2010	148.00	28/12/2009	6.00	04/01/2010	8.40	30/09/2009	1.80	22/09/2009	72.50
22/09/2009	2554.50	26/11/2010	119.20	29/12/2009	35.40	05/01/2010	52.40	01/10/2009	2.30	23/09/2009	77.00
23/09/2009	1837.50	27/11/2010	140.90	30/12/2009	79.90	06/01/2010	82.90	02/10/2009	5.40	24/09/2009	56.60
24/09/2009	2067.80	28/11/2010	141.00	31/12/2009	25.30	07/01/2010	35.10	03/10/2009	2.90	25/09/2009	57.40
25/09/2009	2643.40	29/11/2010	140.90	01/01/2010	21.20	08/01/2010	21.00	04/10/2009	4.50	26/09/2009	43.30
26/09/2009	1948.40	30/11/2010	140.90	02/01/2010	34.90	09/01/2010	14.50	05/10/2009	1.80	28/09/2009	57.50
28/09/2009	1793.10	01/12/2010	141.00	03/01/2010	15.10	10/01/2010	15.90	06/10/2009	1.50	29/09/2009	16.20
29/09/2009	1854.70	02/12/2010	178.50	04/01/2010	5.70	11/01/2010	21.20	07/10/2009	0.60	30/09/2009	25.50
30/09/2009	2150.10	06/12/2010	409.60	05/01/2010	50.40	12/01/2010	63.30	08/10/2009	2.10	01/10/2009	26.00
01/10/2009	2288.60	07/12/2010	349.80	06/01/2010	79.10	13/01/2010	52.20	09/10/2009	2.50	02/10/2009	40.70
02/10/2009	1953.50	08/12/2010	260.40	07/01/2010	25.90	17/01/2010	65.10	10/10/2009	6.50	03/10/2009	31.60
03/10/2009	1979.70	09/12/2010	246.80	08/01/2010	11.80	18/01/2010	60.20	11/10/2009	4.40	04/10/2009	20.50
04/10/2009	1753.80	10/12/2010	204.40	09/01/2010	7.60	19/01/2010	55.40	12/10/2009	3.70	05/10/2009	20.90
05/10/2009	2018.80	11/12/2010	147.70	10/01/2010	10.00	20/01/2010	63.10	13/10/2009	3.20	06/10/2009	25.40
06/10/2009	2205.00	12/12/2010	121.40	11/01/2010	13.10	21/01/2010	82.40	14/10/2009	1.80	07/10/2009	38.50
07/10/2009	2345.20	13/12/2010	207.80	12/01/2010	30.70	22/01/2010	93.40	15/10/2009	15.50	08/10/2009	35.70
08/10/2009	3415.10	14/12/2010	239.20	13/01/2010	28.90	23/01/2010	91.20	16/10/2009	14.40	09/10/2009	27.00
09/10/2009	2037.10	15/12/2010	160.90	17/01/2010	45.70	24/01/2010	72.20	17/10/2009	17.30	10/10/2009	31.40
10/10/2009	2733.20	16/12/2010	239.40	18/01/2010	28.90	08/02/2010	46.30	18/10/2009	19.60	11/10/2009	43.50
11/10/2009	1325.60	17/12/2010	317.10	19/01/2010	30.10	09/02/2010	51.90	19/10/2009	4.50	12/10/2009	39.20
12/10/2009	2769.70	18/12/2010	295.30	20/01/2010	41.70	10/02/2010	36.10	20/10/2009	3.50	13/10/2009	36.20
13/10/2009	3597.90	19/12/2010	197.80	21/01/2010	50.60	11/02/2010	51.40	21/10/2009	5.80	14/10/2009	48.20
14/10/2009	2547.60	20/12/2010	134.80	22/01/2010	60.90	12/02/2010	75.90	22/10/2009	12.90	15/10/2009	52.40
15/10/2009	3289.00	21/12/2010	177.60	23/01/2010	60.90	13/02/2010	80.50	23/10/2009	10.10	16/10/2009	35.20
16/10/2009	3616.90			24/01/2010	48.70	14/02/2010	36.50	24/10/2009	7.50	17/10/2009	48.00
17/10/2009	1775.70			08/02/2010	20.00	15/02/2010	105.90	25/10/2009	11.40	18/10/2009	51.90
18/10/2009	1489.40			09/02/2010	31.30	16/02/2010	119.70	26/10/2009	12.30	19/10/2009	48.50
19/10/2009	2154.60			10/02/2010	18.20	17/02/2010	59.60	27/10/2009	13.60	20/10/2009	50.00
20/10/2009	1722.10			11/02/2010	18.60	18/02/2010	43.40	28/10/2009	16.50	21/10/2009	45.90
21/10/2009	2015.60			12/02/2010	43.00	19/02/2010	47.20	29/10/2009	11.90	22/10/2009	50.30
22/10/2009	2041.50			13/02/2010	58.80	24/02/2010	74.00	30/10/2009	4.70	23/10/2009	44.90
23/10/2009	1656.10			14/02/2010	8.40	25/02/2010	48.00	31/10/2009	7.40	24/10/2009	61.30
24/10/2009	2279.20			15/02/2010	64.80	26/02/2010	51.20	01/11/2009	15.90	25/10/2009	88.10
25/10/2009	2930.50			16/02/2010	89.10	02/03/2010	36.20	02/11/2009	11.80	26/10/2009	53.30
26/10/2009	3275.50			17/02/2010	33.80	03/03/2010	53.40	03/11/2009	13.60	27/10/2009	72.20
27/10/2009	3241.70			18/02/2010	14.40	04/03/2010	80.20	04/11/2009	14.50	28/10/2009	68.60
28/10/2009	4431.40			19/02/2010	15.80	05/03/2010	31.50	05/11/2009	19.30	29/10/2009	38.10
