



Demolition of Kwai Chung Incineration Plant Monthly EM&A Report for January 2012 (Rev A)

Environmental Permit No. EP-121/2002/A
Report No. 203204/KCIP/EM&A/50/A

February 2012
Civil Engineering and Development Department



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Environmental Permit No. EP-121/2002/A
Report No. 203204/KCIP/EM&A/50/A

February 2012

Civil Engineering and Development Department


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Pursuant to Condition 2.3 and 3.5 of Environmental Permit No. EP-121/2002/A, this Monthly EM&A Report for January 2012 has been reviewed, certified and verified by the following EM&A members as Conforming to the Information and Recommendations contained in the EIA Report.

Certified by:



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Environmental Team (ET) Leader
Mott MacDonald Hong Kong Limited

Date 14 February 2012

Verified by:



Dr. F C Tsang
Independent Environmental Checker (IEC)
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Date 14 February 2012

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Executive Summary

The Environmental Monitoring and Audit (EM&A) programme for this Project commenced on 1 December 2007. This is the 50th Monthly EM&A Report which presents a summary of the environmental monitoring and audit works, list of activities, and mitigation measures implemented during the reporting month of January 2012.

The following activities have taken place during the reporting month: -

- Application of hydroseeding;
- Construction of surface drainage system;
- Trimming of the final ground profile; and
- Downsizing and sorting of the inert construction and demolition (C&D) materials by site crusher.

Section 1 of the Works for this Contract was certified as substantially completed on 28 October 2011. However, potentially dust-generating site activities, including decommissioning, concrete breaking, backfilling work and handling of inert C&D materials, continued during the reporting month. Therefore, the EM&A programme, including impact monitoring for air quality (dust), also continued. No exceedance of the Action and Limit Levels for dust was recorded.

No environmental complaint, notification of summons and prosecution was received or made against the Project in the reporting month.

Site inspection was carried out on a weekly basis to monitor proper implementation of environmental pollution control and mitigation measures for the Project. In this reporting month, site inspections were carried out on 5, 12 and 19 January 2012. No site inspection was conducted during the week ending 28 January 2012 (including the Lunar New Year public holidays) as no Project construction works took place throughout that week.

No non-compliances with regard to site environmental audits were recorded in this reporting month.

As per the EM&A Manual, baseline 1-hour and 24-hour Total Suspended Particulates (TSP) monitoring was conducted during the period of 31 October 2007 to 13 November 2007. Results were reported in the Baseline Monitoring Report submitted in November 2007.

Future key issues to be considered in the forthcoming month (February 2012) include: -

- Application of hydroseeding;
- Construction of surface drainage system;
- Trimming of the final ground profile; and
- Downsizing and sorting of the inert C&D materials by site crusher.

1. Introduction

1.1 Background to the Project

This Project – “Demolition of Kwai Chung Incineration Plant” – is a Designated Project defined under the Environmental Impact Assessment Ordinance (EIAO, Cap 499). An Environmental Impact Assessment (EIA) Report for the Project, including an Environmental Monitoring and Audit (EM&A) Manual, was completed in September 2001 and approved by the Environmental Protection Department (EPD) on 9 January 2002. An Environmental Permit (EP) was issued on 1 March 2002 [Permit No. EP-121/2002]. Subsequently, an application for Variation of the Environmental Permit (VEP) (Application No. VEP-284/2009) was submitted on 6 April 2009 and the amended Environmental Permit [Permit No. EP-121/2002/A] was issued on 28 April 2009.

This Contract [No.: CV/2007/06] for the Project was awarded to the Contractor – China International Water & Electric Corporation (CIWE Corp.) – and commenced on 31 October 2007. The main Contract was originally scheduled for 45 months (excluding 12 months for landscape establishment works) and has since been granted an extension of 6 months. In accordance with Condition 1.11 of Environmental Permit No. EP-121/2002/A, the Director of Environmental Protection (DEP) was notified that the commencement date for the Project was on 24 January 2008.

The scope of the Project includes demolition and clearance of the existing chimney, buildings and ancillary structures above the existing concrete ground slab where the former Kwai Chung Incineration Plant (KCIP) is located. It also includes the removal of asbestos containing materials (ACM) and dioxin/furan contaminated materials (DCM) prior to demolition of structures and subsequent site remediation.

A layout plan of the Project site and the environs are presented in Figure 1.1.

The Project Proponent – Civil Engineering and Development Department (CEDD) – has commissioned Mott MacDonald Hong Kong Limited (MMHK) and Hyder Consulting Limited (Hyder) as the Environmental Team (ET) and the Independent Environmental Checker (IEC) respectively to undertake the Environmental Monitoring and Audit (EM&A) programme described in the approved EM&A Manual of the Project. CEDD has also commissioned MMHK as the Engineer’s Representative (ER) for all Project-related works.

1.2 Coverage of this EM&A Report

The EM&A programme for this Project commenced on 1 December 2007. This report presents a summary of the environmental monitoring and audit works, list of activities, and mitigation measures implemented during the reporting month of January 2012. This is the 50th Monthly EM&A Report for the project.

1.3 Project Management Organisation

The project organisation chart is presented in Figure 1.2.

1.4 Project Programme

This Contract of the Project commenced on 31 October 2007. The main Contract was originally scheduled to last for 45 months (excluding 12 months for landscape establishment works). It has since been granted an extension of 6 months.

1.5 Works Undertaken in the Reporting Month

The following activities have taken place during the reporting month: -

- Application of hydroseeding;
- Construction of surface drainage system;
- Trimming of the final ground profile; and
- Downsizing and sorting of the inert construction and demolition (C&D) materials by site crusher.

Section 1 of the Works for this Contract was certified as substantially completed on 28 October 2011. However, potentially dust-generating site activities, including decommissioning, concrete breaking, backfilling work and handling of inert C&D materials, continued during the reporting month. Therefore, the EM&A programme, including impact monitoring for air quality (dust), also continued.




Notes:

Key to symbols

--- SITE BOUNDARY

P1	DEC 09	MING	ISSUE TO CEDD & EPD	JC	KMY
Rev	Date	Drawn	Description	Ch'kd	App'd

Client



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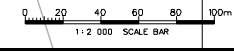
Project
DEMOLITION OF KWAI CHUNG INCINERATION PLANT
ENVIRONMENTAL PERMIT NO. EP-121/2002/A

Title
LAYOUT PLAN OF WORK SITE AND THE ENVIRONS

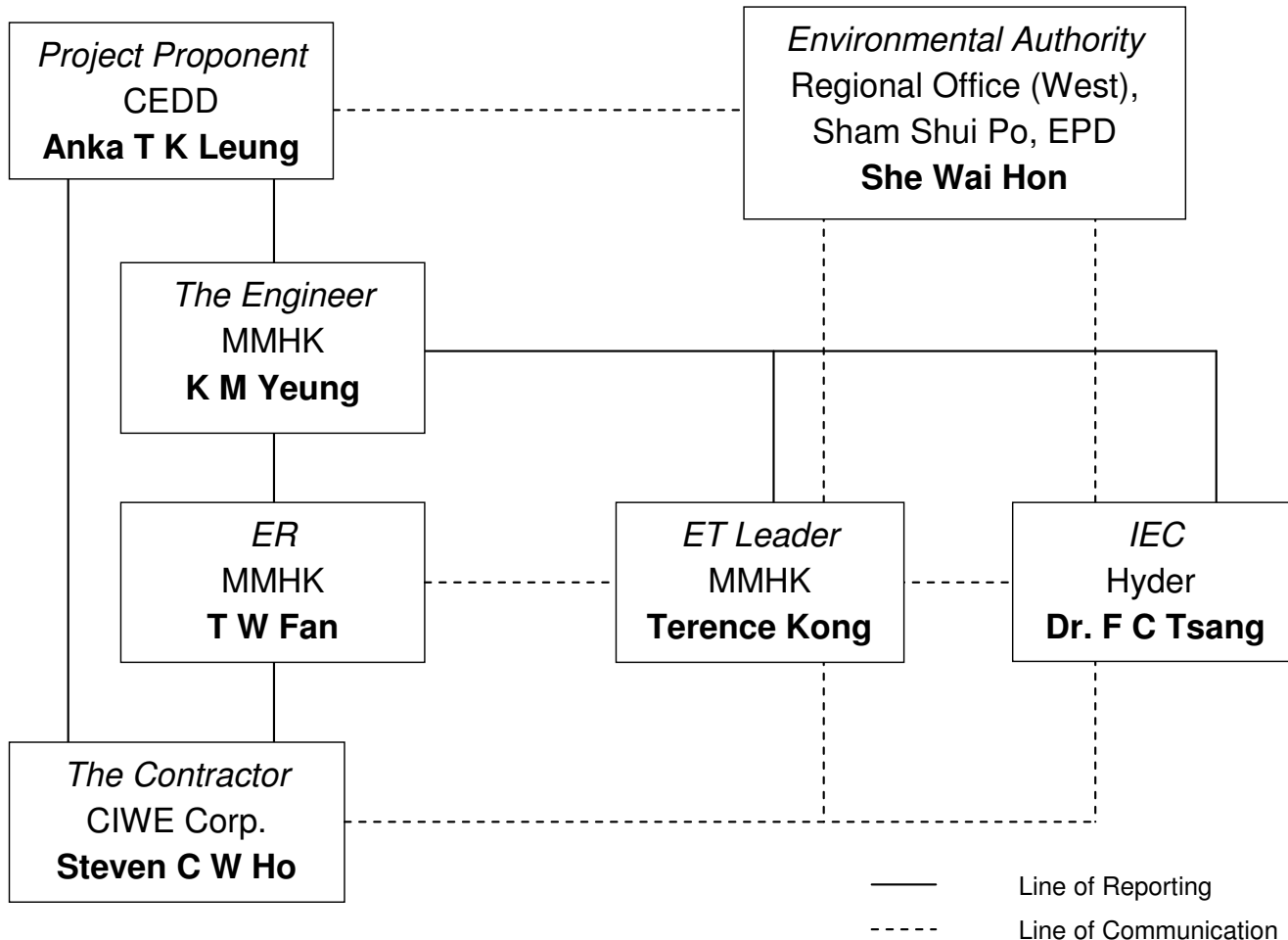
Designed	HN/BW	Eng. Chk.	JC
Drawn	LYK	Coordination	JC
Dwg. Chk.	BW	Approved	KMY

Scale	1:2000@A1	Project	203204	Status	PRE
CAD File	JK\203204\REPORT\ENV\EM&A_0001\FIG 1.LDgn				

Drawing No.	FIGURE 1.1	Rev	P1
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Environmental Team (ET) Leader	Mott MacDonald Hong Kong Limited (MMHK)	Mr. Terence Kong	2828 5919
The Contractor (Site Agent)	China International Water & Electric Corporation (CIWE Corp.)	Mr. Steven C W Ho	6281 8608

2. EM&A Requirements

2.1 Summary of EM&A Requirements

The EM&A programme requires environmental monitoring of air quality and waste management as specified in the approved EM&A Manual (dated September 2001).

1-hour Total Suspended Particulates (TSP) and 24-hour TSP levels at one dust monitoring station are to be taken during the course of dusty work in every reporting month. This air quality monitoring station for 24-hour TSP and 1-hour TSP measurements is shown in Figure 2.1 below.

A summary of impact EM&A requirements is presented in Table 2.1.

Table 2.1: Summary of Impact EM&A Requirements

Parameters	Descriptions	Locations	Frequencies	Duration
Air Quality	24-Hour TSP	1 Location - A1	Once every 6 days	During dust generating construction works
	1-Hour TSP	1 Location - A1	3 times every 6 days	During dust generating construction works
Waste	On-Site Waste Audit	Active Work Sites	Weekly	During Construction
	On-Site Waste Inspection			
Wastewater	On-Site Wastewater Audit	Active Work Sites	Weekly	During Construction
General Site Conditions	Environmental Site Inspection	Works areas and areas affected by works	Weekly	During Construction

Note: A1 – Boundary of the site adjacent to the Kwai Chung Primary Treatment Plant.

2.2 Environmental Quality Performance Limits

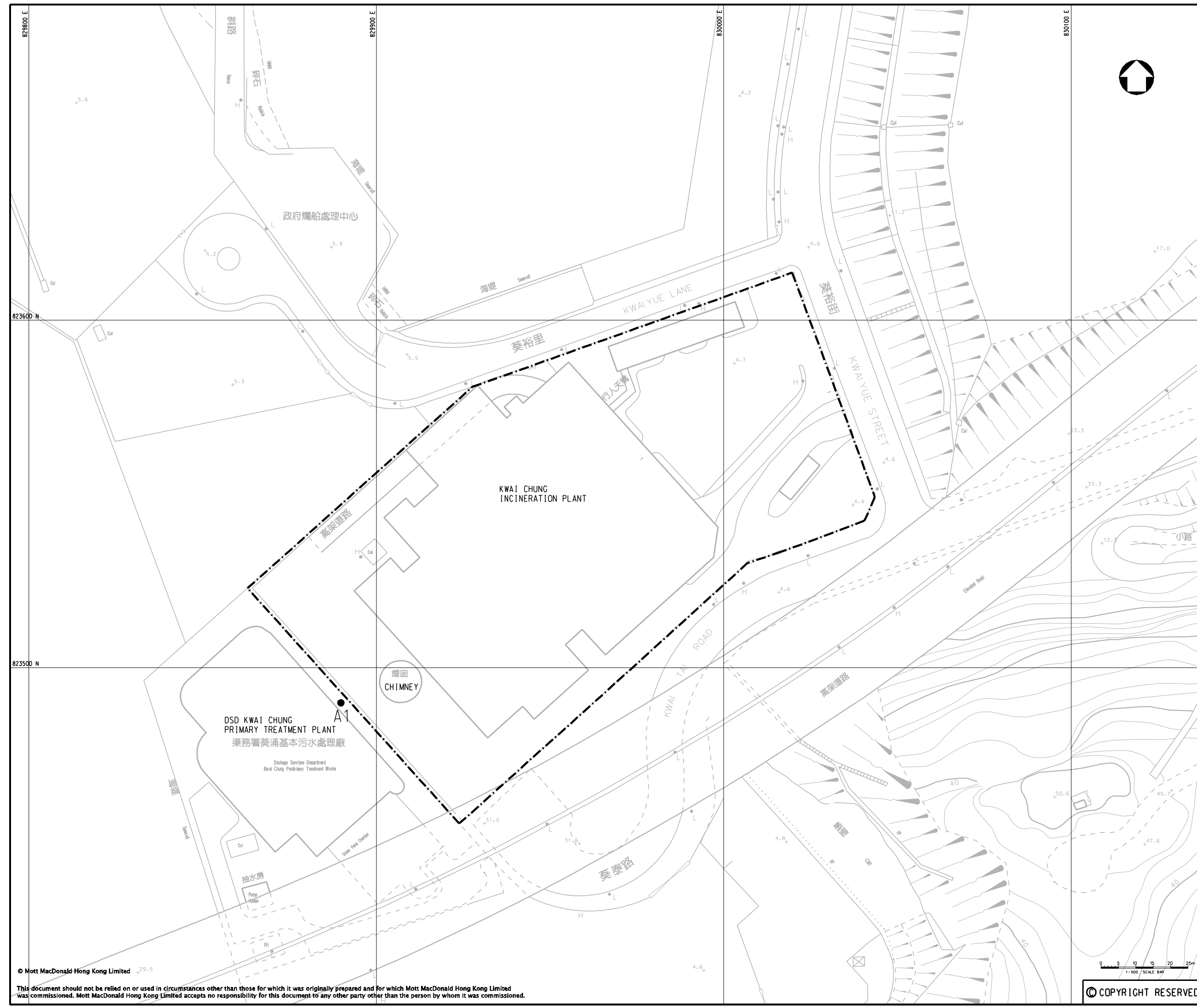
Environmental Quality Performance Limits for air quality are shown in Appendix A.

2.3 Event and Action Plans

The Event and Action Plans for air quality are shown in Appendix B.

2.4 Implementation of Environmental Mitigation Measures

The Contractor is required to implement mitigation measures listed in the latest EP, EIA Report and EM&A Manual. During routine site inspections, the Contractor's implementation of mitigation measures, if any, are to be inspected and reviewed. A schedule of the implementation of mitigation measures identified at the EIA stage is given in Appendix C.




Notes:

Key to symbols

- SITE BOUNDARY
- DUST MONITORING STATION

PI	DEC 09	MING	ISSUE TO CEDD & EPD	JC	KMY
Rev	Date	Drawn	Description	Ch'kd	App'd

Client



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Project
DEMOLITION OF KWAI CHUNG INCINERATION PLANT
ENVIRONMENTAL PERMIT NO. EP-121/2002/A

Title
LOCATION OF AIR QUALITY (DUST) MONITORING STATION

Designed	HN/BW	Eng.Chk.	JC
Drawn	LYK	Coordination	JC
Dwg.Chk.	BW	Approved	KMY

Scale	Project	Status
1:500@A1	203204	PRE
Drawing No.	CAD File	Rev
FIGURE 2.1	J:\203204\REPORT\ENV\EM&A_0001\FIG 2.1.dgn	P1

3. Monitoring Results

3.1 Impact Monitoring Schedule

Regular site inspections were carried out on 5, 12 and 19 January 2012 in the reporting month to assess the compliance with environmental requirements. No site inspection was conducted during the week ending 28 January 2012 (including the Lunar New Year public holidays) as no Project construction works took place throughout that week. The EM&A schedule is given in Appendix D.

Impact monitoring for air quality (dust) due to the demolition, excavation and backfilling work and handling of inert C&D materials continued during the reporting month.

3.2 Monitoring Methodology

3.2.1 24-hour TSP Monitoring

3.2.1.1 Installation

The High Volume Sampler (HVS) has been installed close to representative air sensitive receivers. The following criteria have been considered in the installation of the HVS:

- A horizontal platform with appropriate support to secure the sampler against gusty wind was provided.
- The distance between the HVS and any obstacles, such as buildings, was at least twice the height of the obstacle protruding above the HVS.
- A minimum of 2 m separation from walls, parapets and penthouse was required for rooftop sampler.
- No furnace or incinerator flues were nearby.
- Airflow around the sampler was unrestricted.
- Permission was obtained to set up the samplers and to obtain access to the monitoring stations.
- A secured supply of electricity is needed to operate the samplers.

3.2.1.2 Preparation of Filter Papers

- Glass fibre filters, G810 are to be labelled with sufficient filters that are clean and without pinholes.
- All filters are to be equilibrated in the conditioning environment for 24 hours before weighing. The conditioning environment temperature is to be around 25°C and not variable by more than $\pm 3^\circ\text{C}$, the relative humidity (RH) is to be $< 50\%$ and not variable by more than $\pm 5\%$. A convenient working RH is 40%.

3.2.1.3 Field Monitoring

- The power supply is to be secured to ensure the HVS works properly.
- The filter holder and the area surrounding the filter are to be cleaned.
- The filter holder is to be removed by loosening the 4 bolts and a new filter, with stamped number upward, on a supporting screen to be aligned carefully.
- The filter is to be properly aligned on the screen so that the gasket forms an airtight seal on the outer edges of the filter.
- The swing bolts are to be fastened to hold the filter holder down to the frame. The pressure applied is to sufficient to avoid air leakage at the edges.
- The shelter lid is then closed and is secured with the aluminium strip.
- The HVS shall be warmed-up for about 5 minutes to establish run-temperature conditions.
- A new flow rate record sheet is to be set into the flow recorder.

- The flow rate of the HVS is to be checked and adjusted at around 1.1 m³/min. The range specified in the updated EM&A Manual is between 0.6-1.7 m³/min.
- The programmable timer is set for a sampling period of 24 hrs + 1 hr, and the starting time, weather condition and the filter number are to be recorded.
- The initial elapsed time is to be recorded.
- At the end of sampling, the sampled filter is to be removed carefully and folded in half length so that only surfaces with collected particulate matter are in contact.
- It was then placed in a clean plastic envelope and sealed.
- All monitoring information is to be recorded on a standard data sheet.
- Filters are to be sent to a Hong Kong Laboratory Accreditation Scheme (HOKLAS) accredited laboratory for analysis.

3.2.1.4 Maintenance and Calibration

- The HVS and its accessories are to be maintained in good working condition, such as replacing motor brushes routinely and checking electrical wiring to ensure a continuous power supply.
- Each HVS is to be calibrated at a bi-monthly intervals using GMW-25 Calibration Kit throughout all stages of the air quality monitoring.

3.2.2 1-hour TSP Monitoring

3.2.2.1 Field Monitoring

The measuring procedures of the 1-hour dust meter are to be in accordance with the Manufacturer's Instruction Manual as follows:

- Set POWER to "ON", push BATTERY button, make sure that the meter's indicator is in the range with a red line and allow the instrument to stand for about 3 minutes. (Then, the air sampling inlet has been capped.)
- Push the knob at MEASURE position.
- Push "O-ADJ" button. (Then meter's indication is 0).
- Push the knob at SENSI ADJ position and set the meter's indication to S value described on the Test Report using the trimmer for SENSI ADJ.
- Pull out the knob and return it to MEASURE position.
- Push "START" button.

3.2.2.2 Maintenance and Calibration

- The 1-hour TSP meter would be checked at 3-month intervals and calibrated at 6-month intervals throughout all stages of the air quality monitoring.

As per the approved EM&A Manual, dust monitoring stations are located as shown in Figure 2.1 above.

3.3 Monitoring Equipment

The equipment used for air quality (dust) monitoring is listed in Table 3.1.

Table 3.1: TSP Monitoring Equipment

Equipment	Model(s)
HVS Sampler	Graseby GMWS 2310 Accu-vol system
Calibrator	Tisch TE-5025A

Equipment	Model(s)
1-hour TSP Dust Meter	TSI Model 8520 Dust Trak Aerosol Monitor SIBATA Dust Monitor

3.4 Equipment Calibration

The calibration frequencies of the monitoring equipment are provided in Table 3.2.

Table 3.2: Equipment Calibration Frequencies

Equipment	Calibration Frequency	Calibration Due Date(s)
High Volume Sampler	Every two months	27 Feb 2012
Graseby GMWS 2310 Accu-vol system (serial number (S/N): 9035)		
1-hour TSP Dust Meter	Every six months	
<ul style="list-style-type: none"> TSI Model 8520 Dust Trak Aerosol Monitor (S/N: 14230) 		TSI (S/N 14230): 10 Apr 2012
<ul style="list-style-type: none"> TSI Model 8520 Dust Trak Aerosol Monitor (S/N: 21672) 		TSI (S/N 21672): 10 Apr 2012
<ul style="list-style-type: none"> SIBATA LD-3B Dust Monitor (S/N: 8X4282) 		SIBATA (S/N 8X4282): 5 Mar 2012

The calibration certificates are included in Appendix F.

3.5 Result of Impact Monitoring

3.5.1 Air Quality (1-hr TSP)

Results of 1-hour TSP level are summarised in Table 3.3. Detailed results, including weather conditions, and graphical presentations are included in Appendix E.

Table 3.3: Results of 1-Hour TSP Impact Monitoring

Monitoring Station	1-hour TSP Range ($\mu\text{g}/\text{m}^3$)	Action Level ($\mu\text{g}/\text{m}^3$)	Limit Level ($\mu\text{g}/\text{m}^3$)
A1	72 – 155	345	500

No exceedance of Action/Limit Levels for 1-hr TSP was recorded in all other data for the reporting month.

3.5.2 Air Quality (24-hr TSP)

Results of 24-hour TSP level are summarised in Table 3.4. Detailed results, including weather conditions, and graphical presentations are included in Appendix E.

Table 3.4: Results of 24-Hour TSP Impact Monitoring

Monitoring Station	24-hour TSP Range ($\mu\text{g}/\text{m}^3$)	Action Level ($\mu\text{g}/\text{m}^3$)	Limit Level ($\mu\text{g}/\text{m}^3$)
A1	120 – 160	179	260

No exceedance of Action/Limit Levels for 24-hr TSP was recorded in all other data for the reporting month.

Wind data during the reporting month was obtained from the nearest Hong Kong Observatory (HKO) monitoring station, at Tsing Yi, and is presented in Appendix H.

4. Project Environmental Status

4.1 Environmental Meetings

No environmental meeting was held during the reporting month.

4.2 Status of Environmental Submissions, Permits and Licences

A summary of status of all environmental submissions, permits, licences, and/or notifications to the Environmental Protection Department (EPD) for this Project during the reporting period is presented in Table 4.1 below.

Table 4.1: Status of Environmental Submissions, Permits and Licences

Item	Description	Date of Application/ Submission	Status
Previous submissions			
1.	Environmental Permit (No. EP-121/2002/A) under Variation of Environmental Permit (No. VEP-284/2009)	VEP applied on 6 Apr 2009	VEP approved on 28 Apr 2009
2.	Billing Account under Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Ref. No.: 7006285)	Approved on 16 Nov 2007	Valid
3.	Waste Management Plan for Demolition Works	v3.3 approved on 9 Apr 2009	v3.3: Valid
4.	Waste Management Plan for Ground Decontamination Works	v1.10 submitted on 5 Jan 2012	Pending EPD's review
5.	Registration as a Chemical Waste Producer under Waste Disposal (Chemical Waste) (General) Regulation (Ref. No.: WPN-5292-320-C3459-01)	2 Nov 2007	Approved by EPD on 26 Nov 2007
6.	Effluent Discharge Licence (Ref. No.: EP760/320/0128821)	Variation of Licence submitted on 10 Nov 2008	Approved by EPD on 5 Jan 2009 which superseded the previous licence. Valid until 31 Mar 2013
7.	Notification pursuant to Section 3(1) of the Air Pollution Control (Construction Dust) Regulation (Form NA)	EPD notified on 15 Jan 2008	Valid
8.	Notification of commencement of asbestos abatement work pursuant to Section 73 of the Air Pollution Control Ordinance	EPD notified on 4 Feb 2008	Valid Approved by EPD on 5 Mar 2008
9.	Construction Noise Permit for KCIP site (Ref. No.: GW-RW0478-09)	21 Oct 2009	Issued by EPD on 4 Nov 2009 Expired on 31 Mar 2010
10.	Construction Noise Permit for KCIP site (Ref. No.: GW-RW0561-10)	15 Oct 2010	Issued by EPD on 29 Oct 2010 Expired on 30 Apr 2011
11.	Construction Noise Permit for KCIP site (Ref. No.: GW-RW0226-11)	24 Mar 2011	Issued by EPD on 7 Apr 2011 Expired on 31 Oct 2011
New submissions			
No new submissions			

4.3 Waste Management Status

The construction and demolition (C&D) material & general refuse generated by the Project in the reporting month are shown in Table 4.2 below. A trip ticket system has been implemented for all off-site waste disposals.

Table 4.2: Monthly Summary Waste Flow Table for 2012

Month	Actual Quantities of Inert C&D Materials Generated Monthly (in '000 m ³)										Actual Quantities of C&D Wastes Generated Monthly									
	Total Quantity Generated		Broken Concrete		Reused in the Contract		Reused in other Projects		Disposed of at Public Fill		Metals ('000 kg)		Paper/ Cardboard ('000 kg)		Plastics ('000 kg)		Chemical waste ('000 kg)		Others (e.g. refuse) ('000 m ³)	
	Est.	Act.	Est.	Act.	Est.	Act.	Est.	Act.	Est.	Act.	Est.	Act. ^	Est.	Act.	Est.	Act.	Est.	Act.	Est.	Act.
Jan	0	0	0	0	0	0	0	0	0	0	0	88.63	0	0	0	0	0	0*	0	0.027
Feb																				
Mar																				
Apr																				
May																				
Jun																				
Sub-total	0	0	0	0	0	0	0	0	0	0	0	88.63	0	0	0	0	0	0	0	0.027
Jul																				
Aug																				
Sep																				
Oct																				
Nov																				
Dec																				
Total																				

Note: * During the reporting month, it was recorded that no asbestos containing materials (ACM) were generated from the site or disposed of. Moreover, no dioxin/furan contaminated materials (DCM) were generated from the site or disposed of during the reporting month.

^ The actual quantity of metal (C&D waste) generated was due to works relating to the excavation of the ground slab at the KCIP building site. Prior to commencement of the excavation, a more accurate estimate of the amount of metal (C&D waste) to be generated from these works was not possible due to ongoing demolition of the KCIP building and chimney.

