



# M+ Museum Main Works at West Kowloon Cultural District

Quarterly Environmental Monitoring and Audit  
(EM&A) Report (November 2015 - January 2016)

February 2016



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**This Quarterly EM&A Report has been reviewed and certified by the  
Environmental Team Leader (ETL) and verified by the Independent  
Environmental Checker (IEC).**

**Certified by:**



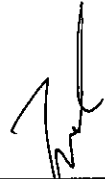
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Brian Tam  
Environmental Team Leader (ETL)  
West Kowloon Cultural District Authority

**Date**

7 March 2016

**Verified by:**



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Fredrick Leong  
Independent Environmental Checker (IEC)  
Meinhardt Infrastructure & Environment Ltd

**Date**

7 Mar. 16

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# Executive Summary

This Quarterly EM&A Report presents the monitoring works conducted from 31 October 2015 to 31 January 2016.

The impact stage EM&A programme for the Project includes air quality, noise, water quality, waste, landscape and visual monitoring. The recommended environmental mitigation measures were implemented on site and regular inspections were carried out to ensure that the environmental conditions are acceptable.

The EM&A programme was carried out by the ET in accordance with the EM&A Manual requirements. It is concluded from the environmental monitoring and audit works that adequate environmental mitigation measures have been implemented by the foundation works contractor where appropriate in the reporting quarter.

## **Exceedance of Action and Limit Levels**

There was no breach of Action or Limit levels for Air Quality (1-hour TSP and 24-hour TSP) in this reporting quarter. Noise monitoring was suspended as permission and access to the podium level of the identified noise sensitive receivers could not be granted. Liaison with the management office of the International Commerce Centre for the other location identified at the International Commerce Centre are in progress for granting access to conduct noise monitoring.

## **Implementation of Mitigation Measures**

Construction phase weekly site inspections were carried out to confirm the implementation measures undertaken by the Contractor in the reporting quarter. The status of implementation of mitigation measures during the reporting quarter is shown in **Appendix C**.

Landscape and visual impact inspections were conducted as part of the abovementioned weekly site inspections during the reporting quarter. No adverse comment on landscape and visual aspects was made during these inspections.

## **Record of Complaints**

One environmental complaint regarding construction noise was recorded in the reporting quarter.

## **Record of Notification of Summons and Successful Prosecutions**

No notification of summons and successful prosecution were recorded in the reporting quarter.

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# 1 Introduction

## 1.1 Background

In October 2015, Mott MacDonald Hong Kong Limited (MMHK) was commissioned to undertake the Environmental Team (ET) services (including environmental monitoring and audit (EM&A)) for the construction of M+ Museum Main Works at West Kowloon Cultural District (WKCD) (The Project) as part of the WKCD development. The Project Proponent is the West Kowloon Cultural District Authority (WKCD). The construction works and EM&A programme commenced on 31 October 2015.

The overall works for the WKCD fall under two separate categories of Designated Project (DP) of the Environmental Impact Assessment Ordinance (EIAO), namely an “engineering feasibility study of urban development projects with a study area covering more than 20 ha or involving a total population of more than 100 000” (Item 3 of Schedule 3) and “an underpass more than 100m in length under the built areas” (Item A.9, Part I, Schedule 2). An Environmental Permit No. EP-453/2013/A (EP) was issued with respect to the “Underpass Road and Austin Road Flyover Serving the West Kowloon Cultural District” which specifically includes the abovementioned category of DP under Item A.9, Part I, Schedule 2 of the EIAO. The captioned project (i.e. The M+ Museum Main Works at WKCD) includes part of the abovementioned underpass road located within the site boundary also falls under this same category.

The M+ museum development aims to provide an iconic presence for the M+ museum, semi-transparent vertical plane, housing education facilities, a public restaurant and museum offices. At ground and lower levels, generous access will be provided to the park and other West Kowloon Cultural District facilities, alongside a public resource centre, theatres, retail and dining, and back-of-house functions. Basement of the M+ museum, which is part of the WKCD integrated basement consists of the underpass road. This report focuses on main works for M+ museum.

The Quarterly EM&A Report is prepared in accordance with the Clause 3.4 of the Environmental Permit No. EP-453/2013/A. This Monthly EM&A Report presents the monitoring works conducted from 31 October 2015 to 31 January 2016. The purpose of this report is to summarise the findings in the EM&A of the project over the reporting period.

## 1.2 Project Organisation

The organisation chart and lines of communication with respect to the on-site environmental management structure together with the contact information of the key personnel are shown in **Appendix A**.

## 1.3 Environmental Status in the Reporting Period

During the reporting period, construction works of the Project undertaken include:

- Site formation
- Pile Cap Construction
- Formworks
- Concrete pouring

- Excavation
- Rebar /Earthing Installation
- Pile cap side formworks
- Underground drainage works
- Preparation of Formworks & Cast underground pipes
- Waterproofing works
- Lay Rebar
- Formworks Installation
- Slab construction

The captioned project involves part of the Schedule 2 Designated Project (DP), .i.e. “an underpass more than 100m in length under the built areas” (Item A.9, Part I, Schedule 2). Currently, only excavation works was being carried out for the M+ Museum. The construction of the underpass will not commence until the excavation works reach its boundary. The schedule 2 DP has not been physically commenced. The Construction Works Programme of the Project is provided in **Appendix B**.

A layout plan of the Project is provided in **Figure 1**.

## 2 Summary of EM&A Requirements

### 2.1 Monitoring Requirements

In accordance with the EM&A Manual, environmental parameters including air quality, noise, landscape and visual have been monitored. The specific parameters, monitoring frequency and the respective Action and Limit levels are given in **Table 2.1**. Locations of the monitoring stations are provided in **Figure 1**.

Table 2.1: Summary of Impact EM&A Requirements

Parameters	Descriptions	Locations	Frequencies	Action level	Limit level
Air Quality	24-Hour TSP	AM1 - International Commerce Centre	At least once every 6 days	143.6 µg/m <sup>3</sup>	260 µg/m <sup>3</sup>
	1-Hour TSP	AM1 - International Commerce Centre	At least 3 times every 6 days	273.7 µg/m <sup>3</sup>	500 µg/m <sup>3</sup>
	24-Hour TSP	AM2 - The Harbourside Tower 1	At least once every 6 days	151.1 µg/m <sup>3</sup>	260 µg/m <sup>3</sup>
	1-Hour TSP	AM2 - The Harbourside Tower 1	At least 3 times every 6 days	274.2 µg/m <sup>3</sup>	500 µg/m <sup>3</sup>
Noise	L <sub>eq</sub> , 30 minutes	NM1- Podium level of The Harbourside Tower 1	Weekly	When one documented complaint is received from any one of the sensitive receivers	75 dB(A)
Landscape & Visual	Monitor implementation of proposed mitigation measures during the construction stage	As described in Table 9.1 and 9.2 of the EM&A Manual	Bi-weekly	N/A	N/A

Given that the Project covers only a small part of the whole WKCD area (i.e. M+ Museum, Lyric Theatre Complex and respective portions of underpass road), it was proposed that the EM&A programme for the Project should only require 1 noise monitoring station and 2 air quality monitoring stations located closest to the Project area. Currently, the works under the captioned project are confined in the western part of the WKCD site. Therefore, only the monitoring stations AM1, AM2 were set up. Since NM1 was rejected, an alternative noise monitoring station was identified at the podium floor of International Commerce Centre. Liaison with the management office of the International Commerce Centre are in progress for granting access to conduct noise monitoring.

### 2.2 Environmental Mitigation Measures

Environmental mitigation measures have been recommended in the EM&A Manual. The summary of implementation status of the environmental mitigation measures are provided in **Appendix C**.

## 3 Summary of EM&A Monitoring Results

### 3.1 Monitoring Data

In accordance with the EM&A Manual, impact monitoring has been conducted in the reporting quarter. Noise monitoring is suspended as liaison with the management office of the International Commerce Centre are in progress for granting access to conduct noise monitoring. Meteorological data for the reporting quarter have been extracted from Hong Kong Observatory and presented in **Appendix D**. Monitoring data with graphical presentation for the reporting quarter are shown in **Appendix E**. A summary on the monitoring results are presented in **Table 3.1**.

Table 3.1: Summary of Monitoring Data

Parameter	Monitoring Location	Minimum	Maximum	Average
<b>Air Quality</b>				
1 hour TSP	AM1	51	141	82
1 hour TSP	AM2	61	172	92
24 hour TSP	AM1	45	73	55
24 hour TSP	AM2	43	107	72

### 3.2 Monitoring Exceedances

Summary of the exceedances in the reporting quarter is tabulated in **Table 3.2**.

Table 3.2: Summary of 24-hour TSP monitoring results

Monitoring Station	Parameter	No. of Exceedance		
		Action Level	Limit Level	Action Taken
<b>Air Quality</b>				
AM1	1 hour TSP	0	0	N/A
	24 hour TSP	0	0	N/A
AM2	1 hour TSP	0	0	N/A
	24 hour TSP	0	0	N/A

#### 3.2.1 1-hour TSP Monitoring

All 1-hour TSP monitoring was conducted as scheduled in the reporting quarter. No Action/ Limit Level exceedance was recorded.

#### 3.2.2 24-hour TSP Monitoring

All 24-hour TSP monitoring was conducted as scheduled in the reporting quarter. No Action/ Limit Level exceedance was recorded.

### **3.2.3 Landscape and Visual Monitoring**

All landscape and visual impact inspections were conducted as scheduled in the reporting quarter. No adverse comment on landscape and visual aspects was recorded.

## 4 Waste Management

As advised by the Contractor, 97,316.3 ton of excavated waste was disposed. The details of disposal and reuse of excavated waste was shown in **Table 4.1**, while 156.8 ton of general refuse was disposed of at SENT landfill. 76.2 ton of metals and 0 ton of timber were collected by recycling contractors in the reporting quarter. 0 ton of inert C&D materials was reused on site. 21.4 ton of inert C&D materials (grouting material) was reused in other projects. 1 ton of chemical wastes was collected by licensed contractors in the reporting quarter.

**Table 4.1: Disposal/ Reuse/Storage of Excavated Waste in the Reporting Quarter**

Site of Disposal/ Reuse/ Storage	Quantities (tonnes)
Fill Bank at Tuen Mun Area 38	11,455.0
Fill Bank at Tseung Kwan O Area 137	27,093.3
Green Valley	34,144.0
Advance Works for Shek Wu Hui Sewage Treatment Works	11,952.0
Design and Construction of Kai Tak Cable Tunnel, CLP	720.0
MTR Contract 1002 Whampoa Station and Overrun Tunnel	5,600.0
M+ Stockpile (M66, storage site near M+)	2,880.0
Hsin Chong Stockpile (Storage site near M+)	3,472.0
<b>Total</b>	<b>97,316.3</b>

Note: 16 tonnes per truckload is assumed.

The actual amounts of different types of waste generated by the activities of the Project in the reporting quarter are shown in **Appendix F**.

## 5 Environmental Non-conformance

For this reporting quarter, no environmental non-compliance and environmental related prosecution or notification of summons was received. There was one action level breached which was a noise complaint referred from EPD and no breach of Limit Levels for Air Quality monitoring.

One complaint was referred from EPD on 18 December 2015 regarding a noise complaint from a resident of Harbourside. The complainant claimed that the piling works at the M+ Museum construction site had caused noise problem. It occurred at 4pm every weekday and affected the receivers at the Harbourside. The complaint handling procedures in accordance with the EM&A Manual has been taken. The investigation found that no piling work was conducted on site since the commencement date of the project. According to the site diary on 12 December 2015, the major work may cause noise nuisance was breaking of existing bore pile. Noise measurement at the ground floor of the Harbourside was conducted and the Leq (30min) measured was 67.0-67.6 dB(A). No exceedance was recorded. It is understood that concrete breaking may cause noise impact to public although there was no exceedance recorded. Meanwhile, noise from other construction sites adjacent to the project site might cause the cumulative noise impact. The contractor has undertaken mitigation measure to reduce the noise impact.

The cumulative statistics on complaints, notifications of summons and successful prosecutions were provided in **Appendix G**.

## 6 Comments, recommendations and Conclusion

### 6.1 Comments

Based on the observations made during site audits and landscape inspections, and monitoring results recorded during construction dust monitoring, no non-compliances and exceedances of air quality and noise limits were recorded.

### 6.2 Recommendations

Reviewing the implementation of the recommended mitigation measures in the EM&A Manual, it was observed that they were effective and efficient in controlling the potential impacts due to construction of the project during the reporting period. Review of the effectiveness and efficiency of the EM&A programme will be continued, and recommendations will be provided to remediate any potential impacts due to the project and to improve the EM&A programme if deficiencies of the existing EM&A programme are identified.

### 6.3 Conclusion

The EM&A programme as recommended in the EM&A Manual has been undertaken since the construction works commenced on 31 October 2015.

Monitoring of air quality with respect to the Project is underway. In particular, the 1-hour TSP, 24-hour TSP under monitoring have been checked against established Action and Limit levels. There was no breach of Action and Limit Levels for 1-hour TSP, 24-hour TSP in the reporting quarter. Noise monitoring was suspended as the permission and access at podium of the identified noise sensitive receiver could not be granted. Liaison with the management office of the International Commerce Centre for the other location identified at the International Commerce Centre are in progress for granting access to conduct noise monitoring.

One environmental complaint and no notifications of summons or successful prosecution were received during the reporting quarter.

Weekly construction phase site inspections and bi-weekly landscape and visual impact inspections were conducted during the reporting quarter as required. It was observed that the Contractor had implemented all possible and feasible mitigation measures to mitigate the potential environmental impacts during construction phase works.



# Figure 1 Site Layout Plan and Monitoring Stations



# Appendices

- Appendix A. Project Organisation
- Appendix B. Construction Programme
- Appendix C. Environmental Mitigation Measures – Implementation Status
- Appendix D. Meteorological Data Extracted from Hong Kong Observatory
- Appendix E. Graphical Plots of the Monitoring Results
- Appendix F. Waste Flow table
- Appendix G. Cumulative Statistics on Complaints, Notifications of Summons and Successful Prosecutions

## Appendix A. Project Organisation

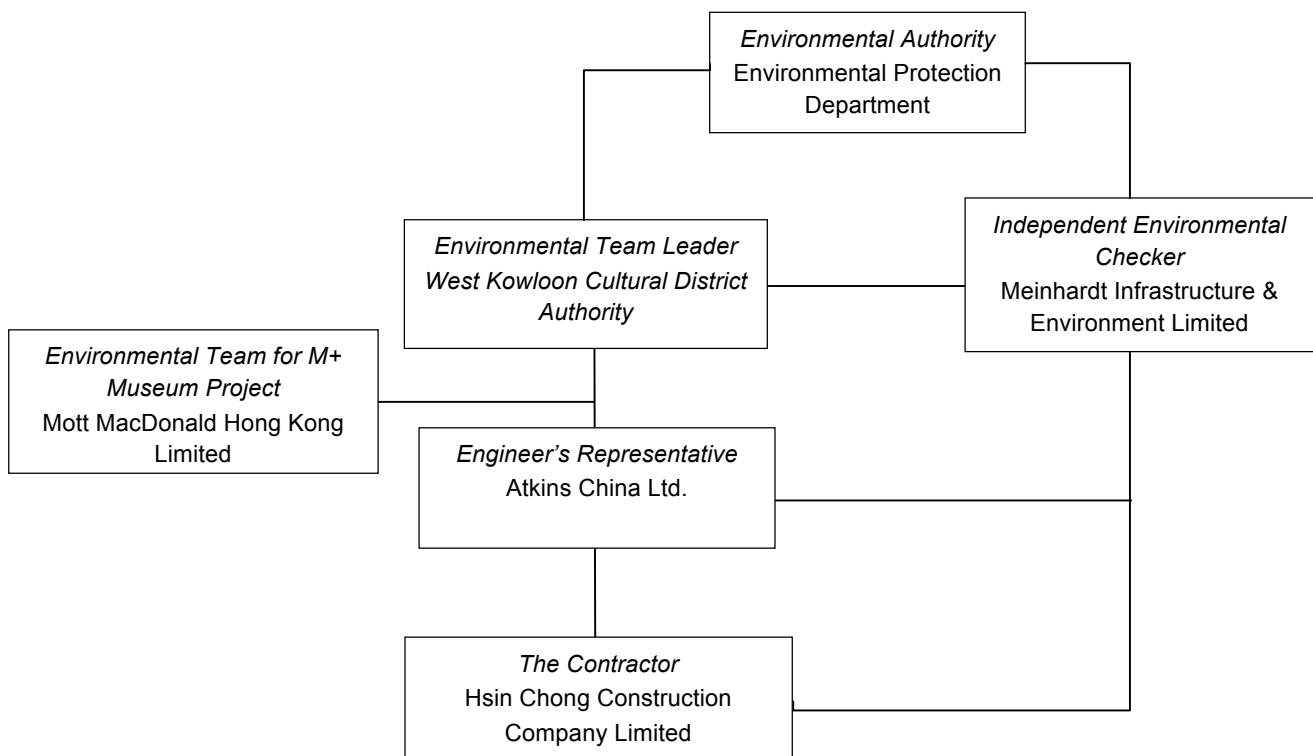


Table B-1: Contact information

Company Name	Role	Name	Telephone
Atkins China Ltd.	Senior Resident Engineer	Mr. Alfred Lee	5401 7289
Meinhardt Infrastructure & Environment Limited	IEC	Mr. Fredrick Leong	2859 1739
Hsin Chong Construction Company Limited	Environmental Officer	Mr. Andy Leung	9489 0035
Mott MacDonald Hong Kong Ltd.	Contractor's Environmental Team Leader	Mr Brandon Wong	2828 5875
West kowloon Cultural District Authority	Senior Environmental Specialist	Mr. Brian Tam	2200 0059

## Appendix B. Construction Programme



















## Appendix C. Environmental Mitigation Measures – Implementation Status

Table C-1: Environmental Mitigation Measures Implementation Status

EM&A Ref.	Recommendation Measures	Implementation Stage		
		Nov 2015	Dec 2015	Jan 2016
<b>Air Quality Impact (Construction)</b>				
2.1 & 10.3.1	<p><b>General Dust Control Measures</b></p> <p>Frequent water spraying for active construction areas (12 times a day or once every one hour), including Heavy construction activities such as construction of buildings or roads, drilling, ground excavation, cut and fill operations (i.e., earth moving)</p>	✓	✓	✓
2.1 & 10.3.1	<p><b>Best Practice For Dust Control</b></p> <p>The relevant best practices for dust control as stipulated in the Air Pollution Control (construction Dust) Regulation should be adopted to further reduce the construction dust impacts from the Project. These best practices include:</p> <p><i>Good Site Management</i></p> <ul style="list-style-type: none"> <li>Good site management is important to help reducing potential air quality impact down to an acceptable level. As a general guide, the Contractor should maintain high standard of housekeeping to prevent emission of fugitive dust. Loading, unloading, handling and storage of raw materials, wastes or by-products should be carried out in a manner so as to minimise the release of visible dust emission. Any piles of materials accumulated on or around the work areas should be cleaned up regularly. Cleaning, repair and maintenance of all plant facilities within the work areas should be carried out in a manner minimising generation of fugitive dust emissions. The material should be handled properly to prevent fugitive dust emission before cleaning.</li> </ul> <p><i>Disturbed Parts of the Roads</i></p> <ul style="list-style-type: none"> <li>Each and every main temporary access should be paved with concrete, bituminous hardcore materials or metal plates and kept clear of dusty materials; or</li> <li>Unpaved parts of the road should be sprayed with water or a dust suppression chemical so as to keep the entire road surface wet.</li> </ul> <p><i>Exposed Earth</i></p> <ul style="list-style-type: none"> <li>Exposed earth should be properly treated by compaction, hydroseeding, vegetation planting or seating with latex, vinyl, bitumen within six months after the last construction activity on the site or part of the site where the exposed earth lies.</li> </ul>	Rem	Rem	Obs
		✓	✓	✓
		✓	✓	Rem
		N/A	N/A	N/A

EM&A Ref.	Recommendation Measures		Implementation Stage	
	<i>Loading, Unloading or Transfer of Dusty Materials</i>			
	<ul style="list-style-type: none"> <li>▪ All dusty materials should be sprayed with water immediately prior to any loading or transfer operation so as to keep the dusty material wet.</li> </ul>	✓	✓	✓
	<i>Debris Handling</i>			
	<ul style="list-style-type: none"> <li>▪ Any debris should be covered entirely by impervious sheeting or stored in a debris collection area sheltered on the top and the three sides.</li> </ul>	✓	✓	✓
	<ul style="list-style-type: none"> <li>▪ Before debris is dumped into a chute, water should be sprayed so that it remains wet when it is dumped.</li> </ul>	✓	✓	✓
	<i>Transport of Dusty Materials</i>			
	<ul style="list-style-type: none"> <li>▪ Vehicle used for transporting dusty materials/spoils should be covered with tarpaulin or similar material. The cover should extend over the edges of the sides and tailboards.</li> </ul>	✓	✓	✓
	<i>Wheel washing</i>			
	<ul style="list-style-type: none"> <li>▪ Vehicle wheel washing facilities should be provided at each construction site exit. Immediately before leaving the construction site, every vehicle should be washed to remove any dusty materials from its body and wheels.</li> </ul>	✓	✓	✓
	<i>Use of vehicles</i>			
	<ul style="list-style-type: none"> <li>▪ The speed of the trucks within the site should be controlled to about 10km/hour in order to reduce adverse dust impacts and secure the safe movement around the site.</li> </ul>	✓	✓	✓
	<ul style="list-style-type: none"> <li>▪ Immediately before leaving the construction site, every vehicle should be washed to remove any dusty materials from its body and wheels.</li> </ul>	✓	✓	✓
	<ul style="list-style-type: none"> <li>▪ Where a vehicle leaving the construction site is carrying a load of dusty materials, the load should be covered entirely by clean impervious sheeting to ensure that the dusty materials do not leak from the vehicle.</li> </ul>	✓	✓	✓
	<i>Site hoarding</i>			
	<ul style="list-style-type: none"> <li>▪ Where a site boundary adjoins a road, street, service lane or other area accessible to the public, hoarding of not less than 2.4m high from ground level should be provided along the entire length of that portion of the site boundary except for a site entrance or exit.</li> </ul>	✓	✓	✓
2.1 & 10.3.1	<p><b>Best Practicable Means for Cement Works (Concrete Batching Plant)</b></p> <p>The relevant best practices for dust control as stipulated in the Guidance Note on the Best Practicable Means for Cement Works (Concrete Batching Plant) BPM 3/2(93) should be followed and implemented to further reduce the construction dust impacts of the Project. These best practices include:</p>			