29/10/2009	2626.60			24/02/2010	45.10	06/03/2010	57.60	06/11/2009	24.10	30/10/2009	33.40
30/10/2009	1170.10			25/02/2010	15.10	07/03/2010	7.10	07/11/2009	12.40	31/10/2009	31.50
31/10/2009	3498.00			26/02/2010	21.20	08/03/2010	2.40	08/11/2009	25.40	01/11/2009	23.00
01/11/2009	2782.60			02/03/2010	6.70	09/03/2010	29.80	22/11/2009	31.30	02/11/2009	14.60
02/11/2009	1839.80			03/03/2010	18.00	10/03/2010	49.30	23/11/2009	57.10	03/11/2009	14.60
03/11/2009	3328.60			04/03/2010	39.30	11/03/2010	43.10	24/11/2009	34.10	04/11/2009	18.30
04/11/2009	4643.90			05/03/2010	9.00	12/03/2010	22.60	25/11/2009	41.40	05/11/2009	14.20
05/11/2009	5552.40			06/03/2010	25.40	13/03/2010	20.00	26/11/2009	32.80	06/11/2009	25.80
06/11/2009	5072.40			07/03/2010	4.50	14/03/2010	9.00	27/11/2009	22.20	07/11/2009	19.90
07/11/2009	6854.50			08/03/2010	3.40	15/03/2010	19.50	28/11/2009	20.30	08/11/2009	12.90
08/11/2009	5058.30			09/03/2010	8.20	16/03/2010	54.50	29/11/2009	22.10	22/11/2009	7.50
22/11/2009	9926.00			10/03/2010	7.00	17/03/2010	41.30	30/11/2009	22.10	23/11/2009	25.20
23/11/2009	26551.90			11/03/2010	16.40	18/03/2010	63.40	01/12/2009	40.50	24/11/2009	24.20
24/11/2009	3271.20			12/03/2010	10.50	19/03/2010	54.90	02/12/2009	36.00	25/11/2009	22.40
25/11/2009	6835.00			13/03/2010	6.80	20/03/2010	54.30	03/12/2009	17.90	26/11/2009	19.30
26/11/2009	4271.90			14/03/2010	3.30	21/03/2010	38.00	04/12/2009	15.80	27/11/2009	21.80
27/11/2009	4745.10			15/03/2010	11.40	22/03/2010	40.20	05/12/2009	18.60	28/11/2009	21.20
28/11/2009	4070.20			16/03/2010	40.40	23/03/2010	40.10	06/12/2009	11.30	29/11/2009	22.50
29/11/2009	2948.20			17/03/2010	28.00	24/03/2010	33.70	07/12/2009	9.10	30/11/2009	22.00
30/11/2009	5658.60			18/03/2010	25.10	25/03/2010	90.20	08/12/2009	0.90	01/12/2009	17.90
01/12/2009	8740.80			19/03/2010	26.40	26/03/2010	135.20	09/12/2009	4.20	02/12/2009	20.00
02/12/2009	3332.20			20/03/2010	37.60	27/03/2010	69.90	10/12/2009	7.00	03/12/2009	20.80
03/12/2009	7229.10			21/03/2010	35.30	28/03/2010	13.50	11/12/2009	5.70	04/12/2009	13.80
04/12/2009	9792.40			22/03/2010	15.60	29/03/2010	24.60	12/12/2009	2.20	05/12/2009	8.70
05/12/2009	4368.20			23/03/2010	54.80	30/03/2010	54.50	13/12/2009	3.20	06/12/2009	15.80
06/12/2009	24.90			24/03/2010	43.40	31/03/2010	13.40	14/12/2009	3.20	07/12/2009	20.50
07/12/2009	1282.90			25/03/2010	20.20	01/04/2010	20.60	15/12/2009	0.80	08/12/2009	17.20

Date	CO	Date	PM2.5	Date	NO	Date	NO <sub>2</sub>	Date	SO <sub>2</sub>	Date	O <sub>3</sub>
08/12/2009	3208.00			26/03/2010	27.30	02/04/2010	100.10	16/12/2009	5.10	09/12/2009	4.50
09/12/2009	5425.80			27/03/2010	14.30	03/04/2010	75.30	17/12/2009	4.30	10/12/2009	10.10
10/12/2009	5811.80			28/03/2010	6.10	04/04/2010	104.20	18/12/2009	3.80	11/12/2009	20.30
11/12/2009	2232.80			29/03/2010	7.60	05/04/2010	75.70	19/12/2009	1.10	12/12/2009	17.40
12/12/2009	2582.20			30/03/2010	14.90	06/04/2010	66.10	20/12/2009	0.70	13/12/2009	13.20
13/12/2009	2427.10			31/03/2010	4.10	07/04/2010	85.90	21/12/2009	0.50	14/12/2009	16.40
14/12/2009	2385.30			01/04/2010	6.30	08/04/2010	76.40	23/12/2009	0.60	15/12/2009	6.90
15/12/2009	4935.80			02/04/2010	13.60	09/04/2010	46.10	24/12/2009	1.00	16/12/2009	13.20
16/12/2009	4455.80			03/04/2010	22.70	10/04/2010	46.70	25/12/2009	0.20	17/12/2009	16.90
17/12/2009	2175.40			04/04/2010	23.80	11/04/2010	42.90	29/12/2009	0.90	18/12/2009	21.90
18/12/2009	4362.90			05/04/2010	17.00	12/04/2010	44.40	30/12/2009	0.40	19/12/2009	22.80
19/12/2009	3998.20			06/04/2010	15.20	13/04/2010	45.50	31/12/2009	2.40	20/12/2009	28.50
20/12/2009	3599.10			07/04/2010	22.10	14/04/2010	42.00	01/01/2010	4.20	21/12/2009	20.20
