MOTT MACDONALD

Expansion of Hong Kong International Airport into a Three-Runway System

Construction Phase Monthly EM&A Report No.8
(For August 2016)

September 2016

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This revised submission of the Monthly EM&A Report No. 8 have been reviewed and certified on 4 October 2016 by the Environmental Team Leader (ETL) in accordance with Condition 3.5 of Environmental Permit No. EP-489/2014.

Certified by:

Terence Kong
Environmental Team Leader (ETL)
Mott MacDonald Hong Kong Limited

Date 4 October 2016

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By Email

Airport Authority Hong Kong
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Attn: Mr. Lawrence Tsui, Senior Manager

5 October 2016

Dear Sir,

Contract No. 3102
3RS Independent Environmental Checker Consultancy Services

Submission of Revised Monthly EM&A Report No.8 (August 2016)

Reference is made to the Environmental Team's submission of revised Monthly EM&A Report No.8 under Condition 3.5 of the Environmental Permit No. EP-489/2014 certified by the ET Leader on 4 October 2016.

We would like to inform you that we have no adverse comment on the captioned submission. Therefore we write to verify the captioned submission in accordance with the requirement stipulated in Condition 3.5 of EP-489/2014.

Should you have any query, please feel free to contact our Roy Man at 3922 9365 or the undersigned at 3922 9376.

Yours faithfully,
AECOM Asia Co. Ltd.

Jackel Law
Independent Environmental Checker

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Executive summary

The "Expansion of Hong Kong International Airport into a Three-Runway System" (the Project) serves to meet the future air traffic demands at Hong Kong International Airport (HKIA). On 7 November 2014, the Environmental Impact Assessment (EIA) Report (Register No.: AEIAR-185/2014) for the Project was approved and an Environmental Permit (EP) (Permit No.: EP-489/2014) was issued for the construction and operation of the Project.

Airport Authority Hong Kong (AAHK) commissioned Mott MacDonald Hong Kong Limited (MMHK) to undertake the role of Environmental Team (ET) for carrying out the Environmental Monitoring & Audit (EM&A) works during the construction phase of the Project in accordance with the Updated EM&A Manual.

The land-based construction works of the Contract P560(R) Aviation Fuel Pipeline Diversion Works (Contract P560(R)) commenced on 28 December 2015 on the airport island.

The commencement of initial reclamation works was announced on 1 August 2016. This is the 8th Construction Phase Monthly EM&A Report for the Project which summarizes the monitoring results and audit findings of the EM&A programme during the reporting period from 1 August 2016 to 31 August 2016.

Key Construction Activities in the Reporting Period

The key construction activities of the Project carried out in the reporting month were related to Contract P560(R) Aviation Fuel Pipeline Diversion Works (Contract P560(R)) which involved drilling a pilot hole using Horizontal Directional Drilling (HDD), stockpiling of excavated materials from HDD operation and site clearance and preparation works at Sheung Sha Chau. The key activities of the four DCM contracts involved mobilization and off-site plant fabrication, and CLP cable diversion enabling work involved site preparation works. Site investigation works were also continued during the reporting period.

EM&A Activities Conducted in the Reporting Period

The monthly EM&A programme was undertaken in accordance with the Updated EM&A Manual of the Project. During the reporting period, the ET conducted thirty-six sets of air quality measurements, twenty-five sets of construction noise measurements, twelve sets of water quality measurements, one ecological monitoring on Sheung Sha Chau Island, two complete sets of small vessel line-transect surveys and five days of land-based theodolite tracking survey effort for Chinese White Dolphin (CWD) monitoring as well as environmental site inspections, landscape & visual and waste monitoring for the Project's construction works.

On the implementation of the SkyPier Plan, the daily movements of all SkyPier High Speed Ferries (HSFs) in August 2016 were 10 to 94 daily movements, which are within the maximum daily cap of 125 daily movements. A total of 809 HSF movements under SkyPier Plan were recorded. All HSFs had travelled through the SCZ with prevailing speed under 15 knots (5.7 to 14.6 knots) in compliance with the SkyPier Plan. Seven ferry movements had minor deviation from the diverted route. Four of the cases were due to public safety and the remaining three cases are under investigation. In summary, the ET and IEC have audited the HSF movements against the SkyPier Plan and conducted follow up investigation or actions accordingly.

On the implementation of the Marine Travel Routes and Management Plan for Construction and Associated Vessel (MTRMP-CAV), skipper training workshops have been held with concerned captains of construction vessels to familiarise them with the requirements of the Plan. The ET is working with contractors to familiarise with the requirements of the MTRMP-CAV .

Results of Impact Monitoring

Four DCM contracts were awarded in August 2016. The key activity of the four DCM contracts was mobilization and off-site plant fabrication. Water quality monitoring and CWD monitoirng were conducted as scheduled although no marine construction works was carried during the reporting period.

All 1-hour total suspended particulate (TSP), noise and waste were completed in the reporting period for the land-based construction activities. No exceedance of the Action/ Limit Levels was recorded. Monthly ecological monitoring on Sheung Sha Chau Island confirmed that there was no construction works at Sheung Sha Chau and no direct encroachment or disturbance to the identified egretry area.

Summary of Upcoming Key Issues

Major site activities anticipated in the next reporting period for the Project will be under the following contracts including:

Advanced works Contract:

Contract P560 (R) Aviation Fuel Pipeline Diversion Works

- HDD pilot hole drilling;
- Stockpiling of excavated materials from HDD operation; and
- Site clearance and construction work at Sheung Sha Chau.

DCM Contracts:

Contract 3201 to 3204 Deep Cement Mixing Works

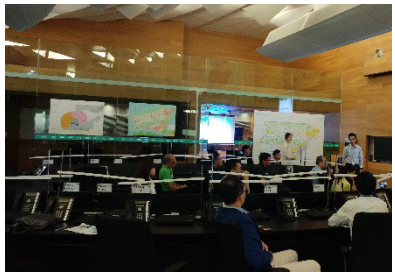
- Mobilization;
- Off-site plant fabrication; and
- Site survey and investigation.

Other Contracts:

Contract 3213 CLP Cable Diversion Enabling Works

- Land-based site preparation works.

Site investigation works will continue. The key environmental issues will be associated with dust, noise generation, water quality, construction waste management, CWD, ecological impact on Sheung Sha Chau. The implementation of required mitigation measures by the Contractor will be monitored by the ET.

Land-based CWD Monitoring by Theodolite	Construction Vessel Skipper Training	 Skypier Plan Briefing at Integrated Airport Centre

Summary Table

The following table summarizes the key findings of the EM&A programme during the reporting period from 1 to 31 August 2016:

	Yes	No	Details	Analysis / Recommendation / Remedial Actions
Breaches of Limit Level^		✓	No exceedance of project-related limit level was recorded.	Nil
Breaches of Action Level^		✓	No exceedance of project-related action level was recorded.	Nil
Complaints Received		✓	No construction activities related complaints were received.	Nil
Notification of any summons and status of prosecutions		✓	Neither notifications of summons nor prosecution were received.	Nil
Changes that affect the EM&A		✓	There were no changes to the construction works that may affect the EM&A	Nil

Remarks: ^ only exceedance of action/ limit level related to Project works will be highlighted.

1 Introduction

1.1 Background

On 7 November 2014, the Environmental Impact Assessment (EIA) Report (Register No.: AEIAR-185/2014) for the "Expansion of Hong Kong International Airport into a Three-Runway System" (the Project) was approved and an Environmental Permit (EP) (Permit No.: EP-489/2014) was issued for the construction and operation of the Project.

Airport Authority Hong Kong (AAHK) commissioned Mott MacDonald Hong Kong Limited (MMHK) to undertake the role of Environmental Team (ET) for carrying out the Environmental Monitoring & Audit (EM&A) works during the construction phase of the Project in accordance with the Updated EM&A Manual (the Manual) submitted under EP Condition 3.1. The Manual is available on the Project's dedicated website (accessible at: http://env.threerunwaysystem.com/en/index.html). AECOM Asia Company Limited (AECOM) was employed by AAHK as the Independent Environmental Checker (IEC) for the Project.

The Project covers the expansion of the existing airport into a three-runway system (3RS) with key project components comprising land formation of about 650 ha and all associated facilities and infrastructure including taxiways, aprons, aircraft stands, a passenger concourse, an expanded Terminal 2, all related airside and landside works and associated ancillary and supporting facilities. The existing submarine aviation fuel pipelines and submarine power cables also require diversion as part of the works.

Construction of the Project is to proceed in the general order of diversion of the submarine aviation fuel pipelines, diversion of the submarine power cables, land formation, and construction of infrastructure, followed by construction of superstructures.

The land-based construction works of the Contract P560(R) Aviation Fuel Pipeline Diversion Works (Contract P560(R)) commenced on 28 December 2015 on the airport island.

The commencement of initial reclamation works was announced on 1 August 2016. The updated overall phasing programme of all construction works was presented in Appendix A of the Construction Phase Monthly EM&A Report No. 7. Contracts awarded in August 2016 are presented in **Appendix A**.

1.2 Scope of this Report

This is the 8th Construction Phase Monthly EM&A Report for the Project which summarizes the key findings of the EM&A programme during the reporting period from 1 to 31 August 2016.

1.3 Project Organisation

The Project's organization structure remained unchanged during the reporting month. The Project's organization structure can be referred to Appendix B of the Construction Phase Monthly EM&A Report No.1. Contact details of the key personnel have been updated and is presented in **Table 1.1**.

Table 1.1: Contact Information of Key Personnel

Party	Position	Name	Telephone
Project Manager's Representative (Airport Authority Hong Kong)	Senior Manager, Environment	Lawrence Tsui	2183 2734
Environmental Team (ET) (Mott MacDonald Hong Kong Limited)	Environmental Team Leader	Terence Kong	2828 5919
	Deputy Environmental Team Leader	Heidi Yu	2828 5704
	Deputy Environmental Team Leader	Keith Chau	2972 1721
Independent Environmental Checker (IEC) (AECOM Asia Company Limited)	Independent Environmental Checker	Jackel Law	3922 9376
	Deputy Independent Environmental Checker	Joanne Tsoi	3922 9423
Advanced Works Contract:			
Contract P560(R) Aviation Fuel Pipeline Diversion Works (Langfang Huayuan Mechanical and Electrical Engineering Co., Ltd.)	Project Manager	Shih Wei	2117 0566
	Environmental Coordinator	Ivy Tam	2151 2090
DCM Works Contracts:			
Contract 3201 DCM (Package 1) (Penta-Ocean-China State-Dong-Ah Joint Venture)	Project Director	Mr. Tsugunari SUZUKI	9178 9689
	Environmental Officer	Mr. Kanny CHO	9019 1962
Contract 3202 DCM (Package 2) (Samsung-BuildKing Joint Venture)	Project Manager	Mr. Ilkwon Nam	9643 3117
	Environmental Officer	Mr. Dickson Mak	9525 8408
Contract 3203 DCM (Package 3) (Sambo E&C Co.,Ltd)	Deputy Project Manager	Mr. Park Seong Jae	9683 8693
	Environmental Officer	Mr. Leung Min Pong	9203 5820
Contract 3204 DCM (Package 4) (CRBC-SAMBO Joint Venture)	Project Manager	Mr. Allan Tam	9703 0256
	Environmental Officer	Mr. David Man	6421 3238

Other Works contract:			
Contract 3213 CLP Cable Diversion Enabling Works (Wing Hing Construction Company)	Project Manager	Mr. Wyman Lau	6112 9753

1.4 Summary of Construction Works

During the reporting period, no construction work was carried out by DCM works contracts and CLP cable diversion enabling works contract. Key construction activities of the Project were related to the Contract P560(R) Aviation Fuel Pipeline Diversion Works (Contract P560(R)) which involved drilling of HDD pilot hole at the HDD launching site located at the west part of the airport and site clearance and preparation works at Sheung Sha Chau.

The excavated materials from HDD operation were stockpiled at the stockpile area located near Chun Ming Road adjacent to Tradeport Logistic Centre on the airport island.

The HDD launching site and stockpiling area are around 3 km and 900m away respectively from the nearest air and noise sensitive receivers in Tung Chung and the villages in North Lantau. The locations of the works areas are presented in **Figure 1.1** to **Figure 1.2.** Some site investigation works were carried out during the reporting period.

1.5 Summary of EM&A Programme Requirements

As presented in the Updated EM&A Manual, the environmental aspects of interest for the Project include air quality, noise, water quality, waste management, land contamination, terrestrial ecology, marine ecology, fisheries, landscape & visual, sewage and sewerage, and hazard to human life.

The status for all environmental aspects is presented **Table 1.2**. The EM&A requirements remained unchanged during the reporting period and details can be referred to Table 1.2 of the Construction Phase Monthly EM&A Report No. 1.

Table 1.2: Summary of status for all environmental aspects under the Updated EM&A Manual

Parameters	Status
Air Quality	
Baseline Monitoring	The baseline air quality monitoring result has been reported in Baseline Monitoring Report (Version 1) and submitted to EPD on 14 December 2015 under EP Condition 3.4.
Impact Monitoring	On-going
Noise	
Baseline Monitoring	The baseline noise monitoring result has been reported in Baseline Monitoring Report (Version 1) and submitted to EPD on 14 December 2015 under EP Condition 3.4.
Impact Monitoring	On-going
Water Quality	
General Baseline Water Quality Monitoring for reclamation, water jetting and field joint works	The baseline water quality monitoring result has been reported in Water Quality Baseline Monitoring Report and submitted to EPD under EP Condition 3.4.
General Impact Water Quality Monitoring for reclamation, water jetting and field joint works	The general water quality monitoring commenced on 4 August 2016 as scheduled, although there were no marine construction works.
Initial Intensive Deep Cement Mixing	To be commenced according to the detailed plan on DCM

(DCM) Water Quality Monitoring	
Early/ Regular DCM Water Quality Monitoring	The early regular DCM water quality monitoring commenced on 4 August 2016 as scheduled, although there were no marine construction works.
Waste Management	
Waste Monitoring	On-going
Land Contamination	
Supplementary Contamination Assessment Plan (CAP)	To be submitted with the relevant construction works
Contamination Assessment Report (CAR) for Golf Course	The CAR for Golf Course was submitted to EPD on 17 March 2016. EPD had no adverse comment on the CAR for Golf Course on 6 April 2016.
Terrestrial Ecology	
Pre-construction Egretry Survey Egretry Survey Plan	The revised Egretry Survey Plan was submitted and approved by EPD on 25 April 2016 under EP Condition 2.14.
Ecological Monitoring	On-going
Marine Ecology	
Pre-Construction Phase Coral Dive Survey	The Coral Translocation Plan was approved by EPD on 6 June 2016 under EP Condition 2.12.
Chinese White Dolphins (CWD)	
Vessel survey, land-based theodolite track and passive acoustic monitoring (PAM)	
Baseline Monitoring	Baseline CWD results were reported in the CWD Baseline Monitoring Report as submitted to EPD on 15 July 2016 in accordance with EP Condition 3.4. The CWD Baseline Monitoring Report was approved by EPD on 25 July 2016.
Impact Monitoring	Monitoring of CWDs commenced in August 2016 as schedueled , although there were no marine construction works.
Landscape & Visual	
Baseline Monitoring	The baseline landscape & visual monitoring result has been reported in Baseline Monitoring Report (Version 1) and submitted to EPD on 14 December 2015 under EP Condition 3.4.
Impact Monitoring	On-going
Environmental Auditing	
Regular site inspection	On-going
SkyPier High Speed Ferries (HSF) implementation measures	On-going
Construction and Associated Vessels Implementation measures	On-going
Complaint Hotline and Email channel	On-going
Environmental Log Book	On-going

Taking into account the construction works in this reporting month, impact monitoring of air quality, noise, waste management, ecology and landscape & visual were carried out in the reporting month. No marine construction works was conducted during the reporting period. Water quality monitoring and CWD monitoring were conducted as scheduled although there were no marine construction works during the reporting period. The EM&A programme also involved weekly site inspections and related auditings conducted by the ET for checking the implementation of the required environmental mitigation measures recommended in the approved EIA Report.

The EM&A programme has been following the recommendations presented in the approved EIA Report and the Updated EM&A Manual. A summary of implementation status of the environmental mitigation measures for the construction phase of the Project during the reporting period is provided in **Appendix B**.

2 Air Quality Monitoring

2.1 Monitoring Stations

Air quality monitoring was conducted at two representative monitoring stations in the vicinity of air sensitive receivers in Tung Chung and villages in North Lantau in accordance with the Updated EM&A Manual. **Table 2.1** describes the details of the monitoring stations. **Figure 2.1** shows the locations of the monitoring stations.

Table 2.1: Locations of Impact Air Quality Monitoring Stations

Monitoring Station	Location
AR1A	Man Tung Road Park
AR2	Village House at Tin Sum

2.2 Monitoring Requirements and Schedule

In accordance with the Updated EM&A Manual, baseline 1-hour total suspended particulate (TSP) levels at the two air quality monitoring stations were established as presented in the Baseline Monitoring Report (Version 1 dated December 2015). Impact 1-hour TSP monitoring was conducted for three times every 6 days. The Action and Limit Levels of the air quality monitoring are provided in **Table 2.2**.

The scheduled impact 1-hour TSP monitoring at AR1A on 2 August 2016 was cancelled due to adverse weather. The monitoring at AR1A on 2 August 2016 was rescheduled to 3 August 2016.

The air quality monitoring schedule involved in the reporting period is provided in **Appendix D**.

Table 2.2: Action and Limit Levels for 1-hour TSP

Monitoring Station	Action Level (µg/m^3)	Limit Level (µg/m^3)
AR1A	306	500
AR2	298	

2.3 Monitoring Equipment

Portable direct reading dust meter was used to carry out the 1-hour TSP monitoring. The brand and model of the equipment are given in **Table 2.3**.

Table 2.3: Air Quality Monitoring Equipment

Equipment	Brand and Model
Portable direct reading dust meter (Laser dust monitor)	SIBTA LD-3B-002 (Serial No. 974350)

2.4 Monitoring Methodology

2.4.1 Measuring Procedure

The measurement procedures involved in the impact 1-hr TSP monitoring can be summarised as follows:

a. The portable direct reading dust meter was mounted on a tripod at a height of 1.2 m above the ground.
b. Prior to the measurement, the equipment was set up for 1 minute span check and 6 second background check.
c. The one hour dust measurement was started. Site conditions and dust sources at the nearby area were recorded on a record sheet.
d. When the measurement completed, the “Count” reading per hour was recorded for result calculation.

2.4.2 Maintenance and Calibration

The portable direct reading dust meter is calibrated every year against high volume sampler (HVS) to check the validity and accuracy of the results measured by direct reading method. The calibration certificates of the portable direct reading dust meter are provided in **Appendix C**. The corresponding calibration record of the HVS is also given in **Appendix C**.

2.5 Analysis and Interpretation of Monitoring Results

The monitoring results for 1-hour TSP are summarized in **Table 2.4**. Detailed impact monitoring results are presented in **Appendix E**.

Table 2.4: Summary of 1-hour TSP Monitoring Results

Monitoring Station	1-hr TSP Concentration Range (µg/m^3)	Action Level (µg/m^3)	Limit Level (µg/m^3)
AR1A	20 - 150	306	500
AR2	17 - 90	298	

No exceedance of the Action /Limit Level was recorded at all monitoring stations in the reporting period.

General meteorological conditions throughout the impact monitoring period were recorded. Wind data for each monitoring day including wind speed and wind direction was collected from the Chek Lap Kok Wind Station.

3 Noise Monitoring

3.1 Monitoring Stations

Noise monitoring was conducted at five representative monitoring stations in the vicinity of noise sensitive receivers in Tung Chung and villages in North Lantau in accordance with the Updated EM&A Manual. **Figure 2.1** shows the locations of the monitoring stations and these are described in **Table 3.1** below. As described in Section 4.3.3 of the Updated EM&A Manual, monitoring at NM2 will commence when the future residential buildings in Tung Chung West Development become occupied.

Table 3.1: Locations of Impact Noise Monitoring Stations

Monitoring Station	Location	Type of measurement
NM1A	Man Tung Road Park	Free field
NM2(1)	Tung Chung West Development	To be determined
NM3A	Site Office	Facade
NM4	Ching Chung Hau Po Woon Primary School	Free field
NM5	Village House in Tin Sum	Free field
NM6	House No. 1, Sha Lo Wan	Free field

Note: (1) As described in Section 4.3.3 of the Updated EM&A Manual, noise monitoring at NM2 will only commence after occupation of the future Tung Chung West Development.

3.2 Monitoring Requirements and Schedule

In accordance with the Updated EM&A Manual, baseline noise levels at the noise monitoring stations were established as presented in the Baseline Monitoring Report (Version 1 dated December 2015). Impact noise monitoring was conducted once per week in the form of 30-minute measurements of L_{eq}, L_{10} and L_{90} levels recorded at each monitoring station between 0700 and 1900 on normal weekdays. The Action and Limit levels of the noise monitoring are provided in **Table 3.2**. The construction noise monitoring schedule involved in the reporting period is provided in **Appendix D**.

Table 3.2: Action and Limit Levels for Construction Noise

Monitoring Stations	Time Period	Action Level	Limit Level, $L_{eq(30mins)}$ dB(A)
NM1A, NM2, NM3A, NM4, NM5 and NM6	0700-1900 hours on normal weekdays	When one documented complaint is received from any one of the sensitive receivers	75 dB(A)(i)

Note: (i) reduce to 70dB(A) for school and 65dB(A) during school examination periods.

3.3 Monitoring Equipment

Noise monitoring was performed using sound level meter at each designated monitoring station. The sound level meters deployed comply with the International Electrotechnical Commission Publications 651:1979 (Type 1) and 804:1985 (Type 1) specifications. Acoustic calibrator was used to check the sound level meters by a known sound pressure level for field measurement. The brand and model of the equipment are given in **Table 3.3**.

Table 3.3: Noise Monitoring Equipment

Equipment	Brand and Model
Integrated Sound Level Meter	B&K 2238 (Serial No. 2800932) B&K 2238 (Serial No. 2684503) B&K 2238 (Serial No. 2381580) B&K 2238 (Serial No. 2808432)
Acoustic Calibrator	B&K 4231 (Serial No. 3003246) B&K 4231 (Serial No. 3004068)

3.4 Monitoring Methodology

3.4.1 Monitoring Procedure

The monitoring procedures involved in the noise impact monitoring can be summarised as follows:

a. The sound level meter was set on a tripod at least a height of 1.2 m above the ground for free-field measurements at monitoring stations NM1A, NM4, NM5 and NM6. A correction of +3 dB(A) was applied to the free field measurements.
b. Façade measurements were made at the monitoring station NM3A.
c. Parameters such as frequency weighting, time weighting and measurement time were set.
d. Prior to and after each noise measurement, the meter was calibrated using the acoustic calibrator. If the difference in the calibration level before and after measurement was more than 1 dB(A), the measurement would be considered invalid and repeat of noise measurement would be required after re-calibration or repair of the equipment.
e. During the monitoring period, L_{eq}, L_{10} and L_{90} were recorded. In addition, site conditions and noise sources were recorded on a record sheet.
f. Noise measurement results were corrected with reference to the baseline monitoring levels.
g. Observations were recorded when high intrusive noise (e.g. dog barking, helicopter noise) was observed during the monitoring.

3.4.2 Maintenance and Calibration

The maintenance and calibration procedures are summarised below:

a. The microphone head of the sound level meter was cleaned with soft cloth at regular intervals.
b. The meter and calibrator were sent to the supplier or laboratory accredited under Hong Kong Laboratory Accreditation Scheme (HOKLAS) to check and calibrate at yearly intervals.

Calibration certificates of the sound level meters and acoustic calibrators used in the noise monitoring are provided in **Appendix C**.

3.5 Analysis and Interpretation of Monitoring Results

The construction noise monitoring results are summarized in **Table 3.4** and the detailed monitoring data are provided in **Appendix E**.

Table 3.4: Summary of Construction Noise Monitoring Results

Monitoring Station	Noise Level Range, dB(A) $L_{eq\ (30\ mins)}$	Limit Level, dB(A) $L_{eq\ (30\ mins)}$
NM1A[(i)]	68 - 72	75
NM3A	60 - 63	75
NM4[(i)]	63 - 65	70[(ii)]
NM5[(i)]	53 - 59	75
NM6[(i)]	67 - 71	75

Note: (i) +3 dB(A) Façade correction included;
(ii) Reduced to 65 dB(A) during school examination periods.

As the construction activities were far away from the monitoring stations, major sources of noise dominating the monitoring stations observed during the construction noise impact monitoring were aircraft noise at NM3A and NM5, aircraft noise and helicopter noise at NM6, road traffic noise at NM1A and school activities at NM4 in this reporting month.

No exceedance of the Action/ Limit Level was recorded at all monitoring stations in the reporting period.

4 Water Quality Monitoring

4.1 Monitoring Stations

Water quality monitoring was conducted at a total of 22 water quality monitoring stations, comprising 12 impact stations, seven sensitive receiver stations and three control stations in the vicinity of water quality sensitive receivers around the airport island in accordance with the Updated EM&A Manual. **Table 4.1** describes the details of the monitoring stations**. Figure 3.1** shows the locations of the monitoring stations.

Table 4.1: Monitoring Locations and Parameters for Impact Water Quality Monitoring

Monitoring Stations	Description	Coordinates		Parameters
		Easting	Northing	
C1	Control	804247	815620	DO, pH, Temperature, Salinity, Turbidity, SS, Total Alkalinity, Heavy Metals[2]
C2	Control	806945	825682	
C3	Control	817803	822109	
IM1	Impact	806458	818351	
IM2	Impact	806193	818852	
IM3	Impact	806019	819411	
IM4	Impact	805039	819570	
IM5	Impact	804924	820564	
IM6	Impact	805828	821060	
IM7	Impact	806835	821349	
IM8	Impact	807838	821695	
IM9	Impact	808811	822094	
IM10	Impact	809838	822240	
IM11	Impact	810545	821501	
IM12	Impact	811519	821162	
SR1[1]	Future Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities (HKBCF) Seawater Intake for cooling	812586	820069	DO, pH, Temperature, Salinity, Turbidity, SS
SR2	Planned marine park / hard corals at The Brothers / Tai Mo To	814166	821463	
SR3	Sha Chau and Lung Kwu Chau Marine Park / fishing and spawning grounds in North Lantau	807571	822147	
SR4A	Sha Lo Wan	807810	817189	
SR5A	San Tau Beach SSSI	810696	816593	
SR6	Tai Ho Bay, Near Tai Ho Stream SSSI	814663	817899	
SR7	Ma Wan Fish Culture Zone (FCZ)	823742	823636	
SR8	Seawater Intake for cooling at Hong Kong International Airport (East)	811593	820417	

Notes:
[1] the seawater intakes of SR1 for the future HKBCF is not yet in operation, the future permanent location for SR1 during impact monitoring is subject to finalisation after the HKBCF seawater is commissioned.

(2) According to the Baseline Water Quality Monitoring Report, Chromium and Nickel are the representative heavy metals for early regular DCM monitoring. DCM specific water quality monitoring parameters (total alkalinity and heavy metals) were only conducted at C1 to C3, IM1 to IM12 .

4.2 Monitoring Requirements and Schedule

In accordance with the Updated EM&A Manual, baseline water quality levels at the abovementioned representative water quality monitoring stations were established as presented in the Baseline Water Quality Monitoring Report.

General and early regular DCM water quality monitoring was conducted three days per week, at mid-flood and mid-ebb tides, at the 22 water quality monitoring stations during the reporting period, although there were no marine construction works. The sea condition varied from clam to rough, and the weather varied from fine to rainy during the monitoring period.

The scheduled water quality monitoring on 2 August 2016 during ebb and flood tides and 18 August 2016 during ebb tide were cancelled due to adverse weather. The water quality monitoring schedule for the reporting period is provided in **Appendix D**.

4.2.1 Action and Limit Levels for Water Quality Monitoring

The Action and Limit Levels levels for general water quality monitoring and regular DCM monitoring are presented in **Table 4.2**. The control and impact stations during flood tide and ebb tide for general water quality monitoring and regular DCM monitoring are presented in **Table 4.3**.

Table 4.2: Action and Limit Levels for general water quality monitoring and regular DCM monitoring

Parameters	Action Level (AL)		Limit Level (LL)	
Action and Limit Levels for general water quality monitoring and regular DCM monitoring (excluding SR1& SR8)				
DO in mg/L (Surface, Middle & Bottom)	Surface and Middle 4.8 mg/L		Surface and Middle 4.1 mg/L 5 mg/L for Fish Culture Zone (SR7) only	
	Bottom 3.1 mg/L		Bottom 2.3 mg/L	
Suspended Solids (SS) in mg/L	25	or 120% of upstream control station at the same tide of the same day, whichever is higher	36	or 130% of upstream control station at the same tide of the same day, whichever is higher
Turbidity in NTU	26.0		41.4	
Total Alkalinity in ppm	95		98	
Representative Heavy Metals for early regular DCM monitoring (Chromium)	0.2		0.2	
Representative Heavy Metals for early regular DCM monitoring (Nickel)	3.2		3.4	
Action and Limit Levels SR1				
SS (mg/l)	To be determined prior to its commissioning		To be determined prior to its commissioning	
Action and Limit Levels SR8				
SS (mg/l)	52		60	

Note:

1. For DO measurement, non-compliance occurs when monitoring result is lower than the limits.
2. For parameters other than DO, non-compliance of water quality results when monitoring results is higher than the limits.

3. Depth-averaged results are used unless specified otherwise.
4. Details of selection criteria for the two heavy metals for early regular DCM monitoring refer to the Detailed Plan on Deep Cement Mixing available on the dedicated 3RS website http://env.threerunwaysystem.com/en/ep-submissions.html)
5. The action and limit levels for the two representative heavy metals chosen will be the same as that for the intensive DCM monitoring.

Table 4.3: The Control and Impact stations during flood tide and ebb tide for general water quality monitoring and regular DCM monitoring

Control Station	Impact Stations
Flood Tide	
C1	IM1, IM2, IM3, IM4, IM5, IM6, IM7, IM8, SR3
SR2[^1]	IM7, IM8, IM9, IM10, IM11, IM12, SR1A, SR3, SR4A, SR5A, SR6, SR8
Ebb Tide	
C1	SR4A, SR5A, SR6
C2	IM1, IM2, IM3, IM4, IM5, IM6, IM7, IM8, IM9, IM10, IM11, IM12, SR1A, SR2, SR3, SR7, SR8

[^1] As per findings of Baseline Water Quality Report, the control reference will be changed from C3 to SR2 from 1 Sep 2016 onwards.

4.3 Monitoring Equipment

Table 4.4 summarises the equipment used in the impact water quality monitoring programme.

Table 4.4: Water Quality Monitoring Equipment

Equipment	Brand and Model
Water Sampler	Van Dorn Water Sampler
Positioning Device (measurement of GPS)	Garmin eTrex Vista HCx
Water Depth Detector (measurement of water depth)	Lowrance Mark 5x
Multifunctional Meter (measurement of DO, pH, temperature, salinity and turbidity)	YSI 6920 V2 (serial no. 000109DF and 00019CB2)
Current Meter (measurement of current speed and direction)	Sontek HydroSurveyor
Digital Titrator (measurement of total alkalinity)	Titrette Digital Burette 50ml Class A (serial no.10N64701 and 10N60623)

4.4 Monitoring Methodology

4.4.1 Measuring Procedure

Water quality monitoring samples were taken at three depths (at 1m below surface, at mid-depth, and at 1m above bottom) for locations with water depth >6m. For locations with water depth between 3m and 6m, water samples were taken at two depths (surface and bottom). For locations with water depth <3m, only the surface depth was taken. Duplicate water samples were taken and analysed.

The water samples for all monitoring parameters were collected, stored, preserved and analysis according to the Standard Methods, APHA 22nd ed. and/or other methods as agreed by the EPD. In-situ measurements at monitoring locations including temperature, pH, DO, turbidity, salinity and water depth were collected by equipment listed in the following . Water samples for heavy metals and SS analysis were stored in high density polythene bottles with no preservative added, packed in ice (cooled to 4 ºC without being frozen), delivered to the laboratory within 24 hours of collection.

4.4.2 Maintenance and Calibration

Calibration of In-situ instruments

All in-situ monitoring instrument were checked, calibrated and certified by a laboratory accredited under HOKLAS before use. Responses of sensors and electrodes were checked with certified standard solutions before each use.

Wet bulb calibration for a DO meter was carried out before commencement of monitoring and after completion of all measurements each day. Calibration was not conducted at each monitoring location as daily calibration is adequate for the type of DO meter employed. A zero check in distilled water was performed with the turbidity probe at least once per monitoring day. The probe should then be calibrated with a solution of known NTU. In addition, the turbidity probe was calibrated at least twice per month to establish the relationship between turbidity readings (in NTU) and levels of suspended solids (in mg/L). Accuracy check of the digital titrator was performed at least once per monitoring day.

Calibration certificates of the monitoring equipment used in the monitoring are provided in **Appendix D**.

4.4.3 Laboratory Measurement / Analysis

Analysis of SS and heavy metals have been carried out by a HOKLAS accredited laboratory, ALS Technichem (HK) Pty Ltd (Reg. No. HOKLAS 066). Sufficient water samples were collected at all the monitoring stations for carrying out the laboratory SS and heavy metals determination. The SS and heavy metals determination works were started within 24 hours after collection of the water samples. The analysis of SS and heavy metals have followed the standard methods summarised in **Table 4.5**. The QA/QC procedures for laboratory measurement/ analysis of SS and heavy metals were followed and presented in **Appendix F**.

Table 4.5: Laboratory measurement/ analysis of SS and heavy metals

Parameters	Instrumentation	Analytical Method	Reporting Limit
Suspended Solid (SS)	Analytical Balance	APHA 2540D	2 mg/L
Heavy Metals			
Chromium (Cr)	ICP-MS	USEPA 6020A	0.2 µg/L
Nickel (Ni)	ICP-MS	USEPA 6020A	0.2 µg/L

4.5 Analysis and Interpretation of Monitoring Results

The commencement of initial reclamation works was announced on 1 August 2016. Four DCM contracts were awarded in August 2016. The key activity of the four marine DCM contracts was only mobilization and off-site plant fabrication. No marine construction works was conducted during the reporting period.

The general water quality monitoring was completed as scheduled and the results showed that some parameter such as DO was appeared to reflect the seasonal low of surrounding water body according to EPD's long-term marine water quality monitoring data. As the water quality monitoring results were collected before the commencement of marine construction works, the measurement data collected in August 2016 may take into account for reviewing the baseline water quality condition.

Water quality monitoring results and graphical presentations are provided in **Appendix E**.

5 Waste Management

5.1 Monitoring Requirements

In accordance with the Updated EM&A Manual, the waste generated from construction activities was audited once per week to determine if wastes are being managed in accordance with the Waste Management Plan (WMP) prepared for the Project, contract-specific WMP, and any statutory and contractual requirements. All aspects of waste management including waste generation, storage, transportation and disposal were assessed during the audits. The Action and Limit levels of the construction waste are provided in **Table 5.1**.

Table 5.1: Action and Limit Levels for Construction Waste

Monitoring Stations	Action Level	Limit Level
Construction Area	When one valid documented complaint is received	Non-compliance of the WMP, contract-specific WMPs, any statutory and contractual requirements

5.2 Waste Management Status

No construction work for four DCM contracts and CLP cable diversion enabling works was undertaken and hence no waste was generated during the reporting period.

Weekly monitoring of Contract P560(R) Aviation Fuel Pipeline Diversion Works was carried out by the ET on 3, 10, 17, 24 and 31 August 2016 to check and monitor the implementation of proper waste management practices during the construction phase.

For Contract P560(R) Aviation Fuel Pipeline Diversion Works, recommendations were provided during monitoring including provision of drip tray for the oil drums on 24 August 2016, removal of oil stain on ground as chemical waste on 17, 24 and 31 August 2016. The contractor had followed up with implementation of mitigation measures.

The P560(R) Contractor was advised to properly maintain a recording system, maximize the reuse of C&D materials and properly maintain site tidiness.

Based on the updated information, about 210 m^3 excavated materials were produced from the HDD launching site in August 2016. The generated excavated materials were temporarily stored at storage and stockpiling area at Chun Ming Road adjacent to Tradeport Logistic Centre on the airport island. The excavated material will be reused in the Project.

In addition, metals, paper and plastic were recycled during the reporting month. 3.9 tonnes of general refuse were disposed of to the West New Territories (WENT) Landfill and 0.16 tonnes of chemical waste was disposed of to the Tsing Yi Chemical Waste Treatment Centre in August 2016. No Construction and Demolition (C&D) material was disposed off-site during the reporting month.

No exceedances of the Action and Limit Levels were recorded in the reporting period.

6 Chinese White Dolphin Monitoring

6.1 CWD Monitoring Requirements

In accordance with the Updated EM&A Manual, CWD monitoring by small vessel line-transect survey supplemented by land-based theodolite tracking should be conducted during construction phase. The monitoring was completed in the reporting period, although there were no marine construction works.

The small vessel line-transect survey as proposed in the Updated EM&A Manual should be conducted at a frequency of two full survey per month while land-based theodolite tracking should be conducted at a frequency of one day per month per station during the construction phase. In addition to the land-based theodolite tracking required for impact monitoring as stipulated in the EM&A Manual, some supplemental theodolite tracking have also been taken during the initial implementation period for the SkyPier HSF diversion and speed control in order to assist in monitoring the effectiveness of these measures, i.e. in total twice per month at the Sha Chau station and three times per month at the Lung Kwu Chau station.

The Action Level (AL) and Limit Level (LL) for CWD monitoring were formulated by the action response approach using the running quarterly dolphin encounter rates STG and ANI derived from baseline monitoring data, as presented in the CWD Baseline Monitoring Report. The derived values of AL and LL for CWD monitoring were summarized in **Table 6.1**.

Table 6.1: Derived Values of Action Level (AL) and Limit Level (LL) for Chinese White Dolphin Monitoring

	NEL, NWL, AW, WL and SWL as a Whole
Action Level	Running quarterly* STG < 1.86 & ANI < 9.35
Limit Level	Two consecutive running quarterly^ (3-month) STG < 1.86 & ANI < 9.35

[Notes for Table 6.1 (referring to the baseline monitoring report):
*Action Level – running quarterly STG & ANI would be calculated from the three preceding survey months, e.g. works commenced on 1 August 2016,this CWD impact monitoring report reviewed the data from 18 May to 17 June 2016 covering two sets of transect surveys for all monitoring areas, and the data collected in July and August 2016 (also with two sets of transect surveys for all monitoring areas) for calculating the quarterly encounter rates STG & ANI. For CWD impact monitoring for September 2016, data from 1 July to 30 September 2016 will be used to calculate the quarterly encounter rates STG & ANI;

^Limit Level – two consecutive running quarters mean since works commenced on 1 August 2016, the first running quarter for reporting will be 18 May to 17 June 2016, July 2016 to August 2016, and the second running quarter will be July 2016 to September 2016.

AL and/or LL will be exceeded if both STG and ANI fall below the criteria.]

6.2 CWD Monitoring Transects and Stations

6.2.1 Small Vessel Line-transect Survey

Small vessel line-transect surveys were conduct along the transects covering Northeast Lantau (NEL), Northwest Lantau (NWL), Airport West (AW), West Lantau (WL) and Southwest Lantau (SWL), as proposed in the Updated EM&A Manual and being consistent with the AFCD long-term monitoring programme (except AW). The AW transect has not been previously surveyed in the AFCD programme due to the restrictions of HKIA Exclusion Zone, nevertheless, this

transect was established during the EIA of the 3RS project with the aim to collect project specific baseline information within the HKIA Approach Area to fill the data gap that was not covered by the AFCD programme. This provided a larger sample size for estimating the densities and patterns of movements in the broader study area of the project.

For the NWL area, there was no physical demarcation of the 3RS works area yet during CWD monitoring survey in the reporting period, therefore the works area of the 3RS project was still accessible and the transect lines followed the waypoints and lengths conducted for baseline monitoring. These transect lines were depicted in **Figure 6.1** while the coordinates of all transect lines are shown in **Table 6.2**.

Table 6.2: Coordinates of Transect Lines in NEL, NWL, AW, WL and SWL Survey Areas

Waypoint	Easting	Northing	Waypoint	Easting	Northing
		NEL			
1S	813525	820900	6N	818568	824433
1N	813525	824657	7S	819532	821420
2S	814556	818449	7N	819532	824209
2N	814559	824768	8S	820451	822125
3S	815542	818807	8N	820451	823671
3N	815542	824882	9S	821504	822371
4S	816506	819480	9N	821504	823761
4N	816506	824859	10S	822513	823268
5S	817537	820220	10N	822513	824321
5N	817537	824613	11S	823477	823402
6S	818568	820735	11N	823477	824613
		NWL			
1S	804671	814577	5N	808504	828602
1N	804671	831404	6S	809490	820590
2S	805475	815457	6N	809490	825352
2N	805476	830562	7S	810499	820950
3S	806464	819550	7N	810499	824613
3N	806464	829598	8S	811508	821250
4S	807518	819900	8N	811508	824254
4N	807518	829230	9S	812516	821250
5S	808504	820250	9N	812516	824254
		AW			
1W	804730	818220	2W	805051	817156
1E	806519	818271	2E	806913	817076
		WL			
1W	800600	805450	7W	800400	811450
1E	801760	805450	7E	802400	811450
2W	800300	806450	8W	800800	812450
2E	801750	806450	8E	802900	812450
3W	799600	807450	9W	801500	813550
3E	801500	807450	9E	803120	813550
4W	799400	808450	10W	801880	814500
4E	801430	808450	10E	803700	814500
5W	799500	809450	11W	802860	815500
5E	801300	809450	12S/11E	803750	815500
6W	799800	810450	12N	803750	818500

Waypoint	Easting	Northing	Waypoint	Easting	Northing
6E	801400	810450			
			SWL		
1S	802494	803961	6S	807467	801137
1N	802494	806174	6N	807467	808458
2S	803489	803280	7S	808553	800329
2N	803489	806720	7N	808553	807377
3S	804484	802509	8S	809547	800338
3N	804484	807048	8N	809547	807396
4S	805478	802105	9S	810542	800423
4N	805478	807556	9N	810542	807462
5S	806473	801250	10S	811446	801335
5N	806473	808458	10N	811446	809436

6.2.2 Land-based Theodolite Tracking

Land-based theodolite tracking stations were set up at two locations, one facing east/south/west on the southern slopes of Sha Chau (SC), and the other facing north/northeast/northwest at Lung Kwu Chau. The stations (D and E) are depicted in **Figure 6.2** and shown in **Table 6.3** with position coordinates, height of station and approximate distance of consistent theodolite tracking capabilities for CWD.

Table 6.3: Land-based Survey Station Details

Stations	Location	Geographical Coordinates	Station Height (m)	Approximate Tracking Distance (km)
D	Sha Chau (SC)	22° 20’ 43.5” N 113° 53’ 24.66” E	45.66	2
E	Lung Kwu Chau (LKC)	22° 22’ 44.83” N 113° 53’ 0.2” E	70.40	3

6.3 CWD Monitoring Methodology

6.3.1 Small Vessel Line-transect Survey

Small vessel line-transect surveys provided data for density and abundance estimation and other assessments using distance-sampling methodologies, specifically, line-transect methods.

The surveys involved small vessel line-transect data collection and have been designed to be similar to, and consistent with, previous surveys for the Agriculture, Fisheries and Conservation Department (AFCD) for their long-term monitoring of small cetaceans in Hong Kong. The survey was designed to provide systematic, quantitative measurements of density, abundance and habitat use.

As mentioned in Section 6.2.1, the transects covered Northeast Lantau (NEL), Northwest Lantau (NWL) covering the Airport West (AW), West Lantau (WL) and Southwest Lantau (SWL) as proposed in the Updated EM&A Manual and are consistent with the AFCD long-term monitoring programme (except AW). There are two types of transect lines:

- Primary transect lines: the parallel and zigzag transect lines as shown in **Figure 6.1**; and
- Secondary transect lines: transect lines connecting between the primary transect lines and crossing islands.

All on-effort data collected under conditions of Beaufort 0-3 and visibility of approximately 1200 m or beyond, on both primary and secondary transect lines, were used for analysis.

A 15-20 m vessel with a flying bridge observation platform about 4 to 5 m above water level and unobstructed forward view, and a team of three to four observers were deployed to undertake the surveys. Two observers were on search effort at all times when following the transect lines with a constant speed of 7 to 8 knots (i.e. 13 to 15 km per hour), one using 7X handheld binoculars and the other using unaided eyes and recording data.

During on-effort survey periods, the survey team recorded effort data including time, position (waypoints), weather conditions (Beaufort sea state and visibility) and distance travelled in each series with assistance of a handheld GPS device. The GPS device also continuously and automatically logged data including time, position (Latitude and longitude) and vessel speed throughout the entire survey.

When CWDs were seen, the survey team was taken off-effort, the dolphins were approached and photographed for photo-ID information (using a Canon 7D [or similar] camera and long 300 mm+ telephoto lens), then followed until they left the study area or were lost. At that point, the boat returned (off effort) to the next survey line and began to survey on effort again.

Focal follows of dolphins were conducted where practicable (i.e. when individual dolphins or small stable groups of dolphins with at least one member that could be readily identifiable with unaided eyes during observations and weather conditions are favourable). These involved the boat following (at an appropriate distance to minimize disturbance) an identifiable individual dolphin for an extended period of time, and collecting detailed data on its location, behaviour, response to vessels, and associates.

6.3.2 Photo Identification

Chinese White Dolphins can be identified by their unique features like presence of scratches, nick marks, cuts, wounds, deformities of their dorsal fin and distinguished colouration and spotting patterns.

When CWDs were observed, the survey team was taken off-effort, the dolphins were approached and photographed for photo-ID information (using a Canon 7D [or similar] camera and long 300 mm+ telephoto lens). The survey team attempted to photo both sides of every single dolphin in the group as the colouration and spotting pattern on both sides may not be identical. The photos were taken at the highest available resolution and stored on Compact Flash memory cards for transferring into a computer.

All photos taken were initially examined to sort out those containing potentially identifiable individuals. These sorted-out images would then be examined in detail and compared to the CWD photo-identification catalogue established for 3RS during the baseline monitoring stage.

6.3.3 Land-based Theodolite Tracking

Land-based monitoring obtains fine-scale information on the time of day and movement patterns of the CWDs. A digital theodolite (Sokkia/Sokkisha Model DT5 or similar equipment) with 30-power magnification and 5-s precision was used to obtain the vertical and horizontal angle of each dolphin and vessel position. Angles were converted to geographic coordinates (latitude and longitude) and data were recorded using *Pythagoras* software, Version 1.2. This method delivers precise positions of multiple spatially distant targets in a short amount of time. The technique is fully non-invasive, and allows for time and cost-effective descriptions of dolphin habitat use patterns at all times of daylight.

Three surveyors (one theodolite operator, one computer operator, and one observer) were involved in each survey. Observers searched for dolphins using unaided eyes and handheld binoculars (7X50). Theodolite tracking sessions were initiated whenever an individual CWD or group of CWDs was located. Where possible, a distinguishable individual was selected, based on colouration, within the group. The focal individual was then continuously tracked via the theodolite, with a position recorded each time the dolphin surfaced. In case an individual could not be positively distinguished from other members, the group was tracked by recording positions based on a central point within the group whenever the CWD surfaced. Tracking continued until animals were lost from view, moved beyond the range of reliable visibility (>1-3 km, depending on station height), or environmental conditions obstructed visibility (e.g., intense haze, Beaufort sea state >4, or sunset), at which time the research effort was terminated. In addition to the tracking of CWD, all vessels that moved within 2-3 km of the station were tracked, with effort made to obtain at least two positions for each vessel.

Theodolite tracking included focal follows of CWD groups and vessels. Priority was given to tracking individual or groups of CWD. The survey team also attempted to track all vessels moving within 1 km of the focal CWD.

6.4 Monitoring Results and Observations

6.4.1 Small Vessel Line-transect Survey

Survey Effort

Within the monitoring month of August 2016, two complete sets of small vessel line-transect surveys were conducted on the 5th , 9th 10th, 15th, 19th, 22nd, 24th and 25th August 2016, covering all transects in NEL, NWL, AW, WL and SWL survey area for twice.

A total of 469.08 km of survey effort was collected from these surveys, with 91.8% of the total survey effort being conducted under favourable weather condition (i.e. Beaufort Sea State 3 or below with favourable visibility). Details of the survey effort may refer to **Appendix E**.

Sighting Distribution

In August 2016, 19 groups of CWD with 69 individuals were sighted. Amongst the sightings of CWD, 15 groups with 61 individuals were made during on-effort search under favourable weather condition (i.e. Beaufort Sea State 3 or below with favourable visibility). For details of cetacean sightings refer to **Appendix E**.

Distribution of CWD sightings recorded in August 2016 is illustrated in **Figure 6.3**. The sightings were mainly located east of Lung Kwu Chau and in Urmston Road near Castle Peak Power Station in the NWL survey area, and Tai O, Yi O and Peaked Hill in the WL survey area. No sightings of CWDs were recorded within or in close proximity to the 3RS land-formation footprint.

Figure 6.3: Sightings Distribution of Chinese White Dolphins

[Pink circle: Sighting locations of CWD, White line: Vessel survey transects, Blue polygon: Sha Chau and Lung Kwu Chau Marine Park (SCLKCMP), Red polygon: 3RS land-formation footprint]

Note: Only on-effort sightings under Beaufort 3 or below were presented in the figure.

Encounter Rate

Two types of dolphin encounter rates were calculated based on the data from August 2016. They included the number of dolphin sightings per 100km survey effort (STG) and total number of dolphins per 100km survey effort (ANI) in the whole survey area (i.e. NEL, NWL, AW, WL and SWL). In the calculation of dolphin encounter rates, only survey data collected under favourable weather condition (i.e. Beaufort Sea State 3 or below with favourable visibility) were used. Formulations of the encounter rates are shown as below:

Encounter Rate of Number of Dolphin Sightings (STG)

$$STG = \frac{Total\ No.of\ \ On-effort\ Sightings}{Total\ Amount\ of\ Survey\ Effort\ (km)}\ x\ 100$$

Encounter Rate of Number of Dolphins (ANI)

$$ANI = \frac{Total\ No.of\ Dolphins\ from\ On-effort\ Sightings}{Total\ Amount\ of\ Survey\ Effort\ (km)}\ x\ 100$$

(Notes: Only data collected under Beaufort 3 or below condition was used)

In August 2016, a total of 430.61 km of survey effort was collected under Beaufort Sea State 3 or below with favourable visibility, whilst total no. of 15 on-effort sightings and total number of 61 dolphins from on-effort sightings were collected under such condition. Calculation of the encounter rates in August 2016 are shown as below:

Encounter Rate of Number of Dolphin Sightings (STG) in August 2016

$$STG = \frac{15}{430.61}\ x\ 100 = 3.48$$

Encounter Rate of Number of Dolphins (ANI) in August 2016

$$ANI = \frac{61}{430.61}\ x\ 100 = 14.17$$

For the reporting month, in the running quarter a total of 1195.86 km of survey effort was collected under Beaufort Sea State 3 or below with favourable visibility, whilst total no. of 59 on-effort sightings and total number of 246 dolphins from on-effort sightings were collected under such condition. Calculation of the running quarterly encounter rates are shown as below:

Running Quarterly Encounter Rate of Number of Dolphin Sightings (STG)

$$STG = \frac{59}{1195.86}\ x\ 100 = 4.93$$

Running Quarterly Encounter Rate of Number of Dolphins (ANI)

$$ANI = \frac{246}{1195.86}\ x\ 100 = 20.57$$

The STG and ANI of CWD in the whole survey area (i.e. NEL, NWL, AW, WL and SWL) of August 2016 and the running quarterly STG and ANI calculated from the three preceding survey months are presented in **Table 6.4** below.

Table 6.4: STG and ANI of Chinese White Dolphin of the Whole Survey Area in August 2016 and Running Quarterly STG and ANI

	Encounter Rate (STG)	Encounter Rate (ANI)
August 2016	3.48	14.17
Running Quarterly*	4.93	20.57

*Running quarterly encounter rates STG & ANI for reporting were calculated from the three preceding survey months, i.e. the data from 18 May to 17 June 2016, the data in July 2016 and August 2016, containing six sets of transect surveys for all monitoring areas.

Group Size

In August 2016, the average group size of CWDs was 4.1 individuals per group. The majority of the CWD groups were medium in size with 3-9 individuals. Five groups out of 15 were small in size with 1-2 individuals. No large CWD groups with 10 or more individuals were sighted in August 2016.

Activities and Association with Fishing Boats

No CWDs were sighted with association with operating fishing boats in August 2016.

Mother-calf Pair

Three pairs of mother-and-calf and mother-and-spotted juvenile (SJ) pairs were sighted. Two pairs were sighted in the WL survey area while the remaining pair was sighted in the NWL survey area.

6.4.2 Photo Identification

In August 2016, a total number of 22 different CWD individuals were identified. Amongst these 22 identified individuals, seven (NLMM028, NLMM035, NLMM036, NLMM037, NLMM038, SLMM011 and SLMM015) were sighted for twice and one (NLMM002) was sighted three times in August. A summary of photo identification works is presented in **Table 6.5**. Representative photos of these individuals may refer to **Appendix E**.

Table 6.5: Summary of Photo Identification in August 2016

Individual ID	No. of times sighted	Date of sighting (yyyymmdd)	Individual ID	No. of times sighted	Date of sighting (yyyymmdd)
WLMM030	1	20160809	WLMM043	1	20160809
WLMM046	1	20160809	NLMM002	3	20160819, 20160824
NLMM035	2	20160819	NLMM036	2	20160819
NLMM037	2	20160819	NLMM004	1	20160819
NLMM028	2	20160822, 20160824	NLMM038	2	20160822, 20160824
WLMM038	1	20160822	WLMM047	1	20160822
WLMM048	1	20160822	WLMM049	1	20160822
NLMM005	1	20160822	NLMM019	1	20160822
SLMM015	2	20160822	SLMM010	1	20160822
SLMM011	2	20160822, 20160825	NLMM006	1	20160824
NLMM010	1	20160824	NLMM013	1	20160824

6.4.3 Land-based Theodolite Tracking

Survey Effort

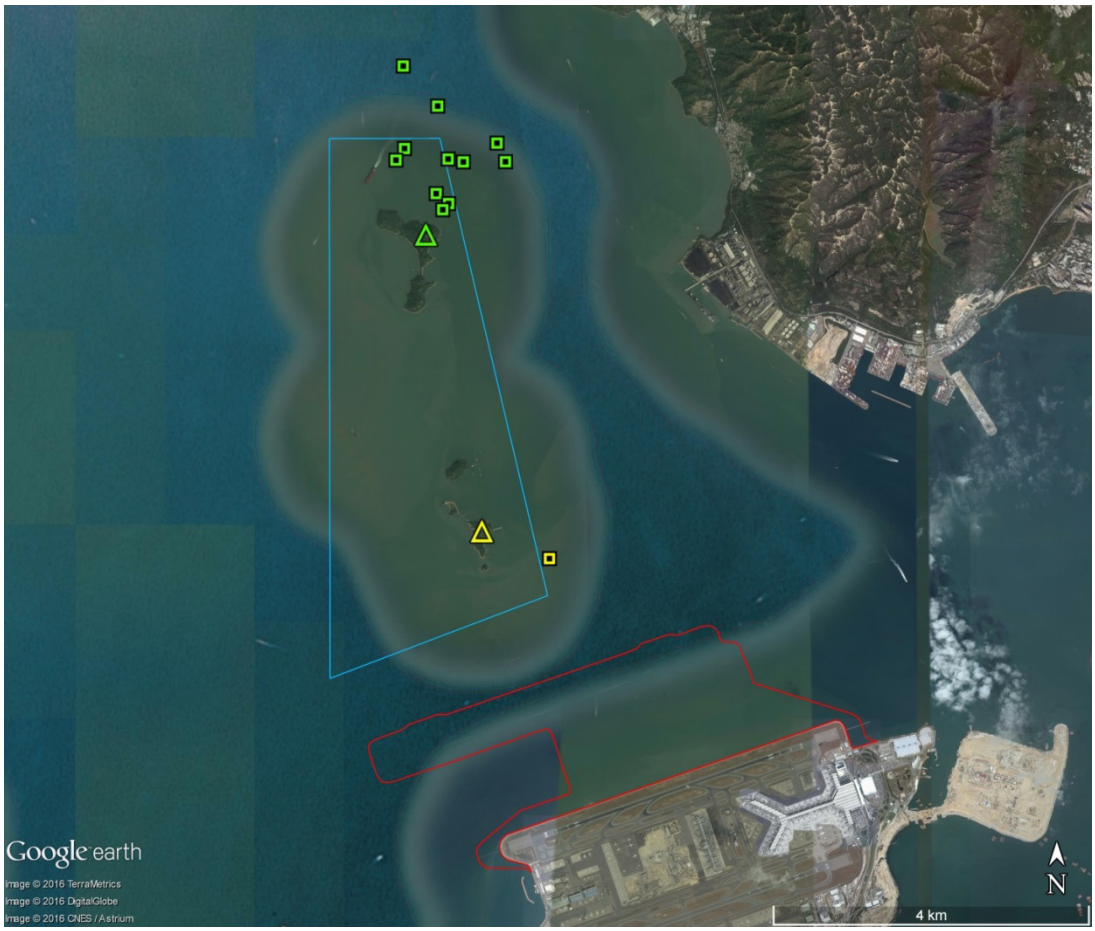
Land-based theodolite tracking surveys at Lung Kwu Chau were conducted on 5th, 11th and 23rd August 2016 and at Sha Chau on 1st and 9th August 2016. A total of 5 days of land-based theodolite tracking survey effort have been accomplished in August 2016. A total number of 12 CWD groups were tracked during the surveys. Information of survey effort and CWD groups sighted during these land-based theodolite tracking surveys are presented in **Table 6.6**. Details of the survey effort and CWD groups tracked are presented in **Appendix E**. The first sighting locations of CWD groups tracked during land-based theodolite tracking surveys in August 2016 were depicted in **Figure 6.4**.

Table 6.6: Summary of Survey Effort and CWD Group of Land-based Theodolite Tracking

Land-based Station	# of Survey Sessions	Survey Effort (hh:mm)	# CWD Groups Sighted	CWD Group Sighting per Survey Hour
Lung Kwu Chau	3	18:11	11	0.607
Sha Chau	2	12:10	1	0.083
TOTAL	**5**	**30:21**	**12**	**0.395**

Figure 6.4: Plots of First Sightings of All CWD Groups obtained from Land-based Stations

[Green triangle: LKC station; Green square: CWD group off LKC; Yellow triangle: SC station; Yellow square: CWD group off SC; Blue line: SCLKCMP boundary; Red line: 3RS land-formation footprint]



6.5 Progress Update on Passive Acoustic Monitoring

Underwater acoustic monitoring using Passive Acoustic Monitoring (PAM) should also be undertaken within the whole duration for land formation related construction works. An Ecological Acoustic Recorder (EAR) has been deployed and positioned at south of Sha Chau Island with 20% duty cycle (**Figure 6.5**). The PAM deployment is generally last for4-6 weeks prior to data retrieval as one batch of data for analysis. Acoustic data will be gathered to listen for CWDs occurrence patterns and to obtain anthropogenic noise information simultaneously. Analysis (by a specialized team of acousticians) involved manually browsing through every acoustic recording and logging the occurrence of dolphin signals. All data will be re-played by computer and listened to by human ears for accurate assessment of dolphin group presence. As the period of data collection and analysis takes more than two months, PAM results could not be reported in monthly intervals.

The EAR was deployed on 15 August 2016 in this reporting period and scheduled to be retrieved on 12 September 2016. Data transfer and analysis of this batch of PAM data are tentatively scheduled for completion by end of November 2016.

6.6 Site Audit for CWD-related Mitigation Measures

There were no marine construction activities underway in the reporting month. Contract-specific Marine Mammal Watching Plan and Dolphin Exclusion Zone Plan were still under preparation by contractors in this time-period, therefore audits of acoustic decoupling and dolphin exclusion zone implementation were not applicable during this reporting period.

Audits of SkyPier High Speed Ferries route diversion and speed control and construction vessel management are presented in **Section 7.2** and **Section 7.3** respectively.

6.7 Timing of Reporting CWD Monitoring Results

For indication, detailed analysis of CWD monitoring results collected by small vessel line-transect survey (such as distribution of group size, activities/boat association, mother-calf pairs and re-sightings) will be provided in future quarterly reports. Detailed analysis of CWD monitoring results collected by land-based theodolite tracking (such as time of day or year, group size, behavioural state and vessel activity) and PAM will be provided in future yearly reports when a larger sample size of data be collected for supplementing the findings from vessel based monitoring.

6.8 Summary of CWD Monitoring

No marine construction works was conducted during the reporting period. CWD monitoring was conducted as scheduled although no marine construction works was carried out during the reporting period. The baseline conditions for the CWD will be reviewed and the Event and Action Plan will be further reviewed when 12-month CWD data be collected.

7 Environmental Site Inspection and Audit

7.1 Environmental Site Inspection

No construction work for four DCM contracts and CLP cable diversion enabling works was undertaken during the reporting period, thus no weekly site inspection for those contracts was conducted during the reporting period.

Weekly site inspection of the construction works for P560(R) was carried out by the ET on 3, 10, 17, 24 and 31 August 2016 to monitor the implementation of proper environmental pollution control and mitigation measures for the Project. Site inspections were also conducted independently by the Project's Independent Environmental Checker (IEC) on 5 and 17 August 2016. Observations have been recorded in the site inspection checklists and passed to the Contractor together with the appropriate recommended mitigation measures where necessary.

The key observations from site inspection and associated recommendations were related to the improvement of efficiency of sedimentation tank, provision of drip tray for chemical containers, proper maintenance of drip tray, and removal of oil stains on ground as chemical waste.

A summary of implementation status of the environmental mitigation measures for the construction phase of the Project during the reporting period is provided in **Appendix B**.

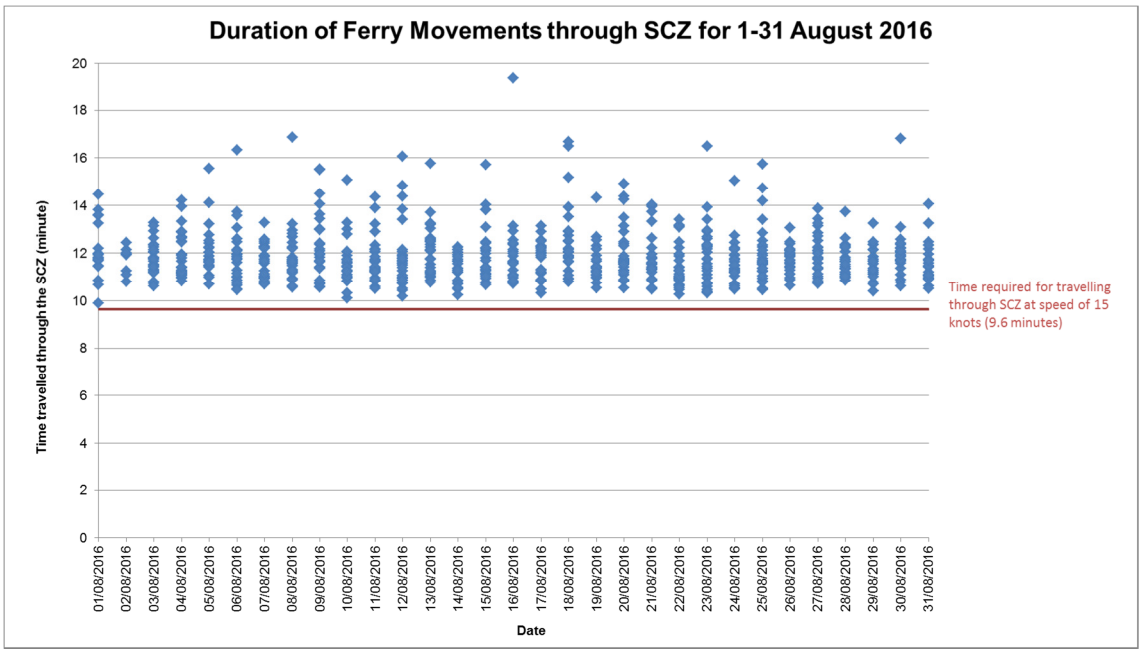
7.2 Audit of Route Diversion and Speed Control of the SkyPier High Speed Ferries

The Marine Travel Routes and Management Plan for High Speed Ferries of SkyPier (the SkyPier Plan) has been submitted to the Advisory Council on the Environment (ACE) for comment and subsequently submitted to and approved by EPD in November 2015 under EP Condition 2.10. The approved SkyPier Plan is available on the dedicated website of the Project. In the SkyPier Plan, AAHK committed to implementing the mitigation measure of requiring high speed ferries (HSFs) of SkyPier travelling between HKIA and Zhuhai / Macau to start diverting the route with an associated speed control across an area (i.e. Speed Control Zone (SCZ)) with high Chinese White Dolphin (CWD) abundance. The route diversion and speed restriction at the SCZ have been implemented since 28 December 2015.

Key audit findings for the SkyPier HSFs travelling to/from Zhuhai and Macau against the requirements of the SkyPier Plan during the reporting period are summarized in **Table 7.1**. The daily movements of all SkyPier HSFs in August 2016 were within the maximum daily cap number (i.e. 10 to 94 daily movements, which are within maximum daily cap of 125 daily movements). There are fewer ferry movements on 1st and 2nd August 2016 (52 and 10 movements respectively) due to Typhoon. Status of compliance with annual daily average of 99 movements will be further reviewed in the annual EM&A Report.

In total, 809 ferry movements between HKIA SkyPier and Zhuhai / Macau were recorded in August 2016 and the data are presented in **Appendix I**. The time spent for the SkyPier HSFs travelled through the SCZ in August were presented in **Figure 7-1**. It will take 9.6 minutes to travel through the SCZ when the SkyPier HSFs adopt the maximum allowed speed of 15-knot within the SCZ. **Figure 7-1** shows that all the SkyPier HSFs spent more than 9.6 minutes to travel through the SCZ.

Figure 7-1 Duration of the SkyPier HSFs travelled through the SCZ for 1 – 31 August 2016



Seven ferry movements were recorded with minor deviation of diverted route on 3, 4, 14, 15, 18, 26 and 28 August 2016. Notices were sent to the ferry operators and the investigation results revealed that they were related to safety / emergency situations presented as follows:

- Cases on 3 and 15 August 2016: HSF captains reported that they had to give way to other vessels for safety reason and were not able to enter the SCZ through the gate access points. Then the HSF returned to the normal route following the SkyPier Plan.
- Case on 4 and 18 August 2016: HSF captains reported that the deviation was due to strong tidal wave and current.
- Case on 14, 26 and 28 August 2016: These cases are under investigation.

Cases of minor route deviation in July 2016 have been followed up. For the cases on 1, 8, 9, 11, 12 and 15 July 2016, similar minor deviations of diverted route were observed. The six cases were recorded with the same ferry. Repeated deviations were recorded with the same captain for the five cases on 8, 9, 11, 12 and 15 July 2016 and another captain is responsible for the remaining case on 1 July 2016. The ferry operator reported that the deviations were due to strong tidal wave and current and wrong reference points of SCZ were applied. The instantaneous speeds of all the above cases were within the 15-knot speed limit. Warning letter has been issued to the concerned ferry operator to prevent reoccurrence. The ferry operator is also recommended to check the coordinates of SCZ plotted on the radar. Refresher training to the two concerned vessel captains will be provided by experienced captain of the concerned ferry operator to ensure the captains are familiarised with the SkyPier Plan requirements.

For the case on 22 July 2016, investigation found that the vessel captain was required to give way to other vessels for safety reason. After that, the HSF returned to the normal route following the SkyPier Plan.

Table 7.1: Summary of Key Audit Findings against the SkyPier Plan

Requirements in the SkyPier Plan	1 August to 31 August 2016
Total number of ferry movements recorded and audited	809
Use diverted route and enter / leave SCZ through Gate Access Points	7 deviations (FO were requested to provide further supporting evidence for investigation)
Speed control in speed control zone	All HSFs were within 15 knots (5.7 knots to 14.6 knots), which complied with the SkyPier Plan. The time used by HSF to travel through SCZ is presented in **Figure 7-1**.
Daily Cap (including all SkyPier HSFs)	10 to 94 daily movements (within maximum daily cap - 125 daily movements) There are fewer ferry movements on 1st and 2nd August 2016 (52 and 10 movements respectively) due to Typhoon.

7.3 Audit of Construction and Associated Vessels

The Marine Travel Routes and Management Plan for Construction and Associated Vessel (MTRMP-CAV) has been submitted and approved in December 2015 by EPD under EP Condition 2.9. The approved Plan is available on the dedicated website of the Project.

Although no major construction activities were conducted in August 2016, skipper training workshops have been held with concerned captains of construction vessels associated with Contract P560(R) Aviation Fuel Pipeline Diversion Works and the four DCM contracts to familiarise them with the predefined routes, general education on local cetaceans, guidelines for avoiding adverse water quality impact, the required environmental practices / measures while operating construction and associated vessels under the Project, and guidelines for operating vessels safely in the presence of CWDs.

The ET will work with new Contractors mobilising for 3RS works on reviewing and helping them familiarise with the requirements of the MTRMP-CAV.

ET has audited of all the relevant information, including AIS data, vessel tracks, record of potential deviations and the responses provided by concerned captain, to ensure full compliance with the requirements of the MTRMP-CAV. Weekly audits have been conducted in August to ensure that sufficient information has been provided by Marine Traffic Control Center (MTCC). The IEC of the Project has also performed audit on the compliance of the requirements as part of the EM&A programme.

7.4 Ecological Monitoring

In accordance with the Updated EM&A Manual, ecological monitoring shall be undertaken monthly at the HDD daylighting location on Sheung Sha Chau Island to identify and evaluate any impacts with appropriate actions taken as required to address and minimise any adverse impact found. Monthly ecological monitoring on Sheung Sha Chau Island observed one suspected late breeding/nursery activitiy of egret at the southern side of the island and confirmed that there was no construction works at Sheung Sha Chau and thus no direct encroachment or disturbance to the identified egretry area.

7.5 Status of Submissions under Environmental Permits

The current status of submissions under the EP up to the reporting period is presented in **Table 7.2**.

Table 7.2: Status of Submissions under Environmental Permit

EP Condition	Submission	Status
2.1	Complaint Management Plan	Accepted / approved by EPD
2.4	Management Organizations	
2.5	Construction Works Schedule and Location Plans	
2.7	Marine Park Proposal	
2.8	Marine Ecology Conservation Plan	
2.9	Marine Travel Routes and Management Plan for Construction and Associated Vessels	
2.10	Marine Travel Routes and Management Plan for High Speed Ferries of SkyPier	
2.11	Marine Mammal Watching Plan	
2.12	Coral Translocation Plan	
2.13	Fisheries Management Plan	
2.14	Egretry Survey Plan	
2.15	Silt Curtain Deployment Plan	
2.17	Detailed Plan on Deep Cement Mixing	
2.16	Spill Response Plan	
2.19	Waste Management Plan	
3.1	Updated EM&A Manual	
3.4	Baseline Monitoring Report	

7.6 Compliance with Other Statutory Environmental Requirements

During the reporting period, environmental related licenses and permits required for the construction activities were checked. No non-compliance with environmental statutory requirements was recorded. The environmental licenses and permits which are valid in the reporting month are presented in **Appendix G**.

7.7 Analysis and Interpretation of Complaints, Notification of Summons and Status of Prosecutions

7.7.1 Complaints

During the reporting period, no construction activities related complaints were received.

7.7.2 Notifications of Summons or Status of Prosecution

During the reporting period, neither notifications of summons nor prosecution were received.

7.7.3 Cumulative Statistics

Cumulative statistics on complaints, notifications of summons and status of prosecutions are summarized in **Appendix H**.

8 Future Key Issues and Other EIA & EM&A Issues

8.1 Construction Programme for the Coming Reporting Period

Major site activities anticipated in the next reporting period for the Project will be under the following contracts including:

Advance works Contract:

Contract P560 (R) Aviation Fuel Pipeline Diversion Works

- HDD pilot hole drilling;
- Stockpiling of excavated materials from HDD operation; and
- Site clearance and construction work at Sheung Sha Chau.

DCM Contracts:

Contract 3201 to 3204 Deep Cement Mixing Works

- Mobilization;
- Off-site plant fabrication; and
- Site survey and investigation.

Other Contracts:

Contract 3213 CLP Cable Diversion Enabling Works

- Land-based site preparation works.

Site investigation works will continue to carry out to support design process.

8.2 Key Environmental Issues for the Coming Reporting Period

The key environmental issues for the Project in the coming reporting period are expected to be associated with the construction activities include:

- Generation of dust from construction works;
- Noise impact from operating equipment and machinery on-site;
- Generation of site surface runoffs and wastewater from activities on-site;
- Management of stockpiles;
- Sorting, recycling, storage and disposal of general refuse and construction waste;
- Management of chemicals and avoidance of oil spillage on-site; and
- Acoustic decoupling measures for equipment on marine vessel.

The implementation of required mitigation measures by the Contractor will be monitored by the ET.

8.3 Monitoring Schedule for the Coming Reporting Period

A tentative schedule of the planned environmental monitoring work in the next reporting period is provided in **Appendix D**.

9 Conclusion and Recommendation

The key construction activities of the Project carried out in the reporting month were related to Contract P560(R) which involved drilling of HDD pilot hole, stockpiling of excavated materials from HDD operation and site clearance and preparation works at Sheung Sha Chau. Works under the other four DCM contracts involved mobilization and off-site plant fabrication, and CLP cable diversion enabling work involved site preparation works. Some site investigation works were also carried out during the reporting period.

Construction dust, noise, waste and ecological monitoring were carried out in the reporting period.

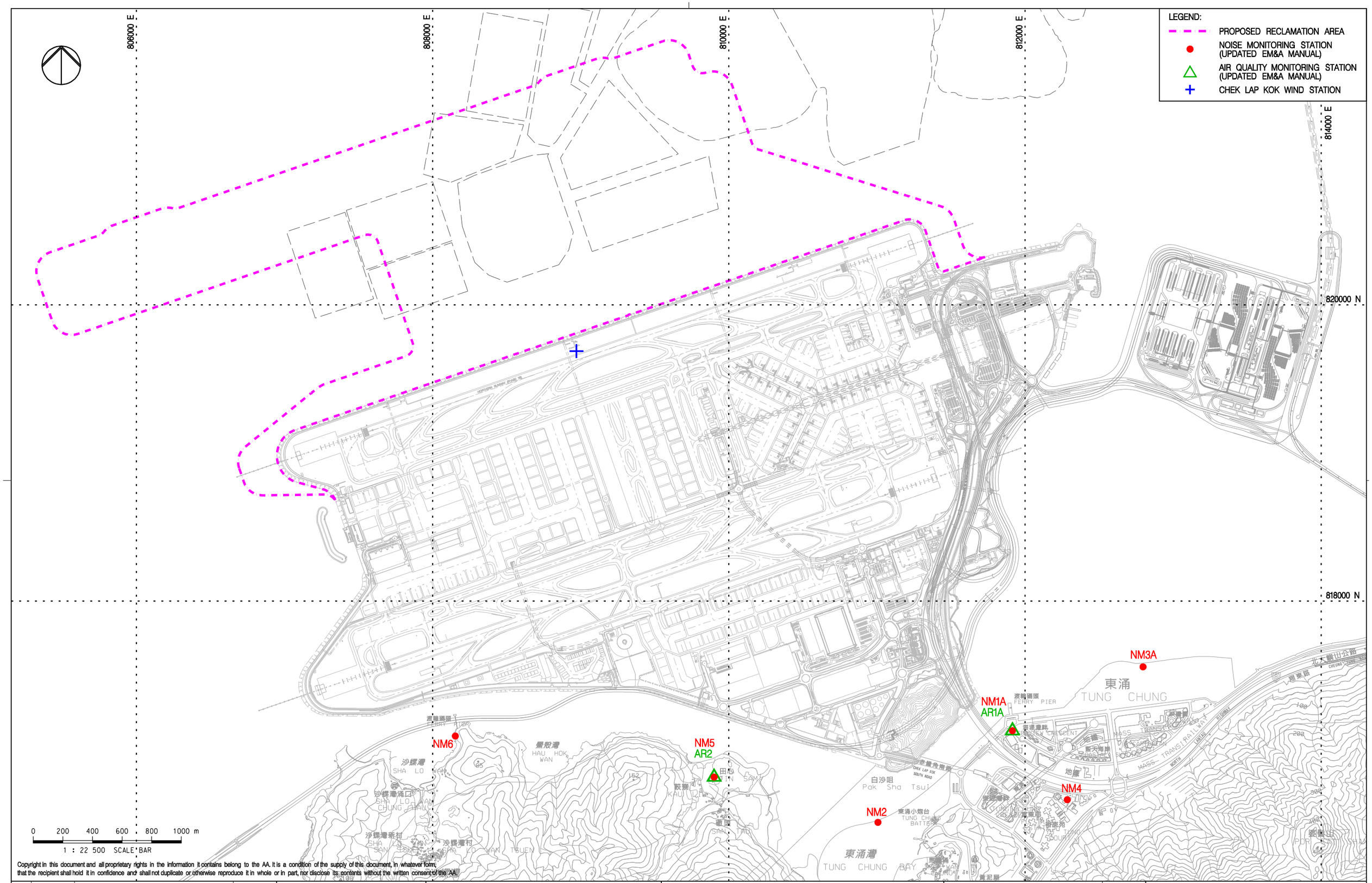
As observed on site and confirmed by the contractor, no marine construction works was conducted during the reporting period. The water quality monitoring and CWD monitoring were completed as scheduled although no marine construction works was carried out during the reporting period.

No breach of the Action or Limit Levels in relation to the air quality, construction noise, waste and ecological monitoring were recorded in the reporting month. All site observations made by the ET were recorded in the site inspection checklists and passed to the Contractor together with the recommended follow-up actions.

On the implementation of the SkyPier Plan, the daily movements of all SkyPier HSFs in August 2016 were 10 to 94 daily movements, which are within the maximum daily cap of 125 daily movements. A total of 809 HSF movements under SkyPier Plan were recorded in August 2016. All HSFs had travelled through the SCZ with prevailing speed under 15 knots (5.7 to 14.6 knots) in compliance with the SkyPier Plan. Seven ferry movements showed minor deviations from the diverted route. Four of the cases were due to public safety and the remaining three cases are under investigation. In summary, the ET and IEC have audited the HSF movements against the SkyPier Plan and conducted follow up investigation or actions accordingly.

On the implementation of the Marine Travel Routes and Management Plan for Construction and Associated Vessel (MTRMP-CAV), skipper training workshops have been held with concerned captains of construction vessels to familiarise them with the requirements of the Plan. The ET is working with contractors to familiarise with the requirements of the MTRMP-CAV .

Figures



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A	06JAN16	FIRST ISSUE	RO
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LOCATIONS OF AIR AND NOISE MONITORING STATIONS AND CHEK LAP KOK WIND STATION

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Design	AM	11FEB16
Checkers	AM / TK	11FEB16
Approver	EC	11FEB16

EXPANSION OF HONG KONG INTERNATIONAL AIRPORT INTO A THREE-RUNWAY SYSTEM

Drawing No.

FIGURE 2.1

Scale at A3 1 : 22500

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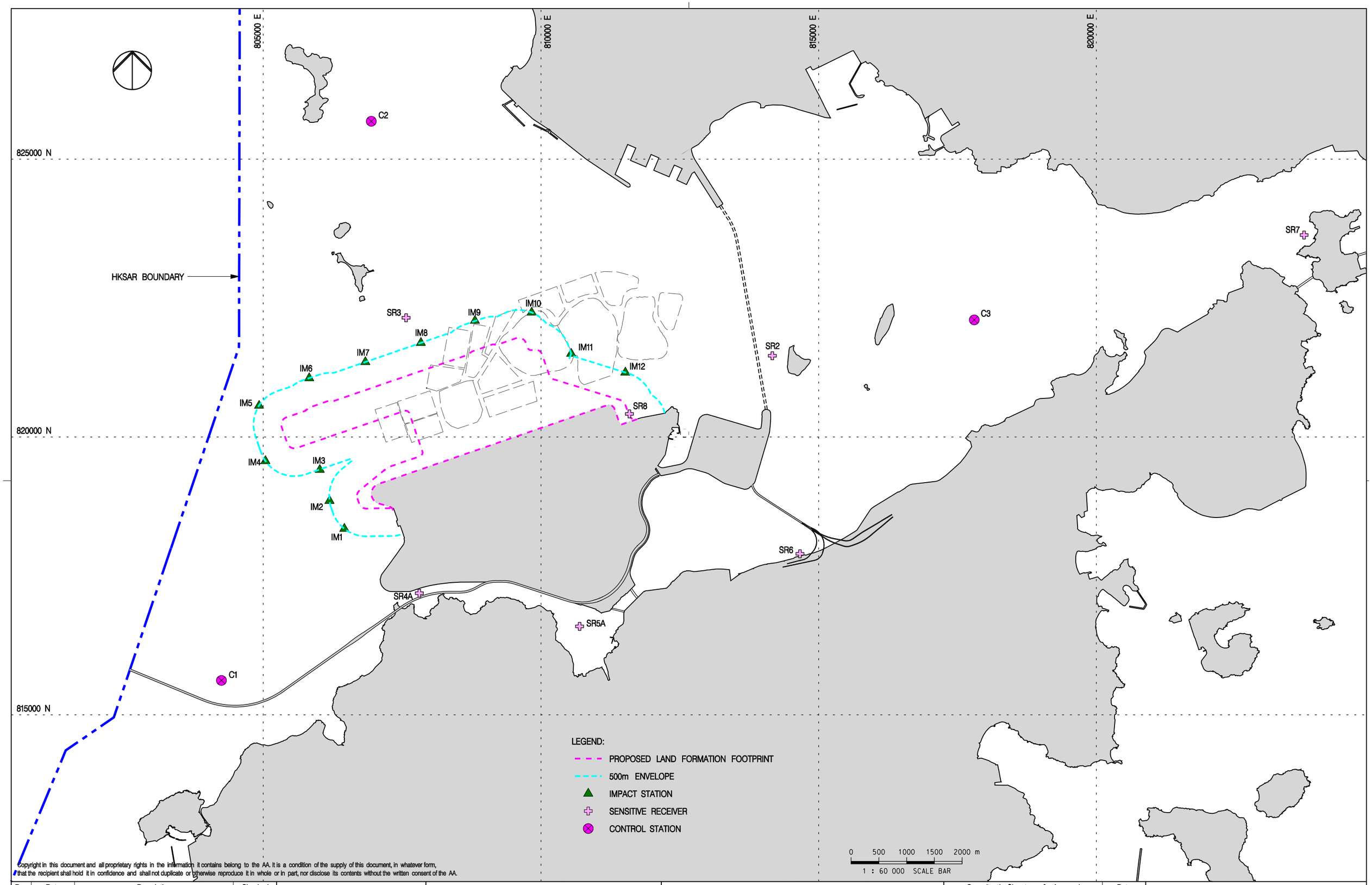

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FIGURE 3.1

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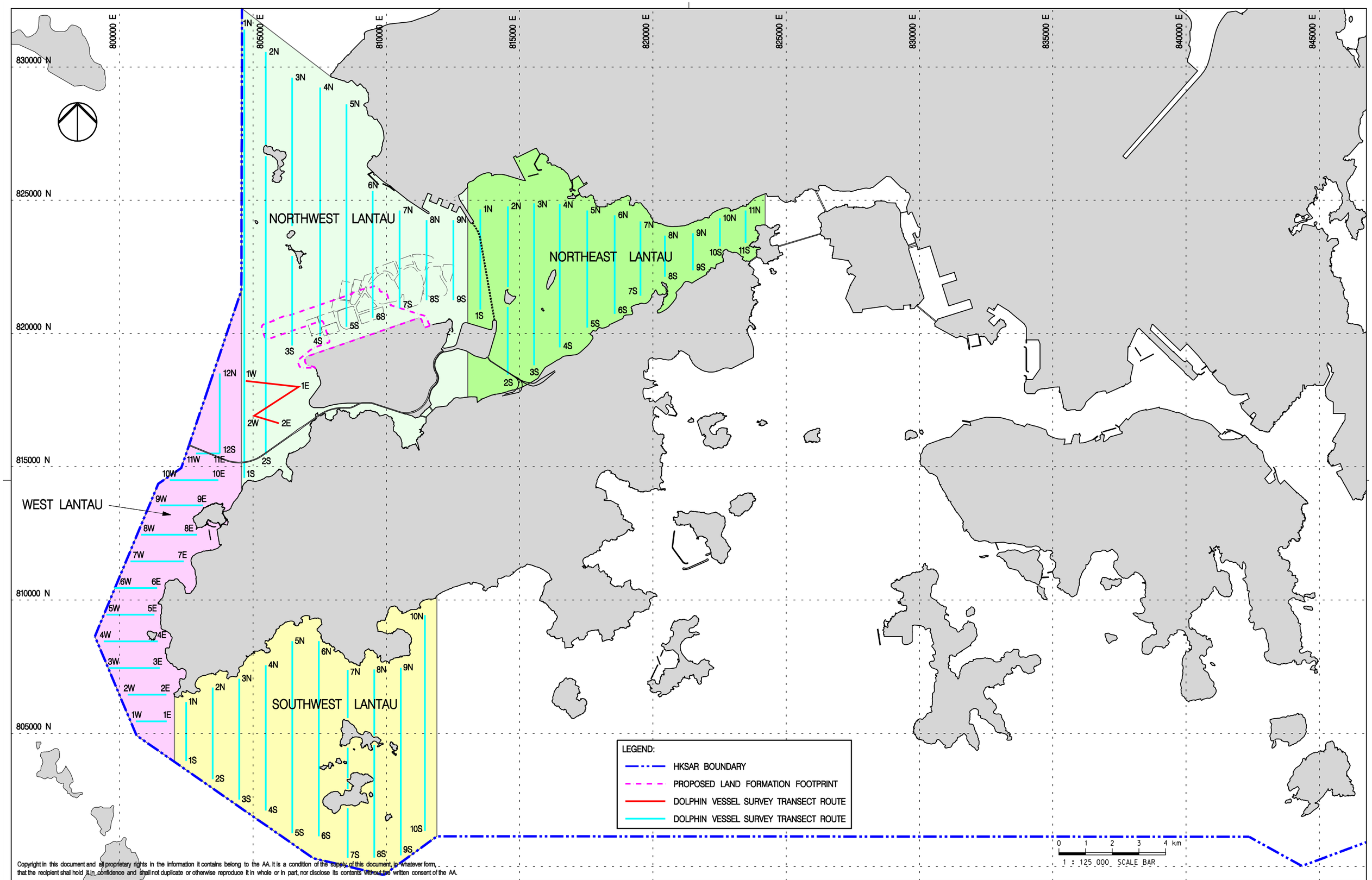

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VESSEL BASED DOLPHIN MONITORING TRANSECTS IN BASELINE MONITORING

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Drawing No. FIGURE 6.1

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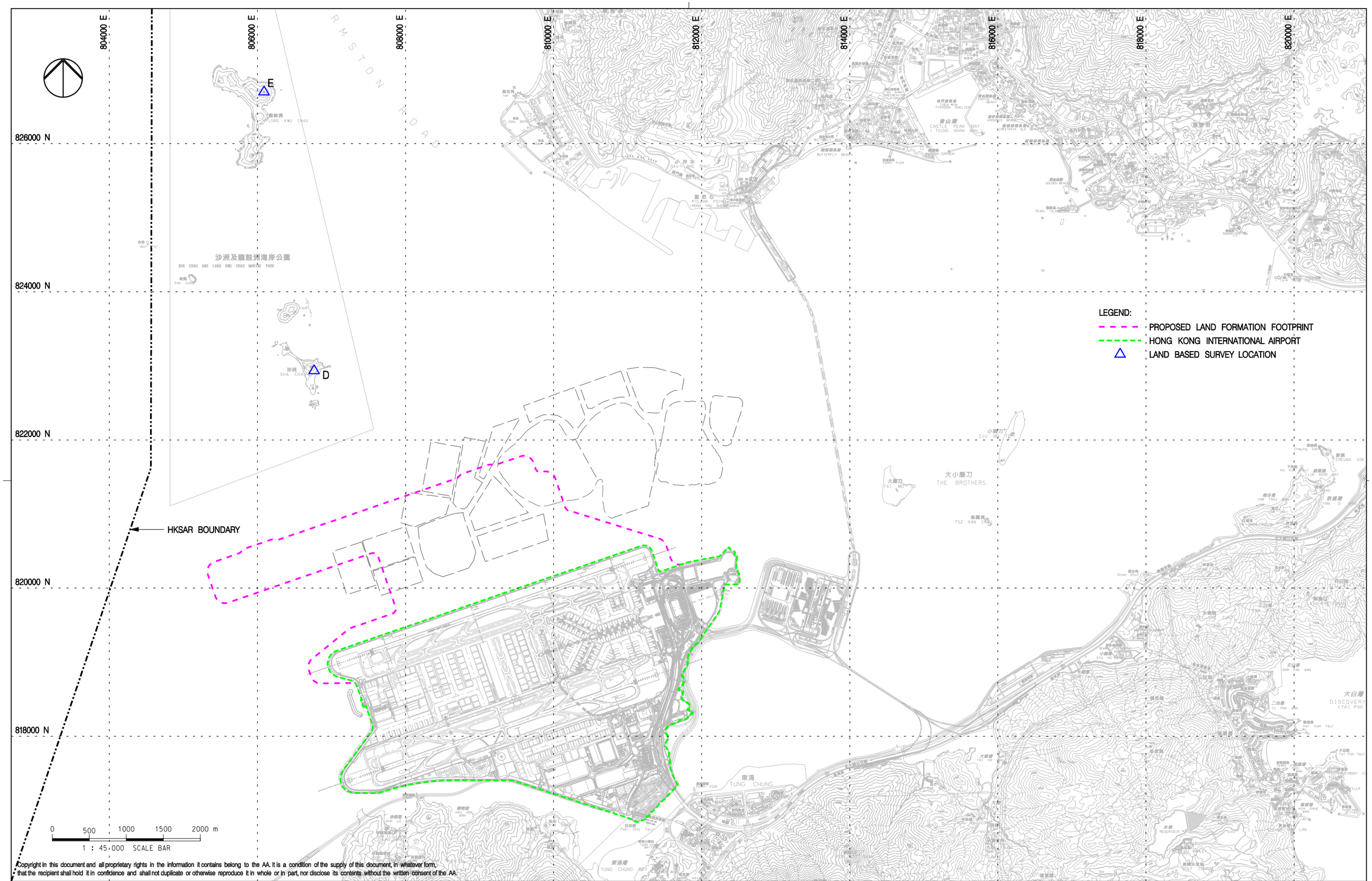

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LAND BASED DOLPHIN MONITORING IN BASELINE AND CONSTRUCTION PHASES

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Drawing No. FIGURE 6.2

Scale at A3 1 : 45000

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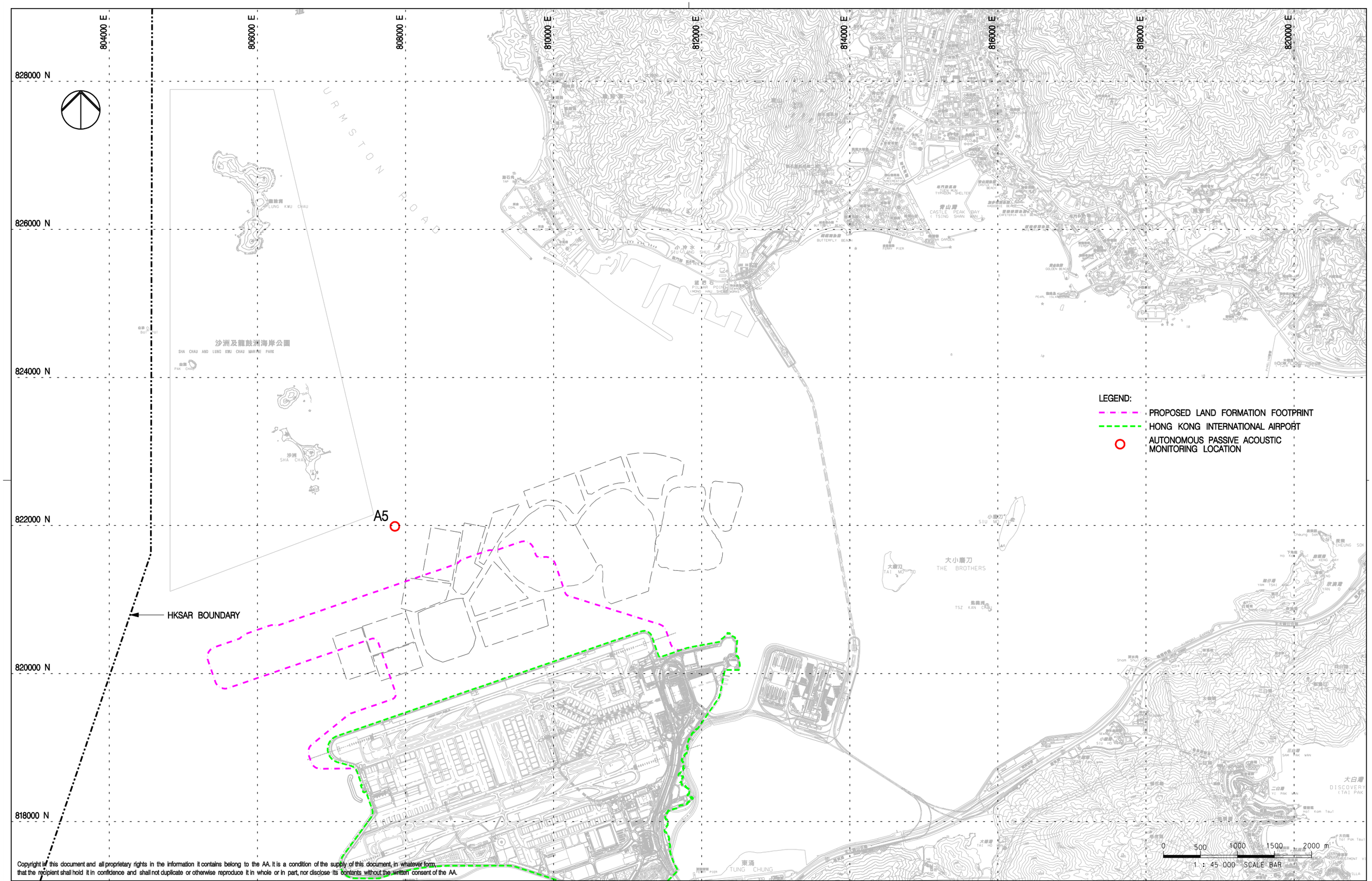

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LOCATIONS FOR AUTONOMOUS PASSIVE ACOUSTIC MONITORING IN BASELINE AND CONSTRUCTION PHASES

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Drawing No.
FIGURE 6.5

Scale at A3
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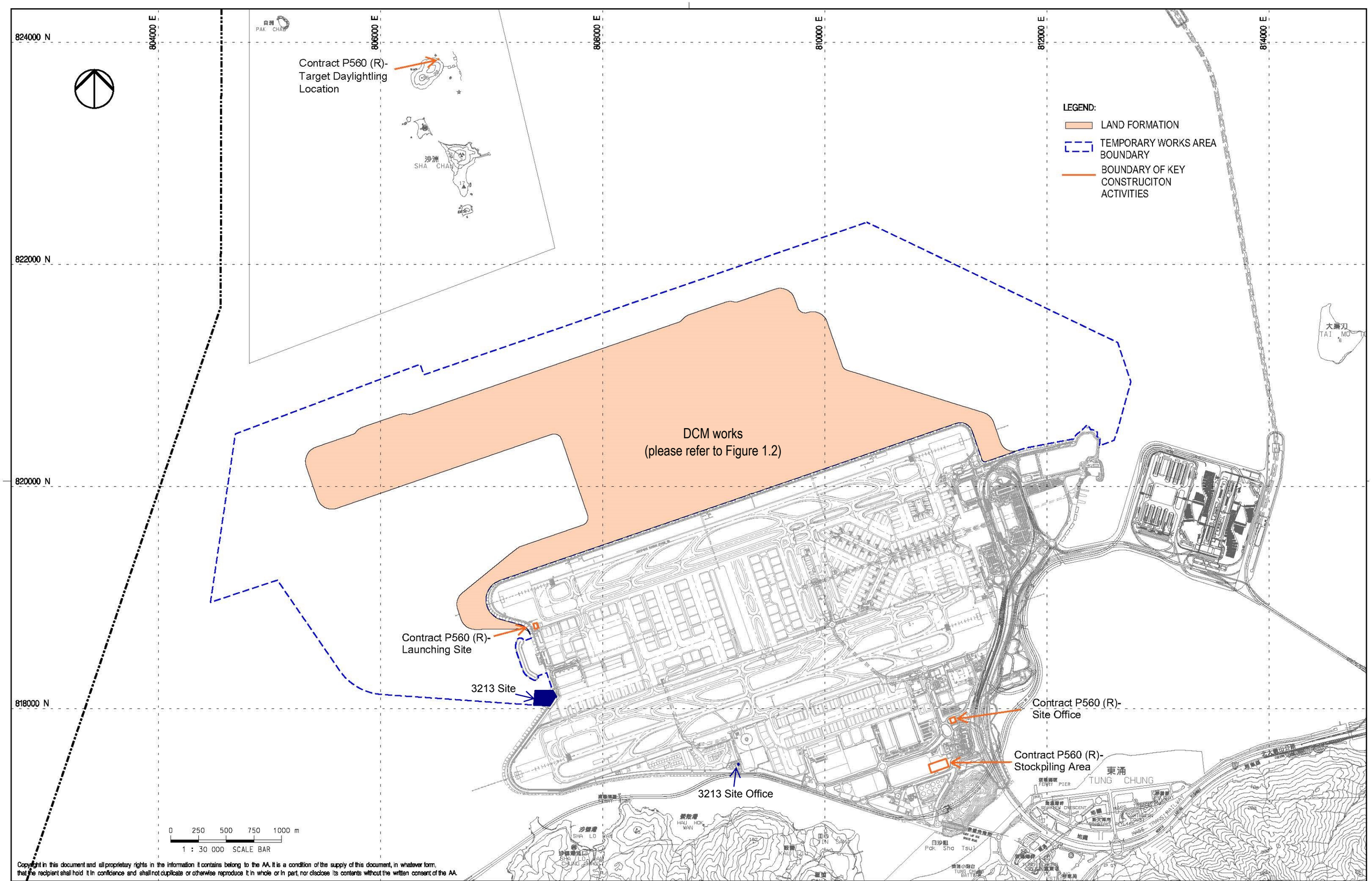
Appendix A. Contract Description

Contract Description

Contract No.	Contract Title	Contractor	Key Construction Activities
P560 (R)	Aviation Fuel Pipeline Diversion Works	Langfang Huayuan Mechanical and Electrical Engineering Co., Ltd.	Diversion of the existing submarine aviation fuel pipelines will use a horizontal directional drilling (HDD) method forming two rock drill holes by drilling through bedrock from a launching site located at the west of the airport island to a daylighting point adjacent to the offshore receiving platform at Sha Chau. Two new pipelines will be installed through the drilled tunnels. The total length is approximately 5 km. Drilling works will proceed from the HDD launching site at the airport island.
3201	Deep Cement Mixing (Package 1)	Penta-Ocean-China State-Dong-Ah Joint Venture	The works covered by the Contract 3201, 3202, 3203 and 3204 comprise ground improvement of seabed using Deep Cement Mixing (DCM) method, the major construction activities including without limitation the following • Geophysical surveys; • Supply and placing of geotextile and sand blanket under seawalls; • Supply, maintenance, installation and removal of silt curtain systems; • Preliminary construction trails; • Supply and installation of DCM clusters within the works areas; and Coring, sampling and testing of DCM treated soils and reporting works.
3202	Deep Cement Mixing (Package 2)	Samsung-BuildKing Joint Venture	
3203	Deep Cement Mixing (Package 3)	Sambo E&C Co.,Ltd	
3204	Deep Cement Mixing (Package 4)	CRBC-SAMBO Joint Venture	
3213	CLP Cable Diversion Enabling Works	Wing Hing Construction Company	CLP cable diversion enabling works of Sha Chau South, Sheung Sha Chau and Lung Kwu Chau at Hong Kong International Airport Landside. The major construction activities including without limitation the following: • Geotechnical instrumentation and monitoring of the Works; • Temporary removal of armour rock and underlayers of existing seawall and subsequent reinstatement to its original condition; • Construction of the concrete cable trough embedded at about 3m below the surface of the existing seawall; and • Supply, installation, maintenance, and subsequent removal of temporary generator sets for temporary power supply with associated fuel supply and pump system located at Sheung Sha Chau, Sha Chau South and Lung Kwu Chau Islands.



