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## **1. Foreword**

Since the Pearl River Delta (PRD) Regional Air Quality Monitoring Network came into operation on 30 November 2005, the PRD Regional Air Quality Index (RAQI) was reported to the public on a daily basis. Starting from 2006, half-yearly and annual air quality monitoring reports were also published every year. The network was subsequently enhanced and expanded in September 2014 and renamed to “Guangdong-Hong Kong-Macao Pearl River Delta Regional Air Quality Monitoring Network” (the “Network”).

To cope with the enhancement of the network and the update of the national ambient air quality standards as well as the need for improving the reporting frequency of monitoring results, starting from 2014, the real-time hourly monitoring data was reported on a new internet platform to replace the daily RAQI, the half-yearly report was also replaced by a quarterly report while the annual air quality monitoring report was maintained. The quarterly report is a brief statistical summary of the regional air quality monitoring results in a quarter. The annual report, in addition to the reporting of the monitoring data, provides a more detailed analysis and comparison of the air quality in the year. From the fourth quarter of 2014, the statistical results of carbon monoxide (CO) and fine suspended particulates (PM<sub>2.5</sub> or FSP) were added to the report in addition to those of respirable suspended particulates (PM<sub>10</sub> or RSP), sulphur dioxide (SO<sub>2</sub>), nitrogen dioxide (NO<sub>2</sub>), and ozone (O<sub>3</sub>).

This report is the statistical summary of the monitoring results of the PRD Regional Air Quality Monitoring Network in the second quarter of 2017. It is the fourteenth report published in the form of a quarterly report and the eleventh report with the statistical summaries of the six pollutants (i.e. PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub>, NO<sub>2</sub>, O<sub>3</sub> and CO).

## **2. Introduction to Guangdong-Hong Kong-Macao Pearl River Delta Regional Air Quality Monitoring Network**

The PRD Regional Air Quality Monitoring Network was jointly established by the Guangdong Provincial Environmental Monitoring Centre (GDEMC) and the Environmental Protection Department of the Hong Kong Special Administrative Region (HKEPD) from 2003 to 2005, and commenced its operation on 30 November 2005.

With the growing concerns of air pollution control and economic development of the region, the GDEMC and HKEPD had worked in collaboration with the environmental protection cum meteorological authorities of Macao to enhance the network by extending the coverage of monitoring area to Guangdong, Hong Kong and Macao in September 2014. The enhancements included the addition of monitoring stations from 16 to 23 to further improve the spatial distribution and the inclusion of two new monitoring parameters, i.e. carbon monoxide (CO) and fine suspended particulates (PM<sub>2.5</sub>), to enrich the air quality monitoring information. At the same time, the network was renamed to “Guangdong-Hong Kong-Macao Pearl River Delta Regional Air Quality Monitoring Network” (the “Network”) while the “Quality Management Committee of Guangdong-Hong Kong-Macao Pearl River Delta Regional Air Quality Monitoring Network”, which was jointly established by the GDEMC, HKEPD, Environmental Protection Bureau of Macao SARG and Meteorological and Geophysical Bureau of Macao SARG, was responsible for quality management of the Network and dissemination of information.

The Network comprises 23 automatic air quality monitoring stations (see Figure 2.1) across the PRD region. Ten of these stations are operated either by the Environmental Monitoring Centres of the individual cities in Guangdong or the operation-cum-maintenance agencies commissioned by the State. Eight regional stations are operated by the GDEMC, the four stations located in Hong Kong are managed by the HKEPD and the remaining one in Macao is operated by Meteorological and Geophysical Bureau of Macao SARG.

All stations are installed with monitoring equipment to measure the ambient concentrations of PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub>, NO<sub>2</sub>, O<sub>3</sub> and CO.

Annexes A and B show the site information of the monitoring stations in the Network and the methods used for measuring air pollutant concentrations respectively.



**Figure 2.1 : Spatial Distribution of Monitoring Stations in the Network**

Remark: For the boundary of the administrative division of the Macao Special Administrative Region, according the Decree n.º665 of the State Council of the People’s Republic of China, “the map of the administrative division of the Macao Special Administrative Region” was approved at the 116<sup>th</sup> Executive Meeting of the State Council on 16 December 2015.

### 3. Operation of the Network

The operation of the Network was smooth in the second quarter of 2017. The average data capture rate of hourly air pollutant monitoring data measured at all monitoring stations was 96.0%.

### 4. Statistical Results of Pollutant Concentrations

Tables 4.1a to 4.6b list the detailed statistical results of the ambient concentrations of the six air pollutants (SO<sub>2</sub>, NO<sub>2</sub>, O<sub>3</sub>, CO, PM<sub>10</sub> and PM<sub>2.5</sub>) from April to June 2017.

**Table 4.1a : The monthly maxima and minima of hourly averages of SO<sub>2</sub>**

| Monitoring Station          | April 2017 |     | May 2017 |     | June 2017 |     |
|-----------------------------|------------|-----|----------|-----|-----------|-----|
|                             | Min        | Max | Min      | Max | Min       | Max |
| Luhu (Guangzhou)            | 5          | 32  | 6        | 61  | 7         | 27  |
| Modiesha (Guangzhou)        | 3          | 54  | 3        | 46  | 3         | 27  |
| Wanqingsha (Guangzhou)      | 8          | 88  | 7        | 117 | 7         | 54  |
| Tianhu (Guangzhou)          | 3          | 33  | 2        | 27  | 3         | 21  |
| Zhudong (Guangzhou)         | 9          | 88  | 5        | 58  | 4         | 37  |
| Liyuan (Shenzhen)           | 6          | 17  | 7        | 27  | 5         | 14  |
| Jinjuzui (Foshan)           | 4          | 46  | 4        | 46  | 4         | 53  |
| Huijingcheng (Foshan)       | 5          | 99  | 4        | 131 | 0         | 54  |
| Tangjia (Zhuhai)            | 1          | 104 | 1        | 55  | 1         | 39  |
| Donghu (Jiangmen)           | 3          | 40  | 2        | 51  | 3         | 24  |
| Duanfen (Jiangmen)          | 3          | 30  | 3        | 30  | 3         | 17  |
| Huaguoshan (Jiangmen)       | 8          | 152 | 7        | 60  | 7         | 90  |
| Chengzhong (Zhaoqing)       | 1          | 84  | 5        | 77  | 5         | 46  |
| Xiapu (Huizhou)             | 4          | 29  | 5        | 39  | 2         | 23  |
| Xijiao (Huizhou)            | 2          | 49  | 4        | 38  | 4         | 36  |
| Jinguowan (Huizhou)         | 5          | 23  | 4        | 42  | 3         | 29  |
| Zimaling (Zhongshan)        | 3          | 29  | 4        | 76  | 1         | 15  |
| Nanchengyuanling (Dongguan) | 5          | 63  | 5        | 71  | 5         | 38  |
| Tap Mun (Hong Kong)         | 7          | 29  | 2        | 23  | 2         | 14  |
| Tsuen Wan (Hong Kong)       | 3          | 43  | 4        | 54  | 4         | 48  |
| Yuen Long (Hong Kong)       | 8          | 41  | 6        | 73  | 5         | 27  |
| Tung Chung (Hong Kong)      | 8          | 51  | 4        | 77  | 0         | 11  |
| Taipa Grande (Macao)        | 0          | 71  | 0        | 59  | 0         | 20  |

Remark : All concentration units are in micrograms per cubic metre ( $\mu\text{g}/\text{m}^3$ ).