4.4 Review of Environmental Monitoring Procedures

The monitoring works conducted by the Environmental Team have been reviewed regularly. No changes in the environmental monitoring procedures are considered necessary at this stage.

4.5 Implementation Status of Environmental Mitigation Measures

An Implementation Schedule of Mitigation Measures from the EIA / EM&A Manual is presented in Appendix C.

5. Audit Findings

5.1 Site Environmental Audit

Site inspection is to be carried out on a weekly basis to monitor proper implementation of environmental pollution control and mitigation measures for the Project. In this reporting month, one monthly site inspection was carried out jointly by the ER, Contractor, ET Leader and IEC on 19 January 2012. Additional weekly site inspections were carried out by the ER, Contractor and ET on 5 and 12 January 2012. No site inspection was conducted during the week ending 28 January 2012 (including the Lunar New Year public holidays) as no Project construction works took place throughout that week.

Major findings provided by ET and those jointly provided by the ET and IEC on 19 January 2012 from the site inspections are summarised in Table 5.1.

Table 5.1: Summary of Environmental Site Inspections

Date of Inspection	Major Observations	Status
5 Jan 2012	Concrete breaking without suitable dust mitigation measures was observed. The Contractor is reminded to follow-up as soon as possible.	The concrete breaking had ceased and was not observed during the follow-up site inspection on 12 Jan 2012. (closed)
	The Contractor was asked to move some dry cell batteries to the proper storage area when not in use.	The dry cell batteries were removed from the site, as observed on 12 Jan 2012. (closed)
12 Jan 2012	Some oil drums did not have suitable bunding or drip trays. The Contractor is reminded to provide suitable mitigation measures as soon as possible.	A few of the oil drums were no longer required and removed, while drip trays were provided for the remaining oil drums, as observed on 19 Jan 2012. (closed)
19 Jan 2012	The Contractor is reminded to ensure adequate dust mitigation measures are implemented, especially during the Lunar New Year holiday period. The Contractor is reminded to ensure that the chemical waste store is placed on a level surface.	The Contractor is reminded to implement adequate dust mitigation measures as necessary, as observed on 2 Feb 2012. The chemical waste store was checked to ensure that its contents were firmly placed on level surface with drip trays, as observed on 2 Feb 2012. (closed)

5.2 Site Effluent Discharge/WPCO Effluent Discharge

An effluent discharge licence under the Water Pollution Control Ordinance (WPCO, Cap 358) was initially granted by EPD on 10 March 2008 and was subsequently replaced by another one issued on 8 July 2008. In order to cope with the site condition in late 2008, the Contractor applied for a second variation of WPCO effluent discharge licence on 10 November 2008 and the revised licence was granted on 5 January 2009.

Effluent discharge sampling, scheduled for this reporting month, was not conducted. The Contractor informed EPD in late November 2011 that the wastewater from the second last manholes was not enough to pump out to the discharge points via sedimentation tanks, and that it would maintain close inspection for discharge of wastewater. The matter will be followed-up and updated in the coming EM&A report (February 2012).

6. Environmental Complaints and Non-compliance

6.1 Summary of Environmental Complaints, Notifications of Summons and Successful Prosecutions

No environmental complaints have been received during the reporting month. Appendix C presents the environmental complaint event contingency plan of the Project and Table 6.1 presents a statistics of complaints, notification of summons and successful prosecution since the commencement of the Project.

Table 6.1: Summary of Environmental Complaints and Prosecutions

Complaints Logged		Summons Served		Successful Prosecutions	
Jan 2012	Cumulative	Jan 2012	Cumulative	Jan 2012	Cumulative
0	0	0	0	0	0

No environmental complaint, notification of summons and prosecution has been received or made against the Project in this reporting month.

6.2 Environmental Enquiries

No environmental enquiries were received during the reporting month.

6.3 Environmental Events

No unusual events were recorded during the reporting month.

6.4 Environmental Exceedance/Non-compliance

6.4.1 Air Quality – Dust

No exceedance of Action and Limit Levels for 1-hour TSP and 24-hour TSP was recorded in the data received for the reporting month.

6.4.2 Waste Management

Not applicable.

6.4.3 Summary of Exceedances

Table 6.2 summarises the total number of exceedances for air quality recorded during the reporting period. No exceedance was recorded in the data received for the reporting period.

Table 6.2: Summary of Exceedances

Parameters	Total no. of Measurements	Action Level Exceedance	% of Action Level Exceedance	Limit Level Exceedance	% of Limit Level Exceedance
Air Quality	17	0	0%	0	0%

7. Future Key Issues

7.1 Key Issues and Recommendations for Coming Month

Key issues to be considered in the forthcoming month (February 2012) include: -

- Application of hydroseeding;
- Construction of surface drainage system;
- Trimming of the final ground profile; and
- Downsizing and sorting of the inert C&D materials by site crusher.

Based on the above key issues, the recommended mitigation measures to be implemented include the following: -

7.1.1 Air

- Water spraying during demolition works;
- Reduce drop height during material handling or wall felling;
- Covers for dusty stockpiles and all generated C&D materials as soon as they are formed or moved;
- Haul road watering and vehicle wheel wash prior to exit; and
- All plants to be maintained to prevent any undue air emissions.

7.1.2 Noise

- All plants shall be maintained to prevent any undue noise nuisance.

7.1.3 Water

- All wheel wash water shall be diverted to a sediment pit before discharge;
- All fuel cans, generators shall be placed within a bunded area; and any fuel spills shall be mopped up or excavated and disposed of as necessary;
- All ponding water shall be cleared as soon as possible; and
- All water dewatered from contaminated area(s) shall be properly handled and treated before discharge, and that such discharge should be kept to minimum. Surplus water arising from dewatering is to be collected on site for re-use where possible.

7.1.4 Waste

- Different types of waste should be segregated, stored, transported and disposed of in accordance with the relevant legislative requirements and guidelines; and
- Records of quantities of wastes generated, recycled and disposed (with locations) shall be kept.

7.1.5 Contaminated Land

- The preferred approach with least environmental impact is to cause minimal disturbance to the ground conditions, immobilise the contaminated soils where necessary and make provision for the protection of workers;
- During excavation and treatment of contaminated soil material, skin contact with the soil and groundwater shall be avoided given the potential for the presence of Total Petroleum Hydrocarbons (TPH);
- Exposure to dusty material shall also be avoided and dust shall be controlled at source by damping techniques; and
- Bunded areas shall be provided for the treatment operations on contaminated soil.

8. Conclusions and Recommendations

8.1 Conclusions

Environmental monitoring and audit was performed in January 2012 during which site works have continued. All monitoring and audit results in the reporting month were checked and reviewed.

With respect to audit observations, the Contractor was reminded to ensure that drip trays were provided for oil drums and that the chemical waste store was placed on a level surface. Some dry cell batteries should be moved to the proper storage area when not in use. Finally, effective dust mitigation measures during ongoing dust-generating site activities should be implemented.

Airborne dust monitoring continued due to the ongoing dust-generating works during the reporting month. In general, the Contractor has been reasonably responsive to all required mitigation measures and ET's recommendations made during weekly environmental site inspections in this reporting month.

No environmental complaints, notification of summons or successful prosecutions have been received or made against this Project in this reporting month.

8.2 Recommendations

No further recommendations made at this stage pending more site progress achieved.

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Appendix A. Environmental Quality Performance Limits

Action and Limit Levels for 24-hour TSP

Monitoring Station	Action Level ($\mu\text{g}/\text{m}^3$)	Limit Level ($\mu\text{g}/\text{m}^3$)
A1	179	260

Action and Limit Levels for 1-hour TSP

Monitoring Station	Action Level ($\mu\text{g}/\text{m}^3$)	Limit Level ($\mu\text{g}/\text{m}^3$)
A1	345	500

Appendix B. Event and Action Plans

Table B.1: Event and Action Plan for Air Quality

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
ACTION LEVEL				
1. Exceedance for one sample	1. Identify source 2. Inform IEC and ER 3. Repeat measurement to confirm finding 4. Increase monitoring frequency to daily	1. Check monitoring data submitted by ET 2. Check Contractor's working method	1. Notify Contractor 2. Check monitoring data and Contractor's working methods	1. Rectify any unacceptable practice 2. Amend working methods if appropriate
2. Exceedance for two or more consecutive samples	1. Identify source 2. Inform IEC and ER 3. Repeat measurements to confirm findings 4. Increase monitoring frequency to daily 5. Discuss with Contractor, IEC and ER for remedial actions required 6. If exceedance continues, arrange meeting with IEC and ER 7. If exceedance stops, cease additional monitoring	1. Checking monitoring data submitted by ET 2. Check Contractor's working method 3. Discuss with ET and Contractor on possible remedial measures 4. Advise the ER on the effectiveness of the proposed remedial measures 5. Supervise implementation of remedial measures	1. Confirm receipt of notification of failure in writing 2. Notify Contractor 3. Check monitoring data and Contractor's working methods 4. Discuss with IEC and Contractor on potential remedial actions 5. Ensure remedial actions properly implemented	1. Submit proposals for remedial actions to ER within 3 working days of notification 2. Implement the agreed proposals 3. Amend proposal if appropriate
LIMIT LEVEL				
1. Exceedance for one sample	1. Identify source 2. Inform ER and EPD 3. Repeat measurement to confirm finding 4. Increase monitoring frequency to daily 5. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results	1. Checking monitoring data submitted by ET 2. Check Contractor's working method 3. Discuss with ET and Contractor on possible remedial measures 4. Advise the ER on the effectiveness of the proposed remedial measures 5. Supervise implementation of remedial measures	1. Confirm receipt of notification of failure in writing 2. Notify Contractor 3. Check monitoring data and Contractor's working methods 4. Discuss with ET Leader and Contractor potential remedial actions 5. Ensure remedial actions properly implemented	1. Take immediate action to avoid further exceedance 2. Submit proposals for remedial actions to ER within 3 working days of notification 3. Implement the agreed proposals 4. Amend proposal if appropriate

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
2. Exceedance for two or more consecutive samples	1. Identify source 2. Inform IEC, ER and EPD the causes & actions taken for the exceedances 3. Repeat measurement to confirm findings 4. Increase monitoring frequency to daily 5. Investigate the causes of exceedance, Contractor's working procedures to identify possible mitigation 6. Arrange meeting with IEC and ER to discuss the remedial actions to be taken 7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results 8. If exceedance stops, cease additional monitoring	1. Discuss amongst ER, ET and Contractor as the potential remedial actions 2. Review Contractor's remedial actions whenever necessary to ensure their effectiveness and advise the ER accordingly 3. Supervise the implementation of remedial measures	1. Confirm receipt of notification of failure in writing 2. Notify Contractor 3. Carry out analysis of Contractor's working procedures with IEC to determine possible mitigation to be implemented 4. Discuss amongst Environmental Team Leader and the Contractor potential remedial actions 5. Review Contractor's remedial actions whenever necessary to assure their effectiveness 6. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated	1. Take immediate action to avoid further exceedance 2. Submit proposals for remedial actions to ER within 3 working days of notification 3. Implement the agreed proposals 4. Resubmit proposals if problem still not under control 5. Stop the relevant portion of works as determined by the ER until the exceedance is abated

Appendix C. Schedule of Mitigation Measures from the EIA/ EM&A Manual and Event Contingency Plan for Environmental Complaints

Table C.1: Implementation Schedule of Recommended Mitigation Measures from the EIA

No.	Activity	Mitigation/EIA Recommendations	Responsibility for Implementation (1)	Location/ Duration of completion of measures	Implementation Stage (2)	Relevant Guidelines/ Legislation (4)	Implementation Status (3)
1 Ash Disposal							
I	Treatment	Reconfirm extent of contaminated ash deposits by sampling for dioxins and furans. Handling, transportation and disposal of the ash waste in line with relevant regulations. Collection, immobilisation and testing of waste for disposal to landfill shall be carried out according to the relevant regulations and recommendations of the EIA including immobilisation by collection and mixing the ash material with cement. Pilot mixing and Toxicity Characteristic Leaching Procedure (TCLP) tests should establish the ratio of cement to ash to the satisfaction of EPD. Ash waste to be treated and placed into steel drums lined with plastic sheeting. The drums should be adequately sealed and in new or good condition. Prior agreement of the disposal criteria from EPD and agreement to disposal from the landfill operator must be obtained.	CEDD's Contractor	KCIP work areas. Duration of the ash removal	A@	1, 10, EIA	N/A
II	Disposal	To monitor the disposal of waste at landfills, a "trip-ticket" system (WBTC No. 5/99) for all solid waste transfer/disposal operations should be implemented. The system should be included as a contractual requirement, and monitored by the Environmental Team and audited by the Independent Checker (Environment).	CEDD's Contractor	As above	A	1, 5, 9	✓
III	Asbestos Removal	An asbestos abatement programme should be submitted to EPD for approval prior to the commencement of the asbestos abatement work.	CEDD and Contractor	As above	A	4	✓
2 Demolition							
A1	Non-blasting Methodology	Demolition by Non-Blasting Methodology Only. All structures and buildings should be demolished and removed prior to demolition of chimneys	CEDD	KCIP work areas. Duration of the demolition	C#	8	✓

No.	Activity	Mitigation/EIA Recommendations	Responsibility for Implementation (1)	Location/ Duration completion of measures	Implementation Stage (2)	Relevant Guidelines/ Legislation (4)	Implementation Status (3)
A2	Waste Management Plan	A Waste Management Plan shall be submitted to EPD for approval. The Waste Management Plan shall include, but not be limited to, the findings of the Waste Management Paper of the EIA, the types, quantities, disposal methods, timing, and locations of final disposition, responsibilities for implementation and the possible recycling and reuse of wastes generated.	CEDD and Contractor	Prior to commencement of the demolition works	Prior to C#	1	✓
B	Material Storage	Covers for dusty stockpiles and control of dust emissions from construction (demolition) works requires appropriate dust control measures to be implemented in accordance with the requirements in the Air Pollution Control (Construction Dust) Regulation.	CEDD's Contractor	KCIP work areas. Duration of the demolition	C	4	✓, !
C	Vehicle movement	Haul road watering, vehicle wheel wash prior to exit. Where practical, access roads should be protected with crushed gravel.	CEDD's Contractor	As above	C	4	✓
D	Plant maintenance	All plant shall be maintained to prevent any undue air emissions.	CEDD's Contractor	As above	Prior to start of works	4	✓
E	Demolition Techniques	Selection of non-blasting demolition techniques to minimise noise and vibration.	CEDD's Contractor	As above	C	8	✓
F	Plant maintenance	All plant shall be maintained to prevent any undue noise nuisance.	CEDD's Contractor	As above	C	2, 3	✓
G	Wheel wash	All wheel wash water shall be diverted to a sediment pit.	CEDD's Contractor	As above	C	5	✓
H	Sediment control	Sediment removal facilities shall provided and be maintained and excavated as necessary to prevent sedimentation of channels. Perimeter channels should be provided. Works should be programmed for the dry season where feasible. Environmental guidelines for the handling and disposal of discharges from construction sites, as stipulated in the Practice Note for Professional Persons, Construction Site Drainage (ProPECC PN 1/94) to be followed.	CEDD's Contractor	As above	C	5, 12	✓
I	Surface water diversion	All clean surface water shall be diverted around the site.	CEDD's Contractor	As above	C	5, 12	✓
J	Fuel can storage	All fuel cans shall be placed within a bunded area. Any fuel spills shall be mopped up as necessary.	CEDD's Contractor	As above	C	5,6	✓, REC
K	Material, plant movement & fuel can filling.	Any fuel or oil spills shall be excavated and disposed of.	CEDD's Contractor	As above	C	6,7	✓

No.	Activity	Mitigation/EIA Recommendations	Responsibility for Implementation (1)	Location/ Duration completion of measures	Implementation Stage (2)	Relevant Guidelines/ Legislation (4)	Implementation Status (3)
L	Generators	All generators shall be placed within a bunded area. Any fuel spills shall be mopped up as necessary.	CEDD's Contractor	As above	C	5,6,7	✓
M	Material containers	All empty bags and containers shall be collected for disposal.	CEDD's Contractor	As above	C	6,7	✓
N	Worker generated litter and Waste	Litter receptacles shall be placed around the site. Litter shall be taken regularly to the refuse collection points. Chemical toilets (or suitable equivalent) should be provided for workers. Any canteens should have grease traps.	CEDD's Contractor	As above	C	6	✓
O	Neighbourhood nuisance	All complaints regarding construction works shall be relayed to the environmental team.	CEDD's Contractor	As above	C	1, 6	✓
P	Legal requirements	Different types of waste should be segregated, stored, transported and disposed of in accordance with the relevant legislative requirements and guidelines	CEDD's Contractor	As above	C	1,6	✓
Q	On-site separation	On-site separation of municipal solid waste and construction/demolition wastes shall be conducted in order to minimise the amount of solid waste to be disposed to landfill.	CEDD's Contractor	As above	C	1, 11	✓
R	Temporary storage area	Separated wastes should be stored in different containers, skips, or stockpiles to enhance reuse or recycling of materials and encourage their proper disposal.	CEDD's Contractor	As above	C	1, 11	✓, REC
S	Record of wastes	Records of quantities of wastes generated, recycled and disposed (with locations) shall be kept.	CEDD's Contractor	As above	C	1, 9	✓
T	Trip-ticket system	To monitor the disposal of waste at landfills and control fly-tipping, a "trip-ticket" system under Works Bureau Technical Circular (WBTC) No. 5/99 for all solid waste transfer/disposal operations should be implemented. The system should be included as a contractual requirement, and monitored by the Environmental Team and audited by the Independent Checker (Environment).	CEDD's Contractor	As above	C	1, 9	✓
3 Soil Remediation Phase							
U	B, C, D, F, G, I, J, K, L, M, N, O, P, Q, R, S and T as above	As above (see W for soil remediation).	As above	As above	R	As above	✓

No.	Activity	Mitigation/EIA Recommendations	Responsibility for Implementation (1)	Location/ Duration completion of measures	Implementation Stage (2)	Relevant Guidelines/ Legislation (4)	Implementation Status (3)
V	De-watering	Collect and recycle extracted groundwater and leachate by mixing with cement for soil remediation. Environmental guidelines for the handling and disposal of discharges from construction sites, as stipulated in the Practice Note for Professional Persons, Construction Site Drainage (ProPECC PN 1/94) to be followed. Any surplus groundwater and leachate requiring disposal to be disposed of under the relevant legislation or treated to meet the standards given in Table 9a of the WPCO TM.	CEDD's Contractor	KCIP work areas. Duration of the soil remediation	R	5	✓
W	Immobilisation	Immobilisation and testing of waste soil shall be carried out according to the relevant regulations and recommendations of the EIA including immobilisation by collection and mixing the contaminated soil material with cement. Pilot mixing and TCLP tests should verify the effectiveness and establish the ratio of cement to soil to the satisfaction of EPD. Reassurance confirmatory sampling shall be carried out to confirm the extent of contamination. Soil waste to be cast in blocks and replaced in the ground. Extracted soils and materials and stabilisation/solidification to be conducted in banded area to prevent surface run-off. See also item 2(H) above. Final soil decontamination report to be submitted to EPD.	CEDD's Contractor	As above	R	1, 10	✓
4	Monitoring and Audit	To be carried out in accordance with the Schedule in the EM&A Manual.	CEDD* / Contractor / Resident Site Supervisor (RSS)	KCIP works areas. During demolition and at end of demolition throughout execution of Remediation Action Plan	C	1	✓

Notes: (1) Responsibility for Implementation:

* Normally undertaken by a specialist monitoring team employed directly by the proponent and audited by the Independent Checker (Environment).

(2) Implementation Stage:

@ A = during ash removal (before demolition)

C = during construction (i.e. demolition phase)

* R = during soil remediation phase (after demolition)

(3) Implementation Status:

✓ implemented × not implemented

(REC) partially rectified by Contractor

N/A not applicable

P partially implemented

! pending Contractor's rectification action

REC rectified by Contractor

(4) Relevant Guidelines / Legislation references:

1. Environmental Impact Assessment Ordinance Technical Memorandum (EIAO-TM)
2. Noise Control Ordinance
3. The ProPECC Note PN2/93 (Construction Noise daytime limits)
4. Air Pollution Control Ordinance (APCO, Cap. 311)
5. Water Pollution Control Ordinance (WPCO) (Cap. 358)
6. Waste Disposal Ordinance (WDO, Cap. 354)
7. Waste Disposal (Chemical Waste) (General) Regulation (Cap. 354)
8. Draft Code of Practice on Demolition of Buildings (BD, 1998)
9. Works Bureau Technical Circular (WBTC) No. 5/99, Trip-ticket System for Disposal of Construction and Demolition Material
10. Guidance Notes for Investigation and Remediation of Contaminated Sites
11. Works Bureau Technical Circular No. 5/98, On Site Sorting of Construction Waste on Demolition Sites
12. ProPECC Note PN 1/94 Construction Site Drainage

Table C.2: Event Contingency Plan for Environmental Complaints

Step	Day	Action	Contractor	ER	ET	IEC
1	1	Party receiving complaint shall create a new complaint record. If the Contractor receives a complaint, he shall pass the information to the ER.	◆	◆	◆	
2	1	ER to ensure details of complaint provided to Contractor (if complaint not originally received by the Contractor), ET and IEC		◆		
3	2	Within 1 working day after the receipt of the Notification of Complaint, provide ER relevant works site information, e.g. types and locations of construction works.	◆			◇
4	2	Investigate the complaint to determine its validity, and to assess whether the source of the problem is due to the works activities. Report the validity of the complaint to ER.				◆◇
5	2	If complaint is valid and due to works, ER shall notify the Contractor. If complaint is invalid or not due to works, Go to Step 12.		◆		
6	2	Propose mitigation measures to ER within 1 working day of the receipt of the Notification.	◆			◇
7	2	Review and agree with the proposed mitigation measures and make recommendations where necessary.		◆◇		◆◇
8	2	Implement the mitigation measures once they have been agreed.	◆			
9	4	Audit the implementation of the proposed mitigation measures on site within 2 working days after measures have been agreed.		◆◇		◆◇
10	-	Undertake additional monitoring to verify the situation where necessary.			◆	
11	4	Report the investigation results and subsequent actions taken to ER within 2 working days after the implementation of mitigation measures.	◆		◆	
12	5	Respond to the complainant within 1 working day after receiving the investigation report.		◆		
13	25	If no further comments or complaints are received from the complainant within 20 working days after responding to the complainant, close the complaint record. If the complainant has further comments or complaints on the same issue, notify other parties on the same day and go to step 2.		◆		◆◇

Notes: ◆ Action Party

◇ Enter comments/ proposals into appropriate complaint record where applicable

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Appendix D. EM&A Schedule

Impact Monitoring and Audit Schedule for Jan 2012

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2 <i>Holiday</i>	3	4 1-hr TSP 24-hr TSP	5 site inspection	6 1-hr TSP	7
8	9 1-hr TSP	10 1-hr TSP 24-hr TSP	11 1-hr TSP	12 site inspection	13 1-hr TSP	14
15	16 1-hr TSP 24-hr TSP	17	18 1-hr TSP	19 site inspection	20 1-hr TSP	21 1-hr TSP (x2) 24-hr TSP
22	23 <i>Holiday</i>	24 <i>Holiday</i>	25 <i>Holiday</i>	26	27	28
29	30 1-hr TSP	31				

- Note:** 1. Each 1-hr and 24-hr TSP monitoring is conducted once unless otherwise stated. Monitoring may be rescheduled due to inclement weather or other unforeseen events.
 2. Site audit originally scheduled for 26 Jan 2012, 1-hr TSP monitoring originally scheduled for 26 and 27 Jan 2012 and 24-hr TSP originally scheduled for 27 Jan 2012 were cancelled as no construction works were scheduled on those days.

Tentative Impact Monitoring and Audit Schedule for Feb 2012

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1 1-hr TSP	2 site inspection	3 1-hr TSP	4 1-hr TSP 24-hr TSP
5	6 1-hr TSP	7	8 1-hr TSP	9 site inspection	10 1-hr TSP 24-hr TSP	11
12	13 1-hr TSP 24-hr TSP	14	15 1-hr TSP	16 site inspection 1-hr TSP 24-hr TSP	17 1-hr TSP	18
19	20 1-hr TSP	21	22 1-hr TSP 24-hr TSP	23 site inspection	24 1-hr TSP	25
26	27 1-hr TSP	28 1-hr TSP 24-hr TSP	29 1-hr TSP			

- Note:** Each 1-hr and 24-hr TSP monitoring is conducted once unless otherwise stated. Monitoring may be rescheduled due to inclement weather or other unforeseen events.

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Appendix E. Air Quality Monitoring Results and Graphical Presentation

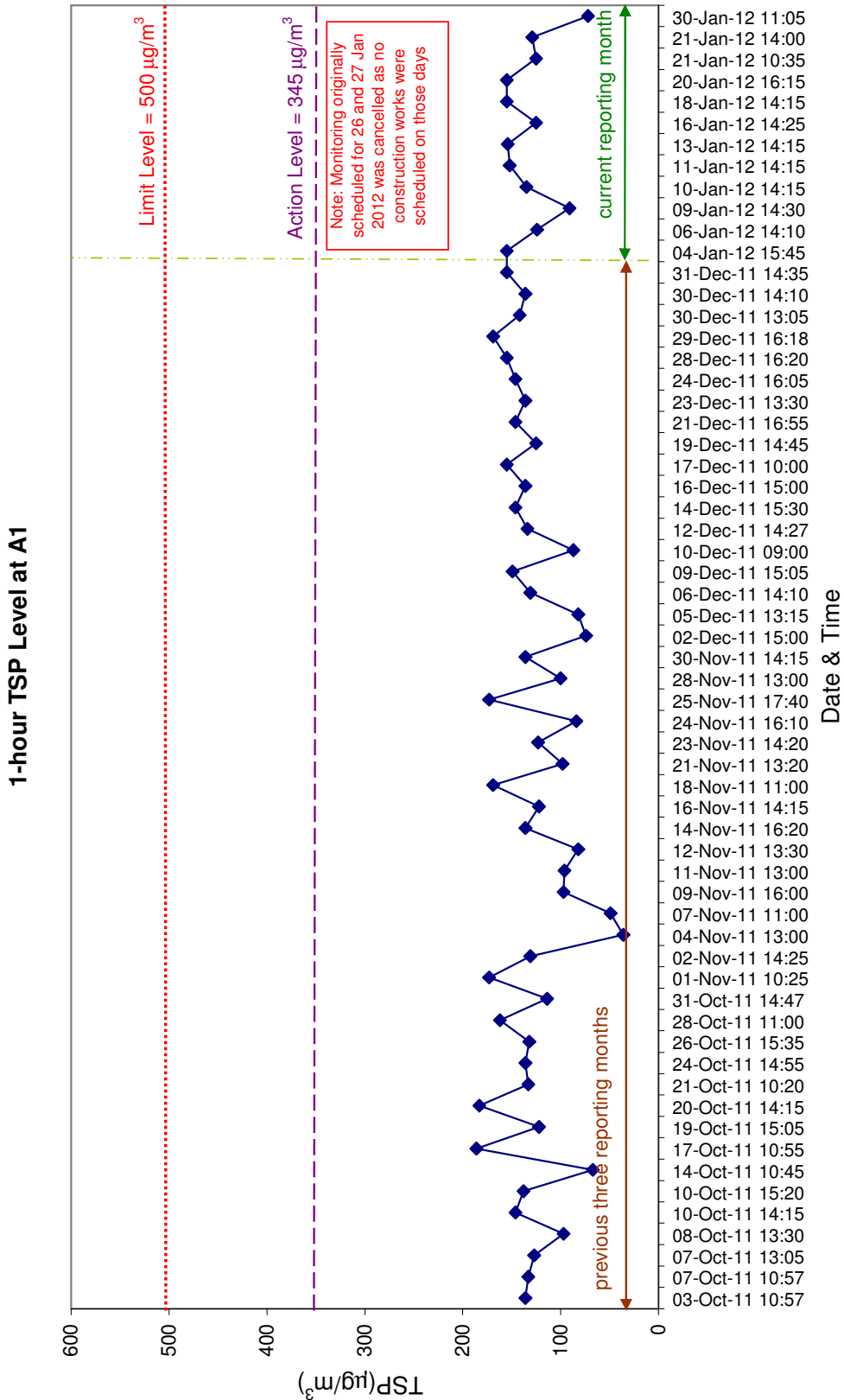
1-hour TSP Monitoring Results

Station A1

Date	Start Time	Finish Time	TSP Concentration ($\mu\text{g}/\text{m}^3$)	Weather Condition	Action Level ($\mu\text{g}/\text{m}^3$)	Limit Level ($\mu\text{g}/\text{m}^3$)
04-Jan-12	15:45	16:45	155	Cloudy	345	500
06-Jan-12	14:10	15:10	124	Cloudy	345	500
09-Jan-12	14:30	15:30	91	Fine	345	500
10-Jan-12	14:15	15:15	135	Cloudy	345	500
11-Jan-12	14:15	15:15	152	Cloudy	345	500
13-Jan-12	14:15	15:15	154	Drizzle	345	500
16-Jan-12	14:25	15:25	125	Cloudy	345	500
18-Jan-12	14:15	15:15	155	Sunny	345	500
20-Jan-12	16:15	17:15	155	Cloudy	345	500
21-Jan-12	10:35	11:35	125	Cloudy	345	500
21-Jan-12	14:00	15:00	129	Cloudy	345	500
30-Jan-12	11:05	12:05	72	Fine	345	500
		Min.	72			
		Max.	155			
		Average	131			

Note:

Monitoring originally scheduled for 26 and 27 Jan 2012 was cancelled as no construction works were scheduled on those days.