21/12/2009	2619.70			08/04/2010	23.80	15/04/2010	45.50	02/01/2010	2.30	22/12/2009	21.80
22/12/2009	2061.80			09/04/2010	9.90	20/04/2010	146.00	03/01/2010	1.80	23/12/2009	22.50
23/12/2009	5107.70			10/04/2010	9.80	21/04/2010	49.90	04/01/2010	0.10	24/12/2009	19.40
24/12/2009	4133.30			11/04/2010	9.70	22/04/2010	77.90	05/01/2010	0.30	25/12/2009	17.10
25/12/2009	2217.30			12/04/2010	9.70	23/04/2010	81.90	06/01/2010	4.40	28/12/2009	19.60
28/12/2009	572.20			13/04/2010	9.80	24/04/2010	58.50	07/01/2010	5.30	29/12/2009	20.50
29/12/2009	3081.10			14/04/2010	9.50	25/04/2010	115.80	08/01/2010	10.40	30/12/2009	10.00
30/12/2009	37453.10			15/04/2010	9.60	26/04/2010	156.10	09/01/2010	6.50	31/12/2009	9.50
31/12/2009	2081.80			20/04/2010	40.80	27/04/2010	88.50	10/01/2010	5.70	01/01/2010	17.80
01/01/2010	3202.00			21/04/2010	14.50	28/04/2010	93.40	11/01/2010	5.80	02/01/2010	9.60
02/01/2010	5026.00			22/04/2010	19.30	29/04/2010	123.90	12/01/2010	7.50	03/01/2010	11.90
03/01/2010	1081.60			23/04/2010	18.90	30/04/2010	153.20	13/01/2010	12.50	04/01/2010	17.20
04/01/2010	3018.10			24/04/2010	10.80	01/05/2010	60.60	17/01/2010	12.50	05/01/2010	25.60
05/01/2010	8676.30			25/04/2010	24.60	02/05/2010	84.50	18/01/2010	12.70	06/01/2010	27.10
06/01/2010	8783.50			26/04/2010	36.30	03/05/2010	117.20	19/01/2010	11.40	07/01/2010	16.80
07/01/2010	3296.20			27/04/2010	19.40	04/05/2010	96.20	20/01/2010	15.00	08/01/2010	5.90
08/01/2010	1812.60			28/04/2010	20.70	05/05/2010	100.50	21/01/2010	13.70	09/01/2010	13.30
09/01/2010	1758.70			29/04/2010	22.80	06/05/2010	62.70	22/01/2010	21.60	10/01/2010	11.50
10/01/2010	2445.60			30/04/2010	25.50	07/05/2010	54.60	23/01/2010	18.50	11/01/2010	18.50
11/01/2010	2619.50			01/05/2010	11.10	08/05/2010	67.90	24/01/2010	18.80	12/01/2010	19.10
12/01/2010	936.30			02/05/2010	14.30	09/05/2010	36.40	08/02/2010	7.10	13/01/2010	13.90
13/01/2010	3497.10			03/05/2010	20.30	10/05/2010	37.90	09/02/2010	1.90	17/01/2010	14.00
17/01/2010	3655.20			04/05/2010	18.20	11/05/2010	35.40	10/02/2010	2.80	18/01/2010	17.70
18/01/2010	1373.80			05/05/2010	18.80	12/05/2010	51.50	11/02/2010	3.90	19/01/2010	23.60
19/01/2010	1217.00			06/05/2010	15.50	13/05/2010	83.60	12/02/2010	10.80	20/01/2010	19.70
20/01/2010	2548.70			07/05/2010	16.10	14/05/2010	81.40	13/02/2010	9.40	21/01/2010	12.40
21/01/2010	5226.80			08/05/2010	17.60	15/05/2010	83.20	14/02/2010	1.70	22/01/2010	4.80
22/01/2010	6502.50			09/05/2010	10.30	16/05/2010	200.80	15/02/2010	12.50	23/01/2010	6.40
23/01/2010	2709.50			10/05/2010	9.90	17/05/2010	188.80	16/02/2010	18.80	24/01/2010	8.30
24/01/2010	3543.00			11/05/2010	6.60	18/05/2010	102.20	17/02/2010	6.50	08/02/2010	11.10
08/02/2010	637.00			12/05/2010	11.40	19/05/2010	54.10	18/02/2010	1.20	09/02/2010	13.50
09/02/2010	5258.60			13/05/2010	15.00	20/05/2010	39.70	19/02/2010	3.30	10/02/2010	12.20
10/02/2010	1495.00			14/05/2010	9.80	21/05/2010	43.00	24/02/2010	16.90	11/02/2010	22.10
11/02/2010	7992.90			15/05/2010	11.10	22/05/2010	126.50	25/02/2010	4.50	12/02/2010	16.20
12/02/2010	1662.20			16/05/2010	44.90	23/05/2010	50.80	26/02/2010	7.20	13/02/2010	18.50
13/02/2010	4222.00			17/05/2010	39.60	24/05/2010	45.40	02/03/2010	2.90	14/02/2010	41.00
14/02/2010	5340.90			18/05/2010	13.20	25/05/2010	63.20	03/03/2010	8.10	15/02/2010	10.60
17/02/2010	50.70			19/05/2010	10.60	26/05/2010	88.10	04/03/2010	12.20	16/02/2010	11.00
18/02/2010	2157.80			20/05/2010	10.60	27/05/2010	49.60	05/03/2010	9.20	17/02/2010	25.10
19/02/2010	1801.40			21/05/2010	9.60	28/05/2010	34.50	06/03/2010	5.70	18/02/2010	35.00
24/02/2010	3251.60			22/05/2010	24.60	29/05/2010	29.80	07/03/2010	1.00	19/02/2010	38.40