**Table 4.1b : The monthly maxima and minima of daily averages of SO<sub>2</sub>**

| Monitoring Station          | April 2017 |     | May 2017 |     | June 2017 |     |
|-----------------------------|------------|-----|----------|-----|-----------|-----|
|                             | Min        | Max | Min      | Max | Min       | Max |
| Luhu (Guangzhou)            | 7          | 15  | 8        | 21  | 8         | 15  |
| Modiesha (Guangzhou)        | 4          | 19  | 3        | 18  | 3         | 11  |
| Wanqingsha (Guangzhou)      | 11         | 37  | 10       | 38  | 8         | 16  |
| Tianhu (Guangzhou)          | 4          | 20  | 3        | 14  | 4         | 12  |
| Zhudong (Guangzhou)         | 12         | 43  | 8        | 40  | 6         | 26  |
| Liyuan (Shenzhen)           | 6          | 13  | 7        | 14  | 6         | 11  |
| Jinjuzui (Foshan)           | 7          | 24  | 5        | 22  | 4         | 16  |
| Huijingcheng (Foshan)       | 9          | 34  | 8        | 40  | 8         | 19  |
| Tangjia (Zhuhai)            | 4          | 19  | 3        | 13  | 2         | 5   |
| Donghu (Jiangmen)           | 6          | 20  | 6        | 20  | 5         | 10  |
| Duanfen (Jiangmen)          | 3          | 14  | 3        | 16  | 3         | 7   |
| Huaguoshan (Jiangmen)       | 9          | 41  | 8        | 28  | 10        | 18  |
| Chengzhong (Zhaoqing)       | 7          | 29  | 7        | 29  | 6         | 19  |
| Xiapu (Huizhou)             | 5          | 19  | 7        | 20  | 3         | 8   |
| Xijiao (Huizhou)            | 3          | 12  | 5        | 13  | 5         | 28  |
| Jinguowan (Huizhou)         | 6          | 12  | 6        | 13  | 5         | 7   |
| Zimaling (Zhongshan)        | 4          | 16  | 5        | 20  | 5         | 9   |
| Nanchengyuanling (Dongguan) | 6          | 25  | 6        | 32  | 7         | 12  |
| Tap Mun (Hong Kong)         | 9          | 15  | 4        | 14  | 3         | 6   |
| Tsuen Wan (Hong Kong)       | 5          | 20  | 4        | 22  | 5         | 15  |
| Yuen Long (Hong Kong)       | 8          | 16  | 7        | 26  | 6         | 13  |
| Tung Chung (Hong Kong)      | 9          | 20  | 5        | 29  | 1         | 6   |
| Taipa Grande (Macao)        | 0          | 11  | 0        | 23  | 0         | 5   |

Remark : All concentration units are in micrograms per cubic metre ( $\mu\text{g}/\text{m}^3$ ).

**Table 4.1c : The monthly averages of SO<sub>2</sub>**

| Monitoring Station          | April 2017 | May 2017 | June 2017 |
|-----------------------------|------------|----------|-----------|
| Luhu (Guangzhou)            | 11         | 12       | 10        |
| Modiesha (Guangzhou)        | 10         | 9        | 6         |
| Wanqingsha (Guangzhou)      | 20         | 20       | 11        |
| Tianhu (Guangzhou)          | 8*         | 8        | 7         |
| Zhudong (Guangzhou)         | 24         | 23       | 15        |
| Liyuan (Shenzhen)           | 8          | 9        | 9         |
| Jinjuzui (Foshan)           | 13         | 12       | 10        |
| Huijingcheng (Foshan)       | 16         | 16       | 11        |
| Tangjia (Zhuhai)            | 8          | 6        | 3         |
| Donghu (Jiangmen)           | 10         | 12       | 7         |
| Duanfen (Jiangmen)          | 7          | 7        | 4         |
| Huaguoshan (Jiangmen)       | 22         | 17       | 14        |
| Chengzhong (Zhaoqing)       | 15         | 18       | 12        |
| Xiapu (Huizhou)             | 8          | 9        | 5         |
| Xijiao (Huizhou)            | 7          | 8        | 12        |
| Jinguowan (Huizhou)         | 7          | 7        | 6         |
| Zimaling (Zhongshan)        | 8          | 10       | 7         |
| Nanchengyuanling (Dongguan) | 12         | 14       | 10        |
| Tap Mun (Hong Kong)         | 12         | 7        | 4*        |
| Tsuen Wan (Hong Kong)       | 11         | 9        | 9         |
| Yuen Long (Hong Kong)       | 11         | 11       | 8         |
| Tung Chung (Hong Kong)      | 12         | 11       | 4         |
| Taipa Grande (Macao)        | 4          | 6        | 1         |

Remark : All concentration units are in micrograms per cubic metre ( $\mu\text{g}/\text{m}^3$ ).

\* The capture rate of validated daily data per month is below 85%.