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Title

LOCATIONS OF KEY CONSTRUCITON ACTIVITIES IN THIS REPORTING PERIOD

Consultant's Signatures for Approval		Date
Design	DC	31AUG15
Checkers	DC	31AUG15
Design Supervisor	EC	31AUG15
Authorised Representative	JFP	31AUG15

EXPANSION OF HONG KONG INTERNATIONAL AIRPORT INTO A THREE-RUNWAY SYSTEM

Drawing No.

FIGURE 1.1

Scale at A3 1 : 30000

Rev. A

Filename: J:\355482\REPORT\ENV\CWSLP\FIG 1.dgn

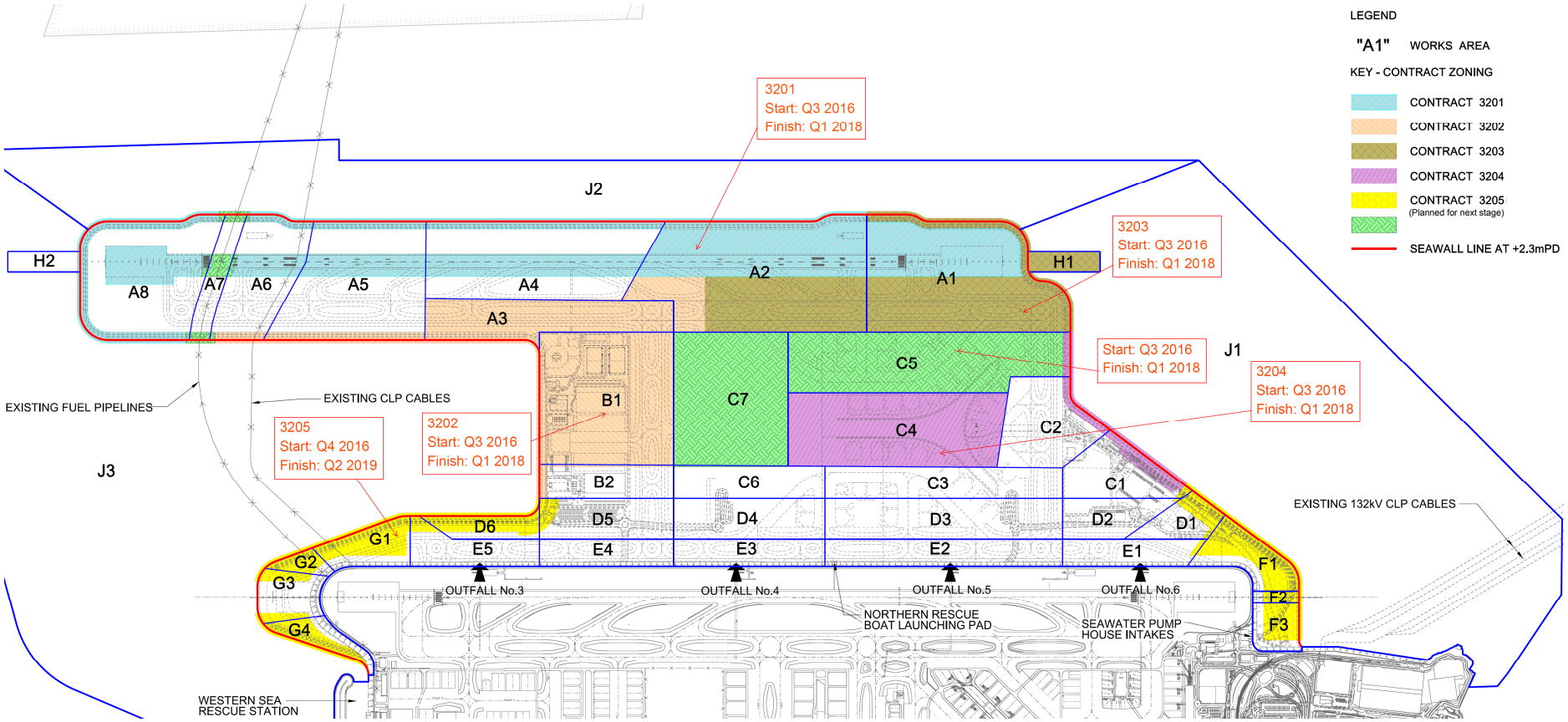

Figure 1.2 -Locations of Deep Cement Mixing Works Area

Appendix B. Environmental Mitigation Implementation Schedule (EMIS) for Construction Phase

Appendix B Environmental Mitigation Implementation Schedule (EMIS) for Construction Phase

EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented ?^
			Air Quality Impact – Construction Phase		
5.2.6.2	2.1	-	**Dust Control Measures** ▪ Water spraying for 12 times a day or once every two hours for 24-hour working at all active works area.	Within construction site / Duration of the construction phase	I
5.2.6.3	2.1	-	▪ Covering of at least 80% of the stockpiling area by impervious sheets. Water spraying of all dusty materials immediately prior to any loading transfer operation so as to keep the dusty material wet during material handling.	Within construction site / Duration of the construction phase	I
5.2.6.4	2.1	-	Dust control practices as stipulated in the Air Pollution Control (Construction Dust) Regulation should be adopted. These practices include: Good Site Management ▪ 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. Disturbed Parts of the Roads ▪ Each and every main temporary access should be paved with concrete, bituminous hardcore materials or metal plates and kept clear of dusty materials; or ▪ Unpaved parts of the road should be sprayed with water or a dust suppression chemical so as to keep the entire road surface wet. Exposed Earth ▪ 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.	Within construction site / Duration of the construction phase	I
		-	Loading, Unloading or Transfer of Dusty Materials ▪ All dusty materials should be sprayed with water immediately prior to any loading or transfer operation so as to keep the dusty material wet. Debris Handling		

EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented ?^
			▪ Any debris should be covered entirely by impervious sheeting or stored in a debris collection area sheltered on the top and the three sides; and ▪ Before debris is dumped into a chute, water should be sprayed so that it remains wet when it is dumped. Transport of Dusty Materials ▪ 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. Wheel washing ▪ 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. Use of vehicles ▪ 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; ▪ Immediately before leaving the construction site, every vehicle should be washed to remove any dusty materials from its body and wheels; and ▪ 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. Site hoarding ▪ 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.		
5.2.6.5	2.1	-	**Best Practices for Concrete Batching Plant** 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 as well as in the future Specified Process licence should be adopted. The best practices are recommended to be applied to both the land based and floating concrete batching plants. Best practices include: Cement and other dusty materials ▪ The loading, unloading, handling, transfer or storage of cement, pulverised fuel ash (PFA) and/or other equally dusty materials shall be carried in a totally enclosed system acceptable to EPD. All dust-laden air or waste gas generated by the process operations shall be properly extracted and vented to fabric filtering system to meet the required emission limit; ▪ Cement, PFA and/or other equally dusty materials shall be stored in storage silo fitted with audible high level alarms to warn of over-filling. The high-level alarm indicators shall be interlocked with the material filling line such that in the event of the silo approaching an overfilling condition, an audible alarm will	Within Concrete Batching Plant / Duration of the construction phase	N/A

EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented ?^
			operate, and after 1 minute or less the material filling line will be closed; ▪ Vents of all silos shall be fitted with fabric filtering system to meet the required emission limit; ▪ Vents of cement/PFA weighing scale shall be fitted with fabric filtering system to meet the required emission limit; and ▪ Seating of pressure relief valves of all silos shall be checked, and the valves re-seated if necessary, before each delivery. Other raw materials ▪ The loading, unloading, handling, transfer or storage of other raw materials which may generate airborne dust emissions such as crushed rock, sand, stone aggregate, shall be carried out in such a manner to prevent or minimize dust emissions; ▪ The materials shall be adequately wetted prior to and during the loading, unloading and handling operations. Manual or automatic water spraying system shall be provided at all unloading areas, stock piles and material discharge points; ▪ All receiving hoppers for unloading relevant materials shall be enclosed on three sides up to 3 m above the unloading point. In no case shall these hoppers be used as the material storage devices; ▪ The belt conveyor for handling materials shall be enclosed on top and two sides with a metal board at the bottom to eliminate any dust emission due to wind-whipping effect. Other type of enclosure will also be accepted by EPD if it can be demonstrated that the proposed enclosure can achieve same performance; ▪ All conveyor transfer points shall be totally enclosed. Openings for the passage of conveyors shall be fitted with adequate flexible seals; ▪ Scrapers shall be provided at the turning points of all conveyors to remove dust adhered to the belt surface; ▪ Conveyors discharged to stockpiles of relevant materials shall be arranged to minimize free fall as far as practicable. All free falling transfer points from conveyors to stockpiles shall be enclosed with chute(s) and water sprayed; ▪ Aggregates with a nominal size less than or equal to 5 mm should be stored in totally enclosed structure such as storage bin and should not be handled in open area. Where there is sufficient buffer area surrounding the concrete batching plant, ground stockpiling may be used; ▪ The stockpile shall be enclosed at least on top and three sides and with flexible curtain to cover the entrance side; ▪ Aggregates with a nominal size greater than 5 mm should preferably be stored in a totally enclosed structure. If open stockpiling is used, the stockpile shall be enclosed on three sides with the enclosure wall sufficiently higher than the top of the stockpile to prevent wind whipping; and ▪ The opening between the storage bin and weighing scale of the materials shall be fully enclosed. Loading of materials for batching		

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			▪ Concrete truck shall be loaded in such a way as to minimise airborne dust emissions. The following control measures shall be implemented: (a) Pre-mixing the materials in a totally enclosed concrete mixer before loading the materials into the concrete truck is recommended. All dust-laden air generated by the pre-mixing process as well as the loading process shall be totally vented to fabric filtering system to meet the required emission limit; and (b) If truck mixing batching or other types of batching method is used, effective dust control measures acceptable to EPD shall be adopted. The dust control measures must have been demonstrated to EPD that they are capable to collect and vent all dust-laden air generated by the material loading/mixing to dust arrestment plant to meet the required emission limit. ▪ The loading bay shall be totally enclosed during the loading process. Vehicles ▪ All practicable measures shall be taken to prevent or minimize the dust emission caused by vehicle movement; and ▪ All access and route roads within the premises shall be paved and adequately wetted.		
		-	Housekeeping ▪ A high standard of housekeeping shall be maintained. All spillages or deposits of materials on ground, support structures or roofs shall be cleaned up promptly by a cleaning method acceptable to EPD. Any dumping of materials at open area shall be prohibited.		
5.2.6.6	2.1	-	**Best Practices for Asphaltic Concrete Plant** The relevant best practices for dust control as stipulated in the Guidance Note on the Best Practicable Means for Tar and Bitumen Works (Asphaltic Concrete Plant) BPM 15 (94) as well as in the future Specified Process licence should be adopted. These include: Design of Chimney ▪ The chimney shall not be less than 3 metres plus the building height or 8 metres above ground level, whichever is the greater; ▪ The efflux velocity of gases from the main chimney shall not be less than 12 m/s at full load condition; ▪ The flue gas exit temperature shall not be less than the acid dew point; and ▪ Release of the chimney shall be directed vertically upwards and not be restricted or deflected. Cold feed side ▪ The aggregates with a nominal size less than or equal to 5 mm shall be stored in totally enclosed structure such as storage bin and shall not be handled in open area; ▪ Where there is sufficient buffer area surrounding the plant, ground stockpiling may be used. The stockpile shall be enclosed at least on top and three sides and with flexible curtain to cover the entrance side. If	Within Concrete Batching Plant / Duration of the construction phase	N/A

EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented ?^
			these aggregates are stored above the feeding hopper, they shall be enclosed at least on top and three sides and be wetted on the surface to prevent wind-whipping; ▪ The aggregates with a nominal size greater than 5 mm should preferably be stored in totally enclosed structure. Aggregates stockpile that is above the feeding hopper shall be enclosed at least on top and three sides. If open stockpiling is used, the stockpiles shall be enclosed on three sides with the enclosure wall sufficiently higher than the top of the stockpile to prevent wind whipping;		
		-	▪ Belt conveyors shall be enclosed on top and two sides and provided with a metal board at the bottom to eliminate any dust emission due to the wind-whipping effect. Other type of enclosure will also be accepted by EPD if it can be demonstrated that the proposed enclosure can be achieve the same performance; ▪ Scrapers shall be provided at the turning points of all belt conveyors inside the chute of the transfer points to remove dust adhered to the belt surface; ▪ All conveyor transfer points shall be totally enclosed. Openings for the passages of conveyors shall be fitted with adequate flexible seals; and ▪ All materials returned from dust collection system shall be transferred in enclosed system and shall be stored inside bins or enclosures. Hot feed side ▪ The inlet and outlet of the rotary dryer shall be enclosed and ducted to a dust extraction and collection system such as a fabric filter. The particulate and gaseous concentration at the exhaust outlet of the dust collector shall not exceed the required limiting values; ▪ The bucket elevator shall be totally enclosed and the air be extracted and ducted to a dust collection system to meet the required particulates limiting value; ▪ All vibratory screens shall be totally enclosed and dust tight with close-fitted access inspection opening. Gaskets shall be installed to seal off any cracks and edges of any inspection openings; ▪ Chutes for carrying hot material shall be rigid and preferably fitted with abrasion resistant plate inside. They shall be inspected daily for leakages; ▪ All hot bins shall be totally enclosed and dust tight with close-fitted access inspection opening. Gaskets shall be installed to seal off any cracks and edges of any inspection openings. The air shall be extracted and ducted to a dust collection system to meet the required particulates limiting value; and ▪ Appropriate control measures shall be adopted in order to meet the required bitumen emission limit as well as the ambient odour level (2 odour units). Material transportation ▪ The loading, unloading, handling, transfer or storage of other raw materials which may generate airborne dust emissions such as crushed rocks, sands, stone aggregates, reject fines, shall be carried out in such a manner as to minimize dust emissions; ▪ Roadways from the entrance of the plant to the product loading points and/or any other working areas		

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			where there are regular movements of vehicles shall be paved or hard surfaced; and ▪ Haul roads inside the Works shall be adequately wetted with water and/or chemical suppressants by water trucks or water sprayers. Control of emissions from bitumen decanting ▪ The heating temperature of the particular bitumen type and grade shall not exceed the corresponding temperature limit of the same type listed in Appendix 1 of the Guidance Note; ▪ Tamper-free high temperature cut-off device shall be provided to shut off the fuel supply or electricity in case the upper limit for bitumen temperature is reached; ▪ Proper chimney for the discharge of bitumen fumes shall be provided at high level; ▪ The emission of bitumen fumes shall not exceed the required emission limit; and ▪ The air-to-fuel ratio shall be properly controlled to allow complete combustion of the fuel. The fuel burners, if any, shall be maintained properly and free from carbon deposits in the burner nozzles. Liquid fuel ▪ The receipt, handling and storage of liquid fuel shall be carried out so as to prevent the release of emissions of organic vapours and/or other noxious and offensive emissions to the air. Housekeeping ▪ A high standard of housekeeping shall be maintained. Waste material, spillage and scattered piles gathered beneath belt conveyors, inside and around enclosures shall be cleared frequently. The minimum clearing frequency is on a weekly basis.		
5.2.6.7	2.1	-	**Best Practices for Rock Crushing Plants** The relevant best practices for dust control as stipulated in the Guidance Note on the Best Practicable Means for Mineral Works (Stone Crushing Plant) BPM 11/1 (95) as well as in the future Specified Process licence should be adopted. These include: Crushers ▪ The outlet of all primary crushers, and both inlet and outlet of all secondary and tertiary crushers, if not installed inside a reasonably dust tight housing, shall be enclosed and ducted to a dust extraction and collection system such as a fabric filter; ▪ The inlet hopper of the primary crushers shall be enclosed on top and 3 sides to contain the emissions during dumping of rocks from trucks. The rock while still on the trucks shall be wetted before dumping; ▪ Water sprayers shall be installed and operated in strategic locations at the feeding inlet of crushers; and ▪ Crusher enclosures shall be rigid and be fitted with self-closing doors and close-fitting entrances and exits. Where conveyors pass through the crusher enclosures, flexible covers shall be installed at entries and exits of the conveyors to the enclosure. Vibratory screens and grizzlies	Within Crushing Plant / Duration of the construction phase	N/A

EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented ?^
			▪ All vibratory screens shall be totally enclosed in a housing. Screenhouses shall be rigid and reasonably dust tight with self-closing doors or close-fitted entrances and exits for access. Where conveyors pass through the screenhouse, flexible covers shall be installed at entries and exits of the conveyors to the housing. Where containment of dust within the screenhouse structure is not successful then a dust extraction and collection system shall be provided; and ▪ All grizzlies shall be enclosed on top and 3 sides and sufficient water sprayers shall be installed at their feeding and outlet areas. Belt conveyors ▪ Except for those conveyors which are placed within a totally enclosed structure such as a screenhouse or those erected at the ground level, all conveyors shall be totally enclosed with windshield on top and 2 sides; ▪ Effective belt scraper such as the pre-cleaner blades made by hard wearing materials and provided with pneumatic tensioner, or equivalent device, shall be installed at the head pulley of designated conveyor as required to dislodge fine dust particles that may adhere to the belt surface and to reduce carry-back of fine materials on the return belt. Bottom plates shall also be provided for the conveyor unless it has been demonstrated that the corresponding belt scraper is effective and well maintained to prevent falling material from the return belt; and ▪ Except for those transfer points which are placed within a totally enclosed structure such as a screenhouse, all transfer points to and from conveyors shall be enclosed. Where containment of dust within the enclosure is not successful, then water sprayers shall be provided. Openings for any enclosed structure for the passage of conveyors shall be fitted with flexible seals.		
		-	Storage piles and bins ▪ Where practicable, free falling transfer points from conveyors to stockpiles shall be fitted with flexible curtains or be enclosed with chutes designed to minimize the drop height. Water sprays shall also be used where required. ▪ The surface of all surge piles and stockpiles of blasted rocks or aggregates shall be kept sufficiently wet by water spraying wherever practicable; ▪ All open stockpiles for aggregates of size in excess of 5 mm shall be kept sufficiently wet by water spraying where practicable; or ▪ The stockpiles of aggregates 5 mm in size or less shall be enclosed on 3 sides or suitably located to minimize wind-whipping. Save for fluctuations in stock or production, the average stockpile shall stay within the enclosure walls and in no case the height of the stockpile shall exceed twice the height of the enclosure walls. ▪ Scattered piles gathered beneath belt conveyors, inside and around enclosures shall be cleared regularly. Rock drilling equipment • Appropriate dust control equipment such as a dust extraction and collection system shall be used during		

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			rock drilling activities.		
			Hazard to Human Life – Construction Phase		
Table 6.40	3.2	-	▪ Precautionary measures should be established to request barges to move away during typhoons.	Construction Site / Construction Period	N/A
Table 6.40	3.2	-	▪ An appropriate marine traffic management system should be established to minimize risk of ship collision.	Construction Site / Construction Period	N/A
Table 6.40	3.2	-	▪ Location of all existing hydrant networks should be clearly identified prior to any construction works.	Construction Site / Construction Period	N/A
			Noise Impact – Construction Phase		
7.5.6	4.3	-	**Good Site Practice** 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: ▪ only well-maintained plant to be operated on-site and plant should be serviced regularly during the construction works; ▪ machines and plant that may be in intermittent use to be shut down between work periods or should be throttled down to a minimum; ▪ plant known to emit noise strongly in one direction, should, where possible, be orientated to direct noise away from the NSRs; ▪ mobile plant should be sited as far away from NSRs as possible; and ▪ material stockpiles and other structures to be effectively utilised, where practicable, to screen noise from on-site construction activities.	Within the Project site / During construction phase / Prior to commencement of operation	I
7.5.6	4.3	-	**Adoption of QPME** ▪ QPME should be adopted as far as applicable.	Within the Project site / During construction phase / Prior to commencement of operation	I
7.5.6	4.3	-	**Use of Movable Noise Barriers** ▪ Movable noise barriers should be placed along the active works area and mobile plants to block the direct line of sight between PME and the NSRs.	Within the Project site / During construction phase / Prior to commencement of operation	I
7.5.6	4.3	-	**Use of Noise Enclosure/ Acoustic Shed** ▪ Noise enclosure or acoustic shed should be used to cover stationary PME such as air compressor and generator.	Within the Project site / During construction phase / Prior to	I

EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented ?^
				commencement of operation	
			Water Quality Impact – Construction Phase		
8.8.1.2 and 8.8.1.3	5.1	2.26	**Marine Construction Activities** <u>General Measures to be Applied to All Works Areas</u> ▪ Barges or hoppers shall not be filled to a level which will cause overflow of materials or pollution of water during loading or transportation; ▪ Use of Lean Material Overboard (LMOB) systems shall be prohibited; ▪ Excess materials shall be cleaned from the decks and exposed fittings of barges and hopper dredgers before the vessels are moved; ▪ Plants should not be operated with leaking pipes and any pipe leakages shall be repaired quickly; ▪ Adequate freeboard shall be maintained on barges to reduce the likelihood of decks being washed by wave action; ▪ All vessels shall be sized such that adequate clearance is maintained between vessels and the sea bed at all states of the tide to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller wash; ▪ The works shall not cause foam, oil, grease, litter or other objectionable matter to be present in the water within and adjacent to the works site; and ▪ For ground improvement activities including DCM, the wash water from cleaning of the drilling shaft should be appropriately treated before discharge. The Contractor should ensure the waste water meets the WPCO/TM requirements before discharge. No direct discharge of contaminated water is permitted. <u>Specific Measures to be Applied to All Works Areas</u> ▪ The daily maximum production rates shall not exceed those assumed in the water quality assessment in the EIA report; ▪ A maximum of 10 % fines content to be adopted for sand blanket and 20 % fines content for marine filling below +2.5 mPD prior to substantial completion of seawall (until end of Year 2017) shall be specified in the works contract document; ▪ An advance seawall of at least 200m to be constructed (comprising either rows of contiguous permanent steel cells completed above high tide mark or partially completed seawalls with rock core to high tide mark and filter layer on the inner side) prior to commencement of marine filling activities; ▪ Closed grab dredger shall be used to excavate marine sediment; ▪ Silt curtains surrounding the closed grab dredger shall be deployed in accordance with the Silt Curtain Deployment Plan; and ▪ The Silt Curtain Deployment Plan shall be implemented.	Within construction site / Duration of the construction phase	N/A

EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented ?^
			Specific Measures to be Applied to Land Formation Activities prior to Commencement of Marine Filling Works ▪ Double layer 'Type III' silt curtains to be applied around the active eastern works areas prior to commencement of sand blanket laying activities. The silt curtains shall be configured to minimise SS release during ebb tides. A silt curtain efficiency test shall be conducted to validate the performance of the silt curtains; ▪ Double layer silt curtains to enclose WSRs C7a and silt screens installed at the intake points for both WSR C7a and C8 prior to commencement of construction; and ▪ The silt curtains and silt screens should be regularly checked and maintained. Specific Measures to be Applied to Land Formation Activities during Marine Filling Works ▪ Double layer 'Type II' or 'Type III' silt curtains to be applied around the eastern openings between partially completed seawalls prior to commencement of marine filling activities. The silt curtains shall be configured to minimise SS release during ebb tides; ▪ Double layer silt curtains to be applied at the south-western opening prior to commencement of marine filling activities; ▪ Double layer silt curtain to enclose WSR C7a and silt screens installed at the intake points for both WSR C7a and C8 prior to commencement of marine filling activities; and ▪ The silt curtains and silt screens should be regularly checked and maintained. Specific Measures to be Applied to the Field Joint Excavation Works for the Submarine Cable Diversion ▪ Only closed grabs designed and maintained to avoid spillage shall be used and should seal tightly when operated. Excavated materials shall be disposed at designated marine disposal area in accordance with the Dumping and Sea Ordinance (DASO) permit conditions; and ▪ Silt curtains surrounding the closed grab dredger to be deployed as a precautionary measure.		
8.8.1.4	5.1	-	**Modification of the Existing Seawall** ▪ Silt curtains shall be deployed around the seawall modification activities to completely enclose the active works areas, and care should be taken to avoid splashing of rockfill / rock armour into the surrounding marine environment. For the connecting sections with the existing outfalls, works for these connection areas should be undertaken during the dry season in order that individual drainage culvert cells may be isolated for interconnection works.	At the existing northern seawall / Duration of the construction phase	N/A
8.8.1.5	5.1	-	**Construction of New Stormwater Outfalls and Modifications to Existing Outfalls** ▪ During operation of the temporary drainage channel, runoff control measures such as bunding or silt fence shall be provided on both sides of the channel to prevent accumulation and release of SS via the temporary channel. Measures should also be taken to minimise the ingress of site drainage into the culvert excavations.	Within construction site / Duration of the construction phase	N/A

EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented ?^
8.8.1.6 8.8.1.7	5.1	2.27	**Piling Activities for Construction of New Runway Approach Lights and HKIAAA Marker Beacons** Silt curtains shall be deployed around the piling activities to completely enclose the piling works and care should be taken to avoid spillage of excavated materials into the surrounding marine environment. <u>For construction of the eastern approach lights at the CMPs</u> ▪ Ground improvement via DCM using a close-spaced layout shall be completed prior to commencement of piling works; ▪ Steel casings shall be installed to enclose the excavation area prior to commencement of excavation; ▪ The excavated materials shall be removed using a closed grab within the steel casings; ▪ No discharge of the cement mixed materials into the marine environment will be allowed; and ▪ Excavated materials shall be treated and reused on-site.	Within construction site / Duration of the construction phase	N/A
8.8.1.8	5.1	-	**Construction Site Runoff and Drainage** 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: ▪ Install perimeter cut-off drains to direct off-site water around the site and implement internal drainage, erosion and sedimentation control facilities. 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 Contractors prior to the commencement of construction (for works areas located on the existing Airport island) or as soon as the new land is completed (for works areas located on the new landform); ▪ 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-DSS standards under the WPCO. The design of efficient silt removal facilities should make reference to 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 Contractors prior to the commencement of construction; ▪ 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. Deposited silt and grit should be regularly removed, at the onset of and after each rainstorm to ensure that these facilities are functioning properly; ▪ 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; ▪ In the event that contaminated groundwater is identified at excavation areas, this should be treated on-site using a suitable wastewater treatment process. The effluent should be treated according to the requirements of the TM-DSS standards under the WPCO prior to discharge to foul sewers or collected for	Within construction site / Duration of the construction phase	I

EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented ?^
			proper disposal off-site. No direct discharge of contaminated groundwater is permitted; ▪ 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 exits. 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. All washwater should be treated according to the requirements of the TM-DSS standards under the WPCO prior to discharge;		
		-	▪ 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 construction materials, soil, silt or debris from washing away into the drainage system; ▪ 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 to prevent stormwater runoff being directed into foul sewers; and ▪ Precautionary measures should be taken at any time of the year when rainstorms are likely. Actions to be taken when a rainstorm is imminent or forecasted are summarized in Appendix A2 of ProPECC Note PN 1/94. This includes actions to be taken during and/or after rainstorms. Particular attention should be paid to the control of silty surface runoff during storm events.		
8.8.1.9	5.1	-	**Sewage Effluent from Construction Workforce** ▪ 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.	Within construction site / During construction phase	I
8.8.1.10 8.8.1.11	5.1		**General Construction Activities** ▪ 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; and ▪ 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.	Within construction site / During construction phase	I
8.8.1.12 8.8.1.13	5.1	2.28	**Drilling Activities for the Submarine Aviation Fuel Pipelines** To prevent potential water quality impacts at Sha Chau, the following measures shall be applied: ▪ A 'zero-discharge' policy shall be applied for all activities to be conducted at Sha Chau; ▪ No bulk storage of chemicals shall be permitted; and	Within construction site / During construction phase	N/A

EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented ?^
			▪ A containment pit shall be constructed around the drill holes. This containment pit shall be lined with impermeable lining and bunded on the outside to prevent inflow from off-site areas. At the airport island side of the drilling works, the following measures shall be applied for treatment of wastewater: ▪ During pipe cleaning, appropriate desilting or sedimentation device should be provided on site for treatment before discharge. The Contractor should ensure discharge water from the sedimentation tank meet the WPCO/TM requirements before discharge; and ▪ Drilling fluid used in drilling activities should be reconditioned and reused as far as possible. Temporary enclosed storage locations should be provided on-site for any unused chemicals 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.		
			Waste Management Implication – Construction Phase		
10.5.1.1	7.1	-	Opportunities to minimise waste generation and maximise the reuse of waste materials generated by the project have been incorporated where possible into the planning, design and construction stages, and the following measures have been recommended:		
		-	▪ The relevant construction methods (particularly for the tunnel works) and construction programme have been carefully planned and developed to minimise the extent of excavation and to maximise the on-site reuse of inert C&D materials generated by the project as far as practicable. Temporary stockpiling areas will also be provided to facilitate on-site reuse of inert C&D materials; ▪ Priority should be given to collect and reuse suitable inert C&D materials generated from other concurrent projects and the Government's PFRF as fill materials for the proposed land formation works; ▪ Only non-dredged ground improvement methods should be adopted in order to completely avoid the need for dredging and disposal of marine sediment for the proposed land formation work; ▪ Excavation work for constructing the APM tunnels, BHS tunnels and airside tunnels will not be down to the CMPs beneath the fill materials in order to avoid excavating any sediments; and ▪ For the marine sediments expected to be excavated from the piling works of TRC, APM & BHS tunnels, airside tunnels and other facilities on the proposed land formation area, piling work of marine sections of the approach lights and HKIAAA beacons, basement works for some of T2 expansion area and excavation works for the proposed APM depot should be treated and reused on-site as backfilling materials, although required treatment level / detail and the specific re-use mode are under development.	Project Site Area / During design and construction phase	I
10.5.1.1	7.1	-	The following good site practices should be performed during the construction activities include: ▪ 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; ▪ Training of site personnel in proper waste management and chemical waste handling procedures;	Project Site Area / Construction Phase	I

EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented ?^
			▪ Provision of sufficient waste disposal points and regular collection for disposal; ▪ Appropriate measures to minimise windblown litter and dust during transportation of waste by either covering trucks by tarpaulin/ similar material or by transporting wastes in enclosed containers. The cover should be extended over the edges of the sides and tailboards; ▪ Stockpiles of C&D materials should be kept wet or covered by impervious sheets to avoid wind-blown dust; ▪ All dusty materials including C&D materials should be sprayed with water immediately prior to any loading transfer operation so as to keep the dusty material wet during material handling at the barging points/ stockpile areas; ▪ C&D materials to be delivered to and from the project site by barges or by trucks should be kept wet or covered to avoid wind-blown dust; ▪ The speed of the trucks including dump trucks carrying C&D or waste materials within the site should be controlled to about 10 km/hour in order to reduce the adverse dust impact and secure the safe movement around the site; and ▪ To avoid or minimise dust emission during transport of C&D or waste materials within the site, each and every main temporary access should be paved with concrete, bituminous hardcore materials or metal plates and kept clear of dusty materials. Unpaved parts of the road should be sprayed with water or a dust suppression chemical so as to keep the entire road surface wet.		
10.5.1.3	7.1	-	The following practices should be performed to achieve waste reduction include: ▪ Use of steel or aluminium formworks and falseworks for temporary works as far as practicable; ▪ Adoption of repetitive design to allow reuse of formworks as far as practicable; ▪ Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal; ▪ Encourage collection of aluminium cans, PET bottles and paper by providing separate labelled bins to enable these wastes to be segregated from other general refuse generated by the work force; ▪ Any unused chemicals or those with remaining functional capacity should be collected for reused as far as practicable; ▪ Proper storage and site practices to minimise the potential for damage or contamination of construction materials; and ▪ Plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste.	Project Site Area / Construction Phase	I
10.5.1.5	7.1		▪ Inert and non-inert C&D materials should be handled and stored separately to avoid mixing the two types of materials.	Project Site Area / Construction Phase	I
10.5.1.5	7.1	-	▪ Any recyclable materials should be segregated from the non-inert C&D materials for collection by	Project Site Area /	I

EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented ?^
			reputable licensed recyclers whereas the non-recyclable waste materials should be disposed of at the designated landfill site by a reputable licensed waste collector.	Construction Phase	
10.5.1.6	7.1	-	▪ A trip-ticket system promulgated shall be developed in order to monitor the off-site delivery of surplus inert C&D materials that could not be reused on-site for the proposed land formation work at the PFRF and to control fly tipping.	Project Site Area / Construction Phase	I
10.5.1.6	7.1	2.32	▪ The Contractor should prepare and implement a Waste Management Plan detailing various waste arising and waste management practices.	Construction Phase	I
10.5.1.16	7.1	-	The following mitigation measures are recommended during excavation and treatment of the sediments: ▪ On-site remediation should be carried out in an enclosed area in order to minimise odour/dust emissions; ▪ The loading, unloading, handling, transfer or storage of treated and untreated sediment should be carried out in such a manner to prevent or minimise dust emissions; ▪ All practical measures, including but not limited to speed control for vehicles, should be taken to minimise dust emission; ▪ Good housekeeping should be maintained at all times at the sediment treatment facility and storage area; ▪ Treated and untreated sediment should be clearly separated and stored separately; and ▪ Surface runoff from the enclosed area should be properly collected and stored separately, and then properly treated to levels in compliance with the relevant effluent standards as required by the Water Pollution Control Ordinance before final discharge.	Project Site Area / Construction Phase	N/A
10.5.1.18	7.1	-	The marine sediments to be removed from the cable field joint area would be disposed of at the designated disposal sites to be allocated by the MFC. The following mitigation measures should be strictly followed to minimise potential impacts on water quality during transportation of the sediments requiring Type 1 disposal: ▪ Bottom opening of barges shall be fitted with tight fitting seals to prevent leakage of material; ▪ Monitoring of the barge loading shall be conducted to ensure that loss of material does not take place during transportation. Transport barges or vessels shall be equipped with automatic self-monitoring devices as specified by EPD; and ▪ Barges or hopper barges shall not be filled to a level that would cause the overflow of materials or sediment laden water during loading or transportation.	Project Site Area / Construction Phase	N/A
10.5.1.19	7.1	-	Contractor should register with the EPD as a chemical waste producer and to follow the relevant guidelines. The following measures should be implemented: ▪ Good quality containers compatible with the chemical wastes should be used; ▪ Incompatible chemicals should be stored separately; ▪ Appropriate labels must 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; and	Project Site Area / Construction Phase	I

EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented ?^
			▪ The contractor will 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.		
10.5.1.20	7.1	-	▪ General refuse should be stored in enclosed bins or compaction units separated from inert C&D material. A reputable waste collector should be employed by the contractor to remove general refuse from the site for disposal at designated landfill sites. An enclosed and covered area should be provided to reduce the occurrence of 'wind blown' light material.	Project Site Area / Construction Phase	I
10.5.1.21	7.1	-	▪ The construction contractors will be required to regularly check and clean any refuse trapped or accumulated along the newly constructed seawall. Such refuse will then be stored and disposed of together with the general refuse.	Project Site Area / Construction Phase	N/A
			Land Contamination – Construction Phase		
11.10.1.2 to 11.10.1.3	8.1	2.32	For areas inaccessible during site reconnaissance survey ▪ Further site reconnaissance would be conducted once the areas are accessible in order to identify any land contamination concern for the areas. ▪ Subject to further site reconnaissance findings, a supplementary Contamination Assessment Plan (CAP) for additional site investigation (SI) (if necessary) may be prepared and submitted to EPD for endorsement prior to the commencement of SI at these areas. ▪ After completion of SI, the Contamination Assessment Report (CAR) will be prepared and submitted to EPD for approval prior to start of the proposed construction works at the golf course, the underground and above-ground fuel storage tank areas, emergency power generation units, airside petrol filling station and fuel tank room. ▪ Should remediation be required, Remediation Action Plan (RAP) and Remediation Report (RR) will be prepared for EPD's approval prior to commencement of the proposed remediation and any construction works respectively.	Project Site Area inaccessible during site reconnaissance / Prior to Construction Phase	N/A
11.8.1.2	8.1	-	If contaminated soil is identified, the following mitigation measures are for the excavation and transportation of contaminated materials (if any): ▪ To minimize the incidents of construction workers coming in contact with any contaminated materials, bulk earth-moving excavation equipment should be employed; ▪ Contact with contaminated materials can be minimised by wearing appropriate clothing and personal protective equipment such as gloves and masks (especially when working directly with contaminated material), provision of washing facilities and prohibition of smoking and eating on site; ▪ Stockpiling of contaminated excavated materials on site should be avoided as far as possible; ▪ The use of any contaminated soil for landscaping purpose should be avoided unless pre-treatment was carried out; ▪ Vehicles containing any excavated materials should be suitably covered to reduce dust emissions and/or	Project Site Area / Construction Phase	N/A

EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented ?^
			release of contaminated wastewater; ▪ Truck bodies and tailgates should be sealed to prevent any discharge; ▪ Only licensed waste haulers should be used to collect and transport contaminated material to treatment/disposal site and should be equipped with tracking system to avoid fly tipping; ▪ Speed control for trucks carrying contaminated materials should be exercised. 8km/h is the recommended speed limit; ▪ Strictly observe all relevant regulations in relation to waste handling, such as Waste Disposal Ordinance (Cap 354), Waste Disposal (Chemical Waste) (General) Regulation (Cap 354) and obtain all necessary permits where required; and ▪ Maintain records of waste generation and disposal quantities and disposal arrangements.		
			Terrestrial Ecological Impact – Construction Phase		
12.10.1.1	9.2	2.14	**Pre-construction Egretry Survey** ▪ Conduct ecological survey for Sha Chau egretry to update the latest boundary of the egretry.	Breeding season (April - July) prior to commencement of HDD drilling works at HKIA	I
12.7.2.3 and 12.7.2.6	9.1	2.30	**Avoidance and Minimisation of Direct Impact to Egretry** ▪ The daylighting location will avoid direct encroachment to the Sheung Sha Chau egretry. The daylighting location and mooring of flat top barge, if required, will be kept away from the egretry; ▪ In any event, controls such as demarcation of construction site boundary and confining the lighting within the site will be practised to minimise disturbance to off-site habitat at Sheung Sha Chau Island; and ▪ The containment pit at the daylighting location shall be covered or camouflaged.	During construction phase at Sheung Sha Chau Island	I
12.7.2.5	9.1	2.30	**Preservation of Nesting Vegetation** ▪ The proposed daylighting location and the arrangement of connecting pipeline will avoid the need of tree cutting, therefore the trees that are used by ardeids for nesting will be preserved.	During construction phase at Sheung Sha Chau Island	I
12.7.2.4 and 12.7.2.6	9.1	2.30	**Timing the Pipe Connection Works outside Ardeid's Breeding Season** ▪ All HDD and related construction works on Sheung Sha Chau Island will be scheduled outside the ardeids' breeding season (between April and July). No night-time construction work will be allowed on Sheung Sha Chau Island during all seasons.	During construction phase at Sheung Sha Chau Island	I
12.10.1.1	9.3	-	**Ecological Monitoring** ▪ During the HDD construction works period from August to March, ecological monitoring will be undertaken monthly at the HDD daylighting location on Sheung Sha Chau Island to identify and evaluate any impacts with appropriate actions taken as required to address and minimise any adverse impact found.	at Sheung Sha Chau Island	I

EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented ?^
			Marine Ecological Impact – Pre-construction Phase		
13.11.4.1	10.2.2	-	▪ Pre-construction phase Coral Dive Survey.	HKIAAA artificial seawall	I
			Marine Ecological Impact – Construction Phase		
13.11.1.3 to 13.11.1.6	-	-	**Minimisation of Land Formation Area** ▪ Minimise the overall size of the land formation needed for the additional facilities to minimise the overall loss of habitat for marine resources, especially the CWD population.	Land formation footprint / during detailed design phase to completion of construction	N/A
13.11.1.7 to 13.11.1.10	-	2.31	**Use of Construction Methods with Minimal Risk/Disturbance** ▪ Use of non-dredge method for the main land formation and ancillary works including the diversion of the aviation fuel pipeline to the AFRF; ▪ Use of Deep Cement Mixing (DCM) method instead of conventional seabed dredging for the land formation works to reduce the risk of negative impacts through the elevation of suspended solids and contaminants on CWDs, fisheries and the marine environment; ▪ Use of bored piling in short duration to form the new approach lights and marker beacons for the new runway; ▪ Avoid bored piling during CWD peak calving season (Mar to Jun); ▪ Prohibition of underwater percussive piling; and ▪ Use of horizontal directional drilling (HDD) method and water jetting methods for placement of submarine cables and pipelines to minimise the disturbance to the CWDs and other marine ecological resources.	During construction phase at marine works area	N/A
13.11.2.1 to 13.11.2.7	-	-	**Mitigation for Indirect Disturbance due to Deterioration of Water Quality** ▪ Water quality mitigation measures during construction phases include consideration of alternative construction methods, deployment of silt curtain and good site practices; ▪ Alternative construction methods including use of non-dredge methods for ground improvement (e.g. Deep Cement Mixing (DCM), prefabricated vertical drains (PVD), sand compaction piles, steel cells, stone columns and vertical sand drains); ▪ Use of bored piling in short duration to form the new approach lights and marker beacons for the new runway; and ▪ Use of horizontal directional drilling (HDD) method and water jetting methods for placement of undersea cables and pipelines to minimise the disturbance to the CWDs and other marine ecological resources.	All works area during the construction phase	N/A
13.11.1.12	-	-	**Strict Enforcement of No-Dumping Policy** ▪ A policy prohibiting dumping of wastes, chemicals, oil, trash, plastic, or any other substance that would	All works area during the construction phase	N/A

EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented ?^
			potentially be harmful to dolphins and/or their habitat in the work area; ▪ Mandatory educational programme of the no-dumpling policy be made available to all construction site personnel for all project-related works; ▪ Fines for infractions should be implemented; and ▪ Unscheduled, on-site audits shall be implemented.		
13.11.1.13	-	-	**Good Construction Site Practices** ▪ Regular inspection of the integrity and effectiveness of all silt curtains and monitoring of effluents to ensure that any discharge meets effluent discharge guidelines; ▪ Keep the number of working or stationary vessels present on-site to the minimum anytime; and ▪ Unscheduled, on-site audits for all good site practice restrictions should be conducted, and fines or penalties sufficient to be an effective deterrent need to be levied against violators.	All works area during the construction phase	N/A
13.11.5.4 to 13.11.5.13	10.3.1	-	**SkyPier High Speed Ferries' Speed Restrictions and Route Diversions** ▪ SkyPier HSFs operating to / from Zhuhai and Macau would divert north of SCLKC Marine Park with a 15 knot speed limit to apply for the part-journeys that cross high CWD abundance grid squares as indicatively shown in **Drawing No. MCL/P132/EIA/13-023** of the EIA Report. Both the alignment of the northerly route and the portion of routings to be subject to the speed limit of 15 knots shall be finalised prior to commencement of construction based on the future review of up-to-date CWD abundance and EM&A data and taking reference to changes in total SkyPier HSF numbers; and ▪ A maximum of 10 knots will be enforced through the designated SCLKC Marine Park area at all times. **Other mitigation measures** ▪ The ET will audit various parameters including actual daily numbers of HSFs, compliance with the 15-knot speed limit in the speed control zone and diversion compliance for SkyPier HSFs operating to / from Zhuhai and Macau; and ▪ The effectiveness of the CWD mitigation measures after implementation of initial six month SkyPier HSF diversion and speed restriction will be reviewed.	Area between the footprint and SCLKC Marine Park during construction phase	I
13.11.5.14 to 13.11.5.18	10.3.1	2.31	**Dolphin Exclusion Zone** ▪ Establishment of a 24 hr Dolphin Exclusion Zone (DEZ) with a 250 m radius around the land formation works areas; ▪ A DEZ would also be implemented during ground improvement works (e.g. DCM), water jetting works for submarine cables diversion, open trench dredging at the field joint locations and seawall construction; and ▪ A DEZ would also be implemented during bored piling work but as a precautionary measure only.	Marine waters around land formation works area during construction phase	N/A
13.11.5.19	10.4	2.31	**Acoustic Decoupling of Construction Equipment** ▪ Air compressors and other noisy equipment that must be mounted on steel barges should be acoustically-decoupled to the greatest extent feasible, for instance by using rubber or air-filled tyres; and	Around coastal works area during construction phase	N/A

EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented ?^
			▪ Specific acoustic decoupling measures shall be specified during the detailed design of the project for use during the land formation works.		
13.11.5.20	10.6.1	2.29	**Spill Response Plan** ▪ An oil and hazardous chemical spill response plan is proposed to be established during the construction phase as a precautionary measure so that appropriate actions to prevent or reduce risks to CWDs can be undertaken in the event of an accidental spillage.	Construction phase	I
13.11.5.21 to 13.11.5.23	10.6.1	-	**Construction Vessel Speed Limits and Skipper Training** ▪ A speed limit of 10 knots should be strictly observed for construction vessels at areas with the highest CWD densities; and ▪ Vessels traversing through the work areas should be required to use predefined and regular routes (which would presumably become known to resident dolphins) to reduce disturbance to cetaceans due to vessel movements. Specific marine routes shall be specified by the Contractor prior to construction commencing.	All areas north and west of Lantau Island during construction phase	I
			Fisheries Impact – Construction Phase		
14.9.1.2 to 14.9.1.5	-	-	**Minimisation of Land Formation Area** ▪ Minimise the overall size of the land formation needed for the additional facilities to minimise the overall loss of habitat for fisheries resources.	Land formation footprint / during detailed design phase to completion of construction	N/A
14.9.1.6	-	-	**Use of Construction Methods with Minimal Risk/Disturbance** ▪ Use of non-dredge method for the main land formation and ancillary works including the diversion of the aviation fuel pipeline to the AFRF; ▪ Use of Deep Cement Mixing (DCM) method instead of conventional seabed dredging for the land formation works to reduce the risk of negative impacts through the elevation of suspended solids and contaminants on fisheries and the marine environment; ▪ Use of bored piling in short duration to form the new approach lights and marker beacons for the new runway; and ▪ Use of horizontal directional drilling (HDD) method and water jetting methods for placement of undersea cables and pipelines to minimise the disturbance to fisheries resources.	During construction phase at marine works area	N/A
14.9.1.11	-		**Strict Enforcement of No-Dumping Policy** ▪ A policy prohibiting dumping of wastes, chemicals, oil, trash, plastic, or any other substance that would potentially be harmful to dolphins and/or their habitat in the work area; ▪ Mandatory educational programme of the no-dumpling policy be made available to all construction site personnel for all project-related works;	All works area during the construction phase	N/A

EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented ?^
			▪ Fines for infractions should be implemented; and ▪ Unscheduled, on-site audits shall be implemented.		
14.9.1.12	-		**Good Construction Site Practices** ▪ Regular inspection of the integrity and effectiveness of all silt curtains and monitoring of effluents to ensure that any discharge meets effluent discharge guidelines; ▪ Keep the number of working or stationary vessels present on-site to the minimum anytime; and ▪ Unscheduled, on-site audits for all good site practice restrictions should be conducted, and fines or penalties sufficient to be an effective deterrent need to be levied against violators.	All works area during the construction phase	N/A
14.9.1.13 to 14.9.1.18	-		**Mitigation for Indirect Disturbance due to Deterioration of Water Quality** ▪ Water quality mitigation measures during construction phases include consideration of alternative construction methods, deployment of silt curtain and good site practices; ▪ Alternative construction methods including use of non-dredge methods for ground improvement (e.g. Deep Cement Mixing (DCM), prefabricated vertical drains (PVD), sand compaction piles, steel cells, stone columns and vertical sand drains); ▪ Use of bored piling in short duration to form the new approach lights and marker beacons for the new runway; and ▪ Use of horizontal directional drilling (HDD) method and water jetting methods for placement of undersea cables and pipelines to minimise the disturbance to fisheries resources.	All works area during the construction phase	N/A
			Landscape and Visual Impact – Construction Phase		
Table 15.6	12.3	-	**CM1 -** The construction area and contractor's temporary works areas should be minimised to avoid impacts on adjacent landscape.	All works areas for duration of works; Upon handover and completion of works.	I
Table 15.6	12.3	-	**CM2 -** Reduction of construction period to practical minimum.	All works areas for duration of works; Upon handover and completion of works.	N/A
Table 15.6	12.3	-	**CM3 -** Phasing of the construction stage to reduce visual impacts during the construction phase.	All works areas for duration of works; Upon handover and completion of works.	N/A
Table 15.6	12.3	-	**CM4 -** Construction traffic (land and sea) including construction plants, construction vessels and barges should be kept to a practical minimum.	All works areas for duration of works; Upon handover and	I

EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented ?^
				completion of works.	
Table 15.6	12.3	-	**CM5 -** Erection of decorative mesh screens or construction hoardings around works areas in visually unobtrusive colours.	All works areas for duration of works; Upon handover and completion of works. – may be disassembled in phases	N/A
Table 15.6	12.3	-	**CM6 -** Avoidance of excessive height and bulk of site buildings and structures.	New passenger concourse, terminal 2 expansion and other proposed airport related buildings and structures under the project; Upon handover and completion of works.	N/A
Table 15.6	12.3	-	**CM7** - Control of night-time lighting by hooding all lights and through minimisation of night working periods.	All works areas for duration of works; Upon handover and completion of works. – may be disassembled in phases	N/A
Table 15.6	12.3	-	**CM8 -** All existing trees shall be carefully protected during construction. Detailed Tree Protection Specification shall be provided in the Contract Specification. Under this specification, the Contractor shall be required to submit, for approval, a detailed working method statement for the protection of trees prior to undertaking any works adjacent to all retained trees, including trees in contractor's works areas.	All existing trees to be retained; Upon handover and completion of works.	I
Table 15.6	12.3	-	**CM9 -** Trees unavoidably affected by the works shall be transplanted where practical. A detailed Tree Transplanting Specification shall be provided in the Contract Specification, if applicable. Sufficient time for necessary tree root and crown preparation periods shall be allowed in the project programme.	All existing trees to be affected by the works; Upon handover and completion of works.	N/A
Table 15.6	12.3	-	**CM10 -** Land formation works shall be followed with advanced hydroseeding around taxiways and runways as soon as practical.	All affected existing grass areas around runways and verges/Duration of works;	N/A

EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented ?^
				Upon handover and completion of works.	
			Cultural Heritage Impact – Construction Phase		
		-	Not applicable.		
			Health Impact – Aircraft Emissions		
		-	Not applicable.		
			Health Impact – Aircraft Noise		
		-	Not applicable.		

Notes:
I= implemented where applicable; N/A= not applicable to the construction works implemented during the reporting month.
^ Checked by ET during site inspection

Appendix C. Calibration Certificates

EQUIPMENT CALIBRATION RECORD

Type :	Laser Dust Monitor
Manufacturer / Brand :	SIBATA
Model No.:	LD-3B
Equipment No.:	LD-3B-002
Serial No.:	974350
Sensitivity Adjustment Scale Setting :	622 CPM

Standard Equipment

Equipment :	MFC High Volume Air Sampler
Venue :	Tung Chung Pier
Model No.:	TE-5170 Total Suspended Particulate
Serial No.:	S/N3641
Previous Calibration Date	05/10/2015

Calibration Result

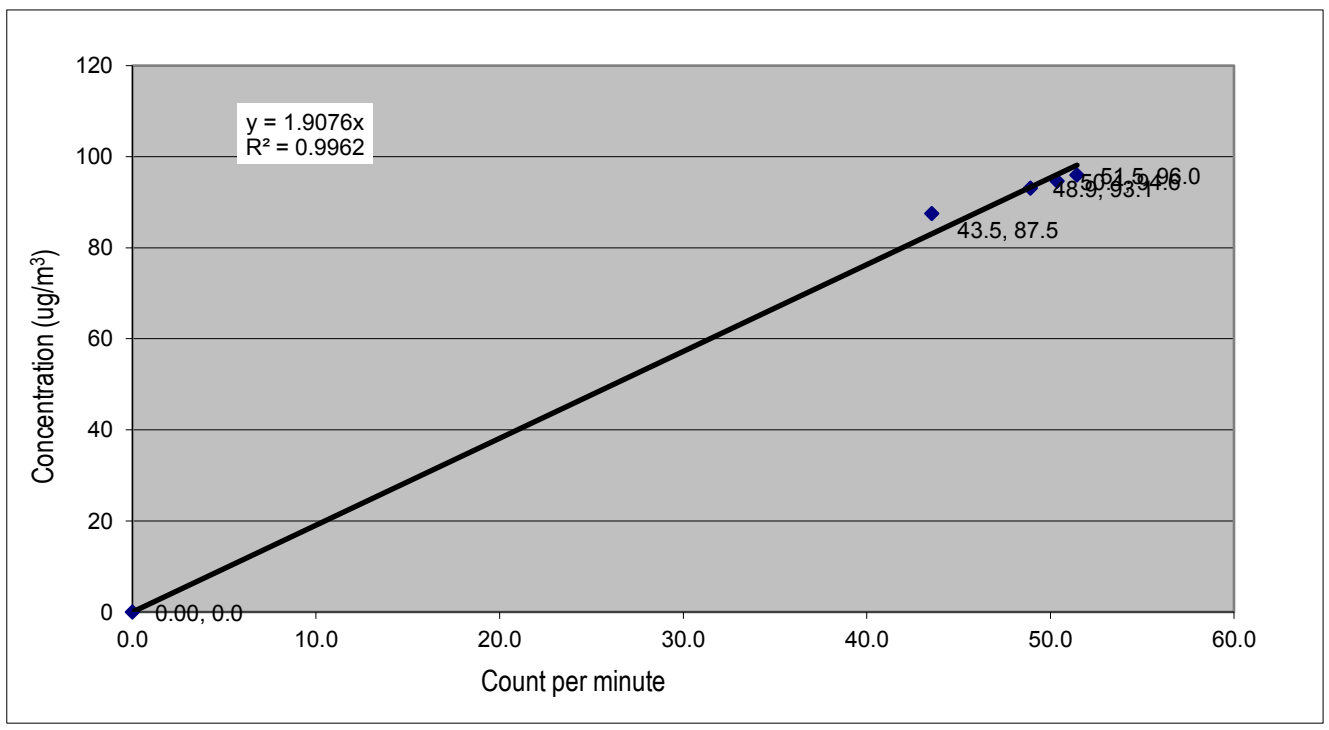
Sensitivity Adjustment Scale Setting (Before Calibration) :	622 CPM
Sensitivity Adjustment Scale Setting (After Calibration) :	622 CPM

Hour	Date (dd-mmm-yy)	Time		Ambient Condition		Concentration (ug/m^3) Y-axis	Total Count	Count/Minute X-axis
				Temp (C)	R.H. (%)			
1	25-Nov-15	14:20	15:20	23.6	68%	87.5	2612	43.5
2	25-Nov-15	15:34	16:34	24.8	60%	93.1	2934	48.9
3	25-Nov-15	16:50	17:50	23.8	60%	96.0	3087	51.5
4	25-Nov-15	18:00	19:00	23.5	50%	94.6	3022	50.4

Be Linear Regression of Y or X

Slope (K-factor):	1.9076
Correlation coefficient :	0.9962

Remark:



Recorded by:	Ray Cheng	Signature:		Date:	30/11/2015
Checked by:	Ketih Chau	Signature:		Date:	30/11/2015

ENVIROTECH SERVICES CO.

High-Volume TSP Sampler
5-Point Calibration Record

Location : AMS2(Tung Chung Development Pier)
Calibrated by : P.F.Yeung
Date : 27/11/2015

Sampler
Model : TE-5170
Serial Number : S/N3641

Calibration Orifice and Standard Calibration Relationship
Serial Number : 2454
Service Date : 24 Mar 2015
Slope (m) : 2.09532
Intercept (b) : -0.03812
Correlation Coefficient(r) : 0.99994

Standard Condition
Pstd (hpa) : 1013
Tstd (K) : 298.18

Calibration Condition
Pa (hpa) : 1022
Ta(K) : 292

Resistance Plate		dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC	Y
1	18 holes	11.6	3.456	1.668	58	58.85
2	13 holes	9.4	3.111	1.503	52	52.76
3	10 holes	6.8	2.646	1.281	45	45.66
4	7 holes	4.5	2.153	1.045	36	36.53
5	5 holes	2.8	1.698	0.829	28	28.41

Notes:Z=SQRT{dH(Pa/Pstd)(Tstd/Ta)}, X=Z/m-b ,Y(Corrected Flow)=IC*{SQRT(Pa/Pstd)(Tstd/Ta)}

Sampler Calibration Relationship

Slope(m):36.132 Intercept(b): -1.267 **Correlation Coefficient(r): 0.9995**

Checked by: Magnum Fan **Date: 03/12/2015**

輝創工程有限公司
Sun Creation Engineering Limited
Calibration and Testing Laboratory

Certificate of Calibration
校正證書

Certificate No. : C163910
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC16-1579) Date of Receipt / 收件日期 : 13 July 2016

Description / 儀器名稱 : Integrating Sound Level Meter
Manufacturer / 製造商 : Brüel & Kjær
Model No. / 型號 : 2238
Serial No. / 編號 : 2800932
Supplied By / 委託者 : Atkins China Limited
13/F., Wharf T&T Centre, Harbour City,
Tsim Sha Tsui, Kowloon, Hong Kong

TEST CONDITIONS / 測試條件

Temperature / 溫度 : (23 ± 2)°C
Relative Humidity / 相對濕度 : (55 ± 20)%
Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 19 July 2016

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.
The results do not exceed manufacturer's specification.
The results are detailed in the subsequent page(s).

The test equipment used for calibration are traceable to National Standards via :
- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory
- Agilent Technologies / Keysight Technologies
- Rohde & Schwarz Laboratory, Germany
- Fluke Everett Service Center, USA

Tested By / 測試 : H T Wong
Technical Officer

Certified By / 核證 : K C Lee
Project Engineer

Date of Issue / 簽發日期 : 19 July 2016

The test equipment used for calibration are traceable to the Nation Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.
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Sun Creation Engineering Limited – Calibration & Testing Laboratory
c/o 4/F, Tsing Shan Wan Exchange Building, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong
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c/o 香港新界屯門興安里一號青山灣機樓四樓
Tel/電話: 2927 2606 Fax/傳真: 2744 8986 E-mail/電郵: callab@suncreation.com Website/網址: www.suncreation.com

Certificate of Calibration
校正證書

Certificate No. : C163910
證書編號

1. The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours, and switched on to warm up for over 10 minutes before the commencement of the test.

2. Self-calibration using the B & K Acoustic Calibrator 4231, S/N : 3004068 was performed before the test.

3. The results presented are the mean of 3 measurements at each calibration point.

4. Test equipment :

Equipment ID	Description	Certificate No.
CL280	40 MHz Arbitrary Waveform Generator	C160077
CL281	Multifunction Acoustic Calibrator	PA160023

5. Test procedure : MA101N.

6. Results :

6.1 Sound Pressure Level :

6.1.1 Reference Sound Pressure Level

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
50 - 130	L_{AFP}	A	F	94.00	1	94.1	± 1.1

6.1.2 Linearity

UUT Setting				Applied Value		UUT Reading (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	
50 - 130	L_{AFP}	A	F	94.00	1	94.1 (Ref.)
				104.00		104.1
				114.00		114.1

IEC 61672 Class 1 Spec. : ± 0.6 dB per 10 dB step and ± 1.1 dB for overall different.

6.2 Time Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
50 - 130	L_{AFP}	A	F	94.00	1	94.1	Ref.
	L_{ASP}		S			94.2	± 0.3

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Certificate of Calibration
校正證書

Certificate No. : C163910
證書編號

6.3 Frequency Weighting

6.3.1 A-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
50 - 130	L_{AFP}	A	F	94.00	63 Hz	67.9	-26.2 ± 1.5
					125 Hz	77.9	-16.1 ± 1.5
					250 Hz	85.4	-8.6 ± 1.4
					500 Hz	90.8	-3.2 ± 1.4
					1 kHz	94.1	Ref.
					2 kHz	95.3	+1.2 ± 1.6
					4 kHz	95.1	+1.0 ± 1.6
					8 kHz	92.9	-1.1 (+2.1 ; -3.1)
					12.5 kHz	89.8	-4.3 (+3.0 ; -6.0)

6.3.2 C-Weighting

UUT Setting				Applied Value		UUT Reading (Db)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
50 - 130	L_{CFP}	C	F	94.00	63 Hz	93.3	-0.8 ± 1.5
					125 Hz	93.9	-0.2 ± 1.5
					250 Hz	94.0	0.0 ± 1.4
					500 Hz	94.1	0.0 ± 1.4
					1 kHz	94.0	Ref.
					2 kHz	93.9	-0.2 ± 1.6
					4 kHz	93.2	-0.8 ± 1.6
					8 kHz	90.9	-3.0 (+2.1 ; -3.1)
					12.5 kHz	87.8	-6.2 (+3.0 ; -6.0)

The test equipment used for calibration are traceable to the Nation Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.
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Certificate of Calibration
校正證書

Certificate No. : C163910
證書編號

Remarks : - UUT Microphone Model No. : 4188 & S/N : 2793199

- Mfr's Spec. : IEC 61672 Class 1

- Uncertainties of Applied Value :

94 dB	: 63 Hz - 125 Hz	: ± 0.35 dB
	250 Hz - 500 Hz	: ± 0.30 dB
	1 kHz	: ± 0.20 dB
	2 kHz - 4 kHz	: ± 0.35 dB
	8 kHz	: ± 0.45 dB
	12.5 kHz	: ± 0.70 dB
104 dB	: 1 kHz	: ± 0.10 dB (Ref. 94 dB)
114 dB	: 1 kHz	: ± 0.10 dB (Ref. 94 dB)

- The uncertainties are for a confidence probability of not less than 95 %.

Note :
The values given in this Certificate only relate to the values measured at the time of the test and any uncertainties quoted will not include allowance for the equipment long term drift, variations with environment changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Sun Creation Engineering Limited shall not be liable for any loss or damage resulting from the use of the equipment.

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Sun Creation Engineering Limited
Calibration and Testing Laboratory

Certificate of Calibration
校正證書

Certificate No. : C155032
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC15-2021) Date of Receipt / 收件日期 : 2 September 2015

Description / 儀器名稱 : Integrating Sound Level Meter
Manufacturer / 製造商 : Brüel & Kjær
Model No. / 型號 : 2238
Serial No. / 編號 : 2381580
Supplied By / 委託者 : Atkins China Limited
19/F., Tower 1, The Gateway Harbour City,
Tsim Sha Tsui, Kowloon

TEST CONDITIONS / 測試條件

Temperature / 溫度 : (23 ± 2)°C
Relative Humidity / 相對濕度 : (55 ± 20)%
Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 9 September 2015

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.
All results are within manufacturer's specification.
The results are detailed in the subsequent page(s).

The test equipment used for calibration are traceable to National Standards via :
- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory
- Agilent Technologies / Keysight Technologies
- Rohde & Schwarz Laboratory, Germany
- Fluke Everett Service Center, USA

Tested By 測試 : H T Wong
Technical Officer

Certified By 核證 : K C Lee
Project Engineer

Date of Issue 簽發日期 : 11 September 2015

The test equipment used for calibration are traceable to the Nation Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.
本證書所載校正用之測試器材均可溯源至國際標準。局部複印本證書需先獲本實驗所書面批准。

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Certificate of Calibration
校正證書

Certificate No. : C155032
證書編號

1. The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours, and switched on to warm up for over 10 minutes before the commencement of the test.

2. Self-calibration using laboratory acoustic calibrator was performed before the test from 6.1.1.2 to 6.4.

3. The results presented are the mean of 3 measurements at each calibration point.

4. Test equipment :

Equipment ID	Description	Certificate No.
CL280	40 MHz Arbitrary Waveform Generator	C150014
CL281	Multifunction Acoustic Calibrator	DC130171

5. Test procedure : MA101N.

6. Results :

6.1 Sound Pressure Level

6.1.1 Reference Sound Pressure Level

6.1.1.1 Before Self-calibration

UUT Setting				Applied Value		UUT Reading (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	
50 - 130	L_{AFP}	A	F	94.00	1	94.2

6.1.1.2 After Self-calibration

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
50 - 130	L_{AFP}	A	F	94.00	1	94.0	± 0.7

6.1.2 Linearity

UUT Setting				Applied Value		UUT Reading (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	
50 - 130	L_{AFP}	A	F	94.00	1	94.0 (Ref.)
				104.00		104.0
				114.00		114.0

IEC 60651 Type 1 Spec. : ± 0.4 dB per 10 dB step and ± 0.7 dB for overall different.

The test equipment used for calibration are traceable to the Nation Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.
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Certificate of Calibration
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Certificate No. : C155032
證書編號

6.2 Time Weighting

6.2.1 Continuous Signal

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
50 - 130	L_{AFP}	A	F	94.00	1	94.0	Ref.
	L_{ASP}		S			94.1	± 0.1
	L_{AIP}		I			94.1	± 0.1

6.2.2 Tone Burst Signal (2 kHz)

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Burst Duration		
30 - 110	L_{AFP}	A	F	106.0	Continuous	106.0	Ref.
	L_{AFMax}				200 ms	105.0	-1.0 ± 1.0
	L_{ASP}		S		Continuous	106.0	Ref.
	L_{ASMax}				500 ms	102.0	-4.1 ± 1.0

6.3 Frequency Weighting

6.3.1 A-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
50 - 130	L_{AFP}	A	F	94.00	31.5 Hz	54.8	-39.4 ± 1.5
					63 Hz	67.9	-26.2 ± 1.5
					125 Hz	77.8	-16.1 ± 1.0
					250 Hz	85.3	-8.6 ± 1.0
					500 Hz	90.7	-3.2 ± 1.0
					1 kHz	94.0	Ref.
					2 kHz	95.2	+1.2 ± 1.0
					4 kHz	95.0	+1.0 ± 1.0
					8 kHz	92.9	-1.1 (+1.5 ; -3.0)
					12.5 kHz	89.8	-4.3 (+3.0 ; -6.0)

The test equipment used for calibration are traceable to the Nation Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.
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Certificate of Calibration
校正證書

Certificate No. : C155032
證書編號

6.3.2 C-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
50 - 130	L_{CFP}	C	F	94.00	31.5 Hz	91.1	-3.0 ± 1.5
					63 Hz	93.2	-0.8 ± 1.5
					125 Hz	93.8	-0.2 ± 1.0
					250 Hz	94.0	0.0 ± 1.0
					500 Hz	94.0	0.0 ± 1.0
					1 kHz	94.0	Ref.
					2 kHz	93.8	-0.2 ± 1.0
					4 kHz	93.2	-0.8 ± 1.0
					8 kHz	91.0	-3.0 (+1.5 ; -3.0)
					12.5 kHz	87.9	-6.2 (+3.0 ; -6.0)

6.4 Time Averaging

UUT Setting				Applied Value					UUT Reading (dB)	IEC 60804 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Integrating Time	Frequency (kHz)	Burst Duration (ms)	Burst Duty Factor	Burst Level (dB)	Equivalent Level (dB)		
30 - 110	L_{Aeq}	A	10 sec.	4	1	1/10	110.0	100	99.9	± 0.5
						$1/10^2$		90	90.0	± 0.5
			60 sec.			$1/10^3$		80	79.2	± 1.0
			5 min.			$1/10^4$		70	69.2	± 1.0

Remarks : - UUT Microphone Model No. : 4188 & S/N : 2379759

- Mfr's Spec. : IEC 60651 Type 1 & IEC 60804 Type 1

- Uncertainties of Applied Value :

94 dB	: 31.5 Hz - 125 Hz	: ± 0.35 dB
	250 Hz - 500 Hz	: ± 0.30 dB
	1 kHz	: ± 0.20 dB
	2 kHz - 4 kHz	: ± 0.35 dB
	8 kHz	: ± 0.45 dB
	12.5 kHz	: ± 0.70 dB
104 dB	: 1 kHz	: ± 0.10 dB (Ref. 94 dB)
114 dB	: 1 kHz	: ± 0.10 dB (Ref. 94 dB)
Burst equivalent level		: ± 0.2 dB (Ref. 110 dB continuous sound level)

- The uncertainties are for a confidence probability of not less than 95 %.

Note :
The values given in this Certificate only relate to the values measured at the time of the test and any uncertainties quoted will not include allowance for the equipment long term drift, variations with environment changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Sun Creation Engineering Limited shall not be liable for any loss or damage resulting from the use of the equipment.

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輝創工程有限公司
Sun Creation Engineering Limited
Calibration and Testing Laboratory

Certificate of Calibration
校正證書

Certificate No. : C154626
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC15-1823) Date of Receipt / 收件日期 : 18 August 2015

Description / 儀器名稱 : Integrating Sound Level Meter
Manufacturer / 製造商 : Brüel & Kjær
Model No. / 型號 : 2238
Serial No. / 編號 : 2684503
Supplied By / 委託者 : Atkins China Limited
19/F., Tower 1, The Gateway Harbour City,
Tsim Sha Tsui, Kowloon

TEST CONDITIONS / 測試條件

Temperature / 溫度 : (23 ± 2)°C
Relative Humidity / 相對濕度 : (55 ± 20)%
Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 24 August 2015

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.
All results are within manufacturer's specification.
The results are detailed in the subsequent page(s).

The test equipment used for calibration are traceable to National Standards via :
- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory
- Agilent Technologies / Keysight Technologies
- Rohde & Schwarz Laboratory, Germany
- Fluke Everett Service Center, USA

Tested By : H T Wong
測試 Technical Officer

Certified By : K C Lee
核證 Project Engineer

Date of Issue : 24 August 2015
簽發日期

The test equipment used for calibration are traceable to the Nation Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.
本證書所載校正用之測試器材均可溯源至國際標準。局部複印本證書需先獲本實驗所書面批准。

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Certificate of Calibration
校正證書

Certificate No. : C154626
證書編號

1. The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours, and switched on to warm up for over 10 minutes before the commencement of the test.

2. Self-calibration using laboratory acoustic calibrator was performed before the test from 6.1.1.2 to 6.4.

3. The results presented are the mean of 3 measurements at each calibration point.

4. Test equipment :

Equipment ID	Description	Certificate No.
CL280	40 MHz Arbitrary Waveform Generator	C150014
CL281	Multifunction Acoustic Calibrator	DC130171

5. Test procedure : MA101N.

6. Results :

6.1 Sound Pressure Level

6.1.1 Reference Sound Pressure Level

6.1.1.1 Before Self-calibration

UUT Setting				Applied Value		UUT Reading (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	
50 - 130	L_{AFP}	A	F	94.00	1	94.2

6.1.1.2 After Self-calibration

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
50 - 130	L_{AFP}	A	F	94.00	1	94.1	± 0.7

6.1.2 Linearity

UUT Setting				Applied Value		UUT Reading (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	
50 - 130	L_{AFP}	A	F	94.00	1	94.1 (Ref.)
				104.00		104.1
				114.00		114.0

IEC 60651 Type 1 Spec. : ± 0.4 dB per 10 dB step and ± 0.7 dB for overall different.

The test equipment used for calibration are traceable to the Nation Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.
本證書所載校正用之測試器材均可溯源至國際標準。局部複印本證書需先獲本實驗所書面批准。

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Certificate of Calibration
校正證書

Certificate No. : C154626
證書編號

6.2 Time Weighting

6.2.1 Continuous Signal

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
50 - 130	L_{AFP}	A	F	94.00	1	94.1	Ref.
	L_{ASP}		S			94.1	± 0.1
	L_{AIP}		I			94.1	± 0.1

6.2.2 Tone Burst Signal (2 kHz)

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Burst Duration		
30 - 110	L_{AFP}	A	F	106.0	Continuous	106.0	Ref.
	L_{AFMax}				200 ms	105.0	-1.0 ± 1.0
	L_{ASP}		S		Continuous	106.0	Ref.
	L_{ASMax}				500 ms	102.0	-4.1 ± 1.0

6.3 Frequency Weighting

6.3.1 A-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
50 - 130	L_{AFP}	A	F	94.00	31.5 Hz	54.8	-39.4 ± 1.5
					63 Hz	67.9	-26.2 ± 1.5
					125 Hz	77.9	-16.1 ± 1.0
					250 Hz	85.4	-8.6 ± 1.0
					500 Hz	90.8	-3.2 ± 1.0
					1 kHz	94.1	Ref.
					2 kHz	95.3	+1.2 ± 1.0
					4 kHz	95.1	+1.0 ± 1.0
					8 kHz	92.9	-1.1 (+1.5 ; -3.0)
					12.5 kHz	89.8	-4.3 (+3.0 ; -6.0)

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Certificate of Calibration
校正證書

Certificate No. : C154626
證書編號

6.3.2 C-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
50 - 130	L_{CFP}	C	F	94.00	31.5 Hz	91.1	-3.0 ± 1.5
					63 Hz	93.3	-0.8 ± 1.5
					125 Hz	93.9	-0.2 ± 1.0
					250 Hz	94.1	0.0 ± 1.0
					500 Hz	94.1	0.0 ± 1.0
					1 kHz	94.1	Ref.
					2 kHz	93.9	-0.2 ± 1.0
					4 kHz	93.3	-0.8 ± 1.0
					8 kHz	91.0	-3.0 (+1.5 ; -3.0)
					12.5 kHz	87.9	-6.2 (+3.0 ; -6.0)

6.4 Time Averaging

UUT Setting				Applied Value					UUT Reading (dB)	IEC 60804 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Integrating Time	Frequency (kHz)	Burst Duration (ms)	Burst Duty Factor	Burst Level (dB)	Equivalent Level (dB)		
30 - 110	L_{Aeq}	A	10 sec.	4	1	1/10	110.0	100	100.0	± 0.5
						$1/10^2$		90	90.1	± 0.5
			60 sec.			$1/10^3$		80	79.8	± 1.0
			5 min.			$1/10^4$		70	69.8	± 1.0

Remarks : - UUT Microphone Model No. : 4188 & S/N : 2682524

- Mfr's Spec. : IEC 60651 Type 1 & IEC 60804 Type 1

- Uncertainties of Applied Value :

94 dB	: 31.5 Hz - 125 Hz	: ± 0.35 dB
	250 Hz - 500 Hz	: ± 0.30 dB
	1 kHz	: ± 0.20 dB
	2 kHz - 4 kHz	: ± 0.35 dB
	8 kHz	: ± 0.45 dB
	12.5 kHz	: ± 0.70 dB
104 dB	: 1 kHz	: ± 0.10 dB (Ref. 94 dB)
114 dB	: 1 kHz	: ± 0.10 dB (Ref. 94 dB)
Burst equivalent level		: ± 0.2 dB (Ref. 110 dB continuous sound level)

- The uncertainties are for a confidence probability of not less than 95 %.

Note :
The values given in this Certificate only relate to the values measured at the time of the test and any uncertainties quoted will not include allowance for the equipment long term drift, variations with environment changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Sun Creation Engineering Limited shall not be liable for any loss or damage resulting from the use of the equipment.

The test equipment used for calibration are traceable to the Nation Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.
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輝創工程有限公司
Sun Creation Engineering Limited
Calibration and Testing Laboratory

Certificate of Calibration
校正證書

Certificate No. : C156299
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC15-2523) Date of Receipt / 收件日期 : 6 November 2015

Description / 儀器名稱 : Integrating Sound Level Meter
Manufacturer / 製造商 : Brüel & Kjær
Model No. / 型號 : 2238
Serial No. / 編號 : 2808432
Supplied By / 委託者 : Atkins China Limited
19/F., Tower 1, The Gateway Harbour City,
Tsim Sha Tsui, Kowloon

TEST CONDITIONS / 測試條件

Temperature / 溫度 : (23 ± 2)°C
Relative Humidity / 相對濕度 : (55 ± 20)%
Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 10 November 2015

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.
The results do not exceed manufacturer's specification.
The results are detailed in the subsequent page(s).

The test equipment used for calibration are traceable to National Standards via :
- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory
- Agilent Technologies / Keysight Technologies
- Rohde & Schwarz Laboratory, Germany
- Fluke Everett Service Center, USA

Tested By 測試 : H T Wong
Technical Officer

Certified By 核證 : K C Lee
Project Engineer

Date of Issue 簽發日期 : 11 November 2015

The test equipment used for calibration are traceable to the Nation Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.
本證書所載校正用之測試器材均可溯源至國際標準。局部複印本證書需先獲本實驗所書面批准。

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Certificate of Calibration
校正證書

Certificate No. : C156299
證書編號

1. The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours, and switched on to warm up for over 10 minutes before the commencement of the test.

2. Self-calibration using laboratory acoustic calibrator was performed before the test from 6.1.1.2 to 6.3.2.

3. The results presented are the mean of 3 measurements at each calibration point.

4. Test equipment :

Equipment ID	Description	Certificate No.
CL280	40 MHz Arbitrary Waveform Generator	C150014
CL281	Multifunction Acoustic Calibrator	DC130171

5. Test procedure : MA101N.

6. Results :

6.1 Sound Pressure Level :

6.1.1 Reference Sound Pressure Level

6.1.1.1 Before Self-calibration

UUT Setting				Applied Value		UUT Reading (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	
50 - 130	L_{AFP}	A	F	94.00	1	95.2

6.1.1.2 After Self-calibration

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
50 - 130	L_{AFP}	A	F	94.00	1	94.1	± 1.1

6.1.2 Linearity

UUT Setting				Applied Value		UUT Reading (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	
50 - 130	L_{AFP}	A	F	94.00	1	94.1 (Ref.)
				104.00		104.1
				114.00		114.1

IEC 61672 Class 1 Spec. : ± 0.6 dB per 10 dB step and ± 1.1 dB for overall different.

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Certificate of Calibration
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Certificate No. : C156299
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6.2 Time Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
50 - 130	L_{AFP}	A	F	94.00	1	94.1	Ref.
	L_{ASP}		S			94.1	± 0.3

6.3 Frequency Weighting

6.3.1 A-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
50 - 130	L_{AFP}	A	F	94.00	63 Hz	68.0	-26.2 ± 1.5
					125 Hz	78.0	-16.1 ± 1.5
					250 Hz	85.4	-8.6 ± 1.4
					500 Hz	90.9	-3.2 ± 1.4
					1 kHz	94.1	Ref.
					2 kHz	95.3	+1.2 ± 1.6
					4 kHz	95.1	+1.0 ± 1.6
					8 kHz	92.9	-1.1 (+2.1 ; -3.1)
					12.5 kHz	89.8	-4.3 (+3.0 ; -6.0)

6.3.2 C-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
50 - 130	L_{CFP}	C	F	94.00	63 Hz	93.4	-0.8 ± 1.5
					125 Hz	94.0	-0.2 ± 1.5
					250 Hz	94.1	0.0 ± 1.4
					500 Hz	94.1	0.0 ± 1.4
					1 kHz	94.1	Ref.
					2 kHz	94.0	-0.2 ± 1.6
					4 kHz	93.3	-0.8 ± 1.6
					8 kHz	91.1	-3.0 (+2.1 ; -3.1)
					12.5 kHz	87.9	-6.2 (+3.0 ; -6.0)

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Certificate of Calibration
校正證書

Certificate No. : C156299
證書編號

Remarks : - UUT Microphone Model No. : 4188 & S/N : 2929047

- Mfr's Spec. : IEC 61672 Class 1

- Uncertainties of Applied Value :

94 dB	: 63 Hz - 125 Hz	: ± 0.35 dB
	250 Hz - 500 Hz	: ± 0.30 dB
	1 kHz	: ± 0.20 dB
	2 kHz - 4 kHz	: ± 0.35 dB
	8 kHz	: ± 0.45 dB
	12.5 kHz	: ± 0.70 dB
104 dB	: 1 kHz	: ± 0.10 dB (Ref. 94 dB)
114 dB	: 1 kHz	: ± 0.10 dB (Ref. 94 dB)

- The uncertainties are for a confidence probability of not less than 95 %.

Note :
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Certificate of Calibration
校正證書

Certificate No. : C162569
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC16-1066) Date of Receipt / 收件日期 : 12 May 2016

Description / 儀器名稱 : Acoustical Calibrator
Manufacturer / 製造商 : Brüel & Kjær
Model No. / 型號 : 4231
Serial No. / 編號 : 3003246
Supplied By / 委託者 : Atkins China Limited
13/F., Wharf T&T Centre, Harbour City,
Tsim Sha Tsui, Kowloon, Hong Kong

TEST CONDITIONS / 測試條件

Temperature / 溫度 : (23 ± 2)°C
Relative Humidity / 相對濕度 : (55 ± 20)%
Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 16 May 2016

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.
The results do not exceed manufacturer's specification.
The results are detailed in the subsequent page(s).

The test equipment used for calibration are traceable to National Standards via :
- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory
- Agilent Technologies / Keysight Technologies
- Rohde & Schwarz Laboratory, Germany
- Fluke Everett Service Center, USA

Tested By 測試 : H T Wong
Technical Officer

Certified By 核證 : K C Lee
Project Engineer

Date of Issue 簽發日期 : 16 May 2016

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Certificate of Calibration
校正證書

Certificate No. : C162569
證書編號

1. The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours before the commencement of the test.

2. The results presented are the mean of 3 measurements at each calibration point.

3. Test equipment :

Equipment ID	Description	Certificate No.
CL130	Universal Counter	C153519
CL281	Multifunction Acoustic Calibrator	PA160023
TST150A	Measuring Amplifier	C161175

4. Test procedure : MA100N.

5. Results :

5.1 Sound Level Accuracy

UUT Nominal Value	Measured Value (dB)	Mfr's Spec. (dB)	Uncertainty of Measured Value (dB)
94 dB, 1 kHz	94.0	± 0.2	± 0.2
114 dB, 1 kHz	114.0		

5.2 Frequency Accuracy

UUT Nominal Value (kHz)	Measured Value (kHz)	Mfr's Spec.	Uncertainty of Measured Value (Hz)
1	1.000 0	1 kHz ± 0.1 %	± 0.1

Remark : The uncertainties are for a confidence probability of not less than 95 %.

Note :
The values given in this Certificate only relate to the values measured at the time of the test and any uncertainties quoted will not include allowance for the equipment long term drift, variations with environment changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Sun Creation Engineering Limited shall not be liable for any loss or damage resulting from the use of the equipment.

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Calibration and Testing Laboratory

Certificate of Calibration
校正證書

Certificate No. : C163909
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC16-1579) Date of Receipt / 收件日期 : 13 July 2016

Description / 儀器名稱 : Acoustical Calibrator
Manufacturer / 製造商 : Brüel & Kjær
Model No. / 型號 : 4231
Serial No. / 編號 : 3004068
Supplied By / 委託者 : Atkins China Limited
13/F., Wharf T&T Centre, Harbour City,
Tsim Sha Tsui, Kowloon, Hong Kong

TEST CONDITIONS / 測試條件

Temperature / 溫度 : (23 ± 2)°C
Relative Humidity / 相對濕度 : (55 ± 20)%
Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 19 July 2016

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.
The results do not exceed manufacturer's specification.
The results are detailed in the subsequent page(s).

The test equipment used for calibration are traceable to National Standards via :
- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory
- Agilent Technologies / Keysight Technologies
- Rohde & Schwarz Laboratory, Germany
- Fluke Everett Service Center, USA

Tested By 測試 : H T Wong
Technical Officer

Certified By 核證 : K C Lee
Project Engineer

Date of Issue 簽發日期 : 19 July 2016

The test equipment used for calibration are traceable to the Nation Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.
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Certificate of Calibration
校正證書

Certificate No. : C163909
證書編號

1. The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours before the commencement of the test.

2. The results presented are the mean of 3 measurements at each calibration point.

3. Test equipment :

Equipment ID	Description	Certificate No.
CL130	Universal Counter	C163709
CL281	Multifunction Acoustic Calibrator	PA160023
TST150A	Measuring Amplifier	C161175

4. Test procedure : MA100N.

5. Results :

5.1 Sound Level Accuracy

UUT Nominal Value	Measured Value (dB)	Mfr's Spec. (dB)	Uncertainty of Measured Value (dB)
94 dB, 1 kHz	94.0	± 0.2	± 0.2
114 dB, 1 kHz	114.0		

5.2 Frequency Accuracy

UUT Nominal Value (kHz)	Measured Value (kHz)	Mfr's Spec.	Uncertainty of Measured Value (Hz)
1	1.000 0	1 kHz ± 0.1 %	± 0.1

Remark : The uncertainties are for a confidence probability of not less than 95 %.

Note :
The values given in this Certificate only relate to the values measured at the time of the test and any uncertainties quoted will not include allowance for the equipment long term drift, variations with environment changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Sun Creation Engineering Limited shall not be liable for any loss or damage resulting from the use of the equipment.

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REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

CONTACT:	MR THOMAS WONG	**WORK ORDER:**	HK1628802
CLIENT:	ENOVATIVE ENVIRONMENTAL SERVICE LTD	**SUB-BATCH:**	0
ADDRESS:	RM811, HIN PUI HOUSE, HIN KENG ESTATE, TAI WAI, N.T., HONG KONG	**LABORATORY:**	HONG KONG
		DATE RECEIVED:	16/07/2016
		DATE OF ISSUE:	25/07/2016

COMMENTS

The performance of the equipment stated in this report is checked with independent reference material and results compared against a calibrated secondary source.
The "Tolerance Limit" quoted is the acceptance criteria applicable for similar equipment used by the ALS Hong Kong laboratory or quoted from relevant international standards.
The "Next Calibration Date" is recommended according to best practice principals as practised by the ALS Hong Kong laboratory or quoted from relevant international standards.

Scope of Test:	Conductivity, Dissolved Oxygen, pH, Salinity, Temperature and Turbidity
Equipment Type:	Multifunctional Meter
Brand Name:	YSI
Model No.:	6920V2
Serial No.:	000109DF
Equipment No.:	--
Date of Calibration:	16 July, 2016

NOTES

This is the Final Report and supersedes any preliminary report with this batch number.
Results apply to sample(s) as submitted. All pages of this report have been checked and approved for release.

Mr. Fung Lim Chee, Richard
General Manager -
Greater China & Hong Kong

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REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

Work Order: HK1628802
Sub-Batch: 0
Date of Issue: 25/07/2016
Client: ENOVATIVE ENVIRONMENTAL SERVICE LTD

Description: Multifunctional Meter
Brand Name: YSI
Model No.: 6920V2
Serial No.: 000109DF
Equipment No.: --
Date of Calibration: 16 July, 2016 Date of next Calibration: 16 October, 2016

Parameters:

Conductivity

Method Ref: APHA (21st edition), 2510B

Expected Reading (uS/cm)	Displayed Reading (uS/cm)	Tolerance (%)
146.9	146	-0.6
6667	6022	-9.7
12890	12910	+0.2
58670	56608	-3.5
	Tolerance Limit (%)	±10.0

Dissolved Oxygen

Method Ref: APHA (21st edition), 4500O: G

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)
2.30	2.43	+0.13
5.18	5.30	+0.12
7.41	7.52	+0.11
	Tolerance Limit (mg/L)	±0.20

pH Value

Method Ref: APHA 21st Ed. 4500H:B

Expected Reading (pH Unit)	Displayed Reading (pH Unit)	Tolerance (pH unit)
4.0	4.03	+0.03
7.0	7.09	+0.09
10.0	9.93	-0.07
	Tolerance Limit (pH unit)	±0.20

Salinity

Method Ref: APHA (21st edition), 2520B

Expected Reading (ppt)	Displayed Reading (ppt)	Tolerance (%)
0	0.00	--
10	10.01	+0.1
20	19.65	-1.8
30	28.38	-5.4
	Tolerance Limit (%)	±10.0

Remark: "Displayed Reading" presents the figures shown on item under calibration / checking regardless of equipment precision or significant figures.

Mr. Fung Lim Chee, Richard
General Manager -
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REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

Work Order: HK1628802
Sub-Batch: 0
Date of Issue: 25/07/2016
Client: ENOVATIVE ENVIRONMENTAL SERVICE LTD

Description: Multifunctional Meter
Brand Name: YSI
Model No.: 6920V2
Serial No.: 000109DF
Equipment No.: --
Date of Calibration: 16 July, 2016 Date of next Calibration: 16 October, 2016

Parameters:

Temperature

Method Ref: Section 6 of International Accreditation New Zealand Technical Guide No. 3 Second edition March 2008: Working Thermometer Calibration Procedure.

Expected Reading (°C)	Displayed Reading (°C)	Tolerance (°C)
15.0	14.0	-1.0
25.5	24.5	-1.0
39.0	38.3	-0.7
	Tolerance Limit (°C)	±2.0

Turbidity

Method Ref: APHA (21st edition), 2130B

Expected Reading (NTU)	Displayed Reading (NTU)	Tolerance (%)
0	0.4	--
4	4.2	+5.0
40	41.6	+4.0
80	82.2	+2.8
400	411	+2.8
800	824	+3.0
	Tolerance Limit (%)	±10.0

Remark: "Displayed Reading" presents the figures shown on item under calibration / checking regardless of equipment precision or significant figures.

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REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

CONTACT:	MR THOMAS WONG	**WORK ORDER:**	HK1628798
CLIENT:	ENOVATIVE ENVIRONMENTAL SERVICE LTD	**SUB-BATCH:**	0
ADDRESS:	RM811, HIN PUI HOUSE, HIN KENG ESTATE, TAI WAI, N.T., HONG KONG	**LABORATORY:**	HONG KONG
		DATE RECEIVED:	16/07/2016
		DATE OF ISSUE:	25/07/2016

COMMENTS

The performance of the equipment stated in this report is checked with independent reference material and results compared against a calibrated secondary source.
The "Tolerance Limit" quoted is the acceptance criteria applicable for similar equipment used by the ALS Hong Kong laboratory or quoted from relevant international standards.
The "Next Calibration Date" is recommended according to best practice principals as practised by the ALS Hong Kong laboratory or quoted from relevant international standards.

Scope of Test:	Conductivity, Dissolved Oxygen, pH, Salinity, Temperature and Turbidity
Equipment Type:	Multifunctional Meter
Brand Name:	YSI
Model No.:	6920V2
Serial No.:	00019CB2
Equipment No.:	--
Date of Calibration:	16 July, 2016

NOTES

This is the Final Report and supersedes any preliminary report with this batch number.
Results apply to sample(s) as submitted. All pages of this report have been checked and approved for release.

Mr. Fung Lim Chee, Richard
General Manager -
Greater China & Hong Kong

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REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

Work Order: HK1628798
Sub-Batch: 0
Date of Issue: 25/07/2016
Client: ENOVATIVE ENVIRONMENTAL SERVICE LTD

Description: Multifunctional Meter
Brand Name: YSI
Model No.: 6920V2
Serial No.: 00019CB2
Equipment No.: --
Date of Calibration: 16 July, 2016 Date of next Calibration: 16 October, 2016

Parameters:

Conductivity

Method Ref: APHA (21st edition), 2510B

Expected Reading (uS/cm)	Displayed Reading (uS/cm)	Tolerance (%)
146.9	147	+0.1
6667	6548	-1.8
12890	13168	+2.2
58670	57511	-2.0
	Tolerance Limit (%)	±10.0

Dissolved Oxygen

Method Ref: APHA (21st edition), 4500O: G

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)
2.30	2.44	+0.14
5.18	5.26	+0.08
7.41	7.51	+0.10
	Tolerance Limit (mg/L)	±0.20

pH Value

Method Ref: APHA 21st Ed. 4500H:B

Expected Reading (pH Unit)	Displayed Reading (pH Unit)	Tolerance (pH unit)
4.0	4.05	+0.05
7.0	7.03	+0.03
10.0	10.06	+0.06
	Tolerance Limit (pH unit)	±0.20

Salinity

Method Ref: APHA (21st edition), 2520B

Expected Reading (ppt)	Displayed Reading (ppt)	Tolerance (%)
0	0.01	--
10	9.92	-0.8
20	19.31	-3.5
30	27.95	-6.8
	Tolerance Limit (%)	±10.0

Remark: "Displayed Reading" presents the figures shown on item under calibration / checking regardless of equipment precision or significant figures.