EM&A Ref.	Recommendation Measures		Implementation Stage	
	Exhaust from Dust Arrestment Plant	N/A	✓	✓
	<ul style="list-style-type: none"> <li>Wherever possible the final discharge point from particulate matter arrestment plant, where is not necessary to achieve dispersion from residual pollutants, should be at low level to minimise the effect on the local community in the case of abnormal emissions and to facilitate maintenance and inspection</li> </ul>			
	Emission Limits	N/A	✓	✓
	<ul style="list-style-type: none"> <li>All emissions to air, other than steam or water vapour, shall be colourless and free from persistent mist or smoke</li> </ul>			
	Engineering Design/Technical Requirements	N/A	✓	✓
	<ul style="list-style-type: none"> <li>As a general guidance, the loading, unloading, handling and storage of fuel, raw materials, products, wastes or by-products should be carried out in a manner so as to prevent the release of visible dust and/or other noxious or offensive emissions</li> </ul>			
<b>Noise Impact (Construction)</b>				
3.1 & 10.4.1	<b>Good Site Practice</b>			
	Good site practice and noise management can significantly reduce the impact of construction site activities on nearby NSRs. The following package of measures should be followed during each phase of construction:			
	<ul style="list-style-type: none"> <li>only well-maintained plant to be operated on-site and plant should be serviced regularly during the construction works;</li> </ul>	✓	✓	✓
	<ul style="list-style-type: none"> <li>machines and plant that may be in intermittent use to be shut down between work periods or should be throttled down to a minimum;</li> </ul>	✓	✓	✓
	<ul style="list-style-type: none"> <li>plant known to emit noise strongly in one direction, should, where possible, be orientated to direct noise away from the NSRs;</li> </ul>	✓	✓	✓
	<ul style="list-style-type: none"> <li>mobile plant should be sited as far away from NSRs as possible; and</li> </ul>	✓	✓	✓
	<ul style="list-style-type: none"> <li>material stockpiles and other structures to be effectively utilised, where practicable, to screen noise from on-site construction activities.</li> </ul>	✓	✓	✓
3.1 & 10.4.1	<b>Adoption of Quieter PME</b>	N/A	N/A	N/A
	The recommended quieter PME adopted in the assessment were taken from the EPD's QPME Inventory and "Sound Power Levels of Other Commonly Used PME" are presented in <b>Table 4.26</b> in the EIA report. It should be noted that the silenced PME selected for assessment can be found in Hong Kong.			
3.1 &	<b>Use of Movable Noise Barriers</b>			
	Movable noise barriers can be very effective in screening noise from particular items of plant when			

EM&A Ref.	Recommendation Measures	Implementation Stage		
10.4.1	constructing the Project. Noise barriers located along the active works area close to the noise generating component of a PME could produce at least 10 dB(A) screening for stationary plant and 5 dB(A) for mobile plant provided the direct line of sight between the PME and the NSRs is blocked.	N/A	Obs	✓
3.1 & 10.4.1	<b>Use of Noise Enclosure/ Acoustic Shed</b> The use of noise enclosure or acoustic shed is to cover stationary PME such as air compressor and concrete pump. With the adoption of the noise enclosure, the PME could be completely screened, and noise reduction of 15 dB(A) can be achieved according to the EIAO Guidance Note No.9/2010.	N/A	N/A	N/A
3.1 & 10.4.1	<b>Use of Noise Insulating Fabric</b> Noise insulating fabric can also be adopted for certain PME (e.g. drill rig, pilling machine etc). The fabric should be lapped such that there are no openings or gaps on the joints. According to the approved Tsim Sha Tsui Station Northern Subway EIA report (AEIAR-127/2008), a noise reduction of 10 dB(A) can be achieved for the PME lapped with the noise insulating fabric.	N/A	✓	✓
3.1 & 10.4.1	<b>Scheduling of Construction Works outside School Examination Periods</b> During construction phase, the contractor should liaise with the educational institutions (including NSRs LCS and CRGPS) to obtain the examination schedule and avoid the noisy construction activities during school examination periods.	N/A	N/A	N/A
<b>Water Quality Impact (Construction)</b>				
4.1 & 10.5.1	<b>Construction site runoff and drainage</b> The site practices outlined in ProPECC Note PN 1/94 should be followed as far as practicable in order to minimise surface runoff and the chance of erosion. The following measures are recommended to protect water quality and sensitive uses of the coastal area, and when properly implemented should be sufficient to adequately control site discharges so as to avoid water quality impacts:			
	<ul style="list-style-type: none"> <li>▪ At the start of site establishment, perimeter cut-off drains to direct off-site water around the site should be constructed with internal drainage works and erosion and sedimentation control facilities implemented. Channels, earth bunds or sand bag barriers should be provided on site to direct storm water to silt removal facilities. The design of the temporary on-site drainage system should be undertaken by the WKCDA's Contractor prior to the commencement of construction;</li> <li>▪ Sand/silt removal facilities such as sand/silt traps and sediment basins should be provided to remove sand/silt particles from runoff to meet the requirements of the TM standards under the WPCO. The design of efficient silt removal facilities should be based on the guidelines in Appendix A1 of ProPECC Note PN 1/94. Sizes may vary depending upon the flow rate. The detailed design of the sand/silt traps should be undertaken by the WKCDA's Contractor prior to the commencement of construction.</li> <li>▪ All drainage facilities and erosion and sediment control structures should be regularly inspected and maintained to ensure proper and efficient operation at all times and particularly during rainstorms.</li> </ul>	Rem	Rem	Obs
		✓	Obs	Obs
		✓	✓	✓

EM&A Ref.	Recommendation Measures	Implementation Stage		
	Deposited silt and grit should be regularly removed, at the onset of and after each rainstorm to ensure that these facilities are functioning properly at all times.			
	<ul style="list-style-type: none"> <li>▪ Measures should be taken to minimize the ingress of site drainage into excavations. If excavation of trenches in wet periods is necessary, they should be dug and backfilled in short sections wherever practicable. Water pumped out from foundation excavations should be discharged into storm drains via silt removal facilities.</li> </ul>	✓	✓	✓
	<ul style="list-style-type: none"> <li>▪ All vehicles and plant should be cleaned before leaving a construction site to ensure no earth, mud, debris and the like is deposited by them on roads. An adequately designed and sited wheel washing facility should be provided at construction site exit where practicable. Wash-water should have sand and silt settled out and removed regularly to ensure the continued efficiency of the process. The section of access road leading to, and exiting from, the wheel-wash bay to the public road should be paved with sufficient backfall toward the wheel-wash bay to prevent vehicle tracking of soil and silty water to public roads and drains.</li> </ul>	✓	✓	✓
	<ul style="list-style-type: none"> <li>▪ Open stockpiles of construction materials or construction wastes on-site should be covered with tarpaulin or similar fabric during rainstorms. Measures should be taken to prevent the washing away of construction materials, soil, silt or debris into any drainage system.</li> </ul>	✓	✓	Obs
	<ul style="list-style-type: none"> <li>▪ Manholes (including newly constructed ones) should be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris being washed into the drainage system and stormwater runoff being directed into foul sewers.</li> </ul>	✓	✓	✓
	<ul style="list-style-type: none"> <li>▪ Precautions should be taken at any time of the year when rainstorms are likely. Actions should be taken when a rainstorm is imminent or forecasted and actions to be taken during or after rainstorms are summarized in Appendix A2 of ProPECC Note PN 1/94. Particular attention should be paid to the control of silty surface runoff during storm events, especially for areas located near steep slopes.</li> </ul>	✓	✓	✓
	<ul style="list-style-type: none"> <li>▪ Bentonite slurries used in piling or slurry walling should be reconditioned and reused wherever practicable. Temporary enclosed storage locations should be provided on-site for any unused bentonite that needs to be transported away after all the related construction activities are completed. The requirements in ProPECC Note PN 1/94 should be adhered to in the handling and disposal of bentonite slurries.</li> </ul>	N/A	N/A	N/A
	<p><b>Barging facilities and activities</b></p> <p>Recommendations for good site practices during operation of the proposed barging point include:</p>			
	<ul style="list-style-type: none"> <li>▪ All vessels should be sized so that adequate clearance is maintained between vessels and the seabed in all tide conditions, to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller wash;</li> </ul>	N/A	N/A	N/A
	<ul style="list-style-type: none"> <li>▪ Loading of barges and hoppers should be controlled to prevent splashing of material into the surrounding</li> </ul>			

EM&A Ref.	Recommendation Measures	Implementation Stage		
	water. Barges or hoppers should not be filled to a level that will cause the overflow of materials or polluted water during loading or transportation;	N/A	N/A	N/A
	<ul style="list-style-type: none"> <li>▪ All hopper barges should be fitted with tight fitting seals to their bottom openings to prevent leakage of material; and</li> <li>▪ Construction activities should not cause foam, oil, grease, scum, litter or other objectionable matter to be present on the water within the site.</li> </ul>	N/A	N/A	N/A
4.1 & 10.5.1	<p><b>Sewage effluent from construction workforce</b></p> <p>Temporary sanitary facilities, such as portable chemical toilets, should be employed on-site where necessary to handle sewage from the workforce. A licensed contractor should be employed to provide appropriate and adequate portable toilets and be responsible for appropriate disposal and maintenance.</p>	✓	✓	✓
4.1 & 10.5.1	<p><b>General construction activities</b></p> <ul style="list-style-type: none"> <li>▪ Construction solid waste, debris and refuse generated on-site should be collected, handled and disposed of properly to avoid entering any nearby storm water drain. Stockpiles of cement and other construction materials should be kept covered when not being used.</li> <li>▪ Oils and fuels should only be stored in designated areas which have pollution prevention facilities. To prevent spillage of fuels and solvents to any nearby storm water drain, all fuel tanks and storage areas should be provided with locks and be sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank. The bund should be drained of rainwater after a rain event.</li> </ul>	✓	✓	Obs
		✓	✓	Obs
<b>Waste Management Implications (Construction)</b>				
6.1 & 10.7.1	<p><b>Good Site Practices</b></p> <p>Recommendations for good site practices during the construction activities include:</p> <ul style="list-style-type: none"> <li>▪ Nomination of an approved person, such as a site manager, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site</li> <li>▪ Training of site personnel in proper waste management and chemical handling procedures</li> <li>▪ Provision of sufficient waste disposal points and regular collection of waste</li> <li>▪ Appropriate measures to minimise windblown litter and dust/odour during transportation of waste by either covering trucks or by transporting wastes in enclosed containers</li> <li>▪ Provision of wheel washing facilities before the trucks leaving the works area so as to minimise dust</li> </ul>	✓	✓	✓
		✓	✓	✓
		✓	✓	✓
		✓	✓	✓
		✓	✓	✓

EM&A Ref.	Recommendation Measures	Implementation Stage		
	<p>introduction to public roads</p> <ul style="list-style-type: none"> <li>▪ Well planned delivery programme for offsite disposal such that adverse environmental impact from transporting the inert or non-inert C&amp;D materials is not anticipated</li> </ul>	✓	✓	✓
6.1 & 10.7.1	<p><b>Waste Reduction Measures</b></p> <p>Recommendations to achieve waste reduction include:</p> <ul style="list-style-type: none"> <li>▪ Sort inert C&amp;D material to recover any recyclable portions such as metals</li> <li>▪ Segregation and storage of different types of waste in different containers or skips to enhance reuse or recycling of materials and their proper disposal</li> <li>▪ Encourage collection of recyclable waste such as waste paper and aluminium cans by providing separate labelled bins to enable such waste to be segregated from other general refuse generated by the work force</li> <li>▪ Proper site practices to minimise the potential for damage or contamination of inert C&amp;D materials</li> <li>▪ Plan the use of construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste</li> </ul>	✓	✓	✓
6.1 & 10.7.1	<p><b>Inert and Non-inert C&amp;D Materials</b></p> <p>In order to minimise impacts resulting from collection and transportation of inert C&amp;D material for off-site disposal, the excavated materials should be reused on-site as fill material as far as practicable. In addition, inert C&amp;D material generated from excavation works could be reused as fill materials in local projects that require public fill for reclamation.</p> <ul style="list-style-type: none"> <li>▪ The surplus inert C&amp;D material will be disposed of at the Government's PFRFs for beneficial use by other projects in Hong Kong.</li> <li>▪ Liaison with the CEDD Public Fill Committee (PFC) on the allocation of space for disposal of the inert C&amp;D materials at PFRF is underway. No construction work is allowed to proceed until all issues on management of inert C&amp;D materials have been resolved and all relevant arrangements have been endorsed by the relevant authorities including PFC and EPD.</li> <li>▪ The C&amp;D materials generated from general site clearance should be sorted on site to segregate any inert materials for reuse or disposal of at PFRFs whereas the non-inert materials will be disposed of at the designated landfill site.</li> <li>▪ In order to monitor the disposal of inert and non-inert C&amp;D materials at respectively PFRFs and the designated landfill site, and to control fly-tipping, it is recommended that the Contractor should follow the</li> </ul>	N/A	N/A	✓

EM&A Ref.	Recommendation Measures	Implementation Stage		
	<p>Technical Circular (Works) No.6/2010 for Trip Ticket System for Disposal of Construction &amp; Demolition Materials issued by Development Bureau. In addition, it is also recommended that the Contractor should prepare and implement a Waste Management Plan detailing their various waste arising and waste management practices in accordance with the relevant requirements of the Technical Circular (Works) No. 19/2005 Environmental Management on Construction Site.</p>			
6.1 & 10.7.1	<p><b>Chemical Waste</b></p> <ul style="list-style-type: none"> <li>■ If chemical wastes are produced at the construction site, the Contractor will be required to register with the EPD as a chemical waste producer and to follow the guidelines stated in the “Code of Practice on the Packaging Labelling and Storage of Chemical Wastes”. Good quality containers compatible with the chemical wastes should be used, and incompatible chemicals should be stored separately. Appropriate labels should be securely attached on each chemical waste container indicating the corresponding chemical characteristics of the chemical waste, such as explosive, flammable, oxidizing, irritant, toxic, harmful, corrosive, etc. The Contractor should use a licensed collector to transport and dispose of the chemical wastes at the approved Chemical Waste Treatment Centre or other licensed recycling facilities, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.</li> <li>■ Potential environmental impacts arising from the handling activities (including storage, collection, transportation and disposal of chemical waste) are expected to be minimal with the implementation of appropriate mitigation measures as recommended.</li> </ul>	Rem	Rem/Obs	Obs
		Rem	Rem/ Obs	Obs
6.1 & 10.7.1	<p><b>General Refuse</b></p> <p>General refuse should be stored in enclosed bins or compaction units separated from inert C&amp;D materials. A reputable waste collector should be employed by the Contractor to remove general refuse from the site, separately from inert C&amp;D materials. Preferably an enclosed and covered area should be provided to reduce the occurrence of 'wind blown' light material.</p>	✓	✓	✓
<b>Land Contamination (Construction)</b>				
7.1 & 10.8.1	<p>The potential for land contamination issues at the TST Fire Station due to its future relocation will be confirmed by site investigation after land acquisition. Where necessary, mitigation measures for minimising potential exposure to contaminated materials (if any) or remediation measures will be identified. If contaminated land is identified (e.g., during decommissioning of fuel oil storage tanks) after the commencement of works, mitigation measures are proposed in order to minimise the potentially adverse effects on the health and safety of construction workers and impacts arising from the disposal of potentially contaminated materials.</p> <p>The following measures are proposed for excavation and transportation of contaminated material:</p> <ul style="list-style-type: none"> <li>■ To minimize the chance for construction workers to come into contact with any contaminated materials,</li> </ul>	N/A	N/A	N/A



EM&A Ref.	Recommendation Measures	Implementation Stage		
(CM3)				
Table 9.1 & 10.8 (CM4)	Softscape treatments such as vertical green wall panel /planting of climbing and/or weeping plants, etc, to maximize the green coverage and soften the hard architectural and engineering structures and facilities.	N/A	N/A	N/A
Table 9.1 & 10.8 (CM5)	Roof greening by means of intensive and extensive green roof to maximize the green coverage and improve aesthetic appeal and visual quality of the building/structure.	N/A	N/A	N/A
Table 9.1 & 10.8 (CM6)	Sensitive streetscape design should be incorporated along all new roads and streets.	N/A	N/A	N/A
Table 9.1 & 10.8 (CM7)	Structure, ornamental planting shall be provided along amenity strips to enhance the landscape quality.	N/A	N/A	N/A
Table 9.1 & 10.8 (CM8)	Landscape design shall be incorporated to architectural and engineering structures in order to provide aesthetically pleasing designs.	N/A	N/A	N/A
Table 9.1 (CM9)	Minimize the structure of marine facilities to built on the seabed and foreshore in order to minimize the affected extent to the waterbody	N/A	N/A	N/A
Table 9.2 & 10.9 (MCP1)	Use of decorative screen hoarding/boards	✓	✓	✓
Table 9.2 & 10.9 (MCP2)	Early introduction of landscape treatments	N/A	N/A	N/A
Table 9.2 & 10.9 (MCP3)	Adoption of light colour for the temporary ventilation shafts for the basement during the transition period.	N/A	N/A	N/A
Table 9.2 & 10.9 (MCP4)	Control of night time lighting	✓	✓	✓
Table 9.2	Use of greenery such as grass cover for the temporary open areas will help achieve the visual balance and	N/A	N/A	N/A



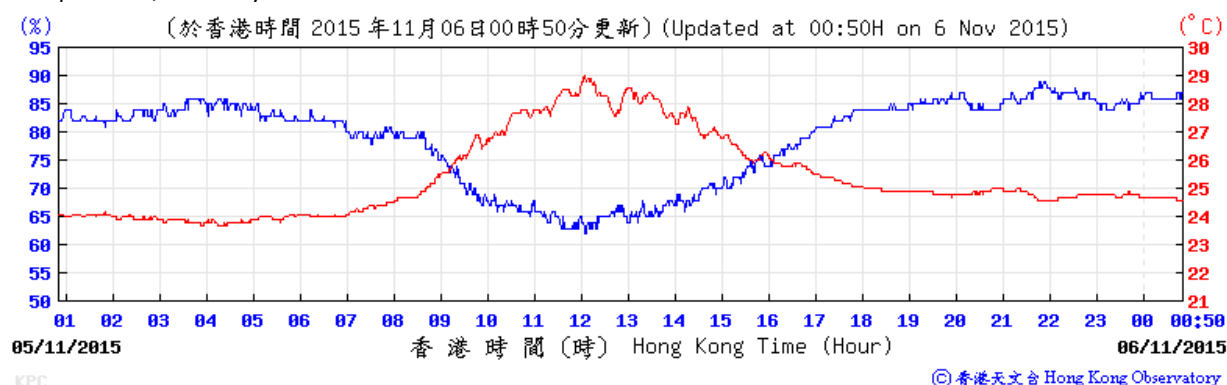
EM&A Ref.	Recommendation Measures	Implementation Stage
& 10.9 (MCP5)	soften the hard edges of the structures.	