**Table 4.2a : The monthly maxima and minima of hourly averages of NO<sub>2</sub>**

| Monitoring Station          | April 2017 |     | May 2017 |     | June 2017 |     |
|-----------------------------|------------|-----|----------|-----|-----------|-----|
|                             | Min        | Max | Min      | Max | Min       | Max |
| Luhu (Guangzhou)            | 16         | 175 | 12       | 165 | 12        | 121 |
| Modiesha (Guangzhou)        | 7          | 158 | 5        | 170 | 5         | 130 |
| Wanqingsha (Guangzhou)      | 0          | 126 | 0        | 209 | 0         | 70  |
| Tianhu (Guangzhou)          | 0          | 46  | 1        | 67  | 0         | 40  |
| Zhudong (Guangzhou)         | 7          | 116 | 4        | 90  | 4         | 78  |
| Liyuan (Shenzhen)           | 7          | 76  | 1        | 120 | 6         | 59  |
| Jinjuzui (Foshan)           | 6          | 148 | 6        | 114 | 0         | 91  |
| Huijingcheng (Foshan)       | 6          | 182 | 3        | 192 | 9         | 102 |
| Tangjia (Zhuhai)            | 2          | 118 | 1        | 118 | 3         | 59  |
| Donghu (Jiangmen)           | 6          | 116 | 1        | 99  | 2         | 67  |
| Duanfen (Jiangmen)          | 0          | 61  | 0        | 41  | 0         | 29  |
| Huaguoshan (Jiangmen)       | 5          | 91  | 3        | 84  | 0         | 77  |
| Chengzhong (Zhaoqing)       | 3          | 139 | 1        | 142 | 7         | 88  |
| Xiapu (Huizhou)             | 4          | 139 | 3        | 108 | 1         | 55  |
| Xijiao (Huizhou)            | 4          | 77  | 0        | 66  | 0         | 39  |
| Jinguowan (Huizhou)         | 3          | 75  | 0        | 73  | 4         | 38  |
| Zimaling (Zhongshan)        | 1          | 104 | 1        | 101 | 1         | 45  |
| Nanchengyuanling (Dongguan) | 15         | 145 | 3        | 130 | 2         | 118 |
| Tap Mun (Hong Kong)         | 0          | 44  | 0        | 70  | 0         | 45  |
| Tsuen Wan (Hong Kong)       | 14         | 182 | 9        | 254 | 9         | 93  |
| Yuen Long (Hong Kong)       | 14         | 127 | 1        | 170 | 3         | 69  |
| Tung Chung (Hong Kong)      | 3          | 121 | 4        | 158 | 5         | 72  |
| Taipa Grande (Macao)        | 4          | 110 | 3        | 142 | 0         | 53  |

Remark : All concentration units are in micrograms per cubic metre ( $\mu\text{g}/\text{m}^3$ ).



**Table 4.2b : The monthly maxima and minima of daily averages of NO<sub>2</sub>**

| Monitoring Station          | April 2017 |     | May 2017 |     | June 2017 |     |
|-----------------------------|------------|-----|----------|-----|-----------|-----|
|                             | Min        | Max | Min      | Max | Min       | Max |
| Luhu (Guangzhou)            | 38         | 90  | 32       | 80  | 23        | 54  |
| Modiesha (Guangzhou)        | 27         | 88  | 25       | 86  | 11        | 60  |
| Wanqingsha (Guangzhou)      | 21         | 69  | 25       | 95  | 10        | 37  |
| Tianhu (Guangzhou)          | 9          | 34  | 3        | 32  | 2         | 19  |
| Zhudong (Guangzhou)         | 21         | 55  | 18       | 56  | 19        | 36  |
| Liyuan (Shenzhen)           | 14         | 47  | 3        | 56  | 8         | 35  |
| Jinjuzui (Foshan)           | 17         | 74  | 15       | 62  | 8         | 47  |
| Huijingcheng (Foshan)       | 31         | 100 | 22       | 90  | 21        | 67  |
| Tangjia (Zhuhai)            | 9          | 65  | 7        | 55  | 6         | 34  |
| Donghu (Jiangmen)           | 17         | 83  | 12       | 53  | 9         | 41  |
| Duanfen (Jiangmen)          | 3          | 42  | 2        | 28  | 1         | 9   |
| Huaguoshan (Jiangmen)       | 11         | 62  | 12       | 55  | 4         | 53  |
| Chengzhong (Zhaoqing)       | 11         | 86  | 10       | 66  | 15        | 42  |
| Xiapu (Huizhou)             | 12         | 62  | 14       | 60  | 11        | 34  |
| Xijiao (Huizhou)            | 10         | 28  | 7        | 19  | 6         | 21  |
| Jinguowan (Huizhou)         | 10         | 40  | 3        | 37  | 8         | 22  |
| Zimaling (Zhongshan)        | 2          | 59  | 5        | 46  | 2         | 27  |
| Nanchengyuanling (Dongguan) | 26         | 75  | 16       | 74  | 16        | 60  |
| Tap Mun (Hong Kong)         | 6          | 29  | 2        | 42  | 2         | 15  |
| Tsuen Wan (Hong Kong)       | 45         | 91  | 33       | 115 | 26        | 61  |
| Yuen Long (Hong Kong)       | 25         | 66  | 14       | 103 | 14        | 48  |
| Tung Chung (Hong Kong)      | 9          | 69  | 7        | 98  | 9         | 54  |
| Taipa Grande (Macao)        | 9          | 67  | 10       | 57  | 4         | 31  |

Remark : All concentration units are in micrograms per cubic metre ( $\mu\text{g}/\text{m}^3$ ).

**Table 4.2c : The monthly averages of NO<sub>2</sub>**

| Monitoring Station          | April 2017 | May 2017 | June 2017 |
|-----------------------------|------------|----------|-----------|
| Luhu (Guangzhou)            | 58         | 54       | 39        |
| Modiesha (Guangzhou)        | 57         | 48       | 35        |
| Wanqingsha (Guangzhou)      | 38         | 46       | 20        |
| Tianhu (Guangzhou)          | 15*        | 10       | 12        |
| Zhudong (Guangzhou)         | 35         | 31       | 25*       |
| Liyuan (Shenzhen)           | 28         | 22       | 22        |
| Jinjuzui (Foshan)           | 43         | 37       | 19        |
| Huijingcheng (Foshan)       | 58*        | 54       | 38        |
| Tangjia (Zhuhai)            | 32         | 26       | 13        |
| Donghu (Jiangmen)           | 37         | 32       | 19        |
| Duanfen (Jiangmen)          | 16         | 10       | 4         |
| Huaguoshan (Jiangmen)       | 33         | 29       | 18*       |
| Chengzhong (Zhaoqing)       | 36         | 35       | 27        |
| Xiapu (Huizhou)             | 30         | 23       | 22        |
| Xijiao (Huizhou)            | 16         | 13       | 13        |
| Jinguowan (Huizhou)         | 17         | 13       | 15        |
| Zimaling (Zhongshan)        | 24         | 20       | 8         |
| Nanchengyuanling (Dongguan) | 48         | 35       | 33        |
| Tap Mun (Hong Kong)         | 15         | 10       | 6*        |
| Tsuen Wan (Hong Kong)       | 61         | 63       | 46        |
| Yuen Long (Hong Kong)       | 47         | 48       | 27        |
| Tung Chung (Hong Kong)      | 35         | 41       | 19        |
| Taipa Grande (Macao)        | 35         | 33       | 10        |

Remark : All concentration units are in micrograms per cubic metre ( $\mu\text{g}/\text{m}^3$ ).

\* The capture rate of validated daily data per month is below 85%.