25/02/2010	3872.80			23/05/2010	6.20	30/05/2010	30.80	08/03/2010	0.50	24/02/2010	20.80
26/02/2010	4110.00			24/05/2010	5.30	31/05/2010	31.80	09/03/2010	4.80	25/02/2010	30.80
02/03/2010	1482.40			25/05/2010	10.60	01/06/2010	40.70	10/03/2010	15.00	26/02/2010	8.00
03/03/2010	1987.20			26/05/2010	16.40	02/06/2010	26.50	11/03/2010	18.20	02/03/2010	41.80
04/03/2010	3250.60			27/05/2010	8.10	03/06/2010	24.30	12/03/2010	17.70	03/03/2010	38.70
05/03/2010	1334.00			28/05/2010	5.50	04/06/2010	25.40	13/03/2010	18.90	04/03/2010	37.90
06/03/2010	2383.80			29/05/2010	5.00	05/06/2010	28.70	14/03/2010	8.90	05/03/2010	30.00
07/03/2010	1612.30			30/05/2010	6.80	06/06/2010	29.30	15/03/2010	7.60	06/03/2010	32.50
08/03/2010	1431.60			31/05/2010	6.00	07/06/2010	33.50	16/03/2010	21.00	07/03/2010	39.00
09/03/2010	3305.60			01/06/2010	8.80	08/06/2010	31.20	17/03/2010	19.70	08/03/2010	41.60
10/03/2010	2062.20			02/06/2010	5.60	09/06/2010	30.30	18/03/2010	19.30	09/03/2010	38.20
11/03/2010	2380.20			03/06/2010	5.10	10/06/2010	36.40	19/03/2010	11.10	10/03/2010	42.40
12/03/2010	3064.00			04/06/2010	5.40	11/06/2010	62.90	20/03/2010	14.10	11/03/2010	46.90
13/03/2010	2764.40			05/06/2010	6.00	12/06/2010	59.20	21/03/2010	18.90	12/03/2010	43.00
14/03/2010	4365.40			06/06/2010	5.80	13/06/2010	52.90	22/03/2010	12.90	13/03/2010	6.00
15/03/2010	3446.20			07/06/2010	6.40	14/06/2010	51.20	23/03/2010	17.60	14/03/2010	64.10
16/03/2010	5694.30			08/06/2010	6.00	15/06/2010	48.90	24/03/2010	21.00	15/03/2010	44.20
17/03/2010	6140.10			09/06/2010	4.70	16/06/2010	60.80	25/03/2010	25.00	16/03/2010	19.60

Date	CO	Date	PM2.5	Date	NO	Date	NO <sub>2</sub>	Date	SO <sub>2</sub>	Date	O <sub>3</sub>
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25/03/2010	1170.40			11/06/2010	9.50	18/06/2010	74.90	27/03/2010	28.40	18/03/2010	42.40
26/03/2010	844.20			12/06/2010	7.50	19/06/2010	113.00	28/03/2010	13.70	19/03/2010	53.90
27/03/2010	461.70			13/06/2010	6.40	20/06/2010	80.70	29/03/2010	13.90	20/03/2010	44.70
28/03/2010	352.60			14/06/2010	5.80	21/06/2010	43.70	30/03/2010	12.00	21/03/2010	38.00
29/03/2010	834.40			15/06/2010	6.00	22/06/2010	43.00	31/03/2010	10.60	22/03/2010	39.80
30/03/2010	2035.30			16/06/2010	8.40	23/06/2010	46.40	01/04/2010	22.90	23/03/2010	29.60
31/03/2010	4105.40			17/06/2010	8.30	24/06/2010	40.10	02/04/2010	15.60	24/03/2010	27.40
01/04/2010	6267.90			18/06/2010	12.20	25/06/2010	31.60	03/04/2010	17.30	25/03/2010	47.20
02/04/2010	7333.40			19/06/2010	20.50	26/06/2010	49.10	04/04/2010	17.10	26/03/2010	24.40
03/04/2010	9026.10			20/06/2010	12.60	27/06/2010	49.50	05/04/2010	15.20	27/03/2010	38.50
04/04/2010	11097.80			21/06/2010	6.10	28/06/2010	58.80	06/04/2010	9.50	28/03/2010	50.70
05/04/2010	12866.80			22/06/2010	6.50	29/06/2010	42.70	07/04/2010	7.00	29/03/2010	45.90
06/04/2010	7765.90			23/06/2010	7.60	30/06/2010	53.80	08/04/2010	12.10	30/03/2010	26.40
07/04/2010	2146.30			24/06/2010	6.30	01/07/2010	41.90	09/04/2010	13.00	31/03/2010	46.30
08/04/2010	4110.50			25/06/2010	4.50	02/07/2010	40.20	10/04/2010	12.30	01/04/2010	59.90
09/04/2010	5457.50			26/06/2010	7.10	03/07/2010	39.60	11/04/2010	12.80	02/04/2010	72.00
10/04/2010	7075.40			27/06/2010	6.60	04/07/2010	24.70	12/04/2010	12.20	03/04/2010	25.10
11/04/2010	9472.20			28/06/2010	8.40	05/07/2010	60.30	13/04/2010	16.40	04/04/2010	11.70
12/04/2010	10847.10			29/06/2010	6.20	06/07/2010	36.90	14/04/2010	12.10	05/04/2010	19.40
13/04/2010	9544.10			30/06/2010	9.00	07/07/2010	28.10	15/04/2010	15.60	06/04/2010	15.60
14/04/2010	91.40			01/07/2010	6.40	15/07/2010	36.80	16/04/2010	61.60	07/04/2010	22.60