Mr. Fung Lim Chee, Richard
General Manager -
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REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

Work Order: HK1628798
Sub-Batch: 0
Date of Issue: 25/07/2016
Client: ENOVATIVE ENVIRONMENTAL SERVICE LTD

Description: Multifunctional Meter
Brand Name: YSI
Model No.: 6920V2
Serial No.: 00019CB2
Equipment No.: --
Date of Calibration: 16 July, 2016 Date of next Calibration: 16 October, 2016

Parameters:

Temperature

Method Ref: Section 6 of International Accreditation New Zealand Technical Guide No. 3 Second edition March 2008: Working Thermometer Calibration Procedure.

Expected Reading (°C)	Displayed Reading (°C)	Tolerance (°C)
13.5	13.9	+0.4
26.5	26.7	+0.2
37.0	37.3	+0.3
	Tolerance Limit (°C)	±2.0

Turbidity

Method Ref: APHA (21st edition), 2130B

Expected Reading (NTU)	Displayed Reading (NTU)	Tolerance (%)
0	0.4	--
4	4.2	+5.0
40	40.7	+1.8
80	81.6	+2.0
400	397	-0.8
800	807	+0.9
	Tolerance Limit (%)	±10.0

Remark: "Displayed Reading" presents the figures shown on item under calibration / checking regardless of equipment precision or significant figures.

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REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

CONTACT:	MR THOMAS WONG	**WORK ORDER:**	HK1628456
CLIENT:	ENOVATIVE ENVIRONMENTAL SERVICE LTD	**SUB-BATCH:**	0
ADDRESS:	RM811, HIN PUI HOUSE, HIN KENG ESTATE, TAI WAI, N.T., HONG KONG	**LABORATORY:**	HONG KONG
		DATE RECEIVED:	14/07/2016
		DATE OF ISSUE:	18/07/2016

COMMENTS

The performance of the equipment stated in this report is checked with independent reference material and results compared against a calibrated secondary source.
The "Tolerance Limit" quoted is the acceptance criteria applicable for similar equipment used by the ALS Hong Kong laboratory or quoted from relevant international standards.

Scope of Test:	Volume
Description:	Digital Burette
Brand Name:	Titrette
Model No.:	Digital Burette 50ml Class A
Serial No.:	10N64701
Equipment No.:	--
Date of Calibration:	15 July, 2016

NOTES

This is the Final Report and supersedes any preliminary report with this batch number.
Results apply to sample(s) as submitted. All pages of this report have been checked and approved for release.

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REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

Work Order: HK1628456
Sub-Batch: 0
Date of Issue: 18/07/2016
Client: ENOVATIVE ENVIRONMENTAL SERVICE LTD

Description: Digital Burette
Brand Name: Titrette
Model No.: Digital Burette 50ml Class A
Serial No.: 10N64701
Equipment No.: --
Date of Calibration: 15 July, 2016

Parameters:

Volume **Method Reference: In House Method - Titrette and Digital Burette Testing Instuction (SOP) May 2014**

Trial	Nominal vol (ml) (at interval)				
	3 (1-4)	3 (16-19)	3 (23-26)	3 (34-37)	3 (42-45)
	Weight (g)				
1	2.9903	2.9954	2.9877	2.9800	2.9874
2	2.9888	2.9865	2.9899	2.9852	2.9855
3	2.9787	2.9873	2.9853	2.9844	2.9853
4	2.9929	2.9873	2.9895	2.9893	2.9881
5	2.9763	2.9872	2.9884	2.9824	2.9813
6	2.9929	2.9870	2.9857	2.9761	2.9812
7	2.9900	2.9887	2.9856	2.9854	2.9867
8	2.9894	2.9889	2.9880	2.9824	2.9899
9	2.9876	2.9893	2.9835	2.9882	2.9936
10	2.9899	2.9880	2.9918	2.9787	2.9789
Average	2.9877	2.9886	2.9875	2.9832	2.9858
Standard deviation	0.0056	0.0026	0.0025	0.0041	0.0044
Calculate volume (mL)	2.9975	2.9984	2.9974	2.9931	2.9956
Error (%)	-0.08%	-0.05%	-0.09%	-0.23%	-0.15%
RSD (%)	0.19%	0.09%	0.08%	0.14%	0.15%

Acceptance Criteria:

Accuarcy (% Error)	< ± 1%	< ± 1%	< ± 1%	< ± 1%	< ± 1%
Precision (%RSD)	<1%	<1%	<1%	<1%	<1%

pp

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REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

CONTACT:	MR THOMAS WONG	**WORK ORDER:**	HK1628461
CLIENT:	ENOVATIVE ENVIRONMENTAL SERVICE LTD	**SUB-BATCH:**	0
ADDRESS:	RM811, HIN PUI HOUSE, HIN KENG ESTATE, TAI WAI, N.T., HONG KONG	**LABORATORY:**	HONG KONG
		DATE RECEIVED:	14/07/2016
		DATE OF ISSUE:	18/07/2016

COMMENTS

The performance of the equipment stated in this report is checked with independent reference material and results compared against a calibrated secondary source.
The "Tolerance Limit" quoted is the acceptance criteria applicable for similar equipment used by the ALS Hong Kong laboratory or quoted from relevant international standards.

Scope of Test:	Volume
Description:	Digital Burette
Brand Name:	Titrette
Model No.:	Digital Burette 50ml Class A
Serial No.:	10N60623
Equipment No.:	--
Date of Calibration:	15 July, 2016

NOTES

This is the Final Report and supersedes any preliminary report with this batch number.
Results apply to sample(s) as submitted. All pages of this report have been checked and approved for release.

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Mr. Fung Lim Chee, Richard
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Greater China & Hong Kong

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REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

Work Order: HK1628461
Sub-Batch: 0
Date of Issue: 18/07/2016
Client: ENOVATIVE ENVIRONMENTAL SERVICE LTD

Description: Digital Burette
Brand Name: Titrette
Model No.: Digital Burette 50ml Class A
Serial No.: 10N60623
Equipment No.: --
Date of Calibration: 15 July, 2016

Parameters:

Volume **Method Reference: In House Method - Titrette and Digital Burette Testing Instuction (SOP) May 2014**

Trial	Nominal vol (ml) (at interval)				
	3 (4-7)	3 (12-15)	3 (25-28)	3 (32-35)	3 (46-49)
	Weight (g)				
1	2.9862	2.9787	2.9784	2.9805	2.9807
2	2.9795	2.9827	2.9814	2.9823	2.9741
3	2.9832	2.9844	2.9778	2.9864	2.9832
4	2.9865	2.9859	2.9831	2.9855	2.9865
5	2.9837	2.9980	2.9795	2.9859	2.9845
6	2.9833	2.9872	2.9819	2.9897	2.9773
7	2.9826	2.9840	2.9859	2.9893	2.9826
8	2.9826	2.9868	2.9761	2.9869	2.9809
9	2.9842	2.9909	2.9817	2.9900	2.9867
10	2.9839	2.9884	2.9875	2.9900	2.9866
Average	2.9836	2.9867	2.9813	2.9867	2.9823
Standard deviation	0.0020	0.0052	0.0036	0.0033	0.0042
Calculate volume (mL)	2.9934	2.9966	2.9912	2.9965	2.9922
Error (%)	-0.22%	-0.11%	-0.29%	-0.12%	-0.26%
RSD (%)	0.07%	0.17%	0.12%	0.11%	0.14%

Acceptance Criteria:

Accuarcy (% Error)	< ± 1%	< ± 1%	< ± 1%	< ± 1%	< ± 1%
Precision (%RSD)	<1%	<1%	<1%	<1%	<1%

pp

Mr. Fung Lim Chee, Richard
General Manager -
Greater China & Hong Kong

Appendix D. Monitoring Schedule

Monitoring Schedule of This Reporting Period

Aug-16

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1 CWD Land-based Survey	**2** AR1A* WQ General & Regular DCM ^ mid- ebb: 12:41 ^ mid- flood: 19:42	**3** P560(R) Site Inspection NM5/AR2 NM3A NM1A/ AR1A NM4	**4** WQ General & Regular DCM mid- ebb: 14:04 mid- flood: 20:53	**5** NM6 CWD Vessel Survey CWD Land-based Survey	**6** WQ General & Regular DCM mid- ebb: 15:16 mid- flood: 08:36
7	**8** NM1A/AR1A NM4 NM6	**9** NM5/AR2 NM3A CWD Vessel Survey CWD Land-based Survey WQ General & Regular DCM mid- ebb: 16:56 mid- flood: 10:45	**10** Site Inspection CWD Vessel Survey	**11** CWD Land-based Survey WQ General & Regular DCM mid- ebb: 18:46 mid- flood: 13:12	**12** AR1A	**13** WQ General & Regular DCM mid- ebb: 09:19 mid- flood: 16:47
14	**15** NM5/AR2 NM3A CWD Vessel Survey	**16** WQ General & Regular DCM mid- ebb: 11:40 mid- flood: 18:48	**17** Site Inspection	**18** NM1A/AR1A NM4 WQ General & Regular DCM ^ mid- ebb: 12:59 mid- flood: 19:52	**19** AR2 NM6 CWD Vessel Survey	**20** WQ General & Regular DCM mid- ebb: 14:16 mid- flood: 07:45
21	**22** CWD Vessel Survey	**23** CWD Land-based Survey WQ General & Regular DCM mid- ebb: 16:22 mid- flood: 10:18	**24** Site Inspection NM1A/AR1A NM4 NM6 CWD Vessel Survey	**25** NM5/AR2 NM3A CWD Vessel Survey WQ General & Regular DCM mid- ebb: 18:25 mid- flood: 12:51	**26**	**27** WQ General & Regular DCM mid- ebb: 08:51 mid- flood: 16:13
28	**29**	**30** NM1A/AR1A NM4 NM6 Ecological Monitoring WQ General & Regular DCM mid- ebb: 11:44 mid- flood: 18:42	**31** Site Inspection NM5/AR2 NM3A			

Notes:

No site inspection was scheduled for four DCM contracts (3201 to 3204) and CLP enabling works (3213) due to no construction activities was conducted during the reporting period.

Air quality and Noise montiorng Station

NM1A/AR1A - Man Tung Road Park
NM3A - Site Office
NM4 - Ching Chung Hau Po Woon Primary School
NM5/AR2 - Village House, Tin Sum
NM6 - House No. 1, Sha Lo Wan

CWD - Chinese White Dolphin
WQ - Water Quality
DCM - Deep Cemenet Mixing

* Rescheduled due to adverse weather
^ Cancelled due to adverse weather

Tentative Monitoring Schedule of Next Reporting Period

Sep-16

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1 CWD Land-based Survey WQ General & Regular DCM mid- ebb: 13:06 mid- flood: 06:27	**2**	**3** WQ General & Regular DCM mid- ebb: 14:15 mid- flood: 07:46
4	**5** AR1A NM6 CWD Vessel Survey CWD Land-based Survey	**6** NM4 NM1A NM5/AR2 NM3A CWD Vessel Survey WQ General & Regular DCM mid- ebb: 15:47 mid- flood: 09:42	**7** CWD Land-based Survey	**8** Site Inspection CWD Vessel Survey WQ General & Regular DCM mid- ebb: 17:05 mid- flood: 11:24	**9** AR1A CWD Vessel Survey	**10** WQ General & Regular DCM mid- ebb: 07:00 mid- flood: 14:58
11	**12** Site Inspection NM5/AR2 NM3A NM6 CWD Land-based Survey	**13** CWD Land-based Survey WQ General & Regular DCM mid- ebb: 10:21 mid- flood: 17:40	**14** Site Inspection	**15** NM1A/AR1A NM4 AR2 WQ General & Regular DCM mid- ebb: 11:51 mid- flood: 18:40	**16**	**17** WQ General & Regular DCM mid- ebb: 13:12 mid- flood: 06:50
18	**19** Site Inspection NM5/AR2 CWD Vessel Survey	**20** NM6 CWD Vessel Survey WQ General & Regular DCM mid- ebb: 15:20 mid- flood: 09:22	**21** Site Inspection NM1A/AR1A NM4 NM3A	**22** CWD Vessel Survey WQ General & Regular DCM mid- ebb: 17:07 mid- flood: 11:35	**23** AR2 CWD Vessel Survey	**24** WQ General & Regular DCM mid- ebb: 06:51 mid- flood: 14:46
25	**26** Site Inspection NM6	**27** NM1A/AR1A NM4 NM3A WQ General & Regular DCM mid- ebb: 10:38 mid- flood: 17:39	**28** Site Inspection	**29** NM5/AR2 Ecological Monitoring WQ General & Regular DCM mid- ebb: 12:05 mid- flood: 18:33	**30**	

Notes:

Air quality and Noise montiorng Station

NM1A/AR1A - Man Tung Road Park
NM3A - Site Office
NM4 - Ching Chung Hau Po Woon Primary School
NM5/AR2 - Village House, Tin Sum
NM6 - House No. 1, Sha Lo Wan

CWD - Chinese White Dolphin
WQ - Water Quality
DCM - Deep Cemenet Mixing

* Rescheduled due to adverse weather
^ Cancelled due to adverse weather

Appendix E. Monitoring Results

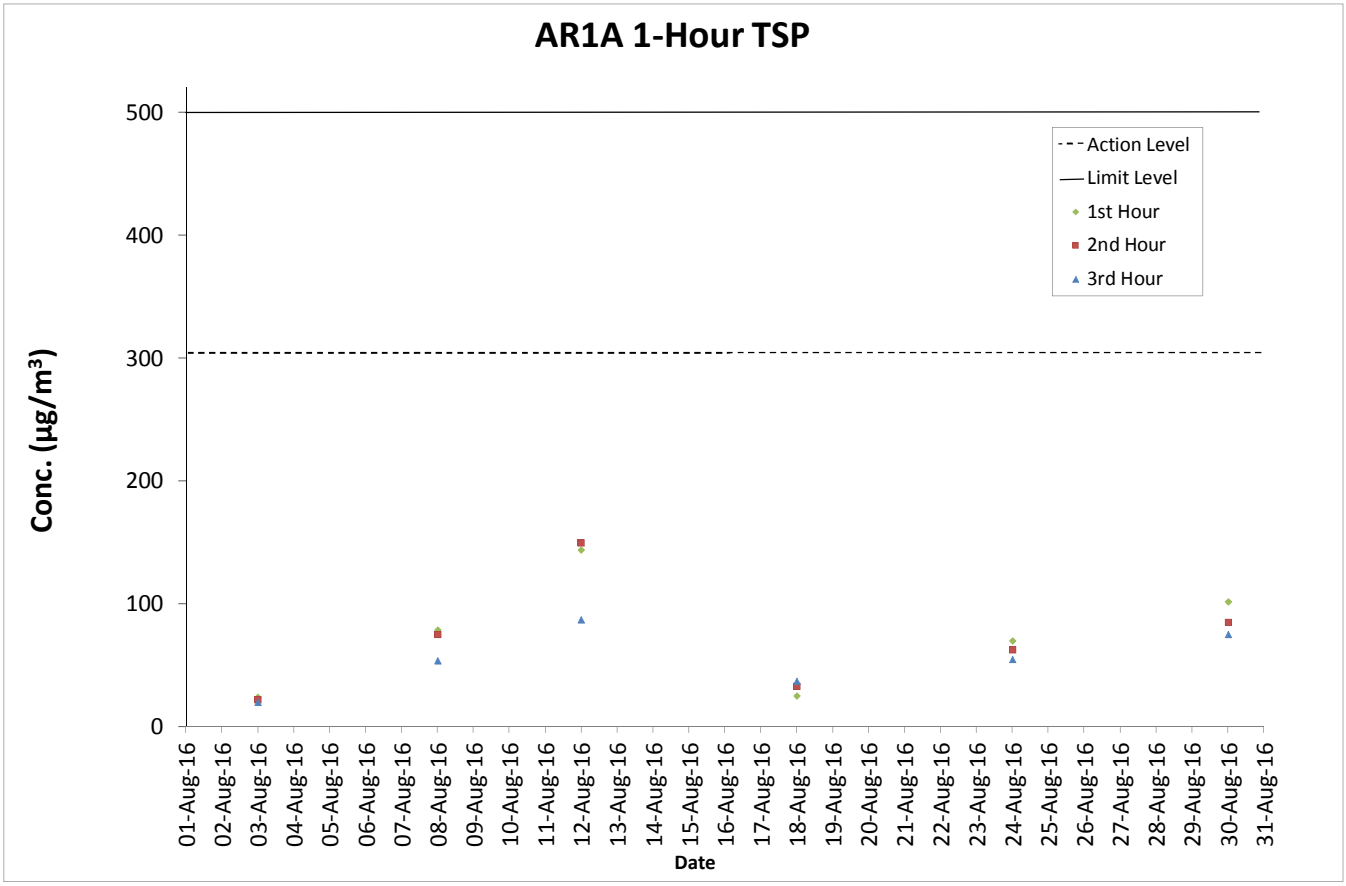
Air Quality Monitoring Results

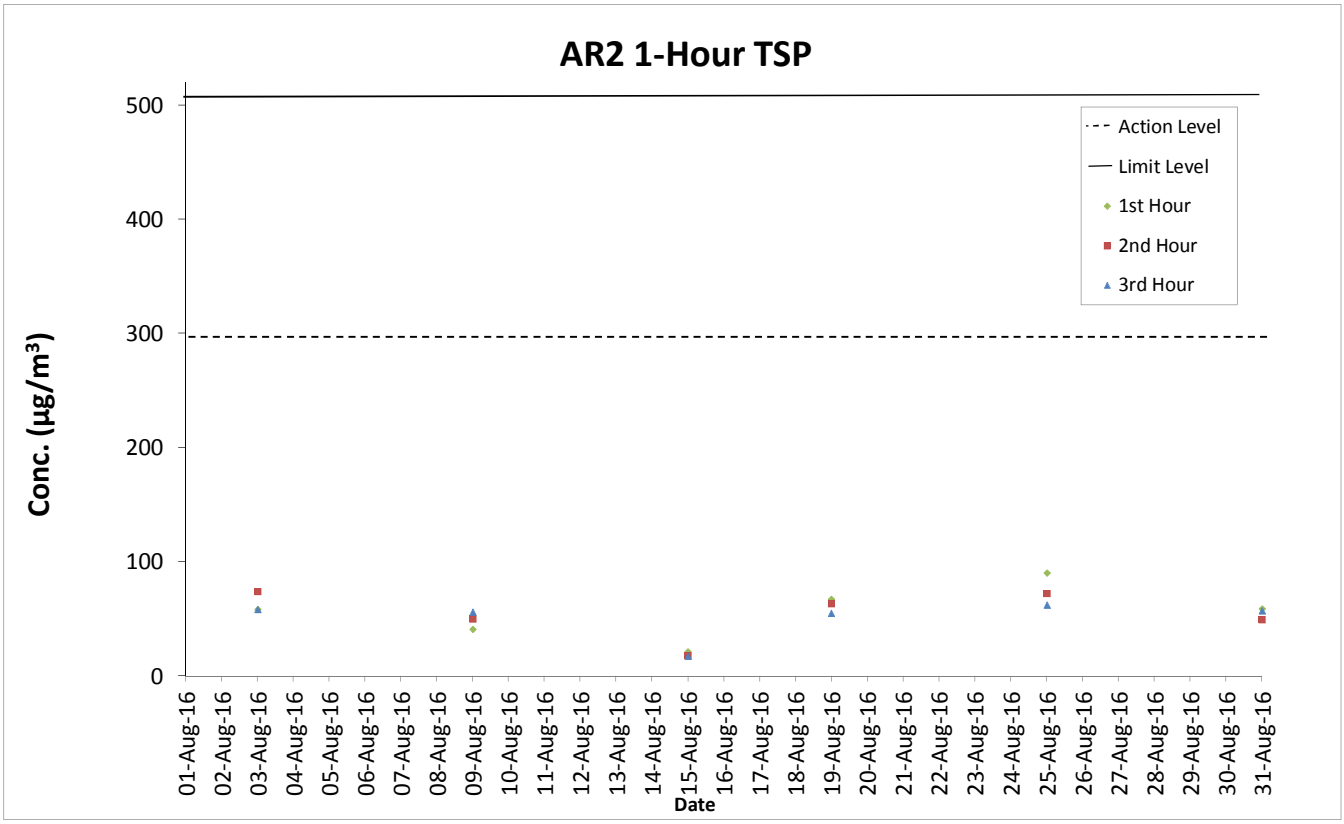
1-hour TSP Results
Station: AR1A- Man Tung Road Park

Date	Time	Weather	Wind Speed (m/s)	Wind Direction (deg)	1-hr TSP (μg/m^3)	Action Level (μg/m^3)	Limit Level (μg/m^3)
03-Aug-16	14:00	Cloudy	3.9	93	24	306	500
03-Aug-16	15:00	Cloudy	5.0	77	22	306	500
03-Aug-16	16:00	Cloudy	5.2	147	20	306	500
08-Aug-16	14:00	Sunny	9.6	62	79	306	500
08-Aug-16	15:00	Sunny	9.5	64	75	306	500
08-Aug-16	16:00	Sunny	9.7	60	54	306	500
12-Aug-16	08:50	Rainy	3.5	233	144	306	500
12-Aug-16	09:50	Rainy	3.3	223	150	306	500
12-Aug-16	10:50	Rainy	3.2	226	87	306	500
18-Aug-16	08:55	Rainy	5.1	155	25	306	500
18-Aug-16	09:55	Rainy	7.5	159	33	306	500
18-Aug-16	10:55	Rainy	4.2	126	37	306	500
24-Aug-16	09:21	Sunny	1.7	343	70	306	500
24-Aug-16	10:21	Sunny	1.8	324	63	306	500
24-Aug-16	13:30	Sunny	4.2	272	55	306	500
30-Aug-16	08:45	Sunny	2.7	51	102	306	500
30-Aug-16	09:45	Sunny	2.9	46	85	306	500
30-Aug-16	10:45	Sunny	3.2	357	75	306	500

1-hour TSP Results
Station: AR2- Village House, Tin Sum

Date	Time	Weather	Wind Speed (m/s)	Wind Direction (deg)	1-hr TSP (μg/m^3)	Action Level (μg/m^3)	Limit Level (μg/m^3)
03-Aug-16	08:55	Cloudy	2.2	91	58	298	500
03-Aug-16	09:55	Cloudy	5.2	196	74	298	500
03-Aug-16	10:55	Cloudy	7.9	140	58	298	500
09-Aug-16	08:50	Sunny	2.4	266	41	298	500
09-Aug-16	09:50	Sunny	1.4	317	50	298	500
09-Aug-16	10:50	Sunny	2.0	272	56	298	500
15-Aug-16	09:00	Cloudy	1.8	44	21	298	500
15-Aug-16	10:00	Cloudy	1.7	33	18	298	500
15-Aug-16	11:00	Cloudy	1.2	47	17	298	500
19-Aug-16	08:55	Sunny	3.9	169	67	298	500
19-Aug-16	09:55	Sunny	4.3	167	63	298	500
19-Aug-16	10:55	Sunny	2.6	310	55	298	500
25-Aug-16	09:00	Sunny	2.0	29	90	298	500
25-Aug-16	10:00	Sunny	2.5	32	72	298	500
25-Aug-16	11:00	Sunny	2.4	359	62	298	500
31-Aug-16	09:00	Fine	2.7	51	59	298	500
31-Aug-16	10:00	Fine	2.5	21	49	298	500
31-Aug-16	11:00	Fine	2.2	326	57	298	500


AR1A 1-Hour TSP
Conc. (µg/m³)
500
400
300
200
100
0
Action Level
Limit Level
1st Hour
2nd Hour
3rd Hour
01-Aug-16
02-Aug-16
03-Aug-16
04-Aug-16
05-Aug-16
06-Aug-16
07-Aug-16
08-Aug-16
09-Aug-16
10-Aug-16
11-Aug-16
12-Aug-16
13-Aug-16
14-Aug-16
15-Aug-16
16-Aug-16
17-Aug-16
18-Aug-16
19-Aug-16
20-Aug-16
21-Aug-16
22-Aug-16
23-Aug-16
24-Aug-16
25-Aug-16
26-Aug-16
27-Aug-16
28-Aug-16
29-Aug-16
30-Aug-16
31-Aug-16
Date


AR2 1-Hour TSP
Conc. (µg/m³)
500
400
300
200
100
0
Action Level
Limit Level
1st Hour
2nd Hour
3rd Hour
01-Aug-16
02-Aug-16
03-Aug-16
04-Aug-16
05-Aug-16
06-Aug-16
07-Aug-16
08-Aug-16
09-Aug-16
10-Aug-16
11-Aug-16
12-Aug-16
13-Aug-16
14-Aug-16
15-Aug-16
16-Aug-16
17-Aug-16
18-Aug-16
19-Aug-16
20-Aug-16
21-Aug-16
22-Aug-16
23-Aug-16
24-Aug-16
25-Aug-16
26-Aug-16
27-Aug-16
28-Aug-16
29-Aug-16
30-Aug-16
31-Aug-16
Date

Noise Monitoring Results

Noise Measurement Results
Station: NM1A- Man Tung Road Park

Date	Weather	Time	Measured L_{10} dB(A)	Measured L_{90} dB(A)	$L_{eq(30mins)}$ dB(A)
03-Aug-16	Cloudy	15:15	71.0	54.5	72
03-Aug-16	Cloudy	15:20	71.5	56.0	
03-Aug-16	Cloudy	15:25	73.0	55.5	
03-Aug-16	Cloudy	15:30	73.5	56.5	
03-Aug-16	Cloudy	15:35	72.5	57.0	
03-Aug-16	Cloudy	15:40	71.0	55.5	
08-Aug-16	Sunny	15:25	70.0	54.0	71
08-Aug-16	Sunny	15:30	71.5	55.5	
08-Aug-16	Sunny	15:35	71.5	54.5	
08-Aug-16	Sunny	15:40	71.5	54.0	
08-Aug-16	Sunny	15:45	70.0	55.5	
08-Aug-16	Sunny	15:50	70.5	55.5	
18-Aug-16	Rainy	09:49	66.5	59.5	68
18-Aug-16	Rainy	09:54	66.5	59.5	
18-Aug-16	Rainy	09:59	63.5	58.0	
18-Aug-16	Rainy	10:04	65.5	58.5	
18-Aug-16	Rainy	10:09	69.5	61.5	
18-Aug-16	Rainy	10:14	68.0	61.0	
24-Aug-16	Sunny	09:43	71.5	56.5	71
24-Aug-16	Sunny	09:48	70.5	57.5	
24-Aug-16	Sunny	09:53	71.5	58.0	
24-Aug-16	Sunny	09:58	71.0	57.0	
24-Aug-16	Sunny	10:03	71.5	57.0	
24-Aug-16	Sunny	10:08	71.0	57.5	
30-Aug-16	Sunny	10:57	72.0	55.5	71
30-Aug-16	Sunny	11:02	72.5	54.5	
30-Aug-16	Sunny	11:07	71.5	55.0	
30-Aug-16	Sunny	11:12	72.0	54.5	
30-Aug-16	Sunny	11:17	70.5	53.0	
30-Aug-16	Sunny	11:22	71.5	56.0	

Remarks:
+3dB (A) correction was applied to free-field measurement.

Noise Measurement Results
Station: NM3A- Site Office

Date	Weather	Time	Measured L_{10} dB(A)	Measured L_{90} dB(A)	$L_{eq(30mins)}$ dB(A)
03-Aug-16	Cloudy	14:46	68.5	60.0	61
03-Aug-16	Cloudy	14:51	66.0	59.5	
03-Aug-16	Cloudy	14:56	66.0	59.5	
03-Aug-16	Cloudy	15:01	68.0	59.5	
03-Aug-16	Cloudy	15:06	70.5	59.5	
03-Aug-16	Cloudy	15:11	68.5	59.5	
09-Aug-16	Sunny	09:50	63.5	61.5	63
09-Aug-16	Sunny	09:55	62.5	61.5	
09-Aug-16	Sunny	10:00	64.5	62.0	
09-Aug-16	Sunny	10:05	63.0	62.0	
09-Aug-16	Sunny	10:10	62.5	61.5	
09-Aug-16	Sunny	10:15	63.0	61.5	
15-Aug-16	Cloudy	14:33	72.0	60.5	63
15-Aug-16	Cloudy	14:38	71.0	60.5	
15-Aug-16	Cloudy	14:43	68.5	60.5	
15-Aug-16	Cloudy	14:48	68.0	60.5	
15-Aug-16	Cloudy	14:53	69.0	60.0	
15-Aug-16	Cloudy	14:58	67.0	60.0	
25-Aug-16	Sunny	14:20	61.5	61.0	62
25-Aug-16	Sunny	14:25	62.5	61.0	
25-Aug-16	Sunny	14:30	62.0	61.0	
25-Aug-16	Sunny	14:35	65.5	61.0	
25-Aug-16	Sunny	14:40	62.0	61.5	
25-Aug-16	Sunny	14:45	62.5	61.0	
31-Aug-16	Fine	14:36	61.0	59.5	60
31-Aug-16	Fine	14:41	60.5	59.5	
31-Aug-16	Fine	14:46	60.5	59.5	
31-Aug-16	Fine	14:51	61.0	59.5	
31-Aug-16	Fine	14:56	60.5	59.5	
31-Aug-16	Fine	15:01	61.5	60.0	

Noise Measurement Results
Station: NM4- Ching Chung Hau Po Won Primary School

Date	Weather	Time	Measured L_{10} dB(A)	Measured L_{90} dB(A)	$L_{eq(30mins)}$ dB(A)
03-Aug-16	Cloudy	13:08	62.0	58.5	64
03-Aug-16	Cloudy	13:13	62.5	58.5	
03-Aug-16	Cloudy	13:18	62.0	59.5	
03-Aug-16	Cloudy	13:23	61.5	58.0	
03-Aug-16	Cloudy	13:28	63.0	58.0	
03-Aug-16	Cloudy	13:33	62.0	58.5	
08-Aug-16	Sunny	13:00	60.5	56.5	63
08-Aug-16	Sunny	13:05	61.0	57.0	
08-Aug-16	Sunny	13:10	63.0	57.5	
08-Aug-16	Sunny	13:15	62.0	58.0	
08-Aug-16	Sunny	13:20	63.0	58.0	
08-Aug-16	Sunny	13:25	62.5	58.0	
18-Aug-16	Rainy	13:32	63.0	60.5	65
18-Aug-16	Rainy	13:37	63.5	60.0	
18-Aug-16	Rainy	13:42	64.0	59.0	
18-Aug-16	Rainy	13:47	62.5	58.5	
18-Aug-16	Rainy	13:52	63.0	58.0	
18-Aug-16	Rainy	13:57	63.0	58.0	
24-Aug-16	Sunny	11:27	61.5	57.0	64
24-Aug-16	Sunny	11:32	62.5	58.0	
24-Aug-16	Sunny	11:37	62.5	57.0	
24-Aug-16	Sunny	11:42	62.5	57.5	
24-Aug-16	Sunny	11:47	62.0	57.0	
24-Aug-16	Sunny	11:52	66.0	60.5	
30-Aug-16	Sunny	13:45	62.5	58.0	64
30-Aug-16	Sunny	13:50	64.0	57.5	
30-Aug-16	Sunny	13:55	61.5	57.5	
30-Aug-16	Sunny	14:00	63.5	58.5	
30-Aug-16	Sunny	14:05	63.0	57.5	
30-Aug-16	Sunny	14:10	62.5	57.0	

Remarks:
+3dB (A) correction was applied to free-field measurement.

Noise Measurement Results
Station: NM5- Village House, Tin Sum

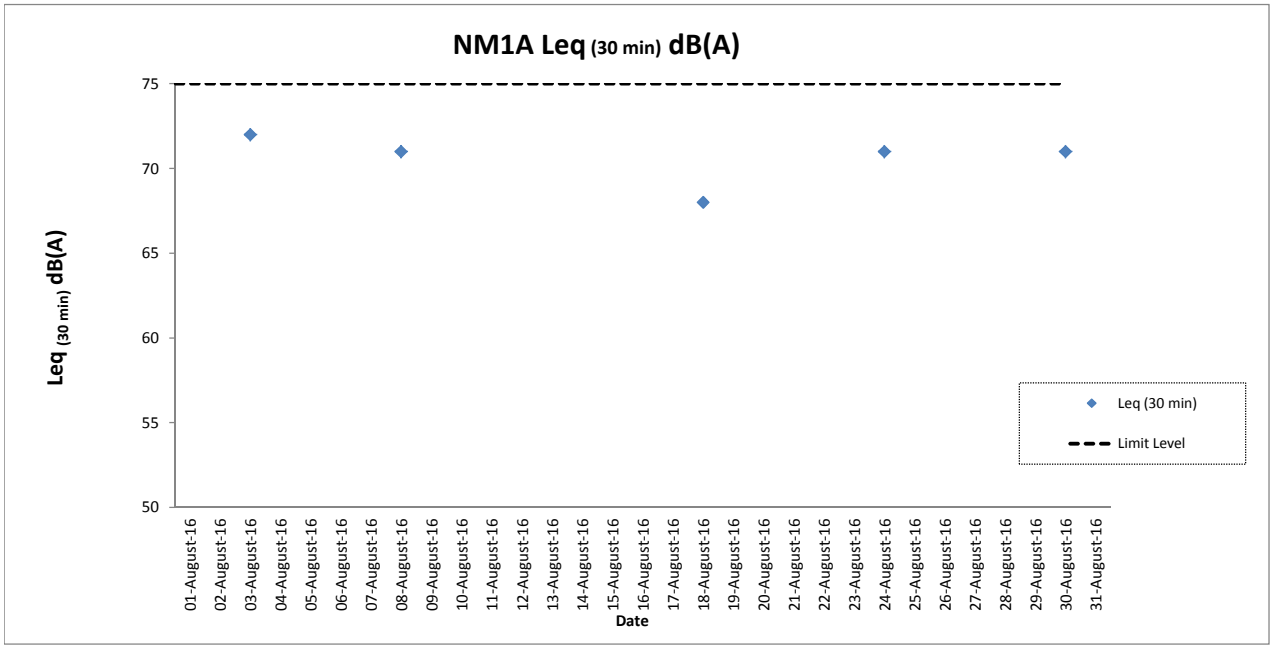
Date	Weather	Time	Measured L_{10} dB(A)	Measured L_{90} dB(A)	$L_{eq(30mins)}$ dB(A)
03-Aug-16	Cloudy	09:10	54.5	47.5	53
03-Aug-16	Cloudy	09:15	50.0	47.0	
03-Aug-16	Cloudy	09:20	56.5	47.5	
03-Aug-16	Cloudy	09:25	60.5	48.0	
03-Aug-16	Cloudy	09:30	63.0	48.5	
03-Aug-16	Cloudy	09:35	63.5	48.5	
09-Aug-16	Sunny	09:15	52.5	48.0	53
09-Aug-16	Sunny	09:20	59.5	48.0	
09-Aug-16	Sunny	09:25	53.0	47.5	
09-Aug-16	Sunny	09:30	55.5	48.5	
09-Aug-16	Sunny	09:35	67.5	51.0	
09-Aug-16	Sunny	09:40	53.0	48.5	
15-Aug-16	Cloudy	09:10	57.0	50.0	59
15-Aug-16	Cloudy	09:15	56.5	49.0	
15-Aug-16	Cloudy	09:20	56.5	49.5	
15-Aug-16	Cloudy	09:25	61.0	50.0	
15-Aug-16	Cloudy	09:30	56.5	49.5	
15-Aug-16	Cloudy	09:35	59.0	51.0	
25-Aug-16	Sunny	09:15	58.5	47.5	57
25-Aug-16	Sunny	09:20	53.5	51.5	
25-Aug-16	Sunny	09:25	56.0	49.0	
25-Aug-16	Sunny	09:30	55.0	49.0	
25-Aug-16	Sunny	09:35	52.5	49.0	
25-Aug-16	Sunny	09:40	56.0	48.0	
31-Aug-16	Fine	09:13	53.5	48.0	58
31-Aug-16	Fine	09:18	61.0	47.0	
31-Aug-16	Fine	09:23	54.4	48.5	
31-Aug-16	Fine	09:28	56.5	48.5	
31-Aug-16	Fine	09:33	54.5	46.0	
31-Aug-16	Fine	09:38	54.5	49.5	

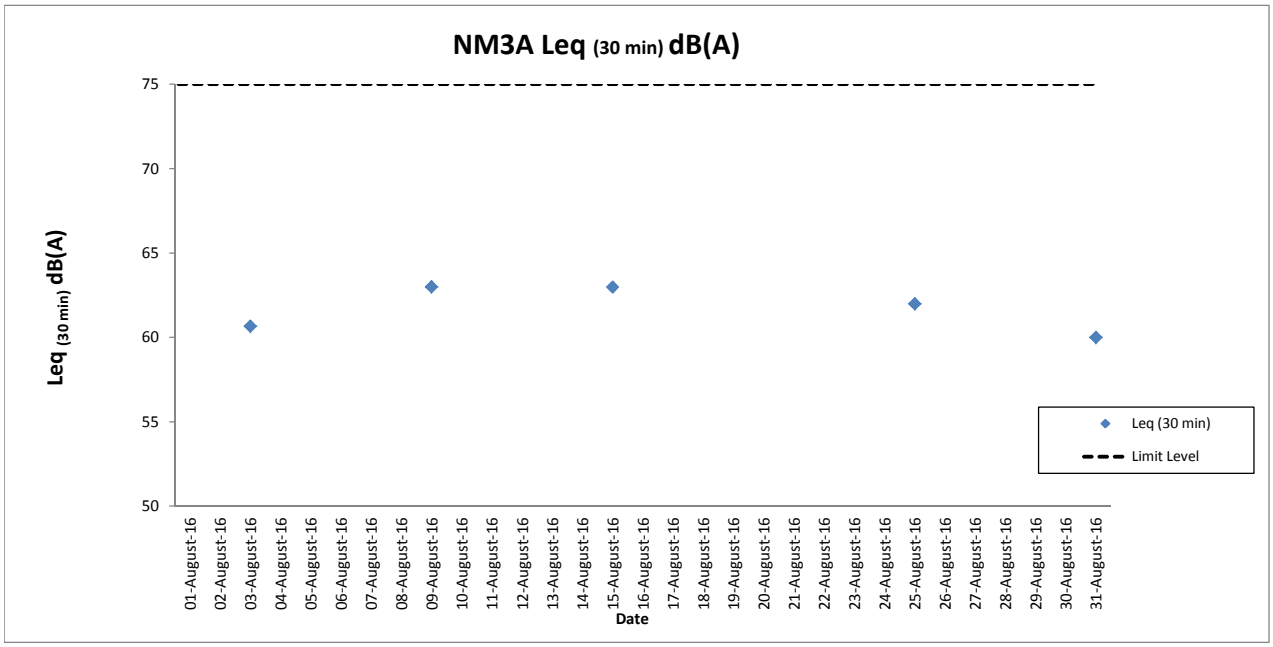
Remarks:
+3dB (A) correction was applied to free-field measurement.

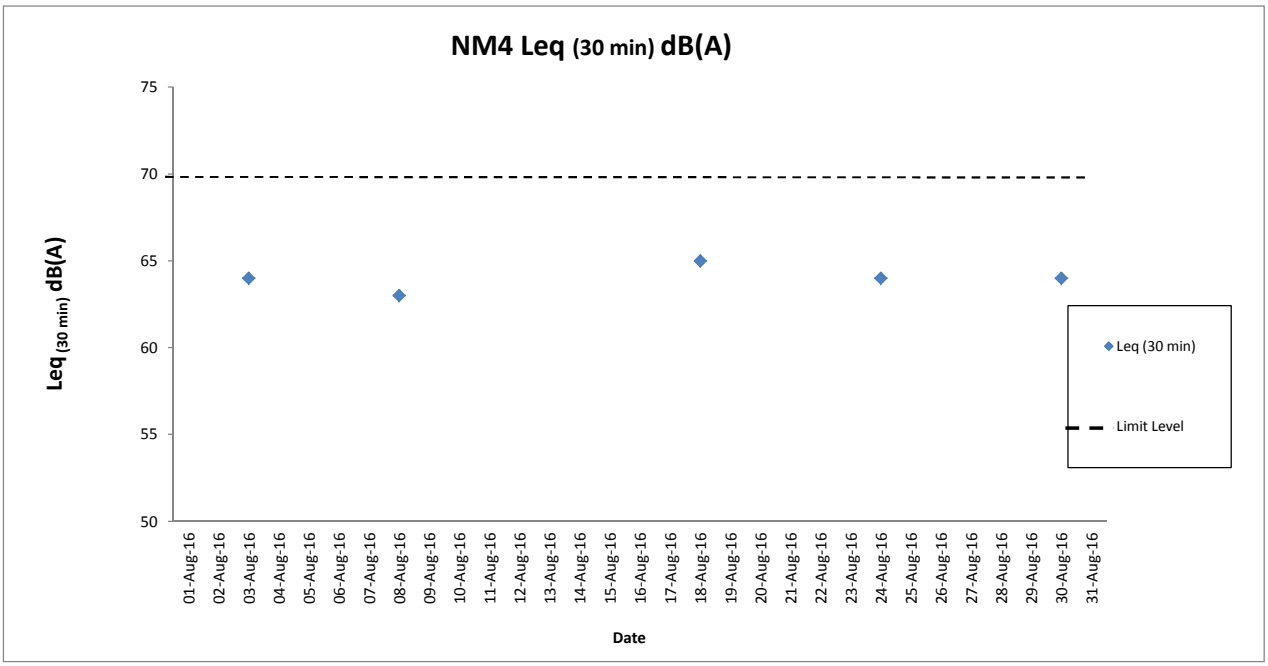
Noise Measurement Results
Station: NM6- House No.1 Sha Lo Wan

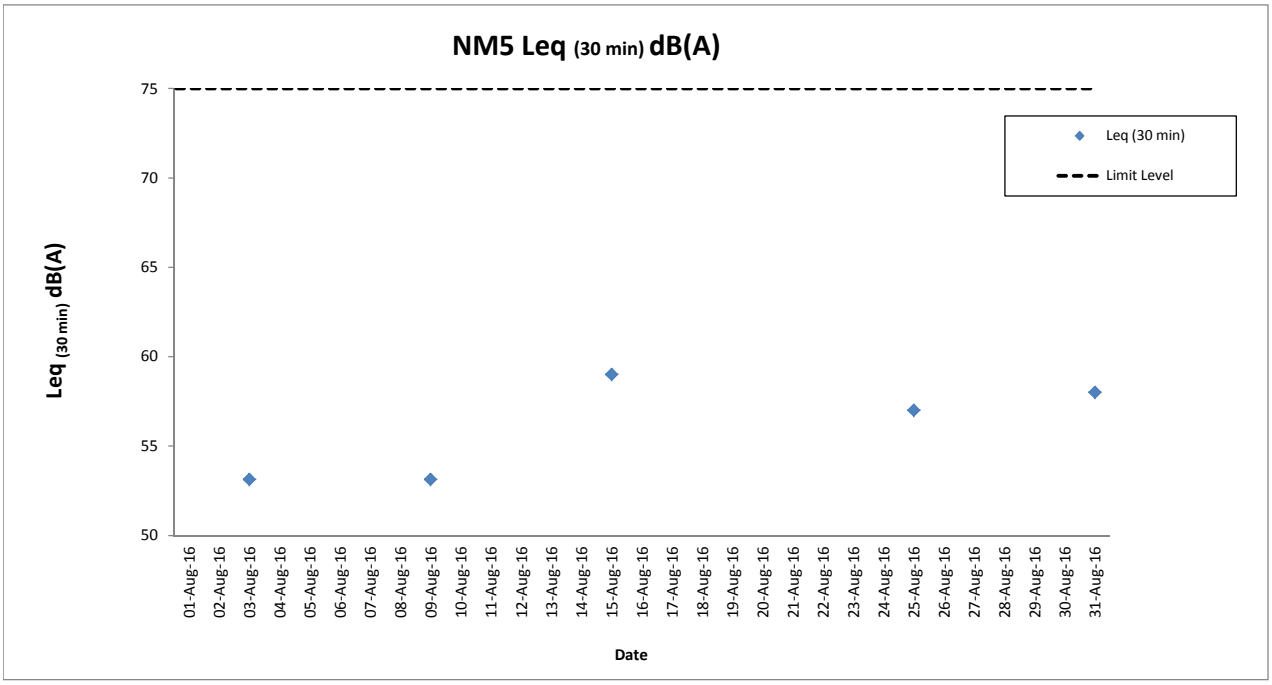
Date	Weather	Time	Measured L_{10} dB(A)	Measured L_{90} dB(A)	$L_{eq(30mins)}$ dB(A)
05-Aug-16	Sunny	09:43	78.0	58.0	68
05-Aug-16	Sunny	09:48	67.0	57.0	
05-Aug-16	Sunny	09:53	71.5	59.0	
05-Aug-16	Sunny	09:58	66.5	54.5	
05-Aug-16	Sunny	10:03	65.5	55.5	
05-Aug-16	Sunny	10:08	68.5	57.5	
08-Aug-16	Sunny	09:43	68.0	54.5	71
08-Aug-16	Sunny	09:48	77.5	56.5	
08-Aug-16	Sunny	09:53	75.5	55.0	
08-Aug-16	Sunny	09:58	72.5	55.0	
08-Aug-16	Sunny	10:03	74.5	54.0	
08-Aug-16	Sunny	10:08	74.0	52.5	
19-Aug-16	Sunny	10:07	66.5	56.0	67
19-Aug-16	Sunny	10:12	71.0	59.0	
19-Aug-16	Sunny	10:17	64.5	55.0	
19-Aug-16	Sunny	10:22	65.0	56.0	
19-Aug-16	Sunny	10:27	66.0	56.0	
19-Aug-16	Sunny	10:32	68.5	55.5	
24-Aug-16	Sunny	09:44	72.0	54.0	71
24-Aug-16	Sunny	09:49	74.5	53.5	
24-Aug-16	Sunny	09:54	73.5	56.0	
24-Aug-16	Sunny	09:59	73.0	56.0	
24-Aug-16	Sunny	10:04	76.0	54.0	
24-Aug-16	Sunny	10:09	72.0	55.5	
30-Aug-16	Sunny	09:43	72.5	56.5	68
30-Aug-16	Sunny	09:48	67.5	55.0	
30-Aug-16	Sunny	09:53	67.5	55.5	
30-Aug-16	Sunny	09:58	66.5	55.5	
30-Aug-16	Sunny	10:03	63.5	56.0	
30-Aug-16	Sunny	10:08	64.0	55.5	

Remarks:
+3dB (A) correction was applied to free-field measurement.


NM1A Leq (30 min) dB(A)
Leq (30 min) dB(A)
75
70
65
60
55
50
01-August-16
02-August-16
03-August-16
04-August-16
05-August-16
06-August-16
07-August-16
08-August-16
09-August-16
10-August-16
11-August-16
12-August-16
13-August-16
14-August-16
15-August-16
16-August-16
17-August-16
18-August-16
19-August-16
20-August-16
21-August-16
22-August-16
23-August-16
24-August-16
25-August-16
26-August-16
27-August-16
28-August-16
29-August-16
30-August-16
31-August-16
Date
Leq (30 min)
Limit Level


NM3A Leq (30 min) dB(A)
Leq (30 min) dB(A)
75
70
65
60
55
50
01-August-16
02-August-16
03-August-16
04-August-16
05-August-16
06-August-16
07-August-16
08-August-16
09-August-16
10-August-16
11-August-16
12-August-16
13-August-16
14-August-16
15-August-16
16-August-16
17-August-16
18-August-16
19-August-16
20-August-16
21-August-16
22-August-16
23-August-16
24-August-16
25-August-16
26-August-16
27-August-16
28-August-16
29-August-16
30-August-16
31-August-16
Date
Leq (30 min)
Limit Level


NM4 Leq (30 min) dB(A)
Leq (30 min) dB(A)
75
70
65
60
55
50
01-Aug-16
02-Aug-16
03-Aug-16
04-Aug-16
05-Aug-16
06-Aug-16
07-Aug-16
08-Aug-16
09-Aug-16
10-Aug-16
11-Aug-16
12-Aug-16
13-Aug-16
14-Aug-16
15-Aug-16
16-Aug-16
17-Aug-16
18-Aug-16
19-Aug-16
20-Aug-16
21-Aug-16
22-Aug-16
23-Aug-16
24-Aug-16
25-Aug-16
26-Aug-16
27-Aug-16
28-Aug-16
29-Aug-16
30-Aug-16
31-Aug-16
Date
Leq (30 min)
Limit Level


NM5 Leq (30 min) dB(A)
Leq (30 min) dB(A)
75
70
65
60
55
50
01-Aug-16
02-Aug-16
03-Aug-16
04-Aug-16
05-Aug-16
06-Aug-16
07-Aug-16
08-Aug-16
09-Aug-16
10-Aug-16
11-Aug-16
12-Aug-16
13-Aug-16
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17-Aug-16
18-Aug-16
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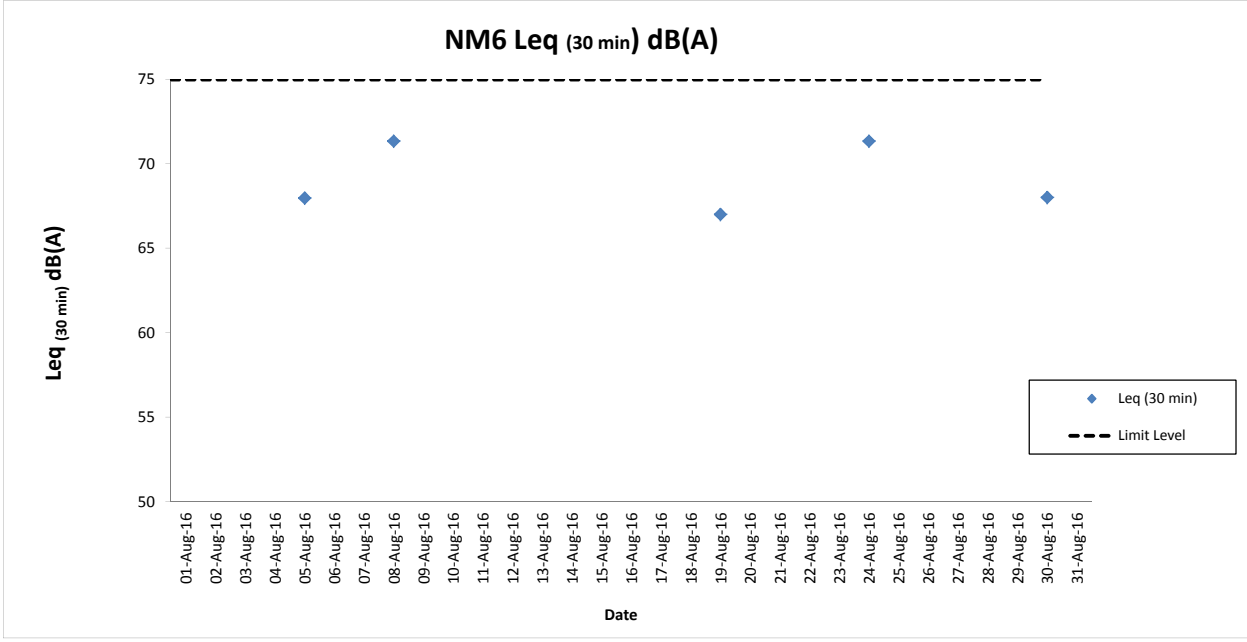
20-Aug-16
21-Aug-16
22-Aug-16
23-Aug-16
24-Aug-16
25-Aug-16
26-Aug-16
27-Aug-16
28-Aug-16
29-Aug-16
30-Aug-16
31-Aug-16
Date
Leq (30 min)
Limit Level


NM6 Leq (30 min) dB(A)
Leq (30 min) dB(A)
75
70
65
60
55
50
01-Aug-16
02-Aug-16
03-Aug-16
04-Aug-16
05-Aug-16
06-Aug-16
07-Aug-16
08-Aug-16
09-Aug-16
10-Aug-16
11-Aug-16
12-Aug-16
13-Aug-16
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17-Aug-16
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19-Aug-16
20-Aug-16
21-Aug-16
22-Aug-16
23-Aug-16
24-Aug-16
25-Aug-16
26-Aug-16
27-Aug-16
28-Aug-16
29-Aug-16
30-Aug-16
31-Aug-16
Date
Leq (30 min)
Limit Level

Water Quality Monitoring Results

Expansion of Hong Kong International Airport into a Three-Runway System
Water Quality Monitoring
Water Quality Monitoring Results at C1 during Mid-Flood Tide

Date	Weather Condition	Sea Condition	Sampling Time	Water Depth (m)	Sampling Depth (m)		Current Speed (m/s)	Current Direction	Water Temperature (°C) Value	Water Temperature (°C) Average	pH Value	pH Average	Salinity (ppt) Value	Salinity (ppt) Average	DO Saturation (%) Value	DO Saturation (%) Average	Dissolved Oxygen (mg/L) Value	Dissolved Oxygen (mg/L) DA	Turbidity(NTU) Value	Turbidity(NTU) DA	Suspended Solids (mg/L) Value	Suspended Solids (mg/L) DA	Total Alkalinity (ppm) Value	Total Alkalinity (ppm) DA	Coordinate HK Grid (Northing)	Coordinate HK Grid (Easting)	Chromium (µg/L) Value	Chromium (µg/L) DA	Nickel (µg/L) Value	Nickel (µg/L) DA
4-Aug-16	Fine	Moderate	20:59	7.5	Surface	1.0	0.7	50	26.9	26.9	7.7	7.7	23.1	23.1	75.0	75.0	5.3	5.0	9.8	47.0	12	33	85	90	815625	804251	<0.2	<0.2	1.7	1.4
						1.0	0.7	52	26.9		7.7		23.1		74.9		5.3		10.0		13		84				<0.2		1.8	
					Middle	3.8	0.6	59	26.2	26.2	7.7	7.7	25.9	25.9	67.6	67.6	4.7		20.3		19		96				<0.2		1.3	
						3.8	0.6	63	26.2		7.7		25.9		67.6		4.7		20.2		20		94				<0.2		1.3	
					Bottom	6.5	0.5	59	25.6	25.6	7.7	7.7	27.8	27.8	64.3	64.4	4.5	4.5	112.6		68		90				<0.2		1.2	
						6.5	0.6	61	25.6		7.7		27.8		64.4		4.5		108.8		65		92				<0.2		1.2	
6-Aug-16	Sunny	Moderate	08:28	8.5	Surface	1.0	0.4	90	27.9	27.9	7.6	7.6	18.4	18.4	74.4	74.4	5.3	4.9	2.9	7.5	4	5	81	85	815618	804250	<0.2	<0.2	3.1	2.4
						1.0	0.4	98	27.9		7.6		18.4		74.3		5.3		3.0		3		81				<0.2		2.9	
					Middle	4.3	0.6	63	27.0	27.0	7.7	7.7	24.2	24.2	65.5	65.4	4.6		4.2		5		84				<0.2		2.5	
						4.3	0.6	64	27.0		7.7		24.2		65.2		4.5		4.5		4		82				<0.2		2.7	
					Bottom	7.5	0.5	55	25.8	25.8	7.7	7.7	28.0	28.0	58.7	58.9	4.1	4.1	15.4		8		94				<0.2		1.5	
						7.5	0.6	57	25.8		7.7		28.0		59.0		4.1		15.0		8		90				<0.2		1.4	
9-Aug-16	Fine	Moderate	10:48	8.4	Surface	1.0	0.5	83	29.7	29.6	7.9	7.9	16.4	16.4	93.9	93.3	6.5	5.5	1.4	16.8	4	15	80	86	815606	804249	<0.2	<0.2	2.7	1.4
						1.0	0.5	87	29.5		7.9		16.4		92.7		6.5		1.5		2		78				<0.2		2.7	
					Middle	4.2	0.6	59	25.6	25.6	7.7	7.7	29.3	29.4	63.2	64.5	4.4		10.3		7		86				<0.2		1.0	
						4.2	0.6	61	25.6		7.7		29.4		65.8		4.6		11.6		8		87				<0.2		1.1	
					Bottom	7.4	0.5	58	25.0	25.0	7.7	7.8	31.2	31.2	62.1	64.1	4.3	4.5	38.7		35		93				<0.2		0.5	
						7.4	0.6	58	25.0		7.8		31.2		66.1		4.6		37.3		35		94				<0.2		0.6	
11-Aug-16	Cloudy	Moderate	13:03	8.2	Surface	1.0	0.3	167	28.7	28.7	7.7	7.7	13.6	13.6	83.9	84.0	6.0	5.5	0.9	3.7	3	5	73	78	815614	804252	<0.2	<0.2	4.6	3.1
						1.0	0.3	172	28.7		7.7		13.6		84.0		6.0		1.0		3		73				<0.2		4.4	
					Middle	4.1	0.3	151	27.8	27.8	7.8	7.8	21.0	21.1	71.9	71.9	5.0		1.0		3		74				<0.2		3.4	
						4.1	0.3	158	27.8		7.8		21.1		71.8		5.0		1.0		4		73				<0.2		3.5	
					Bottom	7.2	0.4	141	25.1	25.1	7.8	7.8	31.0	31.0	49.5	49.8	3.4	3.5	9.0		7		86				<0.2		1.1	
						7.2	0.4	149	25.1		7.8		31.0		50.0		3.5		9.1		8		87				<0.2		1.4	
13-Aug-16	Cloudy	Moderate	16:22	7.9	Surface	1.0	0.4	94	28.9	28.9	7.6	7.6	14.9	14.9	65.4	65.4	4.6	4.0	2.5	6.0	<2	5	75	89	815626	804243	<0.2	<0.2	3.2	1.6
						1.0	0.4	96	28.9		7.6		14.9		65.4		4.6		2.6		<2		77				<0.2		3.6	
					Middle	4.0	0.4	101	25.4	25.4	7.8	7.8	29.4	29.4	48.8	48.8	3.4		4.3		7		97				<0.2		0.7	
						4.0	0.4	104	25.4		7.8		29.3		48.8		3.4		4.2		6		93				<0.2		0.8	
					Bottom	6.9	0.4	112	24.6	24.6	7.8	7.8	31.7	31.7	46.1	46.3	3.2	3.2	11.2		6		96				<0.2		0.6	
						6.9	0.4	118	24.6		7.8		31.7		46.5		3.2		11.2		5		96				<0.2		0.6	
16-Aug-16	Cloudy	Moderate	18:17	8.1	Surface	1.0	0.4	84	27.0	27.0	7.8	7.8	23.5	23.5	65.4	65.3	4.6	4.3	4.5	23.8	7	22	85	91	815614	804249	<0.2	<0.2	1.9	1.4
						1.0	0.5	89	26.9		7.8		23.5		65.1		4.5		4.7		6		84				<0.2		1.6	
					Middle	4.1	0.5	61	25.8	26.0	7.8	7.8	27.4	27.3	57.1	56.9	4.0		9.7		9		86				<0.2		1.4	
						4.1	0.5	62	26.2		7.8		27.1		56.7		3.9		9.7		8		87				<0.2		1.3	
					Bottom	7.1	0.4	71	25.7	25.6	7.8	7.8	29.0	29.1	53.0	53.1	3.7	3.7	56.7		50		102				<0.2		1.2	
						7.1	0.4	71	25.5		7.8		29.1		53.1		3.7		57.2		49		99				<0.2		1.0	
18-Aug-16	Rough	Cloudy	19:59	6.6	Surface	1.0	0.4	124	26.5	26.5	7.8	7.8	26.6	26.6	72.1	72.1	5.0	5.0	13.7	19.3	20	20	94	91	815626	804259	<0.2	<0.2	1.5	1.5
						1.0	0.4	133	26.5		7.8		26.6		72.1		5.0		13.7		20		94				<0.2		1.6	
					Middle	3.3	0.4	92	26.5	26.5	7.8	7.8	26.7	26.7	70.4	70.4	4.9		14.8		19		85				<0.2		1.4	
						3.3	0.5	100	26.5		7.8		26.7		70.4		4.9		15.0		20		87				<0.2		1.6	
					Bottom	5.6	0.4	105	26.4	26.4	7.8	7.8	27.1	27.1	69.8	69.8	4.8	4.8	29.5		20		94				<0.2		1.4	
						5.6	0.5	106	26.4		7.8		27.1		69.8		4.8		29.2		21		93				<0.2		1.6	
20-Aug-16	Sunny	Calm	07:42	8.8	Surface	1.0	0.7	41	27.4	27.4	7.7	7.7	22.7	22.7	73.3	73.3	5.1	5.1	8.1	34.8	14	23	89	92	815601	804233	<0.2	<0.2	2.9	2.4
						1.0	0.7	42	27.4		7.7		22.7		73.3		5.1		8.3		15		86				<0.2		2.6	
					Middle	4.4	0.8	42	26.9	26.9	7.8	7.8	27.3	27.3	73.8	73.8	5.0		28.3		27		94				<0.2		2.0	
						4.4	0.9	44	26.9		7.8		27.3		73.8		5.0		28.4		27		93				<0.2		2.3	
					Bottom	7.8	0.8	48	26.8	26.8	7.8	7.8	27.9	27.9	74.0	74.2	5.1	5.1	68.9		27		94				<0.2		2.1	
						7.8	0.8	51	26.8		7.8		27.9		74.3		5.1		66.6		27		94				<0.2		2.3	
23-Aug-16	Sunny	Moderate	09:55	8.4	Surface	1.0	0.5	89	28.7	28.7	7.7	7.7	19.5	19.5	72.7	72.7	5.0	5.0	5.2	41.1	4	48	83	90	815636	804247	<0.2	<0.2	2.6	1.7
						1.0	0.5	89	28.7		7.7		19.5		72.7		5.0		5.4		5		81				<0.2		2.1	
					Middle	4.2	0.6	59	27.8	27.8	7.8	7.8	26.5	26.5	72.8	72.8	4.9		15.3		6		87				<0.2		1.5	
						4.2	0.7	63	27.8		7.8		26.5		72.8		4.9		15.5		4		90				<0.2		1.3	
					Bottom	7.4	0.6	55	27.7	27.7	7.9	7.9	27.6	27.6	72.4	72.4	4.9	4.9	102.8		136		97				<0.2		1.2	
						7.4	0.6	55	27.7		7.9		27.5		72.4		4.9		102.2		135		99				<0.2		1.3	
25-Aug-16	Sunny	Moderate	12:40	8.5	Surface	1.0	0.4	103	29.5	29.5	7.6	7.7	16.0	16.1	73.7	73.7	5.1	4.8	2.6	15.4	6	11	79	93	815624	804243	<0.2	<0.2	3.1	2.2
						1.0	0.5	112	29.4		7.7		16.1		73.6		5.1		2.5		4		78				<0.2		3.0	
					Middle	4.3	0.6	61	27.5	27.5	7.8	7.8	27.1	27.1	65.2	65.2	4.4		8.4		12		102				<0.2		2.2	
						4.3	0.6	63	27.5		7.8		27.1		65.2		4.4		8.2		10		99				<0.2		2.0	
					Bottom	7.5	0.4	79	27.2	27.2	7.8	7.8	28.2	28.2	63.9	64.0	4.3	4.3	34.9		18		99				<0.2		1.3	
						7.5	0.5	86	27.2		7.8		28.2		64.1		4.3		35.9		17		99				<0.2		1.7	
27-Aug-16	Cloudy	Moderate	15:46	8.3	Surface	1.0	0.3	102	29.9	29.9	7.9	7.9	16.6	16.6	96.3	96.3	6.6	5.6	2.0	16.1	3	18	78	91	815606	804246	<0.2	<0.2	3.1	2.1
						1.0	0.4	107	29.9		7.9		16.6		96.3		6.6		2.1		3		79				<0.2		3.2	
					Middle	4.2	0.6	62	27.8	27.8	7.9	7.9	26.2	26.2	67.3	67.3	4.6		7.3		8		93				<0.2		2.1	
						4.2	0.6	64	27.8		7.9		26.1		67.2		4.6		7.5		8		91				<0.2		1.9	
					Bottom	7.3	0.3	98	27.1	27.1	7.9	7.9	29.0	29.0	62.9	63.1	4.3	4.3	38.6		41		102				<0.2		1.2	
						7.3	0.3	98	27.1		7.9		29.0		63.2		4.3		39.2		42		101				<0.2		1.2	
30-Aug-16	Cloudy	Moderate	18:32	8.5	Surface	1.0	0.6	48	27.7	27.7	8.0	8.0	28.6	28.6	85.1	85.1	5.7	5.7	12.5	34.6	10	58	97	99	815628	804265	<0.2	<0.2	1.6	1.5
						1.0	0.6	52	27.7		8.0		28.6		85.1		5.7		12.8		11		96				<0.2		1.6	
					Middle	4.3	0.6	73	27.5	27.5	8.0	8.0	29.1	29.1	83.7	83.7	5.6		43.9		44		98				<0.2		1.4	
						4.3	0.6	77	27.5		8.0		29.1		83.7		5.6		43.8		42		96				<0.2		1.4	
					Bottom	7.5	0.6	71	27.5	27.5	8.0	8.0	29.1	29.1	83.6	83.7	5.6	5.6	47.4		121		105				<0.2		1.5	
						7.5	0.6	74	27.5		8.0		29.1		83.7		5.6		47.3		120		102				<0.2		1.4	

DA: Depth-Averaged
Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher

Expansion of Hong Kong International Airport into a Three-Runway System
Water Quality Monitoring
Water Quality Monitoring Results at C2 during Mid-Flood Tide

Date	Weather Condition	Sea Condition	Sampling Time	Water Depth (m)	Sampling Depth (m)		Current Speed (m/s)	Current Direction	Water Temperature (°C) Value	Water Temperature (°C) Average	pH Value	pH Average	Salinity (ppt) Value	Salinity (ppt) Average	DO Saturation (%) Value	DO Saturation (%) Average	Dissolved Oxygen (mg/L) Value	Dissolved Oxygen (mg/L) DA	Turbidity(NTU) Value	Turbidity(NTU) DA	Suspended Solids (mg/L) Value	Suspended Solids (mg/L) DA	Total Alkalinity (ppm) Value	Total Alkalinity (ppm) DA	Coordinate HK Grid (Northing)	Coordinate HK Grid (Easting)	Chromium (µg/L) Value	Chromium (µg/L) DA	Nickel (µg/L) Value	Nickel (µg/L) DA
4-Aug-16	Cloudy	Moderate	19:10	10.5	Surface	1.0	0.8	180	26.7	26.7	7.5	7.5	16.5	16.5	69.5	69.5	5.1	4.9	10.3	17.1	14	15	86	89	825683	806960	<0.2	<0.2	4.9	4.2
						1.0	0.9	192	26.7		7.5		16.5		69.5		5.1		10.3		12		84				<0.2		5.0	
					Middle	5.3	0.5	191	25.1	25.1	7.6	7.6	25.0	25.0	65.3	65.3	4.7		18.7		16		89				<0.2		4.8	
						5.3	0.5	201	25.1		7.6		25.0		65.3		4.7		18.7		16		90				<0.2		4.6	
					Bottom	9.5	0.3	238	24.9	24.9	7.6	7.6	25.9	25.9	65.8	65.8	4.7	4.7	22.4		17		92				<0.2		2.9	
						9.5	0.3	248	24.9		7.6		25.9		65.9		4.7		22.3		17		93				<0.2		2.7	
6-Aug-16	Sunny	Moderate	09:57	12.8	Surface	1.0	0.4	150	26.8	26.9	7.4	7.4	16.8	16.9	63.0	63.0	4.6	4.5	4.4	11.7	3	4	83	88	825686	806959	<0.2	<0.2	4.1	3.4
						1.0	0.4	163	26.9		7.4		17.0		63.0		4.6		4.4		3		82				<0.2		4.1	
					Middle	6.4	0.4	202	25.6	25.6	7.5	7.5	23.6	23.6	60.7	60.8	4.3		9.6		4		89				<0.2		3.9	
						6.4	0.5	209	25.6		7.5		23.6		60.8		4.3		9.7		3		89				<0.2		4.2	
					Bottom	11.8	0.5	265	25.3	25.3	7.5	7.5	24.4	24.4	62.1	62.1	4.4	4.4	20.9		5		92				<0.2		2.0	
						11.8	0.5	291	25.3		7.5		24.4		62.1		4.4		20.9		4		93				<0.2		1.9	
9-Aug-16	Fine	Moderate	11:28	12.7	Surface	1.0	0.3	207	26.9	26.9	7.7	7.7	21.3	21.3	71.4	71.4	5.1	4.8	3.7	3.1	4	4	83	89	825698	806962	<0.2	<0.2	4.4	3.0
						1.0	0.3	211	26.9		7.7		21.3		71.3		5.0		3.8		4		86				<0.2		4.2	
					Middle	6.4	0.3	167	26.2	26.2	7.6	7.6	23.3	23.3	65.1	65.1	4.6		1.5		4		90				<0.2		2.4	
						6.4	0.3	173	26.2		7.6		23.3		65.1		4.6		1.5		4		89				<0.2		2.3	
					Bottom	11.7	0.4	227	25.8	25.8	7.6	7.6	25.3	25.3	64.0	64.1	4.5	4.5	4.0		3		92				<0.2		2.4	
						11.7	0.4	244	25.8		7.6		25.3		64.2		4.5		4.0		3		92				<0.2		2.2	
11-Aug-16	Fine	Moderate	14:45	12.4	Surface	1.0	0.1	148	26.4	26.4	7.7	7.7	20.2	20.2	71.4	71.4	5.1	4.6	0.9	7.6	<2	2	86	90	825686	806927	<0.2	<0.2	2.8	1.9
						1.0	0.1	155	26.4		7.7		20.2		71.4		5.1		0.9		<2		89				<0.2		2.8	
					Middle	6.2	0.2	217	25.3	25.3	7.7	7.7	26.6	26.7	58.3	58.1	4.1		1.9		2		90				<0.2		1.5	
						6.2	0.2	228	25.3		7.7		26.7		57.9		4.1		2.0		2		91				<0.2		1.9	
					Bottom	11.4	0.1	204	24.3	24.3	7.7	7.7	29.1	29.1	45.6	45.9	3.2	3.3	20.2		3		92				<0.2		1.2	
						11.4	0.1	205	24.3		7.7		29.1		46.2		3.3		19.7		3		92				<0.2		1.2	
13-Aug-16	Fine	Moderate	15:05	10.8	Surface	1.0	0.4	179	26.4	26.4	7.7	7.7	18.7	18.8	67.7	67.7	4.9	4.3	1.8	1.8	3	3	80	84	825662	806955	<0.2	<0.2	3.6	2.3
						1.0	0.5	186	26.4		7.7		18.8		67.7		4.9		1.8		2		77				<0.2		3.3	
					Middle	5.4	0.2	217	24.6	24.6	7.7	7.7	27.4	27.4	51.0	51.0	3.6		1.6		2		82				<0.2		2.0	
						5.4	0.2	234	24.6		7.7		27.4		51.0		3.6		1.6		3		84				<0.2		2.1	
					Bottom	9.8	0.4	264	24.1	24.1	7.8	7.8	29.2	29.2	52.4	52.9	3.7	3.8	1.9		3		88				<0.2		1.3	
						9.8	0.4	266	24.1		7.8		29.2		53.3		3.8		1.9		3		90				<0.2		1.4	
16-Aug-16	Cloudy	Moderate	17:08	10.8	Surface	1.0	0.4	182	25.5	25.5	7.7	7.7	20.0	20.0	55.9	55.9	4.1	4.0	3.3	5.2	4	5	86	89	825675	806934	<0.2	<0.2	2.2	1.9
						1.0	0.4	199	25.5		7.7		20.0		55.9		4.1		3.3		4		84				<0.2		2.6	
					Middle	5.4	0.2	204	24.3	24.3	7.7	7.7	26.4	26.4	53.7	53.8	3.9		5.7		5		89				<0.2		1.7	
						5.4	0.2	218	24.3		7.7		26.4		53.8		3.9		5.6		5		90				<0.2		1.7	
					Bottom	9.8	0.4	256	24.1	24.1	7.7	7.7	27.6	27.6	59.5	59.7	4.3	4.3	6.6		7		92				<0.2		1.5	
						9.8	0.4	268	24.1		7.7		27.6		59.8		4.3		6.7		6		92				<0.2		1.4	
18-Aug-16	Cloudy	Rough	18:11	10.2	Surface	1.0	0.6	185	25.7	25.7	7.7	7.7	19.9	19.9	63.3	63.2	4.6	4.5	7.0	9.3	9	10	81	88	825667	806958	<0.2	<0.2	3.1	2.8
						1.0	0.7	186	25.7		7.7		19.9		63.1		4.6		7.0		9		85				<0.2		3.1	
					Middle	5.1	0.5	208	25.3	25.3	7.7	7.7	21.3	21.3	60.3	60.3	4.4		10.1		10		89				<0.2		2.8	
						5.1	0.5	217	25.3		7.7		21.3		60.3		4.4		10.1		10		91				<0.2		3.1	
					Bottom	9.2	0.4	235	24.7	24.7	7.7	7.7	25.5	25.5	62.6	62.6	4.5	4.5	10.9		11		92				<0.2		2.3	
						9.2	0.4	248	24.7		7.7		25.5		62.6		4.5		10.9		12		92				<0.2		2.2	
20-Aug-16	Moderate	Fine	08:26	13.2	Surface	1.0	0.5	112	26.3	26.3	7.5	7.5	18.4	18.4	64.5	64.6	4.7	4.7	4.3	19.2	3	4	87	91	825700	806959	<0.2	<0.2	3.4	3.1
						1.0	0.6	114	26.3		7.5		18.4		64.6		4.7		4.3		2		88				<0.2		3.2	
					Middle	6.6	0.6	193	25.7	25.7	7.6	7.6	22.3	22.3	65.0	65.0	4.7		9.2		2		90				<0.2		2.7	
						6.6	0.6	197	25.7		7.6		22.3		65.0		4.7		9.5		3		92				<0.2		2.9	
					Bottom	12.2	0.5	245	25.3	25.3	7.7	7.7	24.3	24.3	66.2	66.2	4.7	4.7	43.6		5		93				<0.2		3.1	
						12.2	0.5	269	25.3		7.7		24.3		66.2		4.7		44.1		6		94				<0.2		3.1	
23-Aug-16	Sunny	Moderate	11:04	12.6	Surface	1.0	0.3	270	28.0	28.0	7.6	7.6	13.9	13.9	68.9	68.9	5.0	4.9	5.3	13.1	2	2	83	89	825699	806940	<0.2	<0.2	3.1	2.9
						1.0	0.3	281	28.0		7.6		13.9		68.8		5.0		5.4		<2		83				<0.2		4.0	
					Middle	6.3	0.8	185	26.8	26.8	7.7	7.7	19.6	19.6	67.2	67.2	4.8		11.2		2		91				<0.2		2.9	
						6.3	0.9	197	26.8		7.7		19.6		67.2		4.8		11.2		3		90				<0.2		2.6	
					Bottom	11.6	0.9	134	26.2	26.2	7.7	7.7	23.8	23.8	68.5	68.5	4.8	4.8	22.7		3		93				<0.2		2.6	
						11.6	0.9	138	26.2		7.7		23.8		68.5		4.8		22.7		2		94				<0.2		2.2	
25-Aug-16	Fine	Moderate	13:39	12.9	Surface	1.0	0.2	139	29.4	29.4	7.7	7.7	16.9	16.9	63.6	63.6	4.4	4.3	3.1	3.7	4	3	84	89	825697	806935	<0.2	<0.2	3.3	2.8
						1.0	0.2	143	29.4		7.7		16.9		63.5		4.4		3.1		3		82				<0.2		3.1	
					Middle	6.5	0.4	202	28.3	28.3	7.8	7.8	22.5	22.5	61.4	61.4	4.2		3.0		3		90				<0.2		2.5	
						6.5	0.4	213	28.3		7.8		22.5		61.4		4.2		3.1		3		89				<0.2		2.6	
					Bottom	11.9	1.3	180	28.1	28.1	7.8	7.8	24.2	24.2	60.7	60.7	4.2	4.2	5.0		4		93				<0.2		2.9	
						11.9	1.4	184	28.1		7.8		24.2		60.7		4.2		5.0		3		93				<0.2		2.3	
27-Aug-16	Cloudy	Moderate	14:30	11.5	Surface	1.0	0.4	160	29.6	29.6	7.8	7.8	15.6	15.6	76.0	76.0	5.3	4.7	5.2	8.0	4	6	82	88	825677	806957	<0.2	<0.2	3.9	2.8
						1.0	0.4	167	29.6		7.8		15.6		76.0		5.3		5.1		3		83				<0.2		3.7	
					Middle	5.8	0.2	188	28.1	28.1	7.8	7.8	24.2	24.2	58.3	58.3	4.0		7.4		7		89				<0.2		2.8	
						5.8	0.2	198	28.1		7.8		24.2		58.3		4.0		7.5		7		90				<0.2		2.2	
					Bottom	10.5	0.5	302	27.9	27.9	7.8	7.8	26.4	26.4	59.1	59.1	4.0	4.0	11.3		8		91				<0.2		2.2	
						10.5	0.5	330	27.9		7.8		26.4		59.1		4.0		11.3		7		92				<0.2		2.0	
30-Aug-16	Cloudy	Moderate	16:59	11.1	Surface	1.0	0.5	173	26.5	26.5	7.8	7.8	20.1	20.2	64.0	64.0	4.6	4.4	7.3	9.8	8	11	83	88	825666	806939	<0.2	<0.2	4.2	3.1
						1.0	0.5	177	26.5		7.8		20.2		64.0		4.6		7.4		8		84				<0.2		4.2	
					Middle	5.6	0.3	197	25.5	25.5	7.9	7.9	26.2	26.2	60.1	60.2	4.2		11.3		12		90				<0.2		3.2	
						5.6	0.3	214	25.5		7.9		26.2		60.2		4.3		11.3		11		90				<0.2		3.0	
					Bottom	10.1	0.3	258	25.4	25.4	7.9	7.9	27.0	27.0	62.5	62.6	4.4	4.4	10.8		14		92				<0.2		1.9	
						10.1	0.3	281	25.4		7.9		27.0		62.7		4.4		10.8		15		91				<0.2		1.9	

DA: Depth-Averaged
Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher

Expansion of Hong Kong International Airport into a Three-Runway System
Water Quality Monitoring
Water Quality Monitoring Results at C3 during Mid-Flood Tide

Date	Weather Condition	Sea Condition	Sampling Time	Water Depth (m)	Sampling Depth (m)		Current Speed (m/s)	Current Direction	Water Temperature (°C) Value	Water Temperature (°C) Average	pH Value	pH Average	Salinity (ppt) Value	Salinity (ppt) Average	DO Saturation (%) Value	DO Saturation (%) Average	Dissolved Oxygen (mg/L) Value	Dissolved Oxygen (mg/L) DA	Turbidity(NTU) Value	Turbidity(NTU) DA	Suspended Solids (mg/L) Value	Suspended Solids (mg/L) DA	Total Alkalinity (ppm) Value	Total Alkalinity (ppm) DA	Coordinate HK Grid (Northing)	Coordinate HK Grid (Easting)	Chromium (µg/L) Value	Chromium (µg/L) DA	Nickel (µg/L) Value	Nickel (µg/L) DA
4-Aug-16	Cloudy	Moderate	21:36	12.3	Surface	1.0	0.6	254	25.0	25.0	7.7	7.7	24.4	24.4	71.3	71.3	5.1	4.8	5.6	10.2	5	9	86	89	822097	817810	<0.2	<0.2	1.3	1.1
						1.0	0.6	270	25.0		7.7		24.4		71.3		5.1		5.6		7		83				<0.2		1.4	
					Middle	6.2	0.6	256	23.7	23.7	7.7	7.7	28.6	28.6	61.4	61.4	4.4		11.4		9		90				<0.2		0.9	
						6.2	0.6	259	23.7		7.7		28.6		61.5		4.4		11.3		11		89				<0.2		0.9	
					Bottom	11.3	0.5	265	23.7	23.7	7.7	7.7	28.7	28.7	63.2	63.2	4.5	4.5	13.7		12		92				<0.2		1.2	
						11.3	0.5	277	23.7		7.7		28.7		63.2		4.5		13.7		12		92				<0.2		1.0	
6-Aug-16	Cloudy	Calm	07:33	11.8	Surface	1.0	0.5	265	26.1	26.1	7.5	7.5	22.0	22.0	65.0	65.0	4.6	4.5	3.4	6.2	4	4	85	89	822098	817798	<0.2	<0.2	1.5	1.5
						1.0	0.5	274	26.1		7.5		21.9		64.9		4.6		3.3		3		84				<0.2		1.5	
					Middle	5.9	0.5	257	25.1	25.1	7.6	7.6	25.8	25.8	62.3	62.3	4.4		4.3		4		90				<0.2		1.5	
						5.9	0.5	262	25.1		7.6		25.8		62.3		4.4		4.4		5		89				<0.2		1.5	
					Bottom	10.8	0.5	262	24.6	24.6	7.6	7.6	27.6	27.6	61.7	61.7	4.4	4.4	10.8		5		92				<0.2		1.5	
						10.8	0.5	263	24.6		7.6		27.6		61.7		4.4		10.8		5		93				<0.2		1.4	
9-Aug-16	Fine	Moderate	09:30	12.2	Surface	1.0	0.4	287	27.5	27.5	7.8	7.8	19.4	19.4	89.3	89.3	6.3	5.6	1.8	5.0	3	3	82	89	822094	817784	<0.2	<0.2	2.7	2.3
						1.0	0.4	300	27.5		7.8		19.4		89.2		6.3		1.9		3		84				<0.2		2.7	
					Middle	6.1	0.5	268	25.7	25.7	7.7	7.7	25.1	25.2	68.3	68.3	4.8		2.3		2		90				<0.2		2.3	
						6.1	0.5	285	25.7		7.7		25.2		68.3		4.8		2.4		3		89				<0.2		2.5	
					Bottom	11.2	0.2	261	24.9	24.9	7.7	7.7	28.5	28.5	68.3	68.3	4.8	4.8	10.9		3		93				<0.2		1.7	
						11.2	0.3	278	24.9		7.7		28.5		68.3		4.8		10.9		2		93				<0.2		1.7	
11-Aug-16	Rainy	Moderate	12:21	11.0	Surface	1.0	0.3	171	25.7	25.7	7.8	7.8	22.4	22.5	81.5	81.3	5.9	5.4	0.7	1.1	<2	3	87	91	822098	817810	<0.2	<0.2	1.8	1.4
						1.0	0.4	180	25.7		7.8		22.5		81.1		5.8		0.7		<2		87				<0.2		2.1	
					Middle	5.5	0.3	167	25.4	25.4	7.7	7.8	25.6	25.6	70.5	70.6	5.0		0.7		2		90				<0.2		0.9	
						5.5	0.4	171	25.4		7.8		25.5		70.7		5.0		0.7		3		92				<0.2		1.3	
					Bottom	10.0	0.3	171	23.8	23.8	7.8	7.8	30.3	30.3	60.7	61.2	4.3	4.4	1.8		3		95				<0.2		1.4	
						10.0	0.3	183	23.8		7.8		30.3		61.7		4.4		1.7		3		97				<0.2		0.6	
13-Aug-16	Fine	Moderate	17:30	12.6	Surface	1.0	0.2	224	26.2	26.2	7.9	7.9	22.2	22.2	86.1	86.0	6.1	4.9	0.8	1.8	<2	<2	87	87	822093	817801	<0.2	<0.2	2.4	1.8
						1.0	0.2	234	26.2		7.9		22.2		85.8		6.1		0.9		<2		84				<0.2		2.5	
					Middle	6.3	0.3	239	23.3	23.4	7.8	7.8	31.5	31.5	50.4	50.6	3.6		2.2		<2		87				<0.2		2.1	
						6.3	0.3	246	23.4		7.8		31.5		50.7		3.6		2.0		<2		84				<0.2		2.1	
					Bottom	11.6	0.3	246	23.1	23.1	7.8	7.8	32.3	32.3	54.6	55.1	3.9	3.9	2.3		<2		90				<0.2		0.9	
						11.6	0.3	261	23.1		7.8		32.3		55.5		3.9		2.5		<2		90				<0.2		1.0	
16-Aug-16	Cloudy	Moderate	19:19	10.9	Surface	1.0	0.5	248	24.0	24.0	7.9	7.9	27.5	27.5	66.6	66.6	4.8	4.6	3.5	7.6	3	6	86	90	822100	817809	<0.2	<0.2	1.1	0.8
						1.0	0.5	266	24.0		7.9		27.5		66.5		4.8		3.5		3		85				<0.2		1.1	
					Middle	5.5	0.4	261	23.3	23.3	7.9	7.9	29.9	29.9	61.8	61.9	4.4		8.0		8		92				<0.2		0.5	
						5.5	0.5	282	23.3		7.9		29.9		61.9		4.4		8.1		8		90				<0.2		0.5	
					Bottom	9.9	0.5	239	23.3	23.3	7.9	7.9	29.9	29.9	65.4	65.5	4.7	4.7	11.1		7		94				<0.2		0.8	
						9.9	0.5	248	23.3		7.9		29.9		65.6		4.7		11.2		8		93				<0.2		0.7	
18-Aug-16	Cloudy	Rough	20:24	12.7	Surface	1.0	0.4	272	24.6	24.6	7.9	7.9	28.1	28.1	69.5	69.5	4.9	4.8	6.4	14.1	7	13	86	90	822119	817801	<0.2	<0.2	1.0	1.0
						1.0	0.5	278	24.6		7.9		28.1		69.4		4.9		6.4		7		84				<0.2		1.1	
					Middle	6.4	0.5	262	24.2	24.2	7.8	7.8	29.2	29.2	64.9	64.9	4.6		14.3		8		91				<0.2		1.0	
						6.4	0.5	283	24.2		7.8		29.2		64.9		4.6		14.5		8		90				<0.2		1.1	
					Bottom	11.7	0.4	266	24.2	24.2	7.8	7.8	29.2	29.2	67.6	67.7	4.8	4.8	21.4		23		93				<0.2		1.0	
						11.7	0.4	289	24.2		7.8		29.2		67.7		4.8		21.7		25		93				<0.2		1.0	
20-Aug-16	Moderate	Calm	06:36	12.7	Surface	1.0	0.7	269	25.5	25.5	7.8	7.8	25.0	25.0	70.7	70.7	5.0	5.0	6.2	13.0	4	3	83	89	822115	817783	<0.2	<0.2	2.3	2.0
						1.0	0.7	292	25.4		7.8		25.0		70.7		5.0		6.3		3		86				<0.2		2.5	
					Middle	6.4	0.7	271	25.1	25.1	7.8	7.8	26.6	26.6	69.3	69.3	4.9		11.2		4		90				<0.2		1.6	
						6.4	0.7	283	25.1		7.8		26.6		69.3		4.9		11.5		2		89				<0.2		2.0	
					Bottom	11.7	0.5	259	24.8	24.8	7.8	7.8	27.9	27.9	70.1	70.2	5.0	5.0	21.6		4		93				<0.2		1.9	
						11.7	0.5	270	24.8		7.8		27.9		70.2		5.0		21.1		3		93				<0.2		1.7	
23-Aug-16	Sunny	Calm	09:07	11.5	Surface	1.0	0.6	270	26.6	26.6	7.8	7.8	22.1	22.1	73.9	73.4	5.2	5.1	3.2	4.5	<2	4	84	89	822119	817793	<0.2	<0.2	2.8	2.4
						1.0	0.6	274	26.6		7.8		22.0		72.8		5.2		3.0		2		86				<0.2		2.0	
					Middle	5.8	0.8	270	26.3	26.3	7.8	7.8	23.5	23.5	70.9	70.9	5.0		3.5		5		89				<0.2		1.7	
						5.8	0.8	271	26.3		7.8		23.5		70.8		5.0		3.6		5		90				<0.2		1.8	
					Bottom	10.5	0.8	263	25.9	25.9	7.8	7.8	26.5	26.5	70.1	70.1	4.9	4.9	6.7		4		91				<0.2		3.0	
						10.5	0.9	264	25.9		7.8		26.5		70.1		4.9		6.8		4		94				<0.2		3.1	
25-Aug-16	Fine	Moderate	11:37	12.0	Surface	1.0	0.4	271	29.2	29.2	7.9	7.9	20.2	20.2	77.9	77.9	5.3	5.0	2.5	2.4	<2	2	84	89	822109	817787	<0.2	<0.2	2.7	2.5
						1.0	0.4	274	29.2		7.9		20.2		77.9		5.3		2.5		<2		84				<0.2		2.6	
					Middle	6.0	0.6	262	28.4	28.4	7.8	7.8	22.6	22.6	68.2	68.1	4.7		2.4		2		91				<0.2		2.4	
						6.0	0.6	271	28.4		7.8		22.5		68.0		4.7		2.4		2		90				<0.2		2.6	
					Bottom	11.0	1.1	277	27.9	27.9	7.8	7.8	25.4	25.4	64.2	64.2	4.4	4.4	2.3		<2		93				<0.2		2.3	
						11.0	1.2	301	27.9		7.8		25.4		64.2		4.4		2.3		<2		93				<0.2		2.2	
27-Aug-16	Rainy	Moderate	16:21	11.8	Surface	1.0	0.4	209	28.4	28.4	8.0	8.0	24.7	24.7	81.3	81.3	5.5	5.0	3.4	3.9	3	5	85	89	822100	817799	<0.2	<0.2	1.9	2.1
						1.0	0.4	217	28.4		8.0		24.7		81.2		5.5		3.4		4		86				<0.2		2.6	
					Middle	5.9	0.4	234	27.9	27.9	7.9	7.9	26.2	26.2	66.1	66.0	4.5		3.6		5		91				<0.2		2.4	
						5.9	0.4	253	27.9		7.9		26.2		65.9		4.5		3.7		5		90				<0.2		2.6	
					Bottom	10.8	0.2	244	26.9	26.9	7.9	7.9	29.9	29.9	58.0	58.1	3.9	3.9	4.6		7		92				<0.2		1.6	
						10.8	0.3	255	26.9		7.9		29.9		58.1		3.9		4.6		8		92				<0.2		1.4	
30-Aug-16	Cloudy	Moderate	19:03	12.0	Surface	1.0	0.5	267	25.5	25.5	8.1	8.1	28.3	28.3	69.8	69.7	4.9	4.7	6.2	11.0	6	9	85	89	822117	817798	<0.2	<0.2	1.5	1.4
						1.0	0.5	275	25.5		8.1		28.3		69.6		4.9		6.3		6		86				<0.2		1.5	
					Middle	6.0	0.5	261	24.9	24.9	8.0	8.0	29.5	29.5	62.4	62.5	4.4		12.8		7		90				<0.2		1.5	
						6.0	0.5	270	24.9		8.0		29.5		62.5		4.4		12.9		8		89				<0.2		1.2	
					Bottom	11.0	0.4	255	24.9	24.9	8.0	8.0	29.4	29.4	64.8	64.9	4.5	4.6	13.8		12		93				<0.2		1.3	
						11.0	0.4	277	24.9		8.0		29.4		64.9		4.6		13.9		14		92				<0.2		1.2	

DA: Depth-Averaged
Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher

Expansion of Hong Kong International Airport into a Three-Runway System
Water Quality Monitoring
Water Quality Monitoring Results at IM1 during Mid-Flood Tide