**Table 4.3a : The monthly maxima and minima of hourly averages of O<sub>3</sub>**

| Monitoring Station          | April 2017 |     | May 2017 |     | June 2017 |     |
|-----------------------------|------------|-----|----------|-----|-----------|-----|
|                             | Min        | Max | Min      | Max | Min       | Max |
| Luhu (Guangzhou)            | 2          | 303 | 3        | 287 | 3         | 217 |
| Modiesha (Guangzhou)        | 0          | 256 | 3        | 261 | 2         | 188 |
| Wanqingsha (Guangzhou)      | 4          | 291 | 5        | 436 | 5         | 115 |
| Tianhu (Guangzhou)          | 5          | 243 | 3        | 216 | 5         | 232 |
| Zhudong (Guangzhou)         | 5          | 290 | 4        | 326 | 5         | 209 |
| Liyuan (Shenzhen)           | 5          | 238 | 5        | 355 | 4         | 104 |
| Jinjuzui (Foshan)           | 4          | 324 | 4        | 326 | 4         | 215 |
| Huijingcheng (Foshan)       | 0          | 354 | 2        | 341 | 3         | 218 |
| Tangjia (Zhuhai)            | 19         | 177 | 13       | 220 | 9         | 82  |
| Donghu (Jiangmen)           | 1          | 294 | 2        | 343 | 2         | 127 |
| Duanfen (Jiangmen)          | 5          | 207 | 9        | 301 | 5         | 101 |
| Huaguoshan (Jiangmen)       | 3          | 249 | 3        | 352 | 3         | 184 |
| Chengzhong (Zhaoqing)       | 2          | 197 | 2        | 238 | 5         | 178 |
| Xiapu (Huizhou)             | 3          | 251 | 3        | 217 | 3         | 171 |
| Xijiao (Huizhou)            | 2          | 293 | 3        | 250 | 2         | 235 |
| Jinguowan (Huizhou)         | 1          | 292 | 2        | 197 | 2         | 143 |
| Zimaling (Zhongshan)        | 4          | 268 | 5        | 359 | 2         | 129 |
| Nanchengyuanling (Dongguan) | 1          | 327 | 2        | 270 | 1         | 256 |
| Tap Mun (Hong Kong)         | 1          | 213 | 5        | 332 | 2         | 99  |
| Tsuen Wan (Hong Kong)       | 1          | 147 | 1        | 239 | 2         | 50  |
| Yuen Long (Hong Kong)       | 0          | 193 | 1        | 263 | 2         | 82  |
| Tung Chung (Hong Kong)      | 13         | 195 | 11       | 364 | 1         | 81  |
| Taipa Grande (Macao)        | 11         | 217 | 10       | 380 | 10        | 76  |

Remark : All concentration units are in micrograms per cubic metre ( $\mu\text{g}/\text{m}^3$ ).

**Table 4.3b : Daily maximum 8-hour averages of O<sub>3</sub> (the monthly maxima, minima and the 90<sup>th</sup> percentile)**

| Monitoring Station          | April 2017 |     |                      | May 2017 |     |                      | June 2017 |     |                      |
|-----------------------------|------------|-----|----------------------|----------|-----|----------------------|-----------|-----|----------------------|
|                             | Min        | Max | 90 <sup>th</sup> per | Min      | Max | 90 <sup>th</sup> per | Min       | Max | 90 <sup>th</sup> per |
| Luhu (Guangzhou)            | 9          | 222 | 159                  | 34       | 254 | 208                  | 10        | 163 | 115                  |
| Modiesha (Guangzhou)        | 8          | 191 | 167                  | 36       | 222 | 187                  | 15        | 156 | 112                  |
| Wanqingsha (Guangzhou)      | 30         | 242 | 181                  | 31       | 326 | 262                  | 34        | 91  | 74                   |
| Tianhu (Guangzhou)          | 32         | 199 | 142                  | 62       | 200 | 144                  | 39        | 192 | 135                  |
| Zhudong (Guangzhou)         | 19         | 251 | 173                  | 49       | 270 | 211                  | 31        | 165 | 147                  |
| Liyuan (Shenzhen)           | 24         | 182 | 159                  | 27       | 220 | 177                  | 17        | 75  | 53                   |
| Jinjuzui (Foshan)           | 13         | 258 | 183                  | 21       | 276 | 228                  | 15        | 158 | 103                  |
| Huijingcheng (Foshan)       | 8          | 261 | 172                  | 25       | 292 | 213                  | 9         | 153 | 116                  |
| Tangjia (Zhuhai)            | 51         | 153 | 134                  | 39       | 192 | 150                  | 39        | 73  | 64                   |
| Donghu (Jiangmen)           | 13         | 233 | 168                  | 31       | 297 | 253                  | 28        | 100 | 82                   |
| Duanfen (Jiangmen)          | 16         | 196 | 163                  | 41       | 265 | 206                  | 44        | 73  | 68                   |
| Huaguoshan (Jiangmen)       | 14         | 204 | 175                  | 40       | 315 | 243                  | 22        | 113 | 90                   |
| Chengzhong (Zhaoqing)       | 13         | 162 | 145                  | 35       | 188 | 149                  | 36        | 124 | 107                  |
| Xiapu (Huizhou)             | 19         | 228 | 178                  | 48       | 175 | 143                  | 28        | 133 | 109                  |
| Xijiao (Huizhou)            | 25         | 246 | 170                  | 50       | 199 | 171                  | 45        | 179 | 149                  |
| Jinguowan (Huizhou)         | 22         | 239 | 180                  | 47       | 174 | 146                  | 36        | 126 | 86                   |
| Zimaling (Zhongshan)        | 21         | 227 | 177                  | 23       | 286 | 274                  | 31        | 106 | 78                   |
| Nanchengyuanling (Dongguan) | 13         | 263 | 167                  | 26       | 227 | 179                  | 44        | 194 | 124                  |
| Tap Mun (Hong Kong)         | 26         | 190 | 172                  | 41       | 252 | 185                  | 38        | 85  | 70                   |
| Tsuen Wan (Hong Kong)       | 7          | 141 | 115                  | 16       | 188 | 113                  | 10        | 39  | 32                   |
| Yuen Long (Hong Kong)       | 19         | 151 | 129                  | 20       | 198 | 159                  | 12        | 65  | 44                   |
| Tung Chung (Hong Kong)      | 21         | 160 | 144                  | 30       | 287 | 197                  | 7         | 72  | 69                   |
| Taipa Grande (Macao)        | 19         | 186 | 148                  | 36       | 273 | 192                  | 37        | 69  | 56                   |

Remark : All concentration units are in micrograms per cubic metre ( $\mu\text{g}/\text{m}^3$ ).