15/04/2010	565.80			02/07/2010	5.90	16/07/2010	32.90	17/04/2010	9.50	08/04/2010	20.70
16/04/2010	1598.70			03/07/2010	6.60	17/07/2010	28.50	18/04/2010	7.10	09/04/2010	21.60
17/04/2010	3591.10			04/07/2010	4.90	18/07/2010	31.30	19/04/2010	9.90	10/04/2010	22.80
18/04/2010	3916.00			05/07/2010	15.60	19/07/2010	35.00	20/04/2010	6.90	11/04/2010	20.00
19/04/2010	6263.00			06/07/2010	7.50	20/07/2010	22.10	21/04/2010	6.40	12/04/2010	22.50
20/04/2010	4581.40			07/07/2010	4.50	01/10/2010	57.80	22/04/2010	8.30	13/04/2010	30.30
21/04/2010	1707.10			15/07/2010	6.40	02/10/2010	19.70	23/04/2010	10.40	14/04/2010	32.50
22/04/2010	2424.90			16/07/2010	6.10	03/10/2010	59.00	24/04/2010	12.60	15/04/2010	38.10
23/04/2010	1960.60			17/07/2010	5.40	04/10/2010	80.80	25/04/2010	17.00	16/04/2010	64.80
24/04/2010	2515.10			18/07/2010	4.50	05/10/2010	98.20	26/04/2010	18.10	17/04/2010	93.00
25/04/2010	3153.80			19/07/2010	6.70	06/10/2010	81.50	27/04/2010	19.40	18/04/2010	64.90
26/04/2010	1875.10			20/07/2010	4.20	07/10/2010	68.60	28/04/2010	21.70	19/04/2010	44.70
27/04/2010	1904.80			01/10/2010	25.90	08/10/2010	67.50	29/04/2010	20.40	20/04/2010	42.50
28/04/2010	2227.80			02/10/2010	17.00	09/10/2010	51.10	30/04/2010	25.10	21/04/2010	26.60
29/04/2010	2389.10			03/10/2010	62.20	10/10/2010	40.20	01/05/2010	22.30	22/04/2010	24.20
30/04/2010	2566.30			04/10/2010	68.20	11/10/2010	42.50	02/05/2010	21.20	23/04/2010	25.10
01/05/2010	2050.80			05/10/2010	59.60	12/10/2010	39.50	03/05/2010	19.80	24/04/2010	22.90
02/05/2010	2321.90			06/10/2010	72.30	13/10/2010	39.40	04/05/2010	17.10	25/04/2010	20.10
03/05/2010	1884.20			07/10/2010	68.60	14/10/2010	44.00	05/05/2010	14.00	26/04/2010	18.40
04/05/2010	1776.90			08/10/2010	91.40	15/10/2010	70.00	06/05/2010	9.00	27/04/2010	23.90
05/05/2010	1776.20			09/10/2010	65.50	16/10/2010	83.70	07/05/2010	7.30	28/04/2010	18.70
06/05/2010	1784.00			10/10/2010	58.70	17/10/2010	45.90	08/05/2010	8.00	29/04/2010	16.20
07/05/2010	1905.40			11/10/2010	25.20	18/10/2010	44.80	09/05/2010	8.40	30/04/2010	22.90
08/05/2010	1536.80			12/10/2010	16.30	19/10/2010	51.00	10/05/2010	3.90	01/05/2010	29.70
09/05/2010	1142.60			13/10/2010	11.50	20/10/2010	58.10	11/05/2010	13.20	02/05/2010	21.60
10/05/2010	921.40			14/10/2010	31.10	21/10/2010	59.00	12/05/2010	6.00	03/05/2010	25.20
11/05/2010	1031.30			15/10/2010	52.10	22/10/2010	58.40	13/05/2010	11.80	04/05/2010	44.50
12/05/2010	1365.80			16/10/2010	70.50	23/10/2010	44.70	14/05/2010	12.00	05/05/2010	27.70
13/05/2010	1563.00			17/10/2010	41.80	24/10/2010	53.50	15/05/2010	8.50	06/05/2010	27.90
14/05/2010	1621.40			18/10/2010	33.50	25/10/2010	71.60	16/05/2010	7.30	07/05/2010	32.60
15/05/2010	1858.90			19/10/2010	61.60	26/10/2010	79.50	17/05/2010	20.00	08/05/2010	77.50
16/05/2010	1493.70			20/10/2010	63.60	27/10/2010	72.00	18/05/2010	13.20	09/05/2010	30.30
17/05/2010	1422.00			21/10/2010	63.60	28/10/2010	70.50	19/05/2010	10.30	10/05/2010	26.10
18/05/2010	1793.60			22/10/2010	55.20	29/10/2010	98.80	20/05/2010	22.10	11/05/2010	24.90
19/05/2010	2220.20			23/10/2010	18.20	30/10/2010	92.30	21/05/2010	7.20	12/05/2010	25.90
20/05/2010	1549.40			24/10/2010	27.50	31/10/2010	76.50	22/05/2010	20.50	13/05/2010	15.00
21/05/2010	1567.50			25/10/2010	44.80	01/11/2010	67.30	23/05/2010	9.30	14/05/2010	21.10
22/05/2010	1593.00			26/10/2010	84.60	02/11/2010	81.60	24/05/2010	4.50	15/05/2010	19.40
23/05/2010	1485.40			27/10/2010	63.70	03/11/2010	80.90	25/05/2010	11.80	16/05/2010	15.40
24/05/2010	1625.40			28/10/2010	47.30	04/11/2010	102.30	26/05/2010	7.80	17/05/2010	13.10
25/05/2010	2581.40			29/10/2010	47.80	05/11/2010	91.60	27/05/2010	5.60	18/05/2010	11.00