Date	Weather Condition	Sea Condition	Sampling Time	Water Depth (m)	Sampling Depth (m)		Current Speed (m/s)	Current Direction	Water Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity(NTU)		Suspended Solids (mg/L)		Total Alkalinity (ppm)		Coordinate HK Grid (Northing)	Coordinate HK Grid (Easting)	Chromium (µg/L)		Nickel (µg/L)	
									Value	Average	Value	Average	Value	Average	Value	Average	Value	DA	Value	DA	Value	DA	Value	DA			Value	DA	Value	DA
4-Aug-16	Fine	Moderate	20:35	6.7	Surface	1.0	0.6	52	27.2	27.3	7.7	7.7	21.6	21.5	74.4	74.4	5.2	5.2	9.7	26.6	11	16	87	84	818348	806457	<0.2	<0.2	2.2	2.1
						1.0	0.6	55	27.3		7.7		21.5		74.3		5.2		9.7		12		83				<0.2		2.3	
					Middle	3.4	0.7	108	26.7	26.7	7.7	7.7	24.0	24.0	72.4	72.4	5.1		23.7		17		84				<0.2		2.0	
						3.4	0.7	116	26.7		7.7		24.0		72.4		5.1		24.4		16		81				<0.2		1.9	
					Bottom	5.7	0.7	205	26.2	26.2	7.7	7.7	25.9	25.8	72.4	72.7	5.1	5.1	47.7		19		85				<0.2		2.0	
						5.7	0.7	210	26.3		7.7		25.8		72.9		5.1		44.6		19		83				<0.2		2.1	
6-Aug-16	Sunny	Moderate	08:52	7.6	Surface	1.0	0.5	128	27.2	27.3	7.6	7.6	23.2	23.2	64.1	64.1	4.5	4.5	2.3	13.4	2	11	85	87	818348	806441	<0.2	<0.2	2.2	1.9
						1.0	0.5	131	27.3		7.6		23.2		64.1		4.5		2.4		2		83				<0.2		2.8	
					Middle	3.8	0.6	128	27.1	27.1	7.7	7.7	24.2	24.2	64.1	64.1	4.5		4.1		3		84				<0.2		1.8	
						3.8	0.6	136	27.1		7.7		24.2		64.1		4.5		4.5		3		83				<0.2		1.8	
					Bottom	6.6	0.6	212	26.4	26.4	7.7	7.7	26.5	26.5	62.5	62.7	4.3	4.4	35.0		28		93				<0.2		1.3	
						6.6	0.7	216	26.4		7.7		26.4		62.9		4.4		32.2		28		92				<0.2		1.2	
9-Aug-16	Fine	Moderate	11:08	7.3	Surface	1.0	0.5	90	29.2	29.4	7.9	7.9	16.8	16.8	94.5	94.0	6.6	6.4	1.4	4.6	3	5	73	79	818336	806457	<0.2	<0.2	3.1	2.7
						1.0	0.5	98	29.5		7.9		16.8		93.4		6.5		1.6		3		74				<0.2		2.8	
					Middle	3.7	0.4	242	29.3	29.4	7.8	7.8	17.9	17.9	89.0	88.5	6.2		3.0		3		80				<0.2		2.9	
						3.7	0.4	260	29.4		7.8		17.9		87.9		6.1		3.3		4		76				<0.2		2.9	
					Bottom	6.3	0.3	274	27.3	27.6	7.8	7.8	25.0	24.5	81.2	82.2	5.6	5.7	9.5		7		87				<0.2		2.4	
						6.3	0.3	274	27.8		7.8		23.9		83.1		5.7		8.7		8		85				<0.2		2.3	
11-Aug-16	Cloudy	Moderate	13:27	7.0	Surface	1.0	0.3	167	27.4	27.7	7.8	7.8	20.4	20.3	78.4	78.2	5.5	4.9	1.0	1.9	4	4	81	88	818363	806466	<0.2	<0.2	2.7	2.0
						1.0	0.3	182	27.9		7.8		20.2		77.9		5.5		1.0		4		81				<0.2		2.7	
					Middle	3.5	0.3	223	27.0	26.9	7.8	7.8	24.4	24.5	61.5	61.7	4.3		1.2		3		92				<0.2		1.5	
						3.5	0.3	241	26.7		7.8		24.6		61.8		4.3		1.3		3		91				<0.2		2.1	
					Bottom	6.0	0.4	141	25.3	25.1	7.8	7.8	30.1	30.2	59.9	60.3	4.2	4.2	3.4		3		90				<0.2		1.6	
						6.0	0.4	148	24.9		7.8		30.3		60.6		4.2		3.4		5		91				<0.2		1.6	
13-Aug-16	Cloudy	Moderate	15:57	6.6	Surface	1.0	0.6	191	28.9	28.9	7.6	7.6	16.2	16.3	74.4	74.3	5.2	5.2	2.6	6.4	3	7	83	86	818336	806454	<0.2	<0.2	2.7	2.0
						1.0	0.6	191	28.9		7.6		16.3		74.1		5.2		2.8		3		80				<0.2		3.0	
					Middle	3.3	0.5	272	27.6	27.6	7.8	7.8	21.6	21.6	74.0	74.0	5.2		8.8		9		75				<0.2		2.2	
						3.3	0.5	276	27.6		7.8		21.5		73.9		5.2		8.9		9		80				<0.2		2.2	
					Bottom	5.6	0.3	230	25.5	25.5	7.8	7.8	29.0	29.0	47.6	47.6	3.3	3.3	7.7		9		97				<0.2		0.8	
						5.6	0.3	237	25.5		7.8		29.0		47.6		3.3		7.5		10		100				<0.2		0.8	
16-Aug-16	Rainy	Moderate	17:52	6.7	Surface	1.0	0.4	174	27.2	27.2	7.8	7.8	22.7	22.7	64.8	64.9	4.5	4.5	5.5	15.6	8	16	84	87	818368	806465	<0.2	<0.2	1.7	1.8
						1.0	0.4	185	27.1		7.8		22.7		64.9		4.5		5.6		8		86				<0.2		1.6	
					Middle	3.4	0.5	222	26.8	26.6	7.8	7.8	24.7	24.8	65.4	65.6	4.5		9.8		8		86				<0.2		2.0	
						3.4	0.6	229	26.4		7.8		24.9		65.7		4.6		9.9		8		85				<0.2		1.8	
					Bottom	5.7	0.4	136	26.4	26.2	7.8	7.8	26.5	26.6	62.3	62.5	4.3	4.4	31.3		32		89				<0.2		1.7	
						5.7	0.5	140	26.0		7.8		26.7		62.7		4.4		31.4		32		92				<0.2		1.7	
18-Aug-16	Rough	Cloudy	19:35	6.5	Surface	1.0	0.4	207	26.8	26.8	7.8	7.8	26.0	26.0	73.0	73.0	5.0	4.9	5.9	8.3	9	12	87	86	818342	806452	<0.2	<0.2	1.5	1.3
						1.0	0.4	210	26.8		7.8		26.0		73.0		5.0		5.9		9		84				<0.2		1.5	
					Middle	3.3	0.3	203	26.4	26.4	7.8	7.8	28.0	28.0	68.8	68.8	4.7		8.7		10		81				<0.2		1.2	
						3.3	0.4	221	26.3		7.8		28.0		68.8		4.7		8.9		11		86				<0.2		1.3	
					Bottom	5.5	0.4	202	26.2	26.2	7.8	7.8	28.9	28.9	69.0	69.1	4.8	4.8	10.0		15		91				<0.2		1.0	
						5.5	0.4	214	26.1		7.8		28.9		69.2		4.8		10.1		15		89				<0.2		1.0	
20-Aug-16	Sunny	Calm	08:02	7.8	Surface	1.0	0.8	58	27.7	27.7	7.7	7.7	22.2	22.3	73.2	73.2	5.1	5.1	4.2	28.4	3	19	88	90	818355	806449	<0.2	<0.2	2.4	1.9
						1.0	0.8	61	27.6		7.7		22.3		73.2		5.1		4.3		3		90				<0.2		2.7	
					Middle	3.9	0.7	94	27.2	27.2	7.7	7.7	25.7	25.7	73.2	73.3	5.0		22.4		23		91				<0.2		1.6	
						3.9	0.7	96	27.2		7.7		25.7		73.3		5.0		22.3		22		88				<0.2		1.5	
					Bottom	6.8	0.5	161	27.1	27.1	7.7	7.7	25.9	25.9	74.0	74.2	5.1	5.1	57.7		33		93				<0.2		1.7	
						6.8	0.5	161	27.1		7.7		25.9		74.4		5.1		59.6		32		91				<0.2		1.5	
23-Aug-16	Sunny	Moderate	10:15	7.6	Surface	1.0	0.6	191	28.7	28.7	7.7	7.7	20.7	20.8	74.6	74.6	5.1	5.1	4.0	15.8	5	13	85	90	818347	806471	<0.2	<0.2	3.2	3.1
						1.0	0.6	201	28.7		7.7		20.8		74.6		5.1		4.1		4		83				<0.2		3.2	
					Middle	3.8	0.6	77	28.3	28.3	7.8	7.8	23.4	23.4	73.1	73.1	5.0		5.7		10		89				<0.2		3.2	
						3.8	0.7	80	28.3		7.8		23.4		73.1		5.0		5.8		9		91				<0.2		3.8	
					Bottom	6.6	0.5	171	28.0	28.0	7.8	7.8	25.7	25.7	73.8	73.8	5.0	5.0	37.6		24		97				<0.2		2.5	
						6.6	0.5	185	28.0		7.8		25.7		73.8		5.0		37.3		26		96				<0.2		2.4	
25-Aug-16	Sunny	Moderate	13:00	7.3	Surface	1.0	0.6	118	29.3	29.3	7.8	7.8	20.8	20.8	78.2	78.1	5.3	5.1	1.9	6.6	2	11	84	93	818346	806447	<0.2	<0.2	2.1	2.1
						1.0	0.6	120	29.3		7.8		20.8		77.9		5.3		1.7		<2		85				<0.2		2.1	
					Middle	3.7	0.5	77	28.6	28.6	7.8	7.8	21.9	21.9	72.0	72.0	4.9		2.9		13		99				<0.2		2.3	
						3.7	0.6	77	28.6		7.8		21.9		71.9		4.9		2.6		14		97				<0.2		2.2	
					Bottom	6.3	0.4	234	27.8	27.8	7.8	7.8	26.1	26.1	68.3	68.5	4.6	4.7	15.3		16		96				<0.2		1.9	
						6.3	0.4	254	27.8		7.8		26.0		68.6		4.7		15.2		18		95				<0.2		1.8	
27-Aug-16	Cloudy	Moderate	15:21	6.9	Surface	1.0	0.6	144	28.9	28.9	8.0	8.0	23.8	23.8	99.3	99.2	6.7	6.1	4.7	10.3	9	18	91	93	818350	806473	<0.2	<0.2	2.2	1.8
						1.0	0.6	146	28.9		8.0		23.8		99.1		6.7		4.8		8		93				<0.2		2.0	
					Middle	3.5	0.5	143	28.2	28.2	7.9	7.9	25.8	25.8	81.4	81.4	5.5		5.3		10		93				<0.2		1.6	
						3.5	0.5	152	28.2		7.9		25.8		81.3		5.5		5.0		10		94				<0.2		1.5	
					Bottom	5.9	0.4	133	27.5	27.5	7.9	7.9	27.5	27.5	67.3	67.3	4.5	4.6	21.0		34		92				<0.2		1.7	
						5.9	0.4	145	27.5		7.9		27.5		67.3		4.6		20.9		35		94				<0.2		1.9	
30-Aug-16	Cloudy	Moderate	17:57	6.9	Surface	1.0	0.7	66	27.9	27.9	7.8	7.9	26.4	26.4	76.7	76.7	5.2	5.2	11.2	40.4	10	30	90	88	818350	806447	<0.2	<0.2	2.1	2.0
						1.0	0.8	69	27.9		7.9		26.4		76.7		5.2		11.2		10		92				<0.2		2.3	
					Middle	3.5	0.6	120	27.9	27.9	7.9	7.9	27.1	27.1	76.8	76.8	5.2		30.0		22		81				<0.2		1.8	
						3.5	0.6	126	27.9		7.9		27.1		76.8		5.2		29.9		22		85				<0.2		2.2	
					Bottom	5.9	0.5	182	27.9	27.9	7.9	7.9	27.2	27.2	77.6	77.7	5.2	5.3	81.7		60		89				<0.2		1.8	
						5.9	0.5	189	27.9		7.9		27.2		77.8		5.3		78.3		58		91				<0.2		1.8	

DA: Depth-Averaged
Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher

Expansion of Hong Kong International Airport into a Three-Runway System
Water Quality Monitoring
Water Quality Monitoring Results at IM2 during Mid-Flood Tide

Date	Weather Condition	Sea Condition	Sampling Time	Water Depth (m)	Sampling Depth (m)		Current Speed (m/s)	Current Direction	Water Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity(NTU)		Suspended Solids (mg/L)		Total Alkalinity (ppm)		Coordinate HK Grid (Northing)	Coordinate HK Grid (Easting)	Chromium (µg/L)		Nickel (µg/L)	
									Value	Average	Value	Average	Value	Average	Value	Average	Value	DA	Value	DA	Value	DA	Value	DA			Value	DA	Value	DA
4-Aug-16	Fine	Moderate	20:22	7.5	Surface	1.0	0.4	272	27.4	27.4	7.7	7.7	20.9	20.9	74.9	74.9	5.3	5.2	9.2	11.6	11	29	93	88	818841	806193	<0.2	<0.2	2.3	1.8
						1.0	0.4	287	27.4		7.7		20.9		74.8		5.3		9.0		11		95				<0.2		2.0	
					Middle	3.8	0.4	231	26.9	26.9	7.7	7.7	23.5	23.5	72.2	72.2	5.1		13.2		13		80				<0.2		2.0	
						3.8	0.4	238	26.9		7.7		23.5		72.2		5.1		13.2		12		78				<0.2		1.8	
					Bottom	6.5	0.4	258	26.9	26.9	7.7	7.7	23.7	23.7	71.7	71.7	5.0	5.0	12.8		62		93				<0.2		1.2	
						6.5	0.5	258	26.9		7.7		23.6		71.6		5.0		12.3		62		89				<0.2		1.2	
6-Aug-16	Sunny	Moderate	09:05	8.4	Surface	1.0	0.6	69	27.3	27.4	7.7	7.7	23.4	23.4	64.0	64.0	4.5	4.3	2.8	7.3	4	7	86	91	818864	806205	<0.2	<0.2	2.0	1.5
						1.0	0.7	71	27.4		7.7		23.3		63.9		4.4		2.7		3		87				<0.2		2.0	
					Middle	4.2	0.6	100	26.7	26.7	7.7	7.7	25.3	25.3	60.9	60.8	4.2		6.8		3		91				<0.2		1.5	
						4.2	0.7	107	26.7		7.7		25.2		60.7		4.2		7.8		4		89				<0.2		1.4	
					Bottom	7.4	0.4	157	25.9	26.1	7.7	7.7	27.4	27.3	60.5	60.6	4.2	4.2	12.1		15		95				<0.2		1.0	
						7.4	0.5	170	26.3		7.7		27.2		60.6		4.2		11.8		14		97				<0.2		1.0	
9-Aug-16	Fine	Moderate	11:15	8.4	Surface	1.0	0.6	35	30.0	30.0	7.9	7.9	15.0	15.1	97.0	96.8	6.8	6.4	1.0	1.2	2	4	70	77	818848	806189	<0.2	<0.2	3.1	2.7
						1.0	0.6	37	30.0		7.9		15.1		96.5		6.7		1.1		3		72				<0.2		3.0	
					Middle	4.2	0.6	123	29.3	29.1	7.8	7.8	18.4	18.6	86.0	86.1	5.9		1.2		3		78				<0.2		2.6	
						4.2	0.6	132	28.8		7.8		18.8		86.1		6.0		1.3		4		78				<0.2		3.0	
					Bottom	7.4	0.4	131	27.7	27.7	7.7	7.7	23.8	23.9	68.2	68.4	4.7	4.7	1.4		7		80				<0.2		2.2	
						7.4	0.5	136	27.6		7.7		24.0		68.5		4.7		1.4		7		82				<0.2		2.1	
11-Aug-16	Cloudy	Moderate	13:40	8.0	Surface	1.0	0.6	78	27.5	27.3	7.8	7.8	21.3	21.7	71.0	71.2	5.0	4.4	1.0	3.2	3	5	90	92	818858	806185	<0.2	<0.2	2.3	1.6
						1.0	0.6	81	27.1		7.8		22.1		71.3		5.0		1.0		2		92				<0.2		2.5	
					Middle	4.0	0.4	140	26.4	26.4	7.8	7.8	27.1	27.1	55.0	55.0	3.8		0.9		3		91				<0.2		1.5	
						4.0	0.4	149	26.4		7.8		27.1		54.9		3.8		0.9		3		87				<0.2		1.7	
					Bottom	7.0	0.4	203	25.2	25.0	7.8	7.8	30.8	31.0	48.5	49.1	3.4	3.5	7.5		8		95				<0.2		1.1	
						7.0	0.4	215	24.8		7.8		31.1		49.6		3.5		7.6		8		95				<0.2		0.7	
13-Aug-16	Cloudy	Moderate	15:48	7.6	Surface	1.0	0.6	238	28.3	28.3	7.9	7.9	18.4	18.4	88.9	88.8	6.3	5.6	2.4	5.7	2	6	76	83	818843	806212	<0.2	<0.2	2.7	2.0
						1.0	0.7	238	28.3		7.9		18.4		88.7		6.2		2.2		2		73				<0.2		2.8	
					Middle	3.8	0.4	241	27.3	27.3	7.8	7.8	22.6	22.6	71.1	71.1	5.0		7.0		8		90				<0.2		1.7	
						3.8	0.4	263	27.3		7.8		22.6		71.0		5.0		6.8		9		87				<0.2		1.8	
					Bottom	6.6	0.4	159	25.0	25.0	7.8	7.8	31.1	31.2	51.0	51.8	3.5	3.6	7.7		8		87				<0.2		1.4	
						6.6	0.4	161	25.0		7.8		31.2		52.5		3.6		8.0		9		85				<0.2		1.3	
16-Aug-16	Cloudy	Moderate	17:45	7.5	Surface	1.0	0.3	222	27.2	27.1	7.7	7.7	22.3	22.4	63.2	63.4	4.4	4.4	5.0	15.5	5	14	78	85	818868	806201	<0.2	<0.2	2.5	2.0
						1.0	0.3	222	26.9		7.7		22.5		63.5		4.5		5.1		6		80				<0.2		2.5	
					Middle	3.8	0.5	160	26.6	26.8	7.8	7.8	23.9	23.8	61.5	61.3	4.3		8.6		10		87				<0.2		1.9	
						3.8	0.5	174	27.0		7.8		23.7		61.1		4.3		8.5		11		85				<0.2		2.2	
					Bottom	6.5	0.4	117	26.2	26.0	7.8	7.8	27.3	27.4	57.5	58.0	4.0	4.1	32.9		26		91				<0.2		1.6	
						6.5	0.4	126	25.8		7.8		27.5		58.4		4.1		33.1		28		91				<0.2		1.2	
18-Aug-16	Rough	Cloudy	19:22	7.2	Surface	1.0	1.0	232	27.1	27.1	7.7	7.7	23.6	23.7	72.8	72.8	5.1	5.0	6.7	9.6	9	13	83	87	818850	806181	<0.2	<0.2	2.4	2.0
						1.0	1.0	248	27.1		7.7		23.7		72.8		5.1		6.8		9		79				<0.2		2.2	
					Middle	3.6	0.8	233	26.9	27.0	7.7	7.7	24.8	24.8	70.6	70.6	4.9		10.3		16		96				<0.2		1.8	
						3.6	0.9	233	27.0		7.7		24.8		70.6		4.9		10.1		14		92				<0.2		1.9	
					Bottom	6.2	0.7	232	27.0	27.0	7.7	7.7	24.9	24.9	71.2	71.4	4.9	5.0	11.8		15		86				<0.2		1.7	
						6.2	0.8	246	27.0		7.7		24.9		71.5		5.0		11.6		15		87				<0.2		1.7	
20-Aug-16	Sunny	Calm	08:08	9.0	Surface	1.0	0.8	76	27.6	27.6	7.7	7.7	22.7	22.7	72.4	72.4	5.0	5.0	4.3	23.3	4	15	86	89	818860	806211	<0.2	<0.2	2.4	2.1
						1.0	0.8	81	27.6		7.7		22.6		72.4		5.0		4.1		5		87				<0.2		2.8	
					Middle	4.5	0.6	76	27.1	27.1	7.7	7.7	26.0	26.0	72.9	72.9	5.0		19.5		10		91				<0.2		2.0	
						4.5	0.7	76	27.1		7.7		26.0		72.9		5.0		19.8		12		90				<0.2		1.9	
					Bottom	8.0	0.5	112	27.1	27.1	7.7	7.7	26.1	26.1	73.8	73.9	5.1	5.1	47.0		30		90				<0.2		1.8	
						8.0	0.5	118	27.1		7.7		26.1		74.0		5.1		44.8		28		92				<0.2		1.9	
23-Aug-16	Sunny	Moderate	10:21	8.7	Surface	1.0	0.5	216	28.8	28.9	7.7	7.7	20.1	20.0	73.5	73.4	5.1	5.0	3.4	13.1	3	10	82	86	818840	806194	<0.2	<0.2	3.0	2.9
						1.0	0.5	227	28.9		7.7		19.9		73.3		5.1		3.6		4		83				<0.2		2.9	
					Middle	4.4	0.6	109	28.0	28.0	7.8	7.8	23.9	23.9	71.8	71.8	4.9		7.0		5		84				<0.2		4.0	
						4.4	0.6	115	28.0		7.8		23.9		71.8		4.9		7.2		5		83				<0.2		4.0	
					Bottom	7.7	0.4	108	27.7	28.0	7.8	7.8	26.2	26.1	72.4	72.2	4.9	4.9	28.6		21		91				<0.2		1.9	
						7.7	0.5	108	28.2		7.8		25.9		71.9		4.9		28.7		22		92				<0.2		1.8	
25-Aug-16	Sunny	Moderate	13:08	8.3	Surface	1.0	0.6	63	29.0	29.0	7.8	7.8	20.9	20.9	73.0	73.0	5.0	4.9	2.3	5.3	4	9	88	92	818846	806197	<0.2	<0.2	2.5	2.3
						1.0	0.7	66	29.0		7.8		20.9		73.0		5.0		2.4		4		89				<0.2		2.8	
					Middle	4.2	0.6	91	28.3	28.3	7.8	7.8	22.6	22.6	68.0	68.0	4.7		3.2		4		89				<0.2		2.4	
						4.2	0.7	97	28.3		7.8		22.6		67.9		4.7		3.2		4		90				<0.2		3.0	
					Bottom	7.3	0.4	126	27.3	27.3	7.8	7.8	27.8	27.8	62.5	62.7	4.2	4.3	10.5		19		98				<0.2		1.2	
						7.3	0.4	127	27.3		7.8		27.7		62.9		4.3		10.1		17		99				<0.2		1.6	
27-Aug-16	Cloudy	Moderate	15:14	7.8	Surface	1.0	0.4	244	29.1	29.1	8.0	8.0	21.8	21.8	95.8	95.8	6.5	5.9	4.1	8.1	7	12	99	95	818856	806202	<0.2	<0.2	2.2	2.0
						1.0	0.4	258	29.1		8.0		21.8		95.8		6.5		4.2		8		97				<0.2		2.1	
					Middle	3.9	0.5	156	28.1	28.1	7.9	7.9	26.1	26.1	78.2	78.2	5.3		6.8		12		93				<0.2		2.2	
						3.9	0.5	160	28.1		7.9		26.1		78.2		5.3		6.9		12		95				<0.2		2.2	
					Bottom	6.8	0.4	116	27.3	27.3	7.9	7.9	28.6	28.6	63.8	64.2	4.3	4.4	13.5		15		93				<0.2		1.7	
						6.8	0.4	123	27.3		7.9		28.5		64.5		4.4		12.8		16		94				<0.2		1.4	
30-Aug-16	Cloudy	Moderate	17:48	7.7	Surface	1.0	0.7	302	27.8	27.8	7.9	7.9	27.7	27.7	79.7	79.7	5.4	5.4	13.8	42.3	32	82	95	96	818865	806195	<0.2	<0.2	1.6	1.6
						1.0	0.7	310	27.8		7.9		27.7		79.7		5.4		13.8		31		93				<0.2		1.6	
					Middle	3.9	0.6	296	27.8	27.8	7.9	7.9	27.9	27.9	80.4	80.4	5.4		28.1		58		92				<0.2		1.7	
						3.9	0.7	298	27.8		7.9		27.9		80.4		5.4		28.0		64		96				<0.2		1.7	
					Bottom	6.7	0.5	276	27.8	27.8	7.9	7.9	28.4	28.4	80.0	80.0	5.4	5.4	85.0		156		100				<0.2		1.6	
						6.7	0.6	284	27.8		7.9		28.4		80.0		5.4		85.0		149		102				<0.2		1.3	

DA: Depth-Averaged
Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher

Expansion of Hong Kong International Airport into a Three-Runway System
Water Quality Monitoring
Water Quality Monitoring Results at IM3 during Mid-Flood Tide

Date	Weather Condition	Sea Condition	Sampling Time	Water Depth (m)	Sampling Depth (m)		Current Speed (m/s)	Current Direction	Water Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity(NTU)		Suspended Solids (mg/L)		Total Alkalinity (ppm)		Coordinate HK Grid (Northing)	Coordinate HK Grid (Easting)	Chromium (µg/L)		Nickel (µg/L)	
									Value	Average	Value	Average	Value	Average	Value	Average	Value	DA	Value	DA	Value	DA	Value	DA			Value	DA	Value	DA
4-Aug-16	Fine	Moderate	20:09	7.6	Surface	1.0	0.5	260	27.7	27.7	7.7	7.7	19.8	19.8	73.0	73.1	5.2	5.2	11.0	15.6	9	14	85	85	819396	806019	<0.2	<0.2	3.0	2.6
						1.0	0.5	268	27.7		7.7		19.8		73.1		5.2		11.4		8		81				<0.2		2.9	
					Middle	3.8	0.4	274	27.6	27.6	7.7	7.7	20.7	20.7	73.2	73.2	5.1		15.1		18		85				<0.2		2.5	
						3.8	0.5	300	27.5		7.7		20.8		73.2		5.1		15.3		19		83				<0.2		3.1	
					Bottom	6.6	0.4	283	27.3	27.1	7.7	7.7	21.8	22.6	72.6	72.9	5.1	5.1	19.3		15		88				<0.2		2.1	
						6.6	0.4	296	26.9		7.7		23.4		73.1		5.1		21.6		15		87				<0.2		2.1	
6-Aug-16	Fine	Moderate	09:18	8.9	Surface	1.0	0.6	93	27.1	27.1	7.7	7.7	24.4	24.5	62.4	62.3	4.3	4.2	3.1	6.6	4	8	89	92	819407	806021	<0.2	<0.2	1.4	1.4
						1.0	0.6	95	27.0		7.7		24.5		62.2		4.3		2.9		3		87				<0.2		1.7	
					Middle	4.5	0.6	122	26.5	26.5	7.7	7.7	25.9	26.0	59.6	59.6	4.2		4.4		6		92				<0.2		1.2	
						4.5	0.7	127	26.5		7.7		26.0		59.6		4.1		4.7		4		94				<0.2		1.7	
					Bottom	7.9	0.5	139	26.1	26.0	7.7	7.7	27.5	27.6	59.3	59.9	4.1	4.2	12.4		16		95				<0.2		1.0	
						7.9	0.5	146	25.8		7.7		27.7		60.4		4.2		11.8		17		92				<0.2		1.1	
9-Aug-16	Fine	Moderate	11:23	8.6	Surface	1.0	0.5	30	29.8	29.8	7.9	7.9	15.2	15.2	97.0	96.8	6.8	6.4	1.0	1.1	3	4	70	84	819408	805999	<0.2	<0.2	2.9	2.4
						1.0	0.6	31	29.8		7.9		15.2		96.5		6.7		1.0		3		80				<0.2		3.0	
					Middle	4.3	0.5	102	29.1	29.1	7.8	7.8	18.8	18.8	88.1	87.9	6.1		0.7		4		83				<0.2		2.8	
						4.3	0.5	107	29.1		7.8		18.8		87.7		6.1		0.7		4		87				<0.2		2.8	
					Bottom	7.6	0.5	71	26.8	26.8	7.7	7.7	26.3	26.4	68.3	68.5	4.7	4.7	1.5		4		92				<0.2		1.6	
						7.6	0.5	75	26.8		7.7		26.4		68.6		4.7		1.6		4		90				<0.2		1.5	
11-Aug-16	Cloudy	Moderate	13:53	8.0	Surface	1.0	0.5	125	26.7	26.7	7.8	7.8	24.5	24.6	65.2	65.2	4.6	4.1	0.8	2.0	3	4	85	90	819409	806007	<0.2	<0.2	1.9	1.3
						1.0	0.5	128	26.7		7.8		24.6		65.1		4.5		0.8		4		85				<0.2		1.4	
					Middle	4.0	0.4	168	25.9	25.9	7.8	7.8	28.3	28.3	51.8	51.8	3.6		1.0		4		93				<0.2		1.3	
						4.0	0.4	184	25.9		7.8		28.3		51.8		3.6		1.0		4		92				<0.2		1.3	
					Bottom	7.0	0.3	195	25.0	25.1	7.8	7.8	30.9	30.9	47.9	47.9	3.3	3.3	4.2		3		92				<0.2		1.0	
						7.0	0.3	212	25.1		7.8		30.8		47.9		3.3		4.2		4		91				<0.2		1.1	
13-Aug-16	Cloudy	Moderate	15:38	7.8	Surface	1.0	0.5	289	28.5	28.5	7.9	7.9	18.3	18.3	96.0	96.0	6.7	5.6	4.6	5.3	5	7	86	94	819399	806021	<0.2	<0.2	2.5	1.3
						1.0	0.6	295	28.5		7.9		18.3		95.9		6.7		4.7		5		83				<0.2		2.1	
					Middle	3.9	0.5	295	27.1	27.1	7.8	7.8	23.1	23.3	62.4	62.4	4.4		4.4		4		95				<0.2		1.1	
						3.9	0.5	303	27.1		7.8		23.5		62.4		4.4		4.4		6		97				<0.2		0.9	
					Bottom	6.8	0.5	295	24.6	24.6	7.8	7.8	32.1	32.1	40.8	41.3	2.8	2.9	6.7		10		102				<0.2		0.5	
						6.8	0.5	307	24.6		7.8		32.1		41.7		2.9		6.7		11		100				<0.2		0.5	
16-Aug-16	Cloudy	Moderate	17:36	7.6	Surface	1.0	0.3	262	27.4	27.4	7.7	7.7	21.4	21.4	62.4	62.4	4.4	4.3	4.8	8.6	5	8	86	85	819429	806024	<0.2	<0.2	1.8	1.2
						1.0	0.4	272	27.4		7.7		21.4		62.4		4.4		4.8		5		83				<0.2		1.4	
					Middle	3.8	0.3	209	27.1	26.9	7.7	7.7	23.2	23.3	59.1	59.3	4.1		6.9		9		86				<0.2		1.1	
						3.8	0.3	224	26.7		7.7		23.3		59.4		4.2		6.9		10		87				<0.2		1.1	
					Bottom	6.6	0.4	154	26.5	26.5	7.8	7.8	25.4	25.7	55.0	55.1	3.8	3.8	14.1		9		83				<0.2		0.9	
						6.6	0.4	156	26.4		7.8		26.0		55.2		3.8		14.0		10		87				<0.2		0.9	
18-Aug-16	Rough	Cloudy	19:09	7.3	Surface	1.0	0.9	236	27.0	27.0	7.7	7.7	24.0	24.0	67.1	67.1	4.7	4.7	16.3	32.4	23	39	77	88	819401	806010	<0.2	<0.2	2.0	2.1
						1.0	1.0	236	27.0		7.7		24.0		67.1		4.7		16.7		23		78				<0.2		2.2	
					Middle	3.7	0.8	234	26.9	26.9	7.7	7.7	24.4	24.4	66.0	66.0	4.6		31.6		29		96				<0.2		2.2	
						3.7	0.9	242	26.9		7.7		24.4		66.0		4.6		31.3		29		87				<0.2		2.2	
					Bottom	6.3	0.7	240	26.9	26.9	7.7	7.7	24.5	24.5	66.8	66.9	4.6	4.7	49.7		65		97				<0.2		1.9	
						6.3	0.7	240	26.9		7.7		24.5		67.0		4.7		48.9		66		94				<0.2		2.2	
20-Aug-16	Sunny	Calm	08:16	8.9	Surface	1.0	0.7	93	27.6	27.6	7.7	7.7	22.7	22.7	71.7	71.8	5.0	5.0	4.3	26.4	4	11	86	86	819397	806016	<0.2	<0.2	2.3	2.1
						1.0	0.7	101	27.6		7.7		22.7		71.8		5.0		4.4		4		87				<0.2		2.6	
					Middle	4.5	0.6	68	27.4	27.4	7.7	7.7	24.5	24.2	71.3	71.4	4.9		12.0		5		85				<0.2		2.3	
						4.5	0.7	71	27.4		7.7		23.9		71.4		4.9		12.9		4		86				<0.2		2.4	
					Bottom	7.9	0.4	97	27.1	27.1	7.7	7.7	26.3	26.3	72.0	72.1	4.9	4.9	61.4		25		86				<0.2		1.5	
						7.9	0.4	102	27.1		7.7		26.3		72.1		4.9		63.3		26		87				<0.2		1.6	
23-Aug-16	Sunny	Moderate	10:30	8.8	Surface	1.0	0.6	231	28.6	28.6	7.7	7.7	19.8	19.9	73.2	73.2	5.1	5.0	3.3	18.0	5	15	80	86	819397	806026	<0.2	<0.2	2.9	1.9
						1.0	0.6	234	28.6		7.7		19.9		73.2		5.1		3.4		4		81				<0.2		2.0	
					Middle	4.4	0.7	70	28.2	28.2	7.8	7.8	23.6	23.6	71.0	71.0	4.9		6.8		8		87				<0.2		1.8	
						4.4	0.8	71	28.1		7.8		23.6		71.0		4.9		6.9		6		86				<0.2		1.5	
					Bottom	7.8	0.4	108	27.8	27.8	7.8	7.8	26.3	26.3	72.4	72.4	4.9	4.9	43.7		34		90				<0.2		2.2	
						7.8	0.5	118	27.8		7.8		26.3		72.4		4.9		43.6		35		92				<0.2		1.2	
25-Aug-16	Sunny	Moderate	13:15	8.3	Surface	1.0	0.6	121	29.0	29.0	7.8	7.8	21.0	21.0	73.5	73.5	5.0	4.9	2.3	5.4	5	10	84	87	819410	806005	<0.2	<0.2	2.3	2.1
						1.0	0.6	132	29.0		7.8		21.0		73.5		5.0		2.5		4		82				<0.2		2.4	
					Middle	4.2	0.5	108	28.5	28.5	7.8	7.8	22.0	22.0	69.0	68.9	4.7		2.7		3		83				<0.2		2.4	
						4.2	0.5	118	28.4		7.8		22.0		68.8		4.7		2.9		4		82				<0.2		2.4	
					Bottom	7.3	0.4	145	27.3	27.3	7.8	7.8	27.9	27.9	64.7	65.2	4.4	4.4	11.2		20		94				<0.2		1.6	
						7.3	0.4	148	27.3		7.8		27.9		65.6		4.4		10.5		21		96				<0.2		1.7	
27-Aug-16	Cloudy	Moderate	15:05	7.9	Surface	1.0	0.5	258	28.8	28.8	7.9	7.9	21.8	21.8	83.5	83.4	5.7	5.1	4.0	9.0	7	14	89	92	819428	806001	<0.2	<0.2	2.1	2.0
						1.0	0.5	260	28.8		7.9		21.8		83.3		5.7		3.7		8		87				<0.2		2.6	
					Middle	4.0	0.5	155	27.9	27.9	7.8	7.8	25.0	25.0	65.1	65.1	4.4		6.1		8		88				<0.2		2.2	
						4.0	0.5	156	27.9		7.8		25.0		65.0		4.4		6.6		9		90				<0.2		2.1	
					Bottom	6.9	0.5	145	27.2	27.2	7.8	7.8	28.2	28.2	60.0	60.2	4.1	4.1	16.8		25		97				<0.2		1.4	
						6.9	0.5	157	27.2		7.8		28.1		60.4		4.1		16.8		26		98				<0.2		1.4	
30-Aug-16	Cloudy	Moderate	17:39	8.1	Surface	1.0	0.4	285	28.1	28.1	7.8	7.8	25.0	25.1	75.3	75.3	5.1	5.2	5.3	11.9	11	26	88	95	819401	806008	<0.2	<0.2	2.6	2.0
						1.0	0.4	288	28.1		7.8		25.1		75.3		5.1		5.4		10		90				<0.2		2.9	
					Middle	4.1	0.5	294	28.0	28.0	7.9	7.9	26.4	26.4	78.1	78.2	5.3		7.4		22		95				<0.2		1.7	
						4.1	0.5	313	28.0		7.9		26.3		78.2		5.3		7.6		21		96				<0.2		1.6	
					Bottom	7.1	0.5	279	27.9	27.9	7.9	7.9	28.0	28.0	80.9	81.0	5.4	5.4	23.1		46		100				<0.2		1.4	
						7.1	0.5	287	27.9		7.9		28.0		81.0		5.4		22.7		45		101				<0.2		1.6	

DA: Depth-Averaged
Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher

Expansion of Hong Kong International Airport into a Three-Runway System
Water Quality Monitoring
Water Quality Monitoring Results at IM4 during Mid-Flood Tide

Date	Weather Condition	Sea Condition	Sampling Time	Water Depth (m)	Sampling Depth (m)		Current Speed (m/s)	Current Direction	Water Temperature (°C) Value	Water Temperature (°C) Average	pH Value	pH Average	Salinity (ppt) Value	Salinity (ppt) Average	DO Saturation (%) Value	DO Saturation (%) Average	Dissolved Oxygen (mg/L) Value	Dissolved Oxygen (mg/L) DA	Turbidity(NTU) Value	Turbidity(NTU) DA	Suspended Solids (mg/L) Value	Suspended Solids (mg/L) DA	Total Alkalinity (ppm) Value	Total Alkalinity (ppm) DA	Coordinate HK Grid (Northing)	Coordinate HK Grid (Easting)	Chromium (µg/L) Value	Chromium (µg/L) DA	Nickel (µg/L) Value	Nickel (µg/L) DA
4-Aug-16	Cloudy	Moderate	19:54	7.0	Surface	1.0	0.5	269	27.8	27.6	7.6	7.6	19.6	19.7	70.8	71.0	5.0	5.0	11.5	18.7	16	20	76	78	819578	805022	<0.2	<0.2	2.8	2.9
						1.0	0.5	286	27.4		7.6		19.8		71.2		5.0		11.6		15		76				<0.2		2.9	
					Middle	3.5	0.4	267	27.8	27.6	7.6	7.6	20.2	20.3	70.5	70.7	5.0		20.1		15		78				<0.2		3.0	
						3.5	0.5	276	27.4		7.6		20.4		70.9		5.0		20.1		15		78				<0.2		3.0	
					Bottom	6.0	0.4	288	27.8	27.8	7.6	7.6	20.2	20.2	71.3	71.4	5.0	5.0	24.4		27		80				<0.2		2.8	
						6.0	0.5	303	27.8		7.6		20.2		71.5		5.0		24.3		29		80				<0.2		2.7	
6-Aug-16	Fine	Moderate	09:33	8.4	Surface	1.0	0.4	153	27.7	27.9	7.6	7.6	20.1	20.1	67.7	67.5	4.8	4.6	2.4	12.0	4	12	83	88	819563	805042	<0.2	<0.2	3.2	2.3
						1.0	0.5	157	28.0		7.6		20.0		67.3		4.7		2.2		3		84				<0.2		2.8	
					Middle	4.2	0.6	73	27.5	27.5	7.6	7.6	22.4	22.5	62.5	62.6	4.4		3.4		3		84				<0.2		2.7	
						4.2	0.6	76	27.4		7.6		22.5		62.6		4.4		3.5		3		85				<0.2		2.9	
					Bottom	7.4	0.5	98	25.6	25.8	7.7	7.7	28.0	27.9	59.5	59.6	4.2	4.2	31.8		28		96				<0.2		0.9	
						7.4	0.5	101	26.0		7.7		27.7		59.7		4.2		28.9		29		93				<0.2		1.1	
9-Aug-16	Fine	Moderate	11:33	8.0	Surface	1.0	0.3	42	29.8	29.7	7.8	7.8	15.6	15.7	93.4	93.3	6.5	5.8	0.9	2.7	4	4	72	79	819565	805047	<0.2	<0.2	3.2	2.3
						1.0	0.4	44	29.5		7.8		15.7		93.2		6.5		1.0		3		72				<0.2		3.3	
					Middle	4.0	0.5	28	28.0	28.0	7.7	7.7	22.6	22.6	72.2	72.1	5.0		1.6		3		78				<0.2		2.5	
						4.0	0.5	28	28.0		7.7		22.6		72.0		5.0		1.5		3		80				<0.2		2.2	
					Bottom	7.0	0.4	41	25.3	25.4	7.7	7.7	30.0	30.0	53.6	54.3	3.7	3.8	5.7		5		84				<0.2		1.1	
						7.0	0.4	44	25.4		7.7		29.9		54.9		3.8		5.5		5		87				<0.2		1.2	
11-Aug-16	Cloudy	Moderate	14:08	7.5	Surface	1.0	0.3	168	27.5	27.5	7.8	7.8	21.0	21.1	80.4	80.3	5.6	4.7	1.0	1.2	3	4	88	89	819572	805035	<0.2	<0.2	2.7	2.2
						1.0	0.3	176	27.5		7.8		21.1		80.2		5.6		1.0		3		90				<0.2		2.6	
					Middle	3.8	0.3	182	25.9	25.9	7.8	7.8	28.0	28.0	54.6	54.6	3.8		0.7		4		81				<0.2		2.2	
						3.8	0.3	188	25.9		7.8		28.0		54.6		3.8		0.8		5		82				<0.2		2.1	
					Bottom	6.5	0.3	182	25.1	25.1	7.8	7.8	30.6	30.7	51.0	51.1	3.5	3.6	1.9		5		95				<0.2		1.6	
						6.5	0.3	189	25.1		7.8		30.7		51.2		3.6		2.0		4		95				<0.2		2.1	
13-Aug-16	Cloudy	Moderate	15:28	7.3	Surface	1.0	0.7	286	28.6	28.6	7.9	7.9	17.2	17.3	90.1	89.9	6.3	4.7	2.1	3.8	4	5	77	92	819576	805058	<0.2	<0.2	2.8	1.5
						1.0	0.7	291	28.6		7.9		17.3		89.7		6.3		2.1		4		79				<0.2		2.6	
					Middle	3.7	0.4	241	25.6	25.5	7.7	7.7	29.8	30.2	43.3	43.4	3.0		2.7		3		96				<0.2		1.3	
						3.7	0.4	253	25.3		7.7		30.5		43.5		3.0		2.8		2		96				<0.2		1.2	
					Bottom	6.3	0.4	155	24.7	24.5	7.8	7.8	32.1	32.3	39.5	39.9	2.7	2.8	6.4		10		103				<0.2		0.4	
						6.3	0.4	159	24.3		7.8		32.4		40.2		2.8		6.5		9		102				<0.2		0.5	
16-Aug-16	Cloudy	Moderate	17:26	7.2	Surface	1.0	0.5	276	27.5	27.5	7.7	7.7	21.7	21.7	61.1	61.1	4.3	4.1	4.0	6.0	4	6	80	83	819569	805050	<0.2	<0.2	1.3	1.1
						1.0	0.5	290	27.5		7.7		21.7		61.0		4.3		4.1		4		80				<0.2		1.6	
					Middle	3.6	0.4	252	26.8	26.9	7.7	7.7	24.7	24.7	56.8	56.8	3.9		7.3		7		83				<0.2		1.0	
						3.6	0.4	276	27.0		7.7		24.6		56.7		3.9		7.3		8		82				<0.2		0.8	
					Bottom	6.2	0.4	226	27.0	27.0	7.7	7.7	24.6	24.6	58.0	58.2	4.0	4.0	6.6		8		85				<0.2		0.9	
						6.2	0.4	239	27.0		7.7		24.6		58.3		4.0		6.8		7		85				<0.2		1.1	
18-Aug-16	Rough	Cloudy	18:54	7.0	Surface	1.0	0.8	234	26.8	26.8	7.7	7.7	24.4	24.4	65.9	65.9	4.6	4.6	23.2	33.2	35	47	81	85	819577	805029	<0.2	<0.2	1.9	2.0
						1.0	0.8	256	26.8		7.7		24.4		65.9		4.6		23.3		35		79				<0.2		2.0	
					Middle	3.5	0.7	236	26.9	26.9	7.7	7.7	24.3	24.3	65.8	65.8	4.6		28.0		35		83				<0.2		1.9	
						3.5	0.7	256	26.9		7.7		24.3		65.8		4.6		28.2		35		82				<0.2		1.9	
					Bottom	6.0	0.6	235	26.9	26.9	7.7	7.7	24.3	24.4	66.2	66.2	4.6	4.6	47.9		71		94				<0.2		2.0	
						6.0	0.6	252	26.9		7.7		24.4		66.2		4.6		48.4		70		91				<0.2		2.0	
20-Aug-16	Sunny	Moderate	08:25	8.4	Surface	1.0	0.7	70	27.7	27.5	7.6	7.6	22.1	22.2	70.8	71.1	4.9	5.0	4.6	78.9	3	25	80	91	819589	805025	<0.2	<0.2	2.7	2.0
						1.0	0.7	71	27.3		7.6		22.3		71.3		5.0		4.7		3		82				<0.2		2.4	
					Middle	4.2	0.7	57	27.1	27.1	7.8	7.8	26.3	26.4	73.0	73.0	5.0		51.9		24		97				<0.2		2.0	
						4.2	0.8	62	27.1		7.8		26.4		73.0		5.0		54.2		25		96				<0.2		1.5	
					Bottom	7.4	0.6	55	26.5	26.8	7.8	7.8	26.7	26.6	74.1	73.9	5.1	5.1	180.2		48		95				<0.2		1.5	
						7.4	0.7	58	27.0		7.8		26.5		73.7		5.1		177.7		47		96				<0.2		1.6	
23-Aug-16	Sunny	Moderate	10:38	8.2	Surface	1.0	0.6	151	29.4	29.5	7.6	7.6	16.7	16.7	72.8	72.8	5.1	5.0	3.4	24.5	6	42	82	88	819556	805030	<0.2	<0.2	2.5	2.1
						1.0	0.6	165	29.5		7.6		16.7		72.7		5.1		3.2		6		80				<0.2		2.5	
					Middle	4.1	0.7	87	28.4	28.4	7.7	7.7	21.2	21.2	70.2	70.3	4.8		7.0		6		86				<0.2		1.8	
						4.1	0.7	89	28.4		7.7		21.2		70.3		4.9		7.5		5		87				<0.2		2.1	
					Bottom	7.2	0.6	97	27.7	27.7	7.8	7.8	26.7	26.7	71.3	71.3	4.8	4.8	62.9		114		96				<0.2		1.7	
						7.2	0.6	103	27.7		7.8		26.7		71.2		4.8		63.0		116		96				<0.2		2.0	
25-Aug-16	Sunny	Moderate	13:23	8.0	Surface	1.0	0.5	102	28.9	28.9	7.7	7.7	20.2	20.2	71.7	71.7	4.9	4.9	1.5	4.8	4	8	87	90	819578	805031	<0.2	<0.2	2.6	2.1
						1.0	0.6	108	28.9		7.7		20.2		71.7		4.9		1.5		4		87				<0.2		2.8	
					Middle	4.0	0.5	92	28.7	28.7	7.7	7.7	20.6	20.6	69.6	69.6	4.8		2.9		4		86				<0.2		1.9	
						4.0	0.5	93	28.7		7.7		20.6		69.5		4.8		2.9		4		87				<0.2		1.8	
					Bottom	7.0	0.4	133	27.1	27.1	7.9	7.9	28.8	28.8	64.4	64.5	4.4	4.4	10.1		14		97				<0.2		1.6	
						7.0	0.4	133	27.1		7.9		28.8		64.5		4.4		10.1		15		95				<0.2		1.7	
27-Aug-16	Cloudy	Moderate	14:55	7.5	Surface	1.0	0.4	246	29.4	29.4	7.9	7.9	18.2	18.2	90.8	90.8	6.3	5.2	2.1	18.7	6	24	87	91	819562	805033	<0.2	<0.2	2.6	1.8
						1.0	0.4	260	29.4		7.9		18.2		90.8		6.3		2.2		8		83				<0.2		2.5	
					Middle	3.8	0.4	158	27.8	27.8	7.8	7.8	25.7	25.7	60.4	60.4	4.1		7.6		10		91				<0.2		1.9	
						3.8	0.4	163	27.8		7.8		25.7		60.4		4.1		7.9		10		87				<0.2		1.5	
					Bottom	6.5	0.5	118	26.9	26.9	7.8	7.8	29.2	29.2	58.1	58.2	3.9	3.9	46.5		54		98				<0.2		1.1	
						6.5	0.5	121	26.9		7.8		29.2		58.3		3.9		45.8		55		99				<0.2		1.4	
30-Aug-16	Cloudy	Moderate	17:27	7.3	Surface	1.0	0.5	283	27.9	27.9	7.8	7.8	25.3	25.3	68.5	68.5	4.7	4.7	8.9	11.0	11	19	92	95	819554	805038	<0.2	<0.2	2.3	2.2
						1.0	0.5	286	27.9		7.8		25.3		68.5		4.7		9.0		12		91				<0.2		2.2	
					Middle	3.7	0.4	280	27.9	27.9	7.8	7.8	25.4	25.4	67.9	67.9	4.6		10.3		19		97				<0.2		2.1	
						3.7	0.5	281	27.9		7.8		25.4		67.9		4.6		11.0		19		99				<0.2		2.3	
					Bottom	6.3	0.4	254	27.9	27.9	7.8	7.8	25.5	25.5	69.5	69.6	4.7	4.7	13.5		26		94				<0.2		2.2	
						6.3	0.4	267	27.9		7.8		25.5		69.6		4.7		13.4		26		96				<0.2		2.1	

DA: Depth-Averaged
Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher

Expansion of Hong Kong International Airport into a Three-Runway System
Water Quality Monitoring
Water Quality Monitoring Results at IM5 during Mid-Flood Tide

Date	Weather Condition	Sea Condition	Sampling Time	Water Depth (m)	Sampling Depth (m)		Current Speed (m/s)	Current Direction	Water Temperature (°C) Value	Water Temperature (°C) Average	pH Value	pH Average	Salinity (ppt) Value	Salinity (ppt) Average	DO Saturation (%) Value	DO Saturation (%) Average	Dissolved Oxygen (mg/L) Value	Dissolved Oxygen (mg/L) DA	Turbidity(NTU) Value	Turbidity(NTU) DA	Suspended Solids (mg/L) Value	Suspended Solids (mg/L) DA	Total Alkalinity (ppm) Value	Total Alkalinity (ppm) DA	Coordinate HK Grid (Northing)	Coordinate HK Grid (Easting)	Chromium (µg/L) Value	Chromium (µg/L) DA	Nickel (µg/L) Value	Nickel (µg/L) DA
4-Aug-16	Cloudy	Moderate	19:40	6.0	Surface	1.0	0.5	282	27.6	27.6	7.6	7.6	19.8	19.8	70.3	70.4	5.0	5.0	15.0	24.8	21	30	77	82	820580	804920	<0.2	<0.2	2.4	2.4
						1.0	0.6	307	27.6		7.6		19.9		70.4		5.0		15.5		20		78				<0.2		2.6	
					Middle	3.0	0.5	279	27.6	27.6	7.6	7.6	20.3	20.3	69.6	69.6	4.9		25.7		34		83				<0.2		2.4	
						3.0	0.5	284	27.6		7.6		20.3		69.6		4.9		26.1		34		83				<0.2		2.4	
					Bottom	5.0	0.4	254	27.3	27.3	7.7	7.7	21.6	21.6	70.0	70.2	4.9	4.9	33.2		34		86				<0.2		2.1	
						5.0	0.4	270	27.2		7.7		21.7		70.3		4.9		33.4		35		84				<0.2		2.2	
6-Aug-16	Fine	Moderate	09:17	7.2	Surface	1.0	0.6	265	28.6	28.6	7.6	7.6	16.8	16.8	72.1	72.1	5.1	4.7	2.2	20.8	3	14	87	90	820544	804922	<0.2	<0.2	4.0	2.5
						1.0	0.6	272	28.6		7.6		16.8		72.1		5.1		2.3		4		83				<0.2		3.6	
					Middle	3.6	0.6	167	27.4	27.4	7.6	7.6	22.7	22.7	62.1	62.1	4.3		6.0		3		90				<0.2		2.3	
						3.6	0.6	181	27.4		7.6		22.7		62.0		4.3		6.7		5		87				<0.2		3.0	
					Bottom	6.2	0.6	99	25.8	25.8	7.7	7.7	28.0	28.0	57.6	58.0	4.0	4.1	54.8		34		96				<0.2		0.9	
						6.2	0.6	107	25.8		7.7		28.0		58.3		4.1		52.9		32		98				<0.2		1.0	
9-Aug-16	Fine	Moderate	11:41	7.0	Surface	1.0	0.5	307	29.7	29.7	7.9	7.9	16.7	16.7	92.1	92.0	6.4	6.2	1.1	2.4	3	4	70	77	820553	804916	<0.2	<0.2	2.9	2.5
						1.0	0.5	316	29.7		7.9		16.7		91.9		6.4		1.2		4		72				<0.2		3.0	
					Middle	3.5	0.3	264	29.1	29.1	7.8	7.8	19.7	19.7	88.3	88.1	6.1		1.1		4		75				<0.2		2.5	
						3.5	0.3	283	29.1		7.8		19.7		87.8		6.0		1.2		4		77				<0.2		2.8	
					Bottom	6.0	0.3	71	25.6	25.7	7.7	7.7	29.4	29.4	56.0	57.0	3.9	4.0	4.9		4		85				<0.2		2.0	
						6.0	0.4	73	25.7		7.7		29.3		57.9		4.0		4.6		5		83				<0.2		2.0	
11-Aug-16	Fine	Moderate	14:22	6.5	Surface	1.0	0.4	251	28.3	28.3	7.8	7.8	16.3	16.3	85.7	85.7	6.1	5.6	1.0	2.1	3	6	76	85	820582	804941	<0.2	<0.2	3.7	2.2
						1.0	0.4	267	28.3		7.8		16.3		85.6		6.1		1.0		4		74				<0.2		3.6	
					Middle	3.3	0.4	261	27.0	27.0	7.8	7.8	22.9	22.9	71.7	71.7	5.0		1.9		6		83				<0.2		2.4	
						3.3	0.4	277	27.0		7.8		22.9		71.6		5.0		1.7		6		83				<0.2		2.2	
					Bottom	5.5	0.3	180	24.7	24.7	7.8	7.8	31.5	31.5	46.7	47.1	3.2	3.3	3.5		8		98				<0.2		0.6	
						5.5	0.4	196	24.7		7.8		31.5		47.5		3.3		3.4		7		96				<0.2		0.7	
13-Aug-16	Cloudy	Moderate	15:19	6.1	Surface	1.0	0.6	286	28.5	28.5	7.9	7.9	18.0	18.0	91.8	91.8	6.4	5.7	2.3	10.3	4	11	84	88	820569	804904	<0.2	<0.2	2.6	1.8
						1.0	0.6	305	28.5		7.9		18.0		91.8		6.4		2.3		4		80				<0.2		2.4	
					Middle	3.1	0.5	276	27.9	27.9	7.7	7.7	20.3	20.3	69.9	69.9	4.9		1.9		3		82				<0.2		2.2	
						3.1	0.5	276	27.9		7.7		20.3		69.8		4.9		1.9		3		82				<0.2		2.0	
					Bottom	5.1	0.3	234	25.2	25.2	7.7	7.7	30.7	30.7	38.5	38.6	2.7	2.7	24.8		27		101				<0.2		0.6	
						5.1	0.3	254	25.2		7.7		30.7		38.7		2.7		28.7		27		99				<0.2		0.7	
16-Aug-16	Cloudy	Moderate	17:18	6.1	Surface	1.0	0.4	265	27.3	27.1	7.7	7.7	22.2	22.3	57.9	58.1	4.0	4.0	3.6	7.5	3	4	81	83	820553	804909	<0.2	<0.2	1.7	1.7
						1.0	0.4	266	26.9		7.7		22.4		58.2		4.1		3.7		3		80				<0.2		1.8	
					Middle	3.1	0.5	279	26.9	26.9	7.7	7.7	24.7	24.8	55.6	55.7	3.9		4.8		3		80				<0.2		1.0	
						3.1	0.5	282	26.8		7.7		24.8		55.8		3.9		5.1		3		87				<0.2		1.2	
					Bottom	5.1	0.4	244	26.7	26.7	7.7	7.7	25.9	26.0	58.0	58.1	4.0	4.0	13.8		6		83				<0.2		1.7	
						5.1	0.4	250	26.6		7.7		26.0		58.2		4.0		13.8		5		85				<0.2		2.5	
18-Aug-16	Rough	Cloudy	18:40	6.0	Surface	1.0	0.8	244	26.8	26.8	7.7	7.7	24.5	24.5	65.9	65.9	4.6	4.6	12.4	20.4	16	21	85	82	820565	804935	<0.2	<0.2	1.9	1.9
						1.0	0.9	254	26.8		7.7		24.5		65.9		4.6		12.6		16		84				<0.2		1.9	
					Middle	3.0	0.7	238	26.7	26.8	7.7	7.7	24.7	24.7	66.1	66.1	4.6		19.5		19		79				<0.2		1.9	
						3.0	0.7	245	26.8		7.7		24.7		66.1		4.6		19.4		19		79				<0.2		1.9	
					Bottom	5.0	0.7	229	26.7	26.7	7.7	7.7	24.9	24.9	67.6	67.7	4.7	4.7	29.2		28		82				<0.2		1.9	
						5.0	0.7	234	26.7		7.7		24.9		67.7		4.7		29.3		28		82				<0.2		1.8	
20-Aug-16	Sunny	Moderate	08:33	7.3	Surface	1.0	0.8	110	28.0	28.0	7.6	7.6	20.7	20.7	70.6	70.7	4.9	4.9	3.2	34.1	4	16	84	91	820560	804919	<0.2	<0.2	2.7	2.3
						1.0	0.8	114	27.9		7.6		20.7		70.7		4.9		3.3		4		83				<0.2		2.7	
					Middle	3.7	0.9	52	27.5	27.5	7.7	7.7	24.3	24.2	71.2	71.2	4.9		10.8		3		92				<0.2		2.6	
						3.7	0.9	52	27.5		7.7		24.0		71.2		4.9		10.9		3		94				<0.2		2.8	
					Bottom	6.3	0.6	120	27.0	27.1	7.8	7.8	26.7	26.7	74.0	74.1	5.1	5.1	88.4		42		97				<0.2		1.6	
						6.3	0.7	121	27.1		7.8		26.6		74.1		5.1		88.1		41		97				<0.2		1.4	
23-Aug-16	Sunny	Moderate	10:46	7.1	Surface	1.0	0.7	171	28.7	28.7	7.7	7.7	18.8	18.8	70.4	70.4	4.9	4.9	4.4	44.2	5	63	82	91	820546	804915	<0.2	<0.2	1.8	1.7
						1.0	0.7	173	28.7		7.7		18.8		70.4		4.9		4.3		5		83				<0.2		1.7	
					Middle	3.6	0.8	50	28.3	28.3	7.7	7.7	22.0	22.0	69.3	69.3	4.8		7.6		18		91				<0.2		2.2	
						3.6	0.8	51	28.3		7.7		22.0		69.3		4.8		7.8		19		92				<0.2		2.1	
					Bottom	6.1	0.6	105	27.6	27.6	7.8	7.8	26.7	26.7	72.2	72.3	4.9	4.9	120.9		164		97				<0.2		1.0	
						6.1	0.6	107	27.6		7.8		26.7		72.3		4.9		120.1		166		98				<0.2		1.1	
25-Aug-16	Sunny	Moderate	13:30	6.9	Surface	1.0	0.5	224	29.5	29.5	7.7	7.7	17.6	17.6	71.3	71.3	4.9	4.8	1.8	7.6	4	11	90	90	820544	804927	<0.2	<0.2	2.6	2.4
						1.0	0.5	240	29.5		7.7		17.6		71.2		4.9		1.8		4		91				<0.2		2.8	
					Middle	3.5	0.6	152	28.4	28.4	7.7	7.7	21.6	21.6	67.1	67.1	4.6		4.0		6		82				<0.2		2.7	
						3.5	0.6	153	28.4		7.7		21.6		67.0		4.6		4.0		6		85				<0.2		2.9	
					Bottom	5.9	0.4	167	27.2	27.2	7.8	7.8	28.2	28.2	61.4	61.5	4.2	4.2	16.8		24		96				<0.2		1.8	
						5.9	0.5	179	27.2		7.8		28.2		61.6		4.2		17.4		22		93				<0.2		1.6	
27-Aug-16	Cloudy	Moderate	14:46	6.2	Surface	1.0	0.5	278	29.4	29.4	7.8	7.8	17.9	17.9	84.0	84.0	5.8	5.7	1.8	2.9	4	6	79	83	820546	804907	<0.2	<0.2	2.8	2.5
						1.0	0.5	287	29.4		7.8		17.9		84.0		5.8		1.9		4		81				<0.2		3.0	
					Middle	3.1	0.5	288	29.2	29.2	7.8	7.8	18.9	18.9	81.8	81.8	5.6		2.1		5		84				<0.2		2.5	
						3.1	0.5	288	29.2		7.8		18.9		81.7		5.6		2.2		4		82				<0.2		2.6	
					Bottom	5.2	0.4	270	28.5	28.5	7.8	7.8	22.2	22.4	68.3	68.4	4.7	4.7	4.5		9		86				<0.2		2.0	
						5.2	0.4	294	28.4		7.8		22.5		68.4		4.7		4.6		8		87				<0.2		2.1	
30-Aug-16	Cloudy	Moderate	17:18	6.0	Surface	1.0	0.5	275	27.8	27.8	7.8	7.8	25.4	25.4	65.6	65.6	4.5	4.5	7.4	13.9	18	29	89	93	820556	804929	<0.2	<0.2	2.2	2.0
						1.0	0.5	281	27.8		7.8		25.4		65.6		4.5		7.5		18		90				<0.2		2.2	
					Middle	3.0	0.5	281	27.6	27.6	7.8	7.8	26.3	26.3	64.5	64.5	4.4		12.9		27		95				<0.2		1.9	
						3.0	0.5	284	27.6		7.8		26.3		64.5		4.4		12.9		27		94				<0.2		1.9	
					Bottom	5.0	0.4	257	27.6	27.6	7.8	7.8	26.4	26.4	67.6	68.1	4.6	4.7	21.2		44		95				<0.2		1.9	
						5.0	0.4	263	27.6		7.8		26.4		68.5		4.7		21.5		42		96				<0.2		1.7	

DA: Depth-Averaged
Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher

Expansion of Hong Kong International Airport into a Three-Runway System
Water Quality Monitoring
Water Quality Monitoring Results at IM6 during Mid-Flood Tide

Date	Weather Condition	Sea Condition	Sampling Time	Water Depth (m)	Sampling Depth (m)		Current Speed (m/s)	Current Direction	Water Temperature (°C) Value	Water Temperature (°C) Average	pH Value	pH Average	Salinity (ppt) Value	Salinity (ppt) Average	DO Saturation (%) Value	DO Saturation (%) Average	Dissolved Oxygen (mg/L) Value	Dissolved Oxygen (mg/L) DA	Turbidity(NTU) Value	Turbidity(NTU) DA	Suspended Solids (mg/L) Value	Suspended Solids (mg/L) DA	Total Alkalinity (ppm) Value	Total Alkalinity (ppm) DA	Coordinate HK Grid (Northing)	Coordinate HK Grid (Easting)	Chromium (µg/L) Value	Chromium (µg/L) DA	Nickel (µg/L) Value	Nickel (µg/L) DA
4-Aug-16	Cloudy	Moderate	19:25	6.0	Surface	1.0	0.4	247	27.6	27.6	7.6	7.6	20.1	20.0	69.5	69.5	4.9	4.9	20.0	36.5	24	37	81	81	821041	805819	<0.2	<0.2	2.4	2.5
						1.0	0.5	266	27.6		7.6		20.0		69.5		4.9		20.2		25		80				<0.2		2.4	
					Middle	3.0	0.4	261	27.5	27.5	7.7	7.7	20.5	20.5	70.1	70.2	4.9		39.1		40		83				<0.2		2.4	
						3.0	0.5	277	27.5		7.7		20.5		70.3		5.0		40.0		38		85				<0.2		2.5	
					Bottom	5.0	0.4	261	27.6	27.6	7.7	7.7	20.5	20.5	74.4	75.1	5.2	5.3	50.7		48		76				<0.2		2.6	
						5.0	0.4	283	27.6		7.7		20.5		75.7		5.3		49.1		48		80				<0.2		2.6	
6-Aug-16	Cloudy	Moderate	09:33	7.2	Surface	1.0	0.6	102	27.9	27.9	7.6	7.6	18.8	18.8	66.2	66.1	4.7	4.4	2.4	7.7	3	10	82	90	821074	805841	<0.2	<0.2	2.8	1.9
						1.0	0.6	104	27.9		7.6		18.8		66.0		4.7		2.4		4		81				<0.2		2.9	
					Middle	3.6	0.6	85	26.8	26.8	7.7	7.7	25.3	25.3	58.8	58.8	4.1		5.3		4		87				<0.2		1.6	
						3.6	0.6	86	26.7		7.7		25.3		58.8		4.1		5.5		4		83				<0.2		1.7	
					Bottom	6.2	0.5	112	26.1	26.1	7.7	7.7	27.2	27.2	55.5	55.6	3.9	3.9	15.0		22		104				<0.2		1.2	
						6.2	0.5	112	26.1		7.7		27.1		55.6		3.9		15.3		21		100				<0.2		1.2	
9-Aug-16	Fine	Moderate	11:49	6.8	Surface	1.0	0.6	306	29.4	29.4	7.9	7.9	18.2	18.2	91.3	91.1	6.3	5.6	1.5	3.4	3	6	76	82	821057	805817	<0.2	<0.2	2.6	2.0
						1.0	0.6	312	29.4		7.9		18.2		90.9		6.3		1.6		4		76				<0.2		2.6	
					Middle	3.4	0.6	319	27.1	27.1	7.7	7.8	24.6	24.7	71.0	71.4	4.9		2.9		4		82				<0.2		2.5	
						3.4	0.6	334	27.1		7.8		24.8		71.7		5.0		3.1		3		81				<0.2		2.4	
					Bottom	5.8	0.4	80	25.9	25.9	7.7	7.7	28.3	28.3	61.3	62.7	4.3	4.4	5.7		10		87				<0.2		1.0	
						5.8	0.4	86	25.9		7.7		28.3		64.1		4.4		5.8		10		87				<0.2		1.1	
11-Aug-16	Fine	Moderate	14:37	6.4	Surface	1.0	0.4	261	27.7	27.7	7.7	7.8	21.0	21.0	73.7	73.8	5.2	5.2	0.6	1.0	4	3	84	85	821041	805834	<0.2	<0.2	3.0	2.5
						1.0	0.4	284	27.7		7.8		20.9		73.8		5.2		0.6		4		85				<0.2		3.3	
					Middle	3.2	0.4	268	27.4	27.5	7.8	7.8	21.9	21.9	73.9	73.9	5.2		0.9		3		84				<0.2		2.6	
						3.2	0.4	282	27.5		7.8		21.8		73.8		5.2		0.9		3		84				<0.2		2.7	
					Bottom	5.4	0.4	217	25.8	25.8	7.8	7.8	28.0	28.0	56.6	56.9	3.9	4.0	1.5		3		86				<0.2		1.5	
						5.4	0.4	231	25.8		7.8		27.9		57.2		4.0		1.4		3		86				<0.2		1.6	
13-Aug-16	Cloudy	Moderate	15:09	6.0	Surface	1.0	0.5	275	28.1	28.2	7.8	7.8	20.1	20.1	81.4	81.4	5.7	5.1	2.4	2.7	2	4	81	92	821050	805822	<0.2	<0.2	2.4	1.6
						1.0	0.5	302	28.2		7.8		20.0		81.4		5.7		2.3		3		78				<0.2		2.3	
					Middle	3.0	0.4	271	27.1	27.2	7.7	7.7	23.8	23.8	63.0	63.0	4.4		3.8		4		100				<0.2		1.7	
						3.0	0.4	271	27.2		7.7		23.8		62.9		4.4		3.3		3		95				<0.2		1.8	
					Bottom	5.0	0.3	204	26.0	26.0	7.7	7.7	28.3	28.4	50.5	50.5	3.5	3.5	2.3		5		98				<0.2		0.8	
						5.0	0.3	222	25.9		7.7		28.4		50.5		3.5		2.2		5		98				<0.2		0.7	
16-Aug-16	Cloudy	Moderate	17:11	6.0	Surface	1.0	0.4	251	26.9	27.0	7.7	7.7	24.0	24.0	54.7	54.7	3.8	3.8	4.1	6.9	4	7	82	86	821066	805824	<0.2	<0.2	2.0	2.5
						1.0	0.4	271	27.0		7.7		23.9		54.7		3.8		4.1		4		83				<0.2		2.1	
					Middle	3.0	0.4	265	26.4	26.6	7.7	7.7	25.5	25.4	54.7	54.6	3.8		5.6		5		86				<0.2		2.1	
						3.0	0.4	276	26.8		7.7		25.3		54.4		3.8		5.4		5		87				<0.2		3.0	
					Bottom	5.0	0.3	261	26.7	26.5	7.7	7.7	26.3	26.4	54.7	55.0	3.8	3.8	11.2		11		88				<0.2		2.9	
						5.0	0.4	284	26.2		7.7		26.5		55.3		3.8		11.2		10		90				<0.2		3.0	
18-Aug-16	Rough	Cloudy	18:25	6.0	Surface	1.0	1.0	235	26.9	26.9	7.6	7.6	23.8	23.8	64.5	64.5	4.5	4.5	14.5	22.1	19	28	82	82	821070	805809	<0.2	<0.2	2.2	2.2
						1.0	1.1	253	26.9		7.6		23.8		64.4		4.5		14.7		18		86				<0.2		2.2	
					Middle	3.0	1.0	239	26.9	26.9	7.6	7.6	23.9	24.0	63.8	63.8	4.5		21.3		19		79				<0.2		2.0	
						3.0	1.0	250	26.9		7.6		24.0		63.8		4.5		21.3		20		81				<0.2		2.3	
					Bottom	5.0	0.9	235	26.8	26.9	7.6	7.6	24.1	24.1	64.4	64.4	4.5	4.5	30.6		47		80				<0.2		2.3	
						5.0	0.9	235	26.9		7.6		24.0		64.4		4.5		30.2		47		81				<0.2		1.9	
20-Aug-16	Sunny	Moderate	08:42	7.3	Surface	1.0	0.8	72	27.8	27.7	7.6	7.6	22.1	21.9	70.8	71.1	4.9	4.9	3.1	15.6	4	10	85	88	821068	805833	<0.2	<0.2	3.6	2.7
						1.0	0.8	75	27.5		7.6		21.7		71.3		5.0		3.2		2		84				<0.2		3.4	
					Middle	3.7	0.7	51	27.6	27.6	7.7	7.7	23.1	23.2	70.5	70.6	4.9		6.7		3		89				<0.2		2.6	
						3.7	0.8	52	27.5		7.7		23.2		70.6		4.9		6.9		3		87				<0.2		2.7	
					Bottom	6.3	0.6	62	27.1	27.2	7.7	7.7	25.7	25.7	71.6	71.8	4.9	4.9	36.3		23		92				<0.2		1.9	
						6.3	0.6	66	27.2		7.7		25.6		71.9		4.9		37.3		23		91				<0.2		1.8	
23-Aug-16	Sunny	Moderate	10:55	7.0	Surface	1.0	0.7	133	28.7	28.7	7.7	7.7	18.8	18.8	71.6	71.6	5.0	4.9	3.6	29.8	3	19	84	86	821048	805829	<0.2	<0.2	2.6	2.0
						1.0	0.7	134	28.7		7.7		18.7		71.6		5.0		3.9		4		81				<0.2		3.1	
					Middle	3.5	0.8	74	28.2	28.3	7.7	7.7	22.4	22.4	70.5	70.5	4.8		6.8		6		84				<0.2		1.8	
						3.5	0.8	80	28.3		7.7		22.4		70.5		4.8		6.5		5		87				<0.2		1.8	
					Bottom	6.0	0.6	46	27.8	27.8	7.8	7.8	25.4	25.4	70.2	70.3	4.8	4.8	78.8		46		89				<0.2		1.3	
						6.0	0.6	50	27.8		7.8		25.4		70.3		4.8		78.9		47		90				<0.2		1.5	
25-Aug-16	Sunny	Moderate	13:39	6.8	Surface	1.0	0.6	133	29.5	29.5	7.6	7.6	16.4	16.5	71.1	71.1	4.9	4.8	1.8	6.3	5	10	95	94	821075	805809	<0.2	<0.2	3.4	2.7
						1.0	0.6	140	29.5		7.6		16.5		71.1		4.9		1.7		4		92				<0.2		3.5	
					Middle	3.4	0.7	94	28.2	28.2	7.8	7.8	23.0	23.0	68.3	68.3	4.7		3.5		5		92				<0.2		2.8	
						3.4	0.7	99	28.2		7.8		23.0		68.3		4.7		3.3		5		92				<0.2		2.8	
					Bottom	5.8	0.5	146	27.7	27.7	7.8	7.8	25.6	25.8	64.0	64.0	4.4	4.4	13.0		20		97				<0.2		2.0	
						5.8	0.5	152	27.6		7.8		25.9		64.0		4.4		14.4		22		97				<0.2		1.9	
27-Aug-16	Rainy	Moderate	14:37	6.1	Surface	1.0	0.4	193	29.3	29.3	7.8	7.8	18.4	18.5	80.1	80.0	5.5	5.1	1.6	2.4	4	7	87	86	821077	805833	<0.2	<0.2	2.3	2.4
						1.0	0.4	209	29.3		7.8		18.5		79.9		5.5		1.6		4		84				<0.2		3.0	
					Middle	3.1	0.3	222	28.5	28.5	7.8	7.8	22.9	22.9	67.7	67.7	4.6		1.9		7		84				<0.2		2.3	
						3.1	0.4	239	28.5		7.8		22.9		67.7		4.6		2.1		8		85				<0.2		2.5	
					Bottom	5.1	0.4	224	28.3	28.3	7.8	7.8	23.9	24.0	67.3	67.7	4.6	4.6	3.5		8		86				<0.2		2.1	
						5.1	0.4	231	28.3		7.8		24.1		68.0		4.6		3.7		8		87				<0.2		2.2	
30-Aug-16	Cloudy	Moderate	17:10	6.2	Surface	1.0	0.5	270	27.7	27.7	7.8	7.8	25.7	25.6	63.2	63.2	4.3	4.3	8.2	12.1	13	20	93	92	821051	805844	<0.2	<0.2	2.0	2.0
						1.0	0.5	273	27.7		7.8		25.5		63.2		4.3		8.0		12		91				<0.2		2.1	
					Middle	3.1	0.4	283	27.6	27.6	7.8	7.8	26.3	26.3	63.2	63.2	4.3		11.3		16		91				<0.2		1.8	
						3.1	0.5	299	27.6		7.8		26.3		63.2		4.3		11.4		15		92				<0.2		2.0	
					Bottom	5.2	0.3	250	27.6	27.6	7.8	7.8	26.5	26.5	65.1	65.4	4.4	4.5	16.8		30		93				<0.2		2.0	
						5.2	0.3	261	27.6		7.8		26.5		65.7		4.5		16.6		32		94				<0.2		2.1	

DA: Depth-Averaged
Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher

Expansion of Hong Kong International Airport into a Three-Runway System
Water Quality Monitoring
Water Quality Monitoring Results at IM7 during Mid-Flood Tide

Date	Weather Condition	Sea Condition	Sampling Time	Water Depth (m)	Sampling Depth (m)		Current Speed (m/s)	Current Direction	Water Temperature (°C) Value	Water Temperature (°C) Average	pH Value	pH Average	Salinity (ppt) Value	Salinity (ppt) Average	DO Saturation (%) Value	DO Saturation (%) Average	Dissolved Oxygen (mg/L) Value	Dissolved Oxygen (mg/L) DA	Turbidity(NTU) Value	Turbidity(NTU) DA	Suspended Solids (mg/L) Value	Suspended Solids (mg/L) DA	Total Alkalinity (ppm) Value	Total Alkalinity (ppm) DA	Coordinate HK Grid (Northing)	Coordinate HK Grid (Easting)	Chromium (µg/L) Value	Chromium (µg/L) DA	Nickel (µg/L) Value	Nickel (µg/L) DA
4-Aug-16	Cloudy	Moderate	19:10	7.1	Surface	1.0	0.7	227	28.0	28.0	7.6	7.6	18.3	18.1	71.4	71.4	5.1	5.0	12.2	20.9	15	19	81	89	821336	806827	<0.2	<0.2	3.2	3.0
						1.0	0.7	234	28.0		7.6		18.0		71.4		5.1		12.3		14		80				<0.2		3.2	
					Middle	3.6	0.6	243	27.6	27.6	7.6	7.6	20.7	20.7	68.9	68.9	4.8		21.9		19		99				<0.2		2.9	
						3.6	0.7	252	27.6		7.6		20.7		68.9		4.8		22.0		19		96				<0.2		2.8	
					Bottom	6.1	0.6	251	27.6	27.6	7.6	7.6	20.9	20.9	69.8	69.9	4.9	4.9	28.5		24		89				<0.2		2.8	
						6.1	0.6	264	27.6		7.6		20.9		70.0		4.9		28.6		23		92				<0.2		2.9	
6-Aug-16	Fine	Moderate	09:51	8.6	Surface	1.0	0.5	186	28.3	28.3	7.6	7.6	18.3	18.3	68.0	67.9	4.8	4.5	2.1	9.1	4	9	80	88	821358	806839	<0.2	<0.2	3.3	2.3
						1.0	0.6	194	28.3		7.6		18.3		67.8		4.8		2.1		3		82				<0.2		3.3	
					Middle	4.3	0.8	67	27.0	27.0	7.7	7.7	24.6	24.6	61.0	61.0	4.2		6.7		3		82				<0.2		2.0	
						4.3	0.8	73	27.0		7.7		24.6		61.0		4.2		6.9		2		83				<0.2		2.0	
					Bottom	7.6	0.6	55	26.5	26.4	7.7	7.7	26.6	26.6	59.8	59.9	4.1	4.2	18.4		20		101				<0.2		1.6	
						7.6	0.6	60	26.3		7.7		26.6		60.0		4.2		18.4		20		98				<0.2		1.4	
9-Aug-16	Fine	Moderate	11:57	8.2	Surface	1.0	0.5	154	29.7	29.7	7.9	7.9	15.6	15.6	98.7	98.4	6.9	6.6	1.6	3.8	5	6	75	81	821359	806842	<0.2	<0.2	3.0	2.5
						1.0	0.5	160	29.7		7.9		15.5		98.1		6.8		1.4		5		77				<0.2		2.9	
					Middle	4.1	0.5	149	29.5	29.5	7.8	7.8	16.9	16.9	91.7	91.4	6.4		1.7		3		82				<0.2		2.9	
						4.1	0.5	150	29.5		7.8		16.8		91.1		6.3		1.9		4		81				<0.2		3.0	
					Bottom	7.2	0.5	68	26.0	26.1	7.7	7.7	28.1	28.1	63.4	64.3	4.4	4.5	8.3		8		86				<0.2		1.5	
						7.2	0.5	72	26.1		7.7		28.1		65.2		4.5		7.9		8		87				<0.2		1.6	
11-Aug-16	Fine	Moderate	14:52	7.7	Surface	1.0	0.2	241	27.9	27.9	7.7	7.7	21.3	21.3	69.7	69.7	4.9	4.9	0.8	2.3	2	3	80	87	821329	806851	<0.2	<0.2	2.8	2.1
						1.0	0.2	252	27.9		7.7		21.3		69.7		4.9		0.8		2		80				<0.2		2.7	
					Middle	3.9	0.2	257	27.3	27.3	7.8	7.8	23.1	23.1	69.1	69.1	4.8		0.7		3		88				<0.2		1.7	
						3.9	0.3	260	27.3		7.8		23.1		69.1		4.8		0.7		4		90				<0.2		1.9	
					Bottom	6.7	0.2	122	24.9	24.9	7.7	7.7	30.9	30.9	44.4	44.8	3.1	3.1	5.3		4		92				<0.2		1.9	
						6.7	0.2	122	24.9		7.7		30.9		45.1		3.1		5.3		5		92				<0.2		1.5	
13-Aug-16	Cloudy	Moderate	15:02	7.3	Surface	1.0	0.5	269	27.3	27.3	7.7	7.7	23.3	23.3	65.7	65.7	4.6	4.3	2.3	1.8	3	4	85	91	821332	806821	<0.2	<0.2	1.9	1.5
						1.0	0.5	294	27.3		7.7		23.2		65.7		4.6		2.1		3		80				<0.2		1.8	
					Middle	3.7	0.4	263	26.7	26.7	7.7	7.7	26.0	26.0	56.3	56.3	3.9		1.6		3		91				<0.2		1.5	
						3.7	0.4	270	26.7		7.7		26.0		56.2		3.9		1.4		3		92				<0.2		1.5	
					Bottom	6.3	0.3	205	25.8	25.8	7.7	7.7	29.4	29.4	49.1	49.3	3.4	3.4	1.6		6		98				<0.2		1.1	
						6.3	0.3	205	25.8		7.7		29.4		49.4		3.4		1.7		6		97				<0.2		1.3	
16-Aug-16	Cloudy	Moderate	17:04	7.2	Surface	1.0	0.4	241	26.8	27.1	7.6	7.6	22.4	22.5	54.2	54.0	3.8	3.8	4.3	7.9	4	10	82	87	821335	806849	<0.2	<0.2	3.4	2.7
						1.0	0.4	264	27.3		7.6		22.5		53.8		3.8		4.1		3		83				<0.2		3.6	
					Middle	3.6	0.4	235	26.4	26.7	7.7	7.7	25.5	25.4	55.8	55.6	3.9		8.7		9		83				<0.2		3.1	
						3.6	0.4	239	26.9		7.7		25.2		55.4		3.8		8.5		9		85				<0.2		3.0	
					Bottom	6.2	0.3	218	26.8	26.6	7.7	7.7	25.6	25.8	58.7	59.0	4.1	4.1	10.7		18		94				<0.2		1.4	
						6.2	0.3	229	26.4		7.7		25.9		59.2		4.1		10.8		17		96				<0.2		1.8	
18-Aug-16	Rough	Cloudy	18:10	6.9	Surface	1.0	1.2	227	27.1	27.2	7.6	7.6	23.1	23.1	63.6	63.6	4.4	4.4	10.0	18.5	15	26	80	85	821330	806829	<0.2	<0.2	2.2	2.2
						1.0	1.3	242	27.2		7.6		23.0		63.5		4.4		9.9		14		80				<0.2		2.1	
					Middle	3.5	1.1	235	27.1	27.1	7.6	7.6	23.5	23.5	63.1	63.1	4.4		19.2		26		87				<0.2		2.3	
						3.5	1.2	236	27.1		7.6		23.5		63.1		4.4		20.2		25		82				<0.2		2.0	
					Bottom	5.9	0.8	235	27.1	27.1	7.6	7.6	23.5	23.5	64.0	64.6	4.5	4.5	24.8		36		88				<0.2		2.3	
						5.9	0.8	242	27.1		7.6		23.5		65.2		4.5		27.0		37		90				<0.2		2.3	
20-Aug-16	Sunny	Moderate	08:50	8.8	Surface	1.0	0.6	82	28.1	28.1	7.6	7.6	19.7	19.7	68.4	68.5	4.8	4.9	3.0	28.4	3	11	81	87	821348	806841	<0.2	<0.2	3.2	2.6
						1.0	0.6	82	28.1		7.6		19.6		68.6		4.8		3.1		3		83				<0.2		3.8	
					Middle	4.4	0.7	41	27.2	27.4	7.7	7.7	24.2	24.2	71.6	71.4	5.0		8.7		6		87				<0.2		2.6	
						4.4	0.7	41	27.6		7.7		24.1		71.1		4.9		9.3		7		90				<0.2		2.1	
					Bottom	7.8	0.5	87	27.1	27.1	7.7	7.7	25.8	25.8	71.8	72.0	4.9	5.0	75.8		21		90				<0.2		2.2	
						7.8	0.5	89	27.1		7.7		25.8		72.1		5.0		70.4		23		91				<0.2		1.7	
23-Aug-16	Sunny	Moderate	11:04	8.7	Surface	1.0	0.5	187	28.8	28.8	7.6	7.6	17.7	17.7	72.0	72.1	5.0	5.0	3.7	28.8	4	52	79	84	821359	806834	<0.2	<0.2	2.8	2.1
						1.0	0.5	191	28.8		7.6		17.7		72.2		5.0		3.8		4		78				<0.2		2.8	
					Middle	4.4	0.7	63	28.5	28.5	7.7	7.7	21.2	21.3	73.1	73.1	5.0		5.9		4		80				<0.2		2.1	
						4.4	0.7	68	28.5		7.7		21.3		73.0		5.0		6.6		6		80				<0.2		2.0	
					Bottom	7.7	0.6	69	27.9	27.9	7.8	7.8	25.4	25.4	70.0	70.1	4.8	4.8	75.9		151		94				<0.2		1.3	
						7.7	0.7	71	27.9		7.8		25.4		70.1		4.8		76.8		142		93				<0.2		1.3	
25-Aug-16	Sunny	Moderate	13:48	8.2	Surface	1.0	0.3	203	29.1	29.1	7.7	7.7	18.4	18.4	73.7	73.8	5.1	5.1	1.9	9.0	4	7	81	87	821361	806824	<0.2	<0.2	3.1	2.6
						1.0	0.3	206	29.1		7.7		18.4		73.8		5.1		2.0		4		83				<0.2		3.3	
					Middle	4.1	0.6	54	28.8	28.9	7.8	7.8	20.5	21.2	73.0	72.8	5.0		3.0		7		85				<0.2		2.4	
						4.1	0.6	54	28.9		7.8		21.9		72.6		5.0		3.2		7		85				<0.2		2.3	
					Bottom	7.2	0.4	85	27.4	27.4	7.8	7.8	27.5	27.5	61.6	61.6	4.2	4.2	21.9		8		94				<0.2		2.3	
						7.2	0.4	87	27.4		7.8		27.5		61.6		4.2		21.9		9		96				<0.2		2.1	
27-Aug-16	Cloudy	Moderate	14:31	7.4	Surface	1.0	0.4	246	28.7	28.7	7.8	7.8	21.4	21.5	70.5	70.4	4.8	4.6	2.5	3.1	5	4	85	87	821364	806839	<0.2	<0.2	2.6	2.4
						1.0	0.4	246	28.7		7.8		21.6		70.3		4.8		2.6		4		85				<0.2		2.6	
					Middle	3.7	0.4	262	28.3	28.3	7.8	7.8	24.2	24.2	64.2	64.2	4.4		2.7		4		88				<0.2		2.1	
						3.7	0.4	270	28.3		7.8		24.2		64.1		4.4		2.8		4		90				<0.2		2.2	
					Bottom	6.4	0.3	175	28.1	28.1	7.8	7.8	24.9	25.0	63.4	63.5	4.3	4.3	4.0		5		88				<0.2		2.4	
						6.4	0.3	189	28.1		7.8		25.1		63.5		4.3		4.1		4		87				<0.2		2.6	
30-Aug-16	Cloudy	Moderate	16:59	7.5	Surface	1.0	0.6	226	28.0	28.0	7.8	7.8	24.0	24.0	64.4	64.4	4.4	4.4	5.6	9.4	10	11	89	92	821349	806819	<0.2	<0.2	2.3	2.3
						1.0	0.7	232	28.0		7.8		23.9		64.3		4.4		5.7		11		90				<0.2		2.2	
					Middle	3.8	0.5	246	27.6	27.6	7.8	7.8	26.3	26.3	63.1	63.1	4.3		8.9		12		98				<0.2		1.9	
						3.8	0.5	249	27.6		7.8		26.3		63.1		4.3		9.0		12		95				<0.2		2.0	
					Bottom	6.5	0.4	259	27.6	27.6	7.8	7.8	26.6	26.6	64.7	64.9	4.4	4.4	13.7		10		89				<0.2		2.9	
						6.5	0.4	264	27.6		7.8		26.6		65.1		4.4		13.6		10		92				<0.2		2.7	

DA: Depth-Averaged
Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher

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Date	Weather Condition	Sea Condition	Sampling Time	Water Depth (m)	Sampling Depth (m)		Current Speed (m/s)	Current Direction	Water Temperature (°C) Value	Water Temperature (°C) Average	pH Value	pH Average	Salinity (ppt) Value	Salinity (ppt) Average	DO Saturation (%) Value	DO Saturation (%) Average	Dissolved Oxygen (mg/L) Value	Dissolved Oxygen (mg/L) DA	Turbidity(NTU) Value	Turbidity(NTU) DA	Suspended Solids (mg/L) Value	Suspended Solids (mg/L) DA	Total Alkalinity (ppm) Value	Total Alkalinity (ppm) DA	Coordinate HK Grid (Northing)	Coordinate HK Grid (Easting)	Chromium (µg/L) Value	Chromium (µg/L) DA	Nickel (µg/L) Value	Nickel (µg/L) DA
4-Aug-16	Cloudy	Moderate	19:43	7.6	Surface	1.0	0.7	196	26.6	26.6	7.5	7.5	16.4	16.7	71.4	71.4	5.2	5.1	7.2	15.1	7	10	85	88	821712	807843	<0.2	<0.2	2.8	2.9
						1.0	0.7	214	26.6		7.5		16.9		71.4		5.2		7.2		8		86				<0.2		2.7	
					Middle	3.8	0.5	219	26.1	26.1	7.5	7.5	19.3	19.3	69.2	69.2	5.0		14.8		11		87				<0.2		3.1	
						3.8	0.5	222	26.1		7.5		19.3		69.3		5.0		15.0		11		89				<0.2		3.0	
					Bottom	6.6	0.5	231	25.9	25.9	7.5	7.5	21.0	21.0	71.0	71.0	5.1	5.1	23.2		10		90				<0.2		3.0	
						6.6	0.5	250	25.9		7.5		21.0		71.0		5.1		23.2		11		90				<0.2		3.0	
6-Aug-16	Sunny	Moderate	09:24	8.8	Surface	1.0	0.4	224	26.8	26.8	7.5	7.5	17.8	17.8	65.5	65.5	4.8	4.6	4.1	6.9	4	4	85	88	821685	807828	<0.2	<0.2	3.2	3.1
						1.0	0.4	239	26.8		7.5		17.8		65.5		4.7		4.0		3		83				<0.2		3.4	
					Middle	4.4	0.4	191	26.3	26.3	7.5	7.5	20.0	20.0	62.4	62.4	4.5		6.9		3		88				<0.2		3.3	
						4.4	0.4	195	26.3		7.5		20.0		62.4		4.5		7.1		4		90				<0.2		2.8	
					Bottom	7.8	0.3	212	26.1	26.1	7.5	7.5	21.6	21.6	63.9	63.9	4.6	4.6	9.7		4		91				<0.2		2.8	
						7.8	0.3	212	26.0		7.5		21.6		63.9		4.6		9.7		5		92				<0.2		3.2	
9-Aug-16	Fine	Moderate	10:54	8.6	Surface	1.0	0.3	232	27.7	27.7	7.7	7.7	17.3	17.3	79.8	79.8	5.7	5.5	2.2	4.9	4	4	84	89	821688	807820	<0.2	<0.2	3.3	2.9
						1.0	0.3	241	27.7		7.7		17.3		79.7		5.7		2.2		4		85				<0.2		3.4	
					Middle	4.3	0.3	225	27.3	27.3	7.7	7.7	19.2	19.2	74.8	74.8	5.3		2.7		4		89				<0.2		3.0	
						4.3	0.3	246	27.3		7.7		19.2		74.7		5.3		2.7		3		90				<0.2		3.2	
					Bottom	7.6	0.3	133	24.7	24.7	7.6	7.6	27.2	27.2	58.0	58.0	4.1	4.1	9.8		4		93				<0.2		2.2	
						7.6	0.3	141	24.7		7.6		27.2		58.0		4.1		9.8		4		92				<0.2		2.3	
11-Aug-16	Fine	Moderate	14:12	7.3	Surface	1.0	0.2	214	26.0	26.0	7.7	7.7	23.0	23.1	69.2	69.1	4.9	4.5	1.1	3.5	<2	4	85	88	821688	807857	<0.2	<0.2	2.8	1.9
						1.0	0.2	231	26.0		7.7		23.1		69.0		4.9		1.1		<2		87				<0.2		2.1	
					Middle	3.7	0.2	202	25.6	25.6	7.7	7.7	25.0	25.1	59.3	58.7	4.2		1.8		<2		85				<0.2		1.7	
						3.7	0.2	215	25.5		7.7		25.2		58.1		4.1		1.8		<2		89				<0.2		1.8	
					Bottom	6.3	0.3	142	23.5	23.5	7.6	7.6	30.3	30.4	41.8	42.4	3.0	3.1	7.7		8		90				<0.2		1.5	
						6.3	0.3	152	23.5		7.6		30.4		42.9		3.1		7.7		10		92				<0.2		1.7	
13-Aug-16	Fine	Moderate	15:41	7.8	Surface	1.0	0.3	211	26.7	26.7	7.8	7.8	19.0	18.9	80.0	79.8	5.8	5.0	2.3	2.9	4	4	82	86	821688	807849	<0.2	<0.2	2.9	2.6
						1.0	0.4	224	26.7		7.8		18.8		79.6		5.7		2.4		4		84				<0.2		2.8	
					Middle	3.9	0.3	214	25.6	25.6	7.7	7.7	23.1	23.1	59.5	59.2	4.3		1.9		4		83				<0.2		2.7	
						3.9	0.3	229	25.6		7.7		23.1		58.8		4.2		2.1		3		87				<0.2		2.6	
					Bottom	6.8	0.1	183	24.3	24.3	7.7	7.7	29.1	29.1	50.5	50.6	3.6	3.6	4.3		4		90				<0.2		2.2	
						6.8	0.1	188	24.3		7.7		29.0		50.7		3.6		4.3		4		87				<0.2		2.5	
16-Aug-16	Cloudy	Moderate	17:41	8.0	Surface	1.0	0.4	191	25.7	25.7	7.8	7.8	19.4	19.4	60.3	60.3	4.4	4.4	2.6	3.1	<2	3	84	89	821680	807838	<0.2	<0.2	2.6	2.7
						1.0	0.4	197	25.7		7.8		19.4		60.3		4.4		2.6		<2		86				<0.2		2.6	
					Middle	4.0	0.4	228	25.1	25.1	7.8	7.8	22.7	22.7	59.5	59.6	4.3		3.0		2		90				<0.2		3.2	
						4.0	0.4	241	25.1		7.8		22.7		59.6		4.3		3.0		3		90				<0.2		3.3	
					Bottom	7.0	0.3	246	25.1	25.1	7.8	7.8	23.1	23.1	61.9	62.0	4.5	4.5	3.7		4		91				<0.2		2.2	
						7.0	0.4	266	25.1		7.8		23.1		62.0		4.5		3.7		4		92				<0.2		2.1	
18-Aug-16	Cloudy	Rough	18:44	7.6	Surface	1.0	0.6	216	25.7	25.7	7.7	7.7	21.6	21.6	63.6	63.6	4.6	4.6	7.1	9.0	7	8	83	89	821704	807854	<0.2	<0.2	2.4	2.3
						1.0	0.6	231	25.7		7.7		21.6		63.5		4.6		7.1		7		82				<0.2		2.5	
					Middle	3.8	0.5	225	25.5	25.5	7.7	7.7	22.8	22.8	63.3	63.3	4.5		9.1		7		90				<0.2		2.4	
						3.8	0.5	229	25.5		7.7		22.8		63.3		4.6		9.2		6		91				<0.2		2.6	
					Bottom	6.6	0.4	234	25.4	25.4	7.7	7.7	24.0	24.0	64.8	64.8	4.6	4.6	10.8		10		93				<0.2		2.0	
						6.6	0.4	251	25.4		7.7		24.0		64.8		4.6		10.8		9		93				<0.2		1.8	
20-Aug-16	Moderate	Fine	07:50	8.8	Surface	1.0	0.4	288	26.3	26.3	7.6	7.6	19.2	19.2	67.0	67.0	4.8	4.9	3.0	4.5	2	3	87	90	821702	807820	<0.2	<0.2	2.1	3.3
						1.0	0.4	306	26.3		7.6		19.2		67.0		4.8		3.0		2		85				<0.2		3.7	
					Middle	4.4	0.5	302	26.1	26.1	7.6	7.6	20.9	20.9	68.0	68.0	4.9		4.7		3		91				<0.2		3.4	
						4.4	0.5	306	26.1		7.6		20.9		67.9		4.9		4.7		3		90				<0.2		3.8	
					Bottom	7.8	0.3	223	25.9	25.9	7.6	7.6	22.4	22.4	68.9	69.0	4.9	4.9	5.9		3		93				<0.2		3.4	
						7.8	0.3	237	25.9		7.6		22.4		69.0		4.9		5.9		3		93				<0.2		3.3	
23-Aug-16	Sunny	Moderate	10:22	8.3	Surface	1.0	0.4	178	27.3	27.3	7.6	7.6	17.6	17.6	70.4	70.4	5.1	5.1	3.2	3.8	4	4	83	89	821683	807826	<0.2	<0.2	3.4	3.1
						1.0	0.4	183	27.3		7.6		17.6		70.4		5.1		3.2		5		85				<0.2		3.1	
					Middle	4.2	1.0	195	27.0	27.0	7.7	7.7	18.5	18.5	69.6	69.6	5.0		3.9		4		89				<0.2		3.0	
						4.2	1.1	201	27.0		7.7		18.5		69.5		5.0		4.0		4		90				<0.2		3.0	
					Bottom	7.3	2.6	234	26.8	26.8	7.7	7.7	20.0	20.0	70.6	70.6	5.1	5.1	4.2		5		92				<0.2		3.0	
						7.3	2.8	255	26.8		7.7		20.0		70.6		5.1		4.2		4		92				<0.2		2.9	
25-Aug-16	Fine	Moderate	12:59	8.0	Surface	1.0	0.3	159	29.8	29.8	7.7	7.7	14.6	14.7	71.8	71.8	5.0	4.9	3.8	5.3	3	4	83	88	821683	807847	<0.2	<0.2	3.3	3.5
						1.0	0.4	171	29.8		7.7		14.7		71.7		5.0		3.8		4		83				<0.2		3.6	
					Middle	4.0	0.8	217	29.1	29.1	7.7	7.7	18.0	18.0	67.4	67.4	4.7		4.6		4		89				<0.2		3.8	
						4.0	0.8	235	29.1		7.7		18.0		67.3		4.7		4.7		3		90				<0.2		3.4	
					Bottom	7.0	0.5	231	28.3	28.3	7.8	7.8	22.4	22.4	64.5	64.6	4.4	4.5	7.5		3		91				<0.2		3.6	
						7.0	0.6	233	28.3		7.8		22.4		64.7		4.5		7.4		4		93				<0.2		3.5	
27-Aug-16	Cloudy	Moderate	15:03	7.6	Surface	1.0	0.4	199	29.8	29.8	7.8	7.8	16.6	16.6	84.2	84.2	5.8	5.4	4.6	4.4	4	4	83	88	821683	807819	<0.2	<0.2	2.6	2.9
						1.0	0.4	217	29.8		7.8		16.6		84.2		5.8		4.6		4		87				<0.2		2.1	
					Middle	3.8	0.3	212	29.1	29.1	7.8	7.8	20.1	20.1	72.5	72.5	5.0		4.1		3		89				<0.2		4.0	
						3.8	0.3	229	29.1		7.8		20.1		72.5		5.0		4.1		3		89				<0.2		3.6	
					Bottom	6.6	0.3	209	28.5	28.5	7.8	7.8	22.9	22.9	67.9	68.0	4.6	4.6	4.5		4		91				<0.2		2.4	
						6.6	0.3	209	28.5		7.8		22.9		68.0		4.6		4.5		4		91				<0.2		2.7	
30-Aug-16	Cloudy	Moderate	17:34	8.0	Surface	1.0	0.4	193	26.4	26.4	7.9	7.9	22.4	22.4	69.3	69.3	4.9	4.9	5.9	6.8	7	6	85	89	821685	807820	<0.2	<0.2	3.1	2.8
						1.0	0.5	197	26.4		7.9		22.4		69.3		4.9		5.9		6		85				<0.2		3.4	
					Middle	4.0	0.3	209	26.1	26.1	7.9	7.9	24.6	24.6	69.9	70.0	4.9		6.6		6		89				<0.2		2.9	
						4.0	0.3	215	26.1		7.9		24.6		70.0		4.9		6.7		6		89				<0.2		2.7	
					Bottom	7.0	0.3	217	26.0	26.0	7.9	7.9	25.5	25.5	73.2	73.3	5.1	5.2	7.7		6		91				<0.2		2.4	
						7.0	0.3	226	26.0		7.9		25.5		73.3		5.2		7.7		7		92				<0.2		2.2	