**Table 4.3c : The monthly averages of O<sub>3</sub>**

| Monitoring Station          | April 2017 | May 2017 | June 2017 |
|-----------------------------|------------|----------|-----------|
| Luhu (Guangzhou)            | 42         | 64       | 38        |
| Modiesha (Guangzhou)        | 46         | 62       | 34        |
| Wanqingsha (Guangzhou)      | 59         | 84       | 40        |
| Tianhu (Guangzhou)          | 74*        | 84       | 63        |
| Zhudong (Guangzhou)         | 53*        | 78       | 53*       |
| Liyuan (Shenzhen)           | 64         | 79       | 29        |
| Jinjuzui (Foshan)           | 55         | 77       | 43        |
| Huijingcheng (Foshan)       | 49         | 73       | 39        |
| Tangjia (Zhuhai)            | 65         | 67       | 43        |
| Donghu (Jiangmen)           | 55         | 81       | 36        |
| Duanfen (Jiangmen)          | 67         | 84       | 46        |
| Huaguoshan (Jiangmen)       | 54         | 75       | 37        |
| Chengzhong (Zhaoqing)       | 39         | 59       | 44        |
| Xiapu (Huizhou)             | 67         | 76       | 39        |
| Xijiao (Huizhou)            | 65         | 70       | 49        |
| Jinguowan (Huizhou)         | 69         | 76       | 36        |
| Zimaling (Zhongshan)        | 63         | 88       | 45        |
| Nanchengyuanling (Dongguan) | 54         | 71       | 43        |
| Tap Mun (Hong Kong)         | 76         | 93       | 39*       |
| Tsuen Wan (Hong Kong)       | 41         | 54       | 16        |
| Yuen Long (Hong Kong)       | 43         | 58       | 23        |
| Tung Chung (Hong Kong)      | 60         | 80       | 38        |
| Taipa Grande (Macao)        | 65         | 85       | 43        |

Remark : All concentration units are in micrograms per cubic metre ( $\mu\text{g}/\text{m}^3$ ).

\* The capture rate of validated daily data per month is below 85%.

**Table 4.4a : The monthly maxima and minima of hourly averages of CO**

| Monitoring Station          | April 2017 |     | May 2017 |     | June 2017 |     |
|-----------------------------|------------|-----|----------|-----|-----------|-----|
|                             | Min        | Max | Min      | Max | Min       | Max |
| Luhu (Guangzhou)            | 0.4        | 1.6 | 0.3      | 1.9 | 0.5       | 1.4 |
| Modiesha (Guangzhou)        | 0.0        | 1.3 | 0.2      | 2.0 | 0.2       | 1.5 |
| Wanqingsha (Guangzhou)      | 0.4        | 1.3 | 0.1      | 1.5 | 0.2       | 1.1 |
| Tianhu (Guangzhou)          | 0.3        | 1.4 | 0.4      | 1.0 | 0.3       | 1.1 |
| Zhudong (Guangzhou)         | 0.2        | 1.4 | 0.3      | 1.5 | 0.1       | 1.4 |
| Liyuan (Shenzhen)           | 0.5        | 1.2 | 0.6      | 1.5 | 0.5       | 1.5 |
| Jinjuzui (Foshan)           | 0.6        | 1.6 | 0.5      | 2.0 | 0.3       | 1.6 |
| Huijingcheng (Foshan)       | 0.2        | 1.4 | 0.2      | 1.5 | 0.2       | 1.3 |
| Tangjia (Zhuhai)            | 0.3        | 1.4 | 0.3      | 1.3 | 0.3       | 0.7 |
| Donghu (Jiangmen)           | 0.4        | 1.8 | 0.4      | 2.0 | 0.3       | 1.4 |
| Duanfen (Jiangmen)          | 0.2        | 1.2 | 0.2      | 1.6 | 0.1       | 0.8 |
| Huaguoshan (Jiangmen)       | 0.1        | 2.0 | 0.0      | 1.7 | 0.0       | 1.4 |
| Chengzhong (Zhaoqing)       | 0.2        | 2.1 | 0.6      | 2.0 | 0.4       | 1.5 |
| Xiapu (Huizhou)             | 0.5        | 1.5 | 0.6      | 1.8 | 0.1       | 1.2 |
| Xijiao (Huizhou)            | 0.3        | 1.2 | 0.3      | 1.2 | 0.2       | 1.0 |
| Jinguowan (Huizhou)         | 0.3        | 1.1 | 0.5      | 1.2 | 0.1       | 1.3 |
| Zimaling (Zhongshan)        | 0.3        | 1.5 | 0.4      | 1.6 | 0.1       | 1.1 |
| Nanchengyuanling (Dongguan) | 0.2        | 1.5 | 0.5      | 1.6 | 0.4       | 1.6 |
| Tap Mun (Hong Kong)         | 0.1        | 1.1 | 0.2      | 1.1 | 0.2       | 0.6 |
| Tsuen Wan (Hong Kong)       | 0.6        | 1.6 | 0.5      | 1.7 | 0.4       | 1.1 |
| Yuen Long (Hong Kong)       | 0.5        | 1.5 | 0.1      | 1.5 | 0.1       | 0.8 |
| Tung Chung (Hong Kong)      | 0.3        | 1.5 | 0.3      | 1.7 | 0.3       | 0.9 |
| Taipa Grande (Macao)        | 0.4        | 1.6 | 0.4      | 1.4 | 0.4       | 0.9 |

Remark : All concentration units are in milligrams per cubic metre (mg/m<sup>3</sup>).