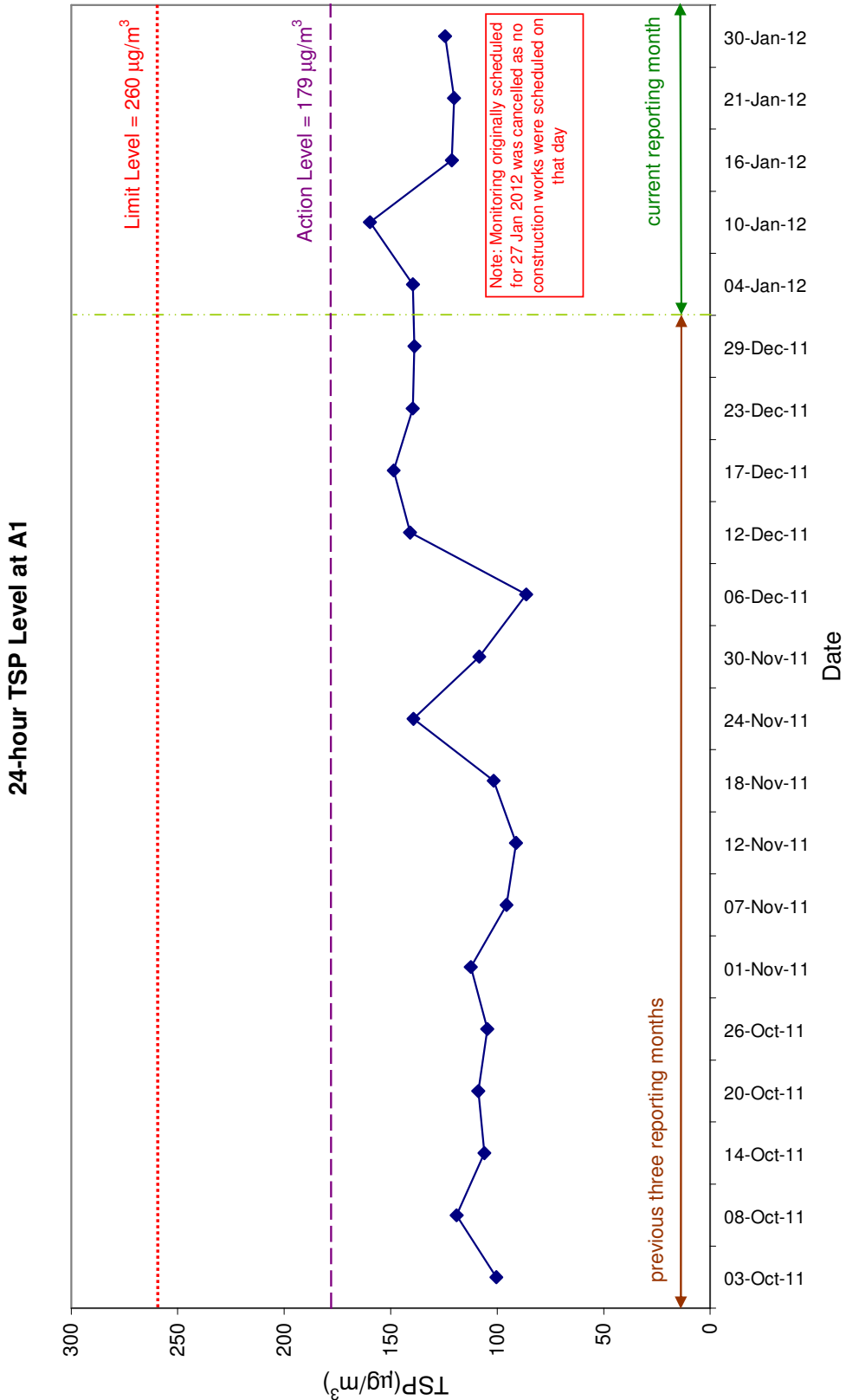


24-hour TSP Monitoring Results

Station A1

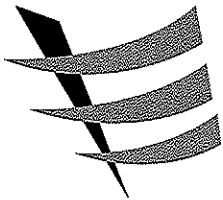
Start Date	Start Time	Finish		Filter Weight (g)		Elapsed Time Reading (hrs)		Sampling Time (hrs)		Flow Rate (m ² /min)		Conc. (µg/m ³)	Weather Condition	Action Level (µg/m ³)	Limit Level (µg/m ³)
		Date	Time	Initial	Final	Initial	Final	Initial	Final	Average					
04-Jan-12	09:00	05-Jan-12	09:00	2.7815	2.9820	20813.67	20837.67	24.00	0.9977	0.9977	0.9977	140	Cloudy	179	260
10-Jan-12	09:00	11-Jan-12	09:00	2.7643	2.9939	20837.67	20861.67	24.00	0.9977	0.9977	0.9977	160	Cloudy	179	260
16-Jan-12	09:00	17-Jan-12	09:00	2.7488	2.9231	20861.67	20885.67	24.00	0.9977	0.9977	0.9977	121	Fine	179	260
21-Jan-12	09:00	22-Jan-12	09:00	2.7581	2.9309	20885.67	20909.67	24.00	0.9977	0.9977	0.9977	120	Cloudy	179	260
30-Jan-12	09:00	31-Jan-12	09:00	2.7721	2.9510	20909.67	20933.67	24.00	0.9977	0.9977	0.9977	125	Fine	179	260
											Min	120			
											Max	160			
											Average	133			

Note: Monitoring originally scheduled for 27 Jan 2012 was cancelled as no construction works were scheduled on that day.



Appendix F. Calibration Certificates

This Appendix begins on the next page.



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TEST REPORT

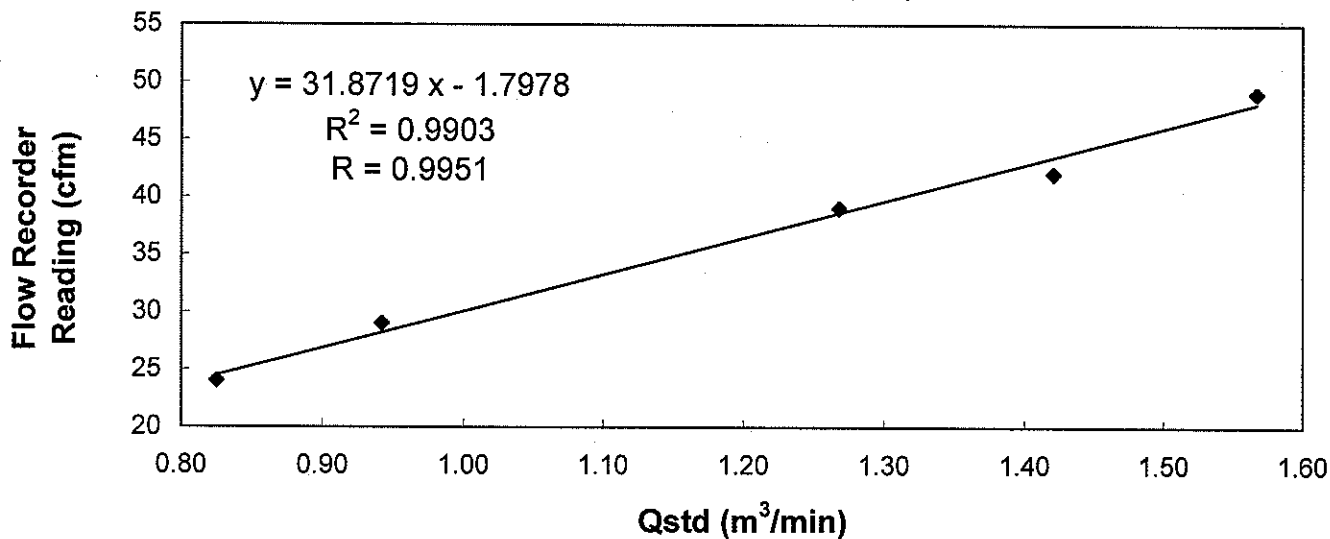
Calibration Report
of
High Volume Air Sampler

Manufacturer : Graseby GMW Date of Calibration : 28 December 2011
Serial No. : 9035 (ET / EA / 003 / 09) Calibration Due Date : 27 February 2012
Method : Five-point calibration by using standard calibration kit Tisch TE-5025A refer to the Operations Manual

Results :

Flow recorder reading (cfm)	49	42	39	29	24
Qstd (Actual flow rate, m ³ /min)	1.57	1.42	1.27	0.94	0.83
Pressure : 760.56 mm Hg	Temp. : 290 K				

Sampler 9035 Calibration Curve
Site: Kwai Chung I P (L-1)

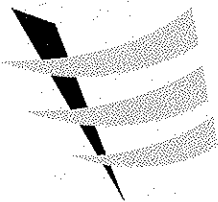


Acceptance Criteria : Correlation coefficient (r) of the calibration curve greater than 0.990 after a 5-point calibration

The high volume sampler complies* / does not comply* with the specified requirements and is deemed acceptable* / unacceptable* for use.

Calibrated by : MAK Kei Wai
MAK, Kei Wai
(Assistant Supervisor)

Checked by : LAW Sau Yee
LAW, Sau Yee
(Senior Environmental Officer)



東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

8/F., Block B, Veristrong Industrial Centre, 34-36 Au Pui Wan Street, Fofan, Hong Kong

Tel : 2695 8318

E-mail : etl@ets-testconsult.com

Fax : 2695 3944

Web site : www.ets-testconsult.com

TEST REPORT

Internal Calibration Report
of
Dust Monitor

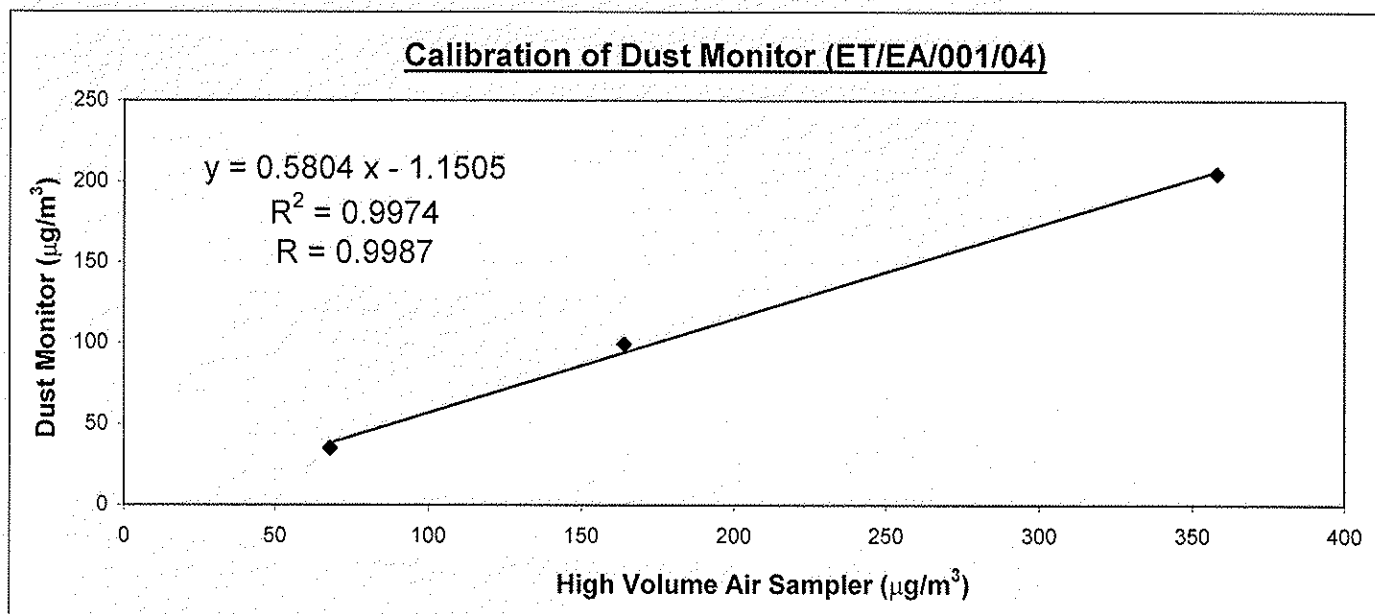
Manufacturer : TSI - 8520 Dust Trak Date of Calibration : 11 October 2011

Serial No. : 14230 (ET / EA / 001 / 04) Calibration Due Date : 10 April 2012

Method : Parallel measurement (Three-point calibration) by placing the Dust Monitor and High Volume Air Sampler together under the same environmental condition

Results :

Dust Monitor ($\mu\text{g}/\text{m}^3$)	35	99	205
High Volume Air Sampler ($\mu\text{g}/\text{m}^3$)	68	164	358
High Volume Air Sampler Serial No.: 9795		Calibration Due Date: 29 November 2011	

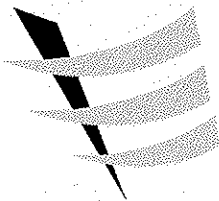


Acceptance Criteria : Correlation coefficient (r) of the calibration curve greater than 0.990 after three-point calibration

The Dust Trak Monitor complies * / does-not-comply * with the internal calibration procedures and is deemed acceptable * / unacceptable * for use.

Calibrated by : Cheung Kai Chi
CHEUNG, Kai Chi
(Site Technician)

Checked by : Lau Sau Yee
LAW, Sau Yee
(Senior Environmental Officer)



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TEST REPORT

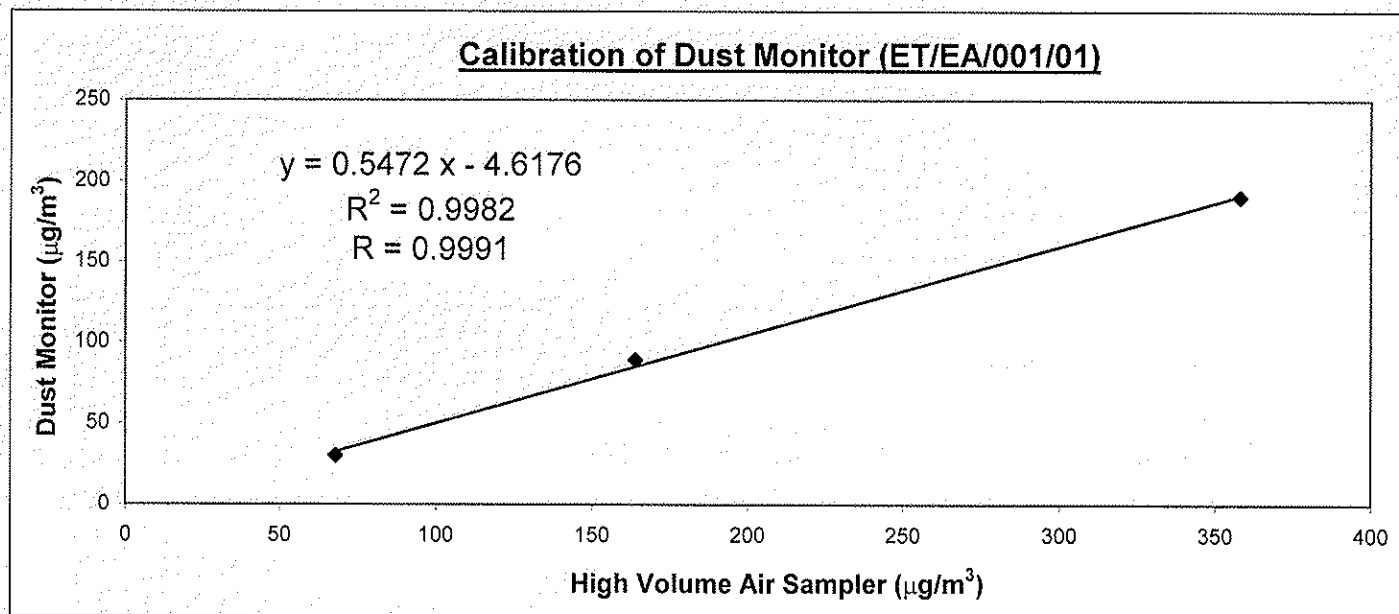
Internal Calibration Report
of
Dust Monitor

Manufacturer : TSI - 8520 Dust Trak Date of Calibration : 11 October 2011

Serial No. : 21672 (ET / EA / 001 / 01) Calibration Due Date : 10 April 2012

Method : Parallel measurement (Three-point calibration) by placing the Dust Monitor and High Volume Air Sampler together under the same environmental condition

Results	Dust Monitor ($\mu\text{g}/\text{m}^3$)	30	89	190
	High Volume Air Sampler ($\mu\text{g}/\text{m}^3$)	68	164	358
	High Volume Air Sampler Serial No.: 9795	Calibration Due Date: 29 November 2011		

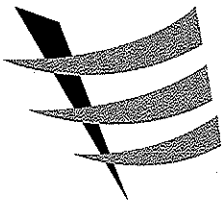


Acceptance Criteria : Correlation coefficient (r) of the calibration curve greater than 0.990 after three-point calibration

The Dust Trak Monitor complies * / does not comply * with the internal calibration procedures and is deemed acceptable * / unacceptable * for use.

Calibrated by : CHEUNG, Kai Chi
(Site Technician)

Checked by : LAW, Sau Yee
(Senior Environmental Officer)



東業德勤測試顧問有限公司
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8/F., Block B, Veristrong Industrial Centre, 34-36 Au Pui Wan Street, Fotan, Hong Kong
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Fax : 2695 3944 Web site : www.ets-testconsult.com

TEST REPORT

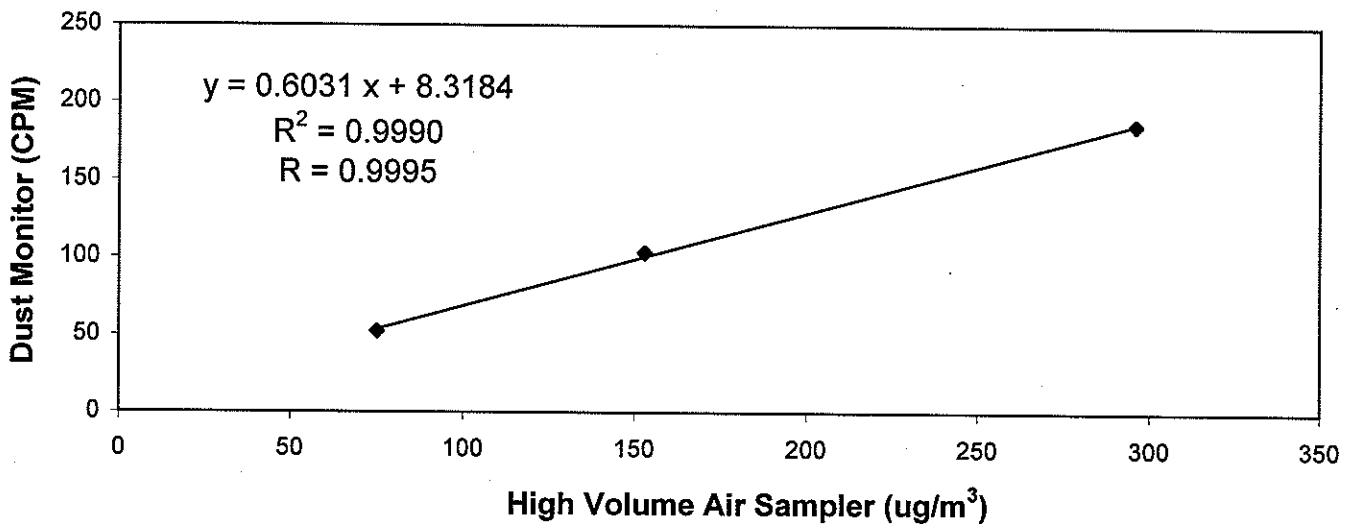
**Internal Calibration Report
of
Dust Monitor**

Manufacturer : SIBATA (LD-3B) Date of Calibration : 06 September 2011
Serial No. : 8X4282 (ET/EA/001/05) Calibration Due Date : 05 March 2012
Method : Parallel measurement (Three-point calibration) by placing the Dust Monitor and High Volume Air Samper together under the same environmental condition

Results :

Dust Monitor (CPM)	52	103	186
High Volume Air Sampler (ug/m ³)	75	153	296
High Volume Air Sampler Serail No.: 9998		Calibration Due Date: 15 September 2011	

Calibration of Dust Monitor (ET/EA/001/05)



Acceptance Criteria : Correlation coefficient (r) of the calibration curve greater than 0.990 after three-point calibration

The Dust Trak Monitor complies * / does not comply * with the internal calibration procedures and is deemed acceptable * / unacceptable * for use.

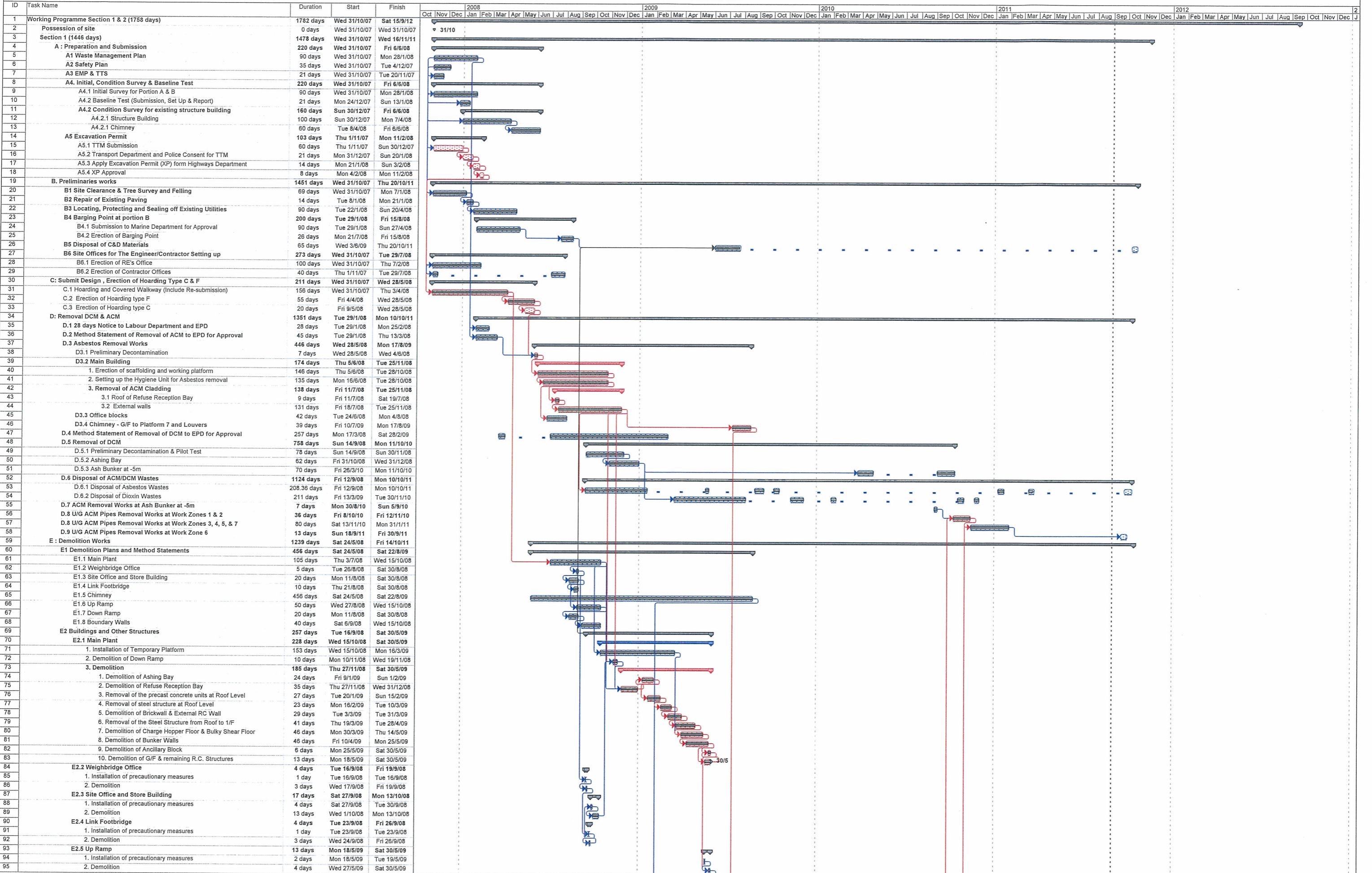
Calibrated by : MAK Kei Wai
MAK, Kei Wai
(Assistant Supervisor)

Checked by : LAW Sau Yee
LAW, Sau Yee
(Senior Environmental Officer)

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Appendix G. Works Programme

This Appendix begins on the next page.

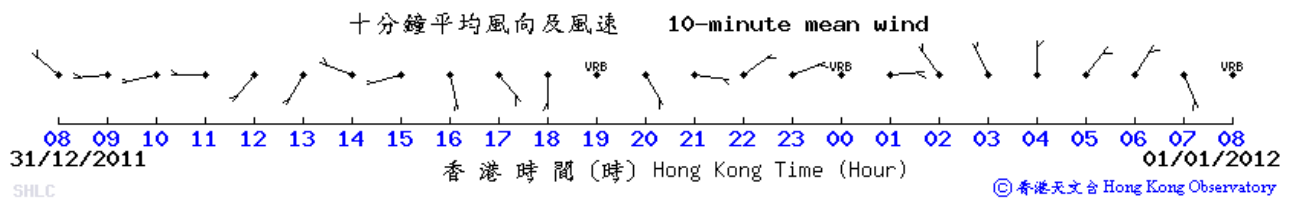
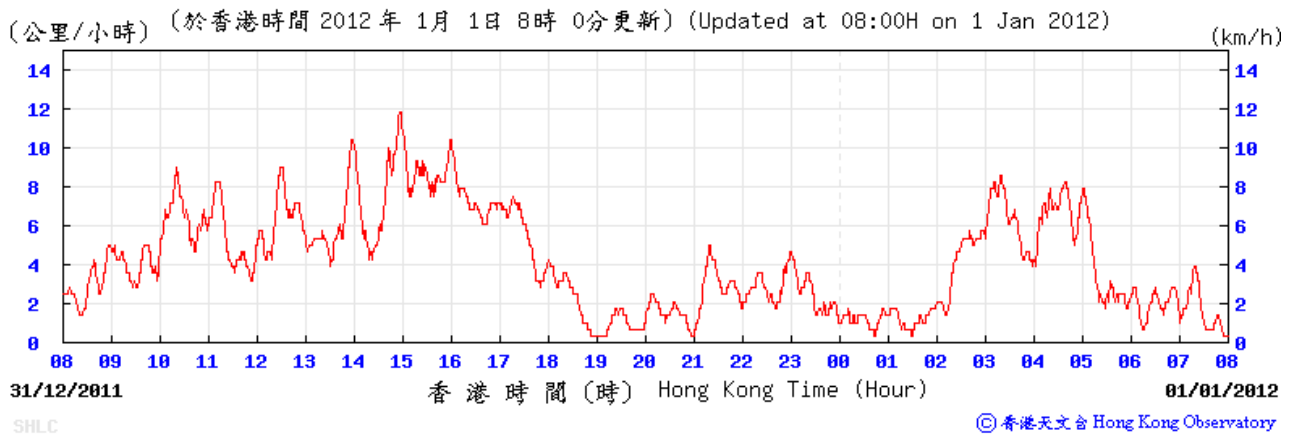
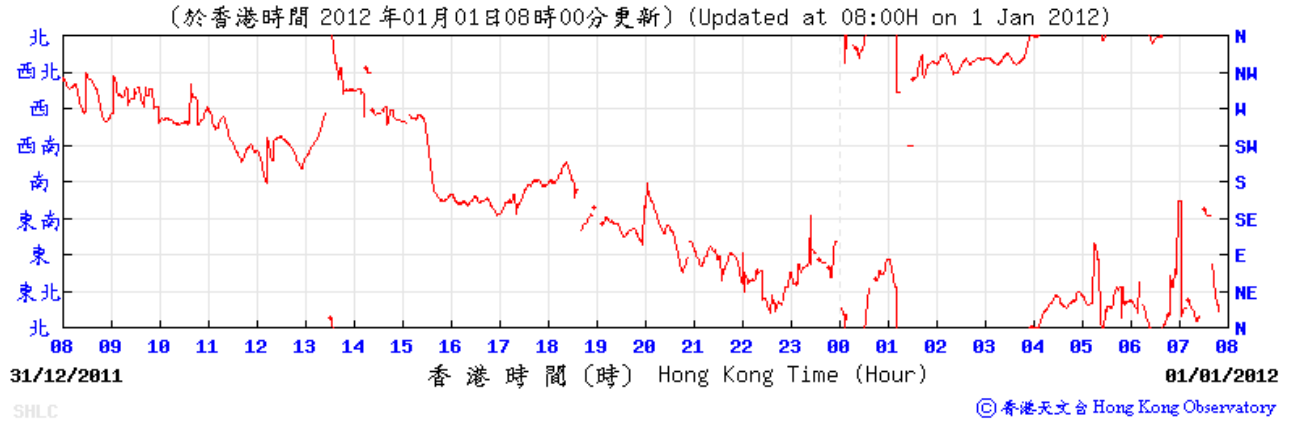


Appendix H. Weather Information from HKO

This Appendix presents wind data obtained from the nearest Hong Kong Observatory (HKO) monitoring station, at Tsing Yi.