DA: Depth-Averaged
Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher

Expansion of Hong Kong International Airport into a Three-Runway System
Water Quality Monitoring
Water Quality Monitoring Results at IM9 during Mid-Flood Tide

Date	Weather Condition	Sea Condition	Sampling Time	Water Depth (m)	Sampling Depth (m)		Current Speed (m/s)	Current Direction	Water Temperature (°C) Value	Water Temperature (°C) Average	pH Value	pH Average	Salinity (ppt) Value	Salinity (ppt) Average	DO Saturation (%) Value	DO Saturation (%) Average	Dissolved Oxygen (mg/L) Value	Dissolved Oxygen (mg/L) DA	Turbidity(NTU) Value	Turbidity(NTU) DA	Suspended Solids (mg/L) Value	Suspended Solids (mg/L) DA	Total Alkalinity (ppm) Value	Total Alkalinity (ppm) DA	Coordinate HK Grid (Northing)	Coordinate HK Grid (Easting)	Chromium (µg/L) Value	Chromium (µg/L) DA	Nickel (µg/L) Value	Nickel (µg/L) DA
4-Aug-16	Cloudy	Moderate	19:54	6.6	Surface	1.0	0.4	233	26.3	26.3	7.5	7.5	19.3	19.3	70.9	70.9	5.1	5.1	9.8	15.5	10	11	85	88	822098	808792	<0.2	<0.2	5.5	4.9
						1.0	0.4	247	26.3		7.5		19.3		70.9		5.1		9.8		11		85				<0.2		5.4	
					Middle	3.3	0.4	251	26.1	26.1	7.5	7.5	20.3	20.3	71.0	71.0	5.1		12.2		11		89				<0.2		4.9	
						3.3	0.4	272	26.1		7.5		20.3		71.1		5.1		12.6		10		88				<0.2		4.2	
					Bottom	5.6	0.4	281	25.6	25.6	7.6	7.6	22.7	22.7	73.1	73.2	5.3	5.3	24.5		12		92				<0.2		4.6	
						5.6	0.4	293	25.6		7.6		22.7		73.3		5.3		24.4		12		91				<0.2		4.9	
6-Aug-16	Sunny	Moderate	09:13	7.7	Surface	1.0	0.3	225	26.8	26.8	7.5	7.5	17.9	17.9	66.4	66.4	4.8	4.7	4.2	6.5	3	4	84	89	822111	808811	<0.2	<0.2	4.2	4.1
						1.0	0.4	225	26.8		7.5		17.9		66.4		4.8		4.2		4		87				<0.2		4.4	
					Middle	3.9	0.4	276	26.5	26.5	7.5	7.5	19.4	19.4	64.1	64.1	4.6		4.6		5		88				<0.2		4.0	
						3.9	0.4	299	26.5		7.5		19.4		64.1		4.6		4.7		5		90				<0.2		3.9	
					Bottom	6.7	0.4	258	26.0	26.0	7.5	7.5	22.0	22.0	63.7	63.7	4.6	4.6	10.6		5		91				<0.2		4.0	
						6.7	0.4	282	26.0		7.5		22.0		63.7		4.6		10.6		4		93				<0.2		4.2	
9-Aug-16	Fine	Moderate	10:46	7.3	Surface	1.0	0.4	256	28.2	28.2	7.7	7.7	15.2	15.2	87.8	87.8	6.3	6.1	2.3	2.5	3	3	85	89	822104	808803	<0.2	<0.2	3.4	3.4
						1.0	0.4	264	28.2		7.7		15.2		87.8		6.3		2.4		3		85				<0.2		3.4	
					Middle	3.7	0.4	272	27.5	27.5	7.7	7.7	17.9	17.9	80.9	80.9	5.8		2.2		2		89				<0.2		3.3	
						3.7	0.4	286	27.5		7.7		17.9		80.8		5.8		2.2		2		89				<0.2		3.4	
					Bottom	6.3	0.3	240	26.6	26.6	7.7	7.7	22.1	22.1	71.7	71.7	5.1	5.1	2.8		3		91				<0.2		3.3	
						6.3	0.3	240	26.6		7.7		22.1		71.7		5.1		2.8		3		92				<0.2		3.5	
11-Aug-16	Fine	Moderate	14:01	7.2	Surface	1.0	0.1	159	26.5	26.5	7.7	7.7	18.5	18.5	82.1	82.0	5.9	5.4	0.7	2.9	<2	2	82	86	822088	808802	<0.2	<0.2	3.4	3.4
						1.0	0.1	174	26.5		7.7		18.5		81.8		5.9		0.7		<2		84				<0.2		3.4	
					Middle	3.6	0.1	146	26.0	26.0	7.7	7.7	22.9	22.9	69.2	69.1	4.9		1.0		<2		85				<0.2		3.3	
						3.6	0.1	146	26.0		7.7		22.9		68.9		4.9		1.1		<2		84				<0.2		3.4	
					Bottom	6.2	0.2	249	24.0	24.0	7.7	7.7	29.2	29.2	47.0	47.6	3.3	3.4	7.1		2		89				<0.2		3.3	
						6.2	0.3	255	24.0		7.7		29.2		48.2		3.4		6.7		2		90				<0.2		3.5	
13-Aug-16	Fine	Moderate	15:50	6.3	Surface	1.0	0.1	187	26.9	27.0	7.8	7.8	19.4	19.4	88.9	88.6	6.4	5.9	2.0	3.4	4	4	80	85	822097	808805	<0.2	<0.2	3.0	3.0
						1.0	0.1	190	27.0		7.8		19.4		88.3		6.3		2.0		4		82				<0.2		3.0	
					Middle	3.2	0.1	224	26.2	26.2	7.8	7.8	21.9	21.9	76.3	76.5	5.5		1.6		3		83				<0.2		2.8	
						3.2	0.2	229	26.2		7.8		21.9		76.7		5.5		1.7		4		84				<0.2		2.9	
					Bottom	5.3	0.1	165	25.6	25.6	7.8	7.8	23.7	23.7	64.3	64.1	4.6	4.6	6.2		4		88				<0.2		2.9	
						5.3	0.1	179	25.5		7.8		23.7		63.8		4.6		6.7		4		90				<0.2		3.2	
16-Aug-16	Cloudy	Moderate	17:50	6.7	Surface	1.0	0.3	238	25.8	25.8	7.8	7.8	19.2	19.2	72.5	72.4	5.3	5.2	2.3	3.7	2	3	85	90	822081	808791	<0.2	<0.2	3.0	2.8
						1.0	0.3	245	25.8		7.8		19.2		72.3		5.3		2.3		2		86				<0.2		2.6	
					Middle	3.4	0.4	281	25.4	25.4	7.8	7.8	21.9	21.9	69.3	69.3	5.0		3.0		3		89				<0.2		2.7	
						3.4	0.4	285	25.4		7.8		21.9		69.3		5.0		2.8		4		90				<0.2		2.5	
					Bottom	5.7	0.4	262	24.8	24.8	7.8	7.8	24.8	24.8	67.1	67.1	4.8	4.8	6.0		4		93				<0.2		3.2	
						5.7	0.4	268	24.8		7.8		24.8		67.1		4.8		6.0		4		94				<0.2		2.6	
18-Aug-16	Cloudy	Rough	18:55	7.1	Surface	1.0	0.4	243	25.8	25.8	7.7	7.7	22.1	22.1	72.5	72.5	5.2	5.2	5.1	7.4	6	7	84	89	822110	808796	<0.2	<0.2	2.6	2.4
						1.0	0.5	267	25.8		7.7		22.1		72.5		5.2		5.1		5		85				<0.2		2.5	
					Middle	3.6	0.5	257	25.6	25.6	7.7	7.7	23.1	23.1	70.9	71.0	5.1		6.4		7		89				<0.2		2.2	
						3.6	0.5	273	25.6		7.7		23.1		71.0		5.1		6.4		6		89				<0.2		2.4	
					Bottom	6.1	0.5	245	25.3	25.3	7.7	7.7	24.7	24.7	72.8	72.8	5.2	5.2	10.6		9		92				<0.2		2.2	
						6.1	0.5	247	25.3		7.7		24.7		72.8		5.2		10.6		8		93				<0.2		2.3	
20-Aug-16	Moderate	Fine	07:41	7.8	Surface	1.0	0.4	247	26.3	26.3	7.6	7.6	19.1	19.1	69.0	69.0	5.0	5.0	4.4	10.4	3	3	83	89	822112	808823	<0.2	<0.2	3.9	3.6
						1.0	0.4	255	26.3		7.6		19.1		69.0		5.0		4.5		2		85				<0.2		3.7	
					Middle	3.9	0.5	278	26.1	26.1	7.6	7.6	21.0	21.0	69.2	69.3	5.0		7.2		2		89				<0.2		3.4	
						3.9	0.5	288	26.1		7.6		21.0		69.3		5.0		7.3		4		89				<0.2		3.4	
					Bottom	6.8	0.5	290	25.9	25.9	7.7	7.7	22.4	22.4	69.2	69.2	5.0	5.0	19.4		4		93				<0.2		3.6	
						6.8	0.5	301	25.9		7.7		22.4		69.2		5.0		19.4		3		93				<0.2		3.7	
23-Aug-16	Sunny	Moderate	10:13	7.5	Surface	1.0	0.4	266	27.7	27.7	7.6	7.6	16.1	16.1	71.5	71.5	5.2	5.1	3.5	7.3	4	4	83	89	822097	808809	<0.2	<0.2	3.6	3.2
						1.0	0.4	277	27.7		7.6		16.1		71.5		5.2		3.5		4		85				<0.2		3.6	
					Middle	3.8	0.9	252	26.9	26.9	7.7	7.7	19.6	19.6	69.3	69.3	5.0		6.2		4		91				<0.2		2.9	
						3.8	0.9	265	26.9		7.7		19.6		69.3		5.0		6.3		4		90				<0.2		3.1	
					Bottom	6.5	0.7	268	26.7	26.7	7.7	7.7	21.4	21.4	68.7	68.7	4.9	4.9	12.1		5		93				<0.2		3.1	
						6.5	0.7	283	26.7		7.7		21.4		68.7		4.9		12.1		5		93				<0.2		2.7	
25-Aug-16	Fine	Moderate	12:50	7.3	Surface	1.0	0.4	174	29.9	29.9	7.7	7.7	16.3	16.3	74.7	74.7	5.2	5.0	3.4	5.6	5	5	83	89	822113	808809	<0.2	<0.2	3.8	3.6
						1.0	0.4	185	29.9		7.7		16.3		74.6		5.2		3.5		4		85				<0.2		3.5	
					Middle	3.7	0.9	244	29.2	29.3	7.8	7.8	18.8	18.8	69.3	69.3	4.8		4.8		6		90				<0.2		3.6	
						3.7	1.0	267	29.3		7.8		18.8		69.2		4.8		4.8		6		90				<0.2		3.6	
					Bottom	6.3	0.8	252	28.4	28.4	7.8	7.8	21.9	21.9	63.9	63.9	4.4	4.4	8.6		5		93				<0.2		3.6	
						6.3	0.8	262	28.4		7.8		21.9		63.9		4.4		8.6		6		92				<0.2		3.6	
27-Aug-16	Cloudy	Moderate	15:12	7.0	Surface	1.0	0.3	198	29.8	29.8	7.9	7.9	18.1	18.1	93.7	93.7	6.4	6.2	4.0	4.7	3	4	82	88	822083	808811	<0.2	<0.2	3.3	2.8
						1.0	0.4	205	29.8		7.9		18.1		93.6		6.4		4.1		4		83				<0.2		3.1	
					Middle	3.5	0.3	224	29.4	29.4	7.9	7.9	19.4	19.4	87.1	87.1	6.0		3.9		3		89				<0.2		2.9	
						3.5	0.4	234	29.4		7.9		19.4		87.0		6.0		3.9		4		90				<0.2		2.8	
					Bottom	6.0	0.3	243	28.3	28.3	7.8	7.8	23.7	23.7	64.3	64.3	4.4	4.4	6.1		6		91				<0.2		2.4	
						6.0	0.3	254	28.3		7.8		23.7		64.3		4.4		6.1		5		91				<0.2		2.0	
30-Aug-16	Cloudy	Moderate	17:43	6.8	Surface	1.0	0.3	217	26.4	26.4	7.9	7.9	23.1	23.1	72.9	72.9	5.2	5.2	7.0	11.6	7	7	83	89	822101	808828	<0.2	<0.2	2.9	2.6
						1.0	0.3	234	26.4		7.9		23.1		72.9		5.2		7.0		5		85				<0.2		2.8	
					Middle	3.4	0.4	282	26.2	26.2	8.0	8.0	24.3	24.3	72.8	72.8	5.1		9.4		7		91				<0.2		2.7	
						3.4	0.4	286	26.2		8.0		24.2		72.8		5.1		9.6		6		90				<0.2		2.4	
					Bottom	5.8	0.4	283	26.0	26.0	8.0	8.0	25.7	25.7	73.4	73.4	5.2	5.2	18.2		9		92				<0.2		2.4	
						5.8	0.4	310	26.0		8.0		25.7		73.4		5.2		18.3		8		91				<0.2		2.3	

DA: Depth-Averaged
Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher

Expansion of Hong Kong International Airport into a Three-Runway System
Water Quality Monitoring
Water Quality Monitoring Results at IM10 during Mid-Flood Tide

Date	Weather Condition	Sea Condition	Sampling Time	Water Depth (m)	Sampling Depth (m)		Current Speed (m/s)	Current Direction	Water Temperature (°C) Value	Water Temperature (°C) Average	pH Value	pH Average	Salinity (ppt) Value	Salinity (ppt) Average	DO Saturation (%) Value	DO Saturation (%) Average	Dissolved Oxygen (mg/L) Value	Dissolved Oxygen (mg/L) DA	Turbidity(NTU) Value	Turbidity(NTU) DA	Suspended Solids (mg/L) Value	Suspended Solids (mg/L) DA	Total Alkalinity (ppm) Value	Total Alkalinity (ppm) DA	Coordinate HK Grid (Northing)	Coordinate HK Grid (Easting)	Chromium (µg/L) Value	Chromium (µg/L) DA	Nickel (µg/L) Value	Nickel (µg/L) DA
4-Aug-16	Cloudy	Moderate	20:06	7.3	Surface	1.0	0.4	259	26.1	26.1	7.5	7.5	20.0	20.0	71.6	71.6	5.2	5.2	8.6	17.1	8	15	83	88	822256	809845	<0.2	<0.2	3.7	3.4
						1.0	0.5	281	26.1		7.5		20.0		71.6		5.2		8.6		9		84				<0.2		3.5	
					Middle	3.7	0.5	283	25.9	25.9	7.5	7.5	20.8	20.8	71.6	71.5	5.2		11.6		8		89				<0.2		3.4	
						3.7	0.6	296	25.9		7.5		20.8		71.5		5.2		11.7		7		90				<0.2		3.1	
					Bottom	6.3	0.4	266	25.6	25.6	7.6	7.6	22.4	22.4	71.3	71.3	5.1	5.1	31.1		30		92				<0.2		3.2	
						6.3	0.4	266	25.6		7.6		22.4		71.3		5.1		31.1		30		92				<0.2		3.4	
6-Aug-16	Sunny	Moderate	09:01	8.7	Surface	1.0	0.5	283	26.7	26.7	7.5	7.5	18.5	18.5	68.1	68.1	4.9	4.8	4.2	15.7	5	15	83	88	822229	809839	<0.2	<0.2	3.6	3.3
						1.0	0.5	285	26.7		7.5		18.5		68.1		4.9		4.3		3		85				<0.2		3.8	
					Middle	4.4	0.4	276	26.0	26.0	7.5	7.5	22.2	22.2	63.6	63.7	4.6		17.0		18		89				<0.2		3.1	
						4.4	0.4	276	26.0		7.5		22.2		63.7		4.6		17.1		18		89				<0.2		3.3	
					Bottom	7.7	0.5	267	26.0	26.0	7.5	7.5	22.3	22.3	67.2	67.2	4.8	4.8	25.9		23		91				<0.2		3.1	
						7.7	0.5	271	26.0		7.5		22.3		67.2		4.8		25.9		23		92				<0.2		3.0	
9-Aug-16	Fine	Moderate	10:37	8.2	Surface	1.0	0.4	248	28.0	28.0	7.8	7.8	16.3	16.3	88.2	88.2	6.3	6.1	2.3	6.4	2	6	85	89	822236	809840	<0.2	<0.2	2.8	3.0
						1.0	0.4	251	28.0		7.8		16.3		88.2		6.3		2.3		2		84				<0.2		2.8	
					Middle	4.1	0.5	280	27.4	27.4	7.7	7.7	18.9	18.9	81.6	81.6	5.8		2.6		2		90				<0.2		3.1	
						4.1	0.5	301	27.4		7.7		18.9		81.5		5.8		2.7		3		90				<0.2		2.9	
					Bottom	7.2	0.4	273	26.0	26.0	7.6	7.6	24.1	24.1	68.7	68.7	4.9	4.9	14.1		13		92				<0.2		3.0	
						7.2	0.5	281	26.0		7.6		24.1		68.7		4.9		14.1		13		93				<0.2		3.3	
11-Aug-16	Fine	Moderate	13:49	6.9	Surface	1.0	0.2	274	26.5	26.5	7.8	7.8	18.5	18.5	84.0	83.7	6.1	5.5	0.9	2.7	2	2	80	85	822222	809841	<0.2	<0.2	2.8	3.0
						1.0	0.2	289	26.5		7.8		18.5		83.3		6.0		0.9		2		82				<0.2		2.8	
					Middle	3.5	0.3	298	25.9	25.9	7.7	7.7	22.8	22.9	69.2	69.0	4.9		1.1		2		85				<0.2		3.1	
						3.5	0.3	306	25.9		7.7		22.9		68.7		4.9		1.1		3		86				<0.2		2.9	
					Bottom	5.9	0.3	313	24.1	24.1	7.7	7.7	28.9	28.9	45.3	45.6	3.2	3.3	6.1		2		87				<0.2		3.0	
						5.9	0.3	337	24.1		7.7		28.9		45.8		3.3		6.3		3		88				<0.2		3.3	
13-Aug-16	Fine	Moderate	15:57	6.8	Surface	1.0	0.2	124	26.9	27.0	7.9	7.9	19.2	19.2	87.3	86.5	6.3	5.1	1.6	3.2	2	3	84	87	822241	809845	<0.2	<0.2	3.2	3.3
						1.0	0.3	129	27.0		7.9		19.1		85.6		6.1		1.6		2		86				<0.2		3.3	
					Middle	3.4	0.2	204	24.8	24.8	7.8	7.8	26.5	26.5	55.3	55.2	3.9		2.0		3		85				<0.2		3.3	
						3.4	0.2	216	24.8		7.8		26.5		55.0		3.9		2.1		2		88				<0.2		3.1	
					Bottom	5.8	0.4	300	24.0	24.1	7.7	7.7	29.1	29.1	49.3	50.1	3.5	3.6	6.0		3		90				<0.2		3.3	
						5.8	0.4	313	24.1		7.7		29.0		50.9		3.6		5.8		3		91				<0.2		3.3	
16-Aug-16	Cloudy	Moderate	18:00	7.3	Surface	1.0	0.6	285	25.3	25.3	7.9	7.9	22.5	22.5	70.0	70.0	5.1	4.9	2.6	9.0	3	3	85	89	822230	809854	<0.2	<0.2	2.4	3.1
						1.0	0.6	290	25.3		7.9		22.5		69.9		5.1		2.7		3		83				<0.2		3.2	
					Middle	3.7	0.6	284	24.9	24.9	7.9	7.9	23.8	23.8	63.7	63.7	4.6		5.7		2		91				<0.2		2.2	
						3.7	0.6	293	24.9		7.9		23.8		63.7		4.6		5.9		3		90				<0.2		3.2	
					Bottom	6.3	0.5	299	24.7	24.7	7.9	7.9	25.0	25.0	61.0	61.0	4.4	4.4	18.4		4		93				<0.2		3.5	
						6.3	0.5	312	24.7		7.9		25.0		61.0		4.4		18.4		5		92				<0.2		4.0	
18-Aug-16	Cloudy	Rough	19:07	6.3	Surface	1.0	0.8	276	25.3	25.3	7.8	7.8	24.8	24.8	73.9	73.9	5.3	5.2	4.5	7.0	4	4	83	89	822237	809819	<0.2	<0.2	2.4	2.5
						1.0	0.8	300	25.3		7.8		24.8		73.8		5.3		4.6		4		85				<0.2		2.4	
					Middle	3.2	0.7	275	25.3	25.3	7.8	7.8	24.9	24.9	71.7	71.7	5.1		6.7		3		90				<0.2		3.1	
						3.2	0.8	300	25.3		7.8		24.9		71.6		5.1		6.8		3		89				<0.2		2.4	
					Bottom	5.3	0.6	271	25.1	25.1	7.8	7.8	25.4	25.4	71.9	71.9	5.1	5.1	9.7		4		92				<0.2		2.4	
						5.3	0.6	281	25.1		7.8		25.4		71.9		5.1		9.7		4		93				<0.2		2.5	
20-Aug-16	Moderate	Fine	07:34	7.6	Surface	1.0	0.7	299	26.1	26.1	7.6	7.6	21.3	21.3	69.3	69.3	5.0	5.0	4.9	21.8	3	8	85	90	822226	809832	<0.2	<0.2	3.1	3.2
						1.0	0.7	313	26.1		7.6		21.3		69.3		5.0		5.0		3		88				<0.2		3.3	
					Middle	3.8	0.6	303	25.8	25.8	7.7	7.7	23.5	23.5	70.2	70.2	5.0		19.6		8		90				<0.2		3.5	
						3.8	0.6	321	25.8		7.7		23.5		70.2		5.0		19.7		8		91				<0.2		3.4	
					Bottom	6.6	0.5	299	25.7	25.7	7.7	7.7	23.8	23.8	72.1	72.2	5.1	5.1	40.6		12		92				<0.2		3.1	
						6.6	0.5	306	25.7		7.7		23.8		72.2		5.1		40.8		11		93				<0.2		3.0	
23-Aug-16	Sunny	Moderate	10:06	7.0	Surface	1.0	0.6	290	27.1	27.1	7.7	7.7	19.2	19.2	70.6	70.6	5.1	4.9	5.5	14.6	4	7	85	89	822247	809835	<0.2	<0.2	3.0	2.5
						1.0	0.7	300	27.1		7.7		19.2		70.6		5.0		5.6		3		84				<0.2		2.4	
					Middle	3.5	0.6	290	26.7	26.7	7.7	7.7	21.9	21.9	67.3	67.3	4.8		15.9		7		90				<0.2		2.6	
						3.5	0.6	301	26.7		7.7		21.9		67.3		4.8		15.9		5		89				<0.2		2.6	
					Bottom	6.0	0.6	289	26.7	26.7	7.7	7.7	21.9	21.9	68.7	68.7	4.9	4.9	22.2		11		92				<0.2		2.3	
						6.0	0.6	297	26.7		7.7		21.9		68.7		4.9		22.2		12		92				<0.2		2.1	
25-Aug-16	Fine	Moderate	12:41	8.0	Surface	1.0	0.3	181	29.7	29.7	7.8	7.8	17.9	17.9	74.1	74.1	5.1	5.0	3.3	9.2	2	5	84	90	822234	809823	<0.2	<0.2	3.2	3.4
						1.0	0.3	190	29.7		7.8		17.9		74.0		5.1		3.3		<2		83				<0.2		3.4	
					Middle	4.0	0.5	261	29.1	29.1	7.8	7.8	19.4	19.4	69.2	69.2	4.8		6.2		2		92				<0.2		3.5	
						4.0	0.5	278	29.1		7.8		19.4		69.1		4.8		6.3		<2		92				<0.2		3.5	
					Bottom	7.0	0.4	267	28.1	28.1	7.8	7.8	23.6	23.6	62.8	62.9	4.3	4.3	18.1		12		93				<0.2		3.4	
						7.0	0.4	274	28.1		7.8		23.6		62.9		4.3		18.2		12		94				<0.2		3.3	
27-Aug-16	Cloudy	Moderate	15:19	6.9	Surface	1.0	0.4	217	29.8	29.8	8.0	8.0	19.0	19.0	103.4	103.4	7.1	5.8	3.3	11.9	3	5	83	89	822231	809822	<0.2	<0.2	3.1	2.9
						1.0	0.4	230	29.8		8.0		19.0		103.3		7.1		3.3		2		85				<0.2		3.0	
					Middle	3.5	0.4	247	28.7	28.7	7.9	7.9	22.2	22.2	65.5	65.6	4.5		10.5		2		90				<0.2		3.0	
						3.5	0.4	264	28.7		7.9		22.1		65.6		4.5		10.5		4		91				<0.2		3.2	
					Bottom	5.9	0.4	279	28.0	28.0	7.8	7.8	25.2	25.2	63.9	63.9	4.3	4.3	21.8		8		93				<0.2		2.6	
						5.9	0.4	287	28.0		7.8		25.2		63.9		4.3		21.8		8		92				<0.2		2.5	
30-Aug-16	Cloudy	Moderate	17:51	7.2	Surface	1.0	0.6	286	26.2	26.2	8.0	8.0	25.4	25.4	75.8	75.8	5.3	5.3	8.6	15.5	4	7	85	89	822242	809851	<0.2	<0.2	2.4	2.4
						1.0	0.6	299	26.2		8.0		25.4		75.8		5.3		8.7		4		83				<0.2		2.7	
					Middle	3.6	0.5	304	26.1	26.1	8.0	8.0	26.0	26.0	74.3	74.3	5.2		15.3		6		90				<0.2		2.4	
						3.6	0.5	322	26.1		8.0		26.0		74.2		5.2		15.4		6		90				<0.2		2.6	
					Bottom	6.2	0.4	264	25.9	25.9	8.0	8.0	26.5	26.5	74.4	74.4	5.2	5.2	22.3		10		91				<0.2		2.0	
						6.2	0.4	277	25.9		8.0		26.5		74.4		5.2		22.5		10		93				<0.2		2.1	

DA: Depth-Averaged
Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher

Expansion of Hong Kong International Airport into a Three-Runway System
Water Quality Monitoring
Water Quality Monitoring Results at IM11 during Mid-Flood Tide

Date	Weather Condition	Sea Condition	Sampling Time	Water Depth (m)	Sampling Depth (m)		Current Speed (m/s)	Current Direction	Water Temperature (°C) Value	Water Temperature (°C) Average	pH Value	pH Average	Salinity (ppt) Value	Salinity (ppt) Average	DO Saturation (%) Value	DO Saturation (%) Average	Dissolved Oxygen (mg/L) Value	Dissolved Oxygen (mg/L) DA	Turbidity(NTU) Value	Turbidity(NTU) DA	Suspended Solids (mg/L) Value	Suspended Solids (mg/L) DA	Total Alkalinity (ppm) Value	Total Alkalinity (ppm) DA	Coordinate HK Grid (Northing)	Coordinate HK Grid (Easting)	Chromium (µg/L) Value	Chromium (µg/L) DA	Nickel (µg/L) Value	Nickel (µg/L) DA
4-Aug-16	Cloudy	Moderate	20:15	7.3	Surface	1.0	0.5	290	26.2	26.2	7.5	7.6	19.2	19.2	78.7	78.7	5.7	5.6	5.5	19.4	6	14	85	89	821501	810559	<0.2	<0.2	4.0	3.3
						1.0	0.6	303	26.2		7.6		19.2		78.7		5.7		5.5		5		85				<0.2		3.4	
					Middle	3.7	0.6	290	25.9	25.9	7.6	7.6	21.4	21.4	77.2	77.1	5.5		11.0		6		89				<0.2		3.8	
						3.7	0.6	292	25.9		7.6		21.4		77.1		5.5		11.3		5		89				<0.2		3.4	
					Bottom	6.3	0.5	273	25.6	25.6	7.6	7.6	22.6	22.6	75.4	75.4	5.4	5.4	41.7		30		91				<0.2		2.6	
						6.3	0.5	289	25.6		7.6		22.6		75.5		5.4		41.6		30		92				<0.2		2.4	
6-Aug-16	Sunny	Moderate	08:52	8.7	Surface	1.0	0.5	271	26.6	26.6	7.5	7.5	19.1	19.1	66.4	66.4	4.8	4.7	5.0	14.0	2	9	85	89	821492	810526	<0.2	<0.2	3.6	3.2
						1.0	0.6	275	26.6		7.5		19.1		66.3		4.8		5.1		3		86				<0.2		3.5	
					Middle	4.4	0.6	293	26.2	26.2	7.5	7.5	21.4	21.4	64.9	64.9	4.6		10.9		3		90				<0.2		3.3	
						4.4	0.6	293	26.2		7.5		21.3		64.9		4.6		11.2		3		89				<0.2		3.6	
					Bottom	7.7	0.6	291	25.5	25.5	7.5	7.5	24.3	24.3	65.4	65.4	4.7	4.7	25.9		21		92				<0.2		2.7	
						7.7	0.6	291	25.5		7.5		24.3		65.4		4.7		25.9		22		91				<0.2		2.7	
9-Aug-16	Fine	Moderate	10:28	8.2	Surface	1.0	0.3	212	28.1	28.1	7.8	7.8	16.1	16.1	89.7	89.7	6.4	6.2	1.9	5.0	<2	4	85	90	821490	810555	<0.2	<0.2	3.2	3.1
						1.0	0.3	212	28.1		7.8		16.1		89.6		6.4		1.9		<2		86				<0.2		3.3	
					Middle	4.1	0.3	240	27.2	27.3	7.7	7.7	20.0	20.0	83.3	83.3	5.9		3.2		<2		90				<0.2		3.0	
						4.1	0.3	246	27.3		7.7		20.0		83.3		5.9		3.2		<2		90				<0.2		3.2	
					Bottom	7.2	0.4	249	26.5	26.5	7.7	7.7	22.1	22.1	75.5	75.5	5.4	5.4	9.8		9		94				<0.2		2.9	
						7.2	0.4	271	26.5		7.7		22.1		75.5		5.4		9.8		9		93				<0.2		2.8	
11-Aug-16	Fine	Moderate	13:40	7.3	Surface	1.0	0.2	279	26.5	26.5	7.7	7.8	20.8	20.8	78.4	78.2	5.6	4.7	0.8	3.1	<2	3	82	87	821493	810537	<0.2	<0.2	3.2	3.1
						1.0	0.2	290	26.5		7.8		20.8		78.0		5.6		0.8		<2		84				<0.2		3.3	
					Middle	3.7	0.2	282	25.0	25.0	7.7	7.7	27.1	27.1	54.5	54.4	3.9		2.5		<2		85				<0.2		3.0	
						3.7	0.2	299	25.0		7.7		27.0		54.3		3.8		2.5		<2		87				<0.2		3.2	
					Bottom	6.3	0.3	309	24.3	24.3	7.7	7.7	28.7	28.7	46.9	47.2	3.3	3.4	5.7		5		89				<0.2		2.9	
						6.3	0.3	332	24.3		7.7		28.7		47.4		3.4		6.0		5		92				<0.2		2.8	
13-Aug-16	Fine	Moderate	16:08	7.2	Surface	1.0	0.2	230	26.5	26.5	7.8	7.8	19.6	19.6	82.3	82.1	5.9	5.6	1.5	2.0	3	3	83	85	821487	810532	<0.2	<0.2	3.6	3.1
						1.0	0.2	232	26.5		7.8		19.5		81.8		5.9		1.5		4		82				<0.2		3.5	
					Middle	3.6	0.5	285	25.6	25.6	7.8	7.8	24.0	24.0	73.4	73.2	5.2		1.5		3		83				<0.2		3.4	
						3.6	0.5	312	25.6		7.8		24.0		72.9		5.2		1.5		3		86				<0.2		3.1	
					Bottom	6.2	0.3	298	24.3	24.3	7.8	7.8	28.5	28.6	55.3	56.1	3.9	4.0	3.1		2		87				<0.2		2.5	
						6.2	0.3	311	24.3		7.8		28.6		56.8		4.0		3.1		3		89				<0.2		2.5	
16-Aug-16	Cloudy	Moderate	18:10	8.3	Surface	1.0	0.6	280	25.0	25.0	7.9	7.9	24.0	24.0	69.6	69.5	5.0	4.8	4.7	11.8	3	11	85	89	821490	810555	<0.2	<0.2	2.3	3.3
						1.0	0.6	303	25.0		7.9		24.0		69.4		5.0		4.7		3		84				<0.2		2.0	
					Middle	4.2	0.5	277	24.6	24.6	7.9	7.9	25.5	25.5	62.1	62.1	4.5		12.7		9		90				<0.2		3.7	
						4.2	0.5	293	24.6		7.9		25.5		62.1		4.5		12.2		9		90				<0.2		3.8	
					Bottom	7.3	0.4	276	24.5	24.5	7.9	7.9	25.8	25.8	59.2	59.2	4.3	4.3	18.5		20		93				<0.2		3.4	
						7.3	0.4	302	24.5		7.9		25.8		59.2		4.3		18.2		20		92				<0.2		4.3	
18-Aug-16	Cloudy	Rough	19:16	7.8	Surface	1.0	0.8	285	25.2	25.2	7.8	7.8	25.5	25.5	78.3	78.3	5.6	5.6	5.8	11.5	4	6	84	89	821514	810556	<0.2	<0.2	1.8	2.1
						1.0	0.9	298	25.2		7.8		25.5		78.2		5.6		6.0		4		85				<0.2		2.0	
					Middle	3.9	0.7	287	25.2	25.2	7.8	7.8	25.6	25.6	77.1	77.1	5.5		10.9		5		89				<0.2		2.0	
						3.9	0.8	301	25.2		7.8		25.6		77.0		5.5		11.2		5		90				<0.2		1.9	
					Bottom	6.8	0.6	279	25.1	25.1	7.8	7.8	25.9	25.9	77.0	77.0	5.5	5.5	17.4		11		93				<0.2		2.4	
						6.8	0.6	280	25.1		7.8		25.9		77.0		5.5		17.4		9		92				<0.2		2.4	
20-Aug-16	Moderate	Fine	07:26	8.8	Surface	1.0	0.7	271	25.9	25.9	7.7	7.7	22.4	22.4	70.2	70.2	5.0	5.1	3.6	15.2	2	7	83	89	821520	810532	<0.2	<0.2	3.1	2.9
						1.0	0.8	297	25.9		7.7		22.4		70.2		5.0		3.7		2		83				<0.2		3.0	
					Middle	4.4	0.7	267	25.8	25.8	7.7	7.7	22.9	22.9	70.7	70.7	5.1		5.5		4		91				<0.2		2.9	
						4.4	0.7	288	25.8		7.7		22.9		70.7		5.1		5.6		3		90				<0.2		3.0	
					Bottom	7.8	0.7	277	25.5	25.5	7.7	7.7	25.2	25.2	72.0	72.0	5.1	5.1	36.3		15		93				<0.2		2.4	
						7.8	0.7	292	25.4		7.7		25.2		72.0		5.1		36.6		14		93				<0.2		2.8	
23-Aug-16	Sunny	Moderate	09:59	8.2	Surface	1.0	0.6	281	27.0	27.0	7.7	7.7	19.6	19.6	72.6	72.6	5.2	5.2	4.4	12.8	4	4	85	90	821490	810542	<0.2	<0.2	2.5	2.5
						1.0	0.7	289	27.0		7.7		19.6		72.6		5.2		4.4		4		86				<0.2		2.2	
					Middle	4.1	0.7	274	26.7	26.7	7.8	7.8	21.9	22.0	71.3	71.3	5.1		7.4		5		89				<0.2		2.6	
						4.1	0.7	277	26.7		7.8		22.0		71.2		5.1		7.6		4		91				<0.2		2.4	
					Bottom	7.2	0.6	280	26.4	26.4	7.8	7.8	24.1	24.1	69.2	69.2	4.9	4.9	26.5		5		93				<0.2		2.7	
						7.2	0.6	282	26.4		7.8		24.1		69.2		4.9		26.5		4		93				<0.2		2.5	
25-Aug-16	Fine	Moderate	12:32	7.3	Surface	1.0	0.5	274	28.9	28.9	7.8	7.8	20.9	20.9	68.3	68.2	4.7	4.5	6.5	13.6	2	10	85	89	821496	810544	<0.2	<0.2	3.2	2.9
						1.0	0.5	295	28.9		7.8		20.8		68.1		4.7		6.6		2		83				<0.2		3.2	
					Middle	3.7	0.3	246	28.2	28.2	7.8	7.8	23.4	23.4	62.1	62.1	4.3		13.1		6		89				<0.2		2.9	
						3.7	0.3	268	28.2		7.8		23.4		62.1		4.3		13.2		6		91				<0.2		3.1	
					Bottom	6.3	0.4	215	28.1	28.1	7.8	7.8	23.9	23.9	61.4	61.4	4.2	4.2	21.1		22		91				<0.2		2.4	
						6.3	0.4	236	28.1		7.8		23.9		61.4		4.2		21.1		22		93				<0.2		2.5	
27-Aug-16	Cloudy	Moderate	15:28	8.0	Surface	1.0	0.4	257	29.5	29.5	8.0	8.0	19.9	19.9	100.9	100.9	6.9	6.0	4.0	9.1	3	6	83	89	821506	810553	<0.2	<0.2	3.0	2.6
						1.0	0.4	257	29.5		8.0		19.9		100.9		6.9		4.0		3		85				<0.2		2.8	
					Middle	4.0	0.4	267	28.3	28.4	7.9	7.9	24.2	24.6	74.4	74.5	5.1		9.4		3		90				<0.2		2.9	
						4.0	0.4	282	28.4		7.9		24.9		74.6		5.1		9.4		3		90				<0.2		2.8	
					Bottom	7.0	0.3	226	27.9	27.9	7.9	7.9	26.0	26.0	64.1	64.1	4.4	4.4	13.8		11		92				<0.2		2.2	
						7.0	0.3	244	27.9		7.9		26.0		64.1		4.4		13.8		10		93				<0.2		2.1	
30-Aug-16	Cloudy	Moderate	18:01	8.7	Surface	1.0	0.5	283	26.3	26.3	8.0	8.0	25.5	25.5	78.9	78.9	5.5	5.4	6.7	18.3	6	8	84	89	821518	810543	<0.2	<0.2	2.5	2.3
						1.0	0.5	307	26.3		8.0		25.5		78.9		5.5		6.7		5		86				<0.2		2.5	
					Middle	4.4	0.5	271	26.0	26.0	8.1	8.1	26.7	26.7	76.3	76.3	5.3		12.5		7		90				<0.2		2.1	
						4.4	0.5	291	26.0		8.1		26.7		76.3		5.3		12.7		8		89				<0.2		2.3	
					Bottom	7.7	0.4	287	25.8	25.8	8.1	8.1	27.4	27.4	76.7	76.7	5.4	5.4	35.6		12		93				<0.2		2.3	
						7.7	0.4	292	25.8		8.1		27.4		76.7		5.4		35.6		11		92				<0.2		2.3	

DA: Depth-Averaged
Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher

Expansion of Hong Kong International Airport into a Three-Runway System
Water Quality Monitoring
Water Quality Monitoring Results at IM12 during Mid-Flood Tide

Date	Weather Condition	Sea Condition	Sampling Time	Water Depth (m)	Sampling Depth (m)		Current Speed (m/s)	Current Direction	Water Temperature (°C) Value	Water Temperature (°C) Average	pH Value	pH Average	Salinity (ppt) Value	Salinity (ppt) Average	DO Saturation (%) Value	DO Saturation (%) Average	Dissolved Oxygen (mg/L) Value	Dissolved Oxygen (mg/L) DA	Turbidity(NTU) Value	Turbidity(NTU) DA	Suspended Solids (mg/L) Value	Suspended Solids (mg/L) DA	Total Alkalinity (ppm) Value	Total Alkalinity (ppm) DA	Coordinate HK Grid (Northing)	Coordinate HK Grid (Easting)	Chromium (µg/L) Value	Chromium (µg/L) DA	Nickel (µg/L) Value	Nickel (µg/L) DA
4-Aug-16	Cloudy	Moderate	20:26	7.7	Surface	1.0	0.7	285	25.9	25.9	7.6	7.6	21.6	21.6	78.4	78.4	5.6	5.6	6.6	22.4	4	28	86	89	821156	811513	<0.2	<0.2	3.0	3.0
						1.0	0.7	286	25.9		7.6		21.6		78.4		5.6		6.6		5		87				<0.2		3.1	
					Middle	3.9	0.8	280	25.5	25.5	7.6	7.6	23.1	23.1	77.4	77.4	5.5		11.3		38		90				<0.2		3.2	
						3.9	0.9	294	25.5		7.6		23.1		77.4		5.5		11.3		37		89				<0.2		3.0	
					Bottom	6.7	0.6	278	25.2	25.2	7.6	7.6	24.5	24.5	77.3	77.3	5.5	5.5	49.3		41		93				<0.2		2.7	
						6.7	0.7	284	25.2		7.6		24.5		77.3		5.5		49.3		40		92				<0.2		2.7	
6-Aug-16	Sunny	Moderate	08:41	7.5	Surface	1.0	0.7	284	26.8	26.8	7.5	7.5	18.5	18.5	68.4	68.4	4.9	4.9	5.8	9.1	3	3	84	88	821176	811523	<0.2	<0.2	3.6	3.5
						1.0	0.7	301	26.7		7.5		18.5		68.3		4.9		6.0		3		86				<0.2		3.9	
					Middle	3.8	0.7	277	26.2	26.2	7.5	7.5	21.7	21.7	66.8	66.8	4.8		3.3		2		88				<0.2		3.0	
						3.8	0.7	298	26.2		7.5		21.7		66.8		4.8		3.4		3		88				<0.2		2.8	
					Bottom	6.5	0.5	269	25.3	25.3	7.6	7.6	25.3	25.3	65.6	65.6	4.7	4.7	18.0		3		91				<0.2		3.8	
						6.5	0.5	288	25.3		7.6		25.3		65.6		4.7		18.0		3		92				<0.2		4.1	
9-Aug-16	Fine	Moderate	10:21	7.6	Surface	1.0	0.5	287	28.0	28.0	7.8	7.8	16.8	16.9	94.0	94.0	6.7	6.5	2.9	7.7	<2	4	84	89	821156	811521	<0.2	<0.2	3.1	2.9
						1.0	0.6	294	28.0		7.8		16.9		94.0		6.7		3.0		<2		87				<0.2		3.0	
					Middle	3.8	0.5	280	27.3	27.3	7.8	7.8	20.9	20.9	88.4	88.4	6.2		4.7		2		89				<0.2		3.1	
						3.8	0.5	290	27.3		7.8		20.9		88.4		6.2		4.7		2		89				<0.2		3.0	
					Bottom	6.6	0.5	271	25.2	25.2	7.7	7.7	27.1	27.1	65.7	65.8	4.6	4.6	15.3		7		92				<0.2		2.6	
						6.6	0.5	273	25.2		7.7		27.1		65.8		4.6		15.3		7		92				<0.2		2.7	
11-Aug-16	Cloudy	Moderate	13:29	8.4	Surface	1.0	0.2	268	26.3	26.3	7.8	7.8	20.8	20.8	83.3	83.3	6.0	5.0	0.7	3.9	<2	4	84	89	821149	811535	<0.2	<0.2	3.1	2.9
						1.0	0.2	293	26.3		7.8		20.8		83.2		6.0		0.7		<2		87				<0.2		3.0	
					Middle	4.2	0.3	287	25.0	25.0	7.7	7.7	27.1	27.1	55.7	55.9	3.9		2.4		2		88				<0.2		3.1	
						4.2	0.3	289	25.0		7.7		27.1		56.0		4.0		2.5		2		90				<0.2		3.0	
					Bottom	7.4	0.2	288	23.9	23.9	7.7	7.7	30.8	30.8	51.7	52.0	3.6	3.7	8.7		6		92				<0.2		2.6	
						7.4	0.2	289	23.9		7.7		30.8		52.2		3.7		8.5		7		94				<0.2		2.7	
13-Aug-16	Fine	Moderate	17:08	7.3	Surface	1.0	0.2	242	26.8	26.8	7.9	7.9	18.8	18.8	91.6	91.5	6.6	6.4	1.2	2.4	3	3	82	86	821175	811526	<0.2	<0.2	3.3	2.9
						1.0	0.2	247	26.8		7.9		18.8		91.4		6.6		1.2		2		84				<0.2		3.4	
					Middle	3.7	0.4	251	26.1	26.1	7.9	7.9	21.9	21.9	85.5	85.2	6.1		1.2		3		87				<0.2		3.0	
						3.7	0.4	275	26.1		7.9		21.9		84.8		6.1		1.2		4		84				<0.2		3.0	
					Bottom	6.3	0.2	251	24.1	24.1	7.8	7.8	29.4	29.5	52.6	53.0	3.7	3.8	4.7		4		88				<0.2		2.5	
						6.3	0.2	273	24.0		7.8		29.5		53.3		3.8		4.8		4		90				<0.2		2.2	
16-Aug-16	Cloudy	Moderate	18:20	7.8	Surface	1.0	0.7	266	25.4	25.5	8.0	8.0	23.2	23.2	84.7	84.7	6.1	5.3	4.4	17.9	6	11	84	89	821151	811500	<0.2	<0.2	2.4	1.7
						1.0	0.7	272	25.5		8.0		23.2		84.7		6.1		4.5		5		86				<0.2		1.4	
					Middle	3.9	0.6	276	24.8	24.8	7.9	7.9	25.9	25.9	62.4	62.3	4.5		22.2		10		90				<0.2		1.9	
						3.9	0.6	284	24.7		7.9		25.9		62.2		4.5		22.2		9		91				<0.2		1.9	
					Bottom	6.8	0.4	260	24.4	24.4	7.8	7.8	27.2	27.2	57.6	57.6	4.1	4.1	27.0		19		93				<0.2		1.5	
						6.8	0.4	277	24.4		7.8		27.2		57.6		4.1		27.0		18		92				<0.2		1.3	
18-Aug-16	Cloudy	Rough	19:27	7.1	Surface	1.0	0.9	274	24.8	24.8	7.8	7.8	26.6	26.6	76.3	76.3	5.4	5.4	15.4	27.8	9	23	87	89	821152	811508	<0.2	<0.2	1.7	1.9
						1.0	1.0	286	24.8		7.8		26.6		76.2		5.4		15.7		9		85				<0.2		1.6	
					Middle	3.6	0.8	273	24.8	24.8	7.8	7.8	26.7	26.7	75.9	75.9	5.4		30.8		28		90				<0.2		1.8	
						3.6	0.9	295	24.8		7.8		26.7		75.9		5.4		29.6		28		89				<0.2		1.8	
					Bottom	6.1	0.8	267	24.8	24.8	7.8	7.8	26.7	26.7	77.4	77.5	5.5	5.5	37.9		31		93				<0.2		2.3	
						6.1	0.8	288	24.8		7.8		26.7		77.5		5.5		37.3		30		92				<0.2		2.4	
20-Aug-16	Moderate	Fine	07:19	7.4	Surface	1.0	0.9	275	26.0	26.0	7.7	7.7	21.5	21.5	72.0	72.0	5.2	5.2	5.1	18.2	2	6	84	89	821148	811514	<0.2	<0.2	3.5	3.1
						1.0	0.9	294	26.0		7.7		21.5		72.0		5.2		5.2		3		86				<0.2		3.4	
					Middle	3.7	0.8	274	25.6	25.6	7.7	7.7	24.3	24.4	72.2	72.2	5.1		10.1		4		90				<0.2		3.0	
						3.7	0.9	279	25.6		7.7		24.4		72.2		5.1		10.3		4		91				<0.2		3.1	
					Bottom	6.4	0.6	269	25.3	25.3	7.8	7.8	26.3	26.3	73.1	73.1	5.2	5.2	39.1		10		93				<0.2		2.7	
						6.4	0.7	272	25.3		7.8		26.3		73.1		5.2		39.3		10		92				<0.2		2.7	
23-Aug-16	Sunny	Moderate	09:53	8.8	Surface	1.0	0.8	272	26.9	26.9	7.7	7.7	21.3	21.3	73.1	73.1	5.2	5.2	4.8	13.5	6	7	85	89	821175	811511	<0.2	<0.2	2.6	2.3
						1.0	0.8	293	26.9		7.7		21.3		73.0		5.2		4.9		4		84				<0.2		2.7	
					Middle	4.4	0.7	279	26.5	26.6	7.8	7.8	23.7	23.7	73.0	73.0	5.1		12.3		4		90				<0.2		2.1	
						4.4	0.8	284	26.6		7.8		23.7		73.0		5.1		12.5		4		91				<0.2		2.1	
					Bottom	7.8	0.5	270	26.4	26.4	7.8	7.8	24.4	24.4	74.4	74.4	5.2	5.2	23.2		11		92				<0.2		2.2	
						7.8	0.5	279	26.4		7.8		24.4		74.4		5.2		23.2		12		92				<0.2		1.8	
25-Aug-16	Fine	Moderate	12:23	8.7	Surface	1.0	0.5	262	29.0	29.0	7.9	7.9	20.0	20.0	76.0	75.9	5.2	4.9	4.9	14.8	<2	6	83	89	821171	811524	<0.2	<0.2	3.3	3.1
						1.0	0.5	283	29.0		7.9		19.9		75.8		5.2		5.0		2		84				<0.2		3.6	
					Middle	4.4	0.6	271	28.3	28.3	7.8	7.8	23.8	23.8	65.9	65.9	4.5		12.6		6		90				<0.2		3.2	
						4.4	0.7	276	28.3		7.8		23.8		65.8		4.5		12.8		6		91				<0.2		3.2	
					Bottom	7.7	0.4	237	27.9	27.9	7.8	7.8	25.3	25.3	61.6	61.6	4.2	4.2	26.6		11		92				<0.2		2.6	
						7.7	0.4	242	27.9		7.8		25.3		61.6		4.2		26.6		10		92				<0.2		2.5	
27-Aug-16	Cloudy	Moderate	15:36	8.2	Surface	1.0	0.4	273	29.4	29.4	8.0	8.0	20.4	20.4	103.3	103.3	7.1	6.5	3.5	8.2	4	5	83	89	821151	811508	<0.2	<0.2	3.1	2.4
						1.0	0.4	294	29.4		8.0		20.4		103.3		7.1		3.5		4		84				<0.2		2.8	
					Middle	4.1	0.4	263	28.7	28.7	8.0	8.0	23.4	23.4	85.8	85.8	5.8		5.6		4		89				<0.2		2.4	
						4.1	0.4	284	28.7		8.0		23.4		85.7		5.8		5.7		4		91				<0.2		2.5	
					Bottom	7.2	0.3	192	27.6	27.6	7.9	7.9	27.3	27.3	63.7	63.7	4.3	4.3	15.5		8		92				<0.2		1.8	
						7.2	0.3	197	27.6		7.9		27.3		63.7		4.3		15.5		8		93				<0.2		2.0	
30-Aug-16	Cloudy	Moderate	18:11	7.7	Surface	1.0	0.7	263	26.1	26.1	8.1	8.1	26.7	26.7	80.7	80.7	5.6	5.6	8.7	15.1	6	7	83	88	821173	811531	<0.2	<0.2	1.8	1.9
						1.0	0.8	276	26.1		8.1		26.7		80.7		5.6		8.9		6		85				<0.2		1.9	
					Middle	3.9	0.7	271	26.0	26.1	8.1	8.1	27.0	27.1	80.9	80.9	5.6		10.6		8		89				<0.2		2.1	
						3.9	0.7	293	26.1		8.1		27.1		80.8		5.6		10.8		8		91				<0.2		1.9	
					Bottom	6.7	0.6	266	25.6	25.6	8.0	8.0	28.0	28.0	75.6	75.7	5.3	5.3	25.7		7		91				<0.2		1.8	
						6.7	0.6	287	25.6		8.0		27.9		75.8		5.3		25.6		8		91				<0.2		1.9	

DA: Depth-Averaged
Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher

Expansion of Hong Kong International Airport into a Three-Runway System
Water Quality Monitoring
Water Quality Monitoring Results at SR2 during Mid-Flood Tide

Date	Weather Condition	Sea Condition	Sampling Time	Water Depth (m)	Sampling Depth (m)		Current Speed (m/s)	Current Direction	Water Temperature (°C) Value	Water Temperature (°C) Average	pH Value	pH Average	Salinity (ppt) Value	Salinity (ppt) Average	DO Saturation (%) Value	DO Saturation (%) Average	Dissolved Oxygen (mg/L) Value	Dissolved Oxygen (mg/L) DA	Turbidity(NTU) Value	Turbidity(NTU) DA	Suspended Solids (mg/L) Value	Suspended Solids (mg/L) DA	Coordinate HK Grid (Northing)	Coordinate HK Grid (Easting)
4-Aug-16	Cloudy	Moderate	21:09	4.7	Surface	1.0	0.3	291	25.3	25.3	7.6	7.6	23.3	23.3	72.7	72.7	5.2	5.2	14.4	18.1	16	16	821460	814184
						1.0	0.3	302	25.3		7.6		23.3		72.7		5.2		14.4		16			
					Middle	2.4	-	-	-	-	-	-	-	-	-	-	-		-		-			
						2.4	-	-	-		-		-		-		-		-		-			
					Bottom	3.7	0.3	306	25.2	25.2	7.6	7.6	23.7	23.7	71.3	71.3	5.1	5.1	21.8		16			
						3.7	0.3	322	25.2		7.6		23.7		71.3		5.1		21.8		16			
6-Aug-16	Cloudy	Moderate	08:00	4.4	Surface	1.0	0.2	189	26.7	26.7	7.5	7.5	18.4	18.4	69.8	69.8	5.0	5.0	3.6	4.0	4	5	821472	814147
						1.0	0.2	194	26.7		7.5		18.4		69.8		5.0		3.7		4			
					Middle	2.2	-	-	-	-	-	-	-	-	-	-	-		-		-			
						2.2	-	-	-		-		-		-		-		-		-			
					Bottom	3.4	0.2	265	26.1	26.1	7.5	7.5	21.4	21.4	70.3	70.3	5.0	5.0	4.3		5			
						3.4	0.2	280	26.1		7.5		21.4		70.3		5.0		4.3		5			
9-Aug-16	Fine	Moderate	09:50	4.7	Surface	1.0	0.2	249	27.9	27.9	7.8	7.8	17.8	17.8	95.8	95.8	6.8	6.8	4.1	8.3	<2	<2	821455	814184
						1.0	0.2	249	27.9		7.8		17.8		95.8		6.8		4.1		<2			
					Middle	2.4	-	-	-	-	-	-	-	-	-	-	-		-		-			
						2.4	-	-	-		-		-		-		-		-		-			
					Bottom	3.7	0.2	203	26.8	26.8	7.8	7.8	22.3	22.3	90.6	90.6	6.4	6.4	12.4		<2			
						3.7	0.2	215	26.8		7.8		22.3		90.6		6.4		12.4		<2			
11-Aug-16	Rainy	Moderate	12:48	4.3	Surface	1.0	0.3	120	26.3	26.3	7.8	7.8	21.6	21.6	81.2	81.3	5.8	5.8	0.8	20.2	<2	<2	821443	814170
						1.0	0.3	121	26.3		7.8		21.5		81.3		5.8		0.9		<2			
					Middle	2.2	-	-	-	-	-	-	-	-	-	-	-		-		-			
						2.2	-	-	-		-		-		-		-		-		-			
					Bottom	3.3	0.3	178	25.1	25.1	7.7	7.7	26.2	26.4	60.5	61.2	4.3	4.4	37.3		<2			
						3.3	0.3	188	25.0		7.7		26.5		61.8		4.4		41.6		<2			
13-Aug-16	Fine	Moderate	17:04	5.3	Surface	1.0	0.3	201	26.4	26.5	7.9	7.9	21.6	21.6	91.4	91.1	6.5	6.5	1.3	1.5	<2	3	821472	814173
						1.0	0.3	203	26.5		7.9		21.6		90.8		6.5		1.3		<2			
					Middle	2.7	-	-	-	-	-	-	-	-	-	-	-		-		-			
						2.7	-	-	-		-		-		-		-		-		-			
					Bottom	4.3	0.4	236	25.5	25.5	7.8	7.8	24.3	24.4	77.7	77.7	5.5	5.5	1.6		3			
						4.3	0.4	249	25.5		7.8		24.5		77.6		5.5		1.8		4			
16-Aug-16	Cloudy	Moderate	18:52	4.7	Surface	1.0	0.5	301	25.2	25.2	7.8	7.8	24.3	24.3	69.6	69.5	5.0	5.0	8.0	14.8	6	13	821481	814184
						1.0	0.5	318	25.2		7.8		24.2		69.4		5.0		8.1		7			
					Middle	2.4	-	-	-	-	-	-	-	-	-	-	-		-		-			
						2.4	-	-	-		-		-		-		-		-		-			
					Bottom	3.7	0.2	272	24.5	24.5	7.8	7.8	26.8	26.8	62.6	62.6	4.5	4.5	21.6		19			
						3.7	0.2	288	24.5		7.8		26.8		62.6		4.5		21.6		20			
18-Aug-16	Cloudy	Rough	19:57	4.8	Surface	1.0	0.3	105	24.7	24.7	7.8	7.8	27.3	27.3	74.2	74.2	5.3	5.3	12.3	13.3	14	15	821482	814175
						1.0	0.3	111	24.7		7.8		27.3		74.2		5.3		12.4		14			
					Middle	2.4	-	-	-	-	-	-	-	-	-	-	-		-		-			
						2.4	-	-	-		-		-		-		-		-		-			
					Bottom	3.8	0.2	100	24.7	24.7	7.8	7.8	27.4	27.4	75.1	75.2	5.3	5.3	14.2		15			
						3.8	0.2	102	24.7		7.8		27.4		75.2		5.3		14.2		15			
20-Aug-16	Moderate	Fine	06:58	4.7	Surface	1.0	0.2	271	25.5	25.5	7.7	7.7	24.5	24.5	71.2	71.3	5.1	5.1	10.6	12.4	8	11	821481	814153
						1.0	0.2	296	25.5		7.7		24.5		71.3		5.1		10.7		9			
					Middle	2.4	-	-	-	-	-	-	-	-	-	-	-		-		-			
						2.4	-	-	-		-		-		-		-		-		-			
					Bottom	3.7	0.2	153	25.3	25.3	7.7	7.7	25.8	25.8	73.0	73.0	5.2	5.2	14.1		14			
						3.7	0.2	156	25.3		7.7		25.8		73.0		5.2		14.1		14			
23-Aug-16	Sunny	Moderate	09:33	5.0	Surface	1.0	0.3	278	26.6	26.6	7.8	7.8	22.7	22.7	71.4	71.4	5.1	5.1	9.1	11.0	8	13	821451	814179
						1.0	0.3	305	26.6		7.8		22.7		71.4		5.1		9.3		9			
					Middle	2.5	-	-	-	-	-	-	-	-	-	-	-		-		-			
						2.5	-	-	-		-		-		-		-		-		-			
					Bottom	4.0	0.2	235	26.4	26.4	7.8	7.8	23.2	23.2	72.7	72.7	5.1	5.1	12.8		17			
						4.0	0.2	240	26.4		7.8		23.2		72.7		5.1		12.8		17			
25-Aug-16	Fine	Moderate	12:00	4.7	Surface	1.0	0.4	279	29.2	29.2	7.8	7.8	20.2	20.2	73.4	73.4	5.0	5.0	4.9	9.8	4	8	821469	814163
						1.0	0.4	306	29.2		7.8		20.2		73.3		5.0		4.9		4			
					Middle	2.4	-	-	-	-	-	-	-	-	-	-	-		-		-			
						2.4	-	-	-		-		-		-		-		-		-			
					Bottom	3.7	0.4	260	28.2	28.2	7.8	7.8	23.7	23.7	67.8	67.8	4.6	4.6	14.7		12			
						3.7	0.5	284	28.2		7.8		23.7		67.8		4.6		14.7		12			
27-Aug-16	Rainy	Moderate	15:58	4.5	Surface	1.0	0.2	237	29.6	29.6	8.3	8.3	21.1	21.1	133.2	133.2	9.0	9.0	6.1	11.9	5	12	821462	814163
						1.0	0.2	242	29.6		8.3		21.1		133.1		9.0		6.0		6			
					Middle	2.3	-	-	-	-	-	-	-	-	-	-	-		-		-			
						2.3	-	-	-		-		-		-		-		-		-			
					Bottom	3.5	0.2	174	27.8	27.8	7.8	7.8	26.6	26.6	59.9	60.0	4.1	4.1	17.9		18			
						3.5	0.2	186	27.8		7.8		26.6		60.0		4.1		17.7		19			
30-Aug-16	Cloudy	Moderate	18:34	5.5	Surface	1.0	0.7	314	25.7	25.7	8.1	8.1	27.7	27.7	75.6	75.7	5.3	5.3	12.7	12.8	13	15	821473	814163
						1.0	0.8	330	25.7		8.1		27.7		75.7		5.3		12.6		13			
					Middle	2.8	-	-	-	-	-	-	-	-	-	-	-		-		-			
						2.8	-	-	-		-		-		-		-		-		-			
					Bottom	4.5	0.7	311	25.7	25.7	8.0	8.0	27.7	27.7	78.4	78.5	5.5	5.5	13.0		15			
						4.5	0.7	337	25.7		8.0		27.7		78.6		5.5		13.0		17			

DA: Depth-Averaged
Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher

Expansion of Hong Kong International Airport into a Three-Runway System
Water Quality Monitoring
Water Quality Monitoring Results at SR3 during Mid-Flood Tide

Date	Weather Condition	Sea Condition	Sampling Time	Water Depth (m)	Sampling Depth (m)		Current Speed (m/s)	Current Direction	Water Temperature (°C) Value	Water Temperature (°C) Average	pH Value	pH Average	Salinity (ppt) Value	Salinity (ppt) Average	DO Saturation (%) Value	DO Saturation (%) Average	Dissolved Oxygen (mg/L) Value	Dissolved Oxygen (mg/L) DA	Turbidity(NTU) Value	Turbidity(NTU) DA	Suspended Solids (mg/L) Value	Suspended Solids (mg/L) DA	Coordinate HK Grid (Northing)	Coordinate HK Grid (Easting)
4-Aug-16	Cloudy	Moderate	19:32	7.8	Surface	1.0	0.7	190	26.3	26.3	7.5	7.5	17.9	17.9	69.5	69.5	5.1	5.1	11.0	17.1	8	9	822165	807584
						1.0	0.8	190	26.3		7.5		17.9		69.5		5.1		11.0		8			
					Middle	3.9	0.6	207	25.9	25.9	7.5	7.5	20.6	20.5	68.8	68.8	5.0		17.4		10			
						3.9	0.6	213	25.9		7.5		20.3		68.8		5.0		17.6		10			
					Bottom	6.8	0.4	229	25.6	25.6	7.6	7.6	22.4	22.4	70.1	70.1	5.0	5.0	22.8		9			
						6.8	0.4	246	25.6		7.6		22.4		70.1		5.0		22.8		10			
6-Aug-16	Sunny	Moderate	09:35	9.8	Surface	1.0	0.4	213	26.7	26.7	7.5	7.5	17.8	17.8	64.2	64.2	4.6	4.6	3.5	4.2	4	4	822145	807581
						1.0	0.4	217	26.7		7.5		17.8		64.1		4.6		3.6		3			
					Middle	4.9	0.4	229	26.3	26.3	7.5	7.5	20.2	20.2	63.2	63.3	4.5		4.1		3			
						4.9	0.4	236	26.3		7.5		20.2		63.3		4.6		4.2		3			
					Bottom	8.8	0.3	146	26.0	26.0	7.5	7.5	21.8	21.8	64.9	64.9	4.6	4.6	4.8		5			
						8.8	0.3	153	26.0		7.5		21.8		64.9		4.6		4.8		7			
9-Aug-16	Fine	Moderate	11:00	9.2	Surface	1.0	0.3	234	28.0	28.0	7.7	7.7	17.1	17.1	81.5	81.5	5.8	5.6	3.3	2.8	<2	2	822127	807568
						1.0	0.3	254	28.0		7.7		17.1		81.5		5.8		3.4		<2			
					Middle	4.6	0.3	186	27.3	27.3	7.7	7.7	19.3	19.3	74.1	74.0	5.3		2.4		<2			
						4.6	0.3	193	27.3		7.7		19.3		73.9		5.3		2.3		<2			
					Bottom	8.2	0.3	111	26.2	26.2	7.6	7.6	23.1	23.1	67.8	67.8	4.8	4.8	2.6		3			
						8.2	0.4	112	26.2		7.6		23.1		67.8		4.8		2.6		2			
11-Aug-16	Fine	Moderate	14:23	8.2	Surface	1.0	0.3	208	26.5	26.6	7.8	7.8	17.8	17.8	85.0	84.7	6.2	5.2	1.0	3.4	<2	3	822127	807585
						1.0	0.3	216	26.6		7.8		17.7		84.3		6.1		1.0		<2			
					Middle	4.1	0.3	191	25.5	25.5	7.7	7.7	25.8	25.8	59.0	58.6	4.2		1.3		<2			
						4.1	0.3	191	25.5		7.7		25.8		58.2		4.1		1.4		<2			
					Bottom	7.2	0.3	122	23.4	23.4	7.7	7.7	30.6	30.6	42.5	43.0	3.0	3.1	8.0		3			
						7.2	0.4	129	23.4		7.7		30.6		43.5		3.1		7.8		4			
13-Aug-16	Fine	Moderate	15:35	7.6	Surface	1.0	0.4	187	26.7	26.7	7.7	7.7	18.6	18.6	75.0	74.8	5.4	4.8	2.1	2.3	3	3	822139	807583
						1.0	0.4	192	26.6		7.7		18.6		74.5		5.4		2.2		4			
					Middle	3.8	0.3	201	25.3	25.3	7.7	7.7	24.4	24.4	57.0	57.0	4.1		1.5		2			
						3.8	0.3	212	25.3		7.7		24.4		56.9		4.1		1.5		3			
					Bottom	6.6	0.1	201	23.8	23.9	7.8	7.8	29.9	29.9	48.8	49.1	3.5	3.5	3.2		3			
						6.6	0.1	220	23.9		7.8		29.9		49.4		3.5		3.0		2			
16-Aug-16	Cloudy	Moderate	17:35	8.7	Surface	1.0	0.4	195	25.3	25.3	7.7	7.7	21.0	21.0	56.5	56.6	4.1	4.2	3.4	6.3	3	3	822137	807575
						1.0	0.4	213	25.3		7.7		21.0		56.6		4.1		3.5		2			
					Middle	4.4	0.3	233	24.9	24.9	7.7	7.7	23.3	23.3	59.3	59.4	4.3		5.9		3			
						4.4	0.4	245	24.9		7.7		23.3		59.4		4.3		6.0		4			
					Bottom	7.7	0.3	201	24.8	24.8	7.8	7.8	24.5	24.5	62.0	62.0	4.5	4.5	9.6		3			
						7.7	0.3	213	24.8		7.8		24.5		62.0		4.5		9.6		3			
18-Aug-16	Cloudy	Rough	18:33	7.6	Surface	1.0	0.9	190	25.7	25.7	7.7	7.7	21.2	21.2	63.3	63.3	4.6	4.6	6.8	9.9	6	8	822142	807578
						1.0	1.0	191	25.7		7.7		21.2		63.2		4.6		6.9		6			
					Middle	3.8	0.8	202	25.3	25.3	7.7	7.7	22.8	22.8	63.0	63.1	4.5		9.6		6			
						3.8	0.9	214	25.3		7.7		22.8		63.1		4.5		9.7		7			
					Bottom	6.6	0.8	209	25.2	25.2	7.7	7.7	24.5	24.5	68.0	68.0	4.9	4.9	13.2		11			
						6.6	0.8	220	25.2		7.7		24.5		68.0		4.9		13.2		13			
20-Aug-16	Moderate	Fine	07:56	9.7	Surface	1.0	0.4	240	26.2	26.2	7.6	7.6	20.0	20.0	67.2	67.2	4.8	4.9	4.0	3.7	2	2	822137	807589
						1.0	0.4	247	26.2		7.6		20.0		67.2		4.8		4.0		2			
					Middle	4.9	0.5	271	26.0	26.0	7.6	7.6	20.7	20.7	67.5	67.6	4.9		3.0		2			
						4.9	0.6	293	26.0		7.6		20.7		67.6		4.9		3.0		2			
					Bottom	8.7	0.3	181	25.9	25.9	7.6	7.6	21.8	21.8	69.3	69.4	5.0	5.0	4.0		2			
						8.7	0.3	185	25.9		7.6		21.8		69.4		5.0		4.0		3			
23-Aug-16	Sunny	Moderate	10:34	9.1	Surface	1.0	0.4	247	27.3	27.3	7.7	7.7	17.3	17.3	70.2	70.2	5.1	5.1	2.7	3.2	3	3	822156	807568
						1.0	0.4	263	27.3		7.7		17.3		70.1		5.1		2.7		4			
					Middle	4.6	0.8	196	27.0	27.0	7.7	7.7	18.7	18.7	69.0	69.0	5.0		3.0		3			
						4.6	0.8	210	27.0		7.7		18.7		69.0		5.0		3.0		3			
					Bottom	8.1	2.7	111	26.7	26.7	7.7	7.7	20.5	20.5	69.2	69.2	4.9	4.9	3.9		4			
						8.1	2.8	119	26.7		7.7		20.5		69.2		4.9		3.9		3			
25-Aug-16	Fine	Moderate	13:06	9.1	Surface	1.0	0.4	233	29.4	29.4	7.7	7.7	15.8	15.8	67.4	67.4	4.7	4.6	3.5	4.8	3	3	822133	807552
						1.0	0.4	240	29.4		7.7		15.8		67.4		4.7		3.6		3			
					Middle	4.6	1.0	123	28.5	28.5	7.8	7.8	21.3	21.3	63.5	63.5	4.4		4.4		3			
						4.6	1.1	130	28.5		7.8		21.3		63.5		4.4		4.4		3			
					Bottom	8.1	1.0	176	28.3	28.3	7.8	7.8	22.4	22.4	63.7	63.8	4.4	4.4	6.4		3			
						8.1	1.1	176	28.3		7.8		22.4		63.8		4.4		6.3		4			
27-Aug-16	Cloudy	Moderate	14:58	8.6	Surface	1.0	0.4	206	29.8	29.8	7.8	7.8	15.7	15.7	79.9	79.8	5.6	5.0	4.9	6.6	4	4	822146	807551
						1.0	0.5	219	29.8		7.8		15.7		79.7		5.6		4.9		4			
					Middle	4.3	0.4	200	28.3	28.3	7.8	7.8	23.8	23.8	63.4	63.4	4.3		6.5		4			
						4.3	0.4	209	28.3		7.8		23.8		63.3		4.3		6.6		4			
					Bottom	7.6	0.3	178	28.2	28.2	7.8	7.8	24.6	24.6	64.7	64.8	4.4	4.4	8.3		4			
						7.6	0.3	191	28.2		7.8		24.6		64.9		4.4		8.3		4			
30-Aug-16	Cloudy	Moderate	17:29	8.1	Surface	1.0	0.6	179	26.5	26.5	7.9	7.9	20.0	20.1	66.6	66.5	4.8	4.7	6.1	7.6	5	7	822152	807559
						1.0	0.7	192	26.5		7.9		20.1		66.4		4.8		6.1		5			
					Middle	4.1	0.5	190	25.9	25.9	7.9	7.9	24.7	24.7	64.2	64.2	4.5		7.9		6			
						4.1	0.6	199	25.9		7.9		24.7		64.2		4.5		7.9		6			
					Bottom	7.1	0.4	208	25.7	25.7	7.9	7.9	26.2	26.2	64.6	64.6	4.5	4.5	8.9		9			
						7.1	0.4	225	25.7		7.9		26.2		64.6		4.5		8.9		8			

DA: Depth-Averaged
Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher

Expansion of Hong Kong International Airport into a Three-Runway System
Water Quality Monitoring
Water Quality Monitoring Results at SR4A during Mid-Flood Tide

Date	Weather Condition	Sea Condition	Sampling Time	Water Depth (m)	Sampling Depth (m)		Current Speed (m/s)	Current Direction	Water Temperature (°C) Value	Water Temperature (°C) Average	pH Value	pH Average	Salinity (ppt) Value	Salinity (ppt) Average	DO Saturation (%) Value	DO Saturation (%) Average	Dissolved Oxygen (mg/L) Value	Dissolved Oxygen (mg/L) DA	Turbidity(NTU) Value	Turbidity(NTU) DA	Suspended Solids (mg/L) Value	Suspended Solids (mg/L) DA	Coordinate HK Grid (Northing)	Coordinate HK Grid (Easting)
4-Aug-16	Fine	Moderate	21:30	8.0	Surface	1.0	0.3	171	26.8	26.8	7.7	7.7	23.9	23.9	75.6	75.6	5.3	5.3	13.7	15.6	13	21	817182	807820
						1.0	0.3	174	26.9		7.7		23.8		75.5		5.3		13.5		13			
					Middle	4.0	0.3	183	26.8	26.8	7.7	7.7	24.6	24.6	75.0	75.0	5.2		16.8		21			
						4.0	0.3	183	26.8		7.7		24.6		75.0		5.2		16.6		21			
					Bottom	7.0	0.3	161	26.8	26.8	7.7	7.7	24.7	24.7	75.3	75.5	5.3	5.3	16.3		27			
						7.0	0.3	173	26.8		7.7		24.7		75.7		5.3		16.8		28			
6-Aug-16	Sunny	Calm	07:56	8.1	Surface	1.0	0.5	250	27.3	27.3	7.6	7.6	23.7	23.7	66.3	66.3	4.6	4.5	4.9	6.4	5	7	817170	807822
						1.0	0.5	252	27.3		7.6		23.7		66.2		4.6		4.9		6			
					Middle	4.1	0.5	243	27.1	27.1	7.7	7.7	24.4	24.5	63.3	63.2	4.4		5.4		6			
						4.1	0.5	265	27.1		7.7		24.5		63.1		4.4		5.7		7			
					Bottom	7.1	0.4	246	26.0	26.1	7.7	7.7	27.5	27.5	58.8	59.0	4.1	4.1	8.5		8			
						7.1	0.4	257	26.1		7.7		27.5		59.2		4.1		8.7		8			
9-Aug-16	Fine	Moderate	10:24	9.2	Surface	1.0	0.2	238	29.3	29.3	8.0	8.0	20.9	20.9	115.7	115.2	7.9	7.4	12.5	14.5	10	16	817191	807814
						1.0	0.2	242	29.3		8.0		20.8		114.7		7.8		12.2		10			
					Middle	4.6	0.3	250	28.7	28.7	8.0	8.0	22.2	22.2	101.1	101.0	6.9		15.9		19			
						4.6	0.3	262	28.7		8.0		22.2		100.9		6.9		16.1		18			
					Bottom	8.2	0.3	246	25.8	25.8	7.7	7.7	29.1	29.1	58.3	58.5	4.0	4.1	15.0		18			
						8.2	0.3	252	25.8		7.7		29.1		58.6		4.1		15.1		18			
11-Aug-16	Rainy	Moderate	12:31	7.6	Surface	1.0	0.4	252	27.5	27.5	7.8	7.8	21.6	21.6	71.7	71.5	5.0	4.5	2.7	4.8	3	4	817188	807826
						1.0	0.4	269	27.4		7.8		21.6		71.2		5.0		3.0		4			
					Middle	3.8	0.4	242	26.6	26.7	7.8	7.8	25.7	25.7	55.7	55.6	3.9		4.1		4			
						3.8	0.4	251	26.7		7.8		25.6		55.4		3.9		3.9		4			
					Bottom	6.6	0.3	235	25.2	25.1	7.8	7.8	30.3	30.5	48.6	49.2	3.4	3.5	7.4		5			
						6.6	0.4	252	24.9		7.8		30.6		49.8		3.5		7.9		5			
13-Aug-16	Cloudy	Moderate	16:41	8.6	Surface	1.0	0.3	195	28.4	28.4	7.9	7.9	19.2	19.2	89.2	89.2	6.2	5.3	9.6	9.4	8	12	817172	807804
						1.0	0.3	211	28.4		7.9		19.2		89.1		6.2		9.5		7			
					Middle	4.3	0.3	220	27.1	27.1	7.8	7.8	23.8	23.9	63.0	63.0	4.4		8.4		12			
						4.3	0.3	236	27.0		7.7		24.0		62.9		4.4		8.5		12			
					Bottom	7.6	0.3	241	25.2	25.2	7.7	7.7	30.1	30.1	42.1	42.4	2.9	3.0	10.0		16			
						7.6	0.4	241	25.2		7.7		30.1		42.6		3.0		10.6		17			
16-Aug-16	Cloudy	Calm	18:37	8.2	Surface	1.0	0.3	227	26.7	26.7	7.8	7.8	25.2	25.2	67.1	67.1	4.7	4.5	15.3	16.7	23	24	817184	807812
						1.0	0.3	248	26.7		7.8		25.2		67.1		4.7		15.4		22			
					Middle	4.1	0.2	216	26.6	26.6	7.8	7.8	25.7	25.7	62.1	62.2	4.3		16.8		23			
						4.1	0.3	235	26.6		7.8		25.7		62.2		4.3		16.7		23			
					Bottom	7.2	0.2	179	26.3	26.3	7.7	7.7	26.6	26.6	54.6	54.8	3.8	3.8	18.1		27			
						7.2	0.2	183	26.3		7.7		26.6		55.0		3.8		18.1		28			
18-Aug-16	Moderate	Rainy	20:30	7.9	Surface	1.0	0.5	244	26.5	26.5	7.8	7.8	26.1	26.1	82.6	82.6	5.7	5.7	19.6	26.0	53	54	817201	807808
						1.0	0.5	267	26.5		7.8		26.1		82.6		5.7		19.7		52			
					Middle	4.0	0.5	255	26.6	26.6	7.8	7.8	26.3	26.3	82.0	82.0	5.7		26.0		54			
						4.0	0.5	260	26.6		7.8		26.3		82.0		5.7		25.8		55			
					Bottom	6.9	0.5	245	26.7	26.7	7.8	7.8	26.2	26.2	81.8	81.8	5.7	5.7	32.4		55			
						6.9	0.5	266	26.6		7.8		26.2		81.8		5.7		32.6		57			
20-Aug-16	Fine	Calm	07:19	9.2	Surface	1.0	0.4	242	27.0	27.0	7.7	7.7	25.4	25.5	74.3	74.3	5.1	5.1	8.3	10.6	10	14	817176	807800
						1.0	0.5	261	27.0		7.7		25.5		74.3		5.1		8.3		11			
					Middle	4.6	0.4	244	27.1	27.1	7.7	7.7	25.5	25.5	74.3	74.3	5.1		9.2		16			
						4.6	0.4	265	27.1		7.7		25.4		74.3		5.1		9.2		15			
					Bottom	8.2	0.3	248	27.2	27.3	7.7	7.7	25.3	25.3	74.7	74.7	5.1	5.1	14.3		16			
						8.2	0.4	264	27.3		7.7		25.3		74.7		5.1		14.3		17			
23-Aug-16	Sunny	Calm	09:33	8.3	Surface	1.0	0.3	240	28.3	28.3	7.7	7.7	23.5	23.5	74.8	74.8	5.1	5.1	7.3	8.9	11	13	817201	807806
						1.0	0.4	240	28.3		7.7		23.5		74.8		5.1		7.4		10			
					Middle	4.2	0.3	239	28.3	28.3	7.7	7.7	23.6	23.6	73.9	73.9	5.0		8.5		14			
						4.2	0.3	242	28.3		7.7		23.6		73.8		5.0		8.3		14			
					Bottom	7.3	0.2	217	28.1	28.1	7.8	7.8	25.0	25.0	73.4	73.6	5.0	5.0	11.4		15			
						7.3	0.3	221	28.1		7.8		25.0		73.7		5.0		10.5		15			
25-Aug-16	Sunny	Moderate	12:17	8.6	Surface	1.0	0.2	198	28.9	28.9	7.8	7.8	23.5	23.5	86.2	86.2	5.8	5.5	3.4	5.4	9	11	817201	807798
						1.0	0.2	213	28.9		7.8		23.5		86.2		5.8		3.3		7			
					Middle	4.3	0.2	190	28.5	28.5	7.8	7.8	24.2	24.2	75.7	75.6	5.1		5.6		12			
						4.3	0.2	206	28.5		7.8		24.2		75.4		5.1		5.5		11			
					Bottom	7.6	0.2	193	27.6	27.6	7.8	7.8	27.1	27.1	68.2	68.2	4.6	4.6	7.2		15			
						7.6	0.2	205	27.6		7.8		27.1		68.2		4.6		7.4		14			
27-Aug-16	Cloudy	Calm	16:06	8.9	Surface	1.0	0.3	159	30.0	30.1	8.2	8.2	21.7	21.7	141.1	141.1	9.5	8.6	6.1	7.5	11	12	817188	807810
						1.0	0.3	164	30.1		8.2		21.7		141.0		9.5		6.2		10			
					Middle	4.5	0.3	179	29.2	29.2	8.1	8.1	23.4	23.4	113.7	113.7	7.7		7.0		12			
						4.5	0.3	189	29.2		8.1		23.4		113.7		7.7		7.0		13			
					Bottom	7.9	0.3	219	27.6	27.6	7.8	7.8	27.5	27.5	64.4	64.5	4.4	4.4	9.2		13			
						7.9	0.3	229	27.6		7.8		27.5		64.5		4.4		9.3		12			
30-Aug-16	Cloudy	Moderate	18:55	9.0	Surface	1.0	0.3	184	27.8	27.8	7.9	7.9	28.2	28.2	76.6	76.6	5.1	5.1	10.9	13.3	20	26	817172	807794
						1.0	0.3	192	27.8		7.9		28.2		76.6		5.1		11.0		21			
					Middle	4.5	0.2	189	27.8	27.8	7.9	7.9	28.2	28.2	76.5	76.5	5.1		14.0		24			
						4.5	0.2	194	27.8		7.9		28.2		76.5		5.1		14.0		26			
					Bottom	8.0	0.2	186	27.8	27.8	7.9	7.9	28.2	28.2	76.1	76.2	5.1	5.1	14.8		31			
						8.0	0.2	188	27.8		7.9		28.2		76.2		5.1		15.3		31			

DA: Depth-Averaged
Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher

Expansion of Hong Kong International Airport into a Three-Runway System
Water Quality Monitoring
Water Quality Monitoring Results at SR5A during Mid-Flood Tide

Date	Weather Condition	Sea Condition	Sampling Time	Water Depth (m)	Sampling Depth (m)		Current Speed (m/s)	Current Direction	Water Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity(NTU)		Suspended Solids (mg/L)		Coordinate HK Grid (Northing)	Coordinate HK Grid (Easting)
									Value	Average	Value	Average	Value	Average	Value	Average	Value	DA	Value	DA	Value	DA		
4-Aug-16	Fine	Calm	21:55	4.7	Surface	1.0	0.1	117	26.8	26.8	7.7	7.7	24.4	24.3	77.0	77.0	5.4	5.4	8.0	7.8	7	9	816585	810689
						1.0	0.1	118	26.8		7.7		24.3		77.0		5.4		7.8		7			
					Middle	2.4	-	-	-	-	-	-	-	-	-	-	-		-		-			
						2.4	-	-	-		-		-		-		-		-		-			
					Bottom	3.7	0.1	110	26.8	26.8	7.7	7.7	24.4	24.4	78.4	78.7	5.5	5.5	7.5		9			
						3.7	0.1	119	26.8		7.7		24.4		79.0		5.5		7.7		11			
6-Aug-16	Sunny	Calm	07:31	5.2	Surface	1.0	0.4	295	27.5	27.5	7.6	7.6	24.0	24.0	65.3	65.3	4.5	4.5	8.0	14.5	8	13	816575	810704
						1.0	0.4	305	27.5		7.6		23.9		65.3		4.5		8.2		9			
					Middle	2.6	-	-	-	-	-	-	-	-	-	-	-		-		-			
						2.6	-	-	-		-		-		-		-		-		-			
					Bottom	4.2	0.4	297	27.4	27.4	7.6	7.6	24.0	24.1	66.8	67.0	4.6	4.7	20.8		16			
						4.2	0.4	318	27.4		7.6		24.1		67.2		4.7		20.8		17			
9-Aug-16	Fine	Moderate	10:08	4.6	Surface	1.0	0.3	272	28.4	28.3	7.9	7.9	23.3	23.4	103.1	103.7	7.0	7.1	7.1	10.1	7	9	816610	810707
						1.0	0.3	288	28.2		7.9		23.4		104.2		7.1		7.2		8			
					Middle	2.3	-	-	-	-	-	-	-	-	-	-	-		-		-			
						2.3	-	-	-		-		-		-		-		-		-			
					Bottom	3.6	0.3	290	27.6	27.6	7.8	7.8	24.9	24.9	96.7	97.1	6.6	6.7	13.1		10			
						3.6	0.3	301	27.6		7.8		24.9		97.5		6.7		13.1		10			
11-Aug-16	Rainy	Moderate	12:06	4.5	Surface	1.0	0.1	332	27.3	27.5	7.8	7.8	22.1	22.0	67.7	66.9	4.7	4.7	2.4	3.8	3	6	816596	810713
						1.0	0.1	364	27.7		7.8		21.9		66.1		4.6		2.3		3			
					Middle	2.3	-	-	-	-	-	-	-	-	-	-	-		-		-			
						2.3	-	-	-		-		-		-		-		-		-			
					Bottom	3.5	0.2	318	26.0	26.0	7.7	7.7	28.1	28.1	54.1	55.0	3.8	3.9	5.2		9			
						3.5	0.2	326	26.0		7.7		28.1		55.8		3.9		5.4		9			
13-Aug-16	Cloudy	Moderate	16:58	3.3	Surface	1.0	0.2	288	28.5	28.5	7.9	7.9	19.5	19.5	95.5	95.5	6.7	6.7	9.4	14.3	6	6	816582	810699
						1.0	0.2	288	28.5		7.9		19.5		95.5		6.7		9.4		5			
					Middle	1.7	-	-	-	-	-	-	-	-	-	-	-		-		-			
						1.7	-	-	-		-		-		-		-		-		-			
					Bottom	2.3	0.2	275	28.1	28.1	7.9	7.9	20.7	20.8	87.1	87.0	6.1	6.1	20.1		5			
						2.3	0.2	280	28.1		7.9		20.8		86.9		6.1		18.1		6			
16-Aug-16	Cloudy	Calm	18:55	3.8	Surface	1.0	0.2	297	27.0	27.0	7.9	7.9	24.7	24.7	89.6	89.8	6.2	6.2	17.8	17.0	25	26	816612	810687
						1.0	0.2	322	27.0		7.9		24.7		89.9		6.2		17.4		24			
					Middle	1.9	-	-	-	-	-	-	-	-	-	-	-		-		-			
						1.9	-	-	-		-		-		-		-		-		-			
					Bottom	2.8	0.2	282	26.7	26.7	7.8	7.8	25.6	25.6	76.1	76.2	5.3	5.3	16.7		26			
						2.8	0.2	285	26.7		7.8		25.6		76.3		5.3		16.2		27			
18-Aug-16	Moderate	Cloudy	20:55	4.7	Surface	1.0	0.5	268	26.7	26.7	7.9	7.9	26.5	26.5	85.0	85.0	5.9	5.9	11.9	12.3	16	16	816583	810679
						1.0	0.5	278	26.7		7.9		26.5		85.0		5.9		12.0		15			
					Middle	2.4	-	-	-	-	-	-	-	-	-	-	-		-		-			
						2.4	-	-	-		-		-		-		-		-		-			
					Bottom	3.7	0.4	264	26.7	26.7	7.9	7.9	26.4	26.4	85.5	85.6	5.9	5.9	12.6		16			
						3.7	0.5	265	26.7		7.9		26.4		85.6		5.9		12.6		15			
20-Aug-16	Fine	Calm	07:02	3.5	Surface	1.0	0.4	283	27.0	27.0	7.7	7.7	25.8	25.8	75.7	75.8	5.2	5.2	14.0	15.5	24	24	816609	810691
						1.0	0.4	306	27.0		7.7		25.8		75.8		5.2		13.8		24			
					Middle	1.8	-	-	-	-	-	-	-	-	-	-	-		-		-			
						1.8	-	-	-		-		-		-		-		-		-			
					Bottom	2.5	0.3	289	27.0	27.0	7.7	7.7	25.9	25.9	76.4	76.5	5.3	5.3	16.5		23			
						2.5	0.3	301	27.0		7.7		25.9		76.6		5.3		17.6		23			
23-Aug-16	Sunny	Calm	09:16	3.3	Surface	1.0	0.3	298	28.4	28.5	7.7	7.7	23.0	23.0	75.3	75.3	5.1	5.1	7.2	7.6	10	11	816599	810680
						1.0	0.3	318	28.5		7.7		23.0		75.2		5.1		7.0		10			
					Middle	1.7	-	-	-	-	-	-	-	-	-	-	-		-		-			
						1.7	-	-	-		-		-		-		-		-		-			
					Bottom	2.3	0.3	291	28.4	28.4	7.7	7.7	23.0	23.1	75.2	75.3	5.1	5.1	7.7		11			
						2.3	0.3	298	28.4		7.7		23.1		75.3		5.1		8.3		11			
25-Aug-16	Sunny	Moderate	11:55	4.3	Surface	1.0	0.4	310	29.3	29.3	8.0	8.0	22.6	22.6	91.5	91.5	6.2	6.2	5.4	7.6	9	9	816597	810690
						1.0	0.4	313	29.3		8.0		22.6		91.5		6.2		5.5		8			
					Middle	2.2	-	-	-	-	-	-	-	-	-	-	-		-		-			
						2.2	-	-	-		-		-		-		-		-		-			
					Bottom	3.3	0.3	310	28.7	28.7	7.9	7.9	23.3	23.3	82.8	82.8	5.6	5.6	9.8		9			
						3.3	0.4	321	28.7		7.9		23.3		82.7		5.6		9.6		10			
27-Aug-16	Cloudy	Calm	16:24	3.1	Surface	1.0	0.1	278	30.3	30.3	8.4	8.4	20.5	20.5	173.4	173.4	11.7	11.7	3.3	5.4	10	14	816577	810711
						1.0	0.2	304	30.3		8.4		20.5		173.3		11.6		3.5		10			
					Middle	1.6	-	-	-	-	-	-	-	-	-	-	-		-		-			
						1.6	-	-	-		-		-		-		-		-		-			
					Bottom	2.1	0.1	278	29.6	29.6	8.2	8.2	22.0	22.0	134.0	134.0	9.0	9.0	7.4		17			
						2.1	0.1	280	29.6		8.2		22.0		134.0		9.0		7.5		18			
30-Aug-16	Cloudy	Calm	19:16	3.5	Surface	1.0	0.2	271	27.8	27.8	7.9	7.9	28.1	28.1	75.5	75.5	5.1	5.1	9.6	8.9	13	15	816607	810696
						1.0	0.2	271	27.8		7.9		28.1		75.4		5.1		9.8		14			
					Middle	1.8	-	-	-	-	-	-	-	-	-	-	-		-		-			
						1.8	-	-	-		-		-		-		-		-		-			
					Bottom	2.5	0.2	274	27.8	27.8	7.9	7.9	28.1	28.1	76.6	76.7	5.1	5.1	8.1		16			
						2.5	0.2	289	27.8		7.9		28.1		76.7		5.1		7.9		16			

DA: Depth-Averaged
Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher

Expansion of Hong Kong International Airport into a Three-Runway System
Water Quality Monitoring
Water Quality Monitoring Results at SR6 during Mid-Flood Tide