**Table 4.4b : Daily averages of CO (the monthly maxima, minima and the 95<sup>th</sup> percentile)**

| Monitoring Station          | April 2017 |     |                      | May 2017 |     |                      | June 2017 |     |                      |
|-----------------------------|------------|-----|----------------------|----------|-----|----------------------|-----------|-----|----------------------|
|                             | Min        | Max | 95 <sup>th</sup> per | Min      | Max | 95 <sup>th</sup> per | Min       | Max | 95 <sup>th</sup> per |
| Luhu (Guangzhou)            | 0.6        | 1.2 | 1.2                  | 0.5      | 1.2 | 0.9                  | 0.6       | 1.0 | 1.0                  |
| Modiesha (Guangzhou)        | 0.2        | 1.0 | 1.0                  | 0.3      | 1.4 | 1.1                  | 0.3       | 1.0 | 1.0                  |
| Wanqingsha (Guangzhou)      | 0.5        | 1.0 | 0.9                  | 0.5      | 1.2 | 1.1                  | 0.4       | 0.9 | 0.8                  |
| Tianhu (Guangzhou)          | 0.4        | 0.9 | 0.8                  | 0.5      | 0.9 | 0.8                  | 0.4       | 0.9 | 0.9                  |
| Zhudong (Guangzhou)         | 0.4        | 1.0 | 0.8                  | 0.5      | 0.9 | 0.8                  | 0.3       | 1.0 | 1.0                  |
| Liyuan (Shenzhen)           | 0.6        | 1.0 | 1.0                  | 0.7      | 1.2 | 1.1                  | 0.6       | 1.1 | 0.9                  |
| Jinjuzui (Foshan)           | 0.7        | 1.3 | 1.3                  | 0.7      | 1.4 | 1.3                  | 0.4       | 1.1 | 1.1                  |
| Huijingcheng (Foshan)       | 0.4        | 1.1 | 0.9                  | 0.4      | 0.9 | 0.9                  | 0.3       | 0.9 | 0.9                  |
| Tangjia (Zhuhai)            | 0.4        | 0.9 | 0.9                  | 0.4      | 1.0 | 1.0                  | 0.3       | 0.6 | 0.6                  |
| Donghu (Jiangmen)           | 0.6        | 1.3 | 1.2                  | 0.5      | 1.3 | 1.1                  | 0.5       | 0.9 | 0.9                  |
| Duanfen (Jiangmen)          | 0.3        | 0.9 | 0.8                  | 0.3      | 0.9 | 0.8                  | 0.2       | 0.5 | 0.4                  |
| Huaguoshan (Jiangmen)       | 0.4        | 1.0 | 0.8                  | 0.4      | 1.2 | 1.2                  | 0.4       | 0.9 | 0.8                  |
| Chengzhong (Zhaoqing)       | 0.6        | 1.4 | 1.3                  | 0.7      | 1.2 | 1.1                  | 0.5       | 1.1 | 1.1                  |
| Xiapu (Huizhou)             | 0.6        | 1.1 | 1.0                  | 0.7      | 1.4 | 1.2                  | 0.4       | 0.7 | 0.7                  |
| Xijiao (Huizhou)            | 0.5        | 0.8 | 0.8                  | 0.4      | 0.7 | 0.7                  | 0.4       | 0.6 | 0.6                  |
| Jinguowan (Huizhou)         | 0.4        | 1.1 | 1.0                  | 0.5      | 0.9 | 0.8                  | 0.4       | 0.8 | 0.8                  |
| Zimaling (Zhongshan)        | 0.5        | 1.0 | 0.9                  | 0.6      | 1.1 | 1.0                  | 0.4       | 0.8 | 0.8                  |
| Nanchengyuanling (Dongguan) | 0.5        | 1.1 | 1.0                  | 0.6      | 1.2 | 1.1                  | 0.5       | 1.1 | 1.0                  |
| Tap Mun (Hong Kong)         | 0.1        | 0.8 | 0.7                  | 0.3      | 1.0 | 0.8                  | 0.3       | 0.6 | 0.5                  |
| Tsuen Wan (Hong Kong)       | 0.7        | 1.2 | 1.1                  | 0.7      | 1.2 | 1.2                  | 0.5       | 0.7 | 0.7                  |
| Yuen Long (Hong Kong)       | 0.6        | 1.1 | 1.1                  | 0.2      | 1.1 | 1.0                  | 0.2       | 0.5 | 0.4                  |
| Tung Chung (Hong Kong)      | 0.4        | 1.0 | 1.0                  | 0.3      | 1.0 | 0.9                  | 0.4       | 0.7 | 0.6                  |
| Taipa Grande (Macao)        | 0.4        | 1.0 | 1.0                  | 0.4      | 1.1 | 0.9                  | 0.4       | 0.7 | 0.7                  |

Remark : All concentration units are in milligrams per cubic metre (mg/m<sup>3</sup>).

**Table 4.4c : The monthly averages of CO**

| Monitoring Station          | April 2017 | May 2017 | June 2017 |
|-----------------------------|------------|----------|-----------|
| Luhu (Guangzhou)            | 0.8        | 0.8      | 0.8       |
| Modiesha (Guangzhou)        | 0.6        | 0.8      | 0.6       |
| Wanqingsha (Guangzhou)      | 0.7        | 0.8      | 0.6       |
| Tianhu (Guangzhou)          | 0.6*       | 0.7      | 0.6       |
| Zhudong (Guangzhou)         | 0.6        | 0.7      | 0.6       |
| Liyuan (Shenzhen)           | 0.8        | 0.8      | 0.7       |
| Jinjuzui (Foshan)           | 1.0        | 1.0      | 0.8       |
| Huijingcheng (Foshan)       | 0.7        | 0.6      | 0.5       |
| Tangjia (Zhuhai)            | 0.6        | 0.6      | 0.4       |
| Donghu (Jiangmen)           | 0.8        | 0.8      | 0.7       |
| Duanfen (Jiangmen)          | 0.6        | 0.5      | 0.3       |
| Huaguoshan (Jiangmen)       | 0.6        | 0.8      | 0.5       |
| Chengzhong (Zhaoqing)       | 0.9        | 0.9      | 0.7       |
| Xiapu (Huizhou)             | 0.9        | 0.9      | 0.6       |
| Xijiao (Huizhou)            | 0.6        | 0.6      | 0.5       |
| Jinguowan (Huizhou)         | 0.7        | 0.7      | 0.6       |
| Zimaling (Zhongshan)        | 0.7        | 0.8      | 0.6       |
| Nanchengyuanling (Dongguan) | 0.8        | 0.8      | 0.8       |
| Tap Mun (Hong Kong)         | 0.4        | 0.6      | 0.4*      |
| Tsuen Wan (Hong Kong)       | 0.9        | 0.9      | 0.6       |
| Yuen Long (Hong Kong)       | 0.9        | 0.5      | 0.3       |
| Tung Chung (Hong Kong)      | 0.6        | 0.6      | 0.5       |
| Taipa Grande (Macao)        | 0.6        | 0.7      | 0.5       |

Remark : All concentration units are in milligrams per cubic metre (mg/m<sup>3</sup>).

\* The capture rate of validated daily data per month is below 85%.



**Table 4.5a : The monthly maxima and minima of daily averages of PM<sub>10</sub>**

| Monitoring Station          | April 2017 |     | May 2017 |     | June 2017 |     |
|-----------------------------|------------|-----|----------|-----|-----------|-----|
|                             | Min        | Max | Min      | Max | Min       | Max |
| Luhu (Guangzhou)            | 20         | 107 | 27       | 127 | 24        | 52  |
| Modiesha (Guangzhou)        | 20         | 111 | 24       | 133 | 27        | 54  |
| Wanqingsha (Guangzhou)      | 13         | 86  | 14       | 137 | 11        | 36  |
| Tianhu (Guangzhou)          | 18         | 76  | 10       | 77  | 13        | 43  |
| Zhudong (Guangzhou)         | 23         | 85  | 25       | 103 | 31        | 58  |
| Liyuan (Shenzhen)           | 19         | 63  | 15       | 66  | 12        | 32  |
| Jinjuzui (Foshan)           | 23         | 83  | 25       | 114 | 21        | 39  |
| Huijingcheng (Foshan)       | 26         | 121 | 30       | 114 | 25        | 63  |
| Tangjia (Zhuhai)            | 16         | 58  | 12       | 81  | 11        | 34  |
| Donghu (Jiangmen)           | 33         | 123 | 21       | 155 | 24        | 58  |
| Duanfen (Jiangmen)          | 22         | 69  | 17       | 89  | 10        | 33  |
| Huaguoshan (Jiangmen)       | 28         | 136 | 20       | 123 | 18        | 72  |
| Chengzhong (Zhaoqing)       | 20         | 118 | 20       | 116 | 24        | 52  |
| Xiapu (Huizhou)             | 17         | 98  | 24       | 70  | 14        | 51  |
| Xijiao (Huizhou)            | 12         | 70  | 17       | 64  | 11        | 43  |
| Jinguowan (Huizhou)         | 18         | 88  | 18       | 74  | 9         | 58  |
| Zimaling (Zhongshan)        | 23         | 62  | 13       | 94  | 11        | 29  |
| Nanchengyuanling (Dongguan) | 21         | 81  | 24       | 107 | 21        | 52  |
| Tap Mun (Hong Kong)         | 18         | 66  | 13       | 55  | 9         | 28  |
| Tsuen Wan (Hong Kong)       | 17         | 56  | 13       | 105 | 3         | 30  |
| Yuen Long (Hong Kong)       | 18         | 57  | 16       | 88  | 10        | 29  |
| Tung Chung (Hong Kong)      | 11         | 50  | 10       | 115 | 6         | 27  |
| Taipa Grande (Macao)        | 19         | 70  | 14       | 122 | 5         | 31  |