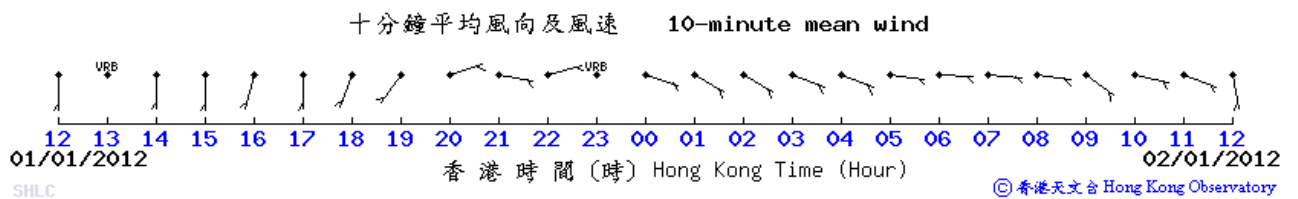
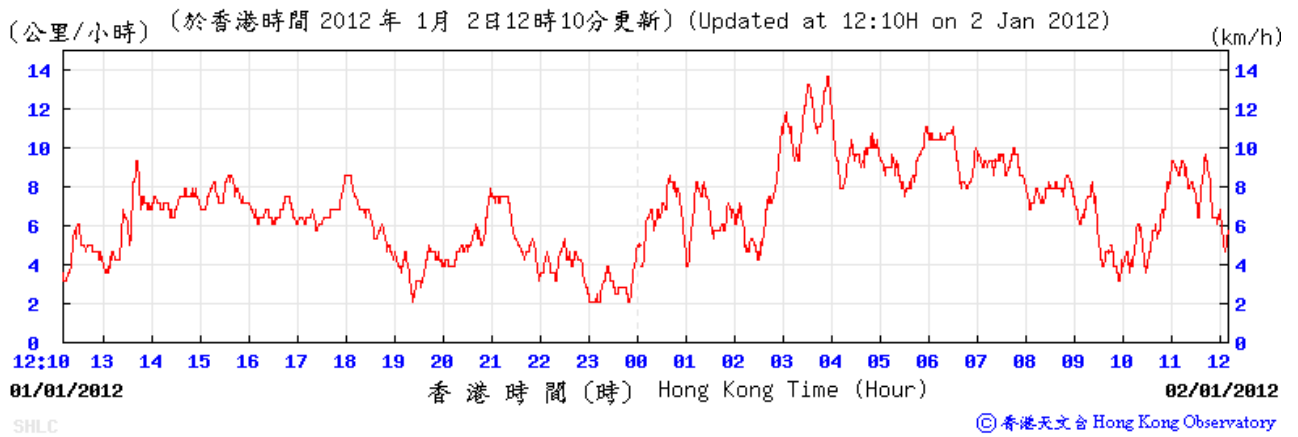
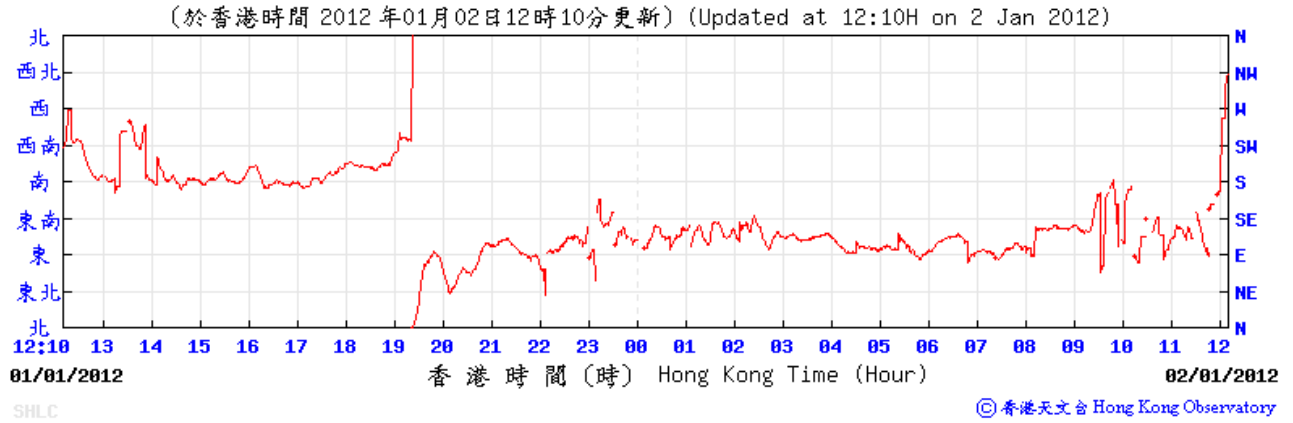
Wind Data for Tsing Yi

1 Jan 2012



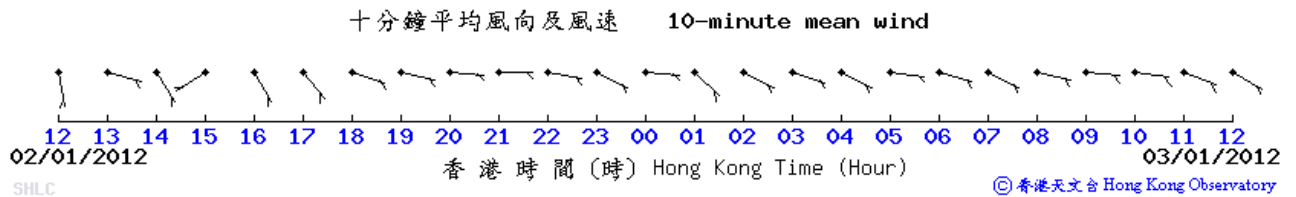
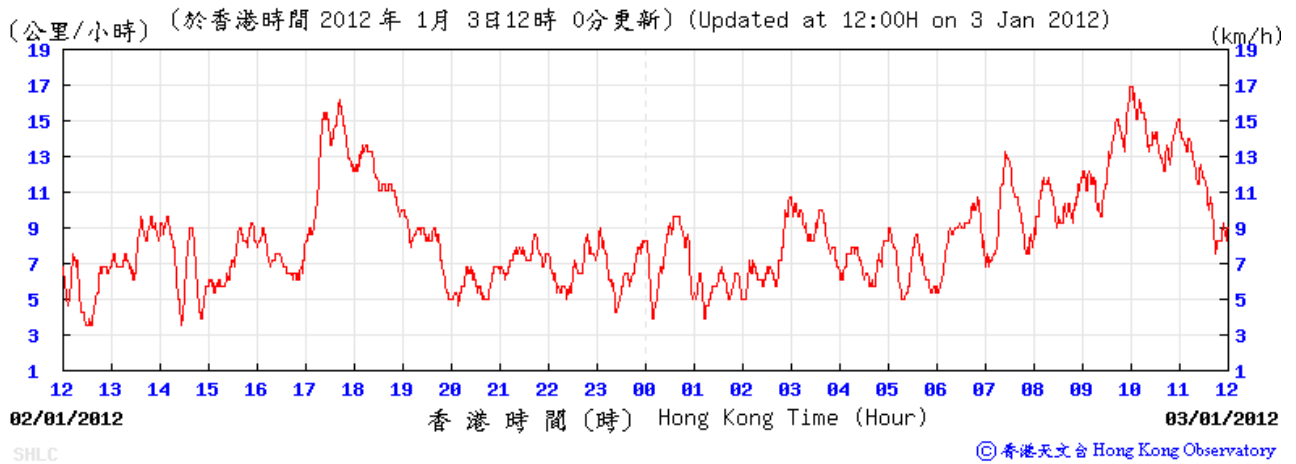
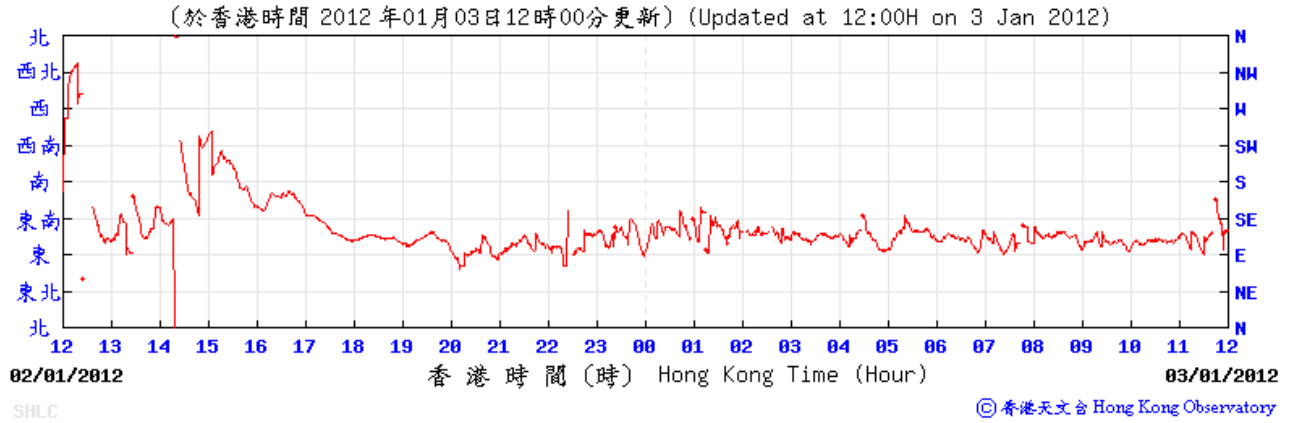
Wind Data for Tsing Yi

2 Jan 2012



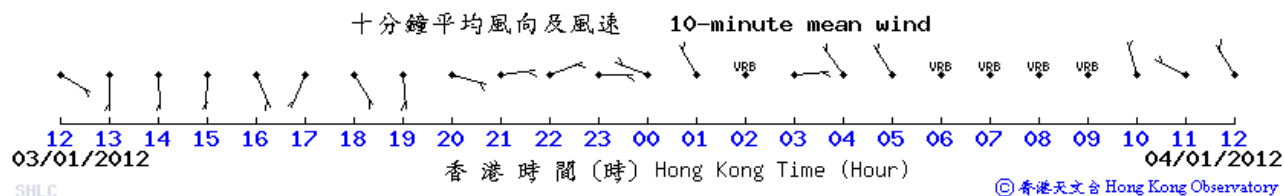
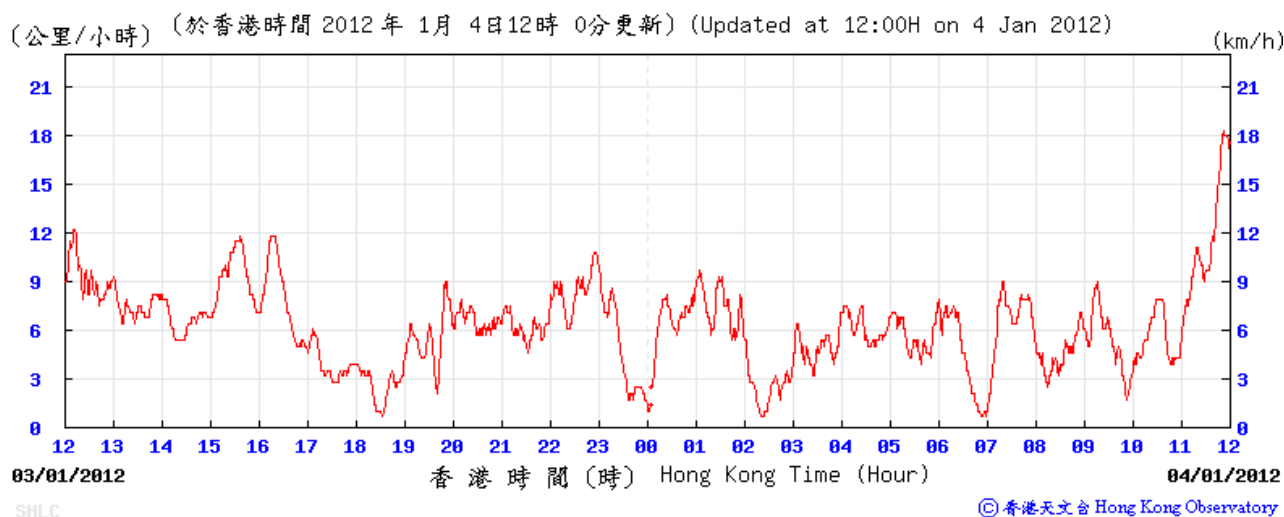
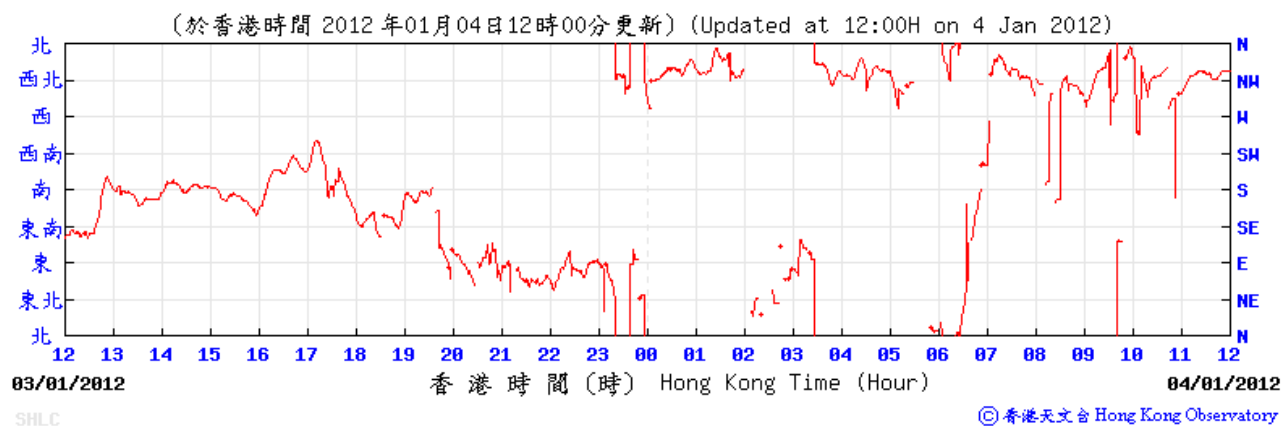
Wind Data for Tsing Yi

3 Jan 2012



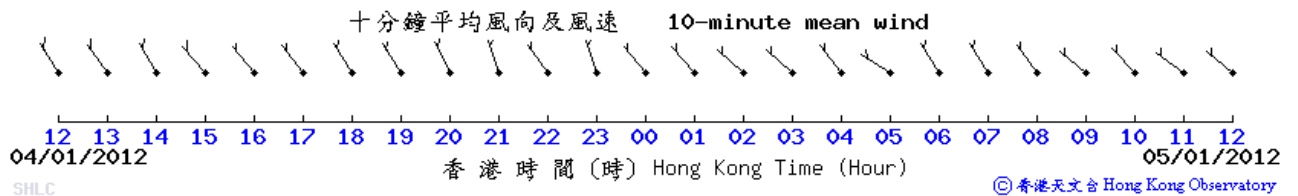
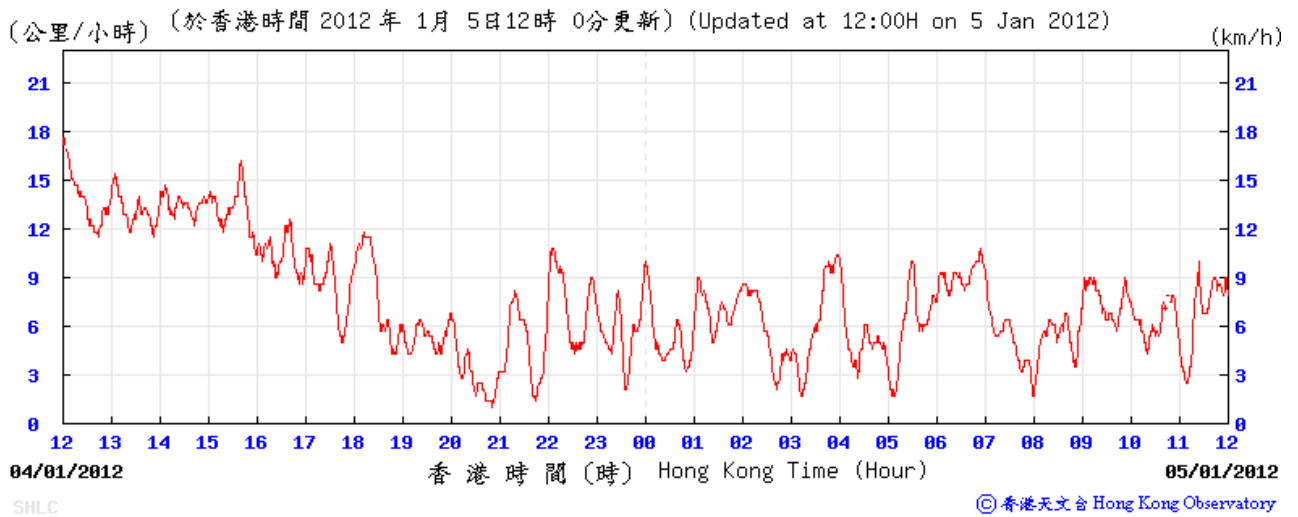
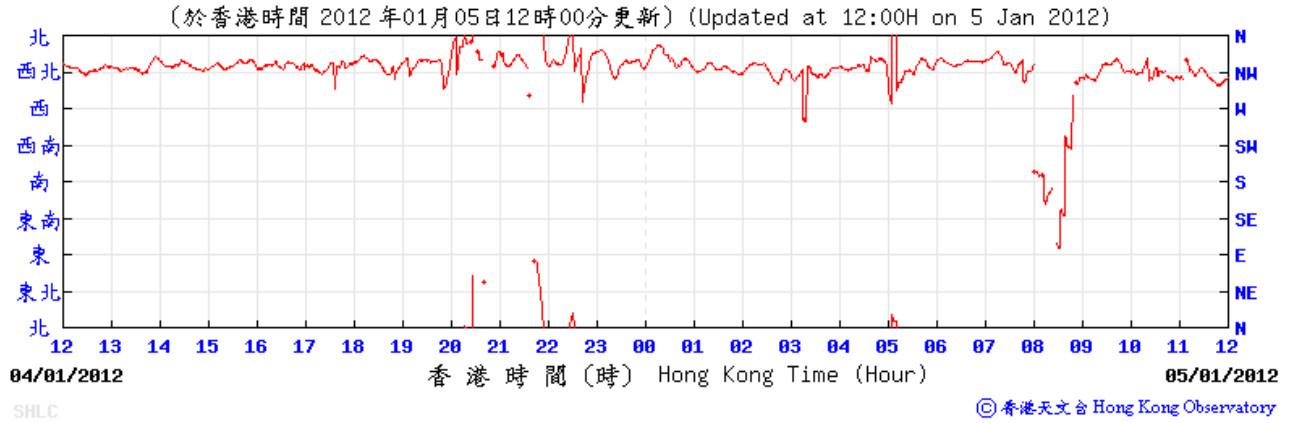
Wind Data for Tsing Yi

4 Jan 2012



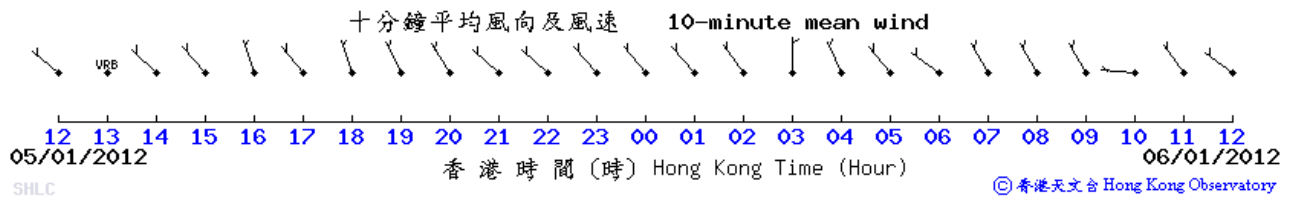
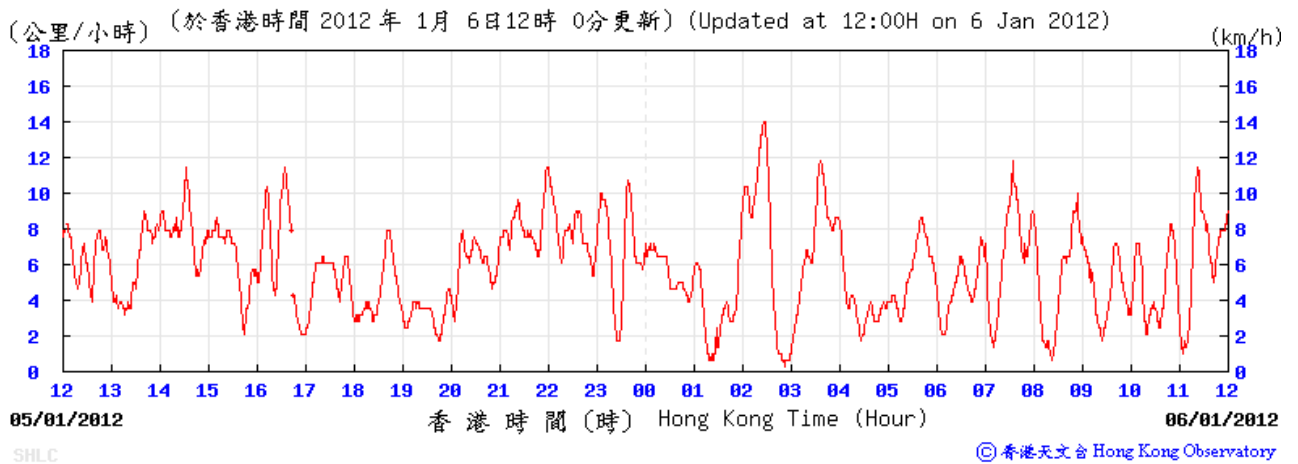
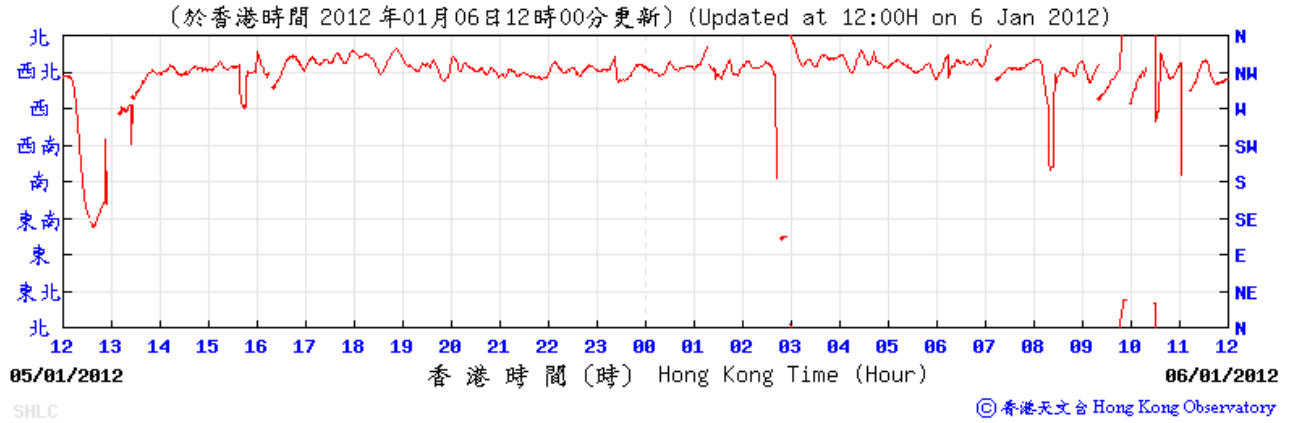
Wind Data for Tsing Yi