26/05/2010	1594.30			30/10/2010	43.10	06/11/2010	81.50	28/05/2010	2.70	19/05/2010	27.70
27/05/2010	1969.20			31/10/2010	65.80	07/11/2010	90.90	29/05/2010	2.50	20/05/2010	64.90
28/05/2010	2353.80			01/11/2010	68.80	08/11/2010	87.30	30/05/2010	3.80	21/05/2010	27.90
29/05/2010	1114.80			02/11/2010	96.10	09/11/2010	80.30	31/05/2010	3.40	22/05/2010	19.20
30/05/2010	2306.10			03/11/2010	82.30	10/11/2010	74.40	01/06/2010	4.50	23/05/2010	28.10
31/05/2010	1912.70			04/11/2010	133.20	11/11/2010	122.80	02/06/2010	3.30	24/05/2010	80.30
01/06/2010	1349.40			05/11/2010	136.00	12/11/2010	103.80	03/06/2010	2.90	25/05/2010	61.70
02/06/2010	766.60			06/11/2010	108.70	13/11/2010	87.00	04/06/2010	2.90	26/05/2010	46.30
03/06/2010	743.80			07/11/2010	150.90	14/11/2010	61.70	05/06/2010	2.90	27/05/2010	16.70

Date	CO	Date	PM2.5	Date	NO	Date	NO <sub>2</sub>	Date	SO <sub>2</sub>	Date	O <sub>3</sub>
04/06/2010	725.90			08/11/2010	156.30	15/11/2010	49.80	06/06/2010	2.70	28/05/2010	32.00
05/06/2010	841.70			09/11/2010	188.90	16/11/2010	57.50	07/06/2010	2.90	29/05/2010	19.50
06/06/2010	720.00			10/11/2010	98.80	17/11/2010	51.00	08/06/2010	2.90	30/05/2010	35.00
07/06/2010	1048.10			11/11/2010	106.80	18/11/2010	43.80	09/06/2010	2.90	31/05/2010	35.30
08/06/2010	994.60			12/11/2010	170.10	19/11/2010	55.20	10/06/2010	1.90	01/06/2010	16.20
09/06/2010	982.20			13/11/2010	169.70	20/11/2010	50.80	22/06/2010	4.70	02/06/2010	11.70
10/06/2010	863.80			14/11/2010	133.60	21/11/2010	59.30	23/06/2010	6.70	03/06/2010	18.10
11/06/2010	1994.10			15/11/2010	72.70	22/11/2010	95.10	24/06/2010	7.20	04/06/2010	18.20
12/06/2010	1560.80			16/11/2010	68.30	23/11/2010	51.80	25/06/2010	9.90	05/06/2010	11.90
13/06/2010	1102.80			17/11/2010	91.40	24/11/2010	40.50	26/06/2010	10.60	06/06/2010	19.20
14/06/2010	1374.10			18/11/2010	50.00	25/11/2010	59.60	27/06/2010	11.80	07/06/2010	7.40
15/06/2010	1132.30			19/11/2010	48.90	26/11/2010	55.90	28/06/2010	11.50	08/06/2010	23.30
16/06/2010	1302.60			20/11/2010	23.20	27/11/2010	59.60	29/06/2010	10.60	09/06/2010	22.20
17/06/2010	1426.20			21/11/2010	36.70	28/11/2010	76.00	30/06/2010	9.90	10/06/2010	19.40
18/06/2010	1873.50			22/11/2010	91.50	29/11/2010	97.30	01/07/2010	10.70	11/06/2010	8.70
19/06/2010	2702.40			23/11/2010	52.60	30/11/2010	70.20	02/07/2010	10.30	12/06/2010	33.10
20/06/2010	1949.50			24/11/2010	46.90	01/12/2010	100.20	03/07/2010	9.60	13/06/2010	26.60
21/06/2010	1422.80			25/11/2010	47.00	02/12/2010	139.60	04/07/2010	8.50	14/06/2010	28.40
22/06/2010	929.20			26/11/2010	49.50	03/12/2010	103.40	05/07/2010	11.30	15/06/2010	19.20
23/06/2010	1093.80			27/11/2010	62.70	04/12/2010	99.80	06/07/2010	10.30	16/06/2010	10.30
24/06/2010	1106.50			28/11/2010	106.90	05/12/2010	99.50	07/07/2010	9.00	17/06/2010	23.80
25/06/2010	981.80			29/11/2010	136.70	06/12/2010	136.60	15/07/2010	9.90	18/06/2010	22.20
26/06/2010	1401.50			30/11/2010	42.60	07/12/2010	98.40	16/07/2010	9.60	19/06/2010	22.10
27/06/2010	1247.10			01/12/2010	118.80	08/12/2010	84.00	17/07/2010	9.50	20/06/2010	30.30
28/06/2010	1546.40			02/12/2010	247.90	09/12/2010	82.80	18/07/2010	9.30	21/06/2010	38.90
29/06/2010	1249.40			03/12/2010	162.20	10/12/2010	70.00	19/07/2010	9.20	22/06/2010	41.20
30/06/2010	1568.30			04/12/2010	115.80	11/12/2010	59.50	20/07/2010	9.30	23/06/2010	49.30
01/07/2010	1248.20			05/12/2010	171.40	12/12/2010	59.40	01/10/2010	30.10	24/06/2010	59.60
02/07/2010	1191.90			06/12/2010	243.30	13/12/2010	87.10	02/10/2010	32.30	25/06/2010	30.70
03/07/2010	1264.80			07/12/2010	137.70	14/12/2010	74.30	03/10/2010	21.10	26/06/2010	46.10
04/07/2010	980.10			08/12/2010	103.20	15/12/2010	64.80	04/10/2010	17.80	27/06/2010	54.20