Remark : All concentration units are in micrograms per cubic metre ( $\mu\text{g}/\text{m}^3$ ).

**Table 4.5b : The monthly averages of PM<sub>10</sub>**

| Monitoring Station          | April 2017 | May 2017 | June 2017 |
|-----------------------------|------------|----------|-----------|
| Luhu (Guangzhou)            | 55         | 56       | 35        |
| Modiesha (Guangzhou)        | 65         | 62       | 40        |
| Wanqingsha (Guangzhou)      | 50         | 48       | 21        |
| Tianhu (Guangzhou)          | 41*        | 38       | 29        |
| Zhudong (Guangzhou)         | 59         | 57       | 40*       |
| Liyuan (Shenzhen)           | 39         | 34       | 18        |
| Jinjuzui (Foshan)           | 53         | 51       | 29        |
| Huijingcheng (Foshan)       | 62         | 58       | 37        |
| Tangjia (Zhuhai)            | 40         | 40       | 20        |
| Donghu (Jiangmen)           | 63         | 65       | 35        |
| Duanfen (Jiangmen)          | 38         | 38       | 21        |
| Huaguoshan (Jiangmen)       | 66         | 64       | 32        |
| Chengzhong (Zhaoqing)       | 63         | 60       | 38        |
| Xiapu (Huizhou)             | 54         | 48       | 32        |
| Xijiao (Huizhou)            | 40         | 40       | 30        |
| Jinguowan (Huizhou)         | 48         | 47       | 25        |
| Zimaling (Zhongshan)        | 40         | 40       | 18        |
| Nanchengyuanling (Dongguan) | 53         | 53       | 31        |
| Tap Mun (Hong Kong)         | 36         | 29       | 17        |
| Tsuen Wan (Hong Kong)       | 34         | 33       | 16        |
| Yuen Long (Hong Kong)       | 41         | 36       | 17        |
| Tung Chung (Hong Kong)      | 30         | 29       | 13        |
| Taipa Grande (Macao)        | 45         | 43       | 14        |

Remark : All concentration units are in micrograms per cubic metre ( $\mu\text{g}/\text{m}^3$ ).

\* The capture rate of validated daily data per month is below 85%.

**Table 4.6a : The monthly maxima and minima of daily averages of PM<sub>2.5</sub>**

| Monitoring Station          | April 2017 |     | May 2017 |     | June 2017 |     |
|-----------------------------|------------|-----|----------|-----|-----------|-----|
|                             | Min        | Max | Min      | Max | Min       | Max |
| Luhu (Guangzhou)            | 11         | 69  | 11       | 79  | 10        | 29  |
| Modiesha (Guangzhou)        | 6          | 59  | 12       | 83  | 10        | 27  |
| Wanqingsha (Guangzhou)      | 12         | 57  | 11       | 106 | 6         | 19  |
| Tianhu (Guangzhou)          | 13         | 47  | 7        | 47  | 8         | 30  |
| Zhudong (Guangzhou)         | 13         | 64  | 17       | 80  | 16        | 47  |
| Liyuan (Shenzhen)           | 15         | 34  | 12       | 49  | 7         | 21  |
| Jinjuzui (Foshan)           | 11         | 50  | 16       | 84  | 12        | 27  |
| Huijingcheng (Foshan)       | 19         | 82  | 19       | 87  | 13        | 39  |
| Tangjia (Zhuhai)            | 8          | 34  | 6        | 63  | 4         | 15  |
| Donghu (Jiangmen)           | 13         | 62  | 12       | 76  | 5         | 29  |
| Duanfen (Jiangmen)          | 10         | 39  | 1        | 67  | 3         | 12  |
| Huaguoshan (Jiangmen)       | 18         | 115 | 17       | 99  | 12        | 56  |
| Chengzhong (Zhaoqing)       | 4          | 75  | 10       | 78  | 9         | 39  |
| Xiapu (Huizhou)             | 9          | 61  | 11       | 40  | 7         | 22  |
| Xijiao (Huizhou)            | 8          | 50  | 10       | 46  | 12        | 32  |
| Jinguowan (Huizhou)         | 7          | 52  | 10       | 36  | 7         | 20  |
| Zimaling (Zhongshan)        | 14         | 41  | 12       | 66  | 6         | 18  |
| Nanchengyuanling (Dongguan) | 16         | 68  | 15       | 70  | 12        | 25  |
| Tap Mun (Hong Kong)         | 11         | 39  | 7        | 41  | 4         | 19  |
| Tsuen Wan (Hong Kong)       | 11         | 39  | 10       | 84  | 2         | 15  |
| Yuen Long (Hong Kong)       | 13         | 30  | 8        | 50  | 6         | 15  |
| Tung Chung (Hong Kong)      | 5          | 31  | 5        | 88  | 2         | 11  |
| Taipa Grande (Macao)        | 4          | 39  | 3        | 79  | 0         | 8   |

Remark : All concentration units are in micrograms per cubic metre ( $\mu\text{g}/\text{m}^3$ ).