Date	Weather Condition	Sea Condition	Sampling Time	Water Depth (m)	Sampling Depth (m)		Current Speed (m/s)	Current Direction	Water Temperature (°C) Value	Water Temperature (°C) Average	pH Value	pH Average	Salinity (ppt) Value	Salinity (ppt) Average	DO Saturation (%) Value	DO Saturation (%) Average	Dissolved Oxygen (mg/L) Value	Dissolved Oxygen (mg/L) DA	Turbidity(NTU) Value	Turbidity(NTU) DA	Suspended Solids (mg/L) Value	Suspended Solids (mg/L) DA	Coordinate HK Grid (Northing)	Coordinate HK Grid (Easting)
4-Aug-16	Fine	Calm	22:26	4.2	Surface	1.0	0.1	154	27.0	27.0	7.7	7.7	22.9	22.9	77.5	77.5	5.4	5.4	6.2	7.4	7	8	817904	814681
						1.0	0.1	164	27.0		7.7		22.9		77.5		5.4		6.3		7			
					Middle	2.1	-	-	-	-	-	-	-	-	-	-	-		-		-			
						2.1	-	-	-		-		-		-		-		-		-			
					Bottom	3.2	0.1	113	26.9	26.9	7.7	7.7	23.3	23.3	76.8	77.0	5.4	5.4	8.5		8			
						3.2	0.1	114	26.9		7.7		23.3		77.2		5.4		8.4		8			
6-Aug-16	Fine	Calm	07:00	4.2	Surface	1.0	0.2	261	27.5	27.5	7.6	7.6	22.7	22.7	68.5	68.5	4.8	4.8	2.7	3.4	2	4	817886	814650
						1.0	0.2	283	27.5		7.6		22.7		68.5		4.8		2.8		4			
					Middle	2.1	-	-	-	-	-	-	-	-	-	-	-		-		-			
						2.1	-	-	-		-		-		-		-		-		-			
					Bottom	3.2	0.2	240	27.5	27.5	7.6	7.6	23.5	23.5	68.7	69.0	4.8	4.8	4.1		4			
						3.2	0.2	255	27.5		7.6		23.5		69.2		4.8		4.0		5			
9-Aug-16	Fine	Moderate	09:46	5.1	Surface	1.0	0.2	185	29.6	29.6	8.1	8.1	21.1	21.1	124.6	122.4	8.5	8.3	6.9	8.5	5	22	817912	814669
						1.0	0.2	192	29.6		8.1		21.1		120.1		8.1		7.5		6			
					Middle	2.6	-	-	-	-	-	-	-	-	-	-	-		-		-			
						2.6	-	-	-		-		-		-		-		-		-			
					Bottom	4.1	0.1	207	29.3	29.2	8.0	8.0	21.5	21.6	111.3	110.6	7.6	7.6	9.4		37			
						4.1	0.1	222	29.0		8.0		21.7		109.8		7.5		10.0		38			
11-Aug-16	Rainy	Moderate	11:35	4.0	Surface	1.0	0.1	206	27.8	27.8	7.8	7.8	22.1	22.2	74.1	74.1	5.2	5.2	9.0	9.3	11	14	817887	814664
						1.0	0.2	210	27.8		7.8		22.2		74.0		5.1		9.0		10			
					Middle	2.0	-	-	-	-	-	-	-	-	-	-	-		-		-			
						2.0	-	-	-		-		-		-		-		-		-			
					Bottom	3.0	0.1	231	27.3	27.3	7.7	7.7	25.4	25.3	61.8	62.1	4.3	4.3	9.8		17			
						3.0	0.2	252	27.3		7.7		25.2		62.4		4.3		9.3		17			
13-Aug-16	Cloudy	Moderate	17:22	3.8	Surface	1.0	0.1	225	28.9	29.0	8.0	8.0	19.4	19.4	109.6	109.7	7.6	7.6	6.7	8.0	8	9	817909	814646
						1.0	0.1	245	29.0		8.0		19.3		109.8		7.6		6.6		7			
					Middle	1.9	-	-	-	-	-	-	-	-	-	-	-		-		-			
						1.9	-	-	-		-		-		-		-		-		-			
					Bottom	2.8	0.1	134	28.4	28.4	7.8	7.8	20.9	20.9	90.9	91.0	6.3	6.3	9.4		11			
						2.8	0.1	141	28.4		7.8		20.9		91.0		6.3		9.4		11			
16-Aug-16	Rainy	Calm	19:20	3.9	Surface	1.0	0.1	203	27.0	27.0	7.9	7.9	24.0	24.0	88.0	88.1	6.1	6.1	7.7	8.3	13	15	817883	814657
						1.0	0.1	210	27.0		7.9		24.0		88.1		6.1		7.8		15			
					Middle	2.0	-	-	-	-	-	-	-	-	-	-	-		-		-			
						2.0	-	-	-		-		-		-		-		-		-			
					Bottom	2.9	0.1	211	27.0	27.0	7.9	7.9	24.2	24.3	87.3	87.2	6.1	6.1	8.8		16			
						2.9	0.1	223	27.0		7.9		24.3		87.1		6.0		8.7		17			
18-Aug-16	Moderate	Cloudy	21:26	4.3	Surface	1.0	0.2	220	26.2	26.2	7.8	7.8	27.8	27.8	71.4	71.4	4.9	4.9	12.9	14.0	20	20	817888	814668
						1.0	0.2	230	26.2		7.8		27.8		71.4		4.9		13.2		19			
					Middle	2.2	-	-	-	-	-	-	-	-	-	-	-		-		-			
						2.2	-	-	-		-		-		-		-		-		-			
					Bottom	3.3	0.1	186	26.2	26.2	7.8	7.8	27.8	27.8	72.4	72.6	5.0	5.0	14.7		20			
						3.3	0.1	186	26.2		7.8		27.8		72.7		5.0		15.0		20			
20-Aug-16	Cloudy	Calm	06:39	4.1	Surface	1.0	0.2	234	27.3	27.3	7.6	7.6	24.0	24.0	73.6	73.6	5.1	5.1	5.8	6.7	7	8	817904	814665
						1.0	0.2	234	27.3		7.6		24.0		73.6		5.1		5.8		7			
					Middle	2.1	-	-	-	-	-	-	-	-	-	-	-		-		-			
						2.1	-	-	-		-		-		-		-		-		-			
					Bottom	3.1	0.2	233	27.2	27.2	7.6	7.6	24.6	24.7	74.1	74.9	5.1	5.2	7.2		8			
						3.1	0.2	239	27.1		7.6		24.7		75.6		5.2		7.9		8			
23-Aug-16	Sunny	Calm	08:53	4.2	Surface	1.0	0.2	275	28.2	28.2	7.7	7.7	22.5	22.5	72.5	72.5	5.0	5.0	7.3	8.4	10	14	817883	814681
						1.0	0.3	278	28.2		7.7		22.5		72.5		5.0		7.4		10			
					Middle	2.1	-	-	-	-	-	-	-	-	-	-	-		-		-			
						2.1	-	-	-		-		-		-		-		-		-			
					Bottom	3.2	0.1	262	28.3	28.3	7.7	7.7	22.8	22.8	71.8	71.8	4.9	4.9	9.3		18			
						3.2	0.2	268	28.3		7.7		22.8		71.8		4.9		9.7		16			
25-Aug-16	Sunny	Cloudy	11:33	4.2	Surface	1.0	0.2	240	29.1	29.1	7.9	7.9	21.9	21.9	85.7	85.6	5.8	5.8	4.3	6.6	14	15	817914	814668
						1.0	0.3	244	29.1		7.9		21.9		85.5		5.8		4.5		16			
					Middle	2.1	-	-	-	-	-	-	-	-	-	-	-		-		-			
						2.1	-	-	-		-		-		-		-		-		-			
					Bottom	3.2	0.2	243	29.0	29.0	7.9	7.9	22.0	22.0	83.5	83.8	5.7	5.7	8.7		15			
						3.2	0.2	248	29.0		7.9		22.0		84.0		5.7		8.8		15			
27-Aug-16	Cloudy	Moderate	16:52	4.1	Surface	1.0	0.2	175	29.5	29.5	8.1	8.1	21.0	21.0	128.6	128.7	8.7	8.7	14.1	22.5	27	27	817917	814653
						1.0	0.2	192	29.5		8.1		21.0		128.8		8.7		14.1		27			
					Middle	2.1	-	-	-	-	-	-	-	-	-	-	-		-		-			
						2.1	-	-	-		-		-		-		-		-		-			
					Bottom	3.1	0.2	153	29.1	29.1	8.0	8.0	22.1	22.1	105.1	105.2	7.1	7.1	29.5		27			
						3.1	0.2	156	29.1		8.0		22.1		105.2		7.1		32.2		28			
30-Aug-16	Fine	Calm	19:43	4.3	Surface	1.0	0.1	206	27.7	27.7	7.9	7.9	27.9	28.0	76.2	76.0	5.1	5.1	7.5	8.3	12	13	817915	814656
						1.0	0.1	220	27.7		7.9		28.0		75.8		5.1		7.6		12			
					Middle	2.2	-	-	-	-	-	-	-	-	-	-	-		-		-			
						2.2	-	-	-		-		-		-		-		-		-			
					Bottom	3.3	0.1	218	27.6	27.6	7.9	7.9	28.1	28.1	74.9	75.0	5.0	5.0	9.1		14			
						3.3	0.1	238	27.6		7.9		28.1		75.0		5.0		8.9		15			

DA: Depth-Averaged
Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher

Expansion of Hong Kong International Airport into a Three-Runway System
Water Quality Monitoring
Water Quality Monitoring Results at SR7 during Mid-Flood Tide

Date	Weather Condition	Sea Condition	Sampling Time	Water Depth (m)	Sampling Depth (m)		Current Speed (m/s)	Current Direction	Water Temperature (°C) Value	Water Temperature (°C) Average	pH Value	pH Average	Salinity (ppt) Value	Salinity (ppt) Average	DO Saturation (%) Value	DO Saturation (%) Average	Dissolved Oxygen (mg/L) Value	Dissolved Oxygen (mg/L) DA	Turbidity(NTU) Value	Turbidity(NTU) DA	Suspended Solids (mg/L) Value	Suspended Solids (mg/L) DA	Coordinate HK Grid (Northing)	Coordinate HK Grid (Easting)
4-Aug-16	Cloudy	Moderate	22:09	17.4	Surface	1.0	0.2	222	24.0	24.0	7.7	7.7	27.7	27.7	61.1	61.0	4.4	4.4	5.1	8.9	11	12	823625	823761
						1.0	0.2	229	24.0		7.7		27.7		61.0		4.4		5.1		11			
					Middle	8.7	0.1	187	23.3	23.3	7.7	7.7	29.9	29.9	59.9	59.9	4.3		8.9		10			
						8.7	0.1	191	23.3		7.7		29.9		59.9		4.3		8.9		10			
					Bottom	16.4	0.2	102	23.2	23.2	7.7	7.7	30.3	30.3	63.7	63.7	4.6	4.6	12.6		16			
						16.4	0.2	105	23.2		7.7		30.3		63.7		4.6		12.6		15			
6-Aug-16	Cloudy	Calm	07:00	17.1	Surface	1.0	0.2	208	26.0	26.0	7.5	7.5	22.3	22.3	65.5	65.5	4.7	4.6	2.9	4.3	4	4	823652	823722
						1.0	0.2	212	26.0		7.5		22.3		65.5		4.7		2.9		4			
					Middle	8.6	0.2	191	25.6	25.6	7.6	7.6	24.3	24.3	62.7	62.7	4.5		3.6		3			
						8.6	0.2	193	25.6		7.6		24.3		62.6		4.5		3.6		5			
					Bottom	16.1	0.2	128	23.7	23.8	7.7	7.7	29.9	29.9	58.5	58.6	4.2	4.2	6.5		4			
						16.1	0.2	134	23.8		7.6		29.9		58.6		4.2		6.5		3			
9-Aug-16	Fine	Calm	09:00	16.3	Surface	1.0	0.3	199	26.5	26.5	7.8	7.8	23.1	23.1	80.2	80.2	5.7	5.4	1.1	2.0	3	7	823632	823732
						1.0	0.3	217	26.5		7.8		23.1		80.2		5.7		1.1		3			
					Middle	8.2	0.3	210	25.7	25.7	7.8	7.8	25.8	25.8	70.9	70.9	5.0		1.4		3			
						8.2	0.4	228	25.7		7.8		25.7		70.8		5.0		1.5		2			
					Bottom	15.3	0.3	174	24.0	24.0	7.8	7.8	30.6	30.6	64.0	64.6	4.5	4.6	3.5		13			
						15.3	0.3	181	24.0		7.8		30.6		65.2		4.6		3.2		15			
11-Aug-16	Rainy	Moderate	11:48	15.6	Surface	1.0	0.4	257	25.9	25.9	7.7	7.7	22.3	22.3	75.0	75.0	5.4	5.0	1.0	4.1	2	6	823621	823741
						1.0	0.4	261	25.9		7.7		22.3		74.9		5.4		1.0		2			
					Middle	7.8	0.2	237	24.5	24.5	7.8	7.8	27.6	27.6	63.7	63.5	4.5		2.2		2			
						7.8	0.2	242	24.5		7.8		27.6		63.2		4.5		2.2		2			
					Bottom	14.6	0.2	245	23.4	23.4	7.8	7.8	31.0	31.0	53.9	54.2	3.8	3.9	9.1		14			
						14.6	0.2	254	23.4		7.7		31.0		54.4		3.9		9.3		15			
13-Aug-16	Fine	Moderate	18:04	16.7	Surface	1.0	0.2	171	24.7	24.7	7.9	7.9	27.7	27.7	77.2	77.4	5.5	4.9	0.9	2.9	3	3	823652	823725
						1.0	0.2	185	24.7		7.9		27.7		77.5		5.5		0.8		2			
					Middle	8.4	0.2	165	23.7	23.7	7.9	7.9	30.7	30.7	60.6	60.5	4.3		1.7		2			
						8.4	0.2	174	23.7		7.9		30.7		60.4		4.3		1.8		4			
					Bottom	15.7	0.2	207	22.7	22.7	7.9	7.9	33.5	33.5	49.9	50.2	3.5	3.6	5.8		3			
						15.7	0.2	207	22.7		7.9		33.5		50.4		3.6		6.1		4			
16-Aug-16	Cloudy	Moderate	19:52	16.0	Surface	1.0	0.2	206	23.7	23.7	7.9	7.9	28.8	28.8	59.7	59.7	4.3	4.3	3.0	7.3	5	7	823649	823722
						1.0	0.2	224	23.7		7.9		28.8		59.7		4.3		3.1		6			
					Middle	8.0	0.2	176	23.4	23.4	8.0	8.0	29.5	29.5	59.4	59.4	4.3		8.2		7			
						8.0	0.2	185	23.3		8.0		29.5		59.4		4.3		7.6		6			
					Bottom	15.0	0.1	190	23.1	23.1	7.9	7.9	30.6	30.6	61.6	61.6	4.4	4.4	10.9		10			
						15.0	0.2	205	23.1		7.9		30.6		61.6		4.4		10.9		10			
18-Aug-16	Cloudy	Rough	20:57	18.3	Surface	1.0	0.2	255	24.2	24.2	7.8	7.8	28.8	28.8	61.7	61.8	4.4	4.5	6.6	10.1	4	10	823631	823722
						1.0	0.2	279	24.2		7.8		28.8		61.8		4.4		6.4		4			
					Middle	9.2	0.2	136	24.1	24.1	7.8	7.8	29.4	29.4	63.4	63.4	4.5		10.5		12			
						9.2	0.2	145	24.1		7.8		29.4		63.4		4.5		10.5		11			
					Bottom	17.3	0.2	100	24.1	24.1	7.8	7.8	29.7	29.7	64.4	64.4	4.6	4.6	13.3		14			
						17.3	0.2	106	24.1		7.8		29.7		64.4		4.6		13.1		15			
20-Aug-16	Cloudy	Calm	06:07	16.4	Surface	1.0	0.2	237	25.6	25.6	7.8	7.8	24.9	24.9	72.2	72.2	5.1	5.1	3.4	4.7	4	5	823649	823737
						1.0	0.2	253	25.6		7.8		24.9		72.2		5.1		3.4		4			
					Middle	8.2	0.3	188	25.5	25.5	7.8	7.8	25.6	25.6	71.3	71.3	5.0		4.1		5			
						8.2	0.3	196	25.5		7.8		25.6		71.3		5.0		4.2		5			
					Bottom	15.4	0.2	111	25.0	25.0	7.7	7.7	27.9	27.9	70.5	70.5	5.0	5.0	6.6		6			
						15.4	0.2	114	25.0		7.7		27.9		70.5		5.0		6.6		6			
23-Aug-16	Sunny	Calm	08:37	17.8	Surface	1.0	0.3	202	26.4	26.4	7.8	7.8	23.1	23.1	69.9	69.9	4.9	4.9	3.2	7.0	3	4	823623	823742
						1.0	0.3	204	26.4		7.8		23.1		69.9		4.9		3.2		4			
					Middle	8.9	0.6	194	26.1	26.1	7.8	7.8	25.2	25.2	67.8	67.8	4.8		6.3		4			
						8.9	0.7	212	26.1		7.8		25.2		67.7		4.8		6.5		4			
					Bottom	16.8	0.9	239	25.6	25.6	7.9	7.9	28.2	28.2	66.5	66.5	4.6	4.6	11.3		4			
						16.8	0.9	261	25.6		7.9		28.2		66.5		4.6		11.5		6			
25-Aug-16	Fine	Cloudy	11:06	16.7	Surface	1.0	0.2	210	28.8	28.8	7.8	7.8	22.3	22.3	73.5	73.5	5.0	4.6	2.2	2.9	2	2	823650	823742
						1.0	0.2	223	28.8		7.8		22.3		73.4		5.0		2.2		<2			
					Middle	8.4	0.2	171	27.8	27.8	7.8	7.8	25.7	25.8	61.8	61.8	4.2		3.6		2			
						8.4	0.2	185	27.8		7.8		25.8		61.7		4.2		3.7		2			
					Bottom	15.7	2.4	160	27.5	27.5	7.8	7.8	27.1	27.1	60.9	60.9	4.1	4.1	2.7		3			
						15.7	2.6	168	27.5		7.8		27.1		60.9		4.1		2.7		3			
27-Aug-16	Cloudy	Calm	16:53	17.0	Surface	1.0	0.2	170	27.8	27.8	8.0	8.0	27.3	27.3	73.7	73.7	5.0	4.4	3.4	7.3	3	5	823648	823734
						1.0	0.2	174	27.8		8.0		27.3		73.7		5.0		3.4		2			
					Middle	8.5	0.2	169	27.1	27.1	7.9	7.9	29.4	29.5	56.5	56.5	3.8		8.6		5			
						8.5	0.2	174	27.0		7.9		29.5		56.5		3.8		8.6		6			
					Bottom	16.0	0.2	175	26.6	26.6	7.9	7.9	30.8	30.8	56.0	56.0	3.8	3.8	9.7		6			
						16.0	0.2	180	26.6		7.9		30.8		56.0		3.8		9.9		5			
30-Aug-16	Cloudy	Moderate	19:40	17.6	Surface	1.0	0.3	246	24.9	24.9	8.0	8.0	30.2	30.2	60.5	60.6	4.2	4.3	7.2	9.3	6	9	823653	823729
						1.0	0.3	247	24.9		8.0		30.2		60.6		4.2		7.3		7			
					Middle	8.8	0.2	126	24.8	24.8	8.0	8.0	30.7	30.7	61.3	61.3	4.3		10.2		9			
						8.8	0.2	129	24.8		8.0		30.7		61.3		4.3		10.2		9			
					Bottom	16.6	0.2	135	24.7	24.7	8.0	8.0	30.9	30.9	63.3	63.3	4.4	4.4	10.4		10			
						16.6	0.2	140	24.7		8.0		30.9		63.3		4.4		10.4		10			

DA: Depth-Averaged
Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher

Expansion of Hong Kong International Airport into a Three-Runway System
Water Quality Monitoring
Water Quality Monitoring Results at SR8 during Mid-Flood Tide

Date	Weather Condition	Sea Condition	Sampling Time	Water Depth (m)	Sampling Depth (m)		Current Speed (m/s)	Current Direction	Water Temperature (°C) Value	Water Temperature (°C) Average	pH Value	pH Average	Salinity (ppt) Value	Salinity (ppt) Average	DO Saturation (%) Value	DO Saturation (%) Average	Dissolved Oxygen (mg/L) Value	Dissolved Oxygen (mg/L) DA	Turbidity(NTU) Value	Turbidity(NTU) DA	Suspended Solids (mg/L) Value	Suspended Solids (mg/L) DA	Coordinate HK Grid (Northing)	Coordinate HK Grid (Easting)
4-Aug-16	Cloudy	Moderate	20:38	4.8	Surface	1.0	0.3	259	26.1	26.1	7.6	7.6	21.1	21.1	80.1	80.1	5.8	5.8	10.5	15.3	8	23	820408	811610
						1.0	0.3	283	26.1		7.6		21.1		80.1		5.8		10.7		8			
					Middle	2.4	-	-	-	-	-	-	-	-	-	-	-		-		-			
						2.4	-	-	-		-		-		-		-		-		-			
					Bottom	3.8	0.2	256	25.6	25.6	7.6	7.6	22.7	22.7	79.8	79.8	5.7	5.7	20.0		38			
						3.8	0.3	269	25.6		7.6		22.7		79.8		5.7		20.0		37			
6-Aug-16	Sunny	Moderate	08:31	5.2	Surface	1.0	0.2	292	27.3	27.3	7.4	7.4	18.8	18.8	72.3	72.3	5.1	5.1	4.4	4.5	4	4	820412	811591
						1.0	0.2	294	27.3		7.4		18.8		72.3		5.1		4.3		4			
					Middle	2.6	-	-	-	-	-	-	-	-	-	-	-		-		-			
						2.6	-	-	-		-		-		-		-		-		-			
					Bottom	4.2	0.3	266	26.6	26.6	7.5	7.5	19.6	19.6	70.4	70.4	5.1	5.1	4.6		4			
						4.2	0.4	278	26.6		7.5		19.6		70.4		5.1		4.6		5			
9-Aug-16	Fine	Moderate	10:15	5.4	Surface	1.0	0.2	176	28.7	28.7	7.8	7.8	16.5	16.5	93.8	93.8	6.6	6.6	3.4	5.4	<2	4	820408	811604
						1.0	0.2	186	28.7		7.8		16.4		93.7		6.6		3.4		<2			
					Middle	2.7	-	-	-	-	-	-	-	-	-	-	-		-		-			
						2.7	-	-	-		-		-		-		-		-		-			
					Bottom	4.4	0.2	216	26.9	26.9	7.7	7.7	21.4	21.3	85.1	85.2	6.0	6.0	7.3		6			
						4.4	0.2	230	26.9		7.7		21.2		85.3		6.0		7.4		5			
11-Aug-16	Cloudy	Moderate	13:19	4.4	Surface	1.0	0.3	285	26.6	26.6	7.7	7.7	20.7	20.7	81.0	80.9	5.8	5.8	2.3	3.6	2	3	820433	811596
						1.0	0.3	288	26.6		7.7		20.7		80.7		5.8		2.5		2			
					Middle	2.2	0.4	-	-	-	-	-	-	-	-	-	-		-		-			
						2.2	0.4	-	-		-		-		-		-		-		-			
					Bottom	3.4	0.3	274	25.3	25.3	7.7	7.7	26.8	26.8	64.5	64.6	4.6	4.6	4.9		4			
						3.4	0.3	300	25.3		7.7		26.8		64.7		4.6		4.7		4			
13-Aug-16	Fine	Moderate	16:29	4.8	Surface	1.0	0.2	247	27.2	27.2	7.9	7.9	18.9	18.9	87.8	87.2	6.3	6.3	5.5	4.7	<2	2	820400	811582
						1.0	0.2	261	27.2		7.9		18.9		86.6		6.2		6.2		<2			
					Middle	2.4	-	-	-	-	-	-	-	-	-	-	-		-		-			
						2.4	-	-	-		-		-		-		-		-		-			
					Bottom	3.8	0.2	237	25.4	25.5	7.8	7.8	24.7	24.7	76.8	78.2	5.5	5.6	3.3		3			
						3.8	0.2	256	25.5		7.8		24.6		79.6		5.7		3.6		2			
16-Aug-16	Cloudy	Moderate	18:28	5.0	Surface	1.0	0.2	113	25.4	25.4	7.9	7.9	23.6	23.6	76.5	76.5	5.5	5.5	9.5	15.2	10	12	820402	811595
						1.0	0.2	115	25.4		7.9		23.6		76.4		5.5		9.6		10			
					Middle	2.5	-	-	-	-	-	-	-	-	-	-	-		-		-			
						2.5	-	-	-		-		-		-		-		-		-			
					Bottom	4.0	0.2	231	24.8	24.8	7.8	7.8	25.3	25.3	72.9	72.9	5.2	5.2	20.8		15			
						4.0	0.2	244	24.8		7.8		25.3		72.9		5.2		20.8		13			
18-Aug-16	Cloudy	Rough	19:39	5.2	Surface	1.0	0.2	259	25.1	25.1	7.8	7.8	26.0	26.0	77.2	77.2	5.5	5.5	11.1	12.7	11	18	820422	811584
						1.0	0.2	278	25.1		7.8		26.0		77.2		5.5		11.1		11			
					Middle	2.6	-	-	-	-	-	-	-	-	-	-	-		-		-			
						2.6	-	-	-		-		-		-		-		-		-			
					Bottom	4.2	0.3	254	24.8	24.8	7.8	7.8	26.8	26.8	78.1	78.2	5.6	5.6	14.2		25			
						4.2	0.3	268	24.8		7.8		26.8		78.2		5.6		14.3		23			
20-Aug-16	Moderate	Fine	07:11	5.4	Surface	1.0	0.4	267	26.0	26.0	7.6	7.6	21.0	21.0	73.0	73.1	5.3	5.3	10.3	9.4	4	4	820426	811580
						1.0	0.4	291	26.0		7.6		21.0		73.1		5.3		10.6		3			
					Middle	2.7	-	-	-	-	-	-	-	-	-	-	-		-		-			
						2.7	-	-	-		-		-		-		-		-		-			
					Bottom	4.4	0.4	279	25.7	25.7	7.7	7.7	23.8	23.9	74.7	74.9	5.3	5.3	8.2		4			
						4.4	0.5	283	25.7		7.7		23.9		75.1		5.3		8.6		4			
23-Aug-16	Sunny	Moderate	09:47	5.4	Surface	1.0	0.1	135	27.4	27.4	7.7	7.7	18.4	18.4	74.6	74.6	5.3	5.3	7.0	9.1	5	5	820429	811610
						1.0	0.1	143	27.4		7.7		18.4		74.5		5.3		7.1		5			
					Middle	2.7	-	-	-	-	-	-	-	-	-	-	-		-		-			
						2.7	-	-	-		-		-		-		-		-		-			
					Bottom	4.4	0.1	241	26.7	26.7	7.7	7.7	21.9	21.9	74.2	74.3	5.3	5.3	11.0		5			
						4.4	0.1	253	26.7		7.7		21.9		74.3		5.3		11.1		4			
25-Aug-16	Fine	Moderate	12:15	5.3	Surface	1.0	0.1	183	29.6	29.6	7.8	7.8	18.5	18.5	76.1	76.1	5.2	5.2	5.5	6.8	4	5	820430	811586
						1.0	0.1	194	29.6		7.8		18.5		76.1		5.2		5.5		5			
					Middle	2.7	-	-	-	-	-	-	-	-	-	-	-		-		-			
						2.7	-	-	-		-		-		-		-		-		-			
					Bottom	4.3	0.2	246	28.8	28.8	7.8	7.8	20.9	20.9	74.4	74.5	5.1	5.1	8.1		6			
						4.3	0.2	266	28.8		7.8		20.9		74.6		5.1		8.0		5			
27-Aug-16	Cloudy	Moderate	15:43	5.2	Surface	1.0	0.3	105	29.4	29.4	8.1	8.1	20.1	20.1	104.8	104.8	7.2	7.2	5.1	7.9	5	6	820431	811606
						1.0	0.3	108	29.4		8.1		20.1		104.8		7.2		5.1		5			
					Middle	2.6	-	-	-	-	-	-	-	-	-	-	-		-		-			
						2.6	-	-	-		-		-		-		-		-		-			
					Bottom	4.2	0.3	159	28.0	28.0	7.9	7.9	25.3	25.3	68.8	68.8	4.7	4.7	10.7		7			
						4.2	0.3	165	28.0		7.9		25.3		68.8		4.7		10.7		8			
30-Aug-16	Cloudy	Moderate	18:24	5.1	Surface	1.0	0.2	235	27.1	27.1	8.0	8.0	25.4	25.4	82.1	82.1	5.7	5.7	10.1	10.4	9	10	820412	811610
						1.0	0.2	236	27.0		8.0		25.4		82.1		5.7		9.8		8			
					Middle	2.6	-	-	-	-	-	-	-	-	-	-	-		-		-			
						2.6	-	-	-		-		-		-		-		-		-			
					Bottom	4.1	0.3	244	26.0	26.0	8.0	8.0	27.1	27.1	79.8	79.8	5.6	5.6	11.0		11			
						4.1	0.3	265	26.0		8.0		27.1		79.8		5.6		10.8		11			

DA: Depth-Averaged
Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher

Expansion of Hong Kong International Airport into a Three-Runway System
Water Quality Monitoring
Water Quality Monitoring Results at C1 during Mid-Ebb Tide

Date	Weather Condition	Sea Condition	Sampling Time	Water Depth (m)	Sampling Depth (m)		Current Speed (m/s)	Current Direction	Water Temperature (°C) Value	Water Temperature (°C) Average	pH Value	pH Average	Salinity (ppt) Value	Salinity (ppt) Average	DO Saturation (%) Value	DO Saturation (%) Average	Dissolved Oxygen (mg/L) Value	Dissolved Oxygen (mg/L) DA	Turbidity(NTU) Value	Turbidity(NTU) DA	Suspended Solids (mg/L) Value	Suspended Solids (mg/L) DA	Total Alkalinity (ppm) Value	Total Alkalinity (ppm) DA	Coordinate HK Grid (Northing)	Coordinate HK Grid (Easting)	Chromium (µg/L) Value	Chromium (µg/L) DA	Nickel (µg/L) Value	Nickel (µg/L) DA
4-Aug-16	Cloudy	Moderate	13:49	8.9	Surface	1.0	0.7	226	26.0	26.0	7.8	7.8	27.2	27.2	72.9	72.9	5.1	4.7	4.7	17.7	6	19	88	96	815625	804263	<0.2	<0.2	1.1	0.9
						1.0	0.7	239	26.0		7.8		27.2		72.8		5.1		4.6		7		90				<0.2		1.2	
					Middle	4.5	0.7	208	24.9	24.9	7.8	7.8	29.6	29.6	59.8	59.8	4.2		8.4		6		101				<0.2		0.8	
						4.5	0.8	210	24.9		7.8		29.6		59.8		4.2		8.9		6		99				<0.2		0.8	
					Bottom	7.9	0.6	220	24.6	24.6	7.8	7.8	30.8	30.8	59.8	60.0	4.2	4.2	40.5		43		100				<0.2		0.6	
						7.9	0.6	227	24.6		7.8		30.8		60.1		4.2		38.9		43		101				<0.2		0.6	
6-Aug-16	Sunny	Moderate	14:48	8.5	Surface	1.0	0.4	153	28.1	28.2	7.7	7.7	22.6	22.2	74.9	74.9	5.2	4.5	2.0	10.0	3	7	84	95	815637	804256	<0.2	<0.2	2.0	1.3
						1.0	0.4	162	28.2		7.7		21.8		74.9		5.2		1.7		2		87				<0.2		2.0	
					Middle	4.3	0.6	73	25.3	25.3	7.7	7.7	29.6	29.6	54.6	54.5	3.8		8.2		3		95				<0.2		1.3	
						4.3	0.6	78	25.3		7.7		29.6		54.4		3.8		8.8		3		96				<0.2		1.2	
					Bottom	7.5	0.5	98	24.7	24.8	7.7	7.7	31.0	31.0	54.2	54.4	3.8	3.8	20.6		14		103				<0.2		0.6	
						7.5	0.6	104	24.8		7.7		31.0		54.5		3.8		18.9		14		103				<0.2		0.7	
9-Aug-16	Cloudy	Moderate	16:20	7.9	Surface	1.0	0.5	184	29.4	29.4	8.0	8.0	16.9	16.7	91.8	91.0	6.4	5.0	2.1	5.4	3	8	87	94	815621	804228	<0.2	<0.2	2.9	1.6
						1.0	0.6	184	29.3		8.0		16.5		90.1		6.3		2.2		4		89				<0.2		2.8	
					Middle	4.0	0.3	185	25.1	24.9	7.8	7.8	31.1	31.3	52.6	52.8	3.6		2.7		5		92				<0.2		1.4	
						4.0	0.3	192	24.6		7.8		31.4		52.9		3.7		2.9		4		94				<0.2		1.4	
					Bottom	6.9	0.2	199	24.5	24.6	7.8	7.8	32.3	32.3	49.5	49.7	3.4	3.5	11.2		17		100				<0.2		0.5	
						6.9	0.2	202	24.6		7.8		32.3		49.9		3.5		11.1		16		100				<0.2		0.5	
11-Aug-16	Sunny	Moderate	18:21	8.0	Surface	1.0	0.4	239	28.3	28.4	7.8	7.8	18.1	18.0	88.6	88.7	6.2	5.0	1.2	3.2	<2	4	75	91	815635	804266	<0.2	<0.2	3.6	2.0
						1.0	0.4	258	28.4		7.8		17.8		88.8		6.3		1.1		<2		73				<0.2		4.1	
					Middle	4.0	0.3	157	24.9	24.9	7.8	7.8	30.7	30.7	52.5	52.4	3.7		2.4		2		95				<0.2		1.5	
						4.0	0.3	171	24.9		7.8		30.7		52.3		3.6		2.5		3		93				<0.2		1.7	
					Bottom	7.0	0.3	171	24.2	24.2	7.8	7.8	32.8	32.8	41.9	42.1	2.9	2.9	5.8		6		107				<0.2		0.5	
						7.0	0.3	177	24.2		7.8		32.8		42.3		2.9		5.9		6		104				<0.2		0.4	
13-Aug-16	Sunny	Moderate	09:08	8.5	Surface	1.0	0.4	205	28.1	28.1	7.7	7.7	19.4	19.5	71.5	71.5	5.0	4.2	2.0	3.6	2	3	72	85	815605	804250	<0.2	<0.2	3.0	1.8
						1.0	0.4	222	28.0		7.7		19.5		71.5		5.0		2.1		2		70				<0.2		2.8	
					Middle	4.3	0.5	206	25.8	25.6	7.8	7.8	28.5	28.7	49.6	49.7	3.4		2.8		3		90				<0.2		1.4	
						4.3	0.5	217	25.3		7.8		28.8		49.8		3.5		2.7		2		92				<0.2		1.5	
					Bottom	7.5	0.5	224	24.8	24.8	7.8	7.8	32.1	32.1	45.8	45.8	3.2	3.2	5.8		3		92				<0.2		1.2	
						7.5	0.5	228	24.8		7.8		32.1		45.8		3.2		5.9		4		95				<0.2		0.9	
16-Aug-16	Rainy	Moderate	11:26	8.2	Surface	1.0	0.6	224	26.6	26.5	7.9	7.9	25.4	25.5	74.3	74.5	5.2	4.4	3.2	8.5	3	13	80	89	815619	804230	<0.2	<0.2	1.2	0.9
						1.0	0.7	240	26.3		7.9		25.6		74.7		5.2		3.3		2		78				<0.2		1.2	
					Middle	4.1	0.6	214	25.2	25.3	7.8	7.8	30.5	30.5	50.3	50.4	3.5		6.4		4		91				<0.2		1.0	
						4.1	0.7	222	25.3		7.8		30.5		50.4		3.5		6.5		3		93				<0.2		0.9	
					Bottom	7.2	0.5	223	25.1	25.1	7.8	7.8	31.1	31.1	49.0	49.2	3.4	3.4	15.7		31		97				<0.2		0.6	
						7.2	0.5	241	25.1		7.8		31.1		49.4		3.4		16.1		32		96				<0.2		0.6	
20-Aug-16	Sunny	Moderate	13:37	8.3	Surface	1.0	0.7	219	27.1	27.4	7.9	7.9	26.3	26.2	80.1	79.8	5.5	5.3	5.1	39.9	8	32	92	97	815630	804257	<0.2	<0.2	1.9	1.0
						1.0	0.7	228	27.6		7.9		26.1		79.5		5.4		4.9		6		95				<0.2		1.1	
					Middle	4.2	0.7	213	26.6	26.9	7.9	7.9	29.4	29.3	76.8	76.5	5.2		26.5		35		99				<0.2		0.8	
						4.2	0.8	213	27.1		7.9		29.1		76.2		5.1		26.0		34		98				<0.2		0.8	
					Bottom	7.3	0.6	212	26.6	26.8	7.9	7.9	29.4	29.3	76.6	76.4	5.2	5.2	87.9		54		96				<0.2		0.8	
						7.3	0.7	223	27.0		7.9		29.1		76.1		5.1		88.8		54		99				<0.2		0.8	
23-Aug-16	Cloudy	Moderate	16:02	8.9	Surface	1.0	0.3	214	28.4	28.4	7.9	7.9	23.8	23.8	84.1	84.0	5.7	5.5	3.4	6.0	4	7	94	96	815624	804258	<0.2	<0.2	1.9	1.1
						1.0	0.3	235	28.4		7.9		23.8		83.9		5.7		3.5		5		93				<0.2		1.8	
					Middle	4.5	0.4	200	27.5	27.5	7.9	7.9	28.4	28.5	77.7	77.7	5.2		4.9		7		94				<0.2		0.9	
						4.5	0.4	211	27.5		7.9		28.5		77.6		5.2		5.0		7		95				<0.2		0.8	
					Bottom	7.9	0.4	198	27.2	27.2	7.9	7.9	30.0	30.0	73.1	73.2	4.9	4.9	9.7		8		102				<0.2		0.7	
						7.9	0.4	213	27.2		7.9		30.0		73.2		4.9		9.7		9		99				<0.2		0.6	
25-Aug-16	Sunny	Moderate	17:51	8.6	Surface	1.0	0.4	227	29.5	29.5	7.9	7.9	19.1	19.1	89.3	89.2	6.1	5.4	1.8	3.5	4	6	82	93	815621	804244	<0.2	<0.2	2.7	1.6
						1.0	0.4	233	29.4		7.9		19.1		89.0		6.1		1.9		5		79				<0.2		2.8	
					Middle	4.3	0.3	184	27.2	27.2	7.9	7.9	29.0	29.0	68.9	68.8	4.6		1.9		4		100				<0.2		1.0	
						4.3	0.3	196	27.2		7.9		29.0		68.7		4.6		2.0		5		97				<0.2		1.1	
					Bottom	7.6	0.3	192	26.7	26.7	7.9	7.9	30.7	30.7	63.4	63.7	4.3	4.3	6.7		9		98				<0.2		1.1	
						7.6	0.3	198	26.7		7.9		30.7		63.9		4.3		6.9		9		100				<0.2		0.9	
27-Aug-16	Cloudy	Moderate	08:08	8.9	Surface	1.0	0.5	228	28.7	28.7	7.9	7.9	20.4	20.4	79.4	79.4	5.5	4.9	1.1	3.6	4	6	95	97	815622	804262	<0.2	<0.2	1.7	1.0
						1.0	0.5	235	28.7		7.8		20.4		79.3		5.5		1.2		4		92				<0.2		1.4	
					Middle	4.5	0.6	207	26.8	26.8	7.9	7.9	30.4	30.5	62.1	62.2	4.2		3.3		3		96				<0.2		0.8	
						4.5	0.6	225	26.8		7.9		30.5		62.2		4.2		3.2		4		96				<0.2		0.9	
					Bottom	7.9	0.4	207	26.7	26.7	7.9	7.9	30.8	30.8	63.1	63.3	4.3	4.3	6.7		10		100				<0.2		0.6	
						7.9	0.4	216	26.7		7.9		30.7		63.4		4.3		6.2		12		100				<0.2		0.7	
30-Aug-16	Fine	Moderate	11:26	9.0	Surface	1.0	0.7	210	27.7	27.7	8.1	8.1	29.4	29.4	101.7	101.6	6.8	6.4	0.6	3.7	4	9	96	99	815634	804248	<0.2	<0.2	1.0	1.1
						1.0	0.7	222	27.7		8.1		29.4		101.5		6.8		0.6		5		96				<0.2		1.0	
					Middle	4.5	0.6	222	27.3	27.3	8.0	8.0	30.3	30.3	89.0	89.0	6.0		1.9		5		100				<0.2		1.6	
						4.5	0.6	242	27.3		8.0		30.3		89.0		6.0		2.0		5		100				<0.2		0.9	
					Bottom	8.0	0.5	215	27.2	27.2	8.0	8.0	30.4	30.4	81.4	81.5	5.4	5.5	8.5		19		100				<0.2		0.9	
						8.0	0.5	235	27.2		8.0		30.4		81.5		5.5		8.7		17		100				<0.2		1.1	

DA: Depth-Averaged
Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher

Expansion of Hong Kong International Airport into a Three-Runway System
Water Quality Monitoring
Water Quality Monitoring Results at C2 during Mid-Ebb Tide

Date	Weather Condition	Sea Condition	Sampling Time	Water Depth (m)	Sampling Depth (m)		Current Speed (m/s)	Current Direction	Water Temperature (°C) Value	Water Temperature (°C) Average	pH Value	pH Average	Salinity (ppt) Value	Salinity (ppt) Average	DO Saturation (%) Value	DO Saturation (%) Average	Dissolved Oxygen (mg/L) Value	Dissolved Oxygen (mg/L) DA	Turbidity(NTU) Value	Turbidity(NTU) DA	Suspended Solids (mg/L) Value	Suspended Solids (mg/L) DA	Total Alkalinity (ppm) Value	Total Alkalinity (ppm) DA	Coordinate HK Grid (Northing)	Coordinate HK Grid (Easting)	Chromium (µg/L) Value	Chromium (µg/L) DA	Nickel (µg/L) Value	Nickel (µg/L) DA
4-Aug-16	Cloudy	Moderate	15:17	11.6	Surface	1.0	1.0	177	26.3	26.3	7.7	7.7	21.0	21.0	81.1	81.0	5.8	5.5	6.4	13.1	6	10	83	88	825700	806959	<0.2	<0.2	2.3	2.1
						1.0	1.0	179	26.3		7.7		21.0		81.0		5.8		6.5		7		84				<0.2		2.4	
					Middle	5.8	0.9	178	25.4	25.4	7.7	7.7	22.9	22.9	72.1	72.1	5.2		18.2		7		87				<0.2		2.3	
						5.8	1.0	179	25.4		7.7		22.9		72.1		5.2		18.1		7		89				<0.2		2.3	
					Bottom	10.6	0.5	165	24.7	24.7	7.7	7.7	25.8	25.8	68.9	68.9	4.9	4.9	14.7		16		90				<0.2		1.8	
						10.6	0.5	173	24.7		7.7		25.8		68.9		4.9		14.7		17		92				<0.2		1.6	
6-Aug-16	Sunny	Moderate	13:33	12.3	Surface	1.0	0.4	181	27.7	27.7	7.5	7.5	17.9	17.9	71.0	71.0	5.1	4.8	3.0	9.4	2	4	82	88	825701	806953	<0.2	<0.2	4.2	3.0
						1.0	0.4	193	27.7		7.5		17.9		71.0		5.1		3.0		2		85				<0.2		4.0	
					Middle	6.2	0.4	175	25.8	25.8	7.5	7.5	23.2	23.2	61.3	61.3	4.4		9.0		5		87				<0.2		2.5	
						6.2	0.4	176	25.8		7.5		23.2		61.3		4.4		9.2		6		89				<0.2		2.4	
					Bottom	11.3	0.4	154	25.0	25.0	7.5	7.5	27.2	27.2	61.8	61.8	4.4	4.4	16.1		6		92				<0.2		2.6	
						11.3	0.4	163	25.0		7.5		27.2		61.8		4.4		16.1		5		92				<0.2		2.5	
9-Aug-16	Cloudy	Moderate	15:14	12.4	Surface	1.0	0.2	167	27.5	27.5	7.6	7.6	18.6	18.6	79.2	79.1	5.6	5.2	1.8	3.8	3	4	81	88	825701	806945	<0.2	<0.2	3.3	2.9
						1.0	0.3	176	27.5		7.6		18.6		78.9		5.6		1.7		3		84				<0.2		3.3	
					Middle	6.2	0.3	185	26.0	26.1	7.6	7.6	25.6	25.6	66.8	66.9	4.7		2.3		4		90				<0.2		3.4	
						6.2	0.3	190	26.1		7.6		25.6		66.9		4.7		2.4		3		89				<0.2		3.1	
					Bottom	11.4	0.5	168	24.9	24.9	7.6	7.6	28.2	28.2	61.6	61.7	4.3	4.3	7.4		4		92				<0.2		2.0	
						11.4	0.5	174	24.9		7.6		28.2		61.7		4.3		7.4		4		92				<0.2		2.2	
11-Aug-16	Fine	Moderate	17:08	10.9	Surface	1.0	0.1	190	25.9	25.9	7.7	7.7	23.5	23.5	74.8	74.8	5.3	4.7	0.5	2.2	<2	3	85	87	825670	806945	<0.2	<0.2	1.8	1.6
						1.0	0.1	204	25.9		7.7		23.5		74.7		5.3		0.5		<2		82				<0.2		1.7	
					Middle	5.5	0.1	225	24.9	24.9	7.7	7.7	27.5	27.5	58.3	58.3	4.1		0.8		<2		85				<0.2		1.7	
						5.5	0.1	232	24.9		7.7		27.4		58.2		4.1		0.8		<2		87				<0.2		2.1	
					Bottom	9.9	0.2	190	23.9	23.9	7.6	7.6	29.8	29.8	48.5	48.7	3.4	3.5	5.1		5		90				<0.2		1.3	
						9.9	0.2	208	23.9		7.6		29.8		48.9		3.5		5.2		6		93				<0.2		1.2	
13-Aug-16	Fine	Moderate	10:37	10.4	Surface	1.0	0.9	172	26.5	26.5	7.7	7.7	18.8	18.8	69.6	69.8	5.0	4.5	1.8	1.5	3	3	82	86	825691	806953	<0.2	<0.2	3.7	2.7
						1.0	1.0	179	26.5		7.7		18.8		69.9		5.1		1.9		2		83				<0.2		3.5	
					Middle	5.2	0.6	167	25.2	25.2	7.7	7.7	25.6	25.5	55.6	55.6	4.0		1.7		3		87				<0.2		2.9	
						5.2	0.6	170	25.2		7.7		25.4		55.6		4.0		1.8		2		86				<0.2		2.8	
					Bottom	9.4	0.6	167	24.5	24.5	7.8	7.8	28.5	28.5	57.2	57.5	3.1	3.1	1.0		3		88				<0.2		1.7	
						9.4	0.6	181	24.5		7.8		28.5		57.7		3.1		1.0		3		90				<0.2		1.7	
16-Aug-16	Cloudy	Moderate	13:11	11.2	Surface	1.0	1.2	169	25.8	25.8	7.8	7.8	19.3	19.3	62.3	62.3	4.5	4.3	4.5	14.4	2	4	83	89	825692	806954	<0.2	<0.2	3.0	2.0
						1.0	1.3	178	25.8		7.8		19.3		62.2		4.5		4.6		2		87				<0.2		2.6	
					Middle	5.6	0.9	171	24.0	24.0	7.9	7.9	28.3	28.3	57.3	57.4	4.1		17.8		4		90				<0.2		1.9	
						5.6	1.0	174	24.0		7.8		28.3		57.4		4.1		17.8		3		90				<0.2		1.8	
					Bottom	10.2	0.4	160	23.9	23.9	7.9	7.9	28.6	28.6	60.7	60.7	4.3	4.3	20.9		7		92				<0.2		1.3	
						10.2	0.4	164	23.9		7.9		28.6		60.7		4.3		20.9		7		92				<0.2		1.4	
20-Aug-16	Fine	Moderate	12:31	12.4	Surface	1.0	0.7	183	26.1	26.1	7.6	7.6	22.5	22.5	67.9	67.9	4.8	4.8	5.9	6.5	3	6	82	88	825678	806940	<0.2	<0.2	2.6	2.6
						1.0	0.8	183	26.1		7.6		22.5		67.9		4.8		5.9		3		78				<0.2		2.9	
					Middle	6.2	0.7	177	25.6	25.6	7.7	7.7	24.4	24.5	67.7	67.8	4.8		7.3		5		90				<0.2		2.5	
						6.2	0.7	180	25.6		7.7		24.5		67.8		4.8		7.3		5		89				<0.2		2.9	
					Bottom	11.4	0.4	161	25.1	25.1	7.7	7.7	27.4	27.4	70.0	70.1	4.9	5.0	6.3		10		93				<0.2		2.4	
						11.4	0.5	161	25.1		7.7		27.4		70.1		5.0		6.4		8		93				<0.2		2.2	
23-Aug-16	Sunny	Moderate	14:42	12.4	Surface	1.0	0.3	162	28.1	28.1	7.7	7.7	15.5	15.5	74.4	74.4	5.3	5.2	4.0	6.3	3	4	81	88	825692	806929	<0.2	<0.2	2.9	2.7
						1.0	0.3	163	28.1		7.7		15.5		74.4		5.3		4.0		2		82				<0.2		2.7	
					Middle	6.2	0.3	120	26.9	26.9	7.8	7.8	18.8	18.9	69.6	69.6	5.0		6.3		4		90				<0.2		3.1	
						6.2	0.4	126	26.9		7.8		18.9		69.5		5.0		6.5		3		89				<0.2		3.0	
					Bottom	11.4	0.4	188	26.1	26.1	7.8	7.8	24.3	24.3	68.9	68.9	4.9	4.9	8.6		7		93				<0.2		2.4	
						11.4	0.4	201	26.1		7.8		24.3		68.9		4.9		8.6		6		92				<0.2		2.2	
25-Aug-16	Fine	Moderate	16:41	12.3	Surface	1.0	0.2	168	29.2	29.2	7.7	7.7	19.2	19.2	67.1	67.1	4.6	4.5	2.9	3.9	2	3	82	88	825675	806940	<0.2	<0.2	3.2	2.8
						1.0	0.2	181	29.1		7.7		19.2		67.0		4.6		3.0		4		85				<0.2		3.3	
					Middle	6.2	0.2	232	28.5	28.5	7.8	7.8	21.6	21.6	63.5	63.5	4.4		3.3		3		89				<0.2		2.7	
						6.2	0.2	236	28.4		7.8		21.6		63.4		4.4		3.3		3		90				<0.2		2.8	
					Bottom	11.3	0.5	200	28.1	28.1	7.8	7.8	24.0	24.0	62.6	62.6	4.3	4.3	5.3		3		91				<0.2		2.1	
						11.3	0.6	201	28.1		7.8		24.0		62.6		4.3		5.3		2		91				<0.2		2.4	
27-Aug-16	Fine	Moderate	10:09	11.5	Surface	1.0	1.2	167	29.3	29.3	7.8	7.8	17.4	17.4	73.5	73.5	5.1	4.6	4.6	6.5	2	3	85	88	825699	806925	<0.2	<0.2	2.9	2.1
						1.0	1.2	170	29.3		7.8		17.4		73.4		5.1		4.7		2		83				<0.2		2.9	
					Middle	5.8	0.7	172	28.0	28.0	7.8	7.8	26.4	26.4	59.2	59.2	4.0		6.2		3		90				<0.2		1.9	
						5.8	0.8	184	28.0		7.8		26.4		59.2		4.0		6.3		2		89				<0.2		1.8	
					Bottom	10.5	0.3	148	27.7	27.7	7.8	7.8	27.5	27.5	59.2	59.2	4.0	4.0	8.7		3		92				<0.2		1.6	
						10.5	0.3	149	27.7		7.8		27.5		59.2		4.0		8.7		3		91				<0.2		1.4	
30-Aug-16	Fine	Moderate	13:25	10.6	Surface	1.0	1.2	170	26.7	26.7	8.0	8.0	22.8	22.8	81.0	81.0	5.7	5.7	5.8	10.1	5	5	83	88	825667	806943	<0.2	<0.2	3.0	2.6
						1.0	1.2	175	26.7		8.0		22.8		80.9		5.7		5.9		4		85				<0.2		3.2	
					Middle	5.3	1.0	170	26.2	26.2	8.0	8.0	24.7	24.7	78.8	78.9	5.6		10.2		4		90				<0.2		3.2	
						5.3	1.1	176	26.2		8.0		24.7		78.9		5.6		10.5		4		89				<0.2		2.3	
					Bottom	9.6	0.5	173	26.1	26.1	8.0	8.0	25.1	25.1	79.0	79.1	5.6	5.6	13.9		7		92				<0.2		1.9	
						9.6	0.5	175	26.1		8.0		25.1		79.1		5.6		14.0		8		91				<0.2		2.0	

DA: Depth-Averaged
Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher

Expansion of Hong Kong International Airport into a Three-Runway System
Water Quality Monitoring
Water Quality Monitoring Results at C3 during Mid-Ebb Tide

Date	Weather Condition	Sea Condition	Sampling Time	Water Depth (m)	Sampling Depth (m)		Current Speed (m/s)	Current Direction	Water Temperature (°C) Value	Water Temperature (°C) Average	pH Value	pH Average	Salinity (ppt) Value	Salinity (ppt) Average	DO Saturation (%) Value	DO Saturation (%) Average	Dissolved Oxygen (mg/L) Value	Dissolved Oxygen (mg/L) DA	Turbidity(NTU) Value	Turbidity(NTU) DA	Suspended Solids (mg/L) Value	Suspended Solids (mg/L) DA	Total Alkalinity (ppm) Value	Total Alkalinity (ppm) DA	Coordinate HK Grid (Northing)	Coordinate HK Grid (Easting)	Chromium (µg/L) Value	Chromium (µg/L) DA	Nickel (µg/L) Value	Nickel (µg/L) DA
4-Aug-16	Cloudy	Moderate	12:53	12.8	Surface	1.0	0.4	71	25.3	25.3	7.7	7.7	25.1	25.1	73.0	72.9	5.2	5.0	3.4	7.9	4	5	82	87	822106	817783	<0.2	<0.2	1.6	1.4
						1.0	0.4	74	25.3		7.7		25.1		72.9		5.2		3.5		4		83				<0.2		1.5	
					Middle	6.4	0.4	92	24.4	24.4	7.7	7.7	27.2	27.2	66.3	66.2	4.7		5.6		4		88				<0.2		1.4	
						6.4	0.4	99	24.4		7.7		27.2		66.2		4.7		5.8		5		89				<0.2		1.3	
					Bottom	11.8	0.3	92	23.9	23.9	7.7	7.7	28.0	28.0	63.0	63.0	4.5	4.5	14.7		5		92				<0.2		1.1	
						11.8	0.3	98	23.9		7.7		28.0		63.0		4.5		14.7		5		90				<0.2		1.2	
6-Aug-16	Sunny	Moderate	15:32	11.2	Surface	1.0	0.3	127	25.7	25.7	7.7	7.7	24.8	24.8	67.4	67.4	4.8	4.8	3.9	4.4	4	4	85	89	822117	817814	<0.2	<0.2	2.0	2.0
						1.0	0.3	135	25.7		7.7		24.8		67.4		4.8		4.0		3		86				<0.2		2.0	
					Middle	5.6	0.2	133	25.7	25.7	7.7	7.7	25.1	25.1	66.8	66.8	4.7		3.9		3		89				<0.2		2.1	
						5.6	0.2	137	25.7		7.7		25.1		66.8		4.7		3.9		4		89				<0.2		2.1	
					Bottom	10.2	0.2	92	25.5	25.5	7.7	7.7	25.7	25.7	65.2	65.2	4.6	4.6	5.5		4		92				<0.2		2.0	
						10.2	0.2	96	25.5		7.7		25.7		65.2		4.6		5.4		5		92				<0.2		1.9	
9-Aug-16	Cloudy	Moderate	17:17	13.2	Surface	1.0	0.2	183	27.1	27.1	7.9	7.9	21.0	21.0	94.9	94.9	6.7	6.4	3.3	2.6	2	4	85	89	822117	817816	<0.2	<0.2	2.6	2.5
						1.0	0.2	188	27.1		7.9		21.0		94.9		6.7		3.3		4		86				<0.2		2.5	
					Middle	6.6	0.3	228	26.5	26.5	7.8	7.8	23.5	23.6	85.7	85.7	6.0		2.2		5		91				<0.2		2.5	
						6.6	0.3	238	26.5		7.8		23.6		85.7		6.0		2.3		3		89				<0.2		2.7	
					Bottom	12.2	0.2	162	25.8	25.8	7.8	7.8	25.6	25.6	80.2	80.3	5.7	5.7	2.3		6		93				<0.2		2.3	
						12.2	0.2	178	25.8		7.8		25.6		80.3		5.7		2.3		4		92				<0.2		2.3	
11-Aug-16	Fine	Moderate	19:23	11.2	Surface	1.0	0.3	99	26.3	26.4	7.8	7.8	22.5	22.5	90.6	90.6	6.4	5.7	0.5	0.8	<2	3	89	92	822103	817809	<0.2	<0.2	1.6	1.4
						1.0	0.3	101	26.4		7.8		22.5		90.5		6.4		0.5		<2		90				<0.2		1.9	
					Middle	5.6	0.2	160	25.0	25.0	7.8	7.8	27.1	27.0	70.9	70.8	5.0		0.6		3		92				<0.2		1.3	
						5.6	0.2	164	25.0		7.8		26.9		70.6		5.0		0.6		3		94				<0.2		1.4	
					Bottom	10.2	0.2	216	23.6	23.6	7.8	7.8	31.5	31.5	64.8	64.9	4.6	4.6	1.2		3		94				<0.2		1.0	
						10.2	0.2	237	23.6		7.8		31.5		64.9		4.6		1.2		2		94				<0.2		0.9	
13-Aug-16	Fine	Moderate	08:13	11.7	Surface	1.0	0.2	113	26.1	26.1	7.8	7.8	21.3	21.2	79.4	79.2	5.7	5.3	0.7	1.0	<2	2	85	89	822125	817804	<0.2	<0.2	3.5	2.4
						1.0	0.2	122	26.1		7.8		21.1		79.0		5.7		0.7		<2		85				<0.2		3.6	
					Middle	5.9	0.3	83	24.8	24.8	7.8	7.8	26.9	26.9	67.7	67.8	4.8		0.6		2		88				<0.2		2.4	
						5.9	0.3	86	24.8		7.8		26.9		67.8		4.8		0.6		<2		90				<0.2		1.4	
					Bottom	10.7	0.3	70	23.8	23.9	7.8	7.8	30.1	30.0	63.9	64.1	4.5	4.6	1.6		2		92				<0.2		2.2	
						10.7	0.3	72	23.9		7.8		29.9		64.2		4.6		1.6		<2		93				<0.2		1.4	
16-Aug-16	Rainy	Moderate	10:46	12.3	Surface	1.0	0.5	112	24.7	24.7	7.9	7.9	25.0	25.0	75.0	75.0	5.4	5.2	2.0	2.9	4	4	85	89	822092	817790	<0.2	<0.2	1.5	1.4
						1.0	0.5	120	24.7		7.9		25.0		75.0		5.4		2.0		3		84				<0.2		1.2	
					Middle	6.2	0.3	84	24.4	24.4	7.9	7.9	26.6	26.6	69.3	69.3	5.0		3.2		4		90				<0.2		1.5	
						6.2	0.3	86	24.4		7.9		26.6		69.2		5.0		3.2		4		89				<0.2		1.5	
					Bottom	11.3	0.3	73	24.0	24.0	7.9	7.9	28.1	28.1	67.9	67.9	4.9	4.9	3.6		3		93				<0.2		1.5	
						11.3	0.3	75	24.0		7.9		28.1		67.9		4.9		3.6		4		91				<0.2		1.3	
20-Aug-16	Fine	Moderate	14:10	12.3	Surface	1.0	0.6	145	25.7	25.7	7.9	7.9	25.7	25.7	73.4	73.4	5.2	5.2	5.6	6.1	7	7	85	90	822128	817822	<0.2	<0.2	2.0	1.9
						1.0	0.6	145	25.7		7.9		25.7		73.4		5.2		5.7		6		86				<0.2		2.2	
					Middle	6.2	0.4	135	25.4	25.4	7.8	7.8	26.6	26.6	72.3	72.3	5.1		5.9		7		90				<0.2		1.8	
						6.2	0.4	138	25.4		7.8		26.6		72.3		5.1		5.9		7		90				<0.2		1.8	
					Bottom	11.3	0.5	79	25.4	25.4	7.8	7.8	26.8	26.8	73.1	73.1	5.2	5.2	6.6		6		94				<0.2		1.7	
						11.3	0.5	84	25.4		7.8		26.8		73.1		5.2		6.6		8		93				<0.2		1.7	
23-Aug-16	Fine	Moderate	16:21	12.3	Surface	1.0	0.4	130	26.9	26.9	7.9	7.9	23.7	23.7	77.5	77.5	5.4	5.2	3.2	4.0	4	5	86	90	822092	817816	<0.2	<0.2	1.7	1.8
						1.0	0.4	132	26.9		7.9		23.7		77.5		5.4		3.2		4		86				<0.2		2.0	
					Middle	6.2	0.3	85	26.3	26.3	7.9	7.9	25.7	25.7	72.2	72.2	5.0		4.1		5		91				<0.2		1.9	
						6.2	0.3	88	26.3		7.9		25.7		72.2		5.0		4.1		5		90				<0.2		1.8	
					Bottom	11.3	0.3	113	26.1	26.1	7.8	7.8	26.1	26.1	72.4	72.5	5.1	5.1	4.7		5		92				<0.2		1.6	
						11.3	0.3	124	26.1		7.8		26.1		72.5		5.1		4.7		5		92				<0.2		1.5	
25-Aug-16	Fine	Calm	18:23	13.7	Surface	1.0	0.4	78	28.7	28.7	7.9	7.9	23.8	23.8	82.6	82.6	5.6	5.4	2.0	1.9	3	3	85	90	822120	817809	<0.2	<0.2	1.7	1.9
						1.0	0.4	85	28.7		7.9		23.8		82.6		5.6		2.0		3		87				<0.2		1.6	
					Middle	6.9	0.2	170	28.6	28.6	7.9	7.9	24.8	24.8	77.6	77.6	5.2		1.8		4		91				<0.2		2.0	
						6.9	0.2	173	28.6		7.9		24.8		77.6		5.2		1.8		3		90				<0.2		1.8	
					Bottom	12.7	0.5	108	27.9	27.9	7.9	7.9	26.9	27.0	72.1	72.1	4.9	4.9	2.0		3		94				<0.2		2.1	
						12.7	0.6	111	27.9		7.9		27.0		72.1		4.9		2.0		2		92				<0.2		2.3	
27-Aug-16	Fine	Calm	07:56	12.2	Surface	1.0	0.3	199	29.1	29.1	8.0	8.0	18.2	18.2	86.8	86.8	6.0	5.5	3.0	2.5	<2	3	86	90	822109	817813	<0.2	<0.2	2.5	1.8
						1.0	0.3	202	29.1		8.0		18.2		86.8		6.0		3.0		2		85				<0.2		2.7	
					Middle	6.1	0.2	116	28.2	28.2	8.0	8.0	25.1	25.1	72.6	72.6	4.9		2.3		3		91				<0.2		1.6	
						6.1	0.2	125	28.2		8.0		25.1		72.6		4.9		2.3		4		90				<0.2		1.8	
					Bottom	11.2	0.3	91	27.3	27.3	7.9	7.9	29.7	29.7	67.6	67.6	4.5	4.5	2.1		4		93				<0.2		1.0	
						11.2	0.3	91	27.3		7.9		29.7		67.6		4.5		2.1		4		92				<0.2		1.1	
30-Aug-16	Fine	Moderate	11:05	13.8	Surface	1.0	0.5	186	25.2	25.2	8.0	8.0	27.7	27.7	63.3	63.3	4.5	4.5	5.5	5.0	4	6	86	89	822097	817797	<0.2	<0.2	1.5	1.4
						1.0	0.5	201	25.2		8.0		27.7		63.3		4.5		5.5		5		85				<0.2		1.5	
					Middle	6.9	0.5	180	24.7	24.7	8.0	8.0	28.5	28.6	63.8	63.9	4.5		4.7		6		91				<0.2		1.4	
						6.9	0.5	187	24.7		8.0		28.6		63.9		4.5		4.7		7		89				<0.2		1.3	
					Bottom	12.8	0.3	207	24.7	24.7	8.0	8.0	28.6	28.6	67.0	67.2	4.7	4.8	4.9		6		93				<0.2		1.1	
						12.8	0.3	222	24.7		8.0		28.6		67.3		4.8		4.9		6		92				<0.2		1.3	

DA: Depth-Averaged
Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher

Expansion of Hong Kong International Airport into a Three-Runway System
Water Quality Monitoring
Water Quality Monitoring Results at IM1 during Mid-Ebb Tide

Date	Weather Condition	Sea Condition	Sampling Time	Water Depth (m)	Sampling Depth (m)		Current Speed (m/s)	Current Direction	Water Temperature (°C) Value	Water Temperature (°C) Average	pH Value	pH Average	Salinity (ppt) Value	Salinity (ppt) Average	DO Saturation (%) Value	DO Saturation (%) Average	Dissolved Oxygen (mg/L) Value	Dissolved Oxygen (mg/L) DA	Turbidity(NTU) Value	Turbidity(NTU) DA	Suspended Solids (mg/L) Value	Suspended Solids (mg/L) DA	Total Alkalinity (ppm) Value	Total Alkalinity (ppm) DA	Coordinate HK Grid (Northing)	Coordinate HK Grid (Easting)	Chromium (µg/L) Value	Chromium (µg/L) DA	Nickel (µg/L) Value	Nickel (µg/L) DA
4-Aug-16	Cloudy	Moderate	14:13	7.2	Surface	1.0	0.6	186	25.6	25.6	7.8	7.8	27.9	27.9	65.1	65.1	4.6	4.4	6.6	11.3	9	14	96	95	818364	806470	<0.2	<0.2	1.1	0.9
						1.0	0.6	195	25.6		7.8		27.8		65.0		4.5		6.5		10		93				<0.2		1.1	
					Middle	3.6	0.4	182	25.0	25.0	7.8	7.8	29.2	29.2	60.0	60.0	4.2		10.9		13		95				<0.2		0.8	
						3.6	0.4	196	25.1		7.8		29.2		60.0		4.2		10.9		12		93				<0.2		0.8	
					Bottom	6.2	0.4	174	24.9	24.9	7.8	7.8	29.7	29.7	60.2	60.4	4.2	4.2	16.5		20		98				<0.2		0.8	
						6.2	0.4	179	24.8		7.8		29.7		60.6		4.2		16.1		20		97				<0.2		0.8	
6-Aug-16	Sunny	Moderate	14:25	7.5	Surface	1.0	0.6	93	27.4	27.4	7.6	7.6	23.8	23.9	66.1	66.2	4.6	4.3	4.5	6.0	4	6	87	95	818335	806451	<0.2	<0.2	2.6	1.4
						1.0	0.6	97	27.4		7.6		23.9		66.3		4.6		4.7		4		84				<0.2		2.3	
					Middle	3.8	0.6	122	25.5	25.5	7.7	7.7	28.9	28.9	56.5	56.5	3.9		5.8		6		95				<0.2		1.1	
						3.8	0.7	134	25.5		7.7		28.9		56.5		3.9		5.8		6		97				<0.2		1.0	
					Bottom	6.5	0.5	139	25.0	25.1	7.7	7.7	30.2	30.2	56.1	56.4	3.9	3.9	7.8		8		104				<0.2		0.7	
						6.5	0.5	149	25.1		7.7		30.1		56.6		3.9		7.3		8		102				<0.2		0.8	
9-Aug-16	Cloudy	Moderate	15:57	7.0	Surface	1.0	0.4	186	28.3	28.1	7.8	7.8	20.0	20.0	78.8	79.6	5.5	4.7	2.4	5.4	3	5	76	84	818355	806476	<0.2	<0.2	3.0	1.7
						1.0	0.4	191	27.9		7.8		20.0		80.3		5.5		2.4		3		75				<0.2		3.2	
					Middle	3.5	0.3	169	25.9	25.9	7.8	7.8	28.7	28.7	56.9	56.8	3.9		3.1		5		84				<0.2		1.4	
						3.5	0.3	182	25.8		7.8		28.7		56.6		3.9		3.0		5		85				<0.2		1.3	
					Bottom	6.0	0.3	145	25.0	25.1	7.8	7.8	31.1	31.1	50.8	51.2	3.5	3.6	10.8		6		90				<0.2		0.6	
						6.0	0.3	145	25.1		7.8		31.1		51.5		3.6		10.7		7		92				<0.2		0.7	
11-Aug-16	Sunny	Moderate	17:59	7.0	Surface	1.0	0.3	181	28.3	28.3	7.8	7.8	18.9	18.9	83.6	83.5	5.9	4.7	1.1	4.3	2	3	88	94	818340	806447	<0.2	<0.2	3.0	1.7
						1.0	0.3	191	28.3		7.8		18.8		83.4		5.9		1.2		<2		92				<0.2		3.3	
					Middle	3.5	0.3	175	25.1	25.1	7.8	7.8	30.5	30.5	49.1	49.1	3.4		5.1		3		96				<0.2		1.0	
						3.5	0.3	188	25.1		7.8		30.5		49.1		3.4		4.9		3		91				<0.2		0.8	
					Bottom	6.0	0.3	170	25.0	25.0	7.8	7.8	30.8	30.8	46.2	46.5	3.2	3.2	6.9		3		100				<0.2		1.1	
						6.0	0.3	178	25.0		7.8		30.8		46.7		3.2		6.8		3		99				<0.2		1.1	
13-Aug-16	Sunny	Moderate	09:32	6.6	Surface	1.0	0.5	199	25.8	26.1	7.8	7.8	27.8	27.6	51.9	51.7	3.6	3.4	2.5	3.1	3	3	98	94	818354	806476	<0.2	<0.2	1.3	1.4
						1.0	0.5	213	26.3		7.8		27.4		51.5		3.6		2.3		2		93				<0.2		1.3	
					Middle	3.3	0.5	196	25.2	25.2	7.8	7.8	30.7	30.8	45.6	45.7	3.2		2.0		3		95				<0.2		1.4	
						3.3	0.5	197	25.1		7.8		30.8		45.7		3.2		2.0		3		92				<0.2		1.5	
					Bottom	5.6	0.3	206	24.3	24.5	7.8	7.8	32.3	32.2	41.6	41.6	2.9	2.9	4.8		3		93				<0.2		1.5	
						5.6	0.3	209	24.7		7.8		32.1		41.6		2.9		4.8		3		95				<0.2		1.4	
16-Aug-16	Rainy	Moderate	11:51	7.1	Surface	1.0	0.5	188	25.8	25.8	7.8	7.8	28.3	28.4	52.1	52.1	3.6	3.5	6.8	9.9	9	12	98	97	818349	806439	<0.2	<0.2	0.8	1.1
						1.0	0.5	206	25.8		7.8		28.4		52.1		3.6		6.8		9		96				<0.2		0.8	
					Middle	3.6	0.5	181	25.4	25.4	7.8	7.8	29.5	29.5	49.5	49.6	3.4		9.8		11		95				<0.2		1.1	
						3.6	0.5	188	25.4		7.8		29.5		49.6		3.4		9.9		12		96				<0.2		1.1	
					Bottom	6.1	0.3	177	25.1	25.3	7.8	7.8	30.1	30.0	51.3	51.5	3.6	3.6	13.0		16		100				<0.2		1.8	
						6.1	0.3	188	25.4		7.8		29.8		51.7		3.6		12.9		17		97				<0.2		1.0	
20-Aug-16	Sunny	Moderate	13:19	7.7	Surface	1.0	0.5	181	26.9	27.2	7.9	7.9	27.5	27.4	78.0	77.7	5.3	5.3	5.9	11.3	6	9	97	95	818344	806459	<0.2	<0.2	1.3	1.3
						1.0	0.5	182	27.4		7.9		27.3		77.3		5.3		5.9		6		94				<0.2		1.2	
					Middle	3.9	0.5	178	27.0	27.2	7.9	7.9	28.0	27.9	77.3	77.1	5.3		7.5		10		96				<0.2		1.3	
						3.9	0.5	178	27.4		7.9		27.8		76.8		5.2		7.4		9		95				<0.2		1.2	
					Bottom	6.7	0.4	186	27.2	27.2	7.9	7.9	28.7	28.7	75.6	75.8	5.1	5.1	20.8		11		94				<0.2		1.5	
						6.7	0.4	197	27.1		7.9		28.7		75.9		5.1		20.3		12		93				<0.2		1.4	
23-Aug-16	Cloudy	Moderate	15:37	7.9	Surface	1.0	0.3	149	28.8	28.8	7.8	7.8	22.8	22.8	81.0	81.0	5.5	5.3	3.8	7.9	4	11	99	97	818342	806441	<0.2	<0.2	1.8	1.3
						1.0	0.4	161	28.8		7.8		22.8		81.0		5.5		3.8		5		97				<0.2		1.6	
					Middle	4.0	0.4	145	27.6	27.6	7.9	7.9	27.8	27.8	74.5	74.5	5.0		7.6		11		95				<0.2		1.2	
						4.0	0.4	148	27.6		7.9		27.8		74.5		5.0		7.7		10		97				<0.2		1.0	
					Bottom	6.9	0.3	173	27.7	27.5	7.9	7.9	27.9	28.0	73.4	73.8	4.9	5.0	11.8		16		97				<0.2		1.0	
						6.9	0.3	173	27.3		7.9		28.1		74.1		5.0		12.4		17		97				<0.2		1.0	
25-Aug-16	Sunny	Moderate	17:30	7.3	Surface	1.0	0.3	182	29.3	29.4	7.8	7.8	20.1	20.1	88.5	88.6	6.1	5.5	1.0	2.2	5	6	84	93	818334	806450	<0.2	<0.2	2.1	1.6
						1.0	0.3	195	29.4		7.8		20.0		88.7		6.1		1.1		5		84				<0.2		2.3	
					Middle	3.7	0.3	134	27.7	27.7	7.9	7.9	26.3	26.3	72.9	72.8	4.9		1.2		6		97				<0.2		1.3	
						3.7	0.3	137	27.7		7.9		26.3		72.7		4.9		1.3		7		96				<0.2		1.5	
					Bottom	6.3	0.3	144	27.3	27.3	7.9	7.9	28.3	28.3	69.1	69.2	4.7	4.7	4.4		6		98				<0.2		1.3	
						6.3	0.3	144	27.3		7.9		28.3		69.3		4.7		4.4		8		100				<0.2		1.3	
27-Aug-16	Fine	Moderate	08:42	7.6	Surface	1.0	0.5	188	27.8	27.8	7.9	7.9	25.8	25.8	66.9	66.9	4.5	4.3	2.0	4.2	4	6	97	97	818337	806472	<0.2	<0.2	0.8	0.7
						1.0	0.6	199	27.8		7.9		25.8		66.8		4.5		1.9		4		98				<0.2		0.9	
					Middle	3.8	0.5	191	26.9	26.9	7.9	7.9	29.8	29.8	60.6	60.6	4.1		3.9		6		94				<0.2		0.7	
						3.8	0.5	201	26.9		7.9		29.8		60.5		4.1		4.0		5		96				<0.2		0.7	
					Bottom	6.6	0.4	191	26.9	26.9	7.9	7.9	30.0	30.0	60.7	60.8	4.1	4.1	6.6		10		96				<0.2		0.7	
						6.6	0.4	201	26.9		7.9		30.0		60.9		4.1		6.5		9		98				<0.2		0.6	
30-Aug-16	Cloudy	Moderate	11:53	7.6	Surface	1.0	0.6	191	28.0	28.0	8.0	8.0	26.7	26.7	94.8	94.8	6.4	6.1	0.5	4.1	4	14	105	100	818343	806467	<0.2	<0.2	1.5	1.2
						1.0	0.6	195	28.0		8.0		26.7		94.8		6.4		0.5		3		104				<0.2		1.4	
					Middle	3.8	0.5	182	27.3	27.3	8.0	8.0	29.8	29.8	86.5	86.5	5.8		2.0		13		94				<0.2		1.0	
						3.8	0.5	199	27.3		8.0		29.8		86.5		5.8		2.2		12		98				<0.2		1.0	
					Bottom	6.6	0.4	184	27.0	27.0	7.9	7.9	30.2	30.2	71.1	71.1	4.8	4.8	9.4		26		98				<0.2		0.9	
						6.6	0.4	201	27.0		7.9		30.2		71.1		4.8		9.8		27		98				<0.2		1.1	

DA: Depth-Averaged
Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher

Expansion of Hong Kong International Airport into a Three-Runway System
Water Quality Monitoring
Water Quality Monitoring Results at IM2 during Mid-Ebb Tide

Date	Weather Condition	Sea Condition	Sampling Time	Water Depth (m)	Sampling Depth (m)		Current Speed (m/s)	Current Direction	Water Temperature (°C) Value	Water Temperature (°C) Average	pH Value	pH Average	Salinity (ppt) Value	Salinity (ppt) Average	DO Saturation (%) Value	DO Saturation (%) Average	Dissolved Oxygen (mg/L) Value	Dissolved Oxygen (mg/L) DA	Turbidity(NTU) Value	Turbidity(NTU) DA	Suspended Solids (mg/L) Value	Suspended Solids (mg/L) DA	Total Alkalinity (ppm) Value	Total Alkalinity (ppm) DA	Coordinate HK Grid (Northing)	Coordinate HK Grid (Easting)	Chromium (µg/L) Value	Chromium (µg/L) DA	Nickel (µg/L) Value	Nickel (µg/L) DA
4-Aug-16	Cloudy	Moderate	14:26	8.3	Surface	1.0	0.6	209	26.7	26.7	7.8	7.8	24.4	24.3	76.9	76.8	5.4	4.9	3.3	10.9	6	13	91	92	818857	806210	<0.2	<0.2	1.4	1.1
						1.0	0.7	218	26.7		7.8		24.3		76.6		5.4		3.2		6		93				<0.2		1.3	
					Middle	4.2	0.6	199	25.3	25.3	7.8	7.8	28.6	28.6	61.9	61.9	4.3		12.9		13		87				<0.2		1.0	
						4.2	0.6	216	25.3		7.8		28.6		61.8		4.3		13.1		12		90				<0.2		1.0	
					Bottom	7.3	0.5	189	25.0	25.0	7.8	7.8	29.3	29.3	62.1	62.2	4.4	4.4	16.5		19		98				<0.2		0.8	
						7.3	0.5	196	25.0		7.8		29.3		62.2		4.4		16.5		20		96				<0.2		0.9	
6-Aug-16	Sunny	Moderate	14:19	8.5	Surface	1.0	0.6	69	28.6	28.6	7.6	7.6	19.7	19.7	72.4	72.3	5.0	4.5	2.0	7.4	5	11	87	94	818839	806212	<0.2	<0.2	4.2	1.9
						1.0	0.7	74	28.6		7.6		19.7		72.2		5.0		2.1		3		83				<0.2		3.3	
					Middle	4.3	0.6	90	25.4	25.4	7.7	7.7	29.1	29.1	55.5	55.5	3.9		7.8		9		96				<0.2		1.0	
						4.3	0.7	97	25.4		7.7		29.1		55.4		3.9		7.7		10		96				<0.2		1.0	
					Bottom	7.5	0.4	155	25.1	25.1	7.7	7.7	30.0	30.1	54.4	54.7	3.8	3.8	12.3		19		103				<0.2		0.8	
						7.5	0.4	168	25.0		7.7		30.1		54.9		3.8		12.4		18		100				<0.2		0.9	
9-Aug-16	Cloudy	Moderate	15:51	8.2	Surface	1.0	0.5	217	28.8	28.6	7.8	7.8	20.3	20.3	80.6	80.7	5.6	5.4	2.4	5.4	4	7	78	84	818869	806186	<0.2	<0.2	2.5	1.8
						1.0	0.5	217	28.4		7.8		20.3		80.8		5.6		2.6		4		80				<0.2		2.6	
					Middle	4.1	0.2	199	25.8	26.1	7.8	7.8	29.3	28.9	74.8	74.9	5.2		4.4		5		84				<0.2		2.2	
						4.1	0.2	207	26.4		7.8		28.4		74.9		5.1		4.1		4		82				<0.2		2.1	
					Bottom	7.2	0.2	171	25.0	25.0	7.8	7.8	30.8	30.9	59.8	61.3	4.2	4.3	9.5		13		89				<0.2		0.7	
						7.2	0.2	180	25.0		7.8		30.9		62.7		4.3		9.3		12		91				<0.2		0.7	
11-Aug-16	Sunny	Moderate	17:51	7.8	Surface	1.0	0.3	222	28.1	28.2	7.8	7.8	18.7	18.7	86.4	86.3	6.1	4.8	1.3	3.5	<2	4	82	93	818852	806192	<0.2	<0.2	3.7	2.0
						1.0	0.4	224	28.2		7.8		18.7		86.2		6.1		1.2		<2		80				<0.2		3.5	
					Middle	3.9	0.2	162	25.0	25.1	7.8	7.8	30.6	30.6	49.0	49.0	3.4		4.1		3		95				<0.2		1.6	
						3.9	0.3	165	25.1		7.8		30.5		49.0		3.4		4.0		3		95				<0.2		1.8	
					Bottom	6.8	0.3	194	24.9	24.9	7.7	7.7	31.1	31.1	42.6	42.6	3.0	3.0	5.2		6		103				<0.2		0.7	
						6.8	0.3	199	24.9		7.7		31.1		42.6		3.0		5.2		6		102				<0.2		0.7	
13-Aug-16	Sunny	Moderate	09:45	8.3	Surface	1.0	0.7	186	27.5	27.4	7.8	7.8	22.6	23.1	64.9	64.9	4.5	3.7	1.8	3.1	3	3	87	92	818833	806189	<0.2	<0.2	2.7	1.9
						1.0	0.7	200	27.3		7.8		23.5		64.9		4.5		1.9		2		86				<0.2		2.9	
					Middle	4.2	0.6	203	25.0	25.0	7.8	7.8	31.3	31.4	39.7	39.7	2.8		2.9		4		90				<0.2		1.5	
						4.2	0.6	220	25.0		7.8		31.4		39.7		2.8		3.0		4		91				<0.2		1.5	
					Bottom	7.3	0.4	190	24.8	24.8	7.8	7.8	32.0	32.0	41.4	41.6	2.9	2.9	4.4		3		99				<0.2		1.4	
						7.3	0.4	194	24.8		7.8		32.0		41.8		2.9		4.4		3		100				<0.2		1.4	
16-Aug-16	Rainy	Moderate	11:59	8.2	Surface	1.0	0.7	212	27.1	27.2	7.8	7.8	22.6	22.6	77.1	77.0	5.4	4.6	1.9	10.0	5	9	76	86	818869	806196	<0.2	<0.2	1.8	1.6
						1.0	0.8	229	27.2		7.8		22.5		76.9		5.4		2.0		5		79				<0.2		1.2	
					Middle	4.1	0.5	195	25.8	25.8	7.8	7.8	28.4	28.4	55.2	55.2	3.8		9.9		8		91				<0.2		1.3	
						4.1	0.5	201	25.7		7.8		28.4		55.2		3.8		10.3		9		92				<0.2		1.4	
					Bottom	7.2	0.5	176	25.5	25.6	7.8	7.8	29.3	29.3	57.4	58.1	4.0	4.1	17.8		13		90				<0.2		1.7	
						7.2	0.5	179	25.6		7.8		29.3		58.8		4.1		17.9		15		89				<0.2		2.0	
20-Aug-16	Sunny	Moderate	13:13	8.6	Surface	1.0	0.4	186	27.9	28.0	7.8	7.8	24.7	24.6	77.6	77.5	5.3	5.2	4.6	11.5	3	15	85	94	818856	806196	<0.2	<0.2	1.3	1.6
						1.0	0.4	186	28.1		7.8		24.4		77.4		5.3		4.9		4		87				<0.2		1.3	
					Middle	4.3	0.5	177	27.1	27.1	7.9	7.9	28.1	28.2	73.9	74.0	5.0		14.3		18		99				<0.2		1.7	
						4.3	0.5	177	27.0		7.9		28.2		74.0		5.0		14.4		18		97				<0.2		1.9	
					Bottom	7.6	0.3	188	27.1	27.2	7.9	7.9	28.9	28.9	75.3	75.3	5.1	5.1	15.3		22		96				<0.2		1.5	
						7.6	0.4	202	27.2		7.9		28.8		75.3		5.1		15.3		22		98				<0.2		1.6	
23-Aug-16	Cloudy	Moderate	15:26	8.8	Surface	1.0	0.3	158	29.0	29.0	7.8	7.8	22.4	22.5	81.8	81.7	5.6	5.3	3.2	7.7	4	9	88	89	818859	806187	<0.2	<0.2	2.0	1.5
						1.0	0.3	159	28.9		7.8		22.5		81.5		5.5		3.2		4		87				<0.2		2.2	
					Middle	4.4	0.4	116	27.6	27.6	7.9	7.9	27.8	27.8	74.1	74.1	5.0		8.6		5		85				<0.2		1.3	
						4.4	0.4	125	27.6		7.9		27.8		74.1		5.0		8.6		6		85				<0.2		1.6	
					Bottom	7.8	0.3	142	27.5	27.6	7.9	7.9	28.0	28.0	74.1	74.2	5.0	5.0	11.4		16		95				<0.2		1.1	
						7.8	0.3	144	27.6		7.9		27.9		74.2		5.0		11.4		16		96				<0.2		1.0	
25-Aug-16	Sunny	Moderate	17:23	8.3	Surface	1.0	0.3	191	29.9	29.9	7.8	7.8	17.7	17.7	93.9	93.9	6.4	5.4	0.8	7.1	3	10	91	94	818849	806209	<0.2	<0.2	3.0	2.0
						1.0	0.3	196	29.9		7.8		17.7		93.8		6.4		0.8		3		87				<0.2		3.2	
					Middle	4.2	0.3	170	27.3	27.3	7.8	7.8	27.9	27.9	64.3	64.3	4.4		8.8		12		100				<0.2		1.6	
						4.2	0.3	173	27.3		7.8		27.9		64.3		4.4		8.8		12		97				<0.2		1.3	
					Bottom	7.3	0.3	191	27.2	27.2	7.8	7.9	28.2	28.2	66.0	66.3	4.5	4.5	11.6		15		93				<0.2		1.2	
						7.3	0.3	197	27.2		7.9		28.2		66.6		4.5		11.7		16		96				<0.2		1.4	
27-Aug-16	Fine	Moderate	08:49	8.4	Surface	1.0	0.6	207	29.5	29.5	7.9	7.9	17.6	17.6	96.3	96.3	6.7	5.4	1.6	5.3	3	6	86	93	818856	806181	<0.2	<0.2	0.9	1.3
						1.0	0.6	222	29.5		7.9		17.6		96.3		6.7		1.6		2		87				<0.2		0.9	
					Middle	4.2	0.5	192	26.8	26.8	7.9	7.9	30.0	30.0	59.5	59.5	4.0		5.9		4		96				<0.2		2.1	
						4.2	0.6	195	26.8		7.9		30.0		59.5		4.0		6.1		4		98				<0.2		2.4	
					Bottom	7.4	0.4	189	26.8	26.8	7.9	7.9	30.1	30.1	60.6	60.6	4.1	4.1	8.3		11		94				<0.2		0.7	
						7.4	0.4	196	26.8		7.9		30.1		60.6		4.1		8.2		11		95				<0.2		0.6	
30-Aug-16	Cloudy	Moderate	12:01	8.6	Surface	1.0	0.7	194	28.1	28.1	8.0	8.0	26.7	26.7	92.8	92.8	6.3	6.1	1.0	4.0	3	9	94	94	818841	806209	<0.2	<0.2	1.4	1.1
						1.0	0.7	196	28.1		8.0		26.7		92.8		6.3		1.1		3		87				<0.2		1.5	
					Middle	4.3	0.6	199	27.2	27.2	8.0	8.0	29.6	29.6	86.7	86.7	5.8		1.7		7		94				<0.2		0.9	
						4.3	0.6	204	27.2		8.0		29.6		86.7		5.8		1.7		8		93				<0.2		0.9	
					Bottom	7.6	0.4	186	27.1	27.1	8.0	8.0	30.3	30.3	73.7	73.8	4.9	5.0	9.3		17		98				<0.2		0.9	
						7.6	0.5	188	27.1		8.0		30.3		73.9		5.0		9.0		18		99				<0.2		1.0	

DA: Depth-Averaged
Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher

Expansion of Hong Kong International Airport into a Three-Runway System
Water Quality Monitoring
Water Quality Monitoring Results at IM3 during Mid-Ebb Tide

Date	Weather Condition	Sea Condition	Sampling Time	Water Depth (m)	Sampling Depth (m)		Current Speed (m/s)	Current Direction	Water Temperature (°C) Value	Water Temperature (°C) Average	pH Value	pH Average	Salinity (ppt) Value	Salinity (ppt) Average	DO Saturation (%) Value	DO Saturation (%) Average	Dissolved Oxygen (mg/L) Value	Dissolved Oxygen (mg/L) DA	Turbidity(NTU) Value	Turbidity(NTU) DA	Suspended Solids (mg/L) Value	Suspended Solids (mg/L) DA	Total Alkalinity (ppm) Value	Total Alkalinity (ppm) DA	Coordinate HK Grid (Northing)	Coordinate HK Grid (Easting)	Chromium (µg/L) Value	Chromium (µg/L) DA	Nickel (µg/L) Value	Nickel (µg/L) DA
4-Aug-16	Cloudy	Moderate	14:39	8.3	Surface	1.0	0.8	218	27.3	27.3	7.8	7.8	22.7	22.7	82.0	81.9	5.7	5.1	1.8	19.9	4	9	82	91	819400	806018	<0.2	<0.2	1.9	1.4
						1.0	0.8	218	27.3		7.8		22.6		81.8		5.7		1.8		3		83				<0.2		1.8	
					Middle	4.2	0.7	200	25.6	25.6	7.8	7.8	27.5	27.5	64.0	64.0	4.5		19.5		10		93				<0.2		1.3	
						4.2	0.8	215	25.6		7.8		27.5		63.9		4.5		19.8		10		96				<0.2		1.2	
					Bottom	7.3	0.6	199	25.0	25.0	7.8	7.8	29.1	29.1	62.5	62.8	4.4	4.4	39.0		13		95				<0.2		1.0	
						7.3	0.7	208	25.0		7.8		29.2		63.1		4.4		37.7		14		97				<0.2		1.2	
6-Aug-16	Sunny	Moderate	14:16	8.6	Surface	1.0	0.5	128	29.3	29.3	7.7	7.7	17.8	17.8	85.0	85.0	5.9	4.9	1.3	9.4	4	10	85	92	819404	806015	<0.2	<0.2	2.8	1.8
						1.0	0.5	128	29.3		7.7		17.8		84.9		5.9		1.4		3		81				<0.2		3.7	
					Middle	4.3	0.6	128	25.7	25.7	7.7	7.7	28.5	28.5	55.9	56.0	3.9		14.7		11		98				<0.2		1.3	
						4.3	0.6	136	25.6		7.7		28.5		56.0		3.9		14.6		14		96				<0.2		1.1	
					Bottom	7.6	0.6	212	25.2	25.2	7.7	7.7	29.8	29.8	55.7	55.9	3.9	3.9	12.3		15		96				<0.2		0.8	
						7.6	0.6	212	25.2		7.7		29.8		56.1		3.9		12.3		15		98				<0.2		0.8	
9-Aug-16	Cloudy	Moderate	15:43	8.0	Surface	1.0	0.4	191	29.4	29.6	8.0	8.0	16.0	16.0	97.2	95.9	6.8	5.3	1.1	5.7	2	7	89	93	819413	806033	<0.2	<0.2	2.7	1.8
						1.0	0.5	199	29.8		8.0		15.9		94.6		6.6		1.1		3		87				<0.2		2.9	
					Middle	4.0	0.2	179	25.9	25.9	7.8	7.8	28.3	28.4	55.5	55.7	3.9		3.3		4		92				<0.2		2.3	
						4.0	0.3	193	25.9		7.8		28.4		55.8		3.9		3.4		4		95				<0.2		1.2	
					Bottom	7.0	0.2	180	24.9	25.2	7.8	7.8	30.6	30.5	55.2	55.1	3.8	3.8	12.8		13		97				<0.2		0.7	
						7.0	0.2	196	25.4		7.8		30.3		54.9		3.8		12.7		14		97				<0.2		0.7	
11-Aug-16	Sunny	Moderate	17:41	8.0	Surface	1.0	0.3	237	28.1	28.1	7.8	7.8	19.1	19.1	84.6	84.5	6.0	5.0	1.1	2.4	3	4	87	93	819410	806019	<0.2	<0.2	3.5	1.9
						1.0	0.3	257	28.0		7.8		19.1		84.4		5.9		1.1		3		87				<0.2		3.2	
					Middle	4.0	0.3	157	25.5	25.5	7.8	7.8	29.1	29.1	57.1	57.2	4.0		2.1		3		95				<0.2		1.5	
						4.0	0.3	160	25.5		7.8		29.0		57.2		4.0		2.2		2		93				<0.2		1.5	
					Bottom	7.0	0.3	154	24.9	24.9	7.8	7.8	31.0	31.0	50.0	50.1	3.5	3.5	4.0		6		100				<0.2		0.5	
						7.0	0.3	158	24.9		7.8		31.0		50.1		3.5		4.0		7		98				<0.2		0.9	
13-Aug-16	Sunny	Moderate	09:58	8.1	Surface	1.0	0.7	196	28.5	28.3	7.8	7.8	17.5	17.9	80.7	80.7	5.7	4.3	1.7	2.8	2	3	81	88	819396	806000	<0.2	<0.2	3.3	2.9
						1.0	0.7	201	28.1		7.8		18.2		80.6		5.7		1.8		3		77				<0.2		3.7	
					Middle	4.1	0.6	197	26.0	25.9	7.7	7.7	28.9	29.0	40.6	40.7	2.8		2.8		2		84				<0.2		2.8	
						4.1	0.6	204	25.8		7.7		29.0		40.7		2.8		2.9		2		84				<0.2		3.0	
					Bottom	7.1	0.4	223	24.4	24.6	7.8	7.8	32.3	32.2	39.9	39.9	2.8	2.8	3.7		3		100				<0.2		2.4	
						7.1	0.4	236	24.8		7.8		32.0		39.8		2.8		3.7		4		102				<0.2		2.4	
16-Aug-16	Rainy	Moderate	12:09	8.2	Surface	1.0	0.7	210	27.1	27.1	7.8	7.8	23.0	23.0	71.6	71.6	5.0	4.4	2.0	6.9	4	7	82	88	819396	806011	<0.2	<0.2	1.7	1.3
						1.0	0.7	219	27.1		7.8		23.0		71.5		5.0		2.0		3		79				<0.2		1.8	
					Middle	4.1	0.7	208	26.1	26.1	7.8	7.8	27.1	27.1	55.0	55.0	3.8		5.7		6		92				<0.2		1.3	
						4.1	0.7	219	26.1		7.8		27.1		54.9		3.8		5.8		6		90				<0.2		1.2	
					Bottom	7.2	0.6	193	25.4	25.3	7.8	7.8	29.3	29.4	49.7	49.9	3.4	3.5	12.8		10		94				<0.2		0.7	
						7.2	0.6	196	25.2		7.8		29.4		50.0		3.5		13.1		11		93				<0.2		0.8	
20-Aug-16	Sunny	Moderate	13:05	8.7	Surface	1.0	0.5	201	27.8	27.6	7.8	7.8	24.9	25.0	79.1	79.4	5.4	5.2	4.6	17.3	4	20	90	95	819413	806032	<0.2	<0.2	2.2	1.8
						1.0	0.5	220	27.3		7.8		25.1		79.6		5.5		4.8		4		87				<0.2		1.9	
					Middle	4.4	0.6	176	27.1	27.1	7.9	7.9	28.3	28.3	73.6	73.6	5.0		21.3		27		99				<0.2		1.6	
						4.4	0.6	190	27.1		7.9		28.3		73.6		5.0		21.3		28		97				<0.2		1.7	
					Bottom	7.7	0.5	176	27.2	27.0	7.9	7.9	28.5	28.7	74.9	75.3	5.1	5.2	26.1		26		98				<0.2		1.8	
						7.7	0.5	185	26.7		7.9		28.8		75.7		5.2		25.9		28		97				<0.2		1.8	
23-Aug-16	Cloudy	Moderate	15:16	9.1	Surface	1.0	0.3	215	28.9	28.9	7.8	7.8	22.1	22.1	82.0	82.0	5.6	5.3	3.5	8.9	5	11	81	89	819412	806020	<0.2	<0.2	1.9	1.4
						1.0	0.4	230	28.9		7.8		22.0		82.0		5.6		3.7		6		80				<0.2		1.8	
					Middle	4.6	0.3	134	27.7	27.7	7.9	7.9	27.3	27.3	73.9	73.9	5.0		9.9		6		92				<0.2		1.4	
						4.6	0.3	144	27.6		7.9		27.3		73.9		5.0		9.9		7		90				<0.2		1.0	
					Bottom	8.1	0.3	124	27.6	27.6	7.9	7.9	27.8	27.8	74.4	74.5	5.0	5.0	13.1		21		96				<0.2		0.8	
						8.1	0.3	129	27.6		7.9		27.8		74.5		5.0		13.3		21		92				<0.2		1.2	
25-Aug-16	Sunny	Moderate	17:14	8.7	Surface	1.0	0.3	192	30.0	30.1	7.8	7.8	17.4	17.4	91.0	91.0	6.2	5.3	0.9	6.6	3	8	97	96	819401	806014	<0.2	<0.2	2.9	2.4
						1.0	0.3	198	30.1		7.8		17.4		90.9		6.2		0.9		2		97				<0.2		2.6	
					Middle	4.4	0.3	179	27.4	27.4	7.8	7.8	27.3	27.3	62.6	62.6	4.3		9.4		4		82				<0.2		2.8	
						4.4	0.3	181	27.4		7.8		27.3		62.6		4.3		9.4		5		83				<0.2		3.1	
					Bottom	7.7	0.3	163	27.3	27.3	7.8	7.8	27.8	27.8	64.5	64.8	4.4	4.4	9.5		17		108				<0.2		1.3	
						7.7	0.3	177	27.3		7.8		27.8		65.0		4.4		9.4		16		107				<0.2		1.4	
27-Aug-16	Fine	Moderate	08:59	8.2	Surface	1.0	0.6	223	29.2	29.2	7.8	7.8	18.0	18.0	82.2	82.1	5.7	4.9	1.5	6.1	2	6	79	90	819391	806019	<0.2	<0.2	2.0	1.4
						1.0	0.6	228	29.2		7.8		18.0		82.0		5.7		1.6		3		81				<0.2		2.1	
					Middle	4.1	0.5	196	26.9	26.9	7.9	7.9	29.5	29.6	59.2	59.3	4.0		5.1		5		93				<0.2		0.8	
						4.1	0.5	214	26.9		7.9		29.6		59.3		4.0		5.0		5		94				<0.2		1.7	
					Bottom	7.2	0.4	195	26.8	26.8	7.9	7.9	30.1	30.1	58.5	58.7	3.9	4.0	11.7		10		96				<0.2		0.8	
						7.2	0.4	196	26.8		7.9		30.1		58.9		4.0		11.4		11		96				<0.2		0.9	
30-Aug-16	Cloudy	Moderate	12:12	8.3	Surface	1.0	0.7	201	27.9	27.9	8.0	8.0	27.3	27.3	90.4	90.4	6.1	5.6	1.3	4.6	4	9	93	95	819420	806025	<0.2	<0.2	1.4	1.3
						1.0	0.7	219	27.9		8.0		27.2		90.4		6.1		1.2		4		91				<0.2		1.6	
					Middle	4.2	0.5	205	27.0	27.0	8.0	8.0	30.2	30.2	74.6	74.6	5.0		2.8		8		98				<0.2		2.0	
						4.2	0.6	211	27.0		8.0		30.2		74.6		5.0		2.9		6		96				<0.2		1.0	
					Bottom	7.3	0.5	208	26.9	26.9	7.9	7.9	30.5	30.5	67.7	67.9	4.5	4.6	9.5		16		97				<0.2		0.9	
						7.3	0.5	209	26.9		7.9		30.5		68.1		4.6		9.8		17		96				<0.2		1.1	