5 Jan 2012



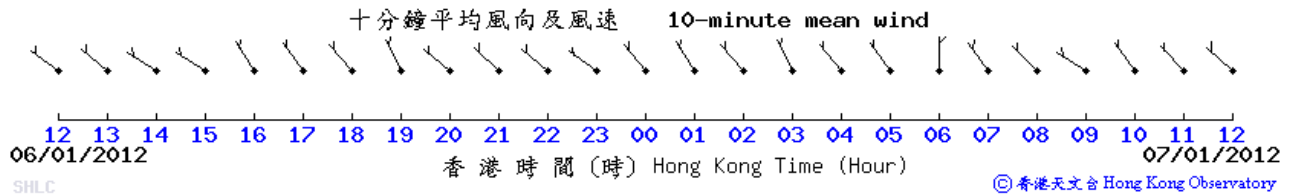
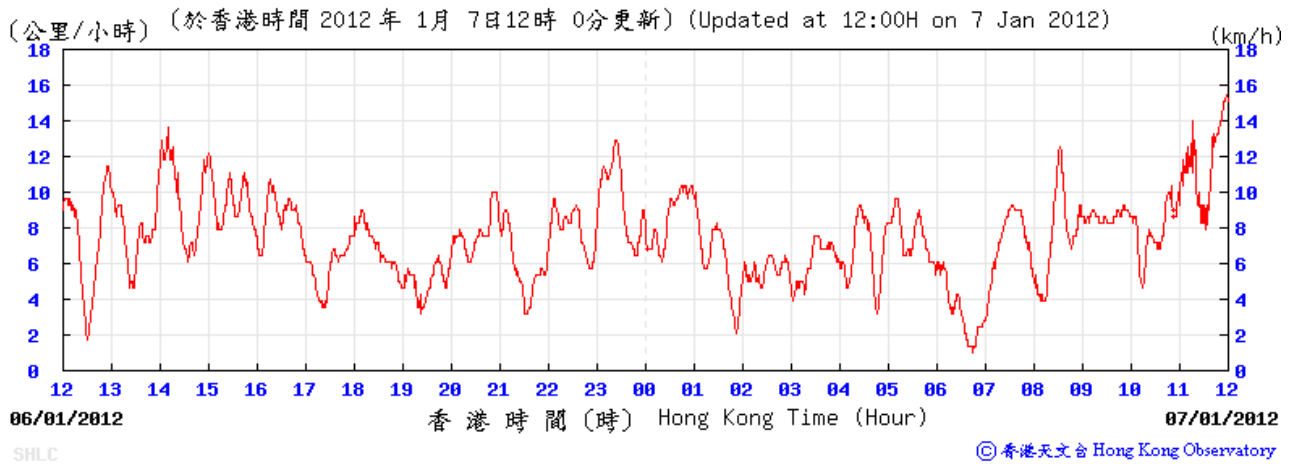
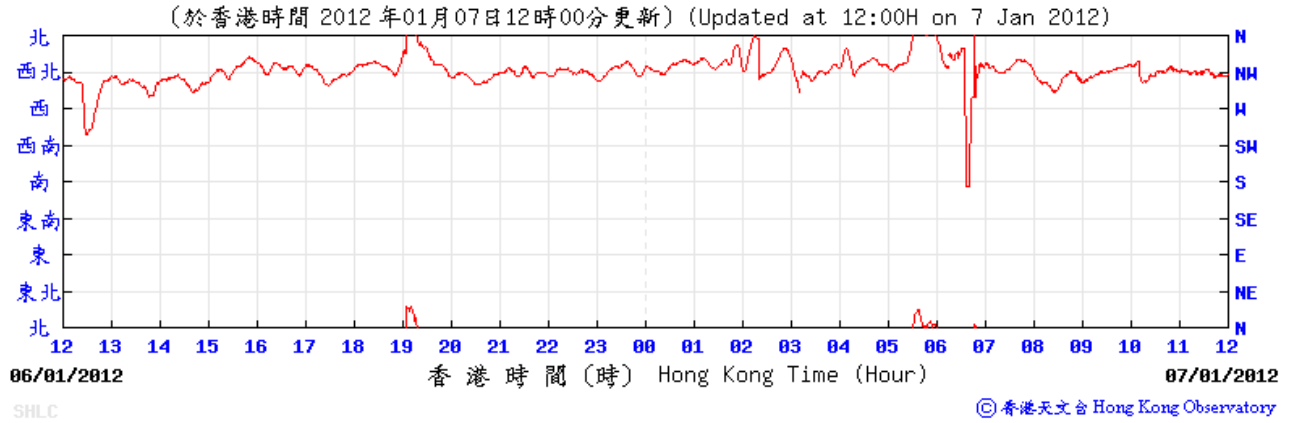
Wind Data for Tsing Yi

6 Jan 2012



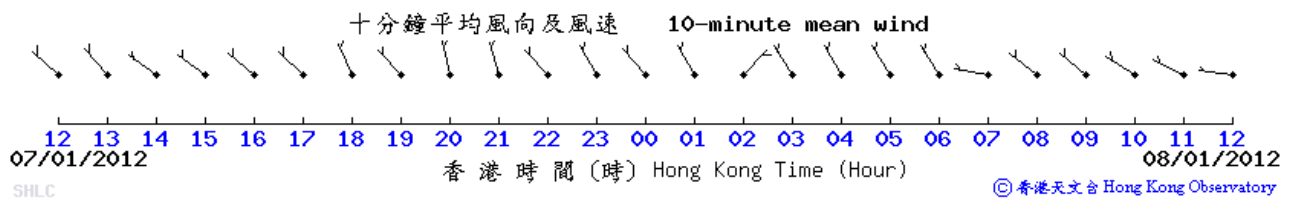
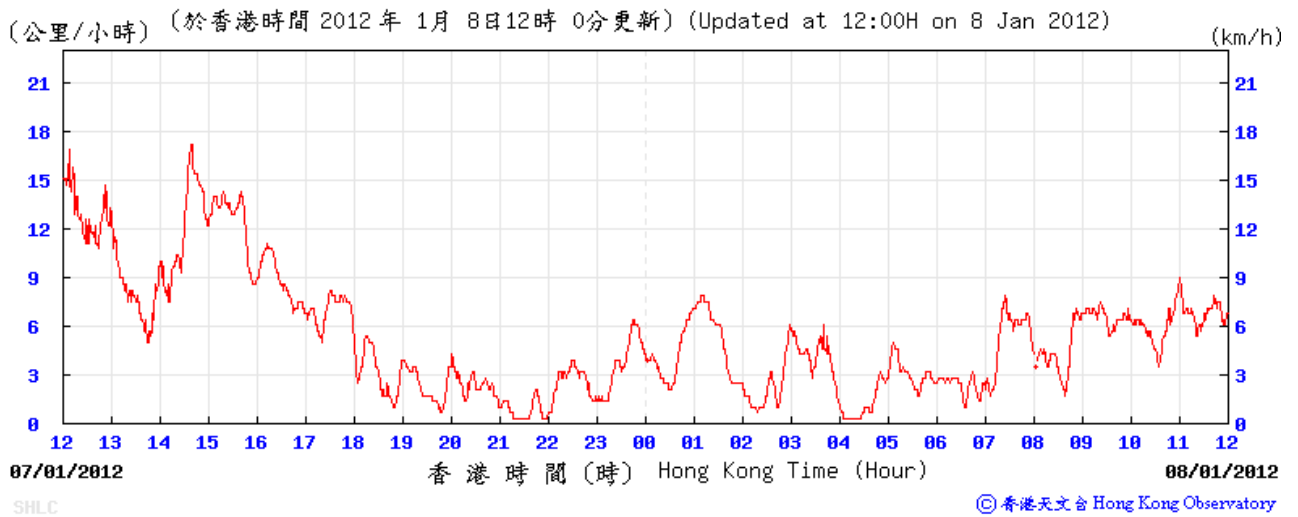
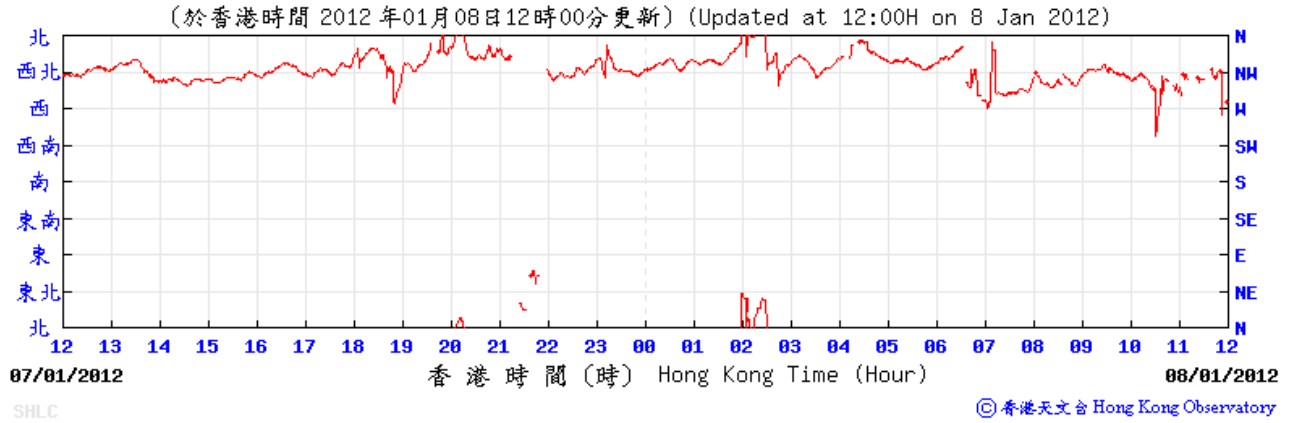
Wind Data for Tsing Yi

7 Jan 2012



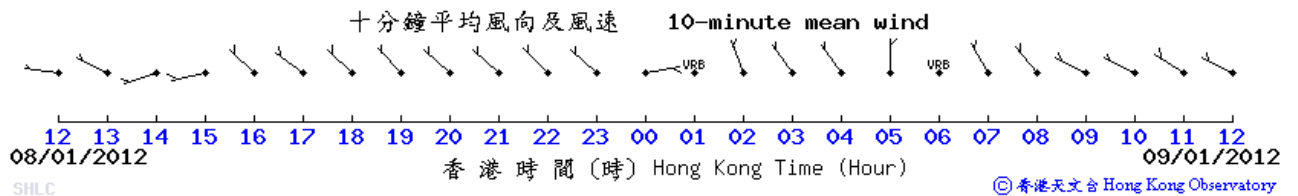
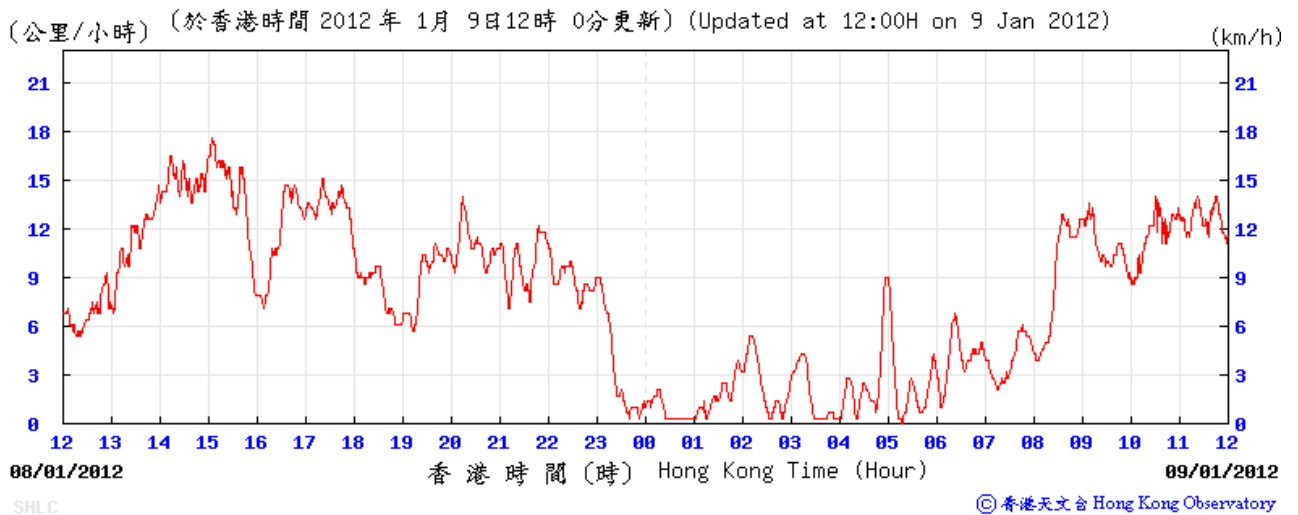
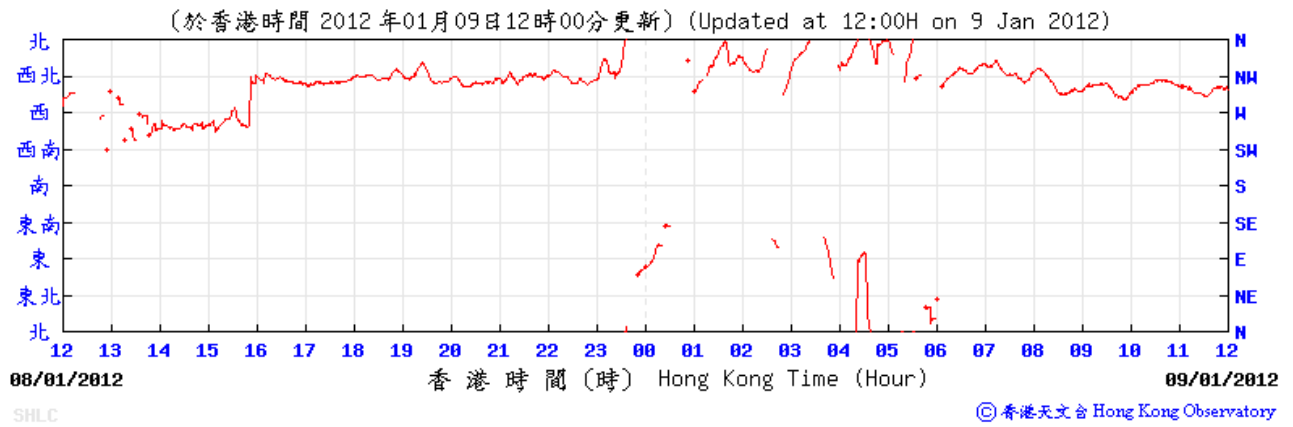
Wind Data for Tsing Yi

8 Jan 2012



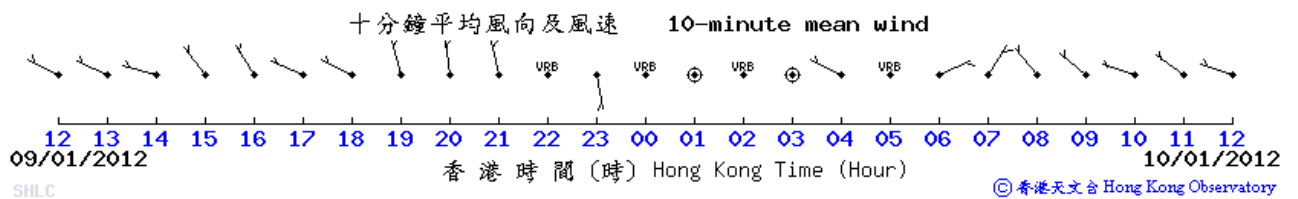
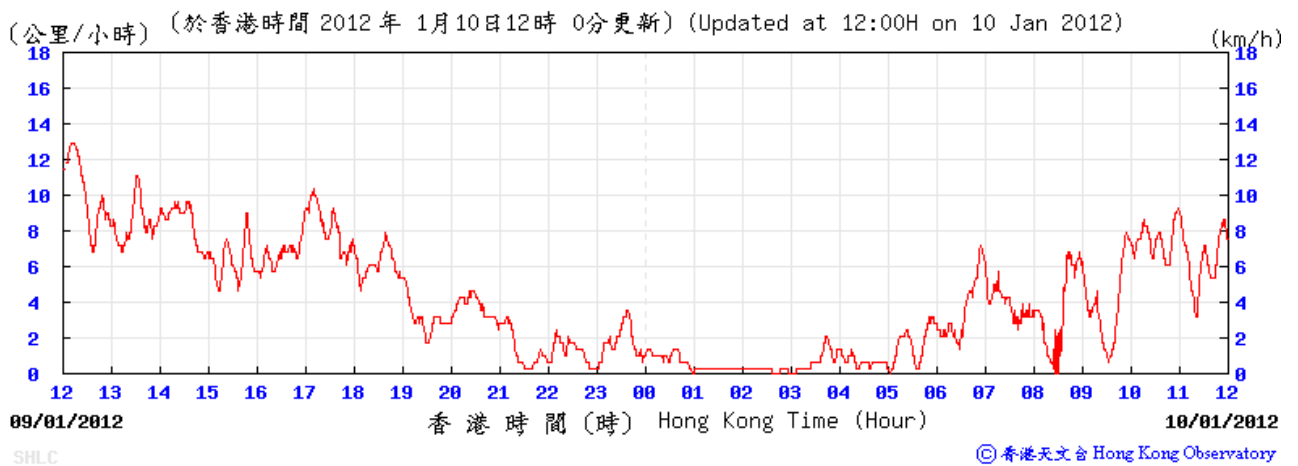
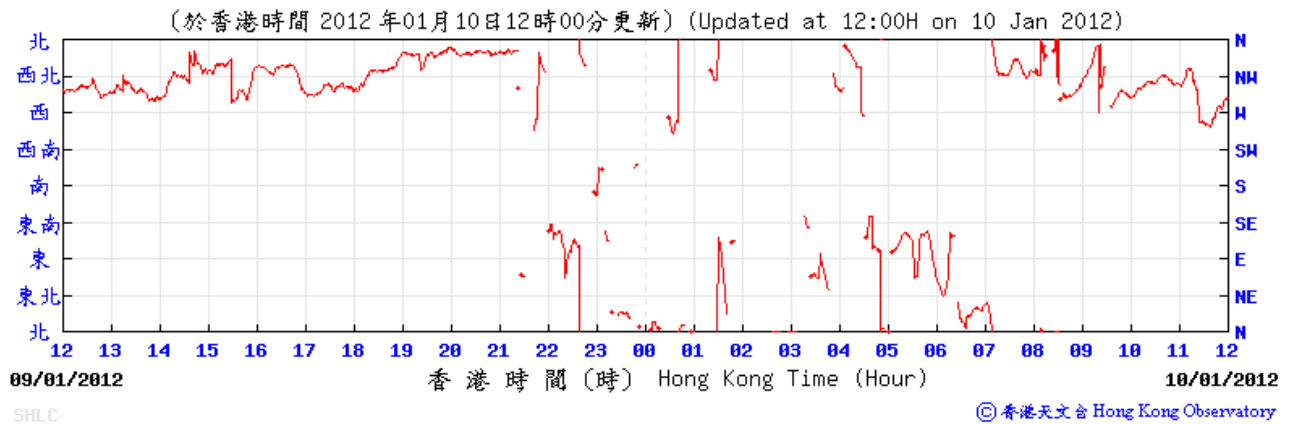
Wind Data for Tsing Yi

9 Jan 2012



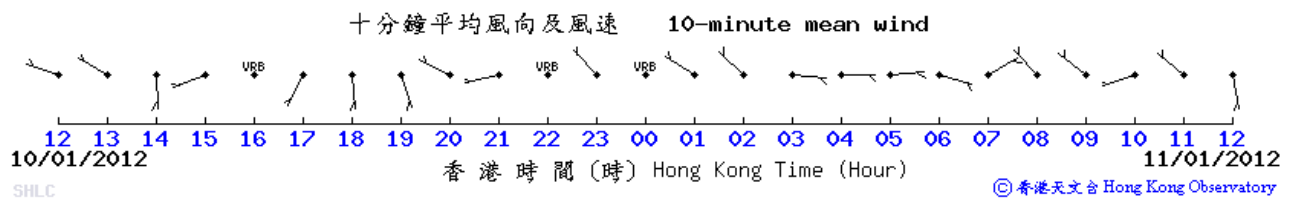
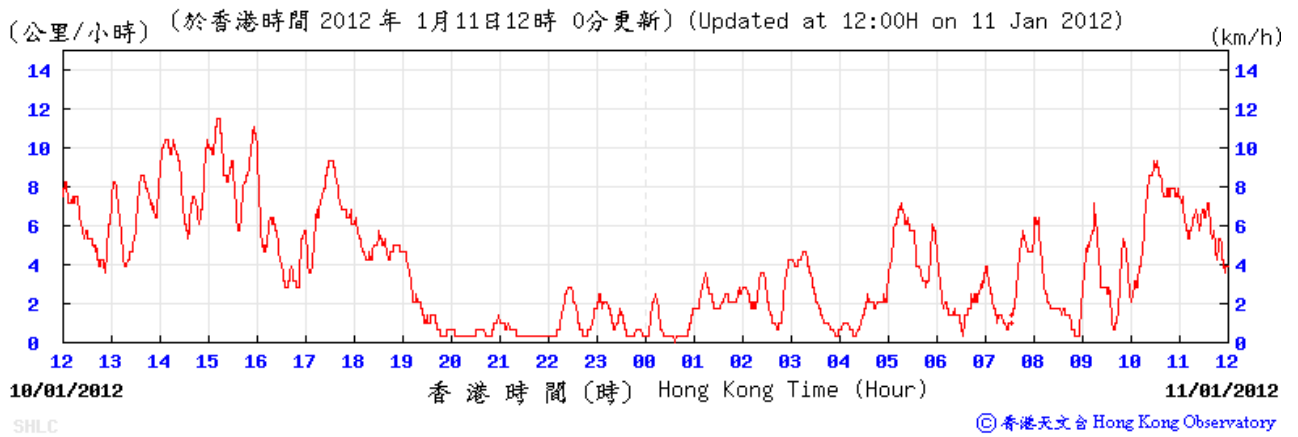
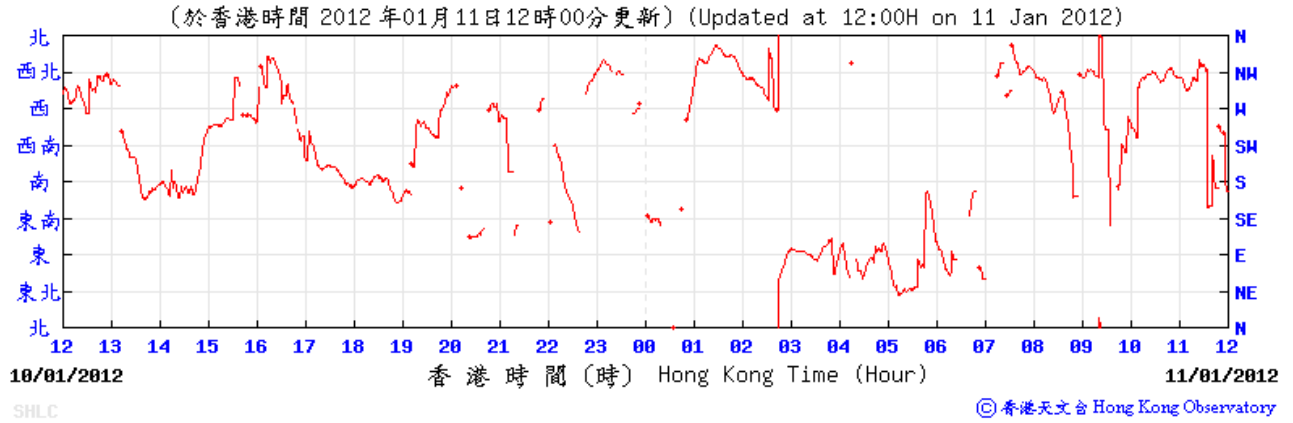
Wind Data for Tsing Yi

10 Jan 2012



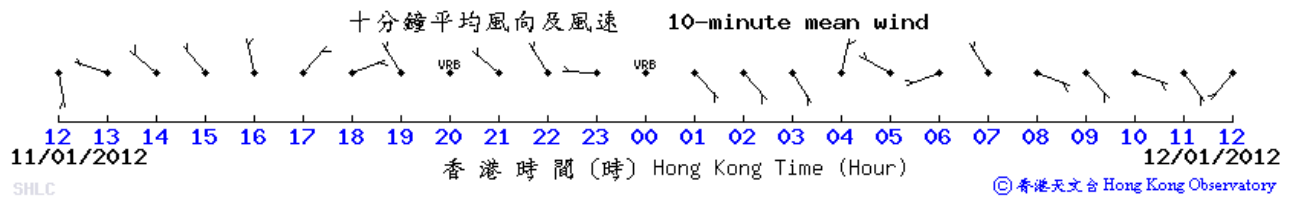
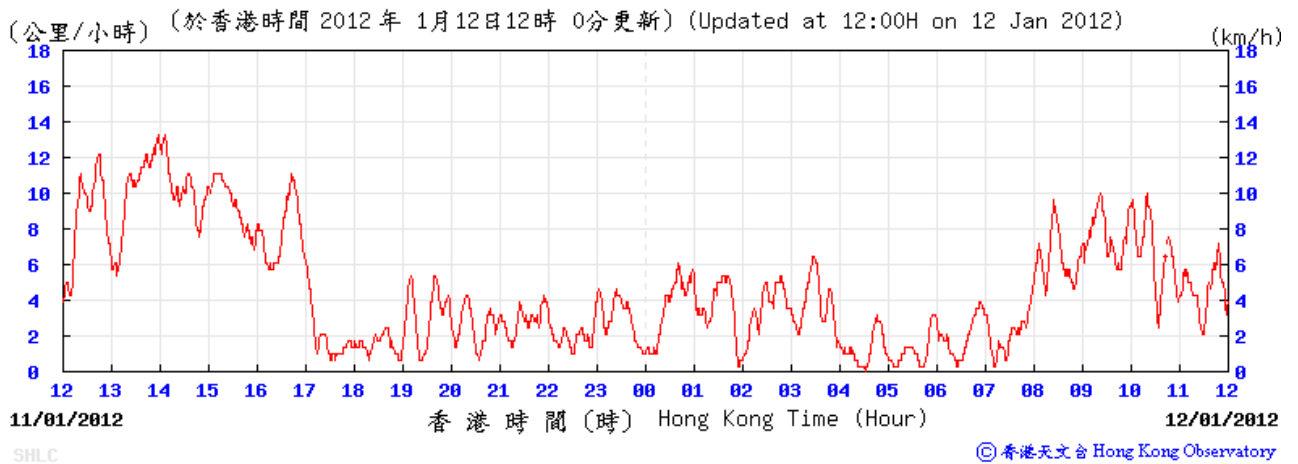
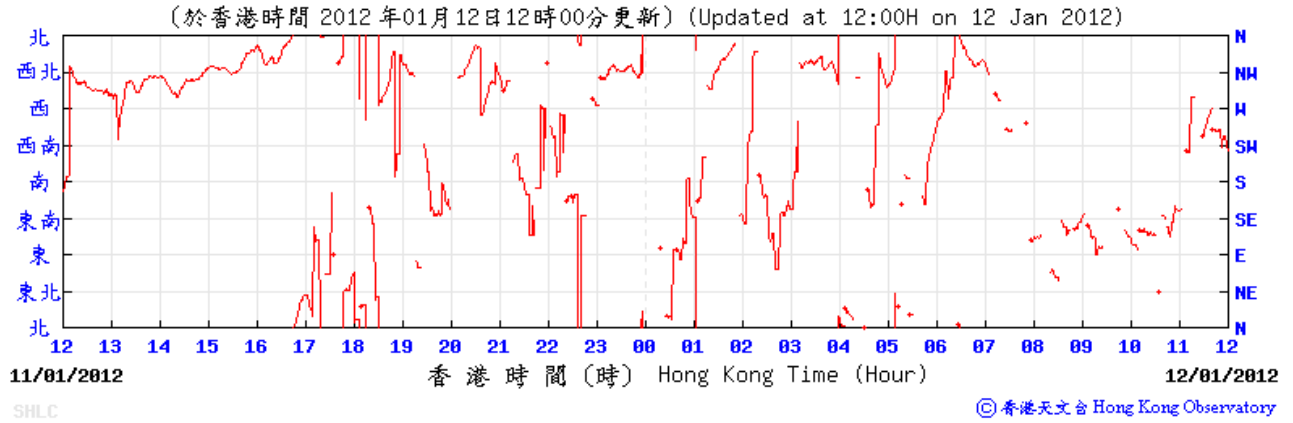
Wind Data for Tsing Yi