**Table 4.6b : The monthly averages of PM<sub>2.5</sub>**

| Monitoring Station          | April 2017 | May 2017 | June 2017 |
|-----------------------------|------------|----------|-----------|
| Luhu (Guangzhou)            | 32         | 33       | 17        |
| Modiesha (Guangzhou)        | 32         | 33*      | 18*       |
| Wanqingsha (Guangzhou)      | 32         | 35       | 12        |
| Tianhu (Guangzhou)          | 26*        | 25       | 17        |
| Zhudong (Guangzhou)         | 39*        | 44       | 27*       |
| Liyuan (Shenzhen)           | 25         | 24       | 11        |
| Jinjuzui (Foshan)           | 32         | 33       | 17        |
| Huijingcheng (Foshan)       | 38         | 40       | 21        |
| Tangjia (Zhuhai)            | 23         | 24       | 8         |
| Donghu (Jiangmen)           | 34         | 35       | 16        |
| Duanfen (Jiangmen)          | 22         | 23       | 7         |
| Huaguoshan (Jiangmen)       | 52         | 52       | 21        |
| Chengzhong (Zhaoqing)       | 36         | 35       | 19        |
| Xiapu (Huizhou)             | 28         | 27       | 15        |
| Xijiao (Huizhou)            | 29         | 30       | 20*       |
| Jinguowan (Huizhou)         | 27         | 23       | 13        |
| Zimaling (Zhongshan)        | 27         | 29       | 10        |
| Nanchengyuanling (Dongguan) | 36         | 36       | 18        |
| Tap Mun (Hong Kong)         | 22         | 19       | 9         |
| Tsuen Wan (Hong Kong)       | 23         | 24       | 8         |
| Yuen Long (Hong Kong)       | 21         | 20       | 10        |
| Tung Chung (Hong Kong)      | 17         | 19       | 6         |
| Taipa Grande (Macao)        | 23         | 22       | 2         |

Remark : All concentration units are in micrograms per cubic metre ( $\mu\text{g}/\text{m}^3$ ).

\* The capture rate of validated daily data per month is below 85%.

## Annex A: Site Information of Monitoring Stations

| Monitoring Stations    | Address   | Area Type   | Sampling Height (Above P.D.) | Above Ground | Date Commenced Operation |
|------------------------|---|---|------------------------------|--------------|--------------------------|
| Luhu (Guangzhou)       | Jufong Garden of Luhu Park (Big yard, No. 11 Luhu Park)       | City  | 30m                          | 9m           | 1993                     |
| Modiesha (Guangzhou)   | Modiesha Street, Haizhu District                              | City  | 95m                          | 45m          | Dec 2011                 |
| Wanqingsha (Guangzhou) | HKUST Fok Ying Tung Research Institute, Nansha                | Mixed educational/commercial and residential/industrial | 54m                          | 28m          | Oct 2004                 |
| Tianhu (Guangzhou)     | Tianhu Park, Conghua  | Background : rural                                      | 251m                         | 13m          | Oct 2004                 |
| Zhudong (Guangzhou)    | Zhudong Village Committee, Chini Town, Huadu District         | Rural   | 19m                          | 10m          | Dec 2011                 |
| Liyuan (Shenzhen)      | Shennan Zhong Road, Futian District                           | City  | 38m                          | 12m          | Sep 1997                 |
| Jinjuzui (Foshan)      | Foshan City Communist Party School, Jinjuzui, Shunde District | Tourist and cultural /educational                       | 27m                          | 17m          | Oct 1999                 |
| Huijingcheng (Foshan)  | No. 127, Fenjiang Nan Road, Chancheng District                | Urban: mixed residential/commercial/ industrial         | 24m                          | 14m          | Feb 2000                 |
| Tangjia (Zhuhai)       | Qiao Island Mangrove Monitoring Station, Tangjia Town         | Mixed educational/commercial and residential/industrial | 13m                          | 13m          | Jan 2010                 |
| Donghu (Jiangmen)      | Donghu Park, Jiangmen   | City  | 17.5m                        | 5m           | Nov 2001                 |
| Duanfen (Jiangmen)     | Duanfen Middle School, Taishan                                | Rural   | 15m                          | 12m          | Dec 2011                 |
| Huaguoshan (Jiangmen)  | Huaguoshan, Taoyuan, Heshan                                   | Rural   | 25m                          | 15m          | Feb 2012                 |
| Chengzhong (Zhaoqing)  | No. 63, Zhengdong Road, Duanzhou District                     | Urban: mixed residential/commercial                     | 38m                          | 16m          | Jun 2001                 |
| Xiapu (Huizhou)        | No. 4 Xiabuhengjiang Road No. 3, Huicheng District            | Urban: commercial                                       | 49m                          | 20m          | Dec 1999                 |
| Xijiao (Huizhou)       | Xijiao Village Committee, Boluo County                        | Rural   | 39m                          | 12m          | Dec 2011                 |
| Jinguowan (Huizhou)    | Jinguowan Ecological Farm, Huizhou                            | Residential   | 77m                          | 8m           | Oct 2004                 |

| Monitoring Stations         | Address  | Area Type                                      | Sampling Height (Above P.D.) | Above Ground | Date Commenced Operation |
|-----------------------------|--|--|------------------------------|--------------|--------------------------|
| Zimaling (Zhongshan)        | Zimaling Park, Zhongshan                                   | Mixed residential/commercial                   | 45 m                         | 7m           | Aug 2002                 |
| Nanchengyuanling (Dongguan) | Nanchengyuanling Community, Dongguan                       | Mixed residential/commercial/industrial        | 33 m                         | 18m          | Sep 2010                 |
| Tap Mun (Hong Kong)         | Tap Mun Police Station                                     | Background: rural                              | 26m                          | 11m          | Apr 1998                 |
| Tsuen Wan (Hong Kong)       | 60 Tai Ho Road, Tsuen Wan                                  | Urban: mixed residential/commercial/industrial | 21m                          | 17m          | Aug 1988                 |
| Yuen Long (Hong Kong)       | Yuen Long District Office, 269 Castle Peak Road, Yuen Long | New Town: residential                          | 31m                          | 25m          | Jul 1995                 |
| Tung Chung (Hong Kong)      | 6 Fu Tung Street, Tung Chung                               | New Town: residential                          | 34.5m                        | 27.5m        | Apr 1999                 |
| Taipa Grande (Macao)        | Rampa do Observatorio, Taipa Grande                        | Rural  | 120m                         | 10m          | Mar 1999                 |

## Annex B: Measurement Methods of Air Pollutant Concentration

| Pollutants  | Measuring Principles   |
|---|--|
| Sulphur dioxide (SO <sub>2</sub> )                    | UV fluorescence /<br>Differential Optical Absorption Spectroscopy  |
| Nitrogen dioxide (NO <sub>2</sub> )                   | Chemiluminescence /<br>Differential Optical Absorption Spectroscopy  |
| Ozone (O <sub>3</sub> )                               | UV absorption /<br>Differential Optical Absorption Spectroscopy  |
| Respirable suspended particulates (PM <sub>10</sub> ) | Oscillating microbalance (TEOM)<br>Beta particulate monitor  |
| Fine suspended particulates (PM <sub>2.5</sub> )      | Oscillating microbalance (TEOM)<br>Beta particulate monitor<br>Hybrid nephelometric/radiometric particulate mass monitor |
| Carbon monoxide (CO)                                  | Gas filter correlation infrared absorption method<br>Non-dispersive infrared absorption method                           |