DA: Depth-Averaged
Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher

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Water Quality Monitoring Results at IM4 during Mid-Ebb Tide

Date	Weather Condition	Sea Condition	Sampling Time	Water Depth (m)	Sampling Depth (m)		Current Speed (m/s)	Current Direction	Water Temperature (°C) Value	Water Temperature (°C) Average	pH Value	pH Average	Salinity (ppt) Value	Salinity (ppt) Average	DO Saturation (%) Value	DO Saturation (%) Average	Dissolved Oxygen (mg/L) Value	Dissolved Oxygen (mg/L) DA	Turbidity(NTU) Value	Turbidity(NTU) DA	Suspended Solids (mg/L) Value	Suspended Solids (mg/L) DA	Total Alkalinity (ppm) Value	Total Alkalinity (ppm) DA	Coordinate HK Grid (Northing)	Coordinate HK Grid (Easting)	Chromium (µg/L) Value	Chromium (µg/L) DA	Nickel (µg/L) Value	Nickel (µg/L) DA
4-Aug-16	Cloudy	Moderate	14:54	7.9	Surface	1.0	0.8	210	27.0	27.0	7.8	7.8	23.5	23.5	80.2	80.2	5.6	5.4	2.9	15.8	5	6	86	88	819581	805022	<0.2	<0.2	1.7	1.7
						1.0	0.8	225	27.0		7.8		23.5		80.1		5.6		2.9		6		84				<0.2		1.8	
					Middle	4.0	0.8	209	26.7	26.7	7.8	7.8	24.6	24.6	75.1	75.1	5.3		4.6		7		91				<0.2		1.6	
						4.0	0.9	218	26.7		7.8		24.7		75.0		5.2		5.0		8		87				<0.2		1.5	
					Bottom	6.9	0.6	196	25.1	25.1	7.8	7.8	29.2	29.2	64.2	64.5	4.5	4.5	40.1		6		90				<0.2		1.7	
						6.9	0.6	208	25.1		7.8		29.2		64.8		4.5		39.0		6		89				<0.2		1.7	
6-Aug-16	Sunny	Moderate	14:01	8.3	Surface	1.0	0.4	90	28.7	28.7	7.7	7.7	18.5	18.5	84.2	84.2	5.9	4.9	1.3	12.7	4	17	90	99	819550	805030	<0.2	<0.2	2.6	1.4
						1.0	0.4	98	28.7		7.7		18.5		84.2		5.9		1.4		5		87				<0.2		2.6	
					Middle	4.2	0.6	69	25.4	25.4	7.7	7.7	29.0	29.0	55.0	55.0	3.8		15.4		20		107				<0.2		0.8	
						4.2	0.6	74	25.4		7.7		29.0		55.0		3.8		15.5		21		109				<0.2		1.0	
					Bottom	7.3	0.5	55	25.2	25.2	7.7	7.7	29.7	29.7	55.9	56.4	3.9	4.0	21.5		26		98				<0.2		0.9	
						7.3	0.6	58	25.2		7.7		29.6		56.8		4.0		21.3		26		102				<0.2		0.7	
9-Aug-16	Cloudy	Moderate	15:34	6.2	Surface	1.0	0.5	184	29.9	29.7	8.0	8.0	15.3	15.4	100.8	100.8	7.0	6.4	1.3	7.5	3	9	79	87	819566	805038	<0.2	<0.2	3.2	1.8
						1.0	0.6	185	29.5		8.0		15.4		100.8		7.1		1.4		3		81				<0.2		3.0	
					Middle	3.1	0.3	185	26.9	27.5	7.8	7.8	24.7	23.8	80.7	81.6	5.6		2.6		9		87				<0.2		1.5	
						3.1	0.3	200	28.1		7.8		22.8		82.4		5.7		2.5		8		90				<0.2		1.5	
					Bottom	5.2	0.2	199	24.8	24.8	7.8	7.8	30.8	30.8	55.0	55.9	3.8	3.9	18.6		14		92				<0.2		0.8	
						5.2	0.2	203	24.8		7.8		30.8		56.8		4.0		18.7		15		92				<0.2		0.7	
11-Aug-16	Sunny	Moderate	17:32	7.7	Surface	1.0	0.3	159	28.1	28.1	7.8	7.8	19.3	19.3	86.1	85.9	6.0	4.8	1.4	4.2	2	4	84	95	819589	805054	<0.2	<0.2	3.0	1.8
						1.0	0.3	170	28.1		7.8		19.3		85.7		6.0		1.4		3		83				<0.2		3.3	
					Middle	3.9	0.3	145	25.1	25.1	7.8	7.8	30.3	30.4	50.1	50.1	3.5		4.9		3		99				<0.2		1.4	
						3.9	0.3	146	25.1		7.8		30.4		50.1		3.5		5.0		4		98				<0.2		1.6	
					Bottom	6.7	0.3	163	24.7	24.7	7.8	7.8	31.7	31.7	45.7	46.1	3.2	3.2	6.5		7		103				<0.2		0.6	
						6.7	0.3	167	24.7		7.8		31.7		46.5		3.2		6.2		7		102				<0.2		0.7	
13-Aug-16	Fine	Moderate	10:13	7.6	Surface	1.0	0.5	176	28.7	28.7	7.8	7.8	15.2	15.2	77.1	77.0	5.5	4.6	1.7	2.8	2	4	78	88	819569	805025	<0.2	<0.2	4.2	3.0
						1.0	0.5	183	28.7		7.8		15.2		76.8		5.5		1.8		<2		76				<0.2		4.5	
					Middle	3.8	0.6	180	27.0	26.8	7.7	7.7	25.9	26.1	54.3	54.4	3.7		1.3		2		87				<0.2		2.7	
						3.8	0.6	195	26.6		7.7		26.2		54.4		3.8		1.4		<2		90				<0.2		2.9	
					Bottom	6.6	0.4	210	24.9	24.9	7.7	7.7	31.5	31.5	38.4	38.5	2.7	2.7	5.2		7		97				<0.2		1.5	
						6.6	0.4	214	24.9		7.7		31.5		38.5		2.7		5.2		7		97				<0.2		1.9	
16-Aug-16	Cloudy	Moderate	12:17	7.6	Surface	1.0	0.7	206	27.3	27.3	7.8	7.8	22.0	22.0	73.8	73.8	5.2	4.7	1.8	11.4	3	11	89	92	819573	805020	<0.2	<0.2	1.7	1.1
						1.0	0.8	208	27.3		7.8		22.0		73.7		5.2		1.9		3		89				<0.2		1.7	
					Middle	3.8	0.6	198	26.2	26.2	7.8	7.8	26.7	26.8	59.3	59.3	4.1		6.0		6		93				<0.2		0.9	
						3.8	0.7	201	26.1		7.8		26.8		59.2		4.1		6.4		6		95				<0.2		0.8	
					Bottom	6.6	0.5	197	25.3	25.5	7.8	7.8	29.3	29.2	54.5	54.5	3.8	3.8	26.1		24		93				<0.2		0.6	
						6.6	0.5	202	25.6		7.8		29.1		54.4		3.8		26.2		24		94				<0.2		0.8	
20-Aug-16	Sunny	Moderate	12:55	8.6	Surface	1.0	0.4	206	28.4	28.7	7.8	7.8	25.0	24.9	82.7	82.4	5.6	5.4	3.4	28.5	4	24	89	98	819580	805025	<0.2	<0.2	2.0	1.9
						1.0	0.4	216	28.9		7.8		24.7		82.0		5.5		3.2		4		90				<0.2		2.2	
					Middle	4.3	0.5	184	27.6	27.6	7.9	7.9	28.2	28.3	78.6	78.7	5.3		9.2		9		101				<0.2		2.3	
						4.3	0.5	193	27.5		7.9		28.3		78.8		5.3		9.2		8		102				<0.2		2.1	
					Bottom	7.6	0.5	163	26.6	26.8	7.9	7.9	29.3	29.3	76.8	76.7	5.2	5.2	73.4		62		101				<0.2		1.3	
						7.6	0.5	177	26.9		7.9		29.2		76.6		5.2		72.3		58		102				<0.2		1.2	
23-Aug-16	Cloudy	Moderate	15:08	8.6	Surface	1.0	0.3	154	29.7	29.7	7.8	7.8	20.1	20.1	84.4	84.3	5.7	5.3	3.4	11.6	3	14	86	92	819589	805033	<0.2	<0.2	4.0	2.8
						1.0	0.4	166	29.7		7.8		20.1		84.1		5.7		3.6		3		83				<0.2		3.6	
					Middle	4.3	0.4	155	27.7	27.7	7.8	7.8	27.0	27.0	72.1	72.1	4.9		14.2		20		96				<0.2		2.5	
						4.3	0.4	159	27.7		7.8		27.0		72.1		4.9		14.2		20		95				<0.2		2.5	
					Bottom	7.6	0.3	154	27.4	27.4	7.9	7.9	29.0	29.0	73.3	73.3	4.9	4.9	17.0		20		97				<0.2		2.3	
						7.6	0.3	167	27.3		7.9		29.0		73.3		4.9		17.2		19		96				<0.2		1.6	
25-Aug-16	Sunny	Moderate	17:05	8.2	Surface	1.0	0.3	187	30.1	30.1	7.8	7.8	17.1	17.1	90.7	90.7	6.2	5.3	1.6	6.7	<2	6	84	91	819589	805026	<0.2	<0.2	3.4	2.2
						1.0	0.4	204	30.1		7.8		17.0		90.6		6.2		1.6		2		83				<0.2		3.3	
					Middle	4.1	0.4	139	27.4	27.4	7.8	7.8	26.9	26.9	65.2	65.2	4.4		6.0		4		88				<0.2		1.8	
						4.1	0.4	150	27.4		7.8		26.9		65.2		4.4		6.0		4		90				<0.2		1.9	
					Bottom	7.2	0.3	164	27.2	27.2	7.8	7.8	28.4	28.4	64.4	64.6	4.4	4.4	12.5		12		99				<0.2		1.5	
						7.2	0.3	167	27.2		7.8		28.4		64.8		4.4		12.4		12		99				<0.2		1.4	
27-Aug-16	Fine	Moderate	09:07	8.0	Surface	1.0	0.6	203	29.1	29.1	7.8	7.8	18.6	18.6	75.5	75.5	5.2	4.9	1.2	6.3	<2	9	78	87	819569	805021	<0.2	<0.2	2.5	1.5
						1.0	0.6	214	29.1		7.8		18.5		75.4		5.2		1.3		<2		80				<0.2		2.4	
					Middle	4.0	0.6	182	27.3	27.4	7.9	7.9	28.9	28.5	67.0	67.4	4.5		2.9		2		85				<0.2		1.4	
						4.0	0.7	186	27.5		7.9		28.0		67.7		4.6		3.0		2		86				<0.2		1.4	
					Bottom	7.0	0.5	191	26.8	26.8	7.9	7.9	30.0	30.0	59.4	59.5	4.0	4.0	14.7		23		97				<0.2		0.7	
						7.0	0.5	206	26.8		7.9		30.0		59.5		4.0		14.5		24		96				<0.2		0.8	
30-Aug-16	Cloudy	Moderate	12:21	7.9	Surface	1.0	0.7	197	27.8	27.8	7.9	7.9	27.0	27.0	87.7	87.7	5.9	5.3	1.5	6.0	4	8	92	98	819552	805052	<0.2	<0.2	1.4	1.2
						1.0	0.7	216	27.8		7.9		27.0		87.7		5.9		1.5		4		93				<0.2		1.5	
					Middle	4.0	0.6	204	26.9	26.9	7.9	7.9	30.4	30.4	68.3	68.3	4.6		5.8		10		100				<0.2		0.9	
						4.0	0.7	222	26.9		7.9		30.4		68.3		4.6		5.9		10		100				<0.2		1.1	
					Bottom	6.9	0.4	208	26.9	26.9	7.9	7.9	30.6	30.6	67.9	67.9	4.6	4.6	10.6		11		101				<0.2		1.0	
						6.9	0.5	219	26.9		7.9		30.6		67.9		4.6		10.6		10		100				<0.2		1.1	

DA: Depth-Averaged
Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher

Expansion of Hong Kong International Airport into a Three-Runway System
Water Quality Monitoring
Water Quality Monitoring Results at IM5 during Mid-Ebb Tide

Date	Weather Condition	Sea Condition	Sampling Time	Water Depth (m)	Sampling Depth (m)		Current Speed (m/s)	Current Direction	Water Temperature (°C) Value	Water Temperature (°C) Average	pH Value	pH Average	Salinity (ppt) Value	Salinity (ppt) Average	DO Saturation (%) Value	DO Saturation (%) Average	Dissolved Oxygen (mg/L) Value	Dissolved Oxygen (mg/L) DA	Turbidity(NTU) Value	Turbidity(NTU) DA	Suspended Solids (mg/L) Value	Suspended Solids (mg/L) DA	Total Alkalinity (ppm) Value	Total Alkalinity (ppm) DA	Coordinate HK Grid (Northing)	Coordinate HK Grid (Easting)	Chromium (µg/L) Value	Chromium (µg/L) DA	Nickel (µg/L) Value	Nickel (µg/L) DA
4-Aug-16	Cloudy	Moderate	15:08	6.6	Surface	1.0	0.9	195	27.3	27.3	7.8	7.8	22.5	22.4	79.4	79.3	5.6	5.1	4.3	15.3	5	12	92	91	820568	804919	<0.2	<0.2	2.0	1.7
						1.0	1.0	212	27.3		7.8		22.4		79.1		5.5		4.3		6		87				<0.2		2.1	
					Middle	3.3	0.7	203	25.5	25.5	7.8	7.8	27.8	27.7	66.5	66.6	4.7		15.6		6		87				<0.2		1.9	
						3.3	0.8	212	25.6		7.8		27.7		66.6		4.7		15.1		5		87				<0.2		2.4	
					Bottom	5.6	0.6	213	25.4	25.4	7.8	7.8	28.3	28.3	66.5	66.7	4.7	4.7	25.9		24		96				<0.2		1.0	
						5.6	0.6	226	25.4		7.8		28.3		66.8		4.7		26.4		26		96				<0.2		0.9	
6-Aug-16	Sunny	Moderate	13:54	7.2	Surface	1.0	0.5	250	28.7	28.8	7.7	7.7	18.0	18.0	82.2	82.2	5.8	4.9	1.8	13.6	4	14	90	98	820561	804929	<0.2	<0.2	2.6	1.4
						1.0	0.5	270	28.8		7.7		17.9		82.2		5.8		1.7		3		92				<0.2		2.2	
					Middle	3.6	0.5	244	25.7	25.7	7.7	7.7	28.2	28.3	56.4	56.4	3.9		11.8		9		100				<0.2		0.8	
						3.6	0.5	264	25.7		7.7		28.3		56.4		3.9		11.8		9		102				<0.2		0.9	
					Bottom	6.2	0.4	246	25.5	25.5	7.7	7.7	28.9	29.0	57.3	57.6	4.0	4.0	27.1		30		102				<0.2		0.8	
						6.2	0.4	264	25.4		7.7		29.0		57.8		4.0		27.6		28		103				<0.2		0.8	
9-Aug-16	Cloudy	Moderate	15:25	6.6	Surface	1.0	0.5	191	29.4	29.5	7.8	7.8	18.1	18.1	87.8	87.6	6.1	5.5	1.3	6.9	2	7	81	87	820581	804931	<0.2	<0.2	3.0	1.8
						1.0	0.5	204	29.5		7.8		18.0		87.4		6.0		1.4		3		82				<0.2		3.1	
					Middle	3.3	0.4	179	25.5	25.7	7.7	7.8	29.1	29.0	68.0	70.2	4.7		4.3		5		87				<0.2		1.3	
						3.3	0.4	179	25.8		7.8		28.9		72.3		5.0		4.0		6		90				<0.2		1.2	
					Bottom	5.6	0.3	179	25.6	25.7	7.7	7.7	29.4	29.4	64.9	67.3	4.5	4.7	15.7		12		92				<0.2		1.0	
						5.6	0.3	185	25.7		7.7		29.4		69.7		4.8		14.4		12		92				<0.2		0.9	
11-Aug-16	Sunny	Moderate	17:23	6.4	Surface	1.0	0.3	159	27.0	27.0	7.8	7.8	24.7	24.7	73.9	74.0	5.1	4.4	1.4	2.8	3	4	96	93	820546	804910	<0.2	<0.2	1.8	1.5
						1.0	0.3	162	27.0		7.8		24.7		74.0		5.1		1.5		2		94				<0.2		1.6	
					Middle	3.2	0.3	136	25.8	25.8	7.8	7.8	28.7	28.8	53.8	53.8	3.7		3.8		4		91				<0.2		1.1	
						3.2	0.3	136	25.7		7.8		28.8		53.7		3.7		3.8		4		92				<0.2		1.2	
					Bottom	5.4	0.2	195	25.1	25.3	7.8	7.8	30.2	30.0	54.8	54.7	3.8	3.8	3.2		4		96				<0.2		1.2	
						5.4	0.3	200	25.5		7.8		29.8		54.6		3.8		3.0		6		91				<0.2		2.0	
13-Aug-16	Sunny	Moderate	10:27	6.6	Surface	1.0	0.3	141	29.1	29.1	7.9	7.9	14.4	14.5	91.8	91.7	6.5	5.8	1.9	2.0	<2	2	71	80	820545	804916	<0.2	<0.2	2.9	3.5
						1.0	0.3	151	29.0		7.9		14.5		91.5		6.5		1.8		<2		69				<0.2		3.1	
					Middle	3.3	0.3	156	27.8	27.8	7.8	7.8	21.8	21.8	71.7	71.8	5.0		1.0		<2		80				<0.2		3.5	
						3.3	0.4	168	27.8		7.8		21.8		71.8		5.0		1.1		2		79				<0.2		3.7	
					Bottom	5.6	0.3	216	25.3	25.5	7.7	7.7	29.4	29.3	43.4	43.5	3.0	3.0	3.0		<2		90				<0.2		4.0	
						5.6	0.3	225	25.7		7.7		29.1		43.5		3.0		2.9		<2		89				<0.2		4.0	
16-Aug-16	Cloudy	Moderate	12:28	6.5	Surface	1.0	0.9	198	27.7	27.7	7.8	7.8	18.8	18.8	76.8	76.6	5.4	4.5	2.3	7.9	4	5	86	89	820573	804924	<0.2	<0.2	2.4	2.6
						1.0	0.9	199	27.7		7.8		18.8		76.3		5.4		2.2		3		85				<0.2		2.5	
					Middle	3.3	0.6	205	25.6	25.8	7.8	7.8	28.0	27.9	50.2	50.1	3.5		8.5		4		95				<0.2		2.2	
						3.3	0.6	210	26.0		7.8		27.7		50.0		3.5		8.4		4		93				<0.2		3.2	
					Bottom	5.5	0.4	217	25.6	25.5	7.8	7.8	29.0	29.1	54.9	55.4	3.8	3.9	13.0		8		87				<0.2		2.9	
						5.5	0.4	228	25.3		7.8		29.2		55.9		3.9		12.7		9		90				<0.2		2.3	
20-Aug-16	Sunny	Moderate	12:47	7.4	Surface	1.0	0.4	182	27.4	27.4	7.8	7.8	26.5	26.5	77.7	77.9	5.3	5.4	9.1	17.0	7	15	87	92	820563	804940	<0.2	<0.2	1.7	1.6
						1.0	0.4	187	27.4		7.8		26.5		78.1		5.3		9.1		7		90				<0.2		1.8	
					Middle	3.7	0.4	124	27.4	27.5	7.9	7.9	28.7	28.7	81.4	81.5	5.5		6.1		7		91				<0.2		1.3	
						3.7	0.4	124	27.5		7.9		28.6		81.5		5.5		6.6		7		91				<0.2		1.4	
					Bottom	6.4	0.4	144	26.9	26.9	7.9	7.9	29.4	29.4	78.8	79.0	5.3	5.3	35.0		30		97				<0.2		1.7	
						6.4	0.4	151	26.9		7.9		29.4		79.1		5.3		36.2		32		96				<0.2		1.4	
23-Aug-16	Cloudy	Moderate	14:57	7.3	Surface	1.0	0.3	151	29.8	29.8	7.8	7.8	19.8	19.8	84.0	83.9	5.7	5.3	3.7	13.9	4	20	83	96	820563	804926	<0.2	<0.2	2.4	1.3
						1.0	0.3	160	29.7		7.8		19.8		83.8		5.7		3.9		6		83				<0.2		1.6	
					Middle	3.7	0.3	151	27.7	27.7	7.8	7.8	26.3	26.3	72.5	72.5	4.9		16.7		25		98				<0.2		0.9	
						3.7	0.3	164	27.7		7.8		26.3		72.5		4.9		16.8		27		94				<0.2		0.8	
					Bottom	6.3	0.3	167	27.7	27.7	7.8	7.8	27.1	27.1	72.4	72.6	4.9	4.9	20.9		27		109				<0.2		1.2	
						6.3	0.3	178	27.7		7.8		27.1		72.7		4.9		21.1		29		109				<0.2		0.7	
25-Aug-16	Sunny	Moderate	16:57	7.4	Surface	1.0	0.3	191	30.9	30.9	7.8	7.8	16.3	16.3	93.1	93.1	6.3	5.5	1.6	5.2	<2	9	82	92	820550	804915	<0.2	<0.2	3.1	2.0
						1.0	0.3	198	30.9		7.8		16.3		93.1		6.3		1.6		<2		83				<0.2		3.4	
					Middle	3.7	0.3	136	27.9	27.9	7.8	7.8	24.6	24.7	68.3	68.3	4.7		3.0		9		97				<0.2		1.5	
						3.7	0.3	145	27.9		7.8		24.7		68.3		4.7		3.1		8		96				<0.2		1.5	
					Bottom	6.4	0.3	159	27.3	27.3	7.8	7.8	28.0	28.0	63.4	63.8	4.3	4.3	11.0		16		98				<0.2		1.4	
						6.4	0.3	160	27.3		7.8		28.0		64.1		4.3		11.0		14		96				<0.2		1.3	
27-Aug-16	Fine	Moderate	09:17	6.7	Surface	1.0	0.6	190	29.3	29.3	7.8	7.8	17.5	17.6	79.0	78.9	5.5	5.1	1.0	6.8	<2	11	84	89	820567	804926	<0.2	<0.2	2.4	1.9
						1.0	0.6	202	29.2		7.8		17.6		78.7		5.5		1.0		<2		83				<0.2		2.5	
					Middle	3.4	0.5	199	28.0	28.0	7.8	7.8	24.0	24.0	66.8	66.7	4.6		3.1		2		84				<0.2		2.3	
						3.4	0.6	199	28.0		7.8		24.0		66.5		4.6		3.2		<2		85				<0.2		2.1	
					Bottom	5.7	0.4	193	26.9	26.9	7.9	7.9	29.5	29.5	60.0	60.1	4.1	4.1	16.2		29		98				<0.2		0.9	
						5.7	0.4	194	26.9		7.9		29.5		60.2		4.1		16.0		30		97				<0.2		0.9	
30-Aug-16	Cloudy	Moderate	12:32	6.8	Surface	1.0	0.8	193	27.9	27.9	7.9	7.9	27.3	27.3	92.0	92.0	6.2	5.5	1.6	12.3	5	20	101	99	820555	804928	<0.2	<0.2	1.4	1.3
						1.0	0.9	207	27.9		7.9		27.3		91.9		6.2		1.7		5		99				<0.2		1.5	
					Middle	3.4	0.6	194	26.9	26.9	7.9	7.9	29.8	29.8	70.7	70.7	4.8		13.4		16		97				<0.2		1.4	
						3.4	0.6	206	26.9		7.9		29.8		70.6		4.8		13.6		16		97				<0.2		1.1	
					Bottom	5.8	0.5	196	26.9	26.9	7.9	7.9	30.1	30.1	69.7	69.9	4.7	4.7	22.1		38		100				<0.2		1.5	
						5.8	0.5	207	26.9		7.9		30.1		70.0		4.7		21.6		40		97				<0.2		1.1	

DA: Depth-Averaged
Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher

Expansion of Hong Kong International Airport into a Three-Runway System
Water Quality Monitoring
Water Quality Monitoring Results at IM6 during Mid-Ebb Tide

Date	Weather Condition	Sea Condition	Sampling Time	Water Depth (m)	Sampling Depth (m)		Current Speed (m/s)	Current Direction	Water Temperature (°C) Value	Water Temperature (°C) Average	pH Value	pH Average	Salinity (ppt) Value	Salinity (ppt) Average	DO Saturation (%) Value	DO Saturation (%) Average	Dissolved Oxygen (mg/L) Value	Dissolved Oxygen (mg/L) DA	Turbidity(NTU) Value	Turbidity(NTU) DA	Suspended Solids (mg/L) Value	Suspended Solids (mg/L) DA	Total Alkalinity (ppm) Value	Total Alkalinity (ppm) DA	Coordinate HK Grid (Northing)	Coordinate HK Grid (Easting)	Chromium (µg/L) Value	Chromium (µg/L) DA	Nickel (µg/L) Value	Nickel (µg/L) DA
4-Aug-16	Cloudy	Moderate	15:23	6.3	Surface	1.0	0.8	215	26.9	26.9	7.7	7.7	23.4	23.4	77.2	77.2	5.4	5.4	5.0	7.1	6	8	87	85	821053	805822	<0.2	<0.2	1.8	1.7
						1.0	0.8	230	26.9		7.7		23.4		77.1		5.4		4.9		7		85				<0.2		1.8	
					Middle	3.2	0.8	210	26.8	26.8	7.7	7.7	23.6	23.6	76.5	76.5	5.4		5.5		8		85				<0.2		1.8	
						3.2	0.8	212	26.8		7.7		23.6		76.5		5.4		5.6		8		81				<0.2		1.8	
					Bottom	5.3	0.8	204	26.5	26.5	7.8	7.8	24.5	24.5	74.8	74.9	5.2	5.3	10.5		10		85				<0.2		1.6	
						5.3	0.9	205	26.5		7.8		24.4		75.0		5.3		11.0		10		87				<0.2		1.6	
6-Aug-16	Sunny	Moderate	13:45	7.2	Surface	1.0	0.4	294	28.7	28.8	7.7	7.7	18.3	18.3	82.6	82.7	5.8	5.4	2.1	10.5	2	8	89	92	821045	805844	<0.2	<0.2	2.7	1.8
						1.0	0.4	318	28.8		7.7		18.2		82.7		5.8		2.0		2		87				<0.2		2.6	
					Middle	3.6	0.4	298	26.6	26.8	7.7	7.7	25.5	25.0	70.5	70.9	4.9		3.8		2		90				<0.2		1.7	
						3.6	0.4	301	26.9		7.7		24.5		71.2		5.0		3.9		3		87				<0.2		1.8	
					Bottom	6.2	0.4	298	25.9	25.9	7.7	7.7	28.0	28.0	59.0	59.3	4.1	4.1	26.2		19		99				<0.2		0.8	
						6.2	0.4	309	25.9		7.7		28.0		59.5		4.1		25.2		19		100				<0.2		1.0	
9-Aug-16	Cloudy	Moderate	15:15	6.5	Surface	1.0	0.2	170	29.6	29.5	7.9	7.9	17.0	17.1	91.7	91.8	6.4	6.2	0.8	5.2	4	8	82	86	821069	805827	<0.2	<0.2	2.9	2.3
						1.0	0.2	177	29.4		7.9		17.1		91.8		6.4		0.9		3		80				<0.2		3.1	
					Middle	3.3	0.4	172	28.9	28.9	7.8	7.8	19.2	19.1	85.3	85.3	5.9		0.7		4		85				<0.2		2.9	
						3.3	0.4	175	28.9		7.8		19.0		85.2		5.9		0.7		2		87				<0.2		2.6	
					Bottom	5.5	0.2	144	25.7	25.7	7.7	7.7	29.4	29.4	54.2	55.1	3.8	3.9	13.9		16		92				<0.2		1.0	
						5.5	0.3	144	25.7		7.7		29.3		56.0		3.9		13.9		16		91				<0.2		1.1	
11-Aug-16	Sunny	Moderate	17:13	6.3	Surface	1.0	0.4	271	28.5	28.4	7.8	7.8	19.0	19.1	81.9	82.0	5.7	5.1	1.1	1.7	3	3	84	90	821054	805828	<0.2	<0.2	3.5	3.3
						1.0	0.4	275	28.3		7.8		19.1		82.1		5.8		1.2		3		85				<0.2		3.4	
					Middle	3.2	0.4	213	26.4	26.7	7.8	7.8	26.0	25.7	64.9	64.6	4.5		1.9		3		87				<0.2		2.1	
						3.2	0.4	213	26.9		7.8		25.4		64.3		4.5		1.9		2		85				<0.2		2.8	
					Bottom	5.3	0.3	157	25.9	25.9	7.8	7.8	29.0	29.0	55.3	55.7	3.8	3.9	2.2		2		100				<0.2		4.4	
						5.3	0.3	157	25.9		7.8		28.9		56.0		3.9		2.0		2		97				<0.2		3.6	
13-Aug-16	Fine	Moderate	10:42	6.2	Surface	1.0	0.4	193	29.0	29.0	7.8	7.8	15.1	15.1	89.9	89.8	6.4	5.9	1.7	2.2	<2	2	71	81	821072	805839	<0.2	<0.2	3.7	3.3
						1.0	0.4	198	29.0		7.8		15.1		89.7		6.4		1.6		<2		73				<0.2		3.4	
					Middle	3.1	0.4	188	28.2	28.2	7.7	7.7	19.0	19.0	74.8	75.2	5.3		1.5		<2		77				<0.2		3.5	
						3.1	0.5	198	28.2		7.7		19.0		75.5		5.3		1.5		<2		75				<0.2		3.8	
					Bottom	5.2	0.3	211	25.4	25.3	7.7	7.7	30.1	30.2	41.1	41.4	2.8	2.9	3.3		2		95				<0.2		2.3	
						5.2	0.3	214	25.1		7.7		30.3		41.7		2.9		3.3		3		97				<0.2		2.8	
16-Aug-16	Cloudy	Moderate	12:39	6.3	Surface	1.0	0.6	209	27.3	27.3	7.8	7.8	21.5	21.6	71.7	71.7	5.0	4.3	2.3	8.7	4	7	87	92	821062	805826	<0.2	<0.2	3.4	3.2
						1.0	0.7	226	27.3		7.8		21.7		71.7		5.0		2.3		3		87				<0.2		3.1	
					Middle	3.2	0.5	221	26.1	26.1	7.8	7.8	27.1	27.1	49.8	49.8	3.5		8.7		9		98				<0.2		3.2	
						3.2	0.5	233	26.1		7.8		27.1		49.8		3.5		8.8		9		95				<0.2		3.4	
					Bottom	5.3	0.4	229	26.0	26.0	7.7	7.7	27.5	27.6	51.2	51.3	3.6	3.6	15.1		8		89				<0.2		3.1	
						5.3	0.4	235	25.9		7.7		27.6		51.4		3.6		15.2		8		93				<0.2		3.1	
20-Aug-16	Sunny	Moderate	12:40	7.4	Surface	1.0	0.5	174	29.0	29.0	7.7	7.7	22.1	22.1	79.6	79.6	5.4	5.2	4.4	38.0	5	24	87	94	821076	805809	<0.2	<0.2	3.0	2.1
						1.0	0.5	185	29.0		7.7		22.1		79.5		5.4		4.7		6		87				<0.2		2.8	
					Middle	3.7	0.5	143	26.8	26.8	7.8	7.8	28.2	28.3	73.5	73.5	5.0		30.5		32		97				<0.2		1.5	
						3.7	0.5	144	26.8		7.8		28.3		73.5		5.0		30.6		31		98				<0.2		1.6	
					Bottom	6.4	0.4	130	26.7	26.8	7.9	7.9	28.7	28.7	74.4	74.5	5.1	5.1	79.2		35		98				<0.2		2.1	
						6.4	0.4	141	26.8		7.9		28.7		74.6		5.1		78.6		36		99				<0.2		1.7	
23-Aug-16	Cloudy	Moderate	14:46	7.4	Surface	1.0	0.3	156	29.3	29.3	7.8	7.8	19.4	19.4	85.8	85.8	5.9	5.5	2.6	10.2	4	13	88	90	821042	805810	<0.2	<0.2	1.9	2.0
						1.0	0.3	163	29.3		7.8		19.4		85.8		5.9		2.7		4		84				<0.2		2.2	
					Middle	3.7	0.4	85	28.2	28.2	7.8	7.8	24.2	24.2	76.0	75.8	5.2		6.1		17		91				<0.2		1.4	
						3.7	0.4	88	28.2		7.8		24.2		75.5		5.1		6.6		18		87				<0.2		1.7	
					Bottom	6.4	0.3	117	27.9	27.7	7.8	7.8	26.7	26.9	72.2	72.5	4.9	4.9	20.4		18		96				<0.2		2.0	
						6.4	0.3	121	27.5		7.8		27.0		72.8		4.9		22.7		18		93				<0.2		2.6	
25-Aug-16	Fine	Moderate	16:49	6.9	Surface	1.0	0.3	202	30.6	30.6	7.8	7.8	15.9	15.9	94.9	94.9	6.5	6.0	1.1	3.2	2	5	82	91	821071	805828	<0.2	<0.2	3.3	2.4
						1.0	0.3	213	30.6		7.8		15.9		94.9		6.5		1.1		2		79				<0.2		3.5	
					Middle	3.5	0.3	117	28.9	28.9	7.8	7.8	19.6	19.6	80.0	80.0	5.5		1.9		4		96				<0.2		2.3	
						3.5	0.3	124	28.9		7.8		19.6		79.9		5.5		2.0		3		97				<0.2		2.1	
					Bottom	5.9	0.3	119	27.4	27.4	7.8	7.8	27.4	27.4	66.7	67.3	4.5	4.6	7.1		8		96				<0.2		1.5	
						5.9	0.3	120	27.4		7.8		27.4		67.8		4.6		6.2		10		98				<0.2		1.7	
27-Aug-16	Sunny	Moderate	09:27	6.7	Surface	1.0	0.5	209	29.0	29.0	7.8	7.8	19.5	19.5	77.3	77.6	5.3	4.9	1.1	5.4	<2	8	83	89	821040	805832	<0.2	<0.2	2.2	1.6
						1.0	0.5	209	29.0		7.8		19.4		77.8		5.4		1.2		2		83				<0.2		2.0	
					Middle	3.4	0.6	210	28.2	28.2	7.8	7.8	22.9	22.9	64.8	64.7	4.4		2.8		2		89				<0.2		1.6	
						3.4	0.6	212	28.2		7.8		22.9		64.6		4.4		3.0		3		90				<0.2		1.6	
					Bottom	5.7	0.6	195	27.1	27.1	7.8	7.8	28.4	28.6	59.9	60.6	4.1	4.1	12.5		18		94				<0.2		0.9	
						5.7	0.6	197	27.1		7.8		28.7		61.2		4.1		11.9		20		94				<0.2		1.0	
30-Aug-16	Cloudy	Moderate	12:42	6.4	Surface	1.0	0.7	199	27.4	27.4	7.9	7.9	27.8	27.8	80.1	80.1	5.4	5.1	3.3	12.3	9	21	96	98	821040	805835	<0.2	<0.2	1.3	1.3
						1.0	0.7	213	27.4		7.9		27.8		80.1		5.4		3.3		9		94				<0.2		1.2	
					Middle	3.2	0.5	198	26.9	26.9	7.9	7.9	29.8	29.8	69.7	69.7	4.7		11.8		22		99				<0.2		1.4	
						3.2	0.5	213	26.9		7.9		29.8		69.7		4.7		12.2		23		98				<0.2		1.1	
					Bottom	5.4	0.5	202	26.9	26.9	7.9	7.9	30.0	30.0	69.8	69.9	4.7	4.7	21.5		30		102				<0.2		1.4	
						5.4	0.5	219	26.9		7.9		30.0		69.9		4.7		21.5		32		100				<0.2		1.1	

DA: Depth-Averaged
Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher

Expansion of Hong Kong International Airport into a Three-Runway System
Water Quality Monitoring
Water Quality Monitoring Results at IM7 during Mid-Ebb Tide

Date	Weather Condition	Sea Condition	Sampling Time	Water Depth (m)	Sampling Depth (m)		Current Speed (m/s)	Current Direction	Water Temperature (°C) Value	Water Temperature (°C) Average	pH Value	pH Average	Salinity (ppt) Value	Salinity (ppt) Average	DO Saturation (%) Value	DO Saturation (%) Average	Dissolved Oxygen (mg/L) Value	Dissolved Oxygen (mg/L) DA	Turbidity(NTU) Value	Turbidity(NTU) DA	Suspended Solids (mg/L) Value	Suspended Solids (mg/L) DA	Total Alkalinity (ppm) Value	Total Alkalinity (ppm) DA	Coordinate HK Grid (Northing)	Coordinate HK Grid (Easting)	Chromium (µg/L) Value	Chromium (µg/L) DA	Nickel (µg/L) Value	Nickel (µg/L) DA
4-Aug-16	Cloudy	Moderate	15:38	7.4	Surface	1.0	0.7	217	27.1	27.1	7.7	7.7	22.7	22.7	74.7	74.7	5.2	5.0	6.7	22.4	7	12	88	91	821347	806847	<0.2	<0.2	2.1	1.6
						1.0	0.8	234	27.1		7.7		22.7		74.7		5.2		6.8		7		85				<0.2		2.1	
					Middle	3.7	0.6	225	26.0	26.0	7.7	7.7	26.3	26.3	67.0	67.0	4.7		15.9		14		92				<0.2		1.4	
						3.7	0.6	243	26.0		7.7		26.3		67.0		4.7		16.1		15		91				<0.2		1.4	
					Bottom	6.4	0.4	212	25.6	25.6	7.8	7.8	27.2	27.2	66.6	66.7	4.7	4.7	45.2		15		97				<0.2		1.4	
						6.4	0.4	218	25.6		7.8		27.2		66.7		4.7		43.8		16		95				<0.2		1.3	
6-Aug-16	Sunny	Moderate	13:35	8.6	Surface	1.0	0.4	231	28.9	28.9	7.7	7.7	18.8	18.8	80.8	80.8	5.6	4.9	1.9	12.0	<2	16	90	95	821356	806823	<0.2	<0.2	2.6	1.7
						1.0	0.4	253	28.9		7.7		18.8		80.7		5.6		2.1		<2		87				<0.2		2.6	
					Middle	4.3	0.4	220	26.7	26.4	7.7	7.7	26.5	26.8	58.9	59.2	4.1		11.7		3		94				<0.2		1.4	
						4.3	0.4	226	26.1		7.7		27.1		59.4		4.1		12.6		4		97				<0.2		1.6	
					Bottom	7.6	0.5	233	26.4	26.3	7.7	7.7	27.6	27.7	57.6	57.8	4.0	4.0	21.8		42		101				<0.2		1.2	
						7.6	0.5	238	26.2		7.7		27.7		58.0		4.0		22.1		43		100				<0.2		1.0	
9-Aug-16	Cloudy	Moderate	15:11	8.6	Surface	1.0	0.4	147	29.5	29.7	7.9	7.9	16.1	16.6	93.4	92.8	6.5	5.6	1.3	7.5	2	5	88	92	821366	806844	<0.2	<0.2	2.8	2.3
						1.0	0.5	147	29.9		7.9		17.1		92.2		6.4		1.2		3		89				<0.2		2.9	
					Middle	4.3	0.4	197	27.7	27.5	7.8	7.8	23.8	23.9	67.4	67.6	4.7		3.6		4		92				<0.2		2.2	
						4.3	0.4	201	27.3		7.8		24.0		67.7		4.7		3.8		4		94				<0.2		2.4	
					Bottom	7.6	0.3	54	25.2	25.2	7.7	7.7	30.0	30.0	53.3	54.0	3.7	3.8	17.7		8		97				<0.2		1.6	
						7.6	0.3	56	25.1		7.7		30.0		54.7		3.8		17.2		8		94				<0.2		1.6	
11-Aug-16	Sunny	Moderate	17:01	8.0	Surface	1.0	0.3	184	28.3	28.4	7.8	7.8	20.0	20.0	76.7	76.5	5.4	4.9	1.5	2.4	3	3	79	89	821339	806825	<0.2	<0.2	3.4	2.8
						1.0	0.3	194	28.5		7.8		19.9		76.3		5.3		1.5		2		76				<0.2		4.3	
					Middle	4.0	0.3	155	26.9	27.0	7.8	7.8	25.1	25.1	64.0	63.9	4.4		1.6		3		91				<0.2		3.3	
						4.0	0.3	158	27.0		7.8		25.0		63.8		4.4		1.6		2		92				<0.2		1.8	
					Bottom	7.0	0.3	132	24.8	25.1	7.7	7.7	31.0	30.8	53.9	53.9	3.8	3.8	4.1		3		98				<0.2		1.8	
						7.0	0.3	143	25.3		7.7		30.6		53.8		3.7		3.8		4		96				<0.2		2.0	
13-Aug-16	Fine	Moderate	10:57	7.5	Surface	1.0	0.4	199	27.8	27.8	7.8	7.8	21.8	22.0	73.4	73.4	5.1	4.4	1.3	2.0	<2	2	85	87	821341	806837	<0.2	<0.2	4.2	3.1
						1.0	0.4	216	27.8		7.8		22.1		73.4		5.1		1.4		<2		83				<0.2		4.4	
					Middle	3.8	0.4	198	26.6	26.6	7.7	7.7	26.9	26.9	52.4	52.5	3.6		2.3		<2		86				<0.2		3.6	
						3.8	0.4	208	26.6		7.7		26.9		52.5		3.6		2.3		<2		87				<0.2		3.9	
					Bottom	6.5	0.3	217	25.9	25.9	7.7	7.7	29.3	29.4	42.2	42.3	2.9	2.9	2.4		3		92				<0.2		1.2	
						6.5	0.3	227	25.9		7.7		29.4		42.4		2.9		2.5		3		90				<0.2		1.4	
16-Aug-16	Cloudy	Moderate	12:49	7.8	Surface	1.0	0.6	211	27.0	27.1	7.8	7.8	23.8	23.8	68.3	68.3	4.8	4.1	2.5	6.9	3	5	96	94	821350	806850	<0.2	<0.2	3.3	2.1
						1.0	0.6	223	27.1		7.8		23.8		68.3		4.8		2.5		3		92				<0.2		2.8	
					Middle	3.9	0.4	228	26.1	26.1	7.7	7.7	27.8	27.8	47.7	47.8	3.3		9.3		6		89				<0.2		1.9	
						3.9	0.5	249	26.0		7.7		27.8		47.8		3.3		9.3		7		91				<0.2		1.6	
					Bottom	6.8	0.3	225	25.6	25.8	7.8	7.8	28.3	28.2	52.4	52.6	3.6	3.7	8.9		6		97				<0.2		1.7	
						6.8	0.3	246	25.9		7.8		28.1		52.7		3.7		8.9		6		96				<0.2		1.4	
20-Aug-16	Sunny	Moderate	12:31	9.0	Surface	1.0	0.4	144	28.1	28.4	7.8	7.8	24.0	23.9	81.3	81.0	5.6	5.4	4.0	12.3	5	12	86	92	821349	806834	<0.2	<0.2	2.7	2.4
						1.0	0.4	151	28.6		7.8		23.8		80.6		5.5		3.7		5		88				<0.2		3.3	
					Middle	4.5	0.4	148	28.0	27.7	7.8	7.8	25.1	25.3	76.2	76.6	5.2		9.2		8		89				<0.2		2.4	
						4.5	0.5	154	27.4		7.8		25.4		76.9		5.3		9.4		7		90				<0.2		2.2	
					Bottom	8.0	0.4	124	26.8	27.1	7.9	7.9	28.1	28.0	76.4	76.3	5.2	5.2	23.8		23		99				<0.2		1.9	
						8.0	0.4	131	27.3		7.9		27.8		76.2		5.2		23.7		22		98				<0.2		1.7	
23-Aug-16	Cloudy	Moderate	14:38	9.0	Surface	1.0	0.3	102	29.7	30.0	7.7	7.7	18.3	18.2	83.6	83.3	5.7	5.4	3.2	17.6	3	21	83	86	821337	806845	<0.2	<0.2	3.1	2.7
						1.0	0.3	111	30.2		7.7		18.1		83.0		5.7		2.9		4		82				<0.2		3.1	
					Middle	4.5	0.4	79	28.1	28.3	7.8	7.8	24.1	24.1	76.4	76.2	5.2		9.2		4		82				<0.2		2.0	
						4.5	0.4	80	28.5		7.8		24.0		75.9		5.1		9.1		4		83				<0.2		2.5	
					Bottom	8.0	0.4	91	28.3	28.3	7.8	7.8	26.2	26.2	72.6	72.9	4.9	4.9	39.9		54		94				<0.2		2.3	
						8.0	0.4	96	28.3		7.8		26.2		73.1		4.9		41.3		54		94				<0.2		3.4	
25-Aug-16	Fine	Moderate	16:40	8.5	Surface	1.0	0.3	134	29.9	29.9	7.8	7.8	17.6	17.6	87.4	87.4	6.0	5.6	1.7	6.1	<2	8	84	91	821361	806837	<0.2	<0.2	3.1	2.4
						1.0	0.3	142	29.9		7.8		17.6		87.3		6.0		1.9		2		83				<0.2		3.2	
					Middle	4.3	0.4	111	28.5	28.5	7.8	7.8	22.4	22.3	74.7	74.7	5.1		4.5		3		95				<0.2		2.1	
						4.3	0.4	116	28.5		7.8		22.2		74.7		5.1		4.8		2		93				<0.2		2.6	
					Bottom	7.5	0.3	134	27.4	27.4	7.8	7.8	27.2	27.2	66.4	66.8	4.5	4.6	11.7		18		96				<0.2		1.4	
						7.5	0.3	138	27.4		7.8		27.2		67.2		4.6		11.7		19		95				<0.2		1.8	
27-Aug-16	Sunny	Moderate	09:37	8.0	Surface	1.0	0.6	216	29.0	29.0	7.8	7.8	20.0	19.9	71.7	71.3	4.9	4.4	1.6	6.5	<2	9	86	91	821341	806853	<0.2	<0.2	2.5	1.5
						1.0	0.6	237	29.0		7.8		19.8		70.8		4.9		1.6		2		87				<0.2		2.2	
					Middle	4.0	0.5	216	27.3	27.3	7.8	7.8	27.5	27.5	57.4	57.5	3.9		5.8		6		91				<0.2		1.1	
						4.0	0.5	229	27.3		7.8		27.5		57.5		3.9		5.9		5		89				<0.2		1.2	
					Bottom	7.0	0.4	198	27.1	27.1	7.8	7.8	28.6	28.7	58.6	59.0	4.0	4.0	12.0		20		94				<0.2		0.8	
						7.0	0.4	205	27.1		7.8		28.7		59.3		4.0		12.2		19		96				<0.2		1.0	
30-Aug-16	Cloudy	Moderate	12:52	8.0	Surface	1.0	0.7	192	28.1	28.1	7.9	7.9	26.4	26.4	81.1	81.1	5.5	5.0	2.1	5.9	5	9	100	98	821354	806830	<0.2	<0.2	1.9	1.5
						1.0	0.7	192	28.1		7.9		26.4		81.0		5.5		2.2		6		100				<0.2		2.1	
					Middle	4.0	0.6	193	27.0	27.0	7.9	7.9	29.5	29.6	64.6	64.6	4.4		5.4		8		91				<0.2		1.2	
						4.0	0.6	196	26.9		7.9		29.6		64.5		4.4		5.7		9		93				<0.2		1.5	
					Bottom	7.0	0.5	206	26.9	26.9	7.9	7.9	30.2	30.2	68.2	68.3	4.6	4.6	10.1		12		102				<0.2		1.1	
						7.0	0.5	220	26.9		7.9		30.2		68.3		4.6		9.9		13		102				<0.2		1.4	

DA: Depth-Averaged
Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher

Expansion of Hong Kong International Airport into a Three-Runway System
Water Quality Monitoring

Water Quality Monitoring Results at IM8 during Mid-Ebb Tide

Date	Weather Condition	Sea Condition	Sampling Time	Water Depth (m)	Sampling Depth (m)		Current Speed (m/s)	Current Direction	Water Temperature (°C) Value	Water Temperature (°C) Average	pH Value	pH Average	Salinity (ppt) Value	Salinity (ppt) Average	DO Saturation (%) Value	DO Saturation (%) Average	Dissolved Oxygen (mg/L) Value	Dissolved Oxygen (mg/L) DA	Turbidity(NTU) Value	Turbidity(NTU) DA	Suspended Solids (mg/L) Value	Suspended Solids (mg/L) DA	Total Alkalinity (ppm) Value	Total Alkalinity (ppm) DA	Coordinate HK Grid (Northing)	Coordinate HK Grid (Easting)	Chromium (µg/L) Value	Chromium (µg/L) DA	Nickel (µg/L) Value	Nickel (µg/L) DA
4-Aug-16	Cloudy	Moderate	14:44	8.1	Surface	1.0	0.7	188	25.8	25.8	7.7	7.7	22.2	22.2	78.6	78.6	5.6	5.5	4.4	8.2	6	6	82	87	821699	807850	<0.2	<0.2	2.0	1.7
						1.0	0.7	194	25.8		7.7		22.2		78.6		5.6		4.4		5		83				<0.2		2.0	
					Middle	4.1	0.4	181	25.1	25.1	7.7	7.7	24.1	24.1	73.7	73.6	5.3		7.3		5		87				<0.2		1.5	
						4.1	0.4	181	25.1		7.7		24.1		73.6		5.3		7.4		6		89				<0.2		1.6	
					Bottom	7.1	0.3	138	24.2	24.2	7.7	7.7	27.5	27.5	73.7	73.7	5.3	5.3	13.0		6		89				<0.2		1.6	
						7.1	0.3	144	24.2		7.7		27.5		73.7		5.3		13.0		6		91				<0.2		1.5	
6-Aug-16	Sunny	Moderate	14:06	8.8	Surface	1.0	0.4	174	26.3	26.3	7.6	7.6	22.3	22.3	66.4	66.4	4.7	4.7	4.5	7.4	3	4	84	90	821704	807832	<0.2	<0.2	3.6	2.2
						1.0	0.5	184	26.3		7.6		22.3		66.4		4.7		4.5		3		87				<0.2		3.6	
					Middle	4.4	0.3	168	25.4	25.4	7.6	7.6	24.4	24.4	66.1	66.2	4.7		7.7		4		90				<0.2		1.7	
						4.4	0.3	173	25.4		7.6		24.4		66.2		4.7		7.8		5		92				<0.2		1.6	
					Bottom	7.8	0.3	126	24.9	24.9	7.7	7.7	26.8	26.8	66.5	66.5	4.7	4.7	9.8		5		92				<0.2		1.5	
						7.8	0.3	128	24.9		7.7		26.8		66.5		4.7		9.8		4		93				<0.2		1.4	
9-Aug-16	Cloudy	Moderate	15:53	8.4	Surface	1.0	0.4	181	27.8	27.8	7.8	7.8	17.1	17.1	88.7	88.7	6.3	5.3	1.8	5.4	4	5	86	90	821714	807830	<0.2	<0.2	2.8	2.7
						1.0	0.4	187	27.8		7.8		17.1		88.7		6.3		1.8		5		85				<0.2		2.8	
					Middle	4.2	0.4	184	26.1	26.1	7.6	7.6	24.0	24.0	59.7	59.7	4.2		3.7		6		91				<0.2		2.4	
						4.2	0.4	193	26.1		7.6		23.9		59.7		4.2		3.8		6		90				<0.2		2.5	
					Bottom	7.4	0.3	160	24.0	24.0	7.6	7.6	29.4	29.4	54.1	54.1	3.8	3.8	10.6		6		93				<0.2		2.8	
						7.4	0.4	167	24.0		7.6		29.4		54.1		3.8		10.6		5		92				<0.2		2.9	
11-Aug-16	Fine	Moderate	17:47	8.1	Surface	1.0	0.2	199	26.4	26.4	7.7	7.7	21.7	21.7	76.3	76.3	5.4	4.8	0.6	1.9	<2	3	82	87	821696	807845	<0.2	<0.2	3.0	2.0
						1.0	0.2	199	26.4		7.7		21.7		76.3		5.4		0.6		<2		84				<0.2		2.1	
					Middle	4.1	0.1	174	25.4	25.4	7.7	7.7	25.8	25.8	58.3	58.0	4.1		1.4		<2		86				<0.2		1.6	
						4.1	0.1	175	25.4		7.7		25.8		57.6		4.1		1.6		<2		87				<0.2		2.0	
					Bottom	7.1	0.1	150	23.5	23.5	7.7	7.7	30.5	30.5	49.4	49.5	3.5	3.5	3.5		5		90				<0.2		1.5	
						7.1	0.2	156	23.5		7.7		30.5		49.5		3.5		3.5		5		93				<0.2		1.7	
13-Aug-16	Fine	Moderate	10:04	7.3	Surface	1.0	0.5	175	25.4	25.4	7.8	7.8	19.1	19.0	60.7	60.6	5.5	4.6	1.2	3.5	2	3	80	85	821700	807845	<0.2	<0.2	2.8	2.1
						1.0	0.5	177	25.4		7.7		18.9		60.4		5.3		1.2		3		82				<0.2		3.0	
					Middle	3.7	0.2	194	24.3	24.3	7.7	7.7	22.7	22.7	48.6	48.6	3.7		3.0		3		85				<0.2		1.6	
						3.7	0.2	199	24.3		7.7		22.7		48.6		3.8		3.1		2		85				<0.2		1.5	
					Bottom	6.3	0.1	236	23.9	24.0	7.7	7.7	29.5	29.5	51.5	52.0	3.5	3.5	6.5		4		90				<0.2		1.9	
						6.3	0.1	246	24.0		7.7		29.4		52.5		3.4		6.2		4		89				<0.2		1.8	
16-Aug-16	Cloudy	Moderate	12:26	8.0	Surface	1.0	0.8	188	24.8	24.8	7.9	7.9	24.5	24.5	61.7	61.7	4.4	4.2	3.0	7.0	2	5	84	89	821677	807854	<0.2	<0.2	2.4	2.8
						1.0	0.8	203	24.8		7.9		24.5		61.7		4.4		3.1		2		83				<0.2		2.5	
					Middle	4.0	0.7	198	24.3	24.3	7.9	7.9	26.4	26.4	55.4	55.5	4.0		8.0		3		89				<0.2		3.0	
						4.0	0.7	215	24.3		7.9		26.4		55.6		4.0		8.0		4		91				<0.2		3.6	
					Bottom	7.0	0.4	223	23.8	23.8	7.9	7.9	28.0	28.0	61.9	61.9	4.4	4.4	10.0		9		93				<0.2		3.4	
						7.0	0.4	236	23.8		7.9		28.0		61.9		4.4		10.0		8		94				<0.2		1.8	
20-Aug-16	Fine	Moderate	13:03	9.0	Surface	1.0	0.5	187	26.0	26.1	7.8	7.8	24.2	24.2	78.0	78.1	5.5	5.5	3.6	5.8	2	4	81	88	821684	807845	<0.2	<0.2	3.1	2.7
						1.0	0.5	205	26.1		7.8		24.2		78.2		5.5		3.6		3		82				<0.2		2.9	
					Middle	4.5	0.4	179	26.1	26.1	7.9	7.9	26.1	26.1	78.1	78.1	5.5		5.0		4		89				<0.2		2.5	
						4.5	0.4	188	26.1		7.9		26.1		78.0		5.5		5.0		5		90				<0.2		2.6	
					Bottom	8.0	0.4	173	25.4	25.4	7.9	7.9	27.8	27.9	78.2	78.3	5.5	5.5	8.7		6		92				<0.2		2.5	
						8.0	0.4	182	25.4		7.9		27.9		78.3		5.5		8.8		4		93				<0.2		2.5	
23-Aug-16	Sunny	Moderate	15:14	8.7	Surface	1.0	0.4	145	26.8	26.8	7.9	7.9	21.4	21.4	78.6	78.6	5.6	5.6	5.2	7.4	2	4	84	89	821703	807847	<0.2	<0.2	2.2	1.2
						1.0	0.4	147	26.8		7.9		21.4		78.6		5.6		5.2		4		85				<0.2		2.2	
					Middle	4.4	0.4	109	26.6	26.6	7.9	7.9	22.3	22.3	77.3	77.3	5.5		6.8		4		89				<0.2		0.8	
						4.4	0.4	115	26.6		7.9		22.3		77.3		5.5		6.9		5		90				<0.2		0.8	
					Bottom	7.7	0.3	108	26.2	26.2	7.9	7.9	25.6	25.6	77.0	77.1	5.4	5.4	10.1		4		92				<0.2		0.6	
						7.7	0.4	114	26.2		7.9		25.6		77.1		5.4		10.1		4		93				<0.2		0.7	
25-Aug-16	Fine	Moderate	17:01	8.2	Surface	1.0	0.4	93	30.0	30.0	7.8	7.8	16.6	16.6	81.4	81.4	5.6	5.3	3.8	6.7	<2	4	83	89	821711	807818	<0.2	<0.2	3.2	3.0
						1.0	0.4	93	30.0		7.8		16.5		81.4		5.6		3.8		2		84				<0.2		3.4	
					Middle	4.1	0.4	83	28.7	28.7	7.9	7.9	20.6	20.6	72.6	72.6	5.0		4.6		<2		90				<0.2		3.2	
						4.1	0.4	90	28.7		7.9		20.6		72.6		5.0		4.7		2		91				<0.2		2.8	
					Bottom	7.2	0.3	128	27.6	27.6	7.9	7.9	26.3	26.3	63.5	63.6	4.3	4.3	11.6		6		92				<0.2		2.7	
						7.2	0.3	130	27.6		7.9		26.3		63.6		4.3		11.6		7		93				<0.2		2.8	
27-Aug-16	Fine	Moderate	09:26	8.0	Surface	1.0	0.6	188	29.2	29.2	7.8	7.8	19.1	19.1	72.7	72.7	5.0	4.4	3.4	6.9	<2	3	83	88	821684	807833	<0.2	<0.2	2.6	2.4
						1.0	0.7	190	29.2		7.8		19.1		72.6		5.0		3.4		<2		82				<0.2		2.8	
					Middle	4.0	0.6	187	27.7	27.7	7.8	7.8	25.9	25.9	55.4	55.5	3.8		8.1		4		90				<0.2		2.6	
						4.0	0.7	196	27.7		7.8		25.9		55.5		3.8		8.1		3		90				<0.2		2.7	
					Bottom	7.0	0.3	195	27.3	27.3	7.9	7.9	27.9	27.9	56.7	56.8	3.9	3.9	9.2		4		91				<0.2		1.8	
						7.0	0.3	196	27.2		7.9		27.9		56.8		3.9		9.2		5		92				<0.2		1.7	
30-Aug-16	Fine	Moderate	12:39	7.9	Surface	1.0	0.7	182	25.9	25.9	8.0	8.0	26.3	26.3	74.9	74.9	5.3	5.1	5.0	8.3	5	7	82	89	821710	807838	<0.2	<0.2	2.1	1.9
						1.0	0.8	199	25.9		8.0		26.3		74.8		5.2		5.1		5		83				<0.2		2.1	
					Middle	4.0	0.5	190	25.5	25.5	8.0	8.0	27.6	27.6	71.0	71.0	5.0		8.5		5		90				<0.2		1.7	
						4.0	0.6	195	25.5		8.0		27.6		71.0		5.0		8.5		6		91				<0.2		1.8	
					Bottom	6.9	0.4	207	25.2	25.2	8.1	8.1	28.6	28.6	72.4	72.4	5.1	5.1	11.4		9		93				<0.2		1.9	
						6.9	0.5	209	25.2		8.1		28.6		72.4		5.1		11.4		9		92				<0.2		2.0	

DA: Depth-Averaged

Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher

Expansion of Hong Kong International Airport into a Three-Runway System
Water Quality Monitoring
Water Quality Monitoring Results at IM9 during Mid-Ebb Tide

Date	Weather Condition	Sea Condition	Sampling Time	Water Depth (m)	Sampling Depth (m)		Current Speed (m/s)	Current Direction	Water Temperature (°C) Value	Water Temperature (°C) Average	pH Value	pH Average	Salinity (ppt) Value	Salinity (ppt) Average	DO Saturation (%) Value	DO Saturation (%) Average	Dissolved Oxygen (mg/L) Value	Dissolved Oxygen (mg/L) DA	Turbidity(NTU) Value	Turbidity(NTU) DA	Suspended Solids (mg/L) Value	Suspended Solids (mg/L) DA	Total Alkalinity (ppm) Value	Total Alkalinity (ppm) DA	Coordinate HK Grid (Northing)	Coordinate HK Grid (Easting)	Chromium (µg/L) Value	Chromium (µg/L) DA	Nickel (µg/L) Value	Nickel (µg/L) DA
4-Aug-16	Cloudy	Moderate	14:33	7.5	Surface	1.0	0.6	160	26.1	26.1	7.7	7.7	21.7	21.7	79.0	78.9	5.7	5.5	5.1	11.6	5	7	84	88	822096	808825	<0.2	<0.2	2.2	2.4
						1.0	0.7	172	26.1		7.7		21.7		78.9		5.7		5.2		5		86				<0.2		2.2	
					Middle	3.8	0.6	143	25.2	25.2	7.7	7.7	23.7	23.7	72.3	72.3	5.2		11.4		4		88				<0.2		2.1	
						3.8	0.6	157	25.2		7.7		23.7		72.3		5.2		11.4		4		89				<0.2		2.7	
					Bottom	6.5	0.4	116	24.4	24.4	7.7	7.7	26.8	26.8	72.2	72.2	5.2	5.2	18.3		12		91				<0.2		2.6	
						6.5	0.4	124	24.4		7.7		26.8		72.2		5.2		18.3		12		92				<0.2		2.5	
6-Aug-16	Sunny	Moderate	14:14	7.5	Surface	1.0	0.5	157	27.0	27.0	7.6	7.6	20.0	20.0	69.0	69.0	4.9	4.7	3.7	13.0	<2	7	83	89	822075	808827	<0.2	<0.2	3.6	3.5
						1.0	0.5	161	27.0		7.6		20.0		69.0		4.9		3.7		<2		84				<0.2		3.5	
					Middle	3.8	0.5	126	25.6	25.6	7.6	7.6	24.7	24.7	63.2	63.2	4.5		12.2		4		87				<0.2		2.9	
						3.8	0.5	134	25.6		7.6		24.7		63.2		4.5		12.3		2		91				<0.2		3.1	
					Bottom	6.5	0.4	106	24.7	24.7	7.6	7.6	27.5	27.5	62.5	62.6	4.4	4.4	23.0		14		94				<0.2		4.0	
						6.5	0.4	110	24.7		7.6		27.5		62.6		4.4		22.8		15		93				<0.2		3.6	
9-Aug-16	Cloudy	Moderate	16:00	7.3	Surface	1.0	0.5	142	27.5	27.5	7.8	7.8	18.8	18.8	83.3	83.3	5.9	5.4	4.1	5.9	2	4	83	89	822079	808810	<0.2	<0.2	3.1	2.9
						1.0	0.5	145	27.5		7.8		18.8		83.3		5.9		4.1		2		85				<0.2		3.3	
					Middle	3.7	0.5	139	26.8	26.8	7.7	7.7	21.5	21.5	68.2	68.2	4.8		3.5		3		89				<0.2		3.1	
						3.7	0.5	142	26.8		7.7		21.5		68.2		4.8		3.5		3		90				<0.2		3.3	
					Bottom	6.3	0.5	106	24.5	24.5	7.7	7.7	28.4	28.4	62.2	62.2	4.4	4.4	10.0		6		93				<0.2		2.2	
						6.3	0.5	107	24.5		7.7		28.4		62.2		4.4		10.0		6		93				<0.2		2.5	
11-Aug-16	Fine	Moderate	17:57	7.2	Surface	1.0	0.1	174	25.8	25.8	7.7	7.7	23.9	24.0	71.1	71.0	5.0	4.6	0.7	6.9	<2	6	84	88	822085	808807	<0.2	<0.2	3.1	2.9
						1.0	0.2	181	25.8		7.7		24.0		70.9		5.0		0.7		<2		83				<0.2		3.3	
					Middle	3.6	0.1	155	25.1	25.1	7.7	7.7	26.8	26.8	58.0	58.0	4.1		2.6		<2		87				<0.2		3.1	
						3.6	0.1	155	25.1		7.7		26.8		58.0		4.1		2.6		<2		91				<0.2		3.3	
					Bottom	6.2	0.2	145	24.3	24.3	7.7	7.7	29.6	29.6	49.0	49.0	3.5	3.5	17.6		13		92				<0.2		2.2	
						6.2	0.2	145	24.3		7.7		29.5		49.0		3.5		17.3		12		92				<0.2		2.5	
13-Aug-16	Fine	Moderate	09:53	7.0	Surface	1.0	0.5	162	26.4	26.4	7.8	7.8	19.0	19.0	71.7	71.5	5.2	4.7	1.6	1.4	<2	3	80	85	822103	808822	<0.2	<0.2	3.2	2.8
						1.0	0.5	162	26.4		7.8		18.9		71.2		5.2		1.6		<2		81				<0.2		3.5	
					Middle	3.5	0.4	155	25.0	25.0	7.7	7.7	26.8	26.8	57.5	57.7	4.1		1.1		3		85				<0.2		3.0	
						3.5	0.4	156	25.0		7.7		26.7		57.8		4.1		1.1		3		83				<0.2		2.9	
					Bottom	6.0	0.3	145	24.9	24.9	7.7	7.7	27.1	27.1	55.9	56.0	4.0	4.0	1.4		4		88				<0.2		1.9	
						6.0	0.3	148	24.9		7.7		27.0		56.1		4.0		1.4		4		91				<0.2		2.0	
16-Aug-16	Cloudy	Moderate	12:17	7.2	Surface	1.0	0.8	132	25.4	25.4	7.9	7.9	22.3	22.3	70.8	70.7	5.1	4.5	2.7	8.1	<2	3	85	90	822107	808817	<0.2	<0.2	2.0	2.3
						1.0	0.8	138	25.4		7.9		22.3		70.5		5.1		2.8		<2		84				<0.2		2.5	
					Middle	3.6	0.5	125	23.9	23.9	7.9	7.9	27.8	27.8	52.5	52.6	3.8		10.2		2		92				<0.2		2.2	
						3.6	0.5	132	23.9		7.9		27.8		52.6		3.8		10.3		3		92				<0.2		2.1	
					Bottom	6.2	0.4	123	23.8	23.8	7.9	7.9	28.1	28.1	54.3	54.3	3.9	3.9	11.3		4		93				<0.2		2.2	
						6.2	0.4	126	23.8		7.9		28.1		54.3		3.9		11.3		5		94				<0.2		2.6	
20-Aug-16	Fine	Moderate	13:11	7.7	Surface	1.0	0.5	134	26.3	26.3	7.8	7.8	22.8	22.8	76.0	76.0	5.4	5.3	5.6	9.9	3	8	85	89	822103	808813	<0.2	<0.2	3.1	2.7
						1.0	0.5	138	26.3		7.8		22.8		75.9		5.4		5.8		2		86				<0.2		3.3	
					Middle	3.9	0.4	140	25.2	25.2	7.9	7.9	27.3	27.4	73.9	74.0	5.2		12.0		6		91				<0.2		2.6	
						3.9	0.5	153	25.2		7.9		27.4		74.0		5.2		12.0		6		90				<0.2		2.3	
					Bottom	6.7	0.4	133	25.2	25.2	7.9	7.9	27.8	27.8	75.3	75.3	5.3	5.3	12.0		15		92				<0.2		2.0	
						6.7	0.4	143	25.2		7.9		27.8		75.3		5.3		12.0		15		92				<0.2		2.8	
23-Aug-16	Sunny	Moderate	15:21	7.6	Surface	1.0	0.5	145	27.7	27.7	7.8	7.8	17.5	17.5	77.7	77.6	5.5	5.3	3.5	9.0	4	4	84	89	822087	808806	<0.2	<0.2	1.1	1.3
						1.0	0.6	150	27.7		7.8		17.5		77.5		5.5		3.5		3		85				<0.2		1.1	
					Middle	3.8	0.5	132	26.5	26.5	7.8	7.8	22.1	22.1	70.7	70.8	5.0		8.3		4		91				<0.2		2.2	
						3.8	0.5	138	26.5		7.8		22.1		70.8		5.0		8.4		3		91				<0.2		1.2	
					Bottom	6.6	0.4	96	26.3	26.3	7.9	7.9	24.6	24.6	75.8	75.9	5.3	5.3	15.0		5		91				<0.2		1.0	
						6.6	0.5	102	26.3		7.9		24.6		75.9		5.3		15.2		6		93				<0.2		1.0	
25-Aug-16	Fine	Moderate	17:09	7.1	Surface	1.0	0.4	100	30.6	30.6	7.8	7.8	15.1	14.9	80.0	79.9	5.5	5.4	3.5	4.8	<2	3	84	90	822095	808798	<0.2	<0.2	3.5	2.8
						1.0	0.4	105	30.6		7.8		14.7		79.8		5.5		3.5		2		85				<0.2		3.5	
					Middle	3.6	0.4	81	29.6	29.7	7.9	7.9	19.2	19.2	76.5	76.5	5.2		3.4		2		91				<0.2		3.3	
						3.6	0.5	84	29.7		7.9		19.1		76.4		5.2		3.4		3		91				<0.2		3.2	
					Bottom	6.1	0.4	137	28.0	28.0	7.9	7.9	24.7	24.7	66.4	66.4	4.5	4.5	7.3		4		93				<0.2		1.9	
						6.1	0.4	141	28.0		7.9		24.7		66.4		4.5		7.4		3		93				<0.2		1.6	
27-Aug-16	Fine	Moderate	09:17	7.0	Surface	1.0	0.5	172	29.2	29.2	7.9	7.9	19.8	19.8	78.0	78.0	5.4	4.7	2.7	5.4	<2	2	83	89	822081	808828	<0.2	<0.2	2.1	2.5
						1.0	0.6	177	29.2		7.9		19.8		78.0		5.4		2.7		<2		84				<0.2		2.7	
					Middle	3.5	0.4	156	28.0	28.0	7.8	7.8	24.7	24.7	56.8	56.8	3.9		5.7		<2		89				<0.2		3.1	
						3.5	0.4	158	28.0		7.8		24.7		56.8		3.9		5.8		<2		91				<0.2		3.0	
					Bottom	6.0	0.3	146	27.3	27.3	7.9	7.9	27.9	27.9	61.1	61.2	4.2	4.2	7.7		2		91				<0.2		1.9	
						6.0	0.3	146	27.2		7.9		27.9		61.3		4.2		7.7		3		93				<0.2		1.9	
30-Aug-16	Fine	Moderate	12:31	7.2	Surface	1.0	0.7	157	26.2	26.2	8.0	8.0	26.0	26.0	77.4	77.4	5.4	5.1	4.7	10.1	4	6	83	89	822076	808800	<0.2	<0.2	2.1	1.8
						1.0	0.8	168	26.2		8.0		26.0		77.4		5.4		4.7		4		83				<0.2		1.8	
					Middle	3.6	0.6	153	25.2	25.2	8.1	8.1	28.5	28.5	68.2	68.2	4.8		12.0		5		91				<0.2		1.8	
						3.6	0.6	166	25.2		8.1		28.5		68.2		4.8		12.1		4		90				<0.2		1.6	
					Bottom	6.2	0.4	155	25.1	25.1	8.1	8.1	29.3	29.3	69.6	69.6	4.9	4.9	13.4		10		92				<0.2		1.6	
						6.2	0.5	159	25.1		8.1		29.3		69.6		4.9		13.4		9		93				<0.2		1.7	

DA: Depth-Averaged
Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher

Expansion of Hong Kong International Airport into a Three-Runway System
Water Quality Monitoring
Water Quality Monitoring Results at IM10 during Mid-Ebb Tide

Date	Weather Condition	Sea Condition	Sampling Time	Water Depth (m)	Sampling Depth (m)		Current Speed (m/s)	Current Direction	Water Temperature (°C) Value	Water Temperature (°C) Average	pH Value	pH Average	Salinity (ppt) Value	Salinity (ppt) Average	DO Saturation (%) Value	DO Saturation (%) Average	Dissolved Oxygen (mg/L) Value	Dissolved Oxygen (mg/L) DA	Turbidity(NTU) Value	Turbidity(NTU) DA	Suspended Solids (mg/L) Value	Suspended Solids (mg/L) DA	Total Alkalinity (ppm) Value	Total Alkalinity (ppm) DA	Coordinate HK Grid (Northing)	Coordinate HK Grid (Easting)	Chromium (µg/L) Value	Chromium (µg/L) DA	Nickel (µg/L) Value	Nickel (µg/L) DA
4-Aug-16	Cloudy	Moderate	14:21	9.0	Surface	1.0	0.6	149	25.8	25.8	7.7	7.7	22.3	22.3	78.4	78.4	5.6	5.4	5.3	27.8	5	8	85	89	822237	809819	<0.2	<0.2	1.7	1.8
						1.0	0.7	150	25.8		7.7		22.3		78.4		5.6		5.4		4		88				<0.2		1.5	
					Middle	4.5	0.6	116	25.2	25.2	7.7	7.7	23.7	23.7	71.7	71.6	5.2		20.8		5		89				<0.2		1.8	
						4.5	0.6	119	25.2		7.7		23.7		71.5		5.1		21.5		5		89				<0.2		1.9	
					Bottom	8.0	0.4	107	24.2	24.2	7.7	7.7	27.0	27.0	67.0	67.0	4.8	4.8	57.0		15		91				<0.2		1.9	
						8.0	0.4	107	24.2		7.7		27.0		67.0		4.8		57.0		16		91				<0.2		2.1	
6-Aug-16	Sunny	Moderate	14:22	7.8	Surface	1.0	0.6	139	27.0	27.0	7.6	7.6	20.4	20.4	71.1	71.1	5.0	4.7	3.3	14.4	2	7	84	89	822241	809842	<0.2	<0.2	4.2	3.6
						1.0	0.6	149	26.9		7.6		20.4		71.0		5.0		3.3		2		82				<0.2		3.8	
					Middle	3.9	0.5	118	25.8	25.8	7.6	7.6	23.5	23.5	60.8	60.8	4.3		15.0		2		89				<0.2		3.8	
						3.9	0.5	124	25.8		7.6		23.4		60.8		4.3		15.4		3		90				<0.2		3.5	
					Bottom	6.8	0.4	132	25.2	25.2	7.6	7.6	26.0	26.0	60.5	60.5	4.3	4.3	24.7		16		93				<0.2		3.1	
						6.8	0.4	138	25.2		7.6		26.0		60.5		4.3		24.7		16		94				<0.2		3.1	
9-Aug-16	Cloudy	Moderate	16:09	7.3	Surface	1.0	0.4	144	27.6	27.6	7.8	7.8	18.4	18.4	84.6	84.6	6.0	5.7	1.8	4.8	3	5	87	90	822225	809840	<0.2	<0.2	3.0	2.8
						1.0	0.5	155	27.6		7.8		18.4		84.6		6.0		1.8		2		86				<0.2		3.0	
					Middle	3.7	0.4	133	26.8	26.8	7.7	7.7	22.0	22.0	75.0	75.1	5.3		2.4		3		91				<0.2		2.7	
						3.7	0.4	133	26.8		7.7		22.0		75.1		5.3		2.5		3		91				<0.2		3.2	
					Bottom	6.3	0.4	119	25.2	25.2	7.7	7.7	26.3	26.3	65.6	65.6	4.6	4.6	10.0		9		93				<0.2		2.5	
						6.3	0.4	127	25.2		7.7		26.3		65.6		4.6		10.0		8		92				<0.2		2.5	
11-Aug-16	Fine	Moderate	18:07	7.0	Surface	1.0	0.2	108	26.5	26.5	7.8	7.8	21.4	21.5	82.4	81.8	5.9	5.3	0.4	2.8	<2	4	80	85	822243	809847	<0.2	<0.2	3.0	2.8
						1.0	0.2	115	26.5		7.8		21.5		81.2		5.8		0.4		<2		82				<0.2		3.0	
					Middle	3.5	0.1	193	25.4	25.4	7.7	7.7	25.3	25.3	67.5	67.3	4.8		0.6		3		84				<0.2		2.7	
						3.5	0.1	206	25.4		7.7		25.3		67.1		4.8		0.6		3		86				<0.2		3.2	
					Bottom	6.0	0.2	163	24.3	24.3	7.6	7.6	28.8	28.8	46.5	46.8	3.3	3.3	7.3		8		89				<0.2		2.5	
						6.0	0.2	167	24.3		7.6		28.7		47.1		3.3		7.4		8		90				<0.2		2.5	
13-Aug-16	Fine	Moderate	09:41	6.9	Surface	1.0	0.5	133	26.4	26.4	7.8	7.8	20.1	19.4	75.6	75.4	5.4	5.1	1.6	2.8	<2	<2	84	87	822224	809838	<0.2	<0.2	4.4	3.1
						1.0	0.6	133	26.3		7.8		18.6		75.1		5.5		1.6		<2		82				<0.2		4.3	
					Middle	3.5	0.5	134	25.2	25.4	7.8	7.8	27.0	26.6	66.6	66.7	4.7		1.1		<2		87				<0.2		3.3	
						3.5	0.5	141	25.6		7.8		26.1		66.8		4.7		1.1		<2		88				<0.2		3.1	
					Bottom	5.9	0.3	99	23.5	23.6	7.7	7.7	30.4	30.4	47.6	48.5	3.4	3.5	5.9		<2		92				<0.2		1.8	
						5.9	0.4	100	23.6		7.7		30.3		49.4		3.5		5.3		<2		90				<0.2		1.8	
16-Aug-16	Cloudy	Moderate	12:06	8.0	Surface	1.0	0.7	154	25.1	25.1	7.9	7.9	23.6	23.6	70.0	70.0	5.0	4.5	2.3	11.4	2	6	84	90	822220	809849	<0.2	<0.2	2.3	2.2
						1.0	0.8	165	25.1		7.9		23.6		69.9		5.0		2.4		2		88				<0.2		2.4	
					Middle	4.0	0.5	154	23.9	23.9	7.9	7.9	27.6	27.6	53.7	53.7	3.9		15.2		8		91				<0.2		2.1	
						4.0	0.5	156	23.9		7.9		27.6		53.7		3.9		15.2		8		92				<0.2		2.0	
					Bottom	7.0	0.3	148	23.8	23.8	7.9	7.9	28.0	28.0	56.9	56.9	4.1	4.1	16.7		8		93				<0.2		2.2	
						7.0	0.3	156	23.8		7.9		28.0		56.9		4.1		16.7		8		93				<0.2		2.3	
20-Aug-16	Fine	Moderate	13:20	8.4	Surface	1.0	0.9	129	26.3	26.3	7.8	7.8	22.9	22.9	76.6	76.6	5.4	5.3	4.4	14.0	2	10	85	90	822254	809830	<0.2	<0.2	2.8	2.5
						1.0	0.9	131	26.3		7.8		22.9		76.5		5.4		4.6		2		87				<0.2		2.6	
					Middle	4.2	0.7	114	25.3	25.3	7.9	7.9	26.8	26.8	72.8	72.9	5.1		16.2		11		91				<0.2		2.7	
						4.2	0.7	116	25.3		7.9		26.8		72.9		5.2		16.2		10		90				<0.2		2.4	
					Bottom	7.4	0.5	96	25.2	25.2	7.9	7.9	27.4	27.4	73.3	73.3	5.2	5.2	21.3		16		93				<0.2		2.3	
						7.4	0.5	96	25.2		7.9		27.4		73.3		5.2		21.3		16		92				<0.2		2.0	
23-Aug-16	Sunny	Moderate	15:29	8.0	Surface	1.0	0.6	122	28.0	28.0	7.8	7.8	17.6	17.6	78.0	78.0	5.5	5.4	6.7	16.9	3	6	83	89	822224	809835	<0.2	<0.2	1.9	1.6
						1.0	0.7	128	28.0		7.8		17.6		78.0		5.5		6.7		3		85				<0.2		1.4	
					Middle	4.0	0.6	111	26.5	26.5	7.9	7.9	22.9	22.9	72.7	72.8	5.2		17.7		6		90				<0.2		1.8	
						4.0	0.6	114	26.4		7.9		22.9		72.8		5.2		18.1		6		89				<0.2		1.5	
					Bottom	7.0	0.4	119	26.2	26.2	7.9	7.9	25.0	25.0	74.3	74.3	5.2	5.2	26.1		9		93				<0.2		1.1	
						7.0	0.4	124	26.2		7.9		25.0		74.3		5.2		26.1		9		92				<0.2		1.7	
25-Aug-16	Fine	Moderate	17:18	7.7	Surface	1.0	0.5	97	29.8	29.8	7.9	7.9	17.7	17.7	80.1	80.1	5.5	5.2	3.9	5.5	3	4	86	89	822224	809829	<0.2	<0.2	3.0	2.9
						1.0	0.5	98	29.8		7.9		17.7		80.1		5.5		3.9		2		83				<0.2		3.1	
					Middle	3.9	0.4	125	28.8	28.8	7.8	7.8	20.8	20.9	69.9	69.9	4.8		5.1		4		91				<0.2		2.9	
						3.9	0.4	128	28.8		7.8		20.9		69.9		4.8		5.2		3		90				<0.2		3.0	
					Bottom	6.7	0.4	130	28.2	28.2	7.8	7.8	23.6	23.6	67.7	67.8	4.6	4.6	7.3		4		93				<0.2		2.8	
						6.7	0.4	139	28.2		7.8		23.6		67.8		4.6		7.3		5		93				<0.2		2.7	
27-Aug-16	Fine	Moderate	09:07	8.0	Surface	1.0	0.5	136	29.3	29.3	7.9	7.9	19.6	19.6	78.4	78.4	5.4	4.7	2.7	6.4	2	3	88	89	822256	809829	<0.2	<0.2	3.0	2.4
						1.0	0.5	144	29.3		7.9		19.6		78.3		5.4		2.7		<2		85				<0.2		3.3	
					Middle	4.0	0.4	110	28.3	28.3	7.8	7.8	23.3	23.3	58.8	58.8	4.0		5.9		3		90				<0.2		2.1	
						4.0	0.5	119	28.3		7.8		23.3		58.8		4.0		6.0		2		89				<0.2		2.2	
					Bottom	7.0	0.3	114	27.3	27.3	7.9	7.9	27.8	27.8	60.1	60.1	4.1	4.1	10.6		4		92				<0.2		1.7	
						7.0	0.3	120	27.3		7.9		27.8		60.1		4.1		10.6		5		91				<0.2		1.8	
30-Aug-16	Fine	Moderate	12:21	8.1	Surface	1.0	0.7	130	26.1	26.1	8.0	8.0	26.2	26.2	74.8	74.8	5.2	5.0	6.4	13.6	4	4	87	89	822220	809819	<0.2	<0.2	1.9	1.9
						1.0	0.7	131	26.1		8.0		26.2		74.7		5.2		6.5		4		83				<0.2		2.0	
					Middle	4.1	0.6	130	25.2	25.2	8.1	8.1	29.0	29.0	69.2	69.3	4.8		16.7		4		89				<0.2		1.8	
						4.1	0.6	130	25.2		8.1		29.0		69.4		4.8		16.6		4		91				<0.2		1.8	
					Bottom	7.1	0.6	124	25.1	25.1	8.1	8.1	29.3	29.3	72.5	72.6	5.1	5.1	17.6		5		89				<0.2		2.0	
						7.1	0.7	130	25.1		8.1		29.3		72.7		5.1		17.5		5		93				<0.2		1.9	

DA: Depth-Averaged
Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher

Expansion of Hong Kong International Airport into a Three-Runway System
Water Quality Monitoring
Water Quality Monitoring Results at IM11 during Mid-Ebb Tide

Date	Weather Condition	Sea Condition	Sampling Time	Water Depth (m)	Sampling Depth (m)		Current Speed (m/s)	Current Direction	Water Temperature (°C) Value	Water Temperature (°C) Average	pH Value	pH Average	Salinity (ppt) Value	Salinity (ppt) Average	DO Saturation (%) Value	DO Saturation (%) Average	Dissolved Oxygen (mg/L) Value	Dissolved Oxygen (mg/L) DA	Turbidity(NTU) Value	Turbidity(NTU) DA	Suspended Solids (mg/L) Value	Suspended Solids (mg/L) DA	Total Alkalinity (ppm) Value	Total Alkalinity (ppm) DA	Coordinate HK Grid (Northing)	Coordinate HK Grid (Easting)	Chromium (µg/L) Value	Chromium (µg/L) DA	Nickel (µg/L) Value	Nickel (µg/L) DA
4-Aug-16	Cloudy	Moderate	14:12	9.2	Surface	1.0	0.8	117	25.9	25.9	7.7	7.7	22.1	22.1	77.9	77.8	5.6	5.4	2.5	25.2	6	7	81	87	821489	810545	<0.2	<0.2	2.1	2.1
						1.0	0.8	121	25.9		7.7		22.1		77.7		5.6		2.5		6		84				<0.2		2.4	
					Middle	4.6	0.7	94	24.8	24.8	7.7	7.7	25.0	25.0	71.4	71.4	5.1		14.1		8		88				<0.2		2.1	
						4.6	0.7	99	24.8		7.7		25.0		71.4		5.1		14.1		8		89				<0.2		2.1	
					Bottom	8.2	0.6	89	24.2	24.2	7.7	7.7	27.2	27.2	68.4	68.4	4.9	4.9	59.1		7		90				<0.2		2.0	
						8.2	0.6	97	24.2		7.7		27.2		68.4		4.9		59.1		8		91				<0.2		2.1	
6-Aug-16	Sunny	Moderate	14:30	7.8	Surface	1.0	0.6	135	28.0	28.0	7.6	7.6	18.6	18.6	76.1	76.1	5.4	5.1	2.4	7.0	3	5	86	90	821485	810564	<0.2	<0.2	4.1	3.6
						1.0	0.7	138	28.0		7.6		18.6		76.1		5.4		2.4		3		86				<0.2		4.0	
					Middle	3.9	0.7	101	26.2	26.2	7.6	7.6	22.8	22.8	66.3	66.3	4.7		6.4		6		90				<0.2		3.4	
						3.9	0.7	104	26.2		7.6		22.8		66.3		4.7		6.5		6		90				<0.2		3.3	
					Bottom	6.8	0.6	88	25.3	25.3	7.6	7.6	25.7	25.7	62.5	62.5	4.4	4.4	12.0		6		93				<0.2		3.3	
						6.8	0.7	94	25.3		7.6		25.7		62.5		4.4		12.0		7		95				<0.2		3.6	
9-Aug-16	Cloudy	Moderate	16:17	8.5	Surface	1.0	0.4	125	28.0	28.0	7.9	7.9	16.5	16.5	91.5	91.5	6.5	5.7	2.4	9.7	2	3	85	90	821494	810543	<0.2	<0.2	3.4	3.0
						1.0	0.5	133	28.0		7.9		16.5		91.5		6.5		2.4		3		86				<0.2		3.4	
					Middle	4.3	0.4	112	26.2	26.2	7.7	7.7	23.5	23.5	69.1	69.1	4.9		7.2		3		90				<0.2		3.2	
						4.3	0.4	118	26.2		7.7		23.5		69.1		4.9		7.2		2		91				<0.2		2.8	
					Bottom	7.5	0.3	130	25.6	25.6	7.6	7.6	25.9	25.9	67.2	67.2	4.7	4.7	19.6		2		93				<0.2		2.5	
						7.5	0.4	136	25.6		7.6		25.9		67.2		4.7		19.6		3		92				<0.2		2.6	
11-Aug-16	Fine	Moderate	18:18	7.6	Surface	1.0	0.1	136	26.4	26.4	7.8	7.8	21.5	21.5	85.5	85.2	6.1	5.1	0.5	2.3	3	4	83	86	821494	810549	<0.2	<0.2	3.4	3.0
						1.0	0.1	141	26.4		7.8		21.5		84.9		6.1		0.5		2		79				<0.2		3.4	
					Middle	3.8	0.1	154	25.0	25.0	7.7	7.7	27.1	27.0	58.2	57.9	4.1		1.9		3		85				<0.2		3.2	
						3.8	0.1	168	25.0		7.7		26.9		57.5		4.1		1.9		3		87				<0.2		2.8	
					Bottom	6.6	0.2	120	24.3	24.3	7.6	7.6	29.2	29.2	46.5	46.8	3.3	3.3	4.5		6		92				<0.2		2.5	
						6.6	0.2	120	24.3		7.6		29.2		47.1		3.3		4.6		5		90				<0.2		2.6	
13-Aug-16	Fine	Moderate	09:32	7.0	Surface	1.0	0.3	135	27.0	27.0	7.8	7.8	16.3	16.3	82.9	82.8	6.0	5.3	1.3	3.6	<2	<2	83	85	821492	810559	<0.2	<0.2	3.5	3.3
						1.0	0.3	138	27.0		7.8		16.3		82.6		6.0		1.3		<2		79				<0.2		3.1	
					Middle	3.5	0.4	111	25.6	25.6	7.8	7.8	22.6	22.6	64.3	64.2	4.6		2.2		<2		84				<0.2		3.3	
						3.5	0.4	116	25.6		7.8		22.6		64.1		4.6		2.3		<2		86				<0.2		3.2	
					Bottom	6.0	0.4	97	23.6	23.6	7.7	7.7	29.9	29.9	51.6	52.8	3.7	3.8	7.4		<2		89				<0.2		3.4	
						6.0	0.5	102	23.6		7.7		29.9		53.9		3.8		7.2		<2		90				<0.2		3.5	
16-Aug-16	Rainy	Moderate	11:56	8.7	Surface	1.0	0.6	113	25.0	25.0	7.9	7.9	23.8	23.8	69.4	69.4	5.0	4.6	2.4	6.5	2	4	85	89	821502	810560	<0.2	<0.2	1.6	1.8
						1.0	0.6	113	25.0		7.9		23.8		69.3		5.0		2.4		3		86				<0.2		1.8	
					Middle	4.4	0.6	96	24.3	24.3	7.9	7.9	26.2	26.2	58.4	58.4	4.2		7.2		4		89				<0.2		2.2	
						4.4	0.6	104	24.3		7.9		26.2		58.4		4.2		7.2		3		90				<0.2		1.7	
					Bottom	7.7	0.3	109	23.9	23.9	7.9	7.9	27.5	27.5	63.3	63.3	4.6	4.6	10.0		6		92				<0.2		1.6	
						7.7	0.3	111	23.9		7.9		27.5		63.3		4.6		10.0		6		93				<0.2		2.0	
20-Aug-16	Fine	Moderate	13:27	9.1	Surface	1.0	0.8	123	26.3	26.3	7.8	7.8	22.9	22.9	76.2	76.2	5.4	5.4	3.5	5.9	<2	5	83	89	821494	810541	<0.2	<0.2	2.7	2.8
						1.0	0.8	131	26.3		7.8		22.9		76.2		5.4		3.5		<2		83				<0.2		3.1	
					Middle	4.6	0.7	109	25.6	25.6	7.9	7.9	25.5	25.5	75.1	75.2	5.3		6.6		6		90				<0.2		2.9	
						4.6	0.7	110	25.6		7.9		25.5		75.2		5.3		6.6		5		91				<0.2		2.7	
					Bottom	8.1	0.4	109	25.6	25.6	7.9	7.9	26.0	26.0	75.9	75.9	5.4	5.4	7.7		7		93				<0.2		2.6	
						8.1	0.5	110	25.6		7.9		26.0		75.9		5.4		7.7		8		93				<0.2		2.6	
23-Aug-16	Sunny	Moderate	15:35	8.6	Surface	1.0	0.7	103	27.6	27.6	7.8	7.8	19.0	19.0	78.0	78.0	5.5	5.4	6.4	13.0	3	5	85	89	821504	810559	<0.2	<0.2	1.5	1.9
						1.0	0.7	104	27.6		7.8		18.9		77.9		5.5		6.5		4		86				<0.2		0.9	
					Middle	4.3	0.5	77	26.7	26.7	7.9	7.9	23.1	23.1	74.7	74.7	5.3		13.3		4		90				<0.2		2.9	
						4.3	0.5	80	26.7		7.9		23.1		74.7		5.3		13.4		5		90				<0.2		2.1	
					Bottom	7.6	0.4	106	26.3	26.3	7.9	7.9	24.4	24.4	74.2	74.2	5.2	5.2	19.2		5		92				<0.2		2.1	
						7.6	0.4	116	26.3		7.9		24.4		74.2		5.2		19.2		6		93				<0.2		1.8	
25-Aug-16	Fine	Moderate	17:25	8.0	Surface	1.0	0.5	114	29.6	29.6	7.8	7.8	18.4	18.4	79.3	79.3	5.5	5.3	5.3	6.8	3	5	84	89	821482	810525	<0.2	<0.2	3.2	2.8
						1.0	0.5	122	29.6		7.8		18.4		79.3		5.5		5.2		3		83				<0.2		3.6	
					Middle	4.0	0.4	126	28.6	28.6	7.9	7.9	22.8	22.8	74.5	74.5	5.1		5.8		6		90				<0.2		2.4	
						4.0	0.4	132	28.6		7.9		22.8		74.4		5.1		5.8		6		91				<0.2		2.7	
					Bottom	7.0	0.3	143	28.0	28.0	7.8	7.8	24.7	24.7	63.9	63.9	4.4	4.4	9.3		6		93				<0.2		2.4	
						7.0	0.4	150	28.0		7.8		24.7		63.9		4.4		9.3		5		92				<0.2		2.2	
27-Aug-16	Fine	Moderate	08:54	7.5	Surface	1.0	0.5	114	29.5	29.5	7.9	7.9	17.9	17.9	86.7	86.7	6.0	5.2	3.0	11.5	<2	3	87	90	821492	810547	<0.2	<0.2	2.7	2.9
						1.0	0.5	124	29.5		7.9		17.8		86.7		6.0		3.0		<2		85				<0.2		3.2	
					Middle	3.8	0.5	103	28.2	28.2	7.9	7.9	23.5	23.5	63.2	63.2	4.3		10.4		3		90				<0.2		2.9	
						3.8	0.5	108	28.2		7.9		23.4		63.1		4.3		10.7		3		91				<0.2		3.1	
					Bottom	6.5	0.4	91	27.3	27.3	7.9	7.9	28.3	28.3	59.1	59.2	4.0	4.0	21.0		4		92				<0.2		2.7	
						6.5	0.4	92	27.3		7.9		28.3		59.2		4.0		21.0		5		94				<0.2		2.6	
30-Aug-16	Fine	Moderate	12:10	6.4	Surface	1.0	0.7	115	25.6	25.6	8.1	8.1	26.9	26.9	76.2	76.2	5.4	5.4	4.6	8.1	4	5	83	88	821512	810536	<0.2	<0.2	2.1	1.8
						1.0	0.7	121	25.6		8.1		26.9		76.2		5.4		4.7		4		84				<0.2		2.0	
					Middle	3.2	0.7	89	25.4	25.4	8.1	8.1	27.9	27.9	74.9	74.9	5.3		7.9		5		90				<0.2		1.7	
						3.2	0.7	91	25.4		8.1		27.9		74.9		5.3		7.9		5		89				<0.2		2.0	
					Bottom	5.4	0.6	86	25.3	25.3	8.1	8.1	28.4	28.4	76.6	76.6	5.4	5.4	11.6		7		92				<0.2		1.6	
						5.4	0.6	94	25.3		8.1		28.4		76.6		5.4		11.6		7		92				<0.2		1.6	