11 Jan 2012



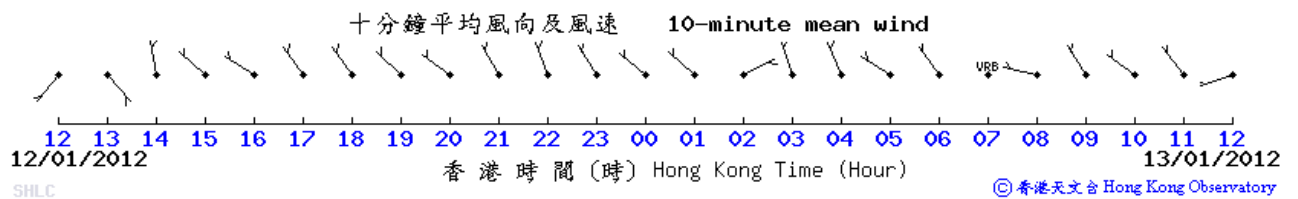
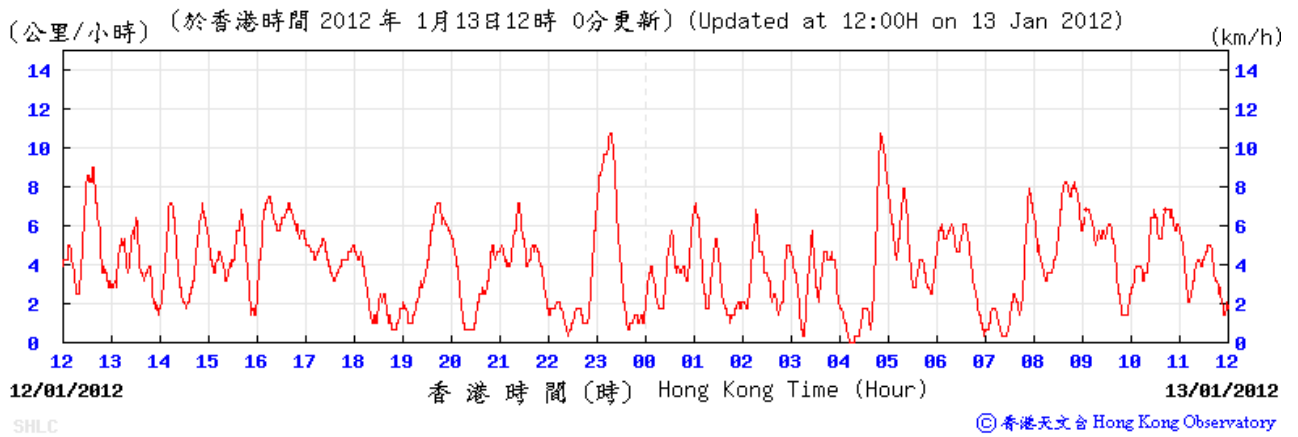
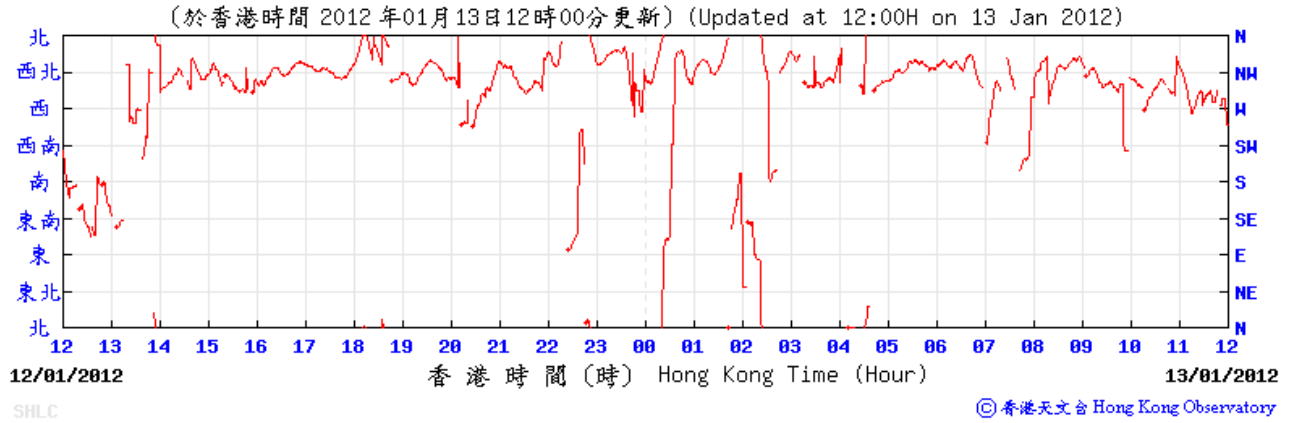
Wind Data for Tsing Yi

12 Jan 2012



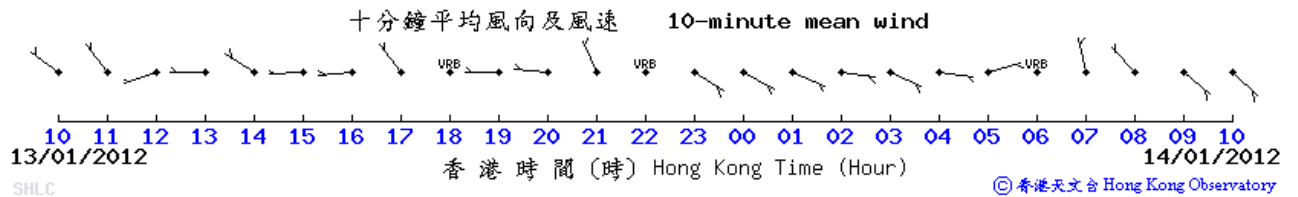
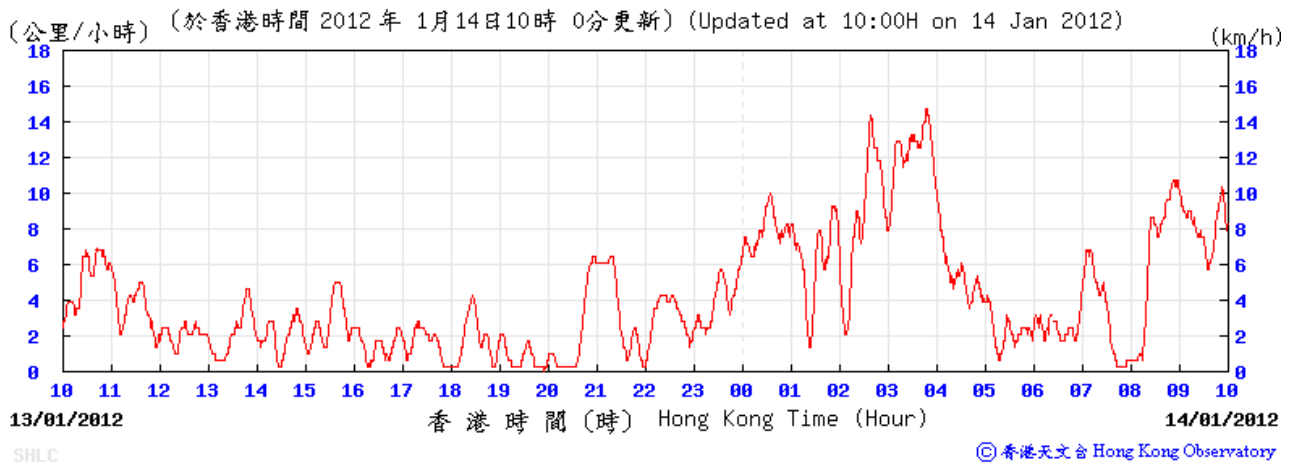
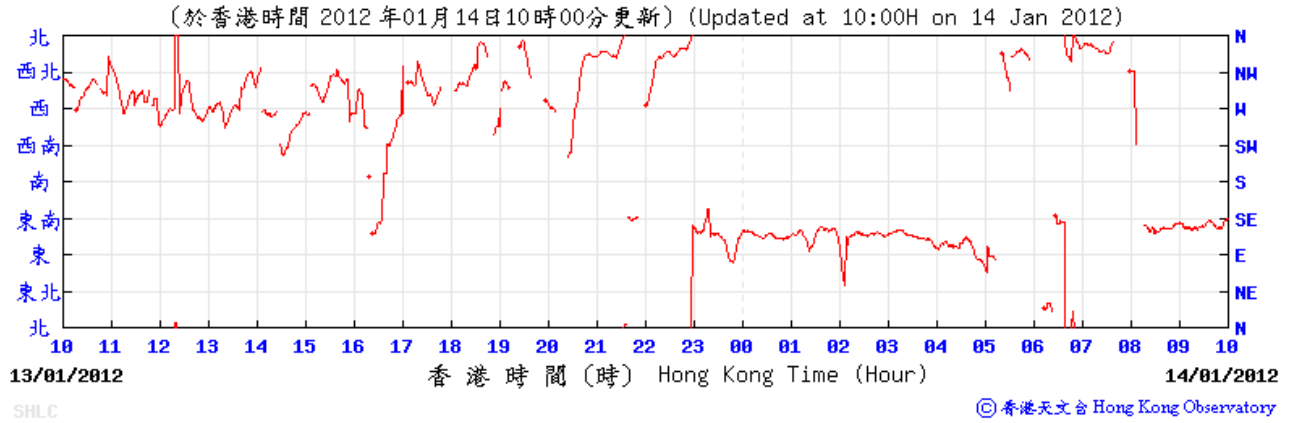
Wind Data for Tsing Yi

13 Jan 2012



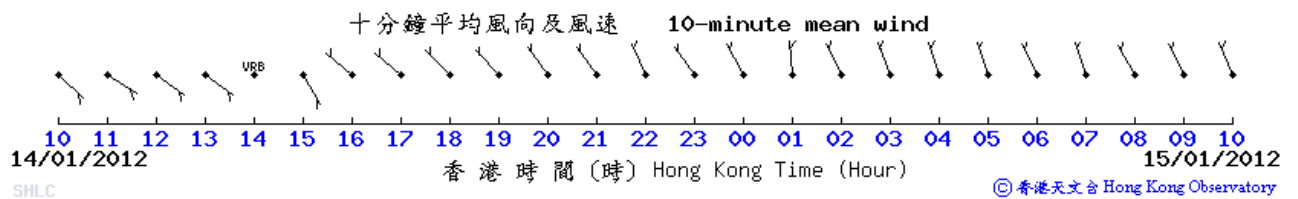
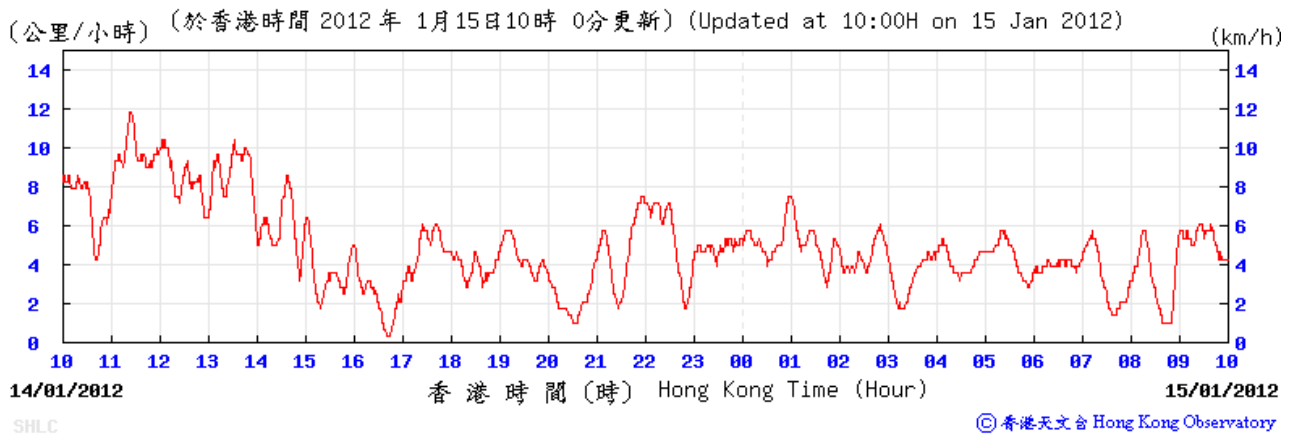
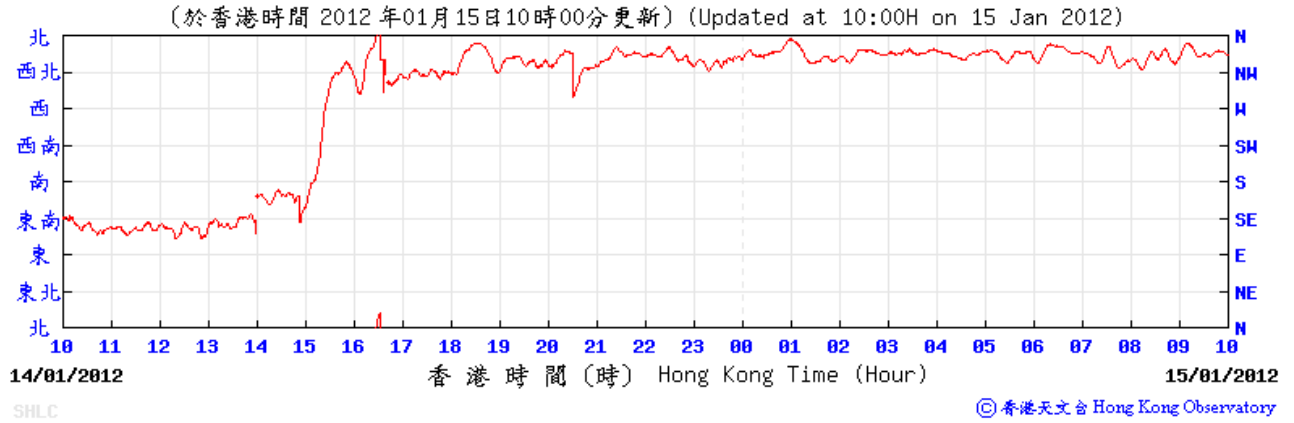
Wind Data for Tsing Yi

14 Jan 2012



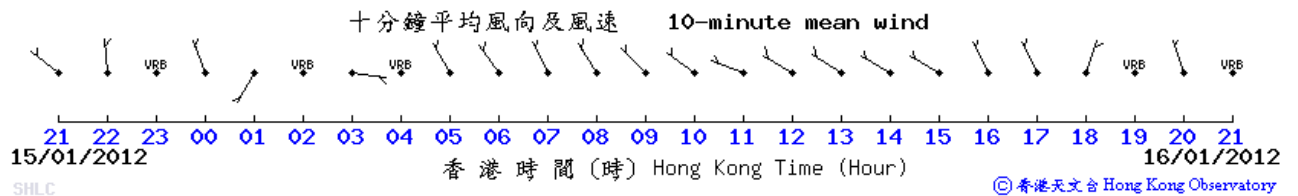
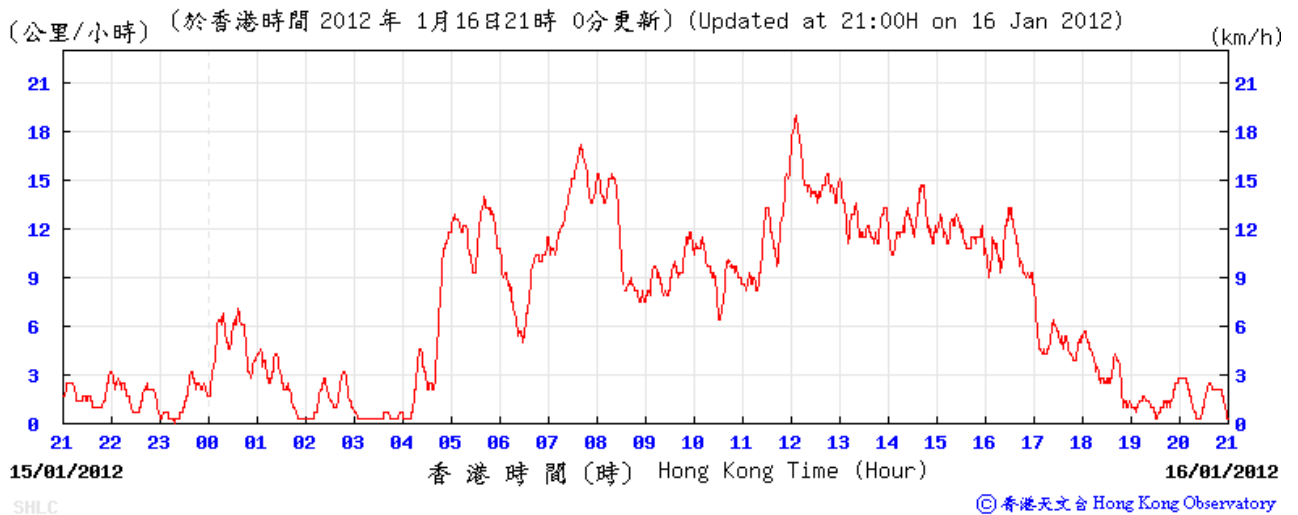
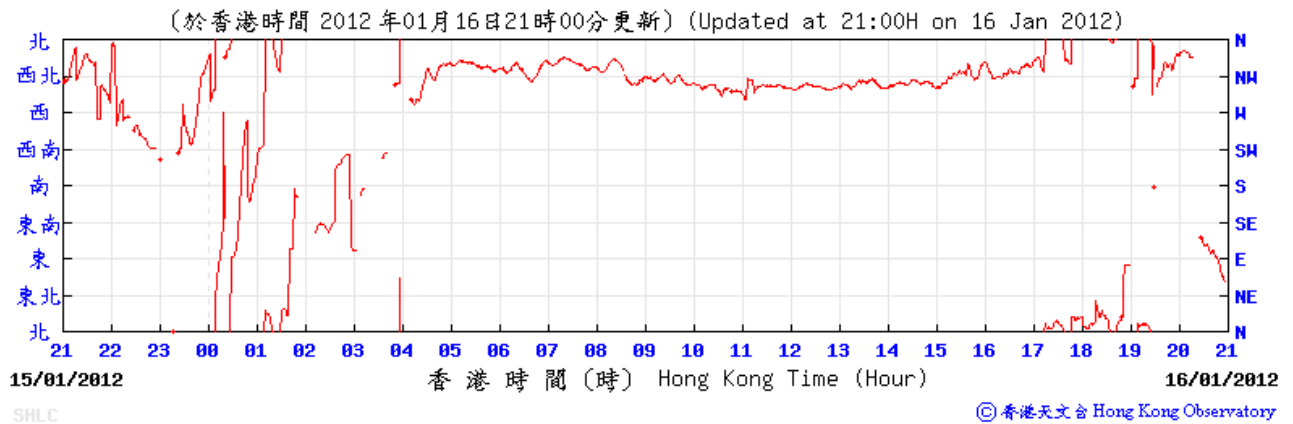
Wind Data for Tsing Yi

15 Jan 2012



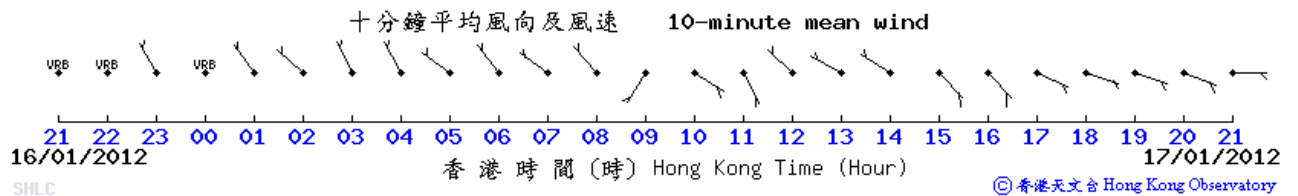
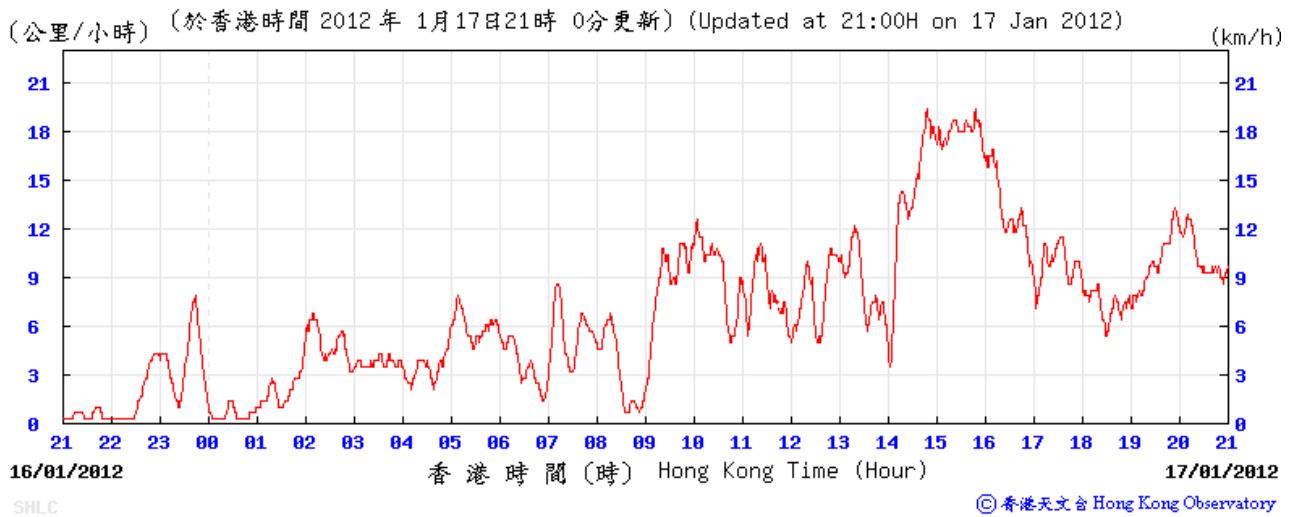
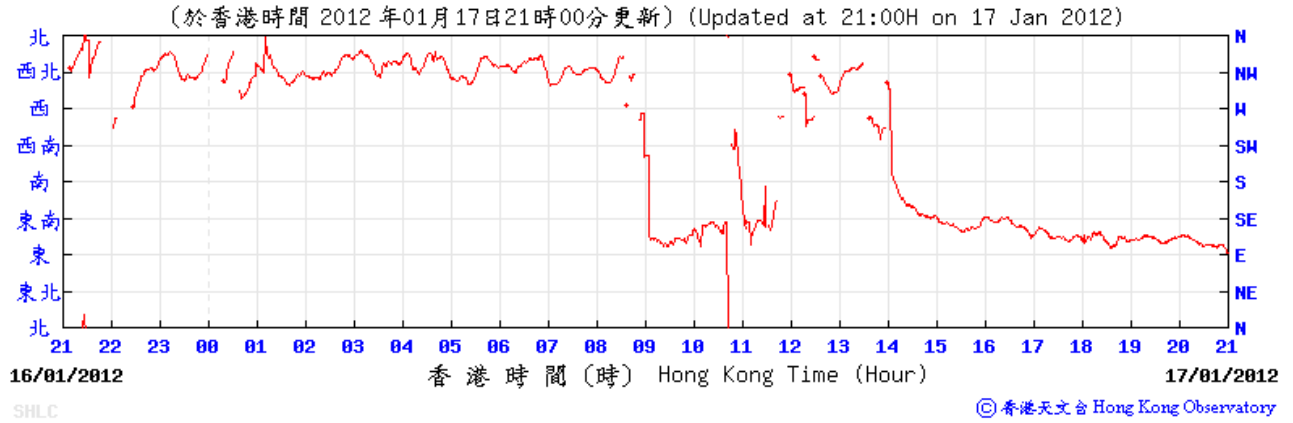
Wind Data for Tsing Yi

16 Jan 2012



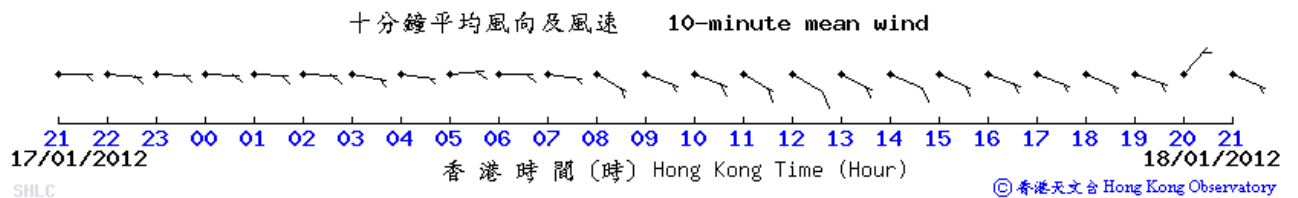
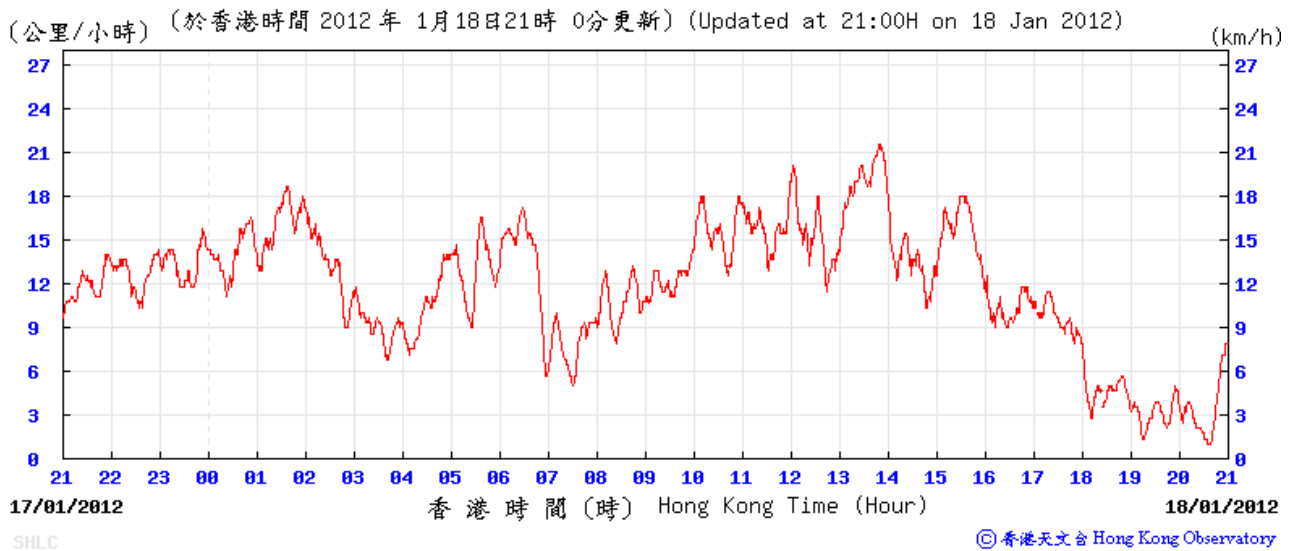
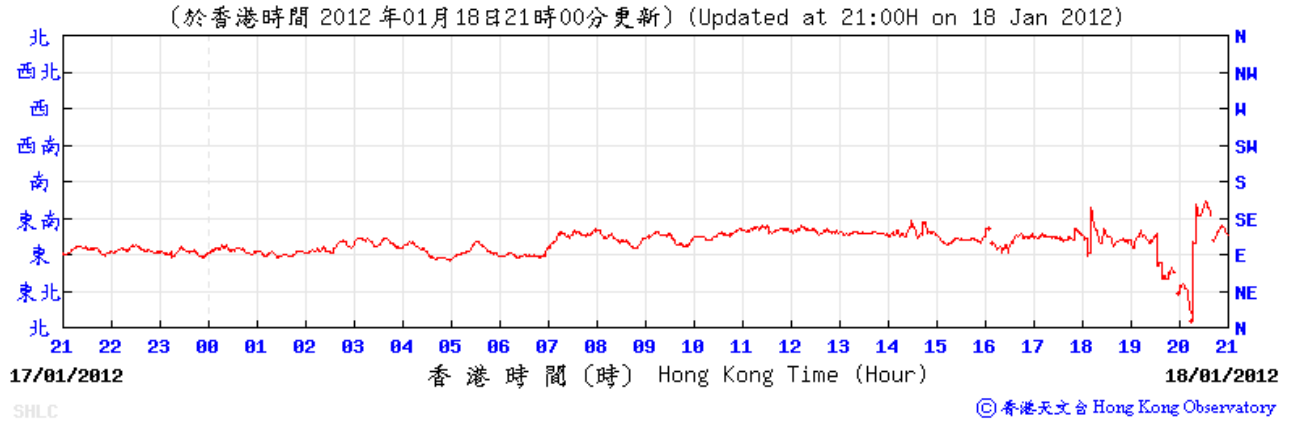
Wind Data for Tsing Yi