05/07/2010	1824.00			09/12/2010	78.00	16/12/2010	85.40	05/10/2010	18.40	28/06/2010	81.10
06/07/2010	1570.20			10/12/2010	57.60	17/12/2010	92.70	06/10/2010	14.90	29/06/2010	43.50
07/07/2010	726.00			11/12/2010	39.60	18/12/2010	66.80	07/10/2010	17.70	30/06/2010	67.60
15/07/2010	1458.40			12/12/2010	69.20	19/12/2010	57.90	08/10/2010	17.80	01/07/2010	50.60
16/07/2010	1417.70			13/12/2010	219.00	20/12/2010	49.20	09/10/2010	29.20	02/07/2010	31.00
17/07/2010	1305.60			14/12/2010	112.60	21/12/2010	50.30	10/10/2010	31.90	03/07/2010	23.80
18/07/2010	1186.50			15/12/2010	85.80			11/10/2010	32.20	04/07/2010	55.90
19/07/2010	1296.70			16/12/2010	184.90			12/10/2010	23.30	05/07/2010	153.40
20/07/2010	784.70			17/12/2010	228.70			13/10/2010	30.30	06/07/2010	127.00
01/10/2010	1214.50			18/12/2010	115.80			14/10/2010	36.30	07/07/2010	208.50
02/10/2010	1649.80			19/12/2010	31.90			15/10/2010	42.90	15/07/2010	25.80
03/10/2010	1565.50			20/12/2010	16.40			16/10/2010	24.90	16/07/2010	23.10
04/10/2010	1779.90			21/12/2010	20.20			17/10/2010	56.40	17/07/2010	25.20
05/10/2010	2710.60							18/10/2010	64.30	18/07/2010	48.20
06/10/2010	1751.30							19/10/2010	45.00	19/07/2010	37.10
07/10/2010	1959.60							20/10/2010	7.00	20/07/2010	114.70
08/10/2010	2127.70							21/10/2010	11.10	01/10/2010	44.10
09/10/2010	2181.30							22/10/2010	14.70	02/10/2010	52.10
10/10/2010	1586.40							23/10/2010	36.30	03/10/2010	40.40
11/10/2010	703.40							24/10/2010	38.60	04/10/2010	47.10
12/10/2010	1825.80							25/10/2010	17.10	05/10/2010	36.40
13/10/2010	1033.60							26/10/2010	12.30	06/10/2010	46.50
14/10/2010	1148.20							27/10/2010	26.80	07/10/2010	45.50
15/10/2010	2544.10							28/10/2010	24.00	08/10/2010	45.00
16/10/2010	2120.20							29/10/2010	20.40	09/10/2010	44.20
17/10/2010	1050.30							30/10/2010	27.50	10/10/2010	28.50
18/10/2010	1419.20							31/10/2010	23.00	11/10/2010	29.40
19/10/2010	1565.00							01/11/2010	30.20	12/10/2010	38.70
20/10/2010	2176.80							02/11/2010	9.70	13/10/2010	29.20
21/10/2010	2089.30							03/11/2010	9.00	14/10/2010	39.20
22/10/2010	1691.60							04/11/2010	13.60	15/10/2010	53.80
23/10/2010	845.70							05/11/2010	18.30	16/10/2010	38.70
24/10/2010	1186.70							06/11/2010	38.80	17/10/2010	12.70
25/10/2010	1814.40							07/11/2010	19.20	18/10/2010	18.00
26/10/2010	2173.20							08/11/2010	20.20	19/10/2010	35.50
27/10/2010	1957.30							09/11/2010	31.10	20/10/2010	47.20
28/10/2010	2535.50							10/11/2010	29.20	21/10/2010	28.50
29/10/2010	3089.50							11/11/2010	33.80	22/10/2010	22.50
30/10/2010	4438.10							12/11/2010	11.50	23/10/2010	39.50
31/10/2010	3448.60							13/11/2010	2.80	24/10/2010	31.40
01/11/2010	2760.10							14/11/2010	2.50	25/10/2010	39.80



Date	CO	Date	PM2.5	Date	NO	Date	NO <sub>2</sub>	Date	SO <sub>2</sub>	Date	O <sub>3</sub>
02/11/2010	3178.90							15/11/2010	2.10	26/10/2010	42.90
03/11/2010	2439.90							16/11/2010	3.50	27/10/2010	51.20
04/11/2010	3141.20							17/11/2010	4.80	28/10/2010	40.70
05/11/2010	3242.70							18/11/2010	8.60	29/10/2010	34.80
06/11/2010	3011.00							19/11/2010	5.50	30/10/2010	21.00
07/11/2010	4038.90							20/11/2010	4.90	31/10/2010	28.10
08/11/2010	4035.30							21/11/2010	4.80	01/11/2010	35.70
09/11/2010	4216.90							22/11/2010	4.90	02/11/2010	38.50
10/11/2010	2787.90							23/11/2010	4.80	03/11/2010	35.20
11/11/2010	3793.50							24/11/2010	4.60	04/11/2010	31.50
12/11/2010	2251.50							25/11/2010	4.90	05/11/2010	39.60
13/11/2010	3713.80							26/11/2010	4.80	06/11/2010	24.30
14/11/2010	4002.50							27/11/2010	4.80	07/11/2010	18.00
15/11/2010	2583.20							28/11/2010	4.60	08/11/2010	12.90