- N/A - Not Applicable
- ✓ - Implemented
- Obs - Observed
- Rem - Reminder

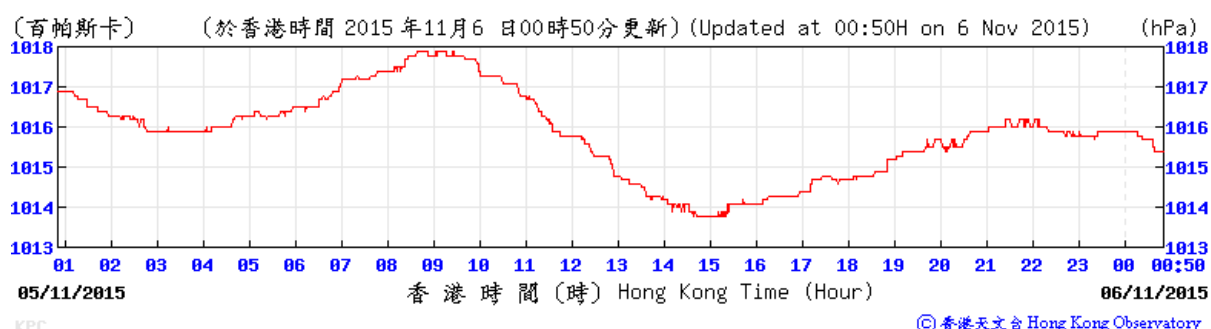
## Appendix D. Meteorological Data Extracted from Hong Kong Observatory

Table D-1: Extract of Meteorological Observations for King's Park Automatic Weather Station in the reporting quarter

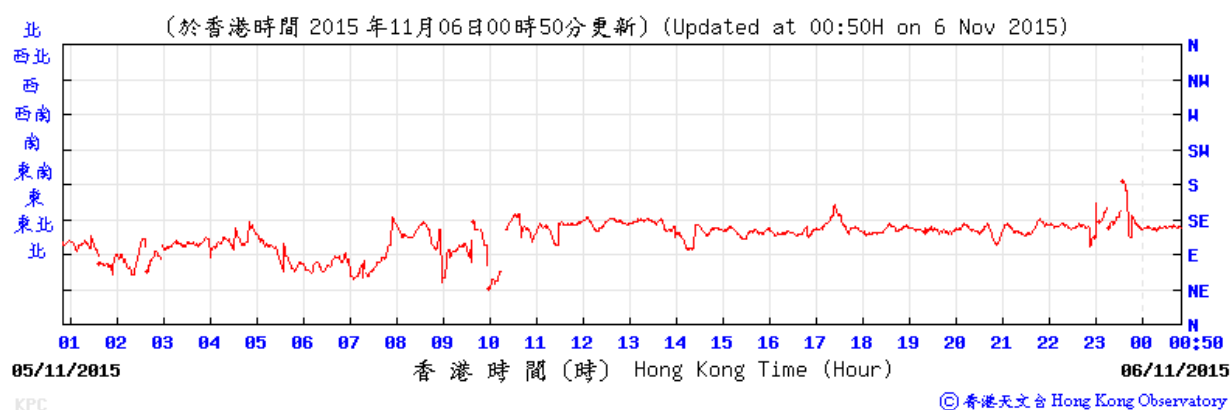
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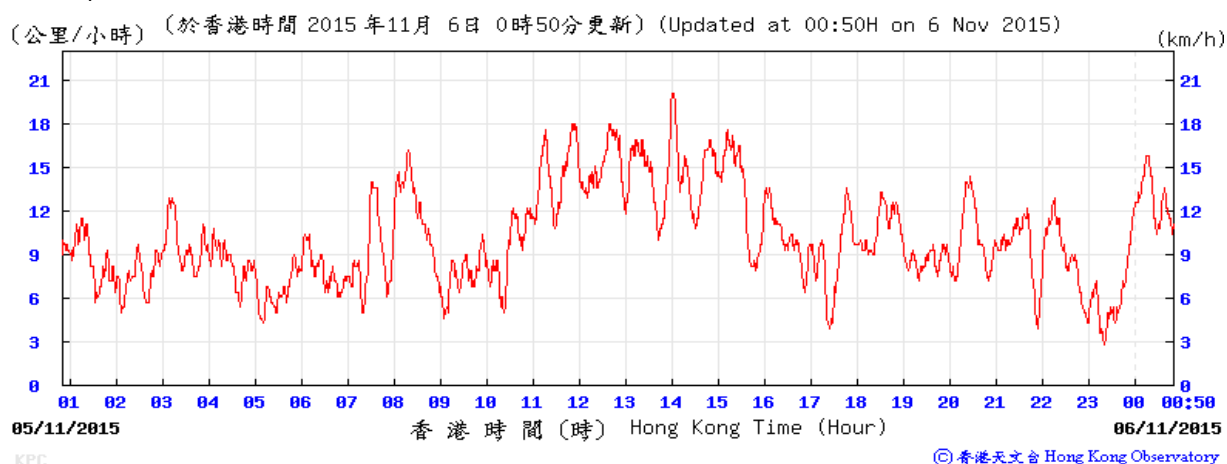
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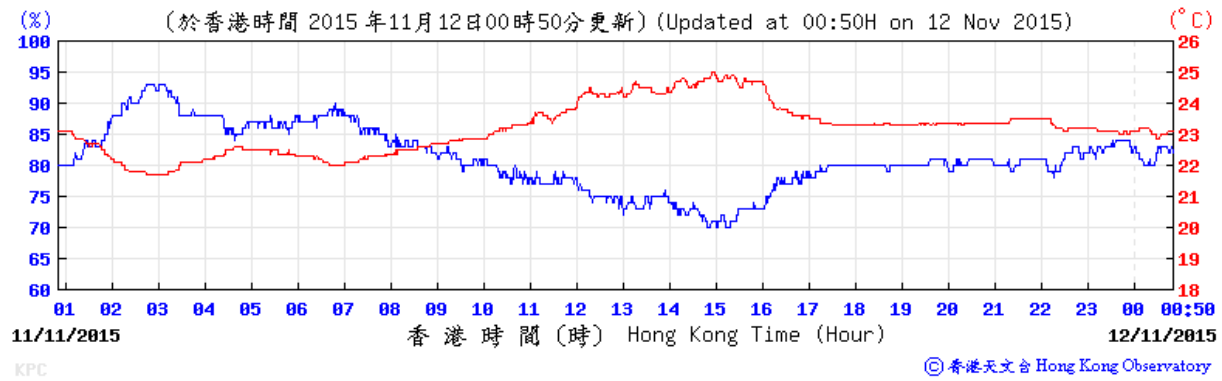
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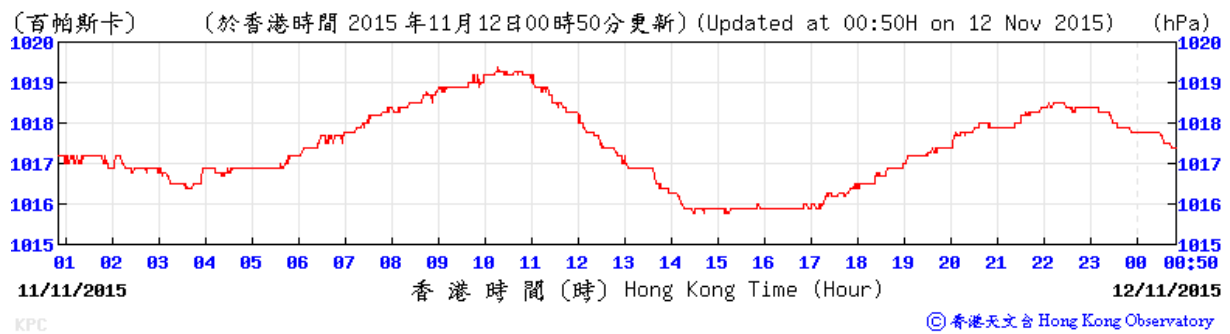
Wind Speed:



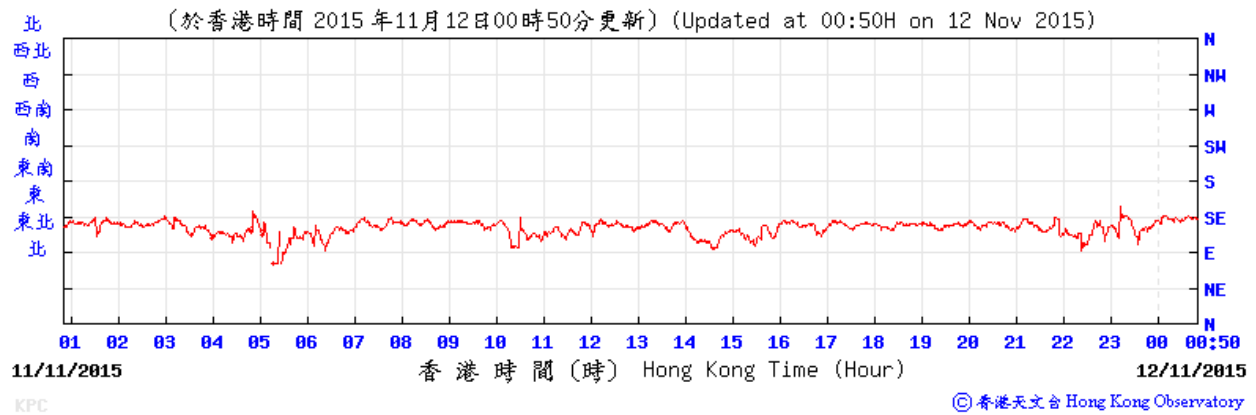
Temperature/Humidity:



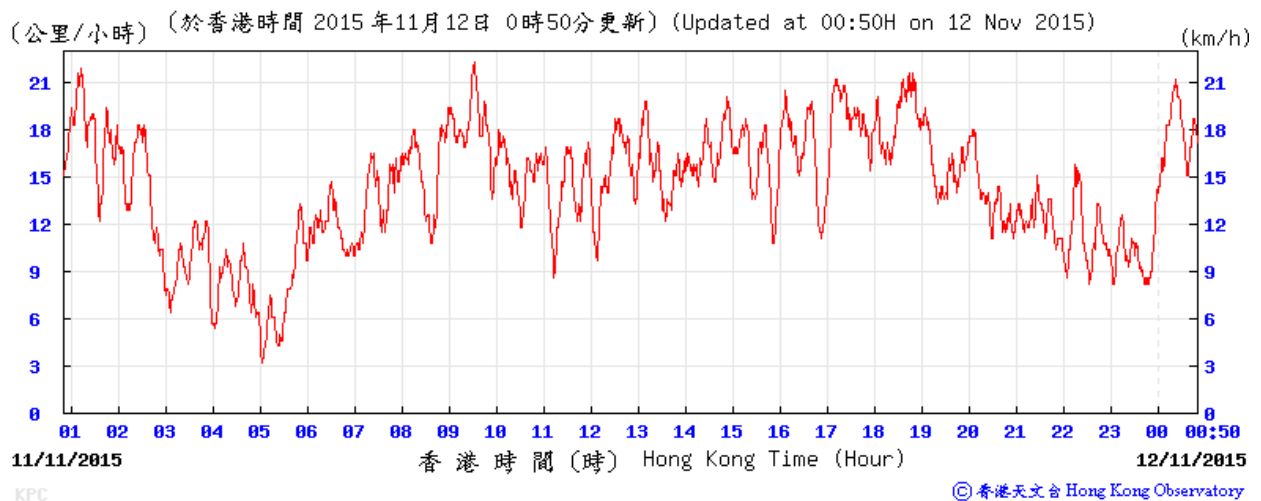
Pressure:



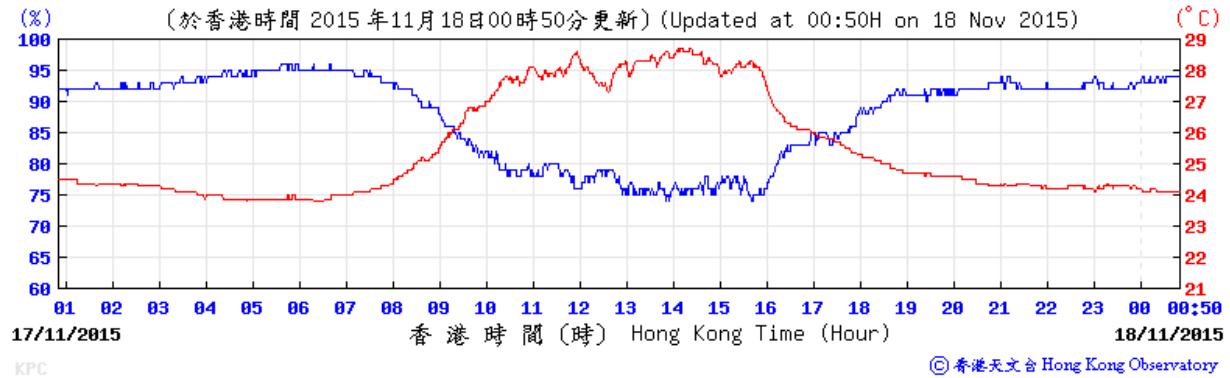
Wind Direction:



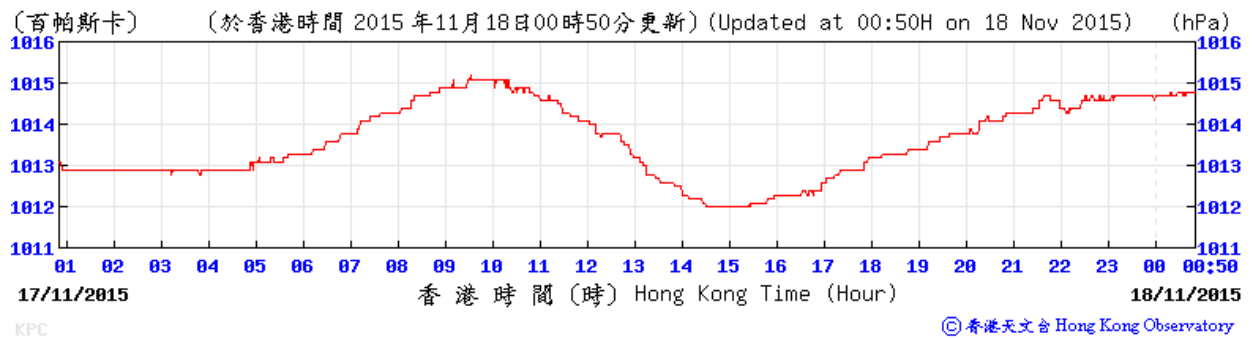
Wind Speed:



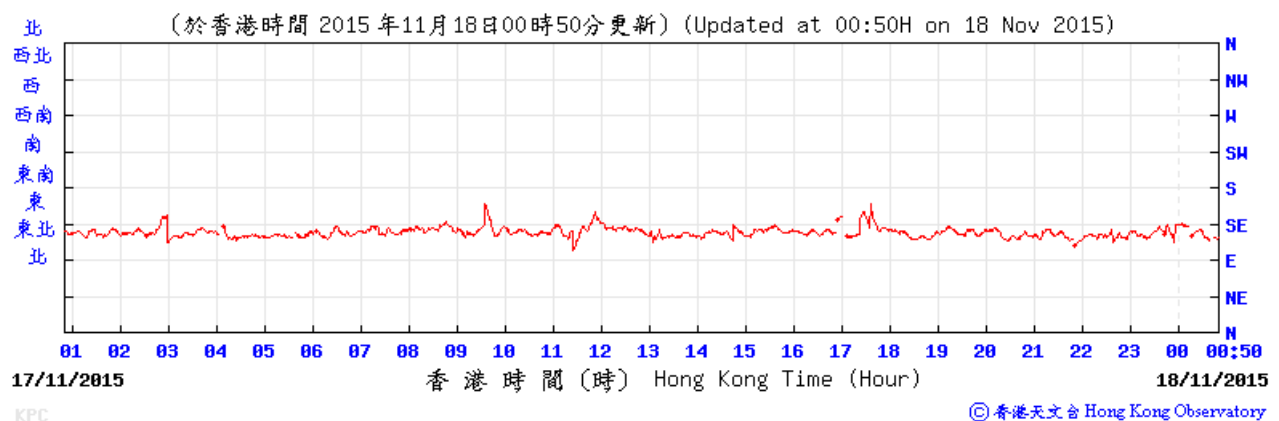
Temperature/Humidity:



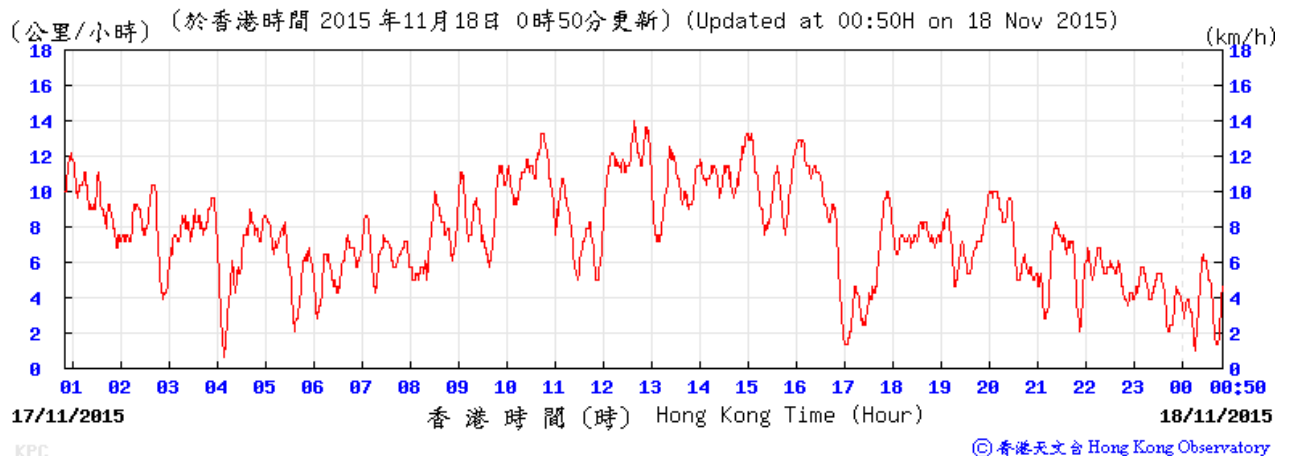
Pressure:



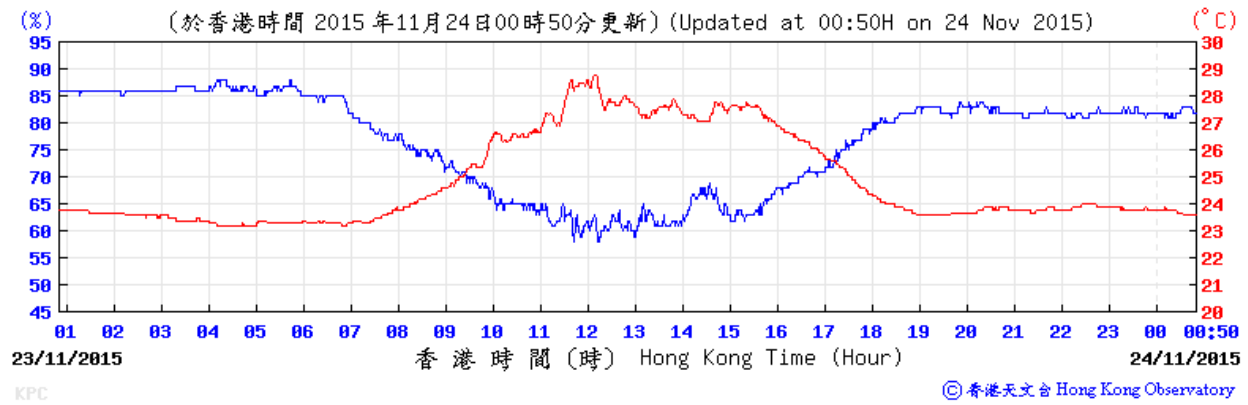
Wind Direction:



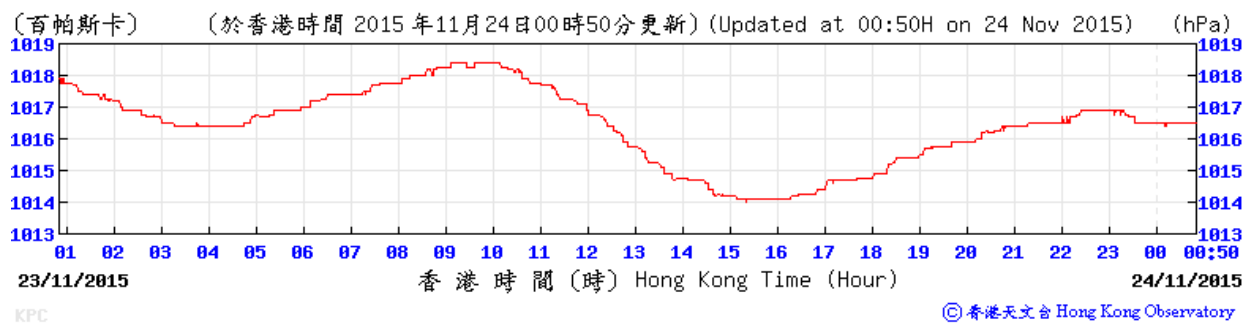
Wind Speed:



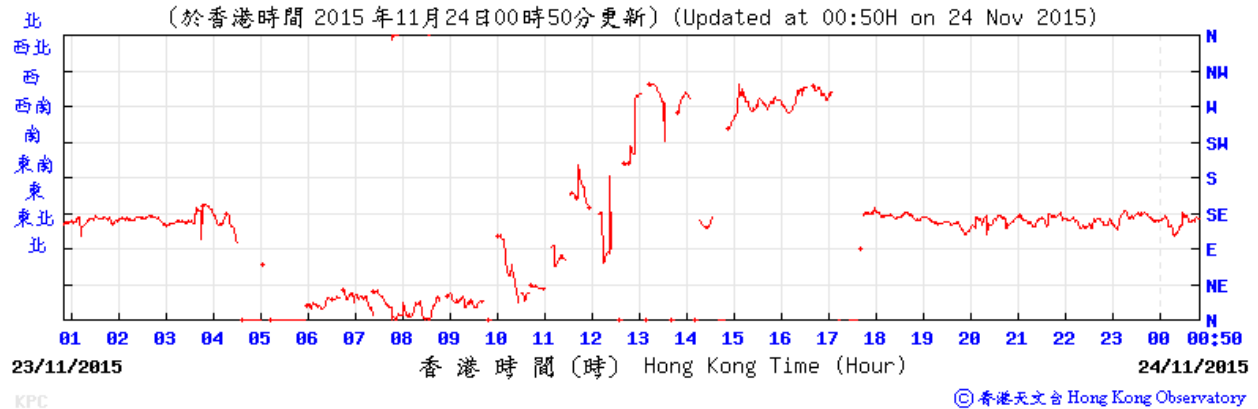
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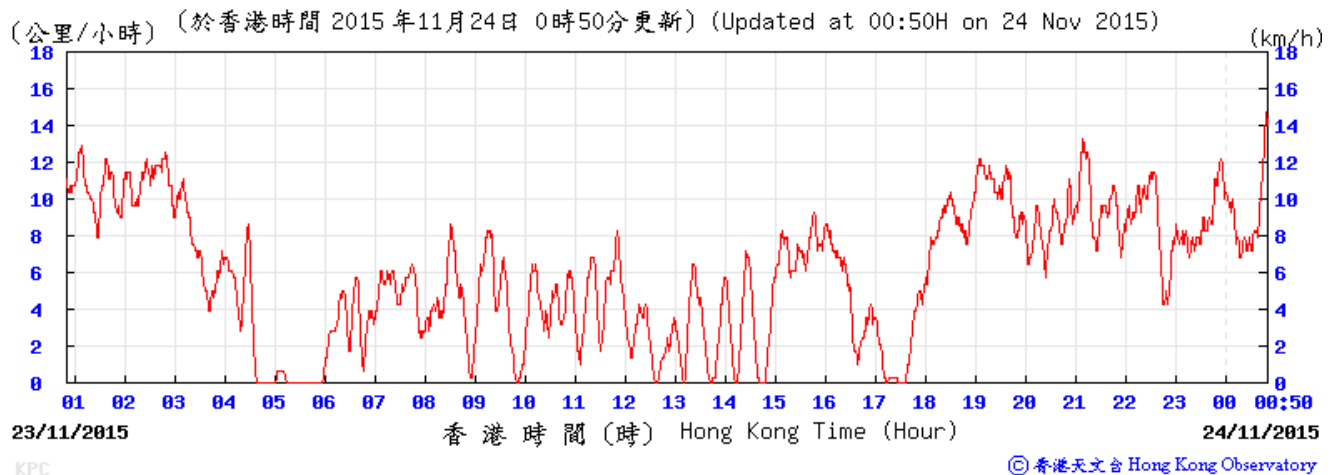
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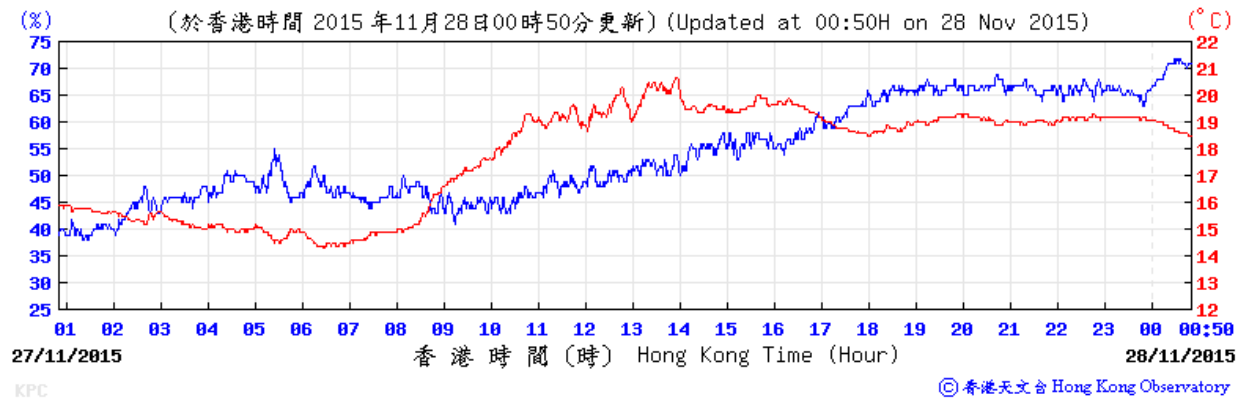
Wind Direction:



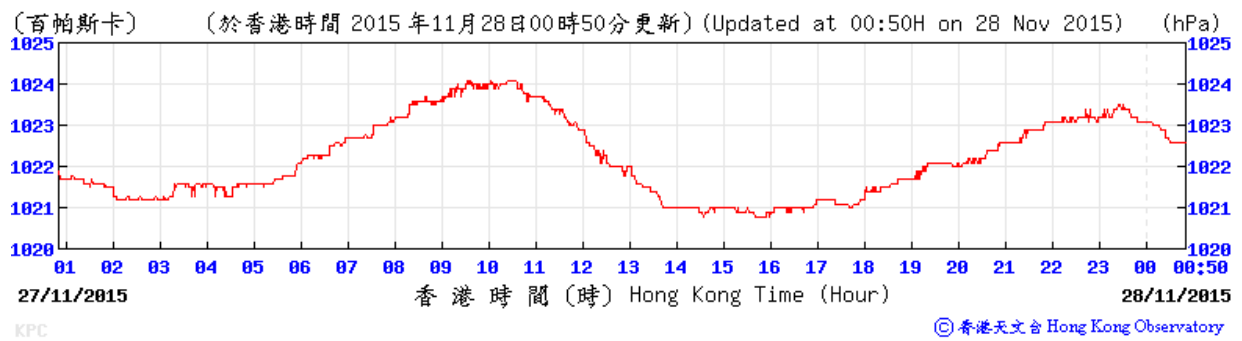
Wind Speed:



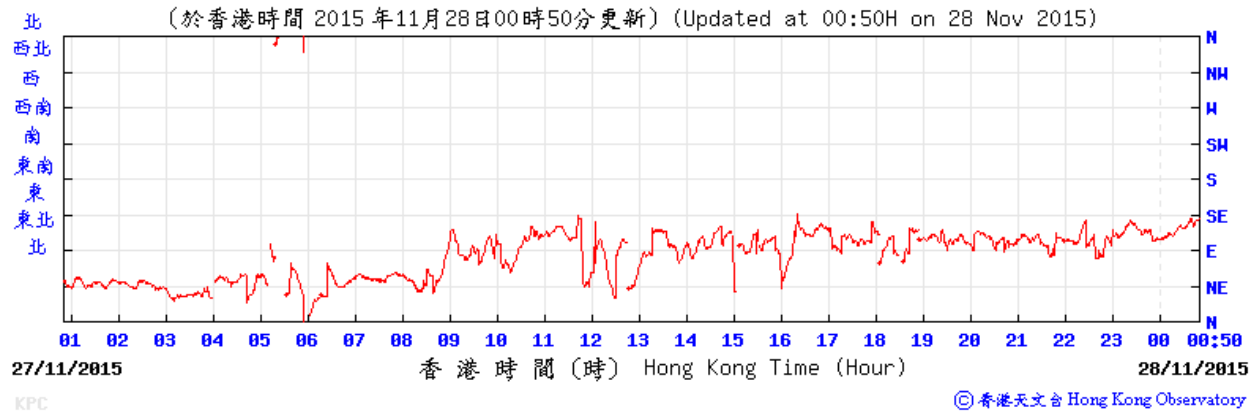
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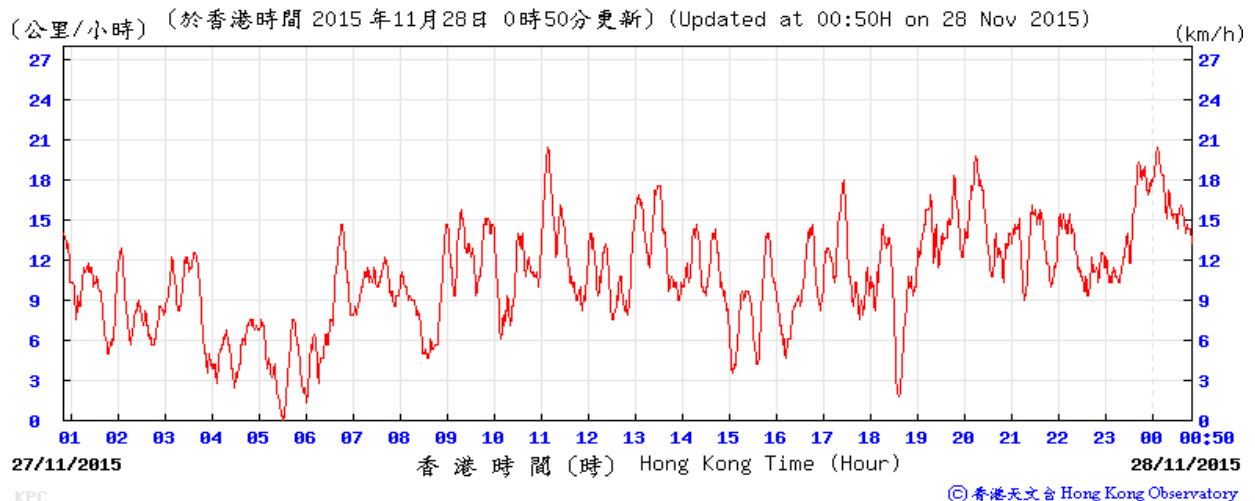
Pressure:



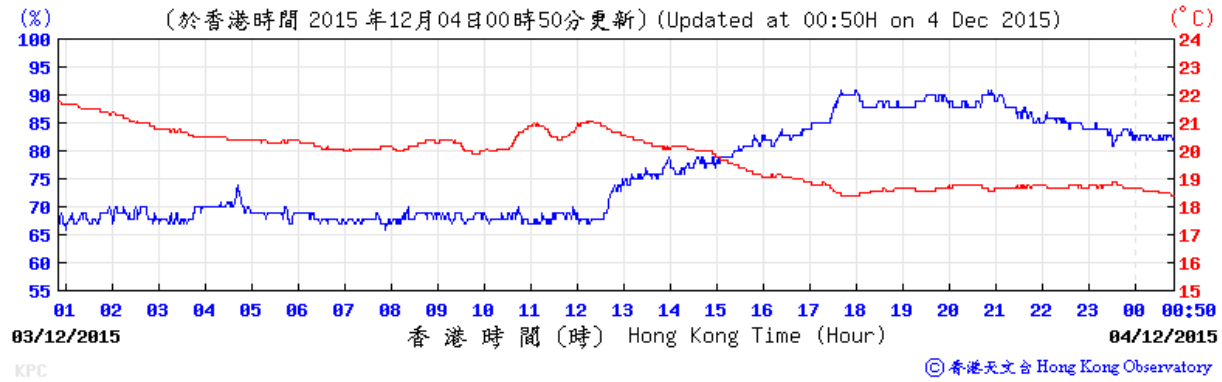
Wind Direction:



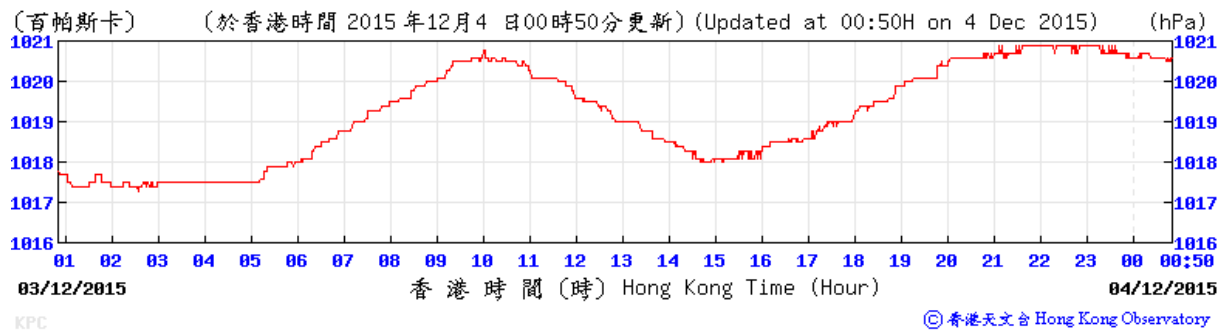
Wind Speed:



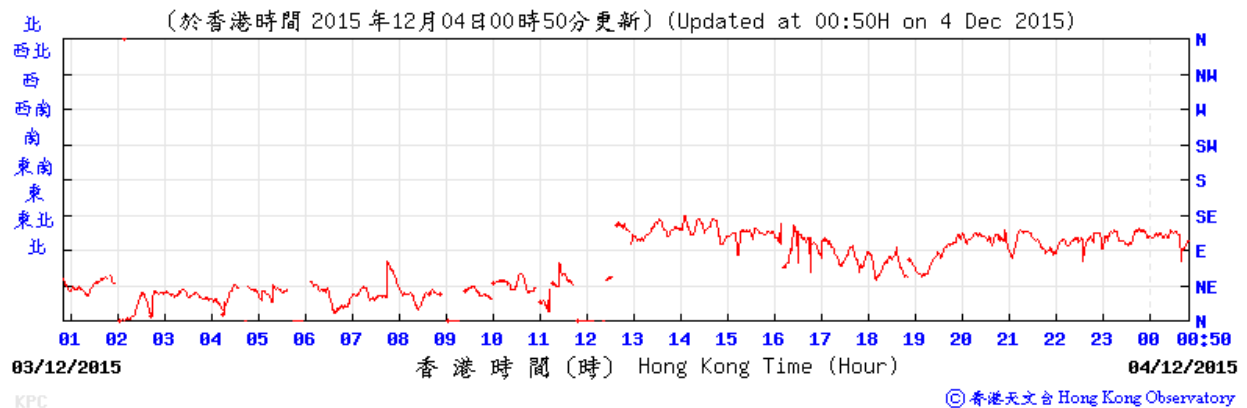
Temperature/Humidity:



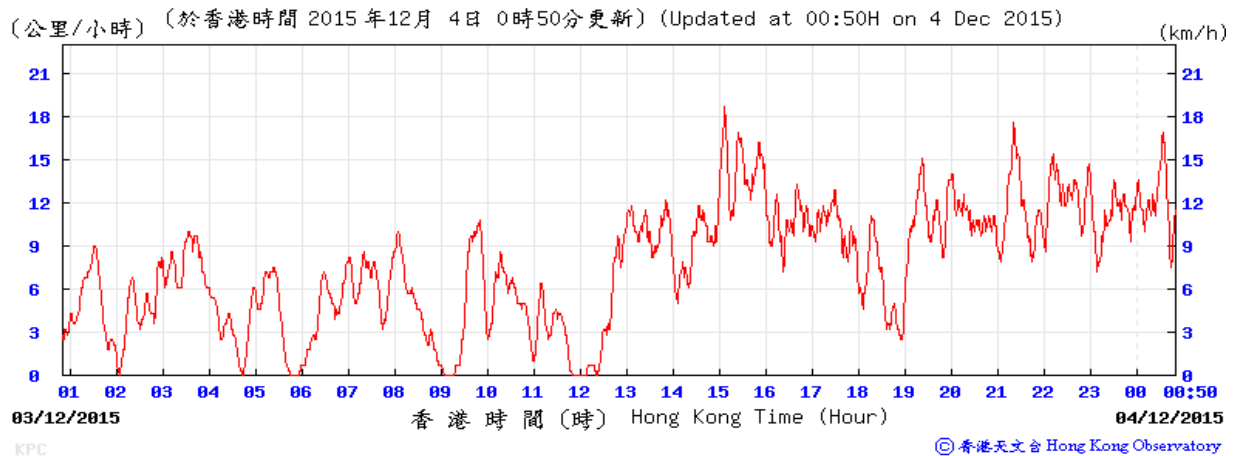
Pressure:



Wind Direction:

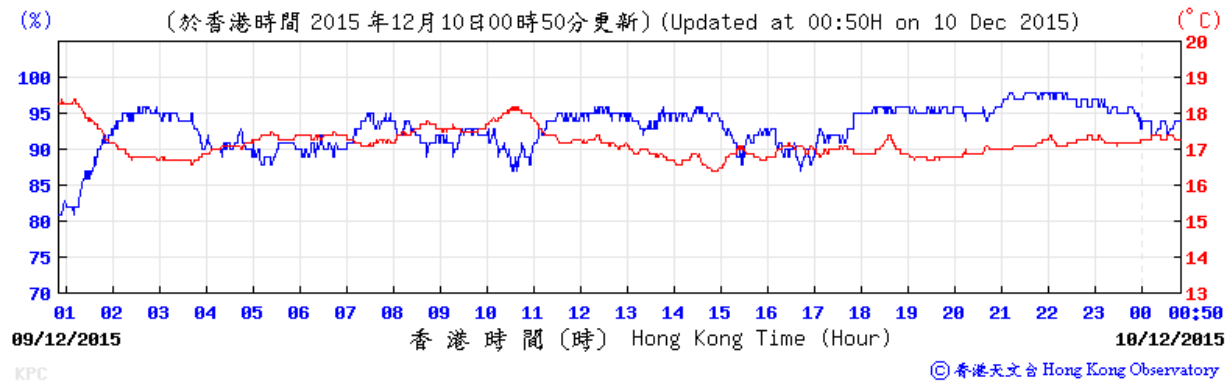


Wind Speed:

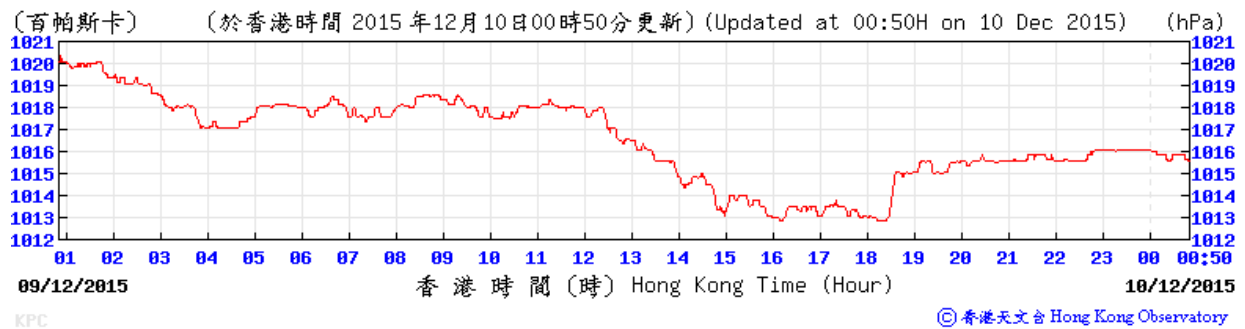




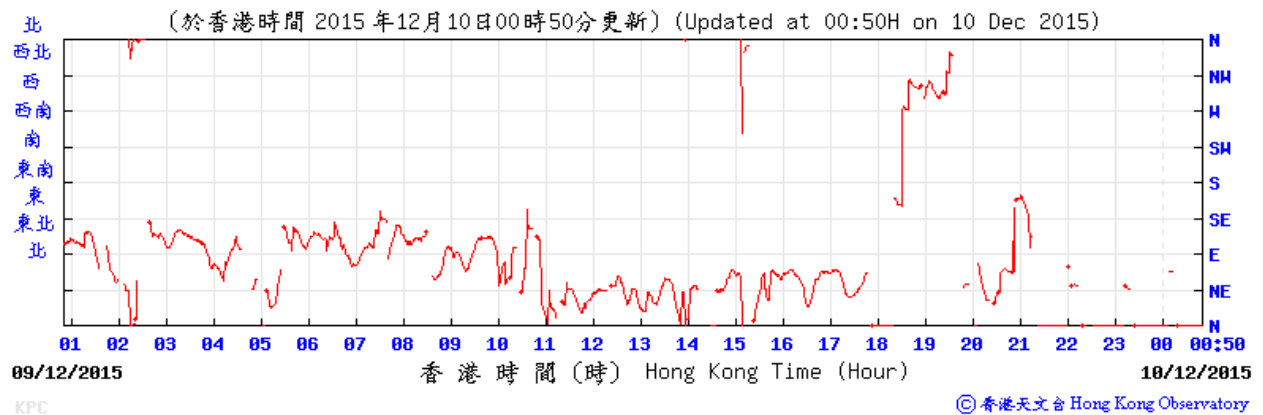
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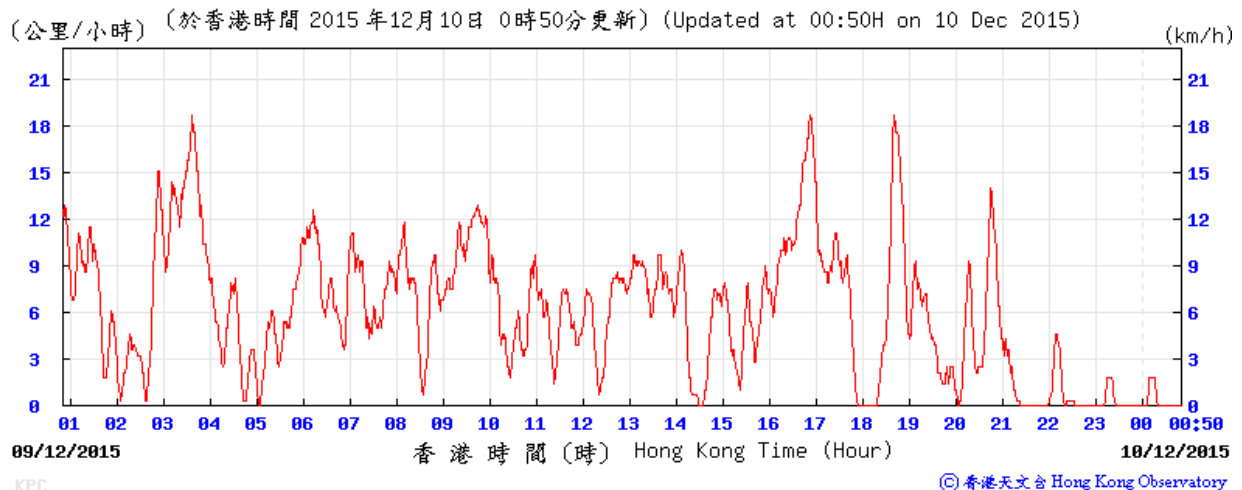
Pressure:



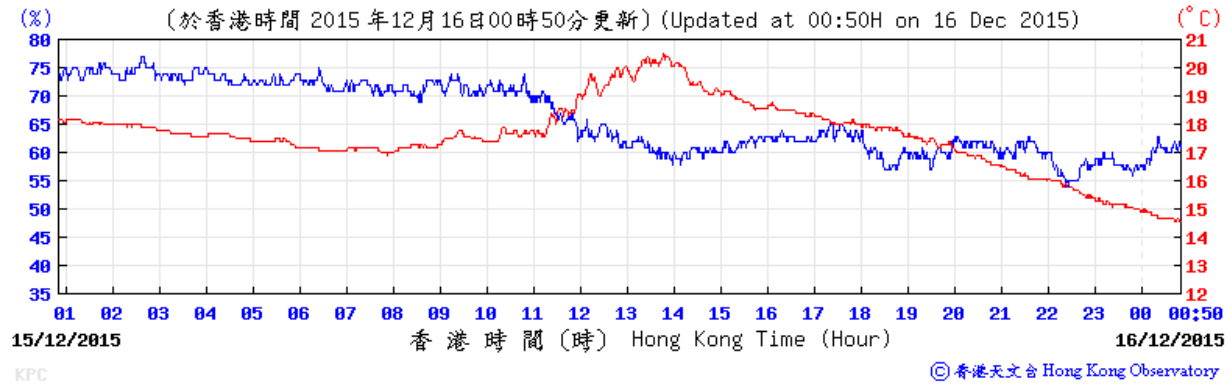
Wind Direction:



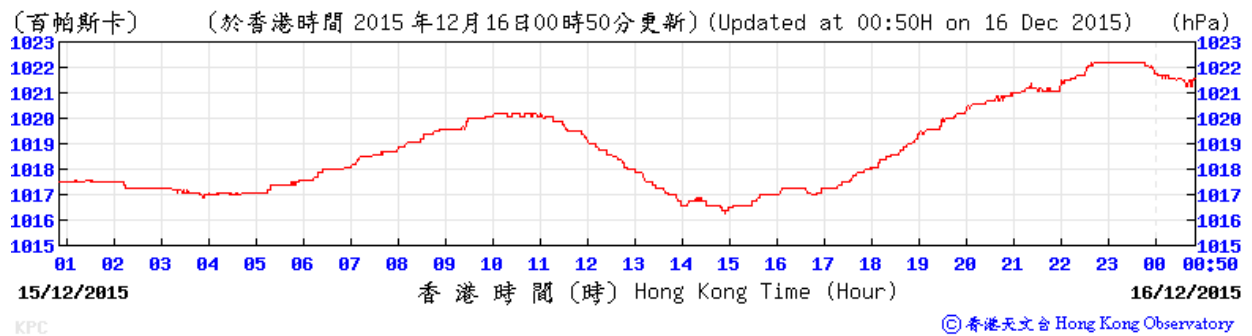
Wind Speed:



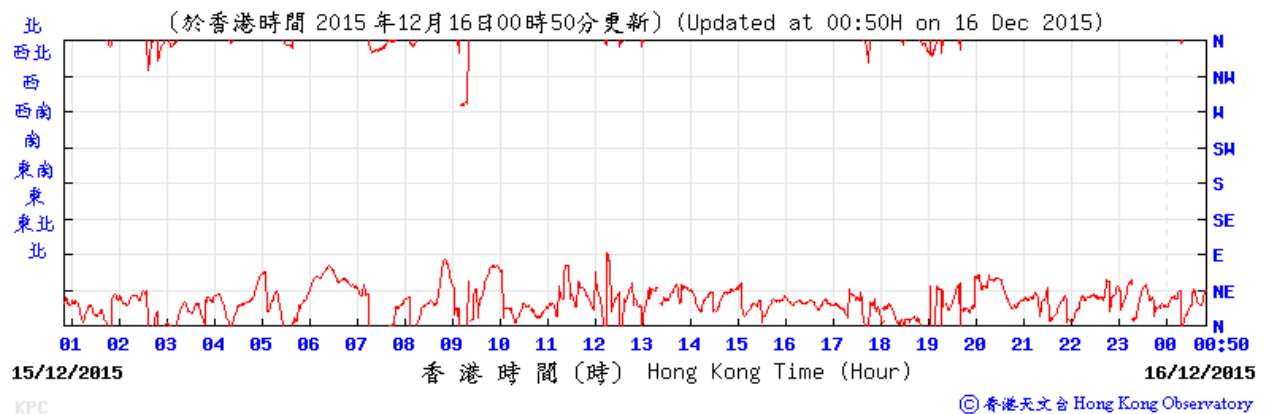
Temperature/Humidity:



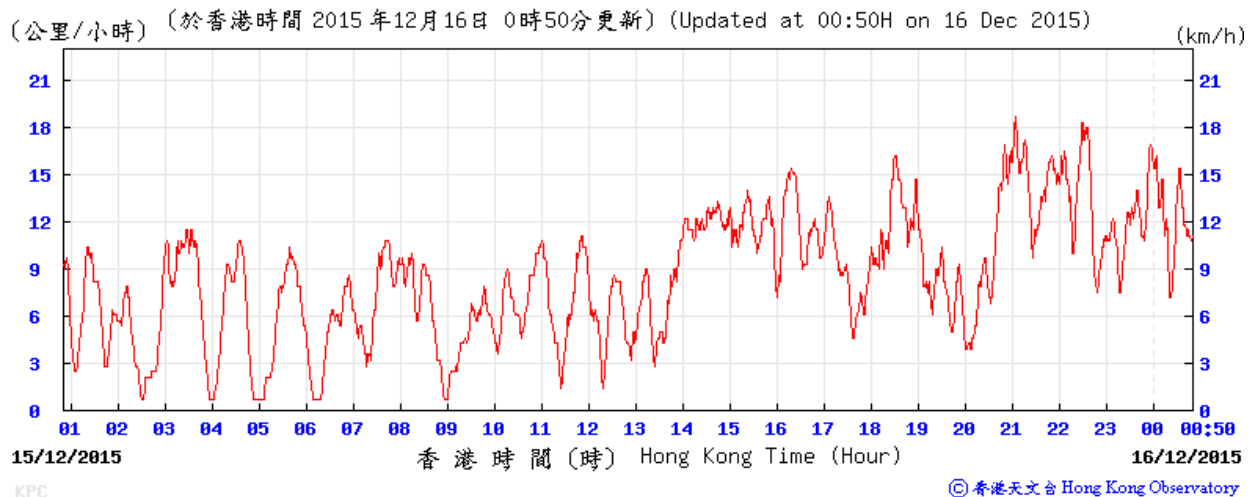
Pressure:



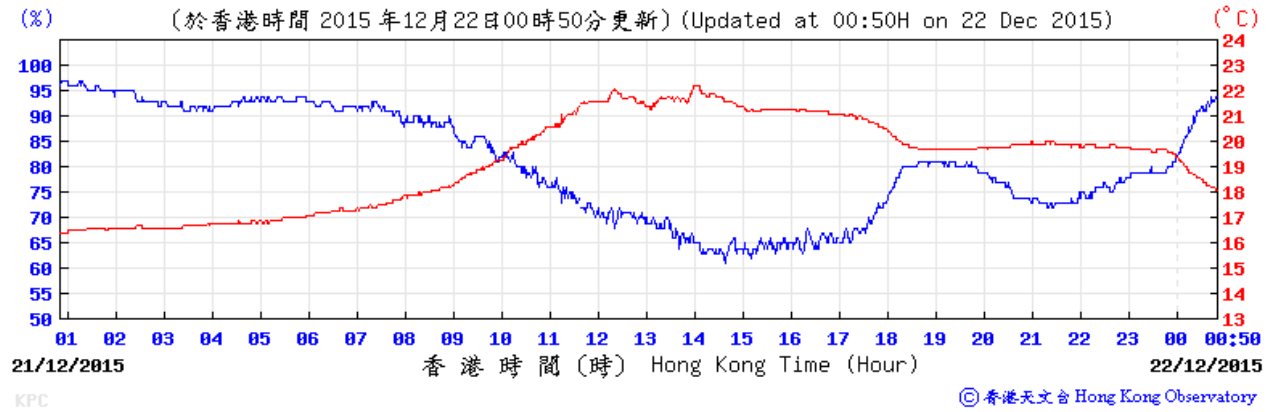
Wind Direction:



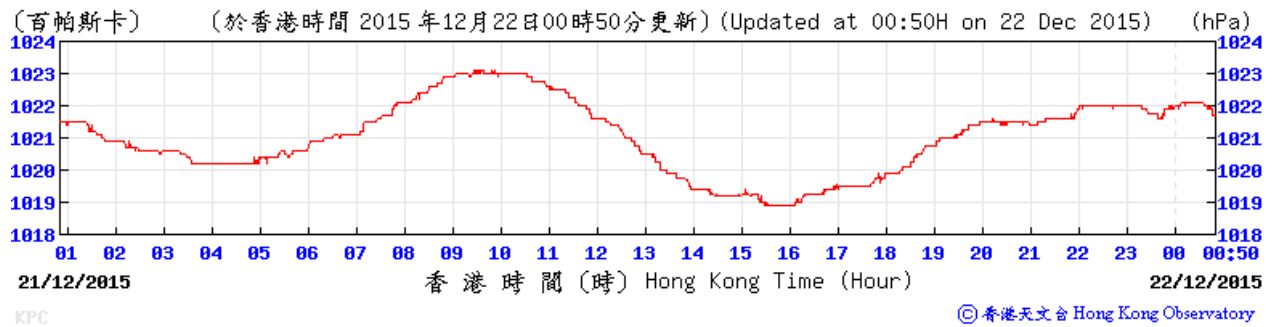
Wind Speed:



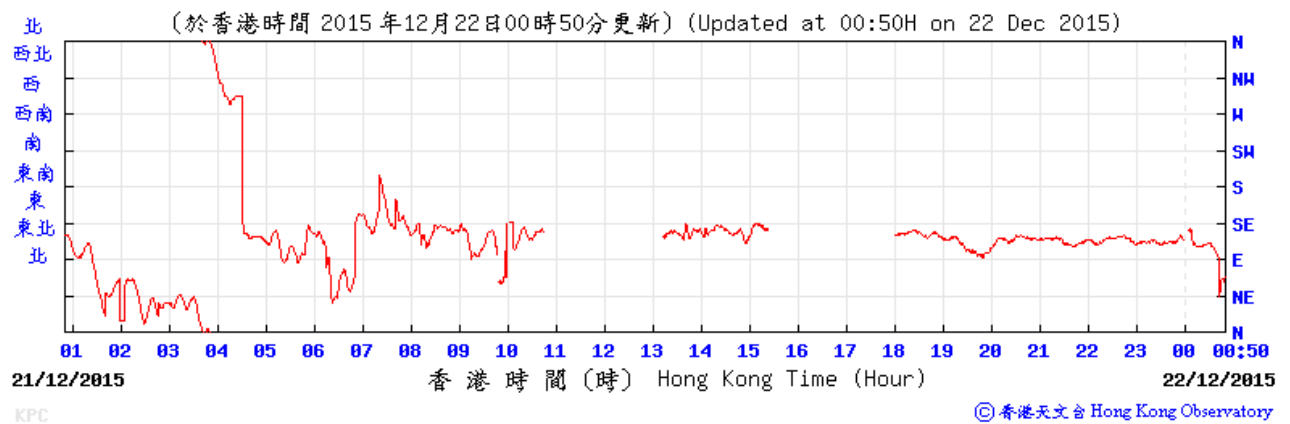
Temperature/Humidity:



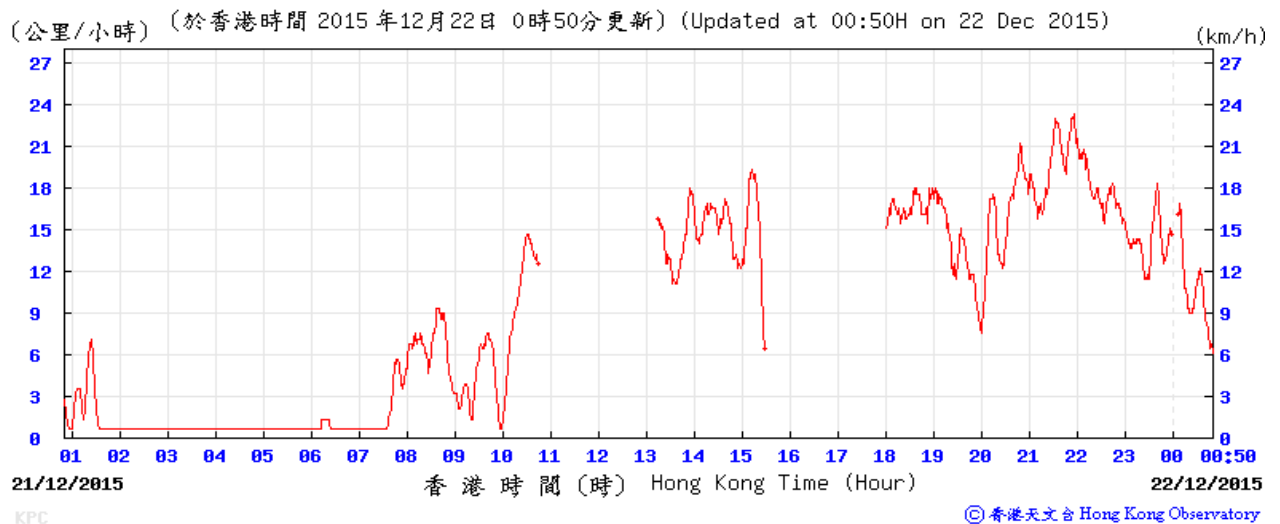
Pressure:



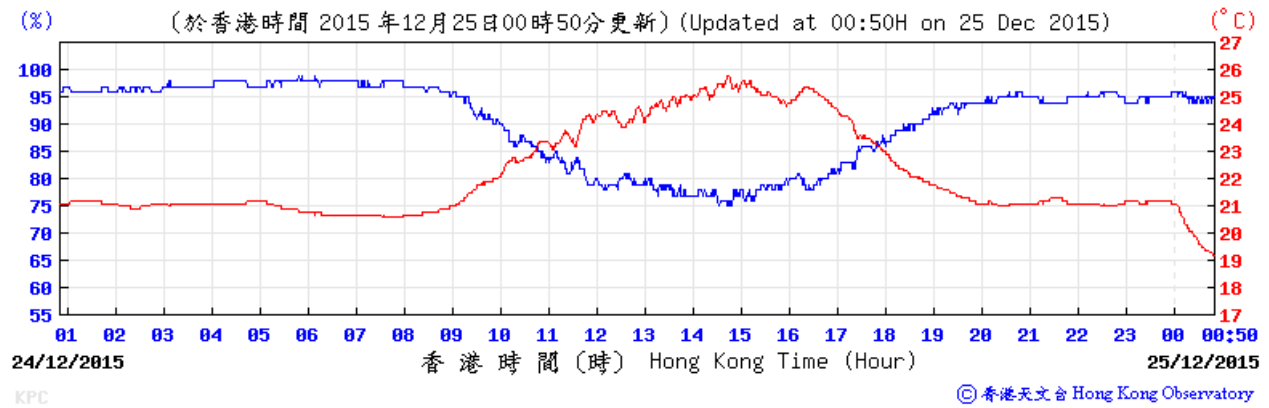
Wind Direction:



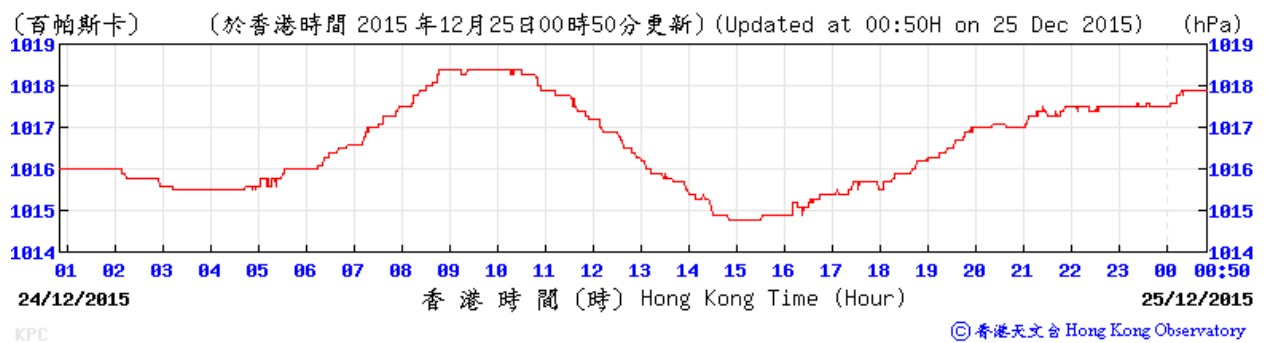
Wind Speed:



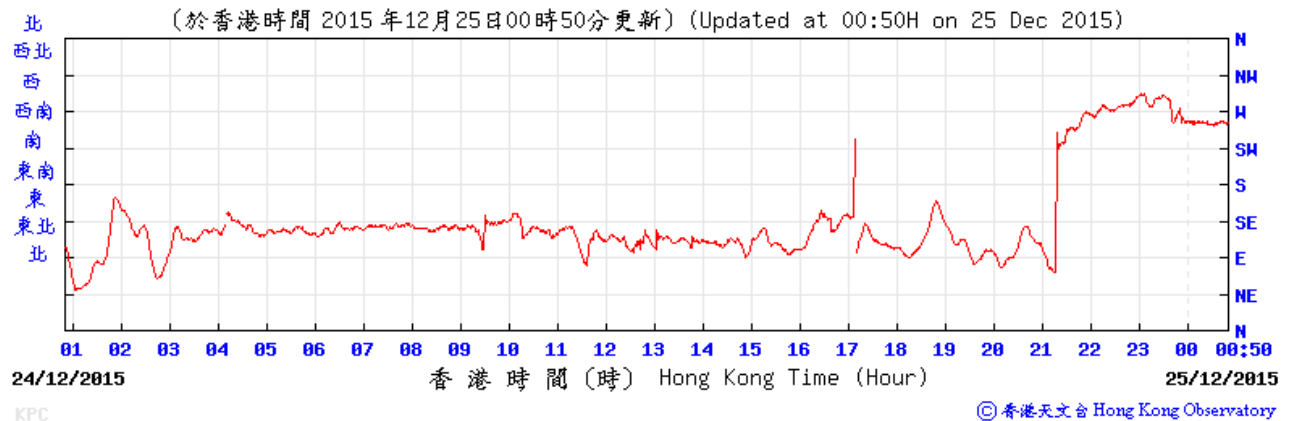
Temperature/Humidity:



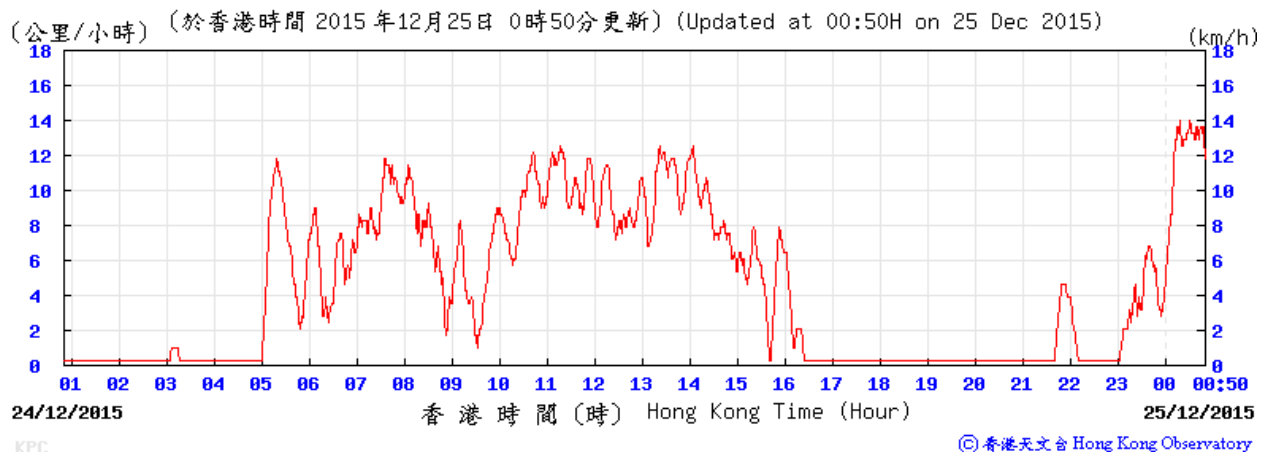
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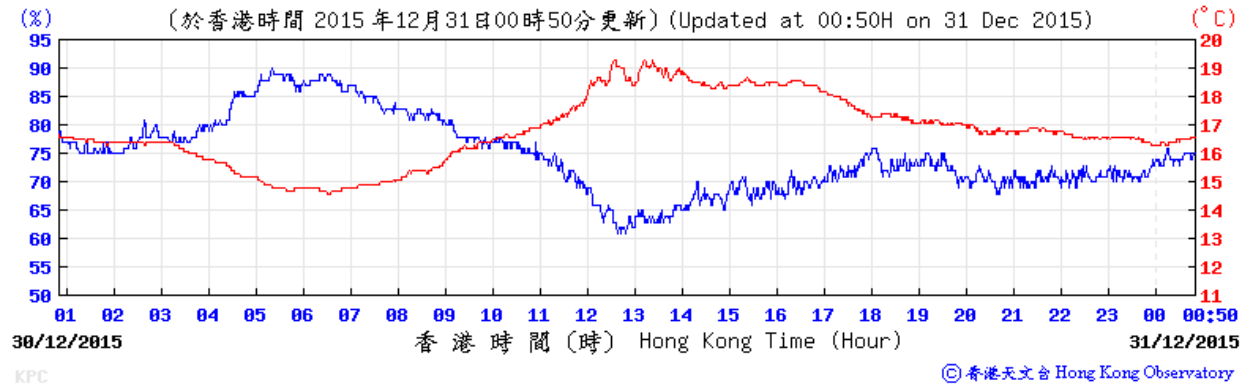
Wind Direction:



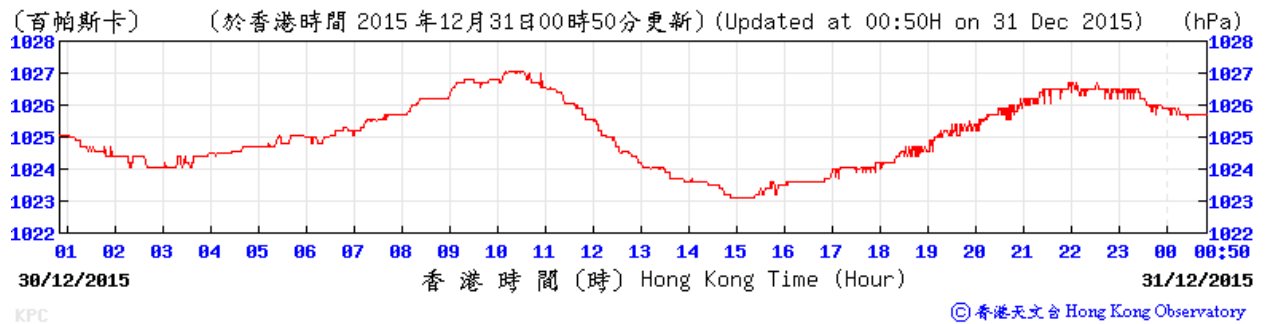
Wind Speed:



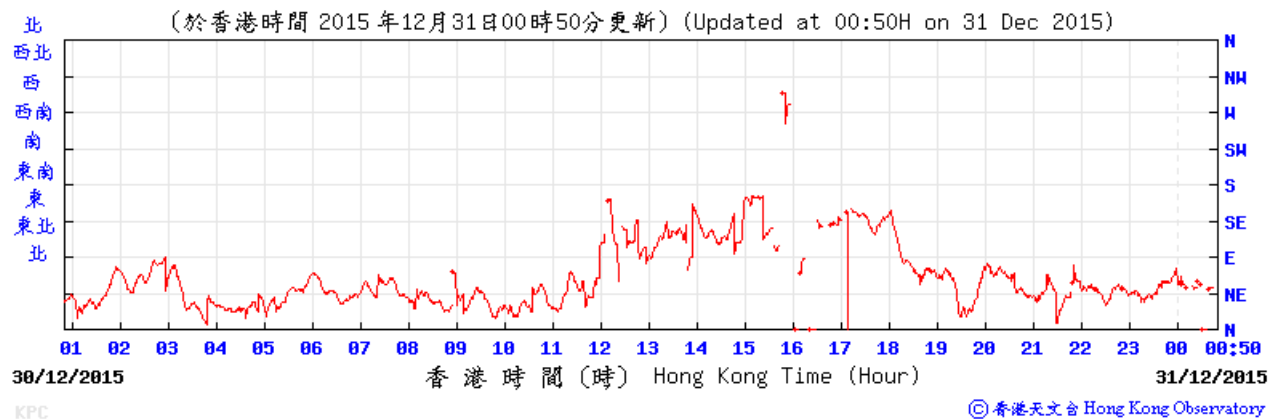
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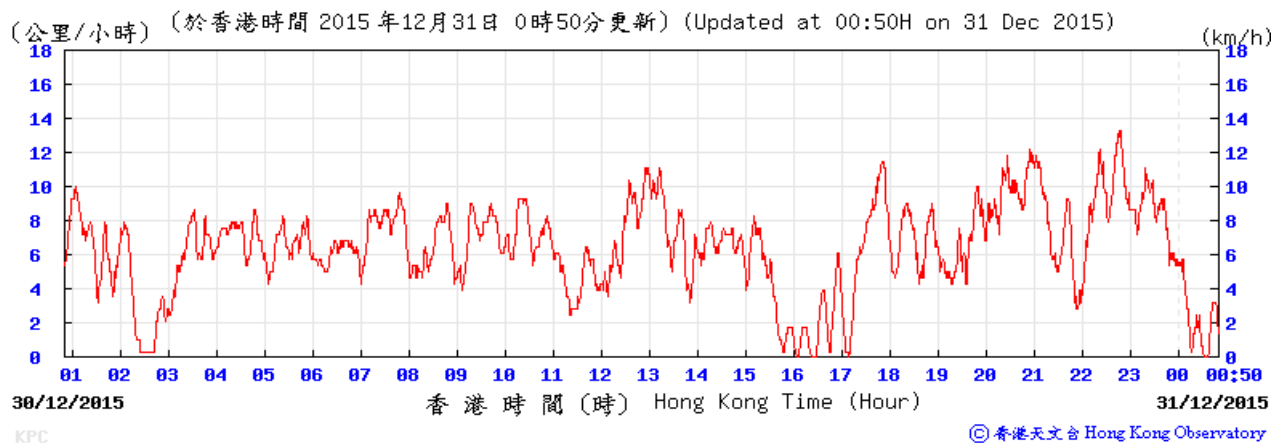
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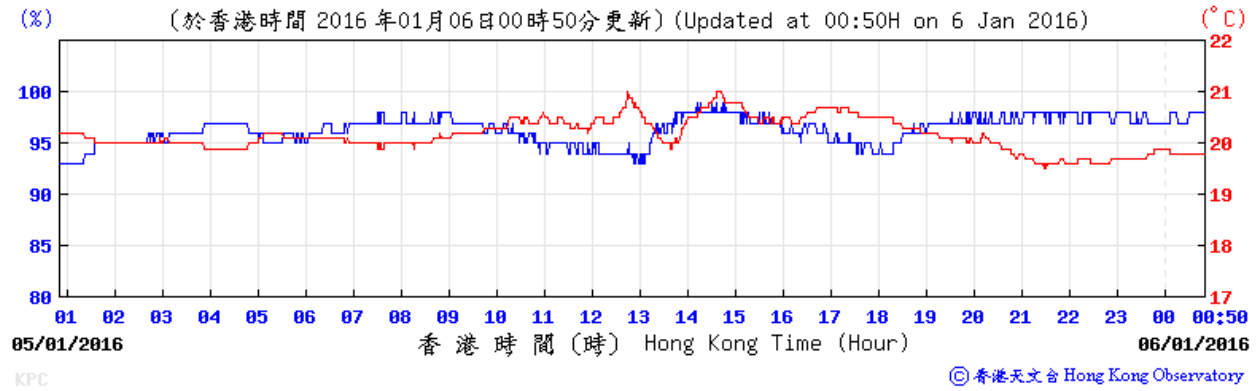
Wind Direction:



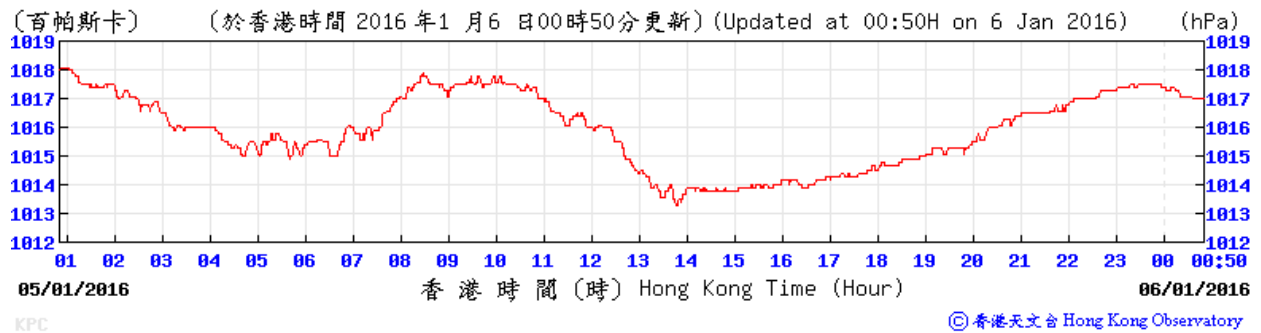
Wind Speed:



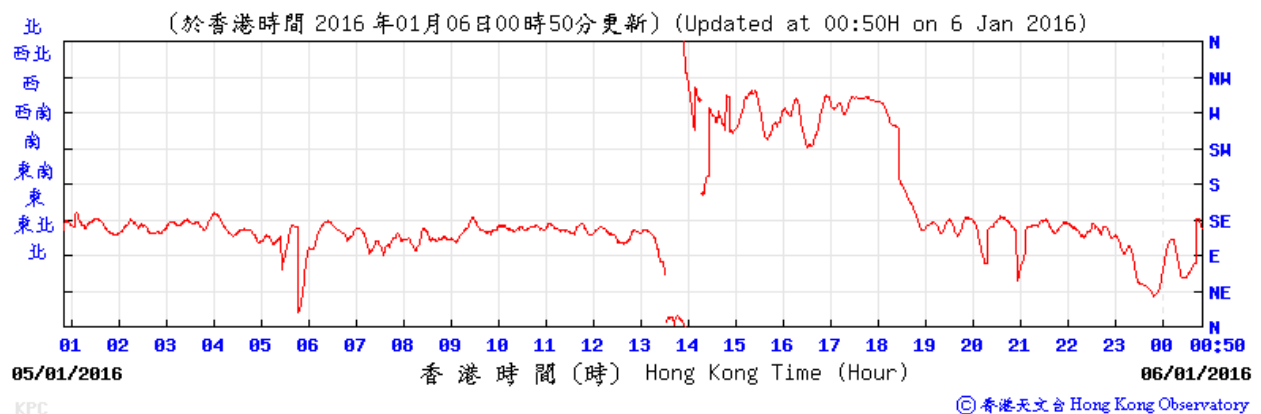
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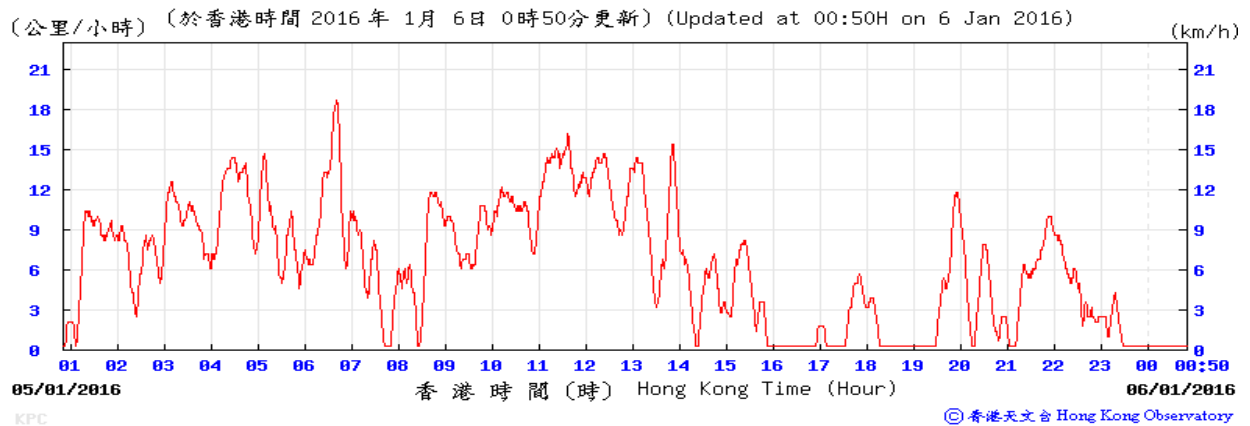
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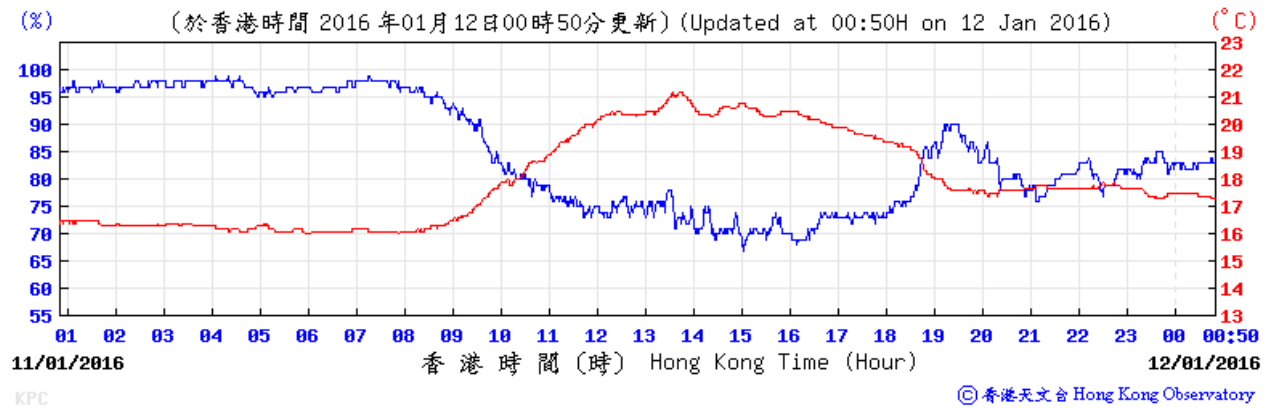
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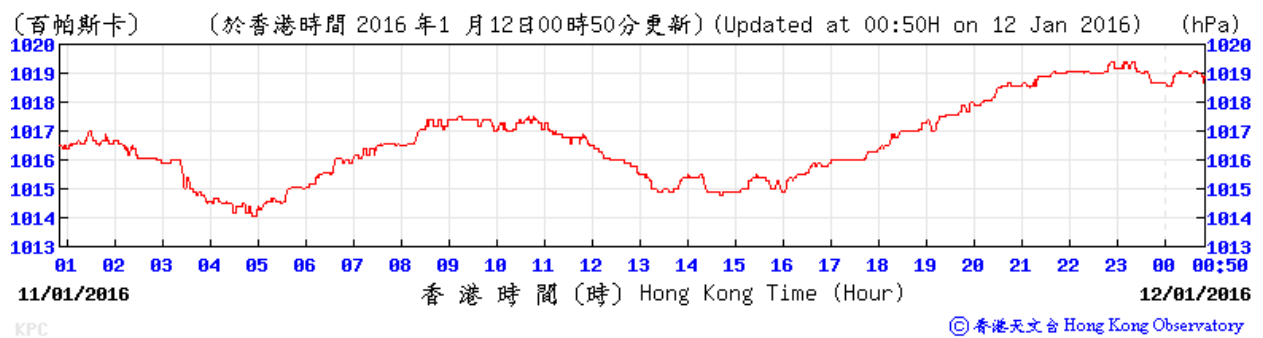
Wind Speed:



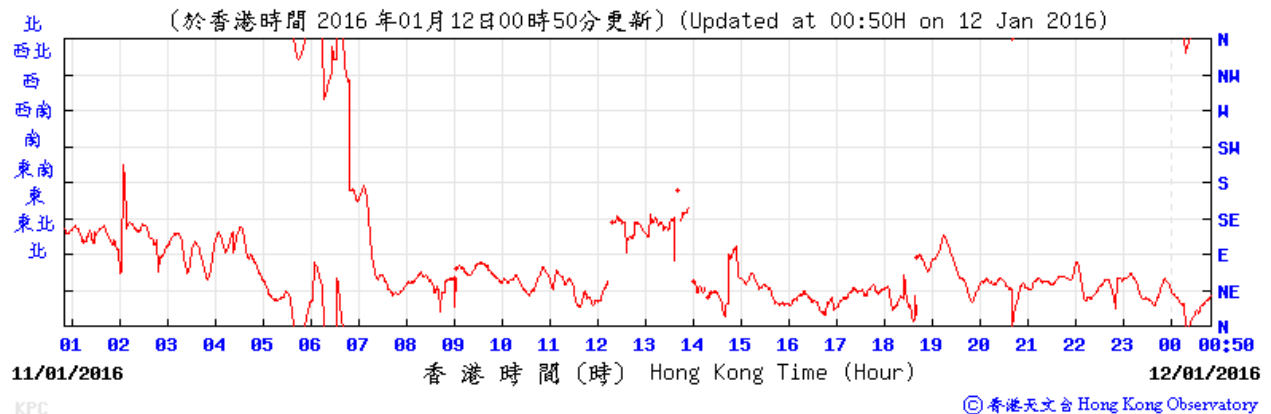
Temperature/Humidity:



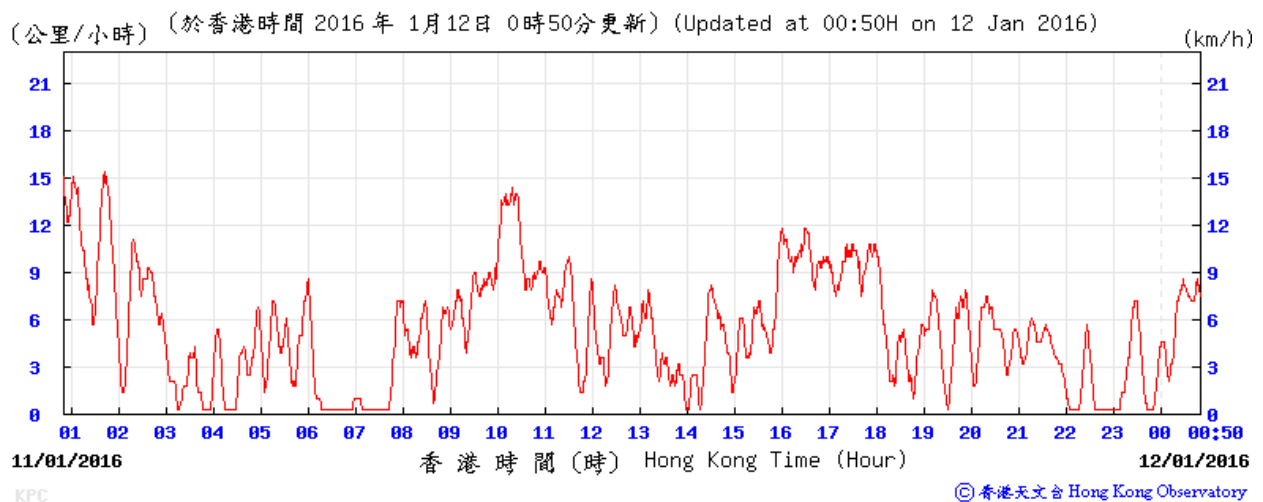
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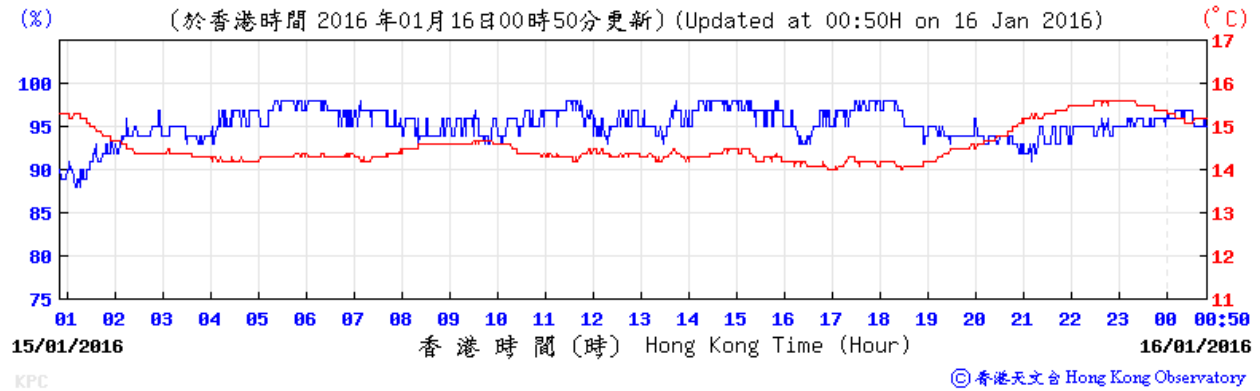
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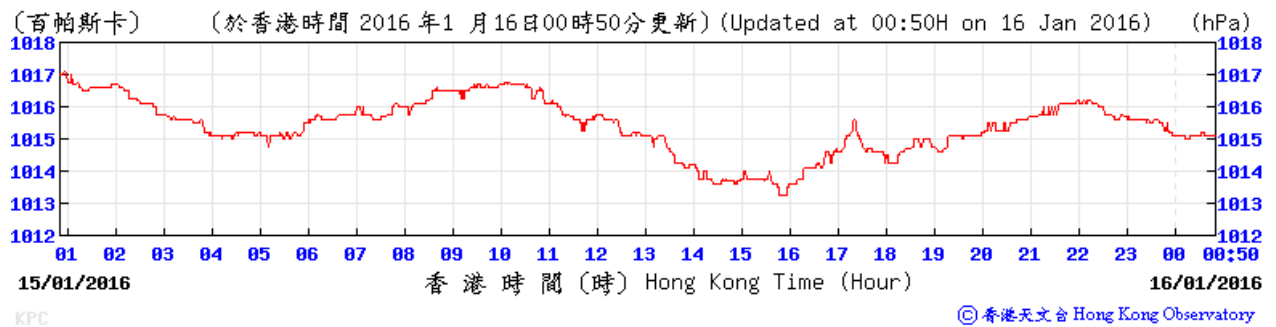
Wind Speed:



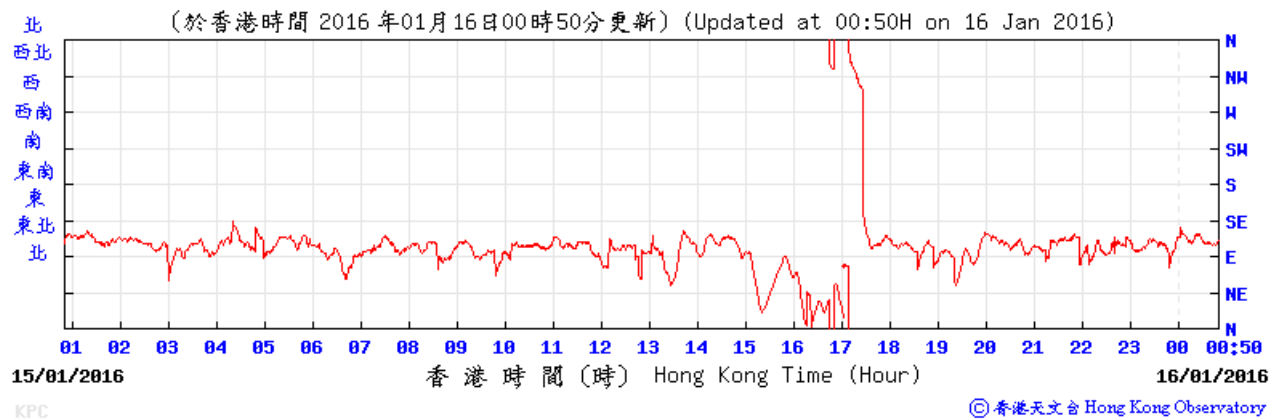
Temperature/Humidity:



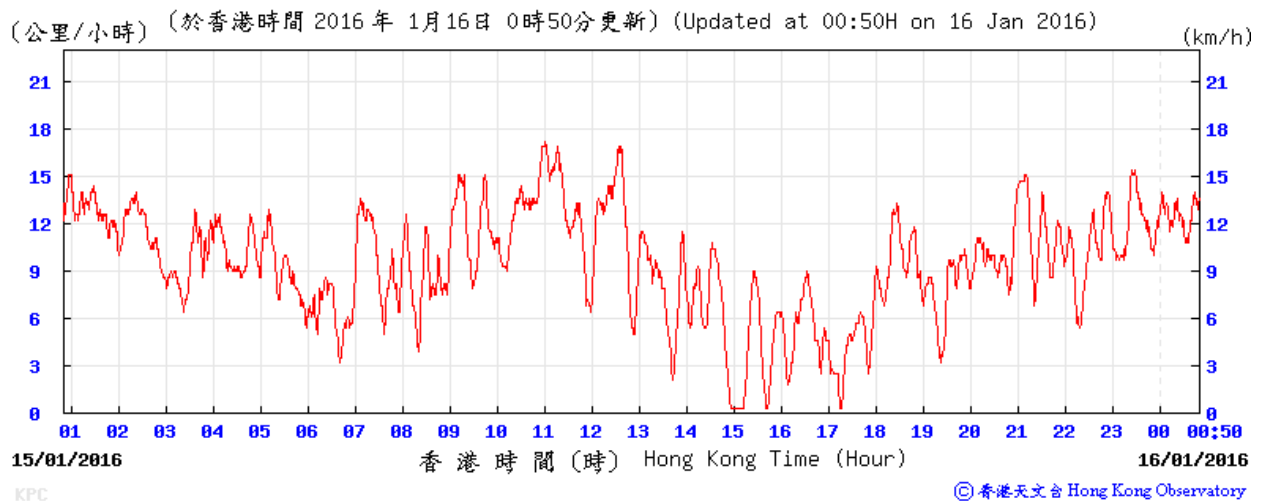
Pressure:



Wind Direction:

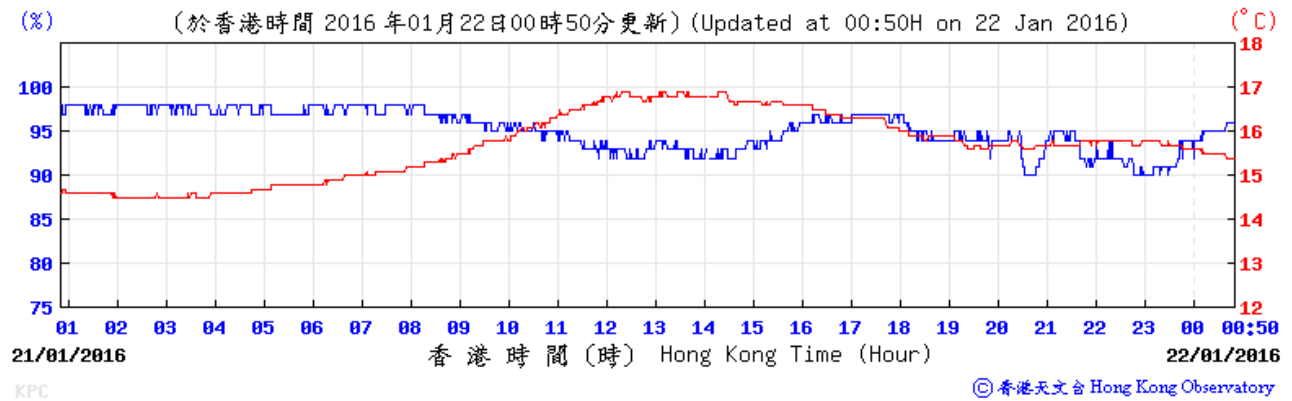


Wind Speed:

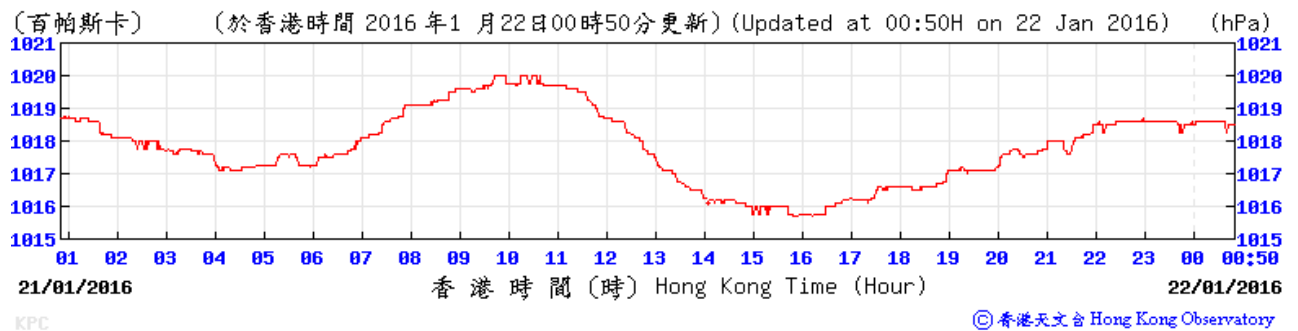




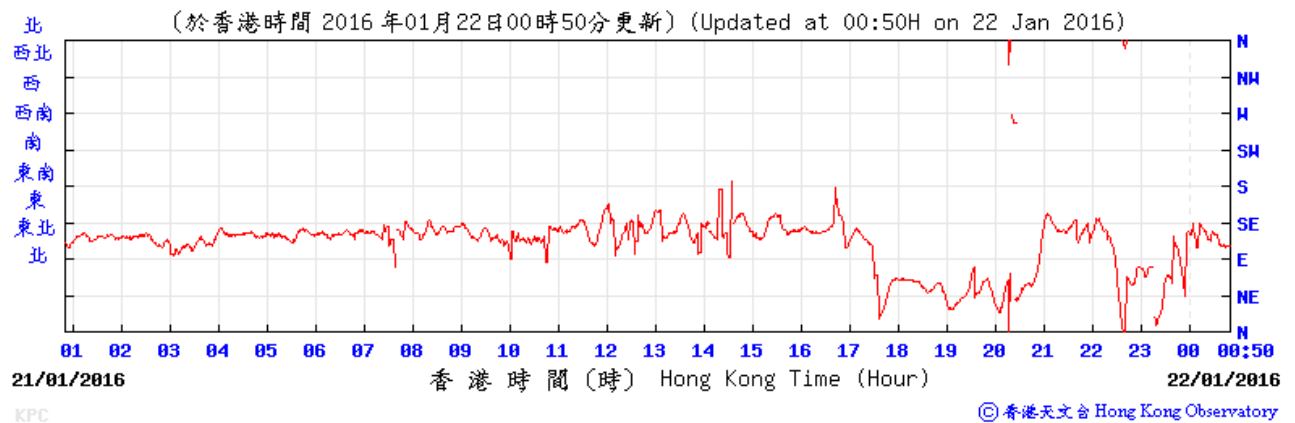
Temperature/Humidity:



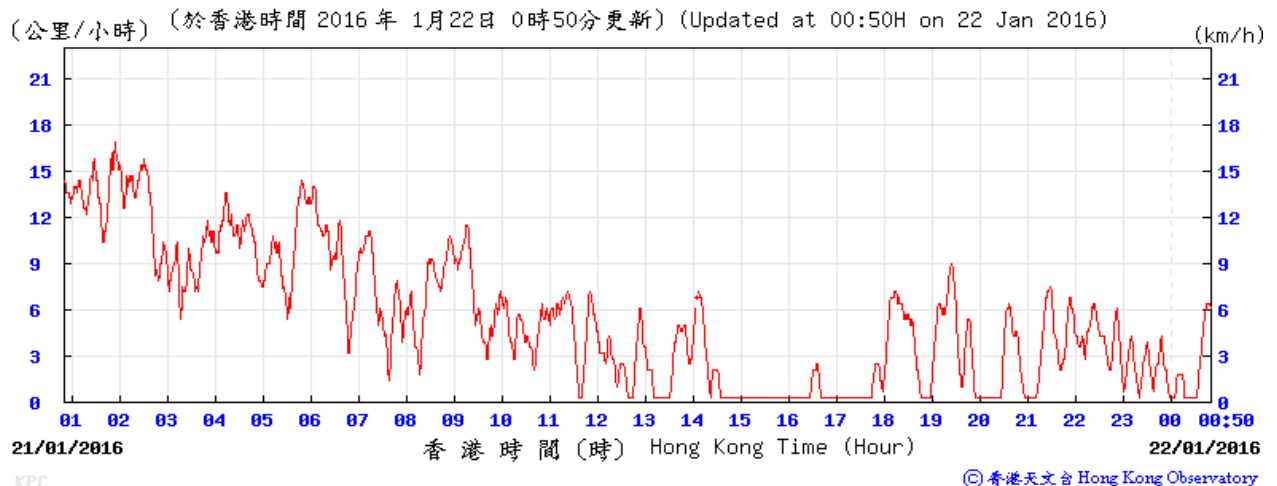
Pressure:



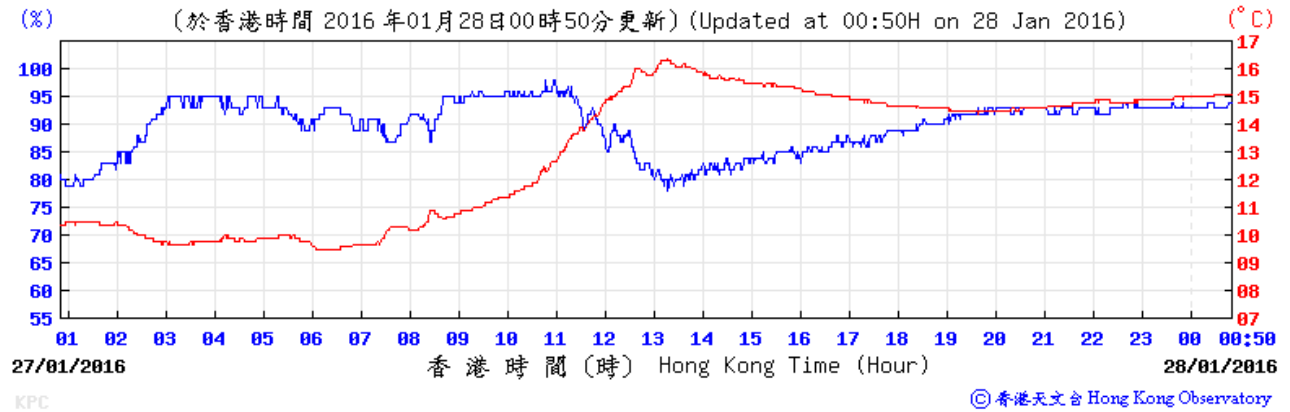
Wind Direction:



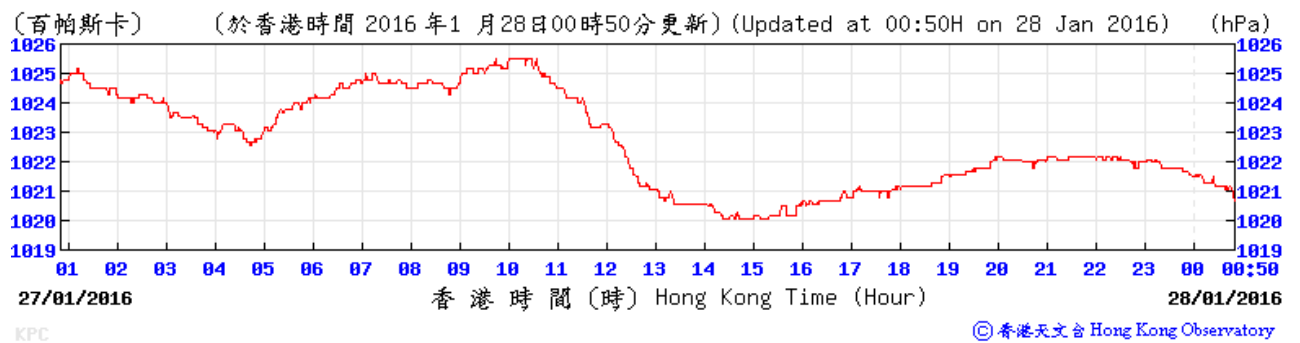
Wind Speed:



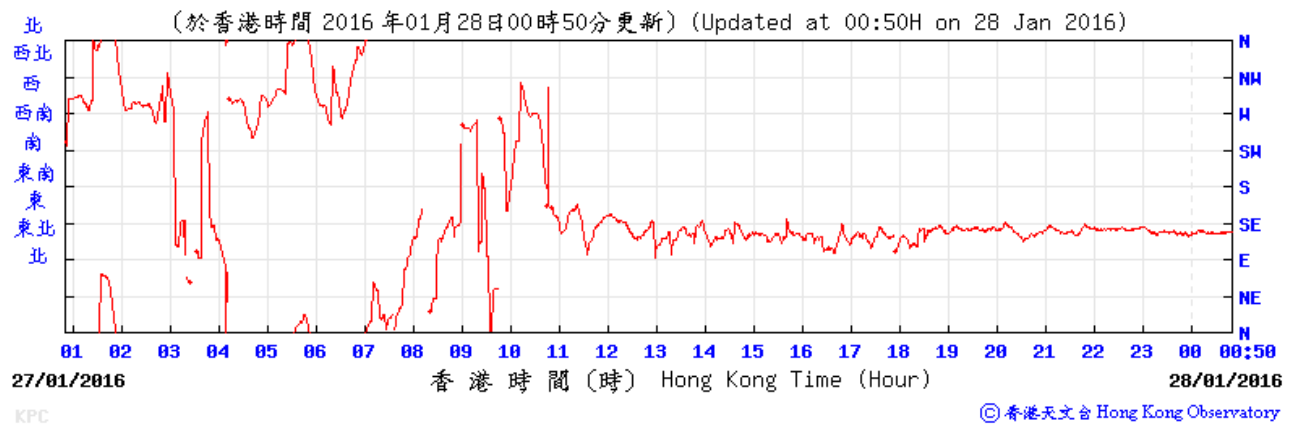
Temperature/Humidity:



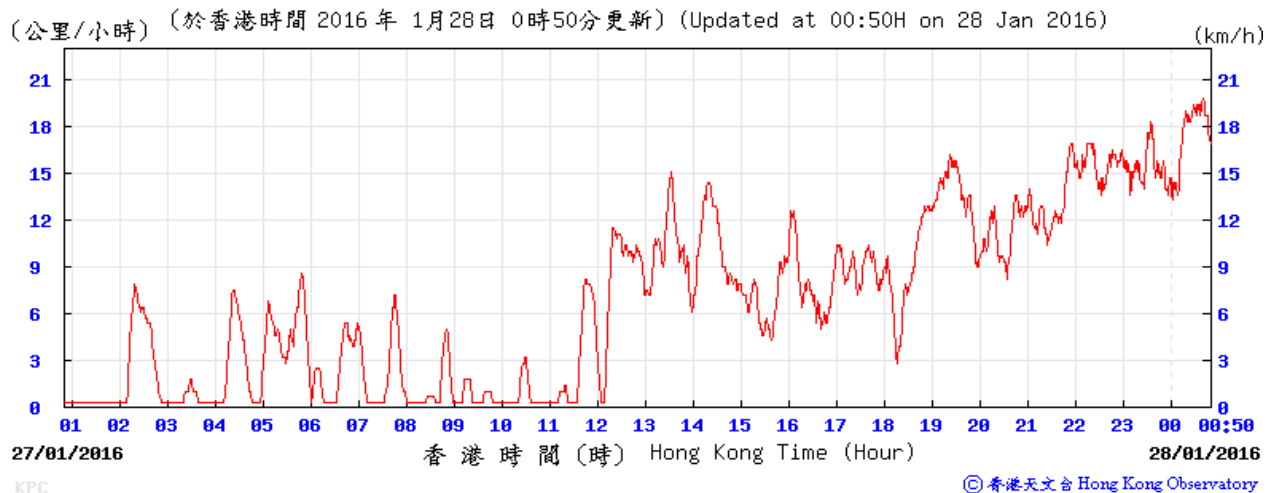
Pressure:



Wind Direction:



Wind Speed:

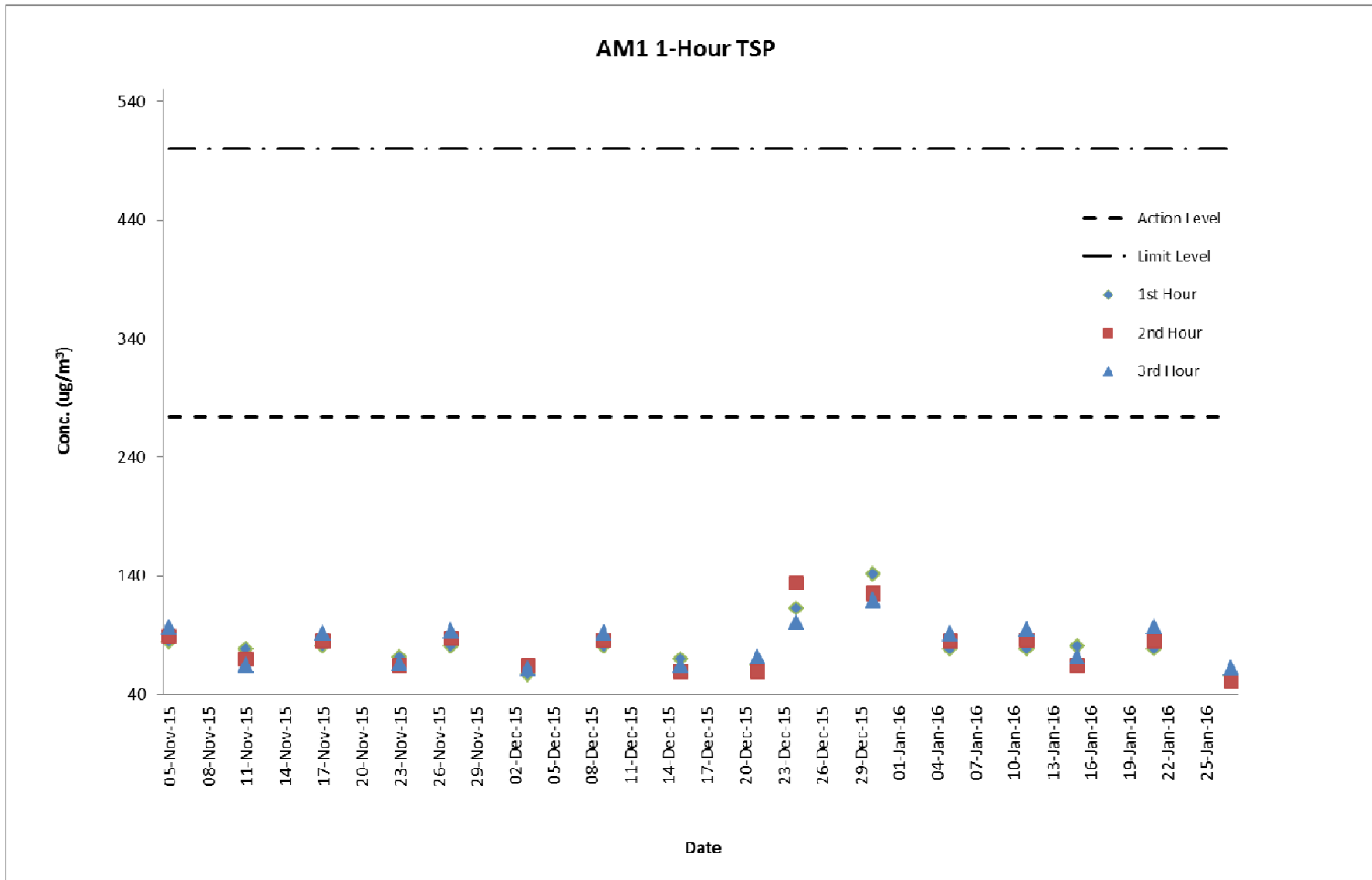


## Appendix E. Graphical Plots of the Monitoring Results

**Air Quality Monitoring Result at Station AM1 (1-hour TSP)**

Date	Weather Condition	Time	Conc. ( $\mu\text{g}/\text{m}^3$ )			Action Level ( $\mu\text{g}/\text{m}^3$ )	Limit Level ( $\mu\text{g}/\text{m}^3$ )
			1 <sup>st</sup> Hour	2 <sup>nd</sup> Hour	3 <sup>rd</sup> Hour		
05-Nov-15	Sunny	10:51 - 15:00	84	89	96	273.7	500
11-Nov-15	Fine	10:42 - 15:00	78	70	64	273.7	500
17-Nov-15	Sunny	10:40 - 15:00	80	85	92	273.7	500
23-Nov-15	Sunny	10:38 - 15:00	71	64	66	273.7	500
27-Nov-15	Sunny	8:00 - 11:00	80	87	93	273.7	500
03-Dec-15	Cloudy	10:40 - 15:00	57	64	61	273.7	500
09-Dec-15	Cloudy	10:40 - 15:00	80	86	92	273.7	500
15-Dec-15	Cloudy	10:20 - 15:00	70	59	64	273.7	500
21-Dec-15	Cloudy	10:30 - 16:00	64	59	71	273.7	500
24-Dec-15	Cloudy	8:02 - 11:02	112	134	101	273.7	500
30-Dec-15	Cloudy	10:30 - 16:00	141	125	119	273.7	500
05-Jan-16	Cloudy	10:30 - 15:00	78	85	91	273.7	500
11-Jan-16	Fine	10:20 - 15:00	78	86	95	273.7	500
15-Jan-16	Rainy	8:00 - 12:00	80	64	71	273.7	500
21-Jan-16	Rainy	10:30 - 16:00	78	85	97	273.7	500
27-Jan-16	Rainy	10:43 - 16:00	55	51	62	273.7	500