17 Jan 2012



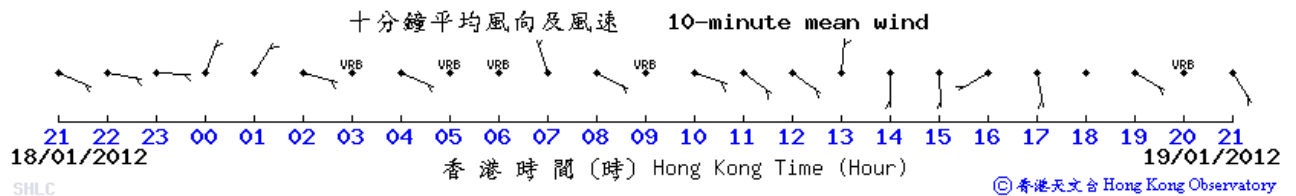
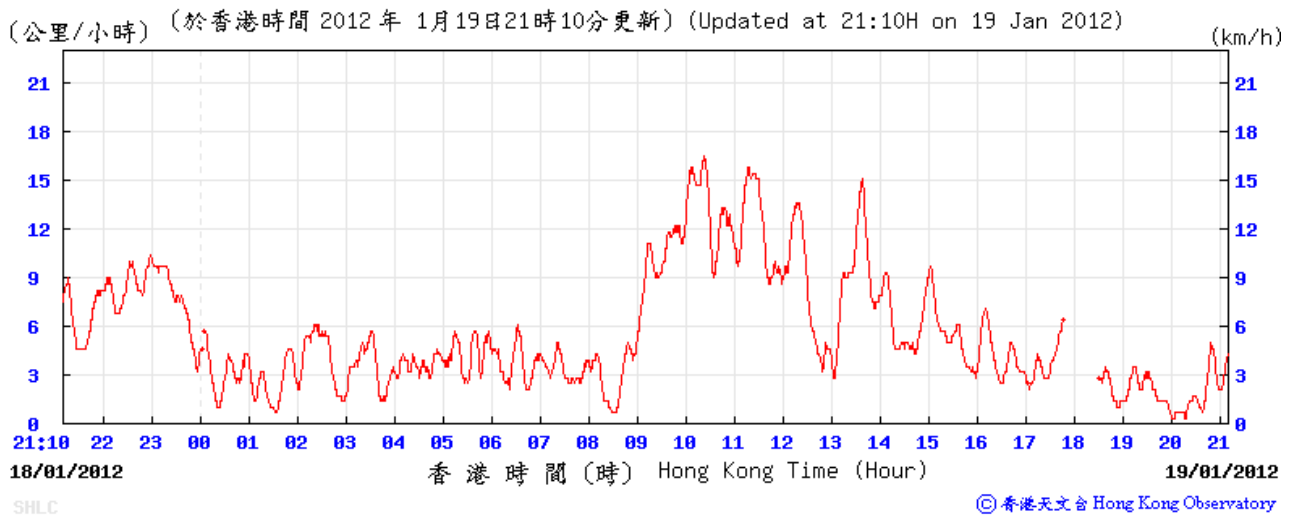
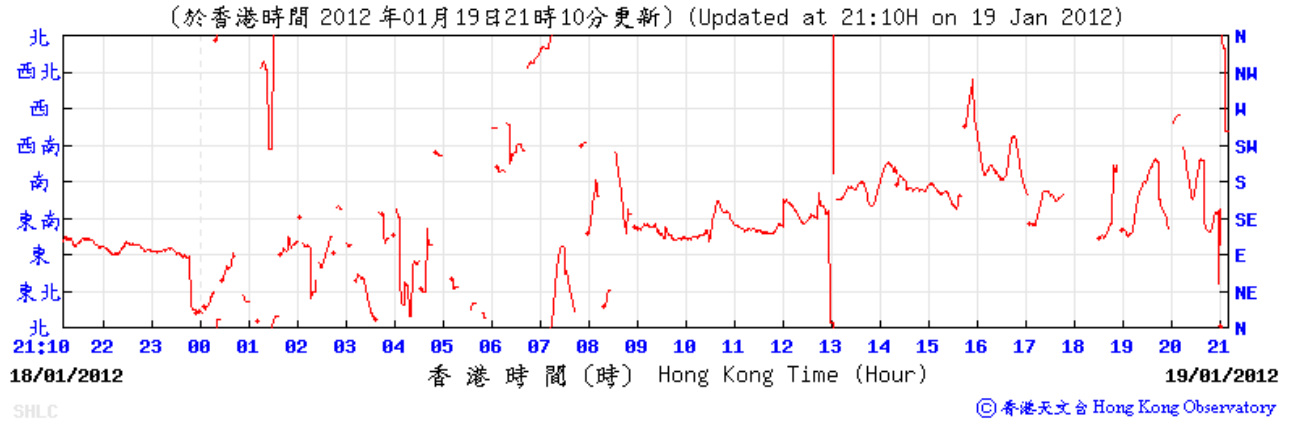
Wind Data for Tsing Yi

18 Jan 2012



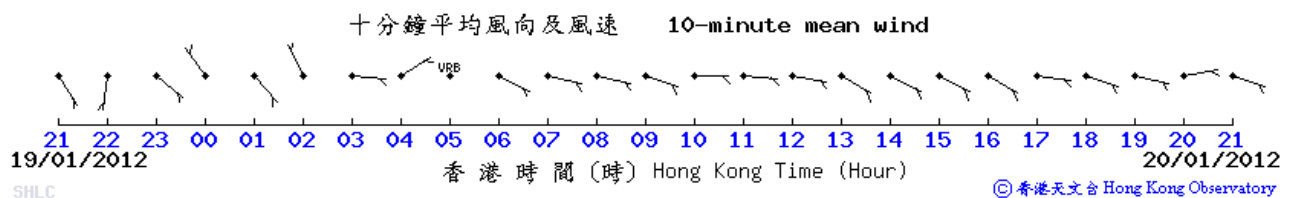
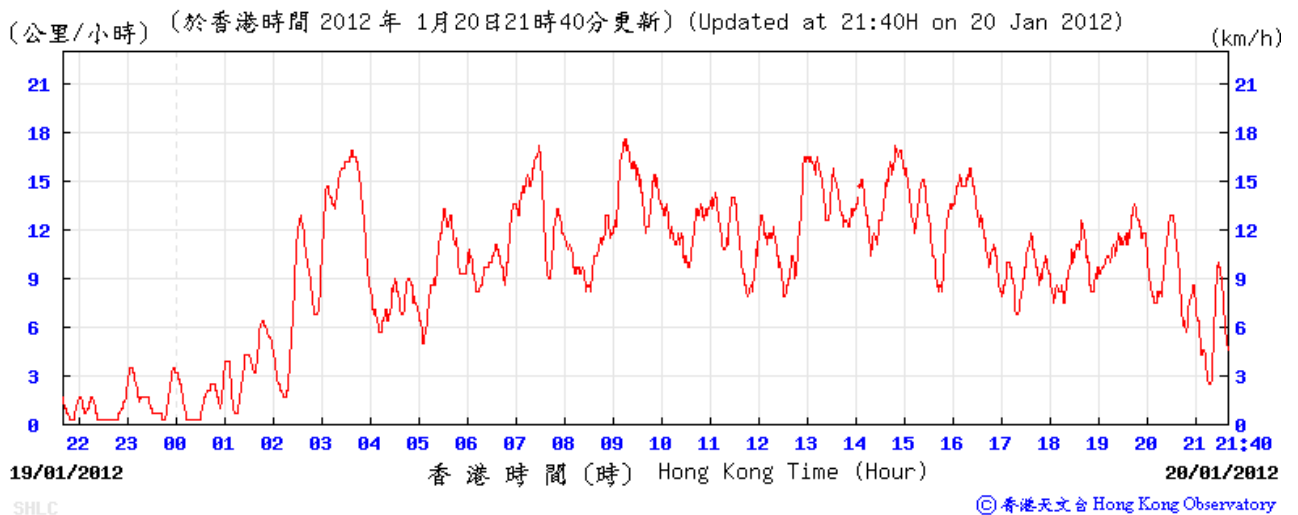
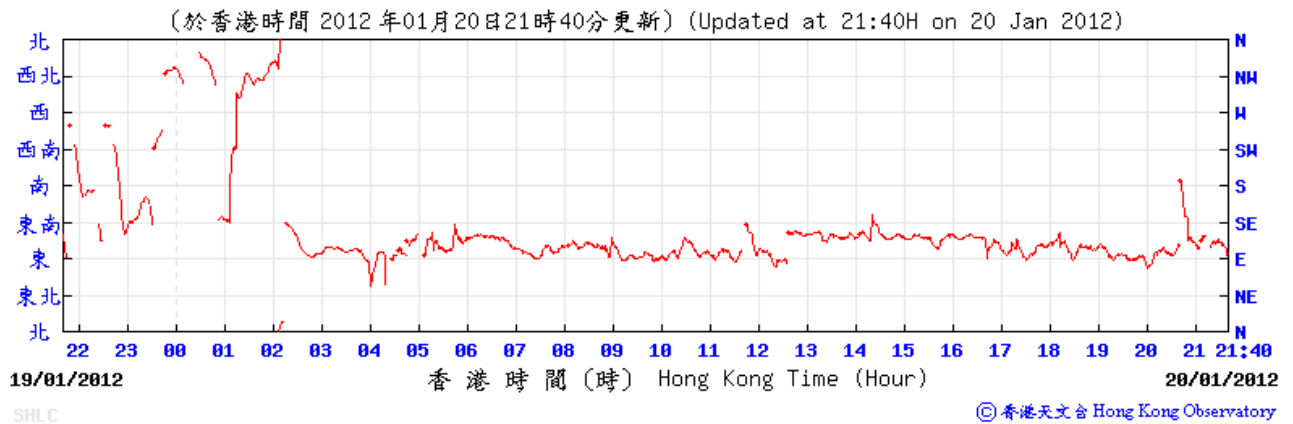
Wind Data for Tsing Yi

19 Jan 2012



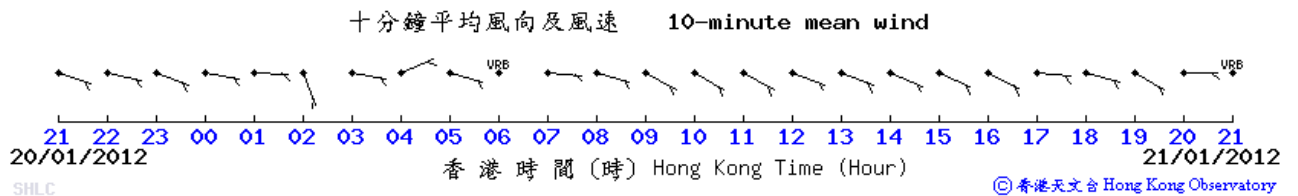
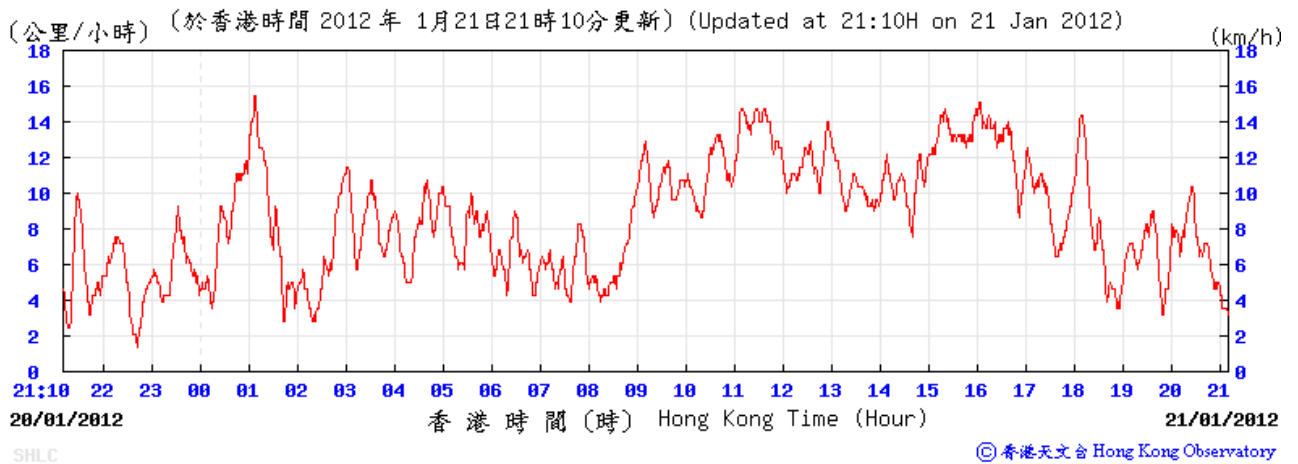
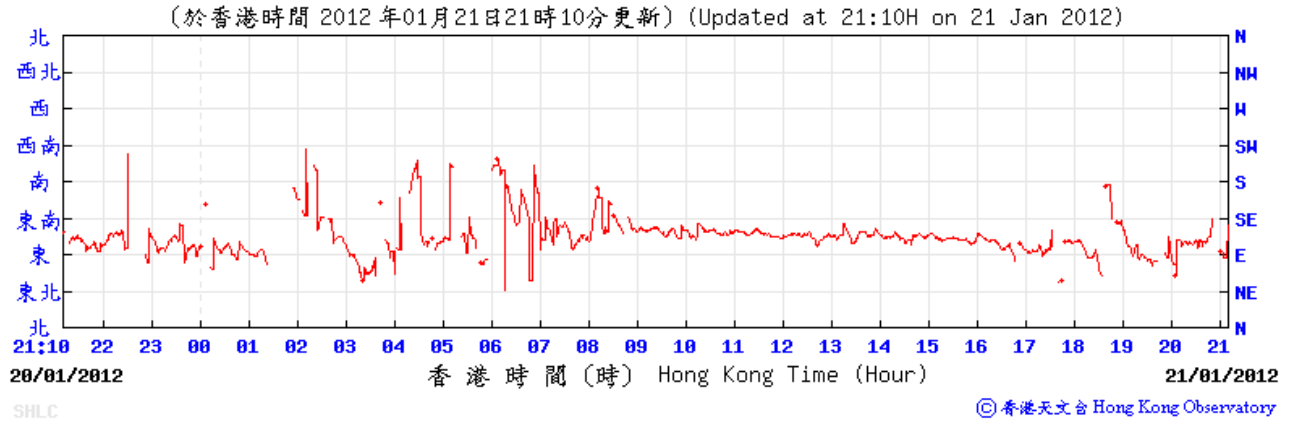
Wind Data for Tsing Yi

20 Jan 2012



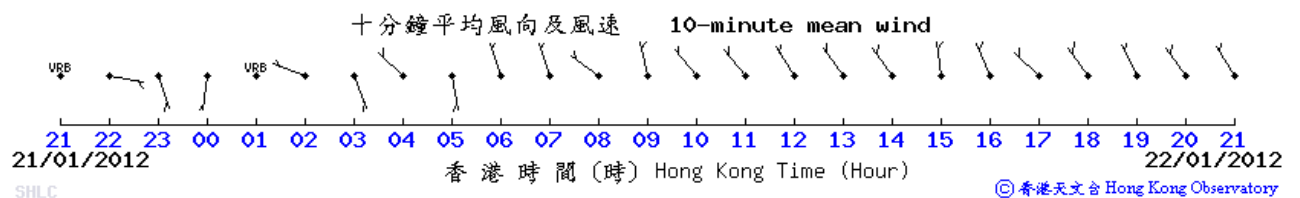
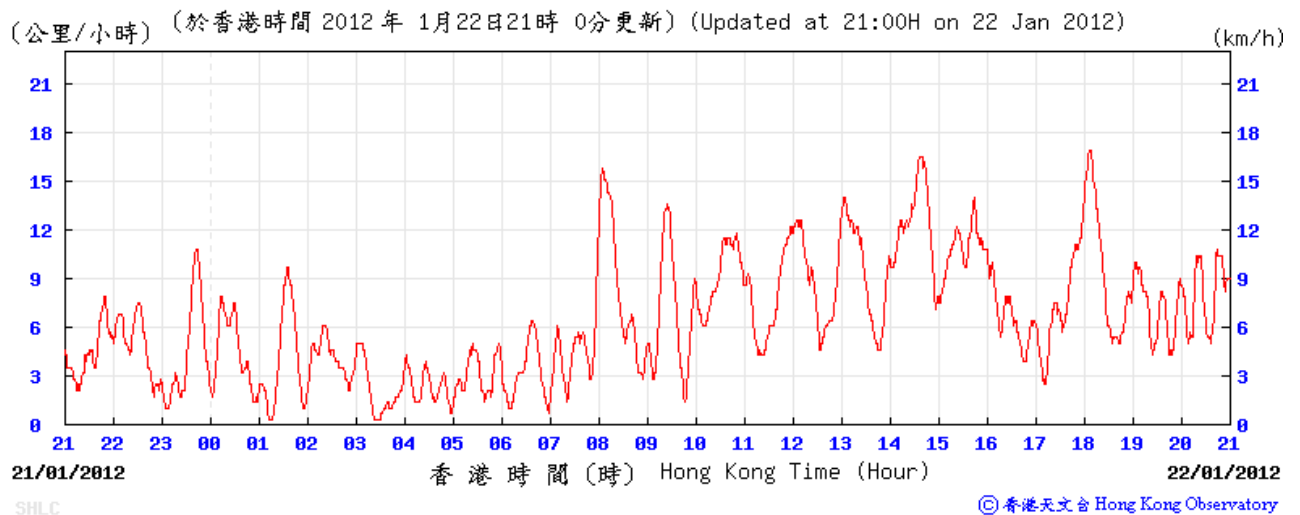
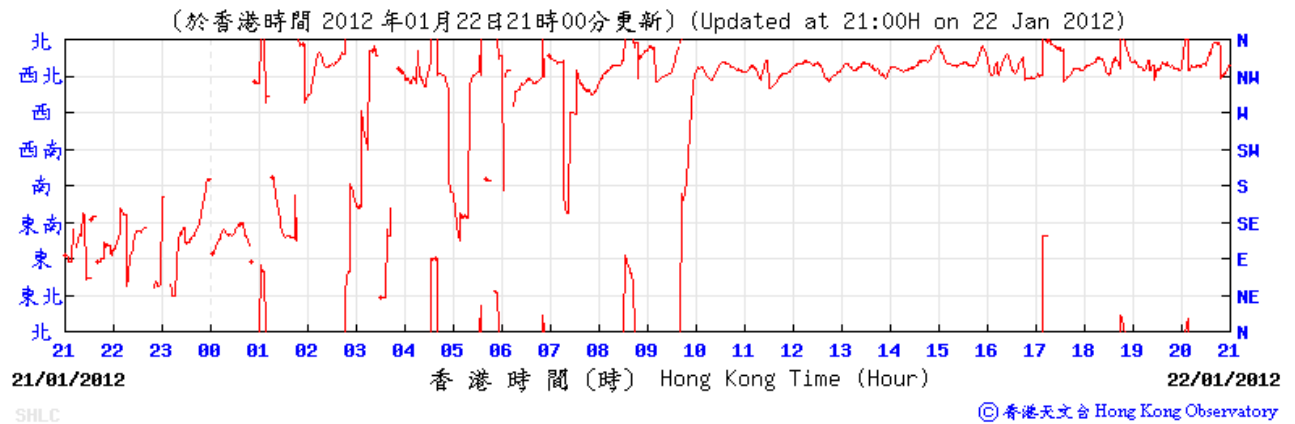
Wind Data for Tsing Yi

21 Jan 2012



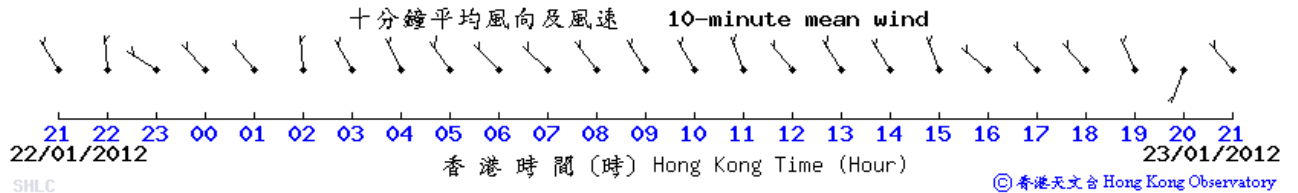
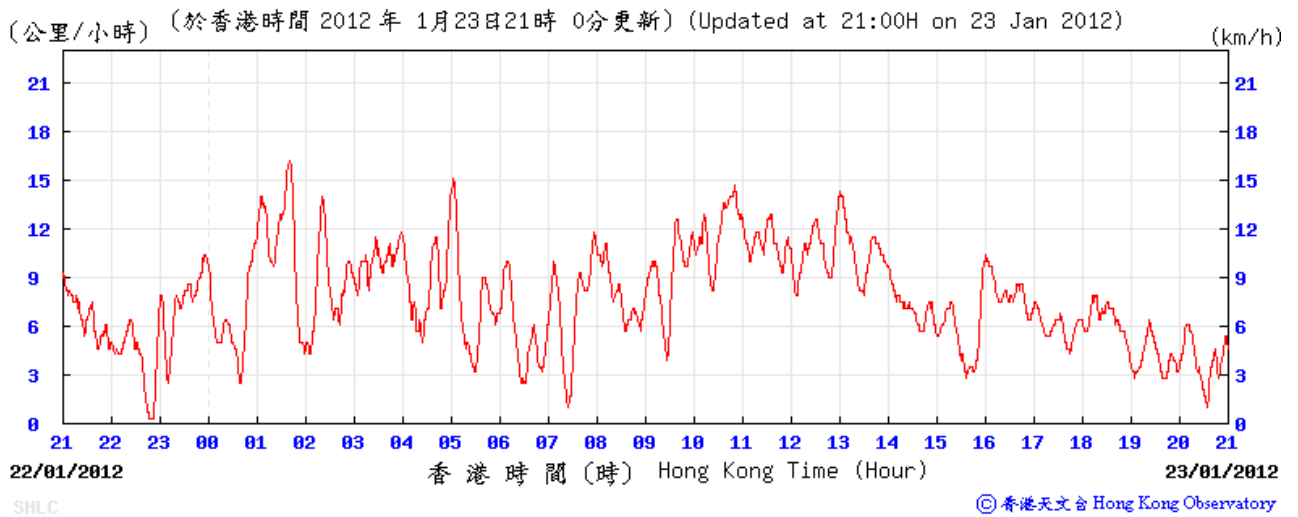
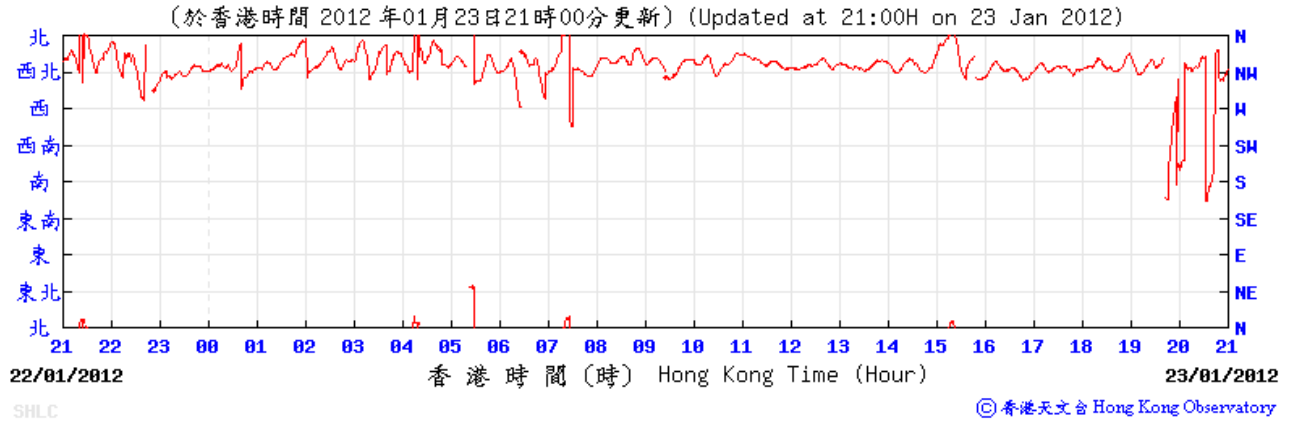
Wind Data for Tsing Yi

22 Jan 2012



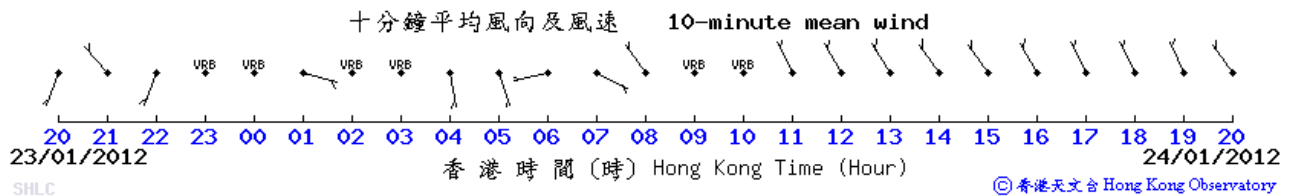
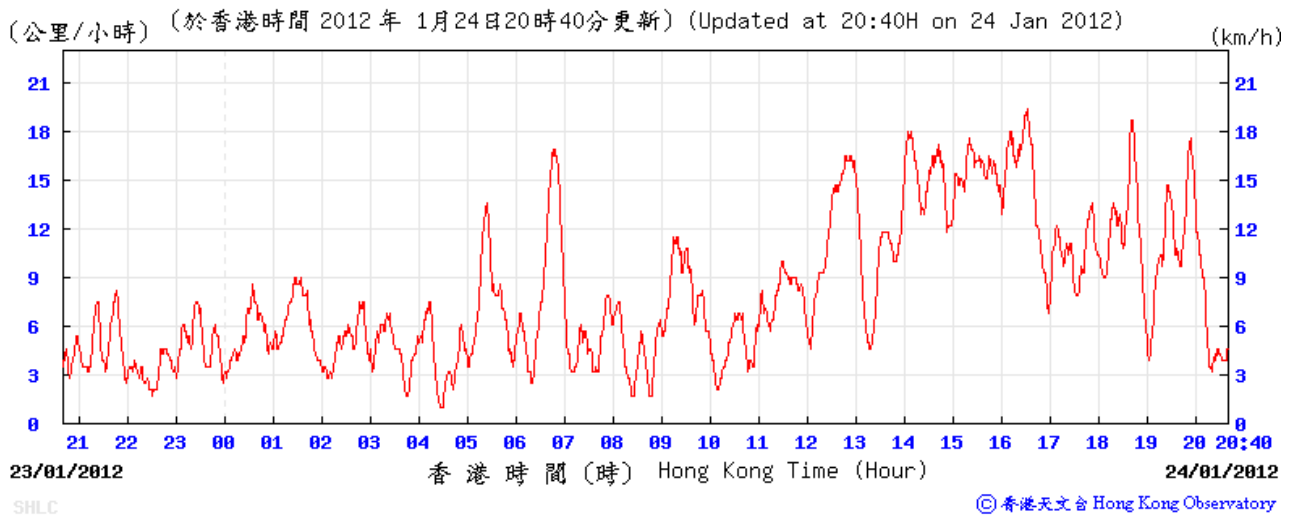
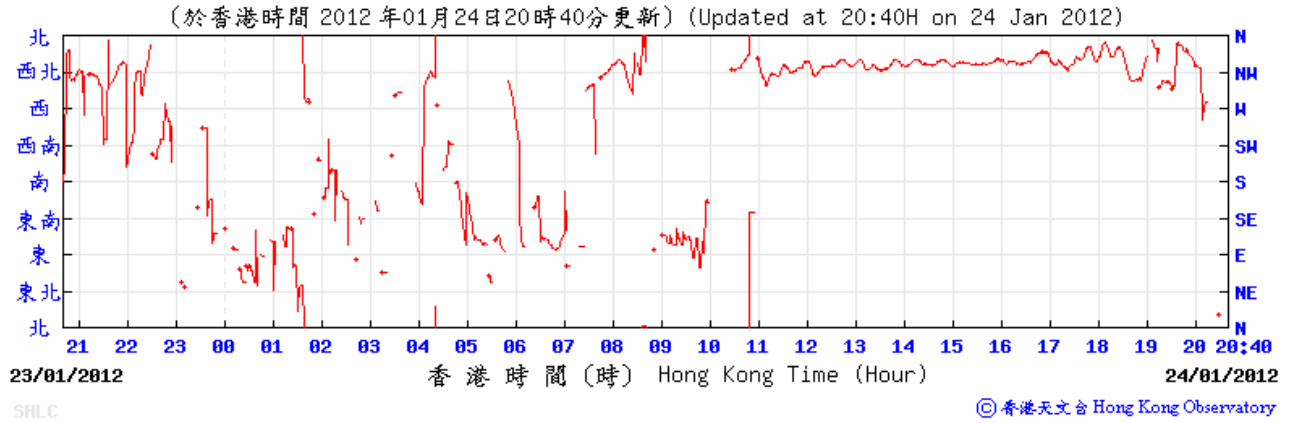
Wind Data for Tsing Yi