16/11/2010	2927.50							29/11/2010	4.60	09/11/2010	22.50
17/11/2010	3809.10							30/11/2010	5.40	10/11/2010	34.30
18/11/2010	1729.00							01/12/2010	9.80	11/11/2010	24.50
19/11/2010	1895.60							02/12/2010	10.40	12/11/2010	21.20
20/11/2010	1469.30							03/12/2010	8.40	13/11/2010	13.10
21/11/2010	1711.10							04/12/2010	6.70	14/11/2010	13.50
22/11/2010	3006.70							05/12/2010	7.40	15/11/2010	21.70
23/11/2010	2077.70							06/12/2010	7.40	16/11/2010	10.10
24/11/2010	1604.00							07/12/2010	7.30	17/11/2010	12.20
25/11/2010	1835.70							08/12/2010	6.80	18/11/2010	15.40
26/11/2010	1682.10							09/12/2010	6.60	19/11/2010	27.00
27/11/2010	14843.80							10/12/2010	7.30	20/11/2010	26.20
28/11/2010	5105.40							11/12/2010	6.70	21/11/2010	33.80
29/11/2010	10445.20							12/12/2010	6.00	22/11/2010	8.00
30/11/2010	9648.00							13/12/2010	6.30	23/11/2010	14.50
01/12/2010	3529.20							14/12/2010	7.30	24/11/2010	7.30
02/12/2010	38888.60							15/12/2010	6.20	25/11/2010	5.20
06/12/2010	3832.40							16/12/2010	6.50	26/11/2010	16.90
07/12/2010	1594.20							17/12/2010	7.00	27/11/2010	22.30
08/12/2010	1205.30							18/12/2010	6.60	28/11/2010	22.80
09/12/2010	915.40							19/12/2010	6.40	29/11/2010	19.00
10/12/2010	712.70							20/12/2010	6.00	30/11/2010	20.40
11/12/2010	461.30							21/12/2010	6.30	01/12/2010	24.60
12/12/2010	759.80									02/12/2010	19.40
13/12/2010	1305.60									03/12/2010	20.70
14/12/2010	827.10									04/12/2010	19.80
15/12/2010	419.70									05/12/2010	18.30
16/12/2010	1105.10									06/12/2010	25.80
17/12/2010	1076.80									07/12/2010	32.10
18/12/2010	268.50									08/12/2010	32.90
19/12/2010	483.80									09/12/2010	28.70
20/12/2010	341.20									10/12/2010	24.40
21/12/2010	818.70									11/12/2010	22.70
										12/12/2010	31.30
										13/12/2010	17.70
										14/12/2010	21.10
										15/12/2010	22.90
										16/12/2010	19.20
										17/12/2010	18.10
										18/12/2010	21.70
										19/12/2010	29.30
										20/12/2010	32.70
										21/12/2010	21.60

Table III.4 – List of dates of Gazetted holidays

Sr. No.	2006	2007	2008	2009	2010
1	1/11/2006	1/1/2007	1/19/2008	1/8/2009	1/26/2010
2	1/26/2006	1/26/2007	1/26/2008	1/26/2009	2/27/2010
3	1/9/2006	1/30/2007	3/6/2008	3/10/2009	3/1/2010
4	2/15/2006	2/16/2007	3/21/2008	3/11/2009	3/24/2010
5	4/6/2006	3/27/2007	3/21/2008	4/3/2009	3/28/2010
6	4/11/2006	3/31/2007	3/22/2008	4/7/2009	4/2/2010
7	4/14/2006	4/1/2007	4/14/2008	4/10/2009	4/14/2010
8	5/13/2006	4/6/2007	4/18/2008	5/9/2009	5/27/2010
9	8/15/2006	5/2/2007	5/20/2008	8/14/2009	8/15/2010
10	8/16/2006	8/15/2007	8/15/2008	8/15/2009	9/2/2010
11	10/2/2006	9/4/2007	10/2/2008	9/21/2009	9/11/2010
12	10/7/2006	10/2/2007	10/2/2008	9/28/2009	10/2/2010
13	10/21/2006	10/14/2007	10/9/2008	10/2/2009	10/17/2010
14	10/25/2006	10/21/2007	10/14/2008	10/17/2009	11/5/2010
15	11/5/2006	11/9/2007	10/28/2008	11/2/2009	11/17/2010
16	12/25/2006	11/24/2007	11/13/2008	11/28/2009	11/21/2010
17	-	12/21/2007	12/9/2008	12/25/2009	12/17/2010
18	-	12/25/2007	12/25/2008	12/26/2009	12/25/2010

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## *Vitae*

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1 Prof. Dr. Mrs. Anubha Mandal  
Scientist 'C',  
Delhi Technological University  
(Formerly Delhi College of Engineering)  
Bawana Road, New Delhi, Delhi 110042  
Contact: anubha\_mandal10@yahoo.co.in

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2 Anunay A. Gour  
21, Friends Colony, Katol Road,  
Nagpur, Maharashtra- 440013,  
Contact: anunaygour@live.in

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