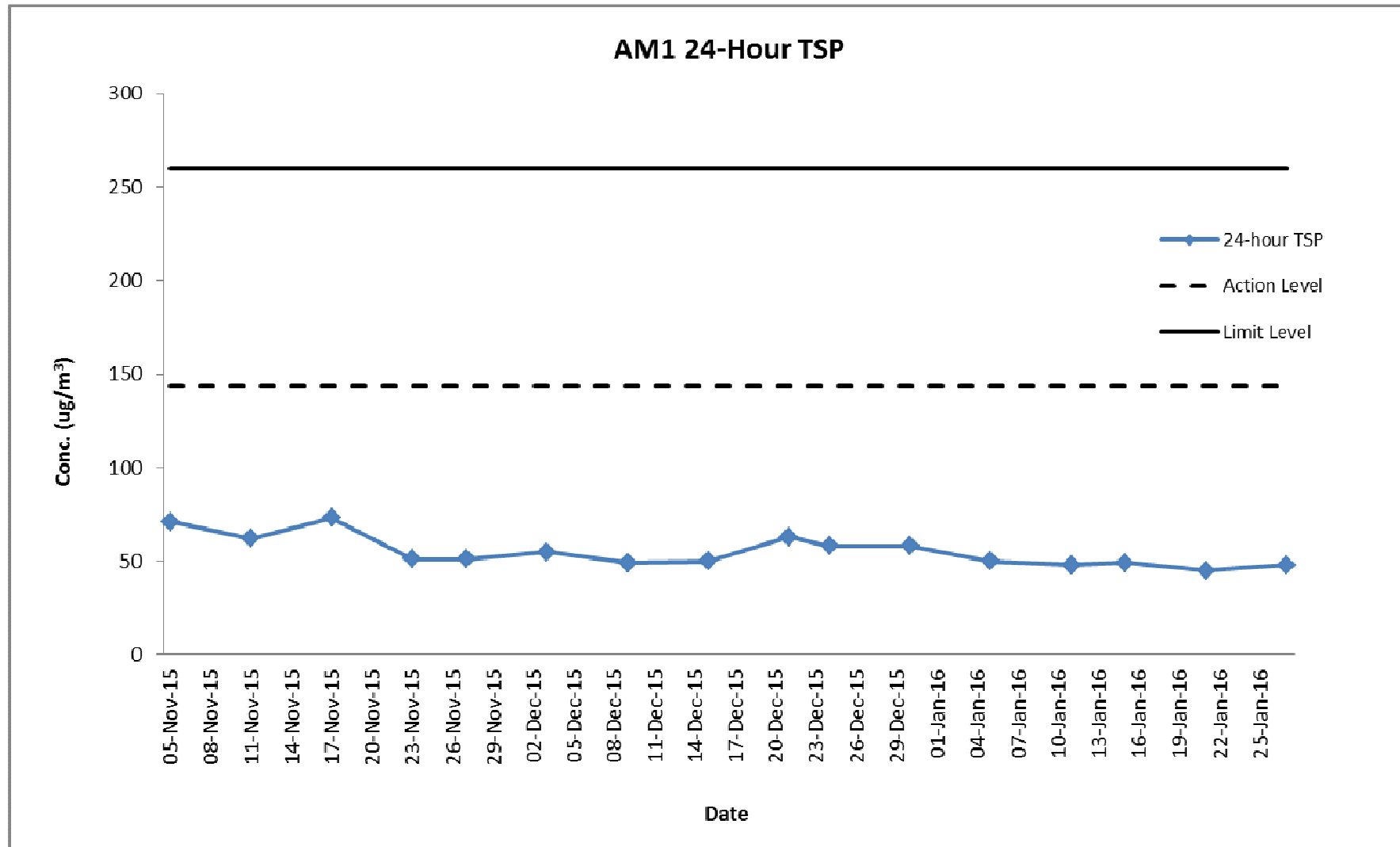
Graphical Presentation of Air Quality Monitoring Result at Station AM1 (1-hour TSP)



### Air Quality Monitoring Result at Station AM1 (24-hour TSP)

Start		Finish		Filter Weight (g)		Reading		Sampling Time (hrs)	Flow Rate (m <sup>3</sup> /min)			Conc. (µg/m <sup>3</sup> )	Weather Condition	Action Level	Limit Level
Date	Time	Date	Time	Initial	Final	Initial	Final		Initial	Final	Average				
05-Nov-15	10:50	06-Nov-15	10:50	2.884	3.0072	18648.38	18672.38	24	1.2	1.2	1.2	71	Sunny	143.6	260
11-Nov-15	10:40	12-Nov-15	10:40	2.8553	2.962	18672.38	18696.38	24	1.2	1.2	1.2	62	Fine	143.6	260
17-Nov-15	10:42	18-Nov-15	10:42	2.8647	2.9911	18696.38	18720.38	24	1.2	1.2	1.2	73	Sunny	143.6	260
23-Nov-15	10:40	24-Nov-15	10:40	2.7915	2.8804	18720.38	18744.38	24	1.2	1.2	1.2	51	Sunny	143.6	260
27-Nov-15	08:02	28-Nov-15	08:02	2.7838	2.8711	18744.38	18768.38	24	1.2	1.2	1.2	51	Sunny	143.6	260
03-Dec-15	10:42	04-Dec-15	10:42	2.7688	2.8641	18768.38	18792.38	24	1.2	1.2	1.2	55	Cloudy	143.6	260
09-Dec-15	10:42	10-Dec-15	10:42	2.7874	2.872	18792.38	18816.38	24	1.2	1.2	1.2	49	Cloudy	143.6	260
15-Dec-15	10:22	16-Dec-15	10:22	2.7898	2.8779	18816.38	18840.38	24	1.23	1.23	1.23	50	Cloudy	143.6	260
21-Dec-15	10:32	22-Dec-15	10:32	2.7837	2.8944	18840.38	18864.38	24	1.23	1.23	1.23	63	Cloudy	143.6	260
24-Dec-15	08:00	25-Dec-15	08:00	2.8088	2.9119	18864.38	18888.38	24	1.23	1.23	1.23	58	Cloudy	143.6	260
30-Dec-15	10:32	31-Dec-15	10:32	2.8197	2.9221	18888.38	18912.38	24	1.23	1.23	1.23	58	Cloudy	143.6	260
05-Jan-16	10:33	06-Jan-16	10:33	2.8086	2.8966	18912.38	18936.38	24	1.23	1.23	1.23	50	Cloudy	143.6	260
11-Jan-16	10:22	12-Jan-16	10:22	2.8055	2.89	18936.38	18960.38	24	1.23	1.23	1.23	48	Fine	143.6	260
15-Jan-16	08:02	16-Jan-16	08:02	2.8145	2.9007	18960.38	18984.38	24	1.23	1.23	1.23	49	Rainy	143.6	260
21-Jan-16	10:28	22-Jan-16	10:28	2.7819	2.861	18984.38	19008.38	24	1.23	1.23	1.23	45	Cloudy	143.6	260
27-Jan-16	10:45	28-Jan-16	10:45	2.7785	2.864	19008.38	19032.38	24	1.23	1.23	1.23	48	Rainy	143.6	260

Graphical Presentation of Air Quality Monitoring Result at Station AM1 (24-hour TSP)

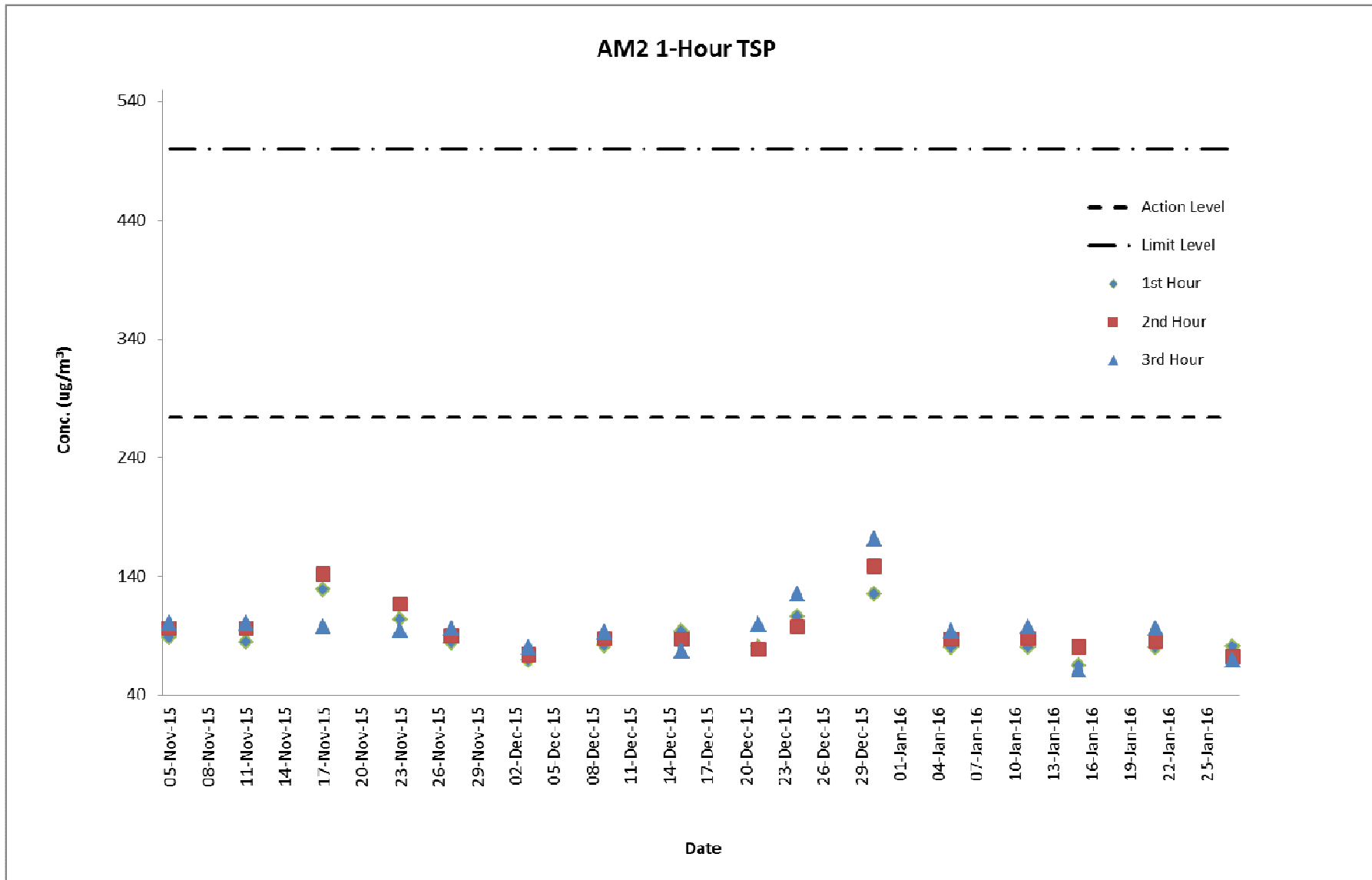


**Air Quality Monitoring Result at Station AM2 (1-hour TSP)**

Date	Weather Condition	Time	Conc. ( $\mu\text{g}/\text{m}^3$ )			Action Level ( $\mu\text{g}/\text{m}^3$ )	Limit Level ( $\mu\text{g}/\text{m}^3$ )
			1 <sup>st</sup> Hour	2 <sup>nd</sup> Hour	3 <sup>rd</sup> Hour		
05-Nov-15	Sunny	11:01 - 15:10	85	90	98	274.2	500
11-Nov-15	Fine	10:52 - 15:10	79	87	92	274.2	500
17-Nov-15	Sunny	10:50 - 15:10	114	131	140	274.2	500
23-Nov-15	Sunny	10:50 - 15:10	84	76	90	274.2	500
27-Nov-15	Sunny	8:12 - 11:12	82	89	95	274.2	500
03-Dec-15	Cloudy	10:52 - 15:10	70	74	80	274.2	500
09-Dec-15	Cloudy	10:52 - 15:10	82	88	93	274.2	500
15-Dec-15	Cloudy	10:30 - 15:10	94	87	77	274.2	500
21-Dec-15	Cloudy	10:41 - 16:10	81	79	100	274.2	500
24-Dec-15	Cloudy	8:12 - 11:12	106	98	125	274.2	500
30-Dec-15	Cloudy	10:42 - 16:10	125	149	172	274.2	500
05-Jan-16	Cloudy	10:45 - 15:10	80	87	94	274.2	500
11-Jan-16	Fine	10:32 - 15:10	80	88	98	274.2	500
15-Jan-16	Rainy	8:12 - 15:10	65	81	61	274.2	500
21-Jan-16	Cloudy	10:40 - 16:10	80	86	96	274.2	500
27-Jan-16	Rainy	10:55 - 16:10	81	73	70	274.2	500



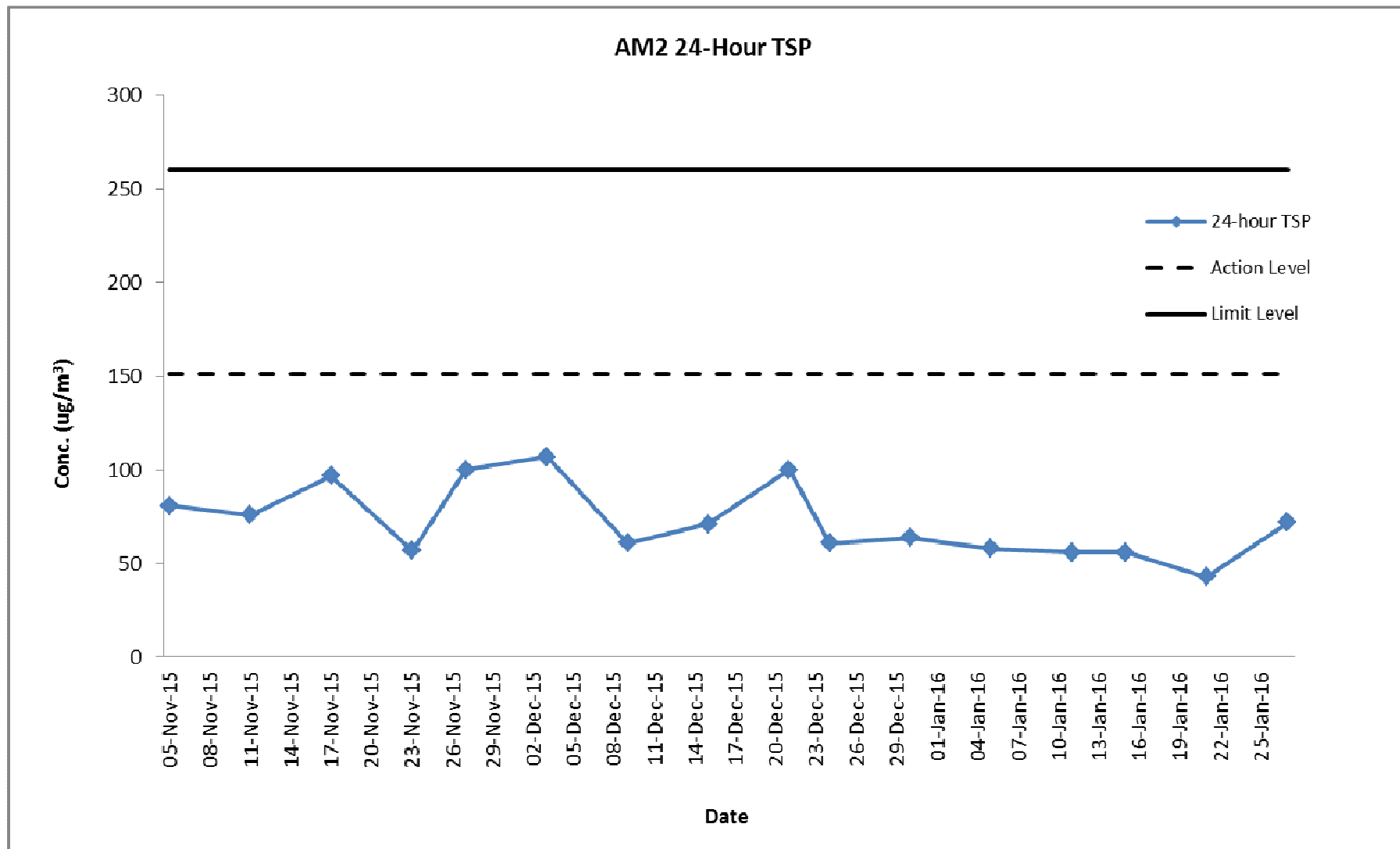
Graphical Presentation of Air Quality Monitoring Result at Station AM2 (1-hour TSP)



**Air Quality Monitoring Result at Station AM2 (24-hour TSP)**

Start		Finish		Filter Weight (g)		Reading		Sampling Time (hrs)	Flow Rate (m <sup>3</sup> /min)			Conc. (µg/m <sup>3</sup> )	Weather Condition	Action Level	Limit Level
Date	Time	Date	Time	Initial	Final	Initial	Final		Initial	Final	Average				
05-Nov-15	11:05	06-Nov-15	11:05	2.8543	2.9984	14351.57	14375.57	24	1.24	1.24	1.24	81	Sunny	151.1	260
11-Nov-15	10:55	12-Nov-15	10:55	2.8176	2.9529	14375.57	14399.57	24	1.24	1.24	1.24	76	Fine	151.1	260
17-Nov-15	10:52	18-Nov-15	10:52	2.8186	2.9911	14399.57	14423.57	24	1.24	1.24	1.24	97	Sunny	151.1	260
23-Nov-15	10:54	24-Nov-15	10:54	2.78	2.881	14423.57	14447.57	24	2.24	1.24	1.74	57	Sunny	151.1	260
27-Nov-15	08:15	28-Nov-15	08:15	2.7697	2.9479	14447.57	14471.57	24	1.24	1.24	1.24	100	Sunny	151.1	260
03-Dec-15	10:56	04-Dec-15	10:56	2.7584	2.9501	14471.57	14495.57	24	1.24	1.24	1.24	107	Cloudy	151.1	260
09-Dec-15	10:55	10-Dec-15	10:55	2.7925	2.9013	14495.57	14519.57	24	1.24	1.24	1.24	61	Cloudy	151.1	260
15-Dec-15	10:35	16-Dec-15	10:35	2.797	2.9242	14519.57	14543.57	24	1.24	1.24	1.24	71	Cloudy	151.1	260
21-Dec-15	10:44	22-Dec-15	10:44	2.7918	2.9696	14543.57	14567.57	24	1.24	1.24	1.24	100	Cloudy	151.1	260
24-Dec-15	08:15	25-Dec-15	08:15	2.7905	2.8991	14567.57	14591.57	24	1.24	1.24	1.24	61	Cloudy	151.1	260
30-Dec-15	10:46	31-Dec-15	10:46	2.8133	2.9277	14591.57	14615.57	24	1.24	1.24	1.24	64	Cloudy	151.1	260
05-Jan-16	10:43	06-Jan-16	10:43	2.8033	2.906	14615.59	14639.59	24	1.24	1.24	1.24	58	Cloudy	151.1	260
11-Jan-16	10:36	12-Jan-16	10:36	2.7999	2.9001	14639.59	14663.59	24	1.24	1.24	1.24	56	Fine	151.1	260
15-Jan-16	08:15	16-Jan-16	08:15	2.8097	2.91	14663.59	14687.59	24	1.24	1.24	1.24	56	Rainy	151.1	260
21-Jan-16	10:38	22-Jan-16	10:38	2.7888	2.8664	14687.59	14711.59	24	1.24	1.24	1.24	43	Cloudy	151.1	260
27-Jan-16	10:58	28-Jan-16	10:58	2.7599	2.8893	14711.59	14735.59	24	1.24	1.24	1.24	72	Rainy	151.1	260

Graphical Presentation of Air Quality Monitoring Result at Station AM2 (24-hour TSP)



## Appendix F. Waste Flow table

**Table F-1 Waste Flow Table**

Month	Excavated Waste (tonnes)	Actual Quantities of Inert C&D Materials (excluding excavated waste) (tonnes) <i>e.g. broken concrete</i>					Actual Quantities of Non-inert C&D Waste (tonnes)				
		(a) Total inert C&D material generated (a) = (b) + (c) + (d) + (e)	(b) Reused in contract	(c) Reused in other projects	(d) Sent to recycling company	(e) Disposed to public fill	(f) Recycled scrap metal	(g) Reused / recycled timber	(h) Chemical waste	(i) Other waste disposed to landfill	(j) Total non-inert C&D material generated (j) = (f) + (g) + (h) + (i)
Nov 2015	46,607.4	0.0	0.0	0.0	0.0	0.0	76.2	0.0	0.0	67.6	143.8
Dec 2015	29,631.5	21.4	0.0	21.4	0.0	0.0	0.0	0.0	1.0	66.0	66.9
Jan 2016	21,077.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	23.2	23.2
Feb 2016											
Mar 2016											
Apr 2016											
May 2016											
Jun 2016											
Jul 2016											
Aug 2016											
Sep 2016											
Oct 2016											
Nov 2016											
Dec 2016											
<b>Total</b>	<b>97,316.3</b>	<b>21.4</b>	<b>0.0</b>	<b>21.4</b>	<b>0.0</b>	<b>0.0</b>	<b>76.2</b>	<b>0.0</b>	<b>1.0</b>	<b>156.8</b>	<b>233.9</b>

Note:

1. A total of 21.4 tons of Grouting material was reused in other projects

Quantities of disposal/ reuse/ storage of excavated waste since the commencement of the Project:

Site of Disposal/ Reuse/ Storage	Quantities (tonnes)
Fill Bank at Tuen Mun Area 38	11,455.0
Fill Bank at Tseung Kwan O Area 137	27,093.3
Green Valley	34,144.0
Advance Works for Shek Wu Hui Sewage Treatment Works	11,952.0
Design and Construction of Kai Tak Cable Tunnel, CLP	720.0
MTR Contract 1002 Whampoa Station and Overrun Tunnel	5,600.0
M+ Stockpile (M66, storage site near M+)	2,880.0
Hsin Chong Stockpile (Storage site near M+)	3,472.0
<b>Total</b>	<b>97,316.3</b>

## Appendix G. Cumulative Statistics on Complaints, Notifications of Summons and Successful Prosecutions

Cumulative statistics for complaints, notifications of summons and successful prosecutions for the Project account for period starting from the date of commencement of construction works (i.e. 31 October 2015) to the end of the reporting quarter and are summarized in the **Table G-1** below.

Table G-1: Statistics for complaints, notifications of summons and successful prosecutions

Reporting Period	Cumulative Statistics		
	Complaints	Notifications of summons	Successful prosecutions
This reporting quarter	1	0	0
From 31 October 2015 to end of the reporting quarter	1	0	0