23 Jan 2012



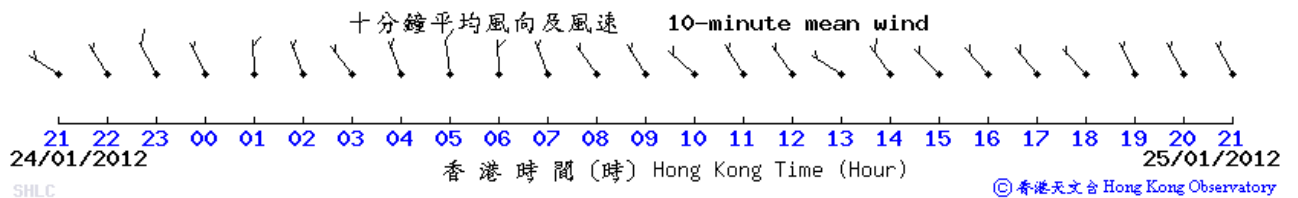
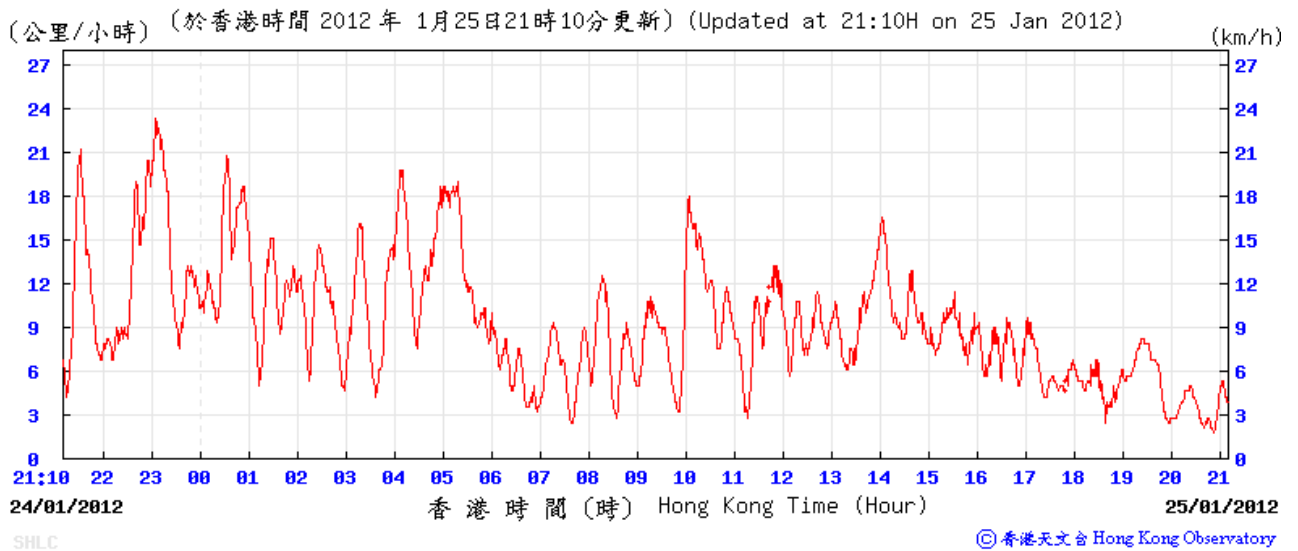
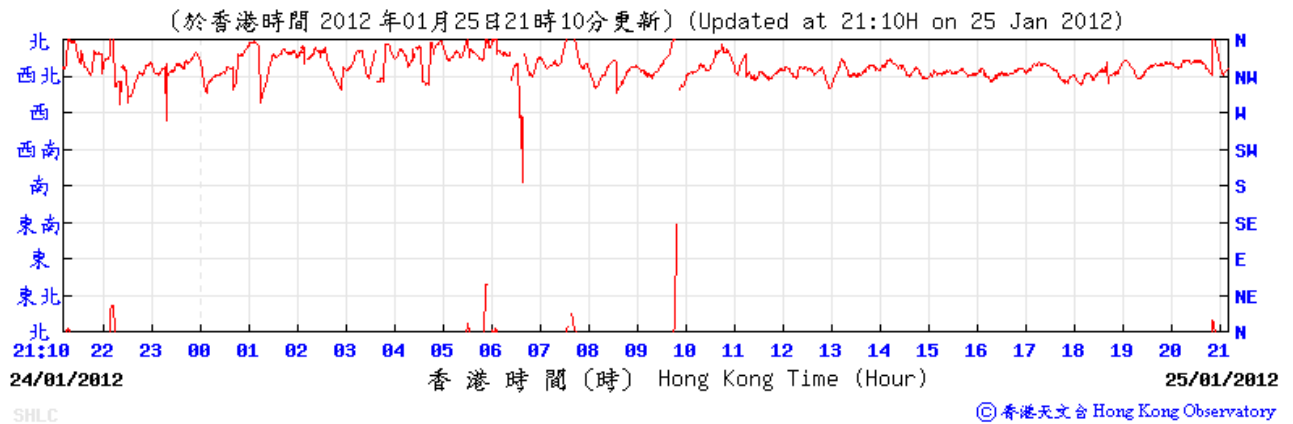
Wind Data for Tsing Yi

24 Jan 2012



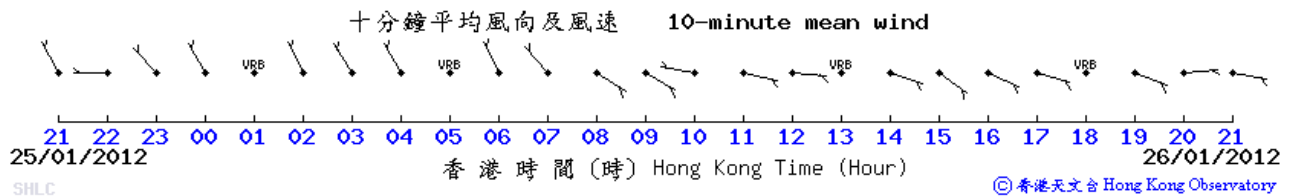
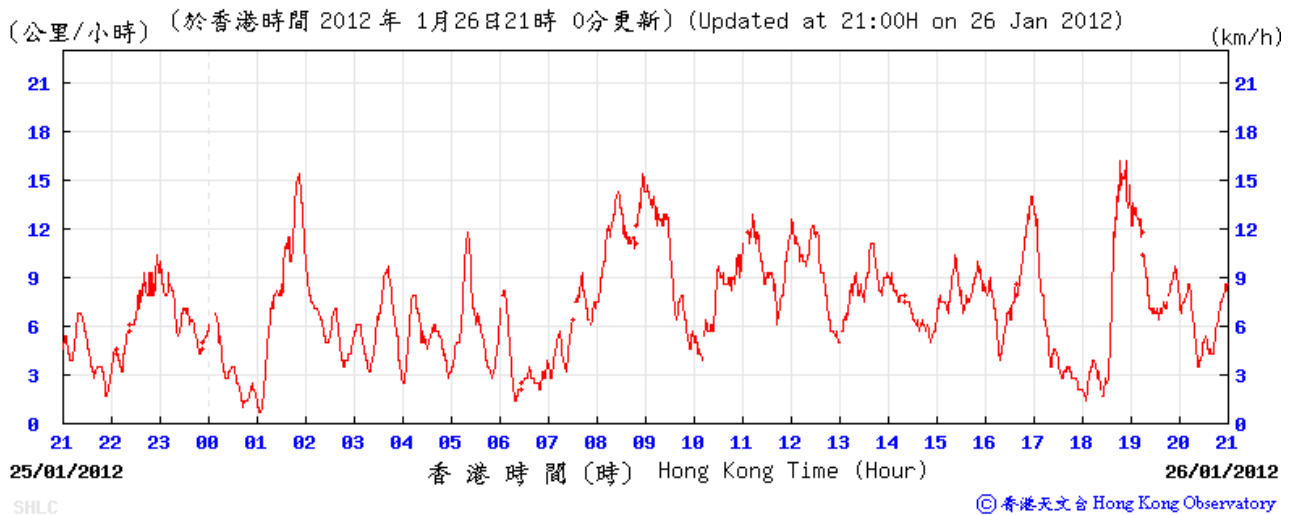
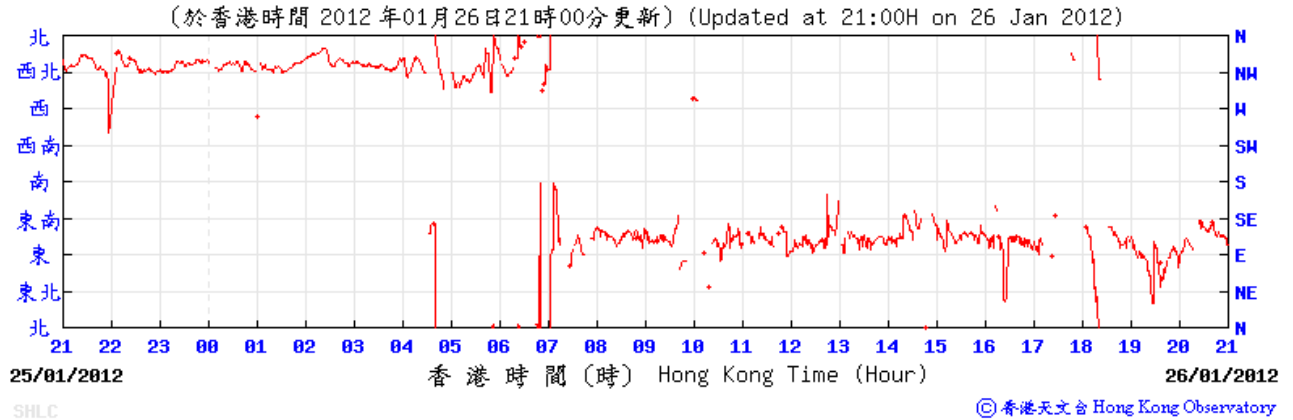
Wind Data for Tsing Yi

25 Jan 2012



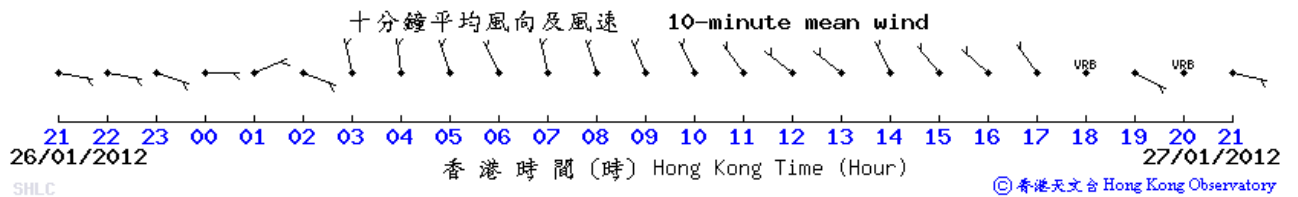
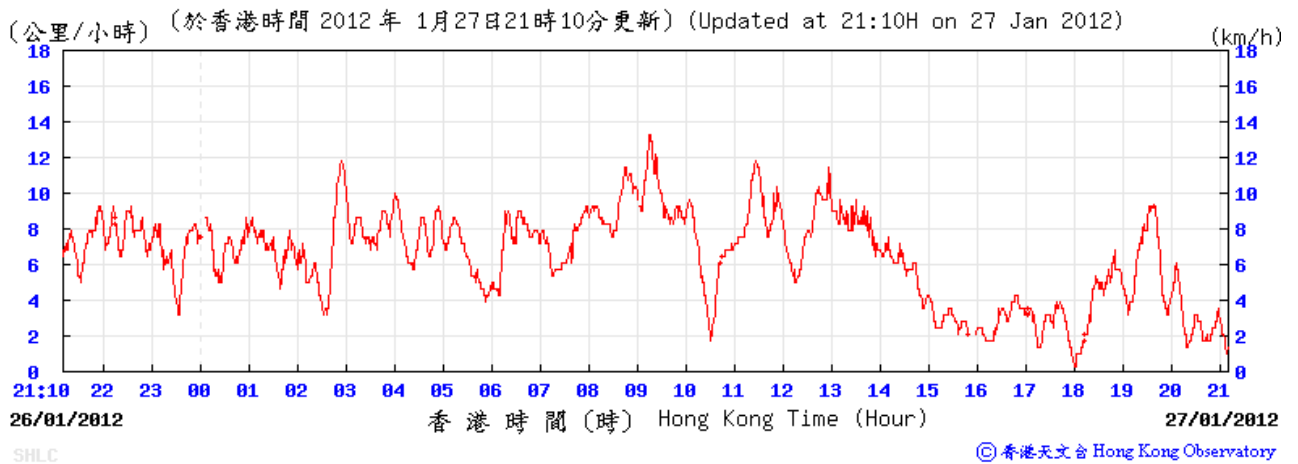
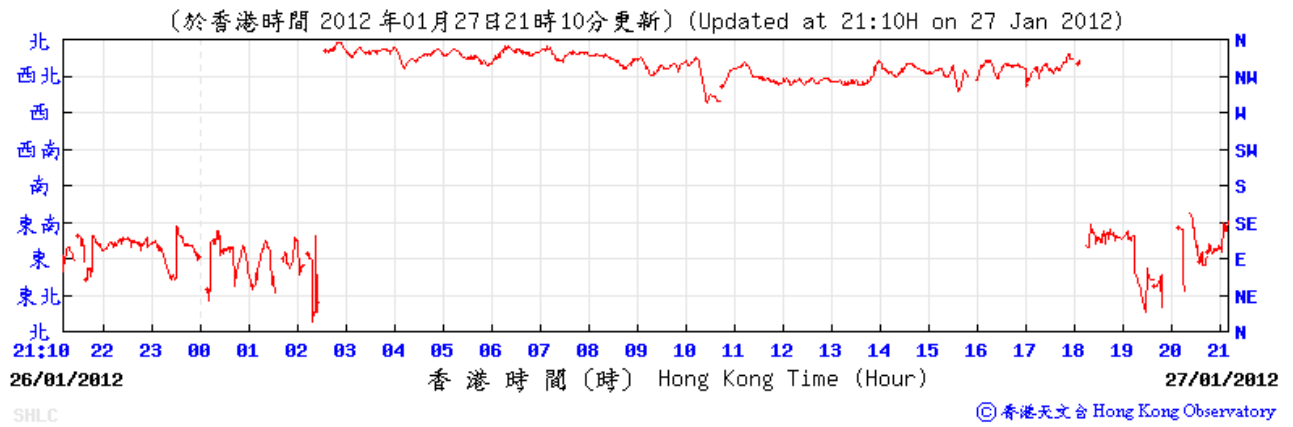
Wind Data for Tsing Yi

26 Jan 2012



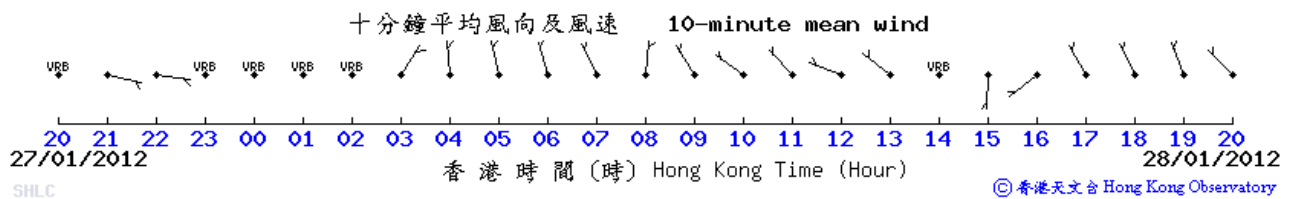
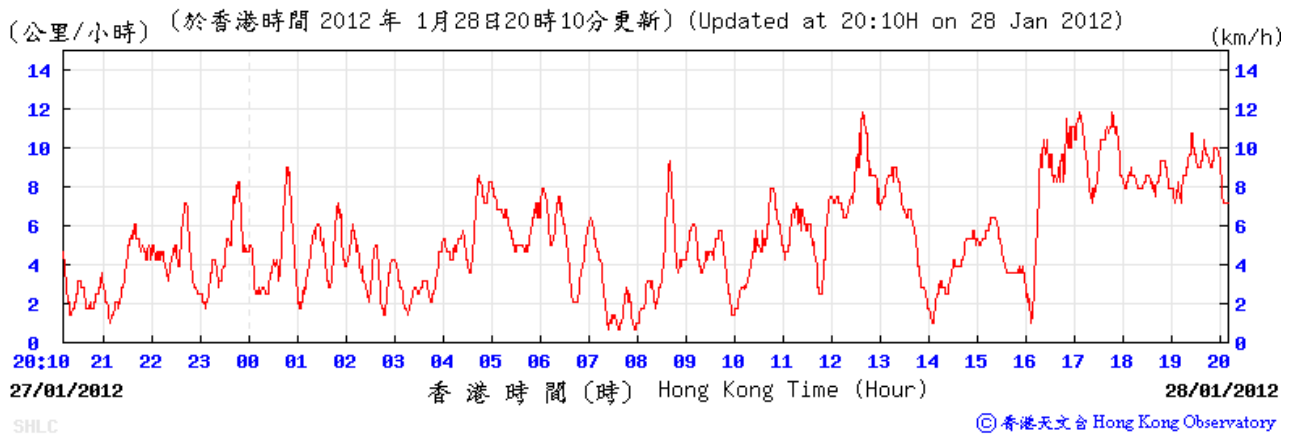
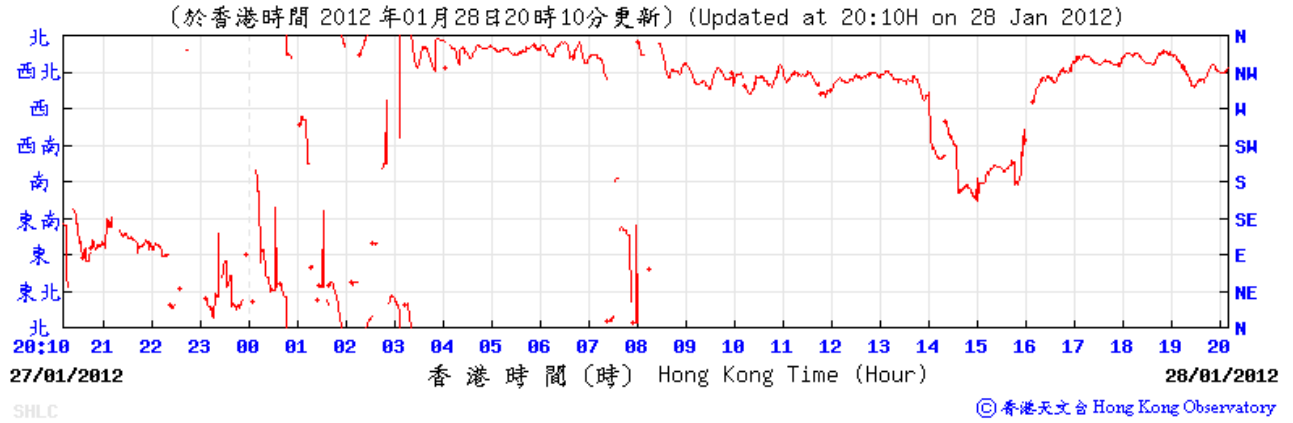
Wind Data for Tsing Yi

27 Jan 2012



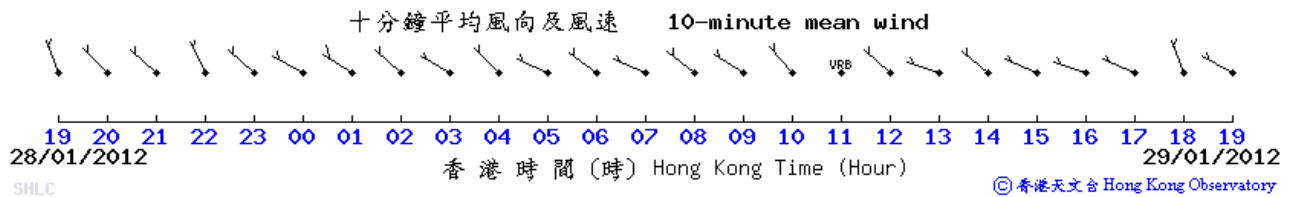
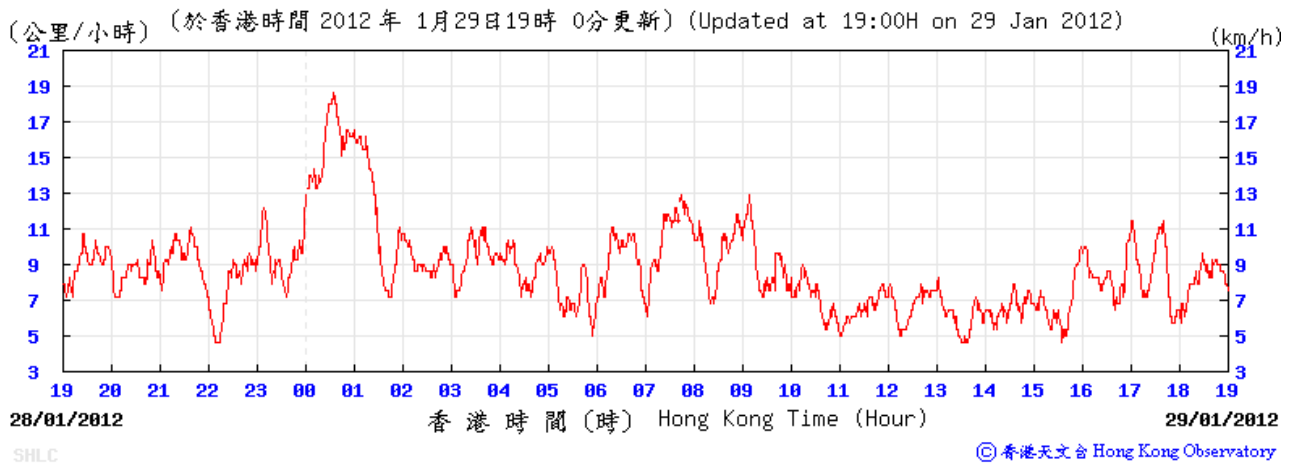
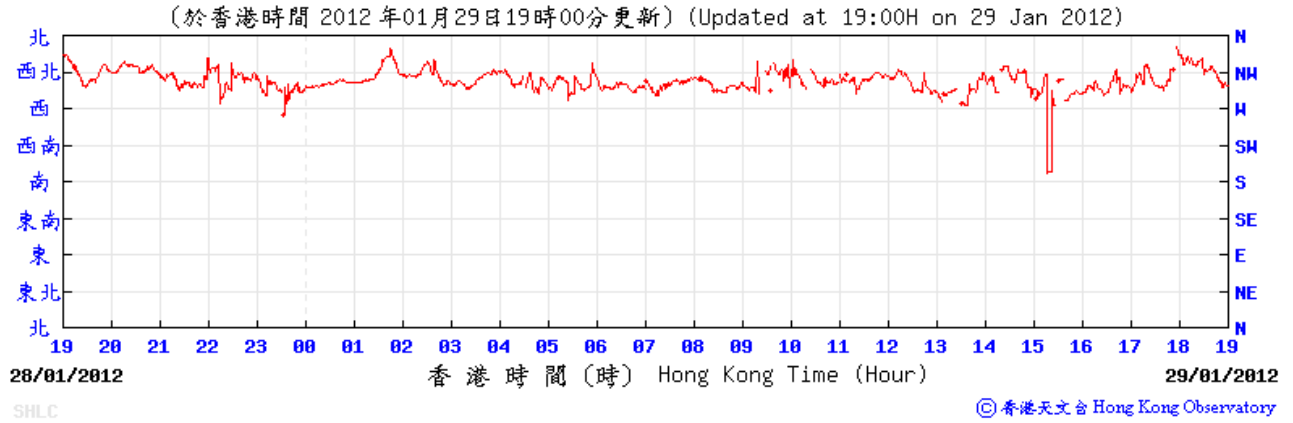
Wind Data for Tsing Yi

28 Jan 2012



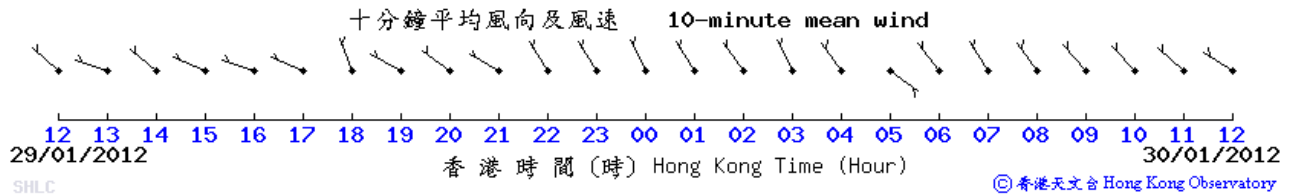
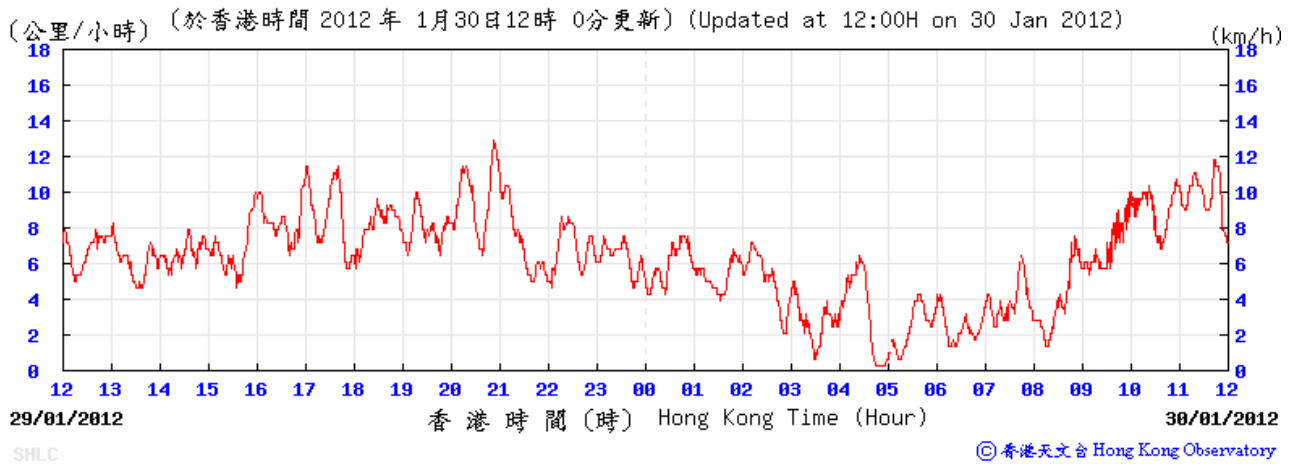
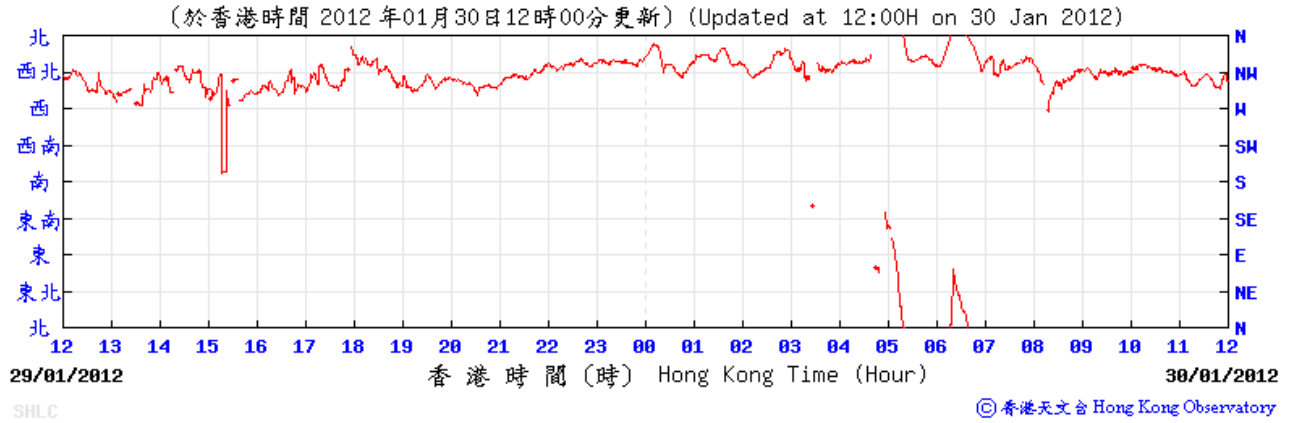
Wind Data for Tsing Yi

29 Jan 2012



Wind Data for Tsing Yi

30 Jan 2012



Wind Data for Tsing Yi

31 Jan 2012