DA: Depth-Averaged
Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher

Expansion of Hong Kong International Airport into a Three-Runway System
Water Quality Monitoring
Water Quality Monitoring Results at IM12 during Mid-Ebb Tide

Date	Weather Condition	Sea Condition	Sampling Time	Water Depth (m)	Sampling Depth (m)		Current Speed (m/s)	Current Direction	Water Temperature (°C) Value	Water Temperature (°C) Average	pH Value	pH Average	Salinity (ppt) Value	Salinity (ppt) Average	DO Saturation (%) Value	DO Saturation (%) Average	Dissolved Oxygen (mg/L) Value	Dissolved Oxygen (mg/L) DA	Turbidity(NTU) Value	Turbidity(NTU) DA	Suspended Solids (mg/L) Value	Suspended Solids (mg/L) DA	Total Alkalinity (ppm) Value	Total Alkalinity (ppm) DA	Coordinate HK Grid (Northing)	Coordinate HK Grid (Easting)	Chromium (µg/L) Value	Chromium (µg/L) DA	Nickel (µg/L) Value	Nickel (µg/L) DA
4-Aug-16	Cloudy	Moderate	14:01	9.5	Surface	1.0	0.8	117	26.1	26.1	7.7	7.7	22.3	22.3	82.9	82.9	5.9	5.7	3.5	10.4	4	4	80	85	821157	811505	<0.2	<0.2	2.4	2.3
						1.0	0.9	119	26.1		7.7		22.3		82.9		5.9		3.5		3		82				<0.2		2.8	
					Middle	4.8	0.7	106	25.2	25.2	7.7	7.7	24.4	24.4	76.1	76.1	5.4		7.6		3		86				<0.2		2.1	
						4.8	0.7	115	25.2		7.7		24.4		76.1		5.4		7.6		4		85				<0.2		2.1	
					Bottom	8.5	0.6	97	24.4	24.4	7.7	7.7	26.6	26.6	70.8	70.8	5.1	5.1	20.1		5		90				<0.2		2.3	
						8.5	0.6	97	24.4		7.7		26.6		70.8		5.1		20.1		6		89				<0.2		2.2	
6-Aug-16	Sunny	Moderate	14:38	9.3	Surface	1.0	0.7	120	27.6	27.6	7.6	7.6	19.5	19.5	75.4	75.4	5.3	5.1	2.7	6.8	4	4	86	90	821174	811505	<0.2	<0.2	3.9	3.6
						1.0	0.7	129	27.6		7.6		19.5		75.3		5.3		2.7		3		87				<0.2		4.1	
					Middle	4.7	0.7	84	26.5	26.5	7.6	7.6	21.7	21.8	69.0	69.0	4.9		5.2		5		90				<0.2		3.7	
						4.7	0.7	84	26.5		7.6		21.8		69.0		4.9		5.3		3		90				<0.2		3.3	
					Bottom	8.3	0.6	94	25.7	25.7	7.6	7.6	24.0	24.0	66.0	66.1	4.7	4.7	12.4		5		92				<0.2		3.4	
						8.3	0.6	96	25.7		7.6		24.0		66.1		4.7		12.6		3		94				<0.2		3.4	
9-Aug-16	Cloudy	Moderate	16:25	9.2	Surface	1.0	0.5	117	27.8	27.8	7.8	7.8	17.5	17.5	89.2	89.2	6.4	5.9	1.9	3.2	<2	2	85	89	821149	811501	<0.2	<0.2	3.0	2.9
						1.0	0.5	123	27.8		7.8		17.5		89.2		6.4		1.9		<2		86				<0.2		3.0	
					Middle	4.6	0.5	103	27.0	27.0	7.7	7.7	20.8	20.9	76.5	76.4	5.4		2.7		<2		89				<0.2		2.8	
						4.6	0.5	111	27.0		7.7		20.9		76.3		5.4		2.8		<2		91				<0.2		2.6	
					Bottom	8.2	0.3	120	25.9	25.9	7.7	7.7	25.2	25.2	73.9	74.0	5.2	5.2	4.9		2		92				<0.2		2.9	
						8.2	0.3	123	25.9		7.7		25.2		74.1		5.2		4.9		4		93				<0.2		3.0	
11-Aug-16	Fine	Moderate	18:29	7.9	Surface	1.0	0.2	117	26.3	26.3	7.8	7.8	22.2	22.3	83.6	83.4	6.0	5.4	0.6	2.6	<2	2	85	89	821148	811515	<0.2	<0.2	3.0	2.9
						1.0	0.2	123	26.2		7.8		22.3		83.1		5.9		0.6		<2		85				<0.2		3.0	
					Middle	4.0	0.2	131	25.4	25.4	7.8	7.8	25.3	25.3	67.5	67.4	4.8		1.1		2		89				<0.2		2.8	
						4.0	0.2	132	25.4		7.8		25.2		67.2		4.8		1.2		3		90				<0.2		2.6	
					Bottom	6.9	0.2	118	24.4	24.4	7.7	7.7	29.5	29.5	52.7	52.7	3.7	3.7	5.9		3		92				<0.2		2.9	
						6.9	0.2	129	24.4		7.7		29.5		52.7		3.7		5.9		2		92				<0.2		3.0	
13-Aug-16	Fine	Moderate	09:21	7.6	Surface	1.0	0.4	119	26.6	26.6	7.8	7.8	18.0	18.1	83.1	83.0	6.0	5.2	1.2	3.2	<2	<2	80	86	821171	811508	<0.2	<0.2	3.5	3.3
						1.0	0.4	122	26.6		7.8		18.1		82.9		6.0		1.2		<2		83				<0.2		3.4	
					Middle	3.8	0.4	97	25.3	25.3	7.8	7.8	24.7	24.8	62.3	62.2	4.4		1.3		<2		85				<0.2		3.8	
						3.8	0.5	100	25.3		7.8		24.8		62.0		4.4		1.4		<2		88				<0.2		3.2	
					Bottom	6.6	0.3	88	23.7	23.7	7.7	7.7	29.6	29.6	46.8	47.8	3.3	3.4	7.0		<2		90				<0.2		3.4	
						6.6	0.3	90	23.7		7.7		29.6		48.8		3.5		6.9		<2		90				<0.2		2.6	
16-Aug-16	Cloudy	Moderate	11:48	8.6	Surface	1.0	0.8	116	25.3	25.3	8.0	8.0	21.8	21.8	75.7	75.7	5.5	5.1	2.5	5.1	<2	<2	86	90	821173	811503	<0.2	<0.2	2.3	2.6
						1.0	0.8	116	25.3		8.0		21.8		75.7		5.5		2.5		<2		86				<0.2		2.3	
					Middle	4.3	0.8	101	24.5	24.5	7.9	7.9	25.2	25.2	64.1	64.1	4.6		6.1		<2		89				<0.2		3.0	
						4.3	0.8	107	24.5		7.9		25.2		64.0		4.6		6.3		<2		91				<0.2		2.5	
					Bottom	7.6	0.7	91	24.3	24.3	7.9	7.9	26.0	26.0	68.1	68.3	4.9	4.9	6.7		<2		93				<0.2		2.4	
						7.6	0.7	94	24.3		7.9		26.0		68.4		4.9		6.5		<2		94				<0.2		2.8	
20-Aug-16	Fine	Moderate	13:34	9.7	Surface	1.0	0.9	127	26.2	26.3	7.8	7.8	22.9	22.9	75.6	75.6	5.4	5.4	3.4	7.1	<2	5	82	89	821175	811526	<0.2	<0.2	2.9	2.9
						1.0	1.0	135	26.3		7.8		22.9		75.6		5.4		3.4		<2		83				<0.2		3.1	
					Middle	4.9	0.9	111	25.9	25.9	7.8	7.8	24.7	24.7	74.4	74.4	5.3		6.6		4		92				<0.2		3.1	
						4.9	0.9	111	25.9		7.8		24.7		74.4		5.3		6.6		5		90				<0.2		3.1	
					Bottom	8.7	0.7	92	25.7	25.7	7.9	7.9	26.0	26.0	77.0	77.0	5.4	5.4	11.4		7		94				<0.2		3.0	
						8.7	0.7	92	25.7		7.9		26.0		77.0		5.4		11.4		7		93				<0.2		2.4	
23-Aug-16	Sunny	Moderate	15:42	9.2	Surface	1.0	0.8	110	27.5	27.5	7.9	7.9	18.8	18.8	79.1	79.1	5.6	5.5	6.8	10.1	3	4	85	89	821163	811520	<0.2	<0.2	2.6	2.2
						1.0	0.9	119	27.5		7.9		18.8		79.1		5.6		6.8		4		83				<0.2		2.5	
					Middle	4.6	0.7	81	27.1	27.1	7.9	7.9	20.2	20.2	75.4	75.3	5.4		9.9		4		90				<0.2		2.5	
						4.6	0.7	87	27.0		7.9		20.2		75.2		5.4		10.2		3		91				<0.2		1.8	
					Bottom	8.2	0.6	85	26.5	26.5	7.9	7.9	23.9	23.9	74.5	74.5	5.2	5.2	13.5		5		92				<0.2		2.0	
						8.2	0.6	85	26.5		7.9		23.9		74.5		5.2		13.5		6		92				<0.2		1.9	
25-Aug-16	Fine	Moderate	17:32	9.2	Surface	1.0	0.5	99	30.1	30.1	7.9	7.9	17.5	17.5	78.3	78.3	5.4	5.1	4.1	5.8	3	5	83	89	821144	811530	<0.2	<0.2	3.0	2.9
						1.0	0.5	103	30.1		7.9		17.5		78.3		5.4		4.1		3		85				<0.2		3.1	
					Middle	4.6	0.3	133	28.3	28.3	7.9	7.9	24.2	24.2	69.7	69.8	4.8		5.7		4		91				<0.2		2.9	
						4.6	0.3	145	28.3		7.9		24.2		69.8		4.8		5.7		4		89				<0.2		3.2	
					Bottom	8.2	0.4	124	27.9	27.9	7.8	7.8	25.1	25.1	64.0	64.1	4.4	4.4	7.6		6		93				<0.2		2.4	
						8.2	0.5	128	27.9		7.8		25.1		64.1		4.4		7.6		7		93				<0.2		2.5	
27-Aug-16	Fine	Moderate	08:45	9.1	Surface	1.0	0.5	100	29.4	29.4	7.9	7.9	17.4	17.4	87.5	87.5	6.1	5.7	3.1	7.4	3	3	82	89	821167	811525	<0.2	<0.2	3.0	2.9
						1.0	0.5	102	29.4		7.9		17.4		87.4		6.1		3.1		3		84				<0.2		3.1	
					Middle	4.6	0.5	112	28.7	28.7	7.9	7.9	21.6	21.6	76.0	76.1	5.2		3.5		3		90				<0.2		2.8	
						4.6	0.6	117	28.7		7.9		21.6		76.1		5.2		3.6		2		91				<0.2		3.2	
					Bottom	8.1	0.4	135	27.6	27.6	7.9	7.9	26.7	26.7	57.0	57.0	3.9	3.9	15.5		4		93				<0.2		2.4	
						8.1	0.4	144	27.6		7.9		26.7		57.0		3.9		15.5		3		93				<0.2		3.0	
30-Aug-16	Fine	Moderate	12:00	9.8	Surface	1.0	0.7	111	25.7	25.7	8.1	8.1	27.1	27.1	79.8	79.8	5.6	5.7	5.8	17.2	4	7	85	89	821150	811511	<0.2	<0.2	1.8	1.7
						1.0	0.8	119	25.7		8.1		27.1		79.8		5.6		5.9		4		83				<0.2		1.7	
					Middle	4.9	0.7	99	25.5	25.5	8.1	8.1	28.0	28.0	81.0	81.0	5.7		17.5		7		90				<0.2		1.5	
						4.9	0.7	101	25.5		8.1		28.0		81.0		5.7		17.5		8		91				<0.2		2.1	
					Bottom	8.8	0.5	104	25.3	25.3	8.1	8.1	28.6	28.6	80.0	80.0	5.6	5.6	28.3		11		92				<0.2		1.7	
						8.8	0.6	110	25.3		8.1		28.6		80.0		5.6		28.3		10		92				<0.2		1.5	

DA: Depth-Averaged
Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher

Expansion of Hong Kong International Airport into a Three-Runway System
Water Quality Monitoring
Water Quality Monitoring Results at SR2 during Mid-Ebb Tide

Date	Weather Condition	Sea Condition	Sampling Time	Water Depth (m)	Sampling Depth (m)		Current Speed (m/s)	Current Direction	Water Temperature (°C) Value	Water Temperature (°C) Average	pH Value	pH Average	Salinity (ppt) Value	Salinity (ppt) Average	DO Saturation (%) Value	DO Saturation (%) Average	Dissolved Oxygen (mg/L) Value	Dissolved Oxygen (mg/L) DA	Turbidity(NTU) Value	Turbidity(NTU) DA	Suspended Solids (mg/L) Value	Suspended Solids (mg/L) DA	Coordinate HK Grid (Northing)	Coordinate HK Grid (Easting)
4-Aug-16	Cloudy	Moderate	13:20	5.5	Surface	1.0	0.3	205	25.4	25.4	7.7	7.7	24.3	24.3	74.4	74.4	5.3	5.3	6.3	11.0	5	10	821454	814153
						1.0	0.3	223	25.4		7.7		24.3		74.4		5.3		6.3		6			
					Middle	2.8	-	-	-	-	-	-	-	-	-	-	-		-		-			
						2.8	-	-	-		-		-		-		-		-		-			
					Bottom	4.5	0.3	157	24.8	24.8	7.7	7.7	25.9	25.9	68.9	68.9	4.9	4.9	15.8		15			
						4.5	0.3	167	24.8		7.7		25.9		68.9		4.9		15.8		15			
6-Aug-16	Sunny	Moderate	15:14	4.5	Surface	1.0	0.6	75	28.2	28.2	7.6	7.6	19.6	19.6	77.8	77.8	5.4	5.4	1.7	6.1	3	4	821478	814149
						1.0	0.6	82	28.2		7.6		19.6		77.8		5.4		1.7		4			
					Middle	2.3	-	-	-	-	-	-	-	-	-	-	-		-		-			
						2.3	-	-	-		-		-		-		-		-		-			
					Bottom	3.5	0.3	69	26.1	26.1	7.6	7.6	23.0	23.1	68.2	68.2	4.8	4.8	10.4		4			
						3.5	0.3	71	26.1		7.6		23.1		68.2		4.8		10.4		4			
9-Aug-16	Cloudy	Moderate	16:58	4.6	Surface	1.0	0.5	93	27.9	27.9	7.9	7.9	16.3	16.3	93.7	93.5	6.7	6.7	5.5	8.1	<2	3	821469	814182
						1.0	0.5	100	27.8		7.9		16.3		93.3		6.7		5.7		<2			
					Middle	2.3	-	-	-	-	-	-	-	-	-	-	-		-		-			
						2.3	-	-	-		-		-		-		-		-		-			
					Bottom	3.6	0.3	96	27.4	27.4	7.8	7.8	19.6	19.6	90.5	90.5	6.4	6.4	10.5		4			
						3.6	0.3	102	27.4		7.8		19.6		90.5		6.4		10.5		3			
11-Aug-16	Fine	Moderate	19:02	4.1	Surface	1.0	0.2	121	26.3	26.3	7.8	7.8	22.6	22.6	85.8	85.6	6.1	6.1	0.5	0.6	<2	<2	821456	814167
						1.0	0.2	132	26.3		7.8		22.6		85.4		6.1		0.5		<2			
					Middle	2.1	-	-	-	-	-	-	-	-	-	-	-		-		-			
						2.1	-	-	-		-		-		-		-		-		-			
					Bottom	3.1	0.2	82	25.2	25.2	7.8	7.8	26.4	26.4	73.1	73.2	5.2	5.2	0.7		<2			
						3.1	0.2	88	25.2		7.8		26.4		73.2		5.2		0.7		<2			
13-Aug-16	Fine	Moderate	08:40	4.6	Surface	1.0	0.2	77	26.5	26.5	7.8	7.8	17.5	17.5	88.0	87.8	6.4	6.4	0.9	0.8	<2	<2	821481	814165
						1.0	0.3	78	26.5		7.8		17.5		87.5		6.4		0.9		<2			
					Middle	2.3	-	-	-	-	-	-	-	-	-	-	-		-		-			
						2.3	-	-	-		-		-		-		-		-		-			
					Bottom	3.6	0.3	89	25.2	25.2	7.8	7.8	25.8	25.7	68.5	68.7	4.9	4.9	0.6		<2			
						3.6	0.3	96	25.2		7.8		25.5		68.8		4.9		0.6		<2			
16-Aug-16	Rainy	Moderate	11:15	4.0	Surface	1.0	0.5	85	25.1	25.1	8.0	8.0	22.6	22.6	75.5	75.5	5.5	5.5	3.3	4.0	<2	3	821450	814173
						1.0	0.6	92	25.1		8.0		22.6		75.5		5.5		3.3		<2			
					Middle	2.0	-	-	-	-	-	-	-	-	-	-	-		-		-			
						2.0	-	-	-		-		-		-		-		-		-			
					Bottom	3.0	0.2	68	24.6	24.6	7.9	7.9	25.3	25.3	74.6	74.6	5.4	5.4	4.7		2			
						3.0	0.3	71	24.6		7.9		25.3		74.6		5.4		4.7		4			
20-Aug-16	Fine	Moderate	13:53	5.3	Surface	1.0	0.5	131	26.6	26.7	7.8	7.8	23.5	23.5	77.6	77.6	5.5	5.5	7.7	16.2	6	13	821450	814181
						1.0	0.6	136	26.7		7.8		23.4		77.6		5.5		7.8		6			
					Middle	2.7	-	-	-	-	-	-	-	-	-	-	-		-		-			
						2.7	-	-	-		-		-		-		-		-		-			
					Bottom	4.3	0.5	144	25.7	25.7	7.8	7.8	25.7	25.7	78.0	78.1	5.5	5.5	24.5		19			
						4.3	0.5	151	25.7		7.8		25.7		78.1		5.5		24.6		19			
23-Aug-16	Fine	Moderate	16:01	4.8	Surface	1.0	0.6	93	27.6	27.6	7.8	7.8	19.4	19.4	78.2	78.2	5.5	5.5	5.3	9.7	3	5	821479	814165
						1.0	0.6	101	27.6		7.8		19.4		78.2		5.5		5.3		3			
					Middle	2.4	-	-	-	-	-	-	-	-	-	-	-		-		-			
						2.4	-	-	-		-		-		-		-		-		-			
					Bottom	3.8	0.6	95	26.3	26.3	7.8	7.8	24.0	24.0	73.5	73.5	5.2	5.2	14.1		6			
						3.8	0.6	102	26.3		7.8		24.0		73.5		5.2		14.1		7			
25-Aug-16	Fine	Moderate	18:00	4.4	Surface	1.0	0.4	92	29.6	29.6	7.9	7.9	20.1	20.2	90.3	90.2	6.2	6.2	4.2	5.5	4	4	821472	814176
						1.0	0.4	97	29.6		7.9		20.2		90.1		6.1		4.3		3			
					Middle	2.2	-	-	-	-	-	-	-	-	-	-	-		-		-			
						2.2	-	-	-		-		-		-		-		-		-			
					Bottom	3.4	0.3	131	29.3	29.3	7.9	7.9	21.2	21.2	86.6	86.6	5.9	5.9	6.6		4			
						3.4	0.3	134	29.3		7.9		21.2		86.6		5.9		6.7		3			
27-Aug-16	Fine	Moderate	08:21	4.9	Surface	1.0	0.3	76	29.2	29.2	8.0	8.0	18.6	18.6	87.8	87.7	6.1	6.1	3.9	8.4	3	3	821475	814182
						1.0	0.3	76	29.2		8.0		18.6		87.6		6.1		3.9		3			
					Middle	2.5	-	-	-	-	-	-	-	-	-	-	-		-		-			
						2.5	-	-	-		-		-		-		-		-		-			
					Bottom	3.9	0.2	77	28.0	28.0	7.8	7.8	25.5	25.5	59.5	59.5	4.0	4.0	12.8		3			
						3.9	0.2	81	28.0		7.8		25.5		59.5		4.0		13.0		4			
30-Aug-16	Fine	Moderate	11:34	4.8	Surface	1.0	0.8	92	25.7	25.7	8.0	8.0	26.7	26.7	72.6	72.6	5.1	5.1	6.4	9.5	5	8	821453	814181
						1.0	0.8	97	25.7		8.0		26.7		72.6		5.1		6.4		5			
					Middle	2.4	-	-	-	-	-	-	-	-	-	-	-		-		-			
						2.4	-	-	-		-		-		-		-		-		-			
					Bottom	3.8	0.7	96	25.2	25.2	8.0	8.0	27.5	27.5	71.6	71.7	5.0	5.1	12.5		11			
						3.8	0.8	96	25.2		8.0		27.5		71.8		5.1		12.5		10			

DA: Depth-Averaged
Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher

Expansion of Hong Kong International Airport into a Three-Runway System
Water Quality Monitoring
Water Quality Monitoring Results at SR3 during Mid-Ebb Tide

Date	Weather Condition	Sea Condition	Sampling Time	Water Depth (m)	Sampling Depth (m)		Current Speed (m/s)	Current Direction	Water Temperature (°C) Value	Water Temperature (°C) Average	pH Value	pH Average	Salinity (ppt) Value	Salinity (ppt) Average	DO Saturation (%) Value	DO Saturation (%) Average	Dissolved Oxygen (mg/L) Value	Dissolved Oxygen (mg/L) DA	Turbidity(NTU) Value	Turbidity(NTU) DA	Suspended Solids (mg/L) Value	Suspended Solids (mg/L) DA	Coordinate HK Grid (Northing)	Coordinate HK Grid (Easting)
4-Aug-16	Cloudy	Moderate	14:55	9.1	Surface	1.0	0.8	180	26.0	26.0	7.7	7.7	21.3	21.3	78.2	78.2	5.6	5.5	5.4	9.3	4	6	822146	807562
						1.0	0.8	192	26.0		7.7		21.3		78.2		5.6		5.4		6			
					Middle	4.6	0.8	174	25.3	25.3	7.7	7.7	23.5	23.5	73.0	73.0	5.3		9.1		6			
						4.6	0.8	181	25.3		7.7		23.5		73.0		5.3		9.1		7			
					Bottom	8.1	0.3	246	24.9	24.9	7.7	7.7	24.8	24.8	71.5	71.5	5.1	5.1	13.3		8			
						8.1	0.3	247	24.9		7.7		24.8		71.5		5.1		13.3		7			
6-Aug-16	Sunny	Moderate	14:00	9.3	Surface	1.0	0.3	182	26.4	26.4	7.5	7.5	21.5	21.5	67.8	67.8	4.8	4.7	3.2	7.4	3	10	822130	807558
						1.0	0.3	184	26.4		7.5		21.5		67.8		4.8		3.2		4			
					Middle	4.7	0.3	198	25.7	25.7	7.6	7.6	25.0	25.0	64.0	64.0	4.5		7.9		9			
						4.7	0.3	200	25.7		7.6		25.0		64.0		4.5		7.9		11			
					Bottom	8.3	0.3	207	25.0	25.0	7.6	7.6	26.6	26.6	64.2	64.3	4.6	4.6	11.0		16			
						8.3	0.3	224	25.0		7.6		26.6		64.3		4.6		10.9		14			
9-Aug-16	Cloudy	Moderate	15:46	9.2	Surface	1.0	0.4	168	27.9	27.9	7.8	7.8	17.3	17.3	88.4	88.3	6.3	5.6	1.6	5.5	<2	4	822157	807573
						1.0	0.5	175	27.9		7.8		17.3		88.2		6.3		1.6		<2			
					Middle	4.6	0.4	157	26.8	26.8	7.6	7.6	21.2	21.2	67.8	67.8	4.8		2.7		3			
						4.6	0.4	169	26.8		7.6		21.2		67.8		4.8		2.7		4			
					Bottom	8.2	0.4	155	25.2	25.2	7.6	7.6	26.7	26.7	60.6	60.6	4.3	4.3	12.1		4			
						8.2	0.4	159	25.2		7.6		26.7		60.6		4.3		12.1		6			
11-Aug-16	Fine	Moderate	17:38	8.1	Surface	1.0	0.3	188	26.3	26.3	7.7	7.7	22.0	22.0	73.0	72.8	5.2	4.8	0.8	3.1	3	3	822162	807554
						1.0	0.3	202	26.3		7.7		22.0		72.6		5.2		0.8		3			
					Middle	4.1	0.3	194	25.8	25.8	7.7	7.7	24.7	24.7	61.3	61.2	4.3		1.1		2			
						4.1	0.3	210	25.8		7.7		24.7		61.0		4.3		1.2		2			
					Bottom	7.1	0.2	167	23.5	23.5	7.6	7.6	30.7	30.7	42.3	42.7	3.0	3.1	7.2		3			
						7.1	0.3	176	23.5		7.6		30.7		43.1		3.1		7.2		3			
13-Aug-16	Fine	Moderate	10:15	7.6	Surface	1.0	0.4	182	24.5	24.5	7.8	7.8	18.6	18.6	58.1	58.2	6.1	5.1	1.0	1.0	<2	2	822161	807552
						1.0	0.5	191	24.5		7.8		18.6		58.2		6.1		1.0		<2			
					Middle	3.8	0.2	180	24.5	24.5	7.8	7.8	22.6	23.1	58.4	58.5	4.1		1.0		<2			
						3.8	0.2	197	24.5		7.8		23.5		58.6		4.1		1.0		<2			
					Bottom	6.6	0.2	194	24.5	24.5	7.8	7.8	28.4	28.4	64.0	64.2	3.5	3.6	1.1		2			
						6.6	0.2	195	24.5		7.8		28.4		64.4		3.6		1.1		<2			
16-Aug-16	Cloudy	Moderate	12:34	8.8	Surface	1.0	0.8	187	25.5	25.5	7.9	7.9	22.2	22.2	70.6	70.6	5.1	4.4	2.8	7.7	2	4	822158	807562
						1.0	0.8	201	25.5		7.9		22.2		70.6		5.1		2.8		2			
					Middle	4.4	0.7	185	24.2	24.2	7.9	7.9	27.0	27.0	52.0	52.0	3.7		8.6		2			
						4.4	0.7	200	24.2		7.9		27.0		52.0		3.7		8.7		4			
					Bottom	7.8	0.3	229	23.9	23.9	7.9	7.9	28.1	28.1	53.2	53.2	3.8	3.8	11.7		7			
						7.8	0.3	232	23.9		7.9		28.1		53.2		3.8		11.7		7			
20-Aug-16	Fine	Moderate	12:57	9.7	Surface	1.0	0.3	201	26.1	26.1	7.7	7.7	23.3	23.3	73.0	73.0	5.2	5.3	7.8	11.5	3	6	822140	807556
						1.0	0.4	220	26.1		7.7		23.3		73.0		5.2		8.0		3			
					Middle	4.9	0.4	206	25.5	25.5	7.7	7.7	25.7	25.7	74.4	74.5	5.3		12.6		5			
						4.9	0.4	213	25.5		7.7		25.7		74.5		5.3		12.7		5			
					Bottom	8.7	0.2	166	25.5	25.5	7.8	7.8	27.6	27.6	76.0	76.0	5.3	5.3	13.8		10			
						8.7	0.3	180	25.5		7.8		27.6		76.0		5.3		13.8		11			
23-Aug-16	Sunny	Moderate	15:09	9.4	Surface	1.0	0.3	173	27.1	27.1	7.7	7.7	18.6	18.6	73.7	73.7	5.3	5.2	4.1	9.1	3	5	822156	807587
						1.0	0.4	180	27.1		7.7		18.6		73.6		5.3		4.2		2			
					Middle	4.7	0.4	186	26.4	26.4	7.8	7.8	22.5	22.5	71.6	71.7	5.1		10.9		5			
						4.7	0.4	201	26.4		7.8		22.5		71.7		5.1		11.0		4			
					Bottom	8.4	0.3	128	26.3	26.3	7.8	7.8	23.1	23.1	74.5	74.5	5.3	5.3	12.2		8			
						8.4	0.3	134	26.3		7.8		23.1		74.5		5.3		12.2		7			
25-Aug-16	Fine	Moderate	16:55	8.8	Surface	1.0	0.4	115	29.5	29.5	7.8	7.8	17.9	18.0	76.8	76.8	5.3	5.0	3.2	8.1	3	4	822155	807558
						1.0	0.4	117	29.5		7.8		18.0		76.8		5.3		3.2		4			
					Middle	4.4	0.6	74	28.7	28.7	7.8	7.8	20.7	20.7	68.0	67.9	4.7		6.2		3			
						4.4	0.6	74	28.7		7.8		20.7		67.8		4.7		6.3		3			
					Bottom	7.8	0.4	102	27.6	27.6	7.9	7.9	26.2	26.2	61.1	61.1	4.2	4.2	14.7		5			
						7.8	0.4	109	27.6		7.9		26.2		61.1		4.2		14.7		4			
27-Aug-16	Fine	Moderate	09:32	8.8	Surface	1.0	0.8	179	29.4	29.4	7.9	7.9	17.3	17.4	77.4	77.3	5.4	4.5	3.5	7.5	<2	4	822138	807564
						1.0	0.8	193	29.4		7.9		17.4		77.2		5.4		3.5		<2			
					Middle	4.4	0.5	184	27.6	27.6	7.9	7.9	26.4	26.4	53.1	53.2	3.6		8.5		4			
						4.4	0.6	184	27.6		7.9		26.4		53.2		3.6		8.5		3			
					Bottom	7.8	0.3	193	27.4	27.4	7.9	7.9	27.2	27.2	53.6	53.6	3.6	3.6	10.5		5			
						7.8	0.3	204	27.4		7.9		27.2		53.6		3.6		10.4		7			
30-Aug-16	Fine	Moderate	12:46	8.9	Surface	1.0	0.8	179	26.2	26.2	8.1	8.1	26.4	26.4	78.0	78.0	5.4	5.3	4.5	11.4	6	7	822163	807567
						1.0	0.8	190	26.2		8.1		26.4		77.9		5.4		4.5		6			
					Middle	4.5	0.7	173	25.5	25.5	8.0	8.0	27.5	27.5	72.4	72.4	5.1		7.2		7			
						4.5	0.7	189	25.5		8.0		27.5		72.4		5.1		7.2		8			
					Bottom	7.9	0.5	194	25.3	25.3	8.0	8.0	28.3	28.3	75.5	75.5	5.3	5.3	22.6		9			
						7.9	0.5	194	25.3		8.0		28.3		75.5		5.3		22.6		8			

DA: Depth-Averaged
Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher

Expansion of Hong Kong International Airport into a Three-Runway System
Water Quality Monitoring
Water Quality Monitoring Results at SR4A during Mid-Ebb Tide

Date	Weather Condition	Sea Condition	Sampling Time	Water Depth (m)	Sampling Depth (m)		Current Speed (m/s)	Current Direction	Water Temperature (°C) Value	Water Temperature (°C) Average	pH Value	pH Average	Salinity (ppt) Value	Salinity (ppt) Average	DO Saturation (%) Value	DO Saturation (%) Average	Dissolved Oxygen (mg/L) Value	Dissolved Oxygen (mg/L) DA	Turbidity(NTU) Value	Turbidity(NTU) DA	Suspended Solids (mg/L) Value	Suspended Solids (mg/L) DA	Coordinate HK Grid (Northing)	Coordinate HK Grid (Easting)
4-Aug-16	Cloudy	Calm	13:17	9.8	Surface	1.0	0.3	130	26.0	26.0	7.7	7.7	26.7	26.7	68.5	68.6	4.8	4.6	9.8	25.9	11	32	817192	807827
						1.0	0.3	139	26.0		7.7		26.7		68.7		4.8		9.9		11			
					Middle	4.9	0.4	91	25.0	25.0	7.7	7.7	29.5	29.5	60.9	61.0	4.3		27.1		33			
						4.9	0.4	98	25.0		7.7		29.5		61.0		4.3		27.4		34			
					Bottom	8.8	0.3	89	24.9	24.9	7.7	7.7	29.7	29.7	61.8	62.0	4.3	4.3	40.4		51			
						8.8	0.4	94	24.9		7.7		29.7		62.1		4.3		40.7		52			
6-Aug-16	Sunny	Moderate	15:12	9.1	Surface	1.0	0.6	265	27.0	27.1	7.7	7.7	26.0	26.0	65.2	65.3	4.5	4.2	9.3	19.5	13	32	817201	807796
						1.0	0.6	280	27.1		7.7		25.9		65.4		4.5		9.3		14			
					Middle	4.6	0.6	165	25.3	25.3	7.7	7.7	29.5	29.5	54.9	55.0	3.8		15.0		24			
						4.6	0.6	168	25.3		7.7		29.5		55.0		3.8		15.7		25			
					Bottom	8.1	0.6	99	25.2	25.2	7.7	7.7	29.8	29.8	56.7	56.7	3.9	3.9	33.8		57			
						8.1	0.6	107	25.2		7.7		29.8		56.7		3.9		33.9		58			
9-Aug-16	Cloudy	Moderate	16:42	8.4	Surface	1.0	0.5	192	28.8	28.6	7.9	7.9	20.2	20.3	88.0	87.8	6.1	5.4	6.6	12.5	6	13	817173	807823
						1.0	0.5	197	28.4		7.9		20.4		87.6		6.1		6.9		8			
					Middle	4.2	0.4	178	27.4	27.2	7.8	7.8	24.2	24.3	68.0	68.0	4.7		10.4		10			
						4.2	0.5	194	27.0		7.8		24.3		67.9		4.7		10.7		10			
					Bottom	7.4	0.3	178	24.8	24.8	7.8	7.8	31.1	31.1	54.0	54.4	3.8	3.8	20.0		22			
						7.4	0.3	185	24.8		7.8		31.0		54.8		3.8		20.4		24			
11-Aug-16	Fine	Moderate	18:46	7.7	Surface	1.0	0.3	160	27.5	27.5	7.8	7.8	21.0	21.0	80.5	80.5	5.7	4.7	4.0	8.4	4	10	817200	807791
						1.0	0.3	175	27.5		7.8		21.0		80.4		5.7		4.2		5			
					Middle	3.9	0.3	119	25.7	25.7	7.8	7.8	28.2	28.3	51.4	51.4	3.6		6.7		5			
						3.9	0.3	122	25.7		7.8		28.3		51.4		3.6		7.0		6			
					Bottom	6.7	0.3	143	25.1	25.1	7.7	7.7	30.3	30.3	45.8	45.9	3.2	3.2	14.1		19			
						6.7	0.3	143	25.1		7.7		30.3		45.9		3.2		14.1		18			
13-Aug-16	Sunny	Moderate	08:36	8.8	Surface	1.0	0.3	204	27.4	27.4	7.8	7.8	20.6	20.7	67.2	67.2	4.7	3.8	3.4	5.9	<2	3	817192	807810
						1.0	0.4	223	27.3		7.8		20.7		67.1		4.7		3.7		<2			
					Middle	4.4	0.3	126	25.1	25.0	7.8	7.8	31.0	31.1	40.9	41.0	2.8		5.5		3			
						4.4	0.3	132	24.9		7.8		31.2		41.0		2.8		5.7		3			
					Bottom	7.8	0.3	102	25.0	25.0	7.7	7.7	31.4	31.5	41.1	41.2	2.8	2.9	8.4		3			
						7.8	0.3	106	24.9		7.7		31.5		41.3		2.9		8.5		4			
16-Aug-16	Rainy	Calm	11:07	9.5	Surface	1.0	0.3	173	26.1	26.1	7.8	7.8	26.6	26.6	58.7	58.6	4.1	3.8	6.8	11.9	9	16	817192	807794
						1.0	0.3	177	26.1		7.8		26.6		58.4		4.1		7.0		9			
					Middle	4.8	0.3	111	25.4	25.4	7.8	7.8	29.3	29.3	50.2	50.2	3.5		12.5		16			
						4.8	0.3	120	25.4		7.8		29.3		50.2		3.5		12.6		18			
					Bottom	8.5	0.2	142	25.4	25.4	7.8	7.8	29.8	29.9	51.0	51.1	3.5	3.5	16.1		21			
						8.5	0.3	142	25.3		7.8		29.9		51.1		3.5		16.3		23			
20-Aug-16	Sunny	Moderate	13:59	8.7	Surface	1.0	0.3	108	28.0	27.8	7.8	7.8	26.0	26.2	75.8	76.1	5.1	5.1	11.5	15.1	18	21	817197	807826
						1.0	0.3	117	27.5		7.8		26.3		76.4		5.2		11.6		17			
					Middle	4.4	0.4	91	26.9	27.2	7.8	7.8	27.6	27.5	74.5	74.3	5.1		15.1		22			
						4.4	0.4	96	27.4		7.8		27.3		74.0		5.0		14.8		23			
					Bottom	7.7	0.3	116	27.3	27.1	7.8	7.8	27.6	27.8	75.3	75.6	5.1	5.2	18.9		22			
						7.7	0.3	116	26.8		7.8		27.9		75.9		5.2		18.8		21			
23-Aug-16	Cloudy	Calm	16:22	9.2	Surface	1.0	0.3	135	29.5	29.5	7.8	7.8	22.7	22.7	82.8	82.8	5.6	5.2	7.8	22.0	11	34	817173	807825
						1.0	0.3	138	29.4		7.8		22.7		82.8		5.6		8.0		12			
					Middle	4.6	0.4	99	27.5	27.7	7.8	7.8	27.2	27.1	71.8	71.6	4.9		24.3		37			
						4.6	0.4	99	27.9		7.8		26.9		71.3		4.8		24.3		41			
					Bottom	8.2	0.3	123	28.0	27.8	7.8	7.8	26.9	27.1	72.2	72.6	4.9	4.9	34.7		50			
						8.2	0.4	125	27.6		7.8		27.2		73.0		4.9		33.0		51			
25-Aug-16	Sunny	Moderate	18:13	8.8	Surface	1.0	0.3	172	29.4	29.5	7.8	7.8	20.6	20.6	84.2	84.0	5.7	5.0	4.3	11.3	6	16	817185	807828
						1.0	0.3	178	29.5		7.8		20.5		83.7		5.7		4.2		7			
					Middle	4.4	0.4	80	27.4	27.4	7.8	7.8	27.4	27.4	63.9	64.0	4.3		13.2		19			
						4.4	0.4	82	27.4		7.8		27.4		64.0		4.3		13.1		20			
					Bottom	7.8	0.3	105	27.4	27.4	7.8	7.8	27.6	27.6	64.9	64.9	4.4	4.4	16.4		22			
						7.8	0.4	105	27.4		7.8		27.6		64.9		4.4		16.6		21			
27-Aug-16	Cloudy	Calm	07:57	9.6	Surface	1.0	0.3	136	28.8	28.8	7.9	7.9	22.3	22.4	81.8	81.7	5.6	4.9	3.3	5.9	7	11	817203	807794
						1.0	0.3	147	28.8		7.9		22.4		81.6		5.6		3.5		7			
					Middle	4.8	0.3	114	27.1	27.1	7.8	7.8	29.3	29.3	60.8	60.8	4.1		5.4		10			
						4.8	0.3	124	27.1		7.8		29.3		60.8		4.1		5.6		12			
					Bottom	8.6	0.3	97	27.0	27.0	7.8	7.8	29.4	29.4	62.0	62.2	4.2	4.2	8.7		14			
						8.6	0.3	104	27.0		7.8		29.4		62.3		4.2		8.8		14			
30-Aug-16	Sunny	Calm	11:05	10.0	Surface	1.0	0.4	96	27.3	27.3	8.0	8.0	29.5	29.5	78.2	78.1	5.3	4.8	3.7	7.1	8	11	817192	807794
						1.0	0.4	97	27.3		8.0		29.5		78.0		5.3		3.7		9			
					Middle	5.0	0.3	107	27.0	27.0	7.9	7.9	29.9	29.9	63.7	63.7	4.3		8.6		10			
						5.0	0.4	115	27.0		7.9		29.9		63.7		4.3		8.5		11			
					Bottom	9.0	0.3	109	27.0	27.0	7.9	7.9	30.0	30.0	64.1	64.3	4.3	4.3	9.0		14			
						9.0	0.3	112	27.0		7.9		30.0		64.4		4.3		9.1		15			

DA: Depth-Averaged
Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher

Expansion of Hong Kong International Airport into a Three-Runway System
Water Quality Monitoring
Water Quality Monitoring Results at SR5A during Mid-Ebb Tide

Date	Weather Condition	Sea Condition	Sampling Time	Water Depth (m)	Sampling Depth (m)		Current Speed (m/s)	Current Direction	Water Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity(NTU)		Suspended Solids (mg/L)		Coordinate HK Grid (Northing)	Coordinate HK Grid (Easting)
									Value	Average	Value	Average	Value	Average	Value	Average	Value	DA	Value	DA	Value	DA		
4-Aug-16	Rainy	Calm	12:52	4.5	Surface	1.0	0.1	87	26.8	26.8	7.7	7.7	24.6	24.5	74.9	74.9	5.2	5.2	8.5	10.4	9	12	816606	810693
						1.0	0.1	94	26.8		7.7		24.5		74.9		5.2		8.5		8			
					Middle	2.3	-	-	-	-	-	-	-	-	-	-	-		-		-			
						2.3	-	-	-		-		-		-		-		-		-			
					Bottom	3.5	0.1	95	26.5	26.5	7.7	7.7	25.0	25.0	74.7	74.9	5.2	5.2	12.3		15			
						3.5	0.1	100	26.5		7.7		25.1		75.0		5.2		12.3		15			
6-Aug-16	Sunny	Moderate	15:29	3.6	Surface	1.0	0.6	102	29.3	29.3	7.7	7.7	22.8	22.8	82.8	82.7	5.6	5.6	3.4	7.6	5	10	816602	810694
						1.0	0.6	109	29.3		7.7		22.8		82.6		5.6		3.6		4			
					Middle	1.8	-	-	-	-	-	-	-	-	-	-	-		-		-			
						1.8	-	-	-		-		-		-		-		-		-			
					Bottom	2.6	0.5	112	27.7	27.8	7.6	7.6	24.2	24.2	69.4	69.7	4.8	4.8	11.9		15			
						2.6	0.5	118	27.8		7.6		24.2		69.9		4.8		11.5		14			
9-Aug-16	Cloudy	Moderate	17:00	4.2	Surface	1.0	0.2	170	29.6	29.6	8.3	8.3	21.2	21.2	150.5	150.2	10.2	10.2	7.3	8.9	8	10	816579	810712
						1.0	0.2	186	29.6		8.2		21.2		149.8		10.2		7.4		9			
					Middle	2.1	-	-	-	-	-	-	-	-	-	-	-		-		-			
						2.1	-	-	-		-		-		-		-		-		-			
					Bottom	3.2	0.2	144	29.0	29.0	8.1	8.1	22.1	22.2	125.3	125.4	8.5	8.5	10.6		10			
						3.2	0.3	149	29.0		8.1		22.2		125.4		8.5		10.4		11			
11-Aug-16	Fine	Calm	19:05	5.0	Surface	1.0	0.1	217	28.2	28.3	7.9	7.9	20.4	20.4	86.9	86.9	6.1	6.1	3.5	4.5	4	5	816595	810693
						1.0	0.1	223	28.3		7.9		20.4		86.8		6.0		3.4		4			
					Middle	2.5	-	-	-	-	-	-	-	-	-	-	-		-		-			
						2.5	-	-	-		-		-		-		-		-		-			
					Bottom	4.0	0.2	223	26.6	26.5	7.7	7.7	25.6	25.9	53.1	52.7	3.7	3.7	5.6		7			
						4.0	0.2	245	26.4		7.7		26.1		52.3		3.6		5.6		6			
13-Aug-16	Fine	Calm	08:11	4.4	Surface	1.0	0.1	156	28.3	28.3	7.8	7.8	17.2	17.2	83.8	83.8	5.9	5.9	3.0	5.8	2	2	816596	810692
						1.0	0.1	166	28.3		7.8		17.2		83.7		5.9		2.8		<2			
					Middle	2.2	-	-	-	-	-	-	-	-	-	-	-		-		-			
						2.2	-	-	-		-		-		-		-		-		-			
					Bottom	3.4	0.2	162	26.8	26.8	7.7	7.7	25.2	25.3	51.5	51.5	3.6	3.6	8.6		<2			
						3.4	0.2	170	26.8		7.7		25.3		51.5		3.6		8.7		2			
16-Aug-16	Rainy	Calm	10:51	4.9	Surface	1.0	0.2	131	27.1	27.1	7.8	7.8	24.0	24.0	70.3	70.2	4.9	4.9	7.4	6.9	10	11	816610	810689
						1.0	0.2	140	27.1		7.8		24.0		70.1		4.9		7.6		11			
					Middle	2.5	-	-	-	-	-	-	-	-	-	-	-		-		-			
						2.5	-	-	-		-		-		-		-		-		-			
					Bottom	3.9	0.2	172	26.6	26.6	7.7	7.7	25.6	25.6	59.7	59.9	4.1	4.2	6.4		12			
						3.9	0.2	172	26.6		7.7		25.5		60.1		4.2		6.3		10			
20-Aug-16	Sunny	Moderate	14:14	4.4	Surface	1.0	0.1	191	29.2	29.2	7.7	7.7	24.4	24.5	83.2	83.2	5.6	5.6	4.8	6.5	6	9	816575	810687
						1.0	0.1	206	29.2		7.7		24.5		83.2		5.6		4.9		8			
					Middle	2.2	-	-	-	-	-	-	-	-	-	-	-		-		-			
						2.2	-	-	-		-		-		-		-		-		-			
					Bottom	3.4	0.2	173	27.7	28.0	7.7	7.7	25.0	24.9	79.5	79.3	5.4	5.4	8.2		11			
						3.4	0.2	185	28.3		7.7		24.7		79.0		5.4		8.0		10			
23-Aug-16	Cloudy	Calm	16:34	3.6	Surface	1.0	0.1	98	30.5	30.5	7.8	7.8	22.8	22.9	100.0	100.0	6.6	6.6	5.0	6.0	6	7	816592	810685
						1.0	0.1	105	30.4		7.8		22.9		100.0		6.6		5.1		7			
					Middle	1.8	-	-	-	-	-	-	-	-	-	-	-		-		-			
						1.8	-	-	-		-		-		-		-		-		-			
					Bottom	2.6	0.2	154	29.5	29.5	7.8	7.8	23.0	23.0	88.8	88.8	6.0	6.0	6.8		7			
						2.6	0.2	165	29.5		7.8		23.0		88.8		6.0		6.9		6			
25-Aug-16	Fine	Moderate	18:32	3.4	Surface	1.0	0.1	176	30.3	30.3	8.2	8.2	22.3	22.3	156.6	156.3	10.4	10.4	4.4	4.6	9	11	816590	810677
						1.0	0.1	177	30.3		8.2		22.3		155.9		10.4		4.3		10			
					Middle	1.7	-	-	-	-	-	-	-	-	-	-	-		-		-			
						1.7	-	-	-		-		-		-		-		-		-			
					Bottom	2.4	0.2	166	30.1	30.1	8.1	8.1	22.6	22.6	133.0	132.7	8.9	8.9	4.7		11			
						2.4	0.2	176	30.0		8.1		22.6		132.4		8.8		4.8		13			
27-Aug-16	Sunny	Calm	07:36	4.3	Surface	1.0	0.1	184	29.6	29.6	8.2	8.2	19.3	19.3	132.8	132.9	9.1	9.1	2.7	5.0	6	11	816609	810703
						1.0	0.1	187	29.6		8.2		19.3		132.9		9.1		2.8		6			
					Middle	2.2	-	-	-	-	-	-	-	-	-	-	-		-		-			
						2.2	-	-	-		-		-		-		-		-		-			
					Bottom	3.3	0.2	243	29.8	29.8	8.1	8.1	21.4	21.4	125.0	125.6	8.4	8.5	7.1		14			
						3.3	0.2	262	29.8		8.1		21.3		126.2		8.5		7.5		16			
30-Aug-16	Sunny	Calm	10:48	4.9	Surface	1.0	0.3	177	27.5	27.5	7.9	7.9	27.0	27.1	69.8	69.7	4.7	4.7	4.4	5.3	8	9	816580	810702
						1.0	0.4	180	27.5		7.9		27.1		69.6		4.7		4.5		8			
					Middle	2.5	-	-	-	-	-	-	-	-	-	-	-		-		-			
						2.5	-	-	-		-		-		-		-		-		-			
					Bottom	3.9	0.3	213	27.3	27.3	7.8	7.8	28.2	28.2	65.2	65.5	4.4	4.4	6.2		9			
						3.9	0.3	228	27.3		7.8		28.2		65.7		4.4		6.0		9			

DA: Depth-Averaged
Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher

Expansion of Hong Kong International Airport into a Three-Runway System
Water Quality Monitoring
Water Quality Monitoring Results at SR6 during Mid-Ebb Tide

Date	Weather Condition	Sea Condition	Sampling Time	Water Depth (m)	Sampling Depth (m)		Current Speed (m/s)	Current Direction	Water Temperature (°C) Value	Water Temperature (°C) Average	pH Value	pH Average	Salinity (ppt) Value	Salinity (ppt) Average	DO Saturation (%) Value	DO Saturation (%) Average	Dissolved Oxygen (mg/L) Value	Dissolved Oxygen (mg/L) DA	Turbidity(NTU) Value	Turbidity(NTU) DA	Suspended Solids (mg/L) Value	Suspended Solids (mg/L) DA	Coordinate HK Grid (Northing)	Coordinate HK Grid (Easting)
4-Aug-16	Rainy	Moderate	12:21	5.1	Surface	1.0	0.3	80	26.7	27.0	7.7	7.7	23.9	23.8	76.0	75.8	5.3	5.3	4.0	6.0	4	7	817883	814681
						1.0	0.3	85	27.2		7.7		23.6		75.5		5.3		3.8		5			
					Middle	2.6	-	-	-	-	-	-	-	-	-	-	-		-		-			
						2.6	-	-	-		-		-		-		-		-		-			
					Bottom	4.1	0.2	80	26.9	26.9	7.7	7.7	24.6	24.6	71.5	71.5	5.0	5.0	8.0		9			
						4.1	0.2	80	26.9		7.7		24.6		71.5		5.0		8.3		9			
6-Aug-16	Sunny	Moderate	15:52	3.9	Surface	1.0	0.1	186	30.1	30.2	7.7	7.7	21.8	21.8	88.3	88.4	5.9	5.9	2.1	2.0	6	6	817901	814654
						1.0	0.2	192	30.2		7.7		21.8		88.5		5.9		1.9		6			
					Middle	2.0	-	-	-	-	-	-	-	-	-	-	-		-		-			
						2.0	-	-	-		-		-		-		-		-		-			
					Bottom	2.9	0.2	55	29.6	29.4	7.7	7.7	22.2	22.3	87.6	87.9	5.9	6.0	2.1		6			
						2.9	0.2	56	29.1		7.7		22.4		88.2		6.0		2.0		6			
9-Aug-16	Cloudy	Moderate	17:23	4.1	Surface	1.0	0.4	147	29.7	29.8	8.3	8.3	20.9	20.8	151.6	151.1	10.3	10.3	6.7	10.0	8	9	817899	814650
						1.0	0.5	158	29.8		8.3		20.7		150.6		10.2		7.1		8			
					Middle	2.1	-	-	-	-	-	-	-	-	-	-	-		-		-			
						2.1	-	-	-		-		-		-		-		-		-			
					Bottom	3.1	0.3	54	29.3	29.2	8.1	8.1	21.5	21.7	118.7	116.7	8.1	8.0	13.8		11			
						3.1	0.3	57	29.1		8.0		21.9		114.6		7.8		12.4		10			
11-Aug-16	Fine	Calm	19:28	4.1	Surface	1.0	0.1	170	28.4	28.4	7.9	7.9	21.3	21.3	87.4	87.5	6.0	6.0	1.9	6.0	2	7	817885	814651
						1.0	0.1	172	28.4		7.9		21.3		87.5		6.0		1.9		2			
					Middle	2.1	-	-	-	-	-	-	-	-	-	-	-		-		-			
						2.1	-	-	-		-		-		-		-		-		-			
					Bottom	3.1	0.1	213	27.1	27.1	7.7	7.7	25.3	25.3	60.7	61.1	4.2	4.2	10.3		11			
						3.1	0.1	222	27.1		7.7		25.2		61.4		4.2		9.9		12			
13-Aug-16	Sunny	Calm	07:40	4.6	Surface	1.0	0.1	206	28.3	28.3	7.8	7.8	16.6	16.6	87.0	87.0	6.2	6.2	2.3	5.4	<2	5	817894	814649
						1.0	0.1	214	28.3		7.8		16.6		87.0		6.2		2.5		<2			
					Middle	2.3	-	-	-	-	-	-	-	-	-	-	-		-		-			
						2.3	-	-	-		-		-		-		-		-		-			
					Bottom	3.6	0.1	199	26.8	26.7	7.6	7.6	26.9	27.0	44.1	44.8	3.0	3.1	8.4		9			
						3.6	0.1	208	26.5		7.6		27.1		45.4		3.1		8.4		8			
16-Aug-16	Rainy	Calm	10:28	4.9	Surface	1.0	0.2	112	27.4	27.4	7.9	7.9	23.1	23.1	97.8	97.8	6.8	6.8	3.6	5.1	5	5	817918	814645
						1.0	0.2	113	27.4		7.9		23.1		97.8		6.8		3.7		4			
					Middle	2.5	-	-	-	-	-	-	-	-	-	-	-		-		-			
						2.5	-	-	-		-		-		-		-		-		-			
					Bottom	3.9	0.2	109	27.1	27.1	7.7	7.7	24.6	24.6	65.9	65.9	4.6	4.6	6.6		6			
						3.9	0.2	115	27.1		7.7		24.6		65.9		4.6		6.4		6			
20-Aug-16	Fine	Moderate	14:38	4.0	Surface	1.0	0.2	132	30.1	29.9	7.7	7.7	23.7	23.8	86.3	86.5	5.7	5.8	2.6	3.2	2	3	817892	814662
						1.0	0.2	139	29.7		7.7		23.9		86.6		5.8		2.8		2			
					Middle	2.0	-	-	-	-	-	-	-	-	-	-	-		-		-			
						2.0	-	-	-		-		-		-		-		-		-			
					Bottom	3.0	0.2	110	27.8	27.7	7.7	7.7	25.1	25.2	85.3	85.6	5.8	5.9	3.6		3			
						3.0	0.2	120	27.5		7.7		25.3		85.8		5.9		3.8		3			
23-Aug-16	Cloudy	Calm	17:06	4.3	Surface	1.0	0.2	86	30.2	30.2	7.8	7.8	21.7	21.7	92.8	92.9	6.2	6.2	3.6	5.0	7	6	817888	814663
						1.0	0.2	91	30.1		7.8		21.7		93.0		6.2		3.8		6			
					Middle	2.2	-	-	-	-	-	-	-	-	-	-	-		-		-			
						2.2	-	-	-		-		-		-		-		-		-			
					Bottom	3.3	0.2	96	28.7	28.7	7.7	7.7	23.0	23.0	80.5	80.6	5.5	5.5	6.0		5			
						3.3	0.2	96	28.6		7.7		23.0		80.6		5.5		6.4		7			
25-Aug-16	Fine	Calm	19:00	4.0	Surface	1.0	0.1	92	29.3	29.3	8.0	8.0	22.1	22.2	122.6	122.3	8.3	8.3	4.1	4.8	9	10	817883	814653
						1.0	0.2	99	29.2		8.0		22.2		122.0		8.3		4.3		10			
					Middle	2.0	-	-	-	-	-	-	-	-	-	-	-		-		-			
						2.0	-	-	-		-		-		-		-		-		-			
					Bottom	3.0	0.1	125	29.0	29.0	7.9	7.9	22.7	22.8	101.4	101.2	6.9	6.9	5.2		11			
						3.0	0.1	127	29.0		7.9		22.8		100.9		6.8		5.4		10			
27-Aug-16	Sunny	Moderate	07:12	5.0	Surface	1.0	0.2	57	29.2	29.2	8.0	8.0	18.0	18.0	111.3	111.7	7.7	7.8	1.6	6.6	5	12	817915	814655
						1.0	0.2	59	29.2		8.0		17.9		112.1		7.8		1.7		4			
					Middle	2.5	-	-	-	-	-	-	-	-	-	-	-		-		-			
						2.5	-	-	-		-		-		-		-		-		-			
					Bottom	4.0	0.1	178	28.7	28.7	7.7	7.7	22.5	22.5	72.5	73.0	4.9	5.0	11.7		18			
						4.0	0.1	191	28.7		7.7		22.5		73.4		5.0		11.3		19			
30-Aug-16	Sunny	Calm	10:20	5.3	Surface	1.0	0.3	138	27.8	27.8	7.9	7.9	25.0	25.0	88.4	88.4	6.0	6.0	2.3	4.7	6	12	817903	814664
						1.0	0.3	143	27.8		7.9		25.0		88.4		6.0		2.4		5			
					Middle	2.7	-	-	-	-	-	-	-	-	-	-	-		-		-			
						2.7	-	-	-		-		-		-		-		-		-			
					Bottom	4.3	0.3	119	27.3	27.3	7.8	7.8	28.0	28.0	53.1	53.5	3.6	3.6	7.2		18			
						4.3	0.3	127	27.3		7.8		28.0		53.9		3.6		7.0		18			

DA: Depth-Averaged
Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher

Expansion of Hong Kong International Airport into a Three-Runway System
Water Quality Monitoring
Water Quality Monitoring Results at SR7 during Mid-Ebb Tide

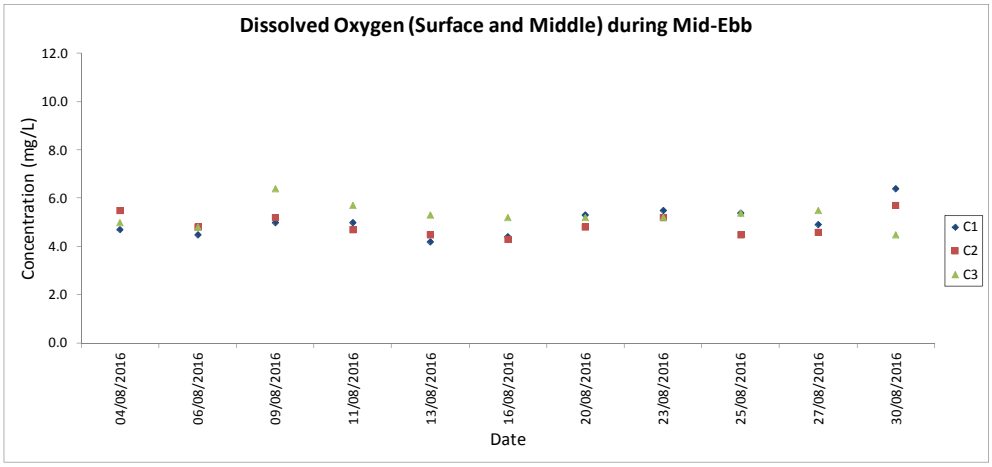
Date	Weather Condition	Sea Condition	Sampling Time	Water Depth (m)	Sampling Depth (m)		Current Speed (m/s)	Current Direction	Water Temperature (°C) Value	Water Temperature (°C) Average	pH Value	pH Average	Salinity (ppt) Value	Salinity (ppt) Average	DO Saturation (%) Value	DO Saturation (%) Average	Dissolved Oxygen (mg/L) Value	Dissolved Oxygen (mg/L) DA	Turbidity(NTU) Value	Turbidity(NTU) DA	Suspended Solids (mg/L) Value	Suspended Solids (mg/L) DA	Coordinate HK Grid (Northing)	Coordinate HK Grid (Easting)
4-Aug-16	Cloudy	Moderate	12:20	16.9	Surface	1.0	0.6	60	24.1	24.1	7.7	7.7	27.0	27.0	65.4	65.4	4.7	4.5	2.7	3.0	5	5	823623	823750
						1.0	0.6	65	24.1		7.7		27.0		65.5		4.7		2.6		5			
					Middle	8.5	0.4	61	23.5	23.5	7.7	7.7	28.6	28.6	59.2	59.2	4.3		3.2		6			
						8.5	0.4	62	23.5		7.7		28.6		59.2		4.3		3.2		4			
					Bottom	15.9	0.4	82	23.4	23.4	7.7	7.7	28.8	28.8	59.2	59.2	4.3	4.3	3.2		5			
						15.9	0.5	82	23.4		7.7		28.8		59.3		4.3		3.2		4			
6-Aug-16	Sunny	Moderate	15:58	16.8	Surface	1.0	0.4	94	26.8	26.8	7.6	7.6	22.7	22.7	74.0	74.0	5.2	5.2	3.9	3.2	4	5	823652	823750
						1.0	0.4	97	26.8		7.6		22.7		73.9		5.2		4.0		3			
					Middle	8.4	0.4	84	26.6	26.6	7.6	7.6	22.9	22.9	72.3	72.3	5.1		2.6		5			
						8.4	0.4	92	26.6		7.6		22.9		72.2		5.1		2.6		4			
					Bottom	15.8	0.3	103	26.0	26.0	7.7	7.7	24.6	24.6	71.8	71.9	5.1	5.1	3.1		5			
						15.8	0.3	111	26.0		7.7		24.6		71.9		5.1		3.1		6			
9-Aug-16	Cloudy	Moderate	17:46	17.0	Surface	1.0	0.3	92	27.3	27.3	8.0	8.0	21.1	21.1	115.7	115.7	8.1	7.3	1.5	1.8	4	5	823619	823750
						1.0	0.3	96	27.3		8.0		21.1		115.6		8.1		1.4		4			
					Middle	8.5	0.3	107	27.0	27.0	7.9	7.9	21.6	21.6	92.4	92.1	6.5		1.9		5			
						8.5	0.3	110	27.0		7.9		21.6		91.8		6.5		1.9		5			
					Bottom	16.0	0.4	92	24.3	24.3	7.7	7.7	30.0	30.0	69.2	69.2	4.9	4.9	2.1		5			
						16.0	0.4	95	24.3		7.7		30.0		69.2		4.9		2.1		5			
11-Aug-16	Fine	Moderate	19:53	14.3	Surface	1.0	0.2	102	25.8	25.8	7.8	7.8	24.6	24.6	87.5	87.5	6.2	6.1	0.5	0.7	3	4	823644	823754
						1.0	0.2	107	25.8		7.8		24.6		87.5		6.2		0.5		3			
					Middle	7.2	0.1	145	25.3	25.3	7.8	7.8	26.2	26.1	83.3	83.5	5.9		0.5		4			
						7.2	0.2	153	25.3		7.8		26.0		83.6		5.9		0.5		5			
					Bottom	13.3	0.2	122	23.1	23.1	7.8	7.8	32.9	33.0	65.6	66.5	4.6	4.7	1.1		4			
						13.3	0.2	131	23.0		7.8		33.0		67.4		4.8		1.0		4			
13-Aug-16	Fine	Moderate	07:40	17.9	Surface	1.0	0.4	68	26.4	26.4	7.8	7.8	17.3	17.3	83.7	83.2	6.1	4.8	0.8	1.9	<2	2	823650	823741
						1.0	0.4	72	26.4		7.8		17.3		82.7		6.0		0.8		<2			
					Middle	9.0	0.2	59	22.8	22.8	7.8	7.8	31.4	31.4	49.2	49.2	3.5		2.0		<2			
						9.0	0.2	62	22.8		7.8		31.4		49.2		3.5		2.1		<2			
					Bottom	16.9	0.3	65	22.5	22.5	7.8	7.8	31.6	31.6	49.1	49.3	3.5	3.6	2.7		2			
						16.9	0.3	71	22.5		7.8		31.6		49.4		3.6		2.7		2			
16-Aug-16	Rainy	Moderate	10:04	16.4	Surface	1.0	0.5	93	24.2	24.2	8.0	8.0	27.4	27.4	72.3	72.3	5.2	5.0	1.5	2.1	3	4	823618	823725
						1.0	0.6	97	24.2		8.0		27.4		72.3		5.2		1.5		4			
					Middle	8.2	0.4	96	23.6	23.6	8.0	8.0	30.0	30.0	65.5	65.5	4.7		2.3		3			
						8.2	0.4	103	23.6		8.0		30.0		65.5		4.7		2.4		3			
					Bottom	15.4	0.4	108	23.4	23.4	7.9	7.9	30.8	30.8	64.9	65.0	4.6	4.6	2.4		6			
						15.4	0.4	112	23.4		7.9		30.8		65.0		4.6		2.5		7			
20-Aug-16	Fine	Moderate	14:36	17.0	Surface	1.0	0.9	78	25.9	25.9	7.8	7.8	25.7	25.7	75.0	75.0	5.3	5.2	3.3	3.6	<2	3	823643	823733
						1.0	0.9	78	25.9		7.8		25.7		75.0		5.3		3.4		<2			
					Middle	8.5	0.7	84	25.4	25.4	7.8	7.8	27.4	27.4	71.0	71.0	5.0		3.0		3			
						8.5	0.7	89	25.4		7.8		27.4		71.0		5.0		3.0		3			
					Bottom	16.0	0.5	70	25.1	25.1	7.8	7.8	28.3	28.3	70.0	70.0	4.9	4.9	4.4		4			
						16.0	0.5	73	25.1		7.8		28.3		70.0		4.9		4.4		4			
23-Aug-16	Fine	Moderate	16:47	18.4	Surface	1.0	0.8	78	27.4	27.4	7.9	7.9	22.3	22.3	84.2	84.1	5.9	5.8	1.9	2.2	3	4	823650	823734
						1.0	0.8	80	27.4		7.9		22.3		84.0		5.9		1.9		3			
					Middle	9.2	0.6	85	26.9	26.9	7.9	7.9	23.9	23.9	80.1	80.1	5.6		2.3		4			
						9.2	0.6	87	26.9		7.9		23.9		80.1		5.6		2.3		3			
					Bottom	17.4	1.4	227	26.8	26.8	7.9	7.9	24.2	24.2	80.0	80.0	5.6	5.6	2.4		5			
						17.4	1.6	231	26.8		7.9		24.2		80.0		5.6		2.4		4			
25-Aug-16	Fine	Calm	18:55	17.1	Surface	1.0	0.5	89	28.9	28.9	7.9	7.9	24.9	24.9	81.8	81.8	5.5	5.3	1.7	2.2	3	3	823654	823751
						1.0	0.5	89	28.9		7.9		24.8		81.7		5.5		1.7		4			
					Middle	8.6	0.3	102	28.1	28.1	7.9	7.9	26.7	26.7	75.4	75.4	5.1		2.5		3			
						8.6	0.3	108	28.1		7.9		26.7		75.4		5.1		2.5		3			
					Bottom	16.1	1.6	186	28.0	28.0	7.9	7.9	27.0	27.0	72.1	72.1	4.9	4.9	2.4		3			
						16.1	1.7	187	28.0		7.9		27.0		72.1		4.9		2.4		3			
27-Aug-16	Fine	Calm	07:15	16.8	Surface	1.0	0.4	92	28.9	28.9	8.0	8.0	20.4	20.4	87.5	87.5	6.0	5.3	1.9	2.6	3	3	823628	823732
						1.0	0.4	100	28.9		8.0		20.4		87.4		6.0		1.9		2			
					Middle	8.4	0.2	87	27.9	28.0	7.9	7.9	26.8	26.8	67.4	67.4	4.6		2.9		2			
						8.4	0.3	92	28.0		7.9		26.8		67.4		4.6		2.9		3			
					Bottom	15.8	0.3	108	26.3	26.3	7.9	7.9	32.2	32.2	55.2	55.3	3.7	3.7	3.0		5			
						15.8	0.3	113	26.3		7.9		32.2		55.3		3.7		3.0		5			
30-Aug-16	Cloudy	Moderate	10:09	16.8	Surface	1.0	0.5	85	25.0	25.0	8.0	8.0	28.3	28.3	66.9	66.9	4.7	4.5	2.6	3.2	5	6	823642	823751
						1.0	0.6	92	25.0		8.0		28.2		66.8		4.7		2.6		4			
					Middle	8.4	1.4	75	24.5	24.5	7.9	7.9	29.4	29.4	59.4	59.4	4.2		3.5		5			
						8.4	1.4	77	24.5		7.9		29.4		59.4		4.2		3.6		5			
					Bottom	15.8	2.7	90	24.5	24.5	7.9	7.9	29.4	29.4	60.7	60.8	4.3	4.3	3.5		7			
						15.8	2.7	91	24.5		7.9		29.4		60.8		4.3		3.5		7			

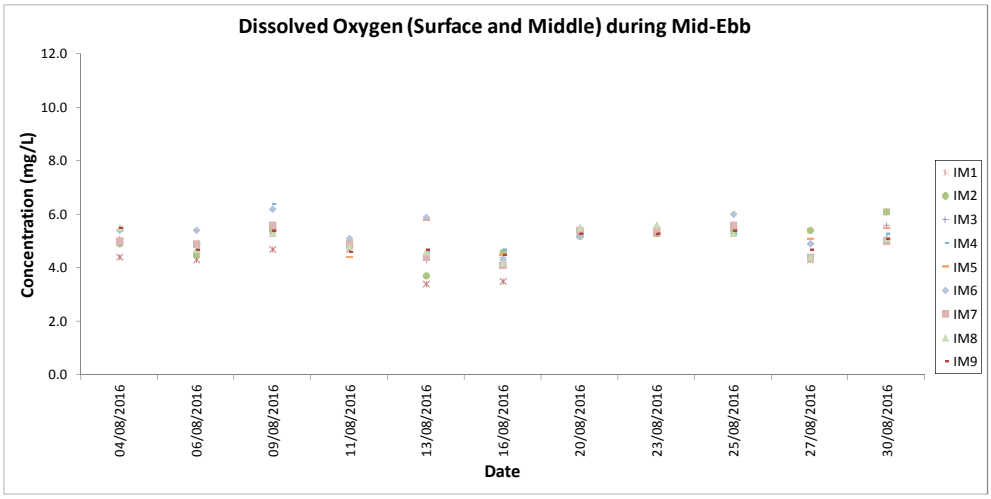
DA: Depth-Averaged
Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher

Expansion of Hong Kong International Airport into a Three-Runway System
Water Quality Monitoring
Water Quality Monitoring Results at SR8 during Mid-Ebb Tide

Date	Weather Condition	Sea Condition	Sampling Time	Water Depth (m)	Sampling Depth (m)		Current Speed (m/s)	Current Direction	Water Temperature (°C) Value	Water Temperature (°C) Average	pH Value	pH Average	Salinity (ppt) Value	Salinity (ppt) Average	DO Saturation (%) Value	DO Saturation (%) Average	Dissolved Oxygen (mg/L) Value	Dissolved Oxygen (mg/L) DA	Turbidity(NTU) Value	Turbidity(NTU) DA	Suspended Solids (mg/L) Value	Suspended Solids (mg/L) DA	Coordinate HK Grid (Northing)	Coordinate HK Grid (Easting)
4-Aug-16	Rainy	Moderate	13:51	5.6	Surface	1.0	0.3	224	25.5	25.5	7.7	7.7	24.2	24.2	76.0	76.0	5.4	5.4	8.5	10.7	7	9	820402	811589
						1.0	0.3	239	25.5		7.7		24.2		76.0		5.4		8.6		7			
					Middle	2.8	-	-	-	-	-	-	-	-	-	-	-		-		-			
						2.8	-	-	-		-		-		-		-		-		-			
					Bottom	4.6	0.3	192	25.0	25.0	7.7	7.7	25.3	25.3	75.1	75.1	5.4	5.4	12.9		10			
						4.6	0.3	192	25.0		7.7		25.3		75.1		5.4		12.9		10			
6-Aug-16	Sunny	Moderate	14:47	5.5	Surface	1.0	0.3	136	28.1	28.1	7.6	7.6	19.9	19.9	77.5	77.5	5.4	5.4	9.1	9.4	5	5	820425	811605
						1.0	0.3	140	28.1		7.6		19.9		77.5		5.4		9.3		5			
					Middle	2.8	-	-	-	-	-	-	-	-	-	-	-		-		-			
						2.8	-	-	-		-		-		-		-		-		-			
					Bottom	4.5	0.3	210	27.8	27.8	7.6	7.6	20.3	20.3	66.6	66.6	4.7	4.7	9.5		6			
						4.5	0.3	215	27.8		7.6		20.3		66.6		4.7		9.6		5			
9-Aug-16	Cloudy	Moderate	16:35	5.4	Surface	1.0	0.2	151	27.8	27.8	7.8	7.8	18.3	18.3	87.6	87.6	6.2	6.2	6.9	8.4	3	4	820414	811576
						1.0	0.2	157	27.8		7.8		18.3		87.6		6.2		6.9		3			
					Middle	2.7	-	-	-	-	-	-	-	-	-	-	-		-		-			
						2.7	-	-	-		-		-		-		-		-		-			
					Bottom	4.4	0.3	211	26.9	26.9	7.7	7.7	22.0	22.0	82.9	82.9	5.8	5.8	9.9		5			
						4.4	0.3	219	26.9		7.7		22.0		82.9		5.8		9.9		3			
11-Aug-16	Fine	Moderate	18:38	5.2	Surface	1.0	0.2	155	26.3	26.3	7.8	7.8	21.8	21.8	88.0	87.9	6.3	6.3	0.5	0.8	<2	<2	820400	811574
						1.0	0.2	155	26.3		7.8		21.8		87.7		6.3		0.5		<2			
					Middle	2.6	-	-	-	-	-	-	-	-	-	-	-		-		-			
						2.6	-	-	-		-		-		-		-		-		-			
					Bottom	4.2	0.2	141	25.7	25.7	7.8	7.8	24.4	24.4	77.8	77.9	5.5	5.5	1.0		<2			
						4.2	0.2	148	25.7		7.8		24.4		77.9		5.5		1.0		<2			
13-Aug-16	Fine	Moderate	09:11	4.3	Surface	1.0	0.2	190	26.9	26.9	7.8	7.8	17.6	17.9	80.8	79.8	5.8	5.8	1.4	1.6	<2	2	820420	811580
						1.0	0.2	203	26.8		7.8		18.2		78.8		5.7		1.4		<2			
					Middle	2.2	-	-	-	-	-	-	-	-	-	-	-		-		-			
						2.2	-	-	-		-		-		-		-		-		-			
					Bottom	3.3	0.3	124	25.2	25.3	7.7	7.7	24.9	24.9	62.2	62.3	4.4	4.4	1.8		2			
						3.3	0.3	130	25.3		7.7		24.9		62.3		4.4		1.9		2			
16-Aug-16	Cloudy	Moderate	11:41	5.5	Surface	1.0	0.2	159	25.2	25.2	7.9	7.9	22.8	22.8	81.2	81.2	5.9	5.9	2.8	3.0	3	4	820435	811581
						1.0	0.2	169	25.2		7.9		22.8		81.2		5.9		2.8		4			
					Middle	2.8	-	-	-	-	-	-	-	-	-	-	-		-		-			
						2.8	-	-	-		-		-		-		-		-		-			
					Bottom	4.5	0.2	144	25.1	25.1	7.9	7.9	23.2	23.2	81.1	81.1	5.9	5.9	3.1		4			
						4.5	0.2	152	25.1		7.9		23.2		81.1		5.9		3.1		5			
20-Aug-16	Fine	Moderate	13:40	5.7	Surface	1.0	0.3	149	26.7	26.7	7.8	7.8	23.8	23.8	77.4	77.4	5.4	5.4	8.4	8.9	10	10	820420	811581
						1.0	0.3	151	26.7		7.8		23.8		77.4		5.4		8.5		11			
					Middle	2.9	-	-	-	-	-	-	-	-	-	-	-		-		-			
						2.9	-	-	-		-		-		-		-		-		-			
					Bottom	4.7	0.3	233	26.6	26.6	7.8	7.8	24.7	24.7	78.7	78.7	5.5	5.5	9.2		9			
						4.7	0.4	235	26.6		7.8		24.7		78.7		5.5		9.3		10			
23-Aug-16	Fine	Moderate	15:48	5.8	Surface	1.0	0.3	153	28.4	28.4	7.8	7.8	18.8	18.8	83.0	83.0	5.8	5.8	5.8	7.2	6	7	820414	811586
						1.0	0.4	158	28.4		7.8		18.8		83.0		5.8		5.8		6			
					Middle	2.9	-	-	-	-	-	-	-	-	-	-	-		-		-			
						2.9	-	-	-		-		-		-		-		-		-			
					Bottom	4.8	0.3	188	27.1	27.1	7.8	7.8	22.7	22.7	76.2	76.2	5.3	5.3	8.5		9			
						4.8	0.3	203	27.1		7.8		22.7		76.2		5.3		8.5		8			
25-Aug-16	Fine	Moderate	17:39	5.0	Surface	1.0	0.3	194	29.8	29.8	7.9	7.9	19.6	19.6	80.0	79.9	5.5	5.5	5.3	6.3	5	6	820397	811611
						1.0	0.3	196	29.8		7.9		19.6		79.7		5.4		5.2		5			
					Middle	2.5	-	-	-	-	-	-	-	-	-	-	-		-		-			
						2.5	-	-	-		-		-		-		-		-		-			
					Bottom	4.0	0.2	168	28.0	28.0	7.8	7.8	24.9	24.9	63.6	63.6	4.3	4.3	7.3		7			
						4.0	0.2	179	28.0		7.8		24.9		63.6		4.3		7.3		7			
27-Aug-16	Fine	Moderate	08:38	5.6	Surface	1.0	0.3	161	29.4	29.4	7.9	7.9	18.2	18.2	87.1	87.1	6.0	6.0	3.5	8.5	2	2	820436	811593
						1.0	0.3	172	29.4		7.9		18.2		87.0		6.0		3.5		<2			
					Middle	2.8	-	-	-	-	-	-	-	-	-	-	-		-		-			
						2.8	-	-	-		-		-		-		-		-		-			
					Bottom	4.6	0.2	150	28.0	28.0	7.8	7.8	25.1	25.1	64.0	64.1	4.4	4.4	13.6		2			
						4.6	0.2	155	28.0		7.8		25.1		64.2		4.4		13.5		3			
30-Aug-16	Fine	Moderate	11:52	5.7	Surface	1.0	0.3	227	25.8	25.8	8.0	8.0	27.4	27.4	71.1	71.1	5.0	5.0	7.8	10.4	8	8	820418	811588
						1.0	0.3	238	25.8		8.0		27.4		71.1		5.0		7.8		7			
					Middle	2.9	-	-	-	-	-	-	-	-	-	-	-		-		-			
						2.9	-	-	-		-		-		-		-		-		-			
					Bottom	4.7	0.3	195	25.3	25.3	8.0	8.0	28.5	28.5	65.6	65.7	4.6	4.6	12.9		8			
						4.7	0.3	202	25.3		8.0		28.5		65.8		4.6		12.9		9			

DA: Depth-Averaged
Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher


Dissolved Oxygen (Surface and Middle) during Mid-Ebb
Concentration (mg/L)
12.0
10.0
8.0
6.0
4.0
2.0
0.0
04/08/2016
06/08/2016
09/08/2016
11/08/2016
13/08/2016
16/08/2016
20/08/2016
23/08/2016
25/08/2016
27/08/2016
30/08/2016
Date
C1
C2
C3


Dissolved Oxygen (Surface and Middle) during Mid-Ebb
Concentration (mg/L)
12.0
10.0
8.0
6.0
4.0
2.0
0.0
04/08/2016
06/08/2016
09/08/2016
11/08/2016
13/08/2016
16/08/2016
20/08/2016
23/08/2016
25/08/2016
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30/08/2016
Date
IM1
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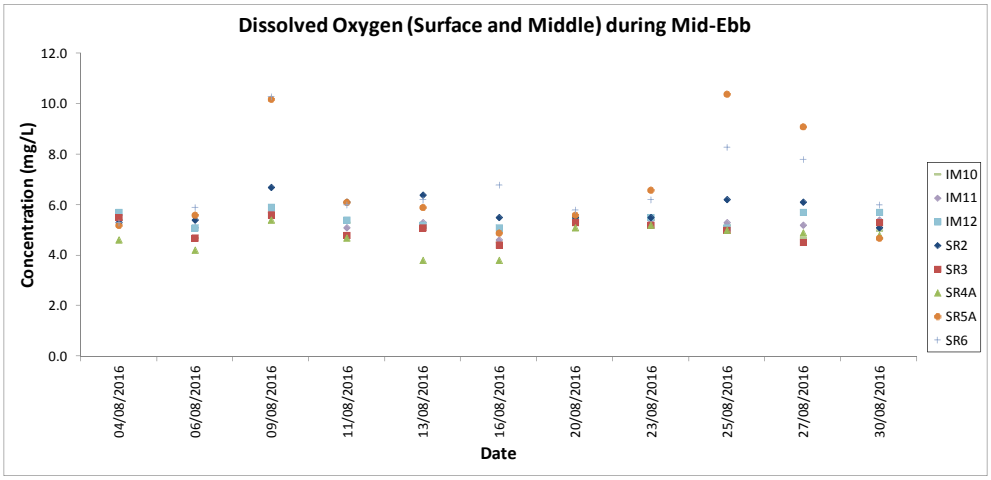
IM8
IM9


Dissolved Oxygen (Surface and Middle) during Mid-Ebb
Concentration (mg/L)
12.0
10.0
8.0
6.0
4.0
2.0
0.0
04/08/2016
06/08/2016
09/08/2016
11/08/2016
13/08/2016
16/08/2016
20/08/2016
23/08/2016
25/08/2016
27/08/2016
30/08/2016
Date
IM10
IM11
IM12
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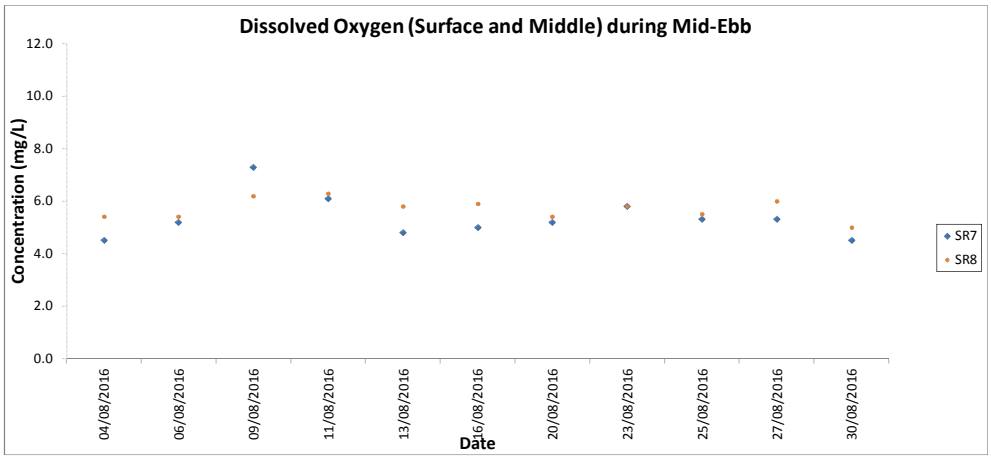
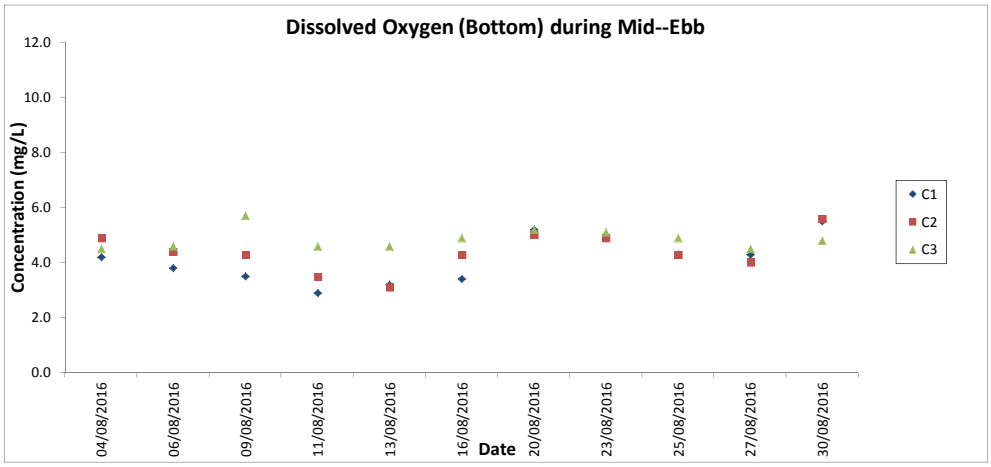
SR3
SR4A
SR5A
SR6


Dissolved Oxygen (Surface and Middle) during Mid-Ebb
Concentration (mg/L)
12.0
10.0
8.0
6.0
4.0
2.0
0.0
04/08/2016
06/08/2016
09/08/2016
11/08/2016
13/08/2016
16/08/2016
20/08/2016
23/08/2016
25/08/2016
27/08/2016
30/08/2016
Date
SR7
SR8


Dissolved Oxygen (Bottom) during Mid--Ebb
Concentration (mg/L)
12.0
10.0
8.0
6.0
4.0
2.0
0.0
04/08/2016
06/08/2016
09/08/2016
11/08/2016
13/08/2016
16/08/2016
20/08/2016
23/08/2016
25/08/2016
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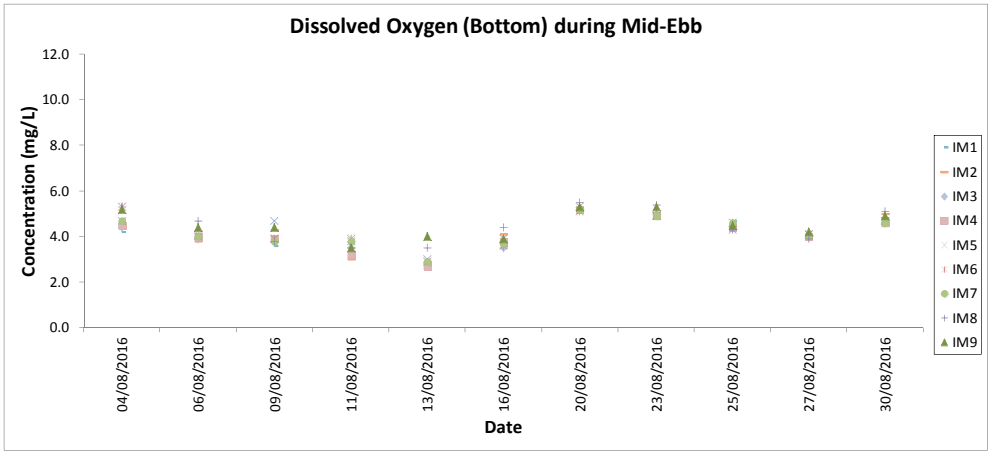
C1
C2
C3


Dissolved Oxygen (Bottom) during Mid-Ebb
Concentration (mg/L)
12.0
10.0
8.0
6.0
4.0
2.0
0.0
04/08/2016
06/08/2016
09/08/2016
11/08/2016
13/08/2016
16/08/2016
20/08/2016
23/08/2016
25/08/2016
27/08/2016
30/08/2016
Date
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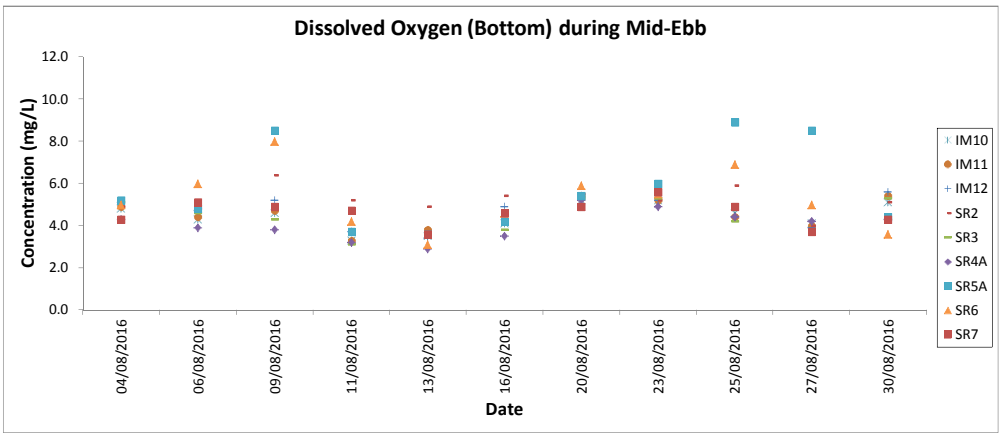
Dissolved Oxygen (Bottom) during Mid-Ebb
Concentration (mg/L)
12.0
10.0
8.0
6.0
4.0
2.0
0.0
04/08/2016
06/08/2016
09/08/2016
11/08/2016
13/08/2016
16/08/2016
20/08/2016
23/08/2016
25/08/2016
27/08/2016
30/08/2016
Date
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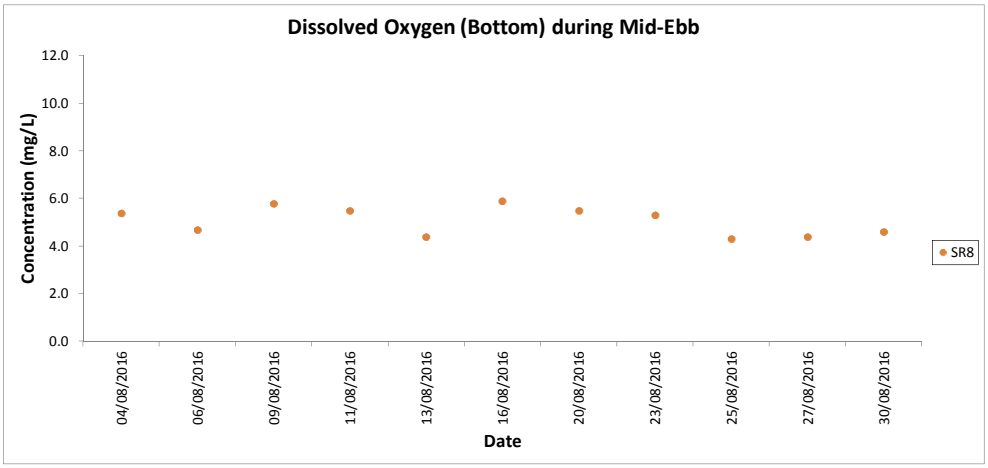
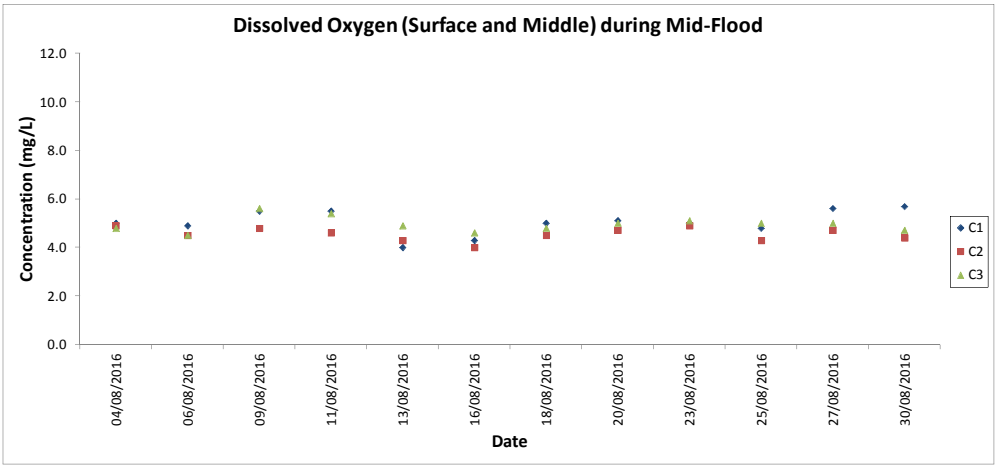
IM11
IM12
SR2
SR3
SR4A
SR5A
SR6
SR7


Dissolved Oxygen (Bottom) during Mid-Ebb
Concentration (mg/L)
12.0
10.0
8.0
6.0
4.0
2.0
0.0
04/08/2016
06/08/2016
09/08/2016
11/08/2016
13/08/2016
16/08/2016
20/08/2016
23/08/2016
25/08/2016
27/08/2016
30/08/2016
Date
SR8


Dissolved Oxygen (Surface and Middle) during Mid-Flood
Concentration (mg/L)
12.0
10.0
8.0
6.0
4.0
2.0
0.0
04/08/2016
06/08/2016
09/08/2016
11/08/2016
13/08/2016
16/08/2016
18/08/2016
20/08/2016
23/08/2016
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C1
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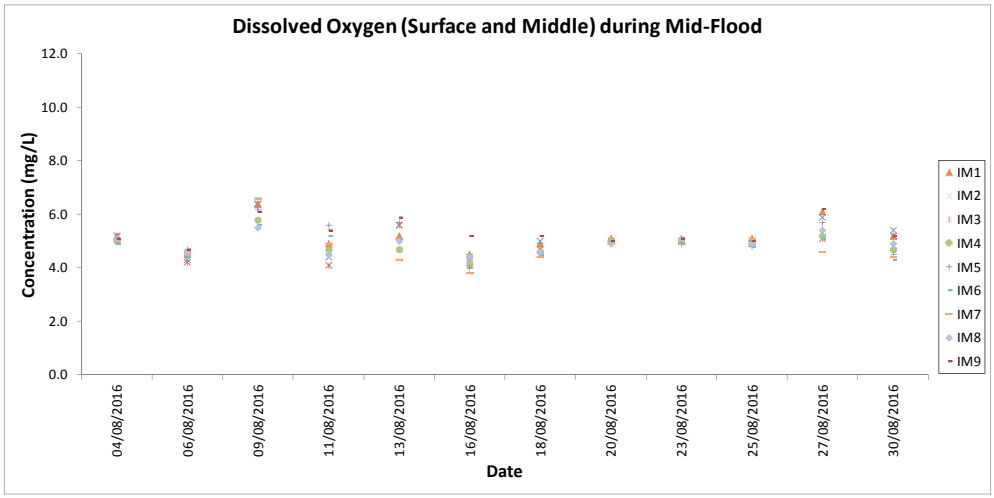
C3


Dissolved Oxygen (Surface and Middle) during Mid-Flood
Concentration (mg/L)
12.0
10.0
8.0
6.0
4.0
2.0
0.0
04/08/2016
06/08/2016
09/08/2016
11/08/2016
13/08/2016
16/08/2016
18/08/2016
20/08/2016
23/08/2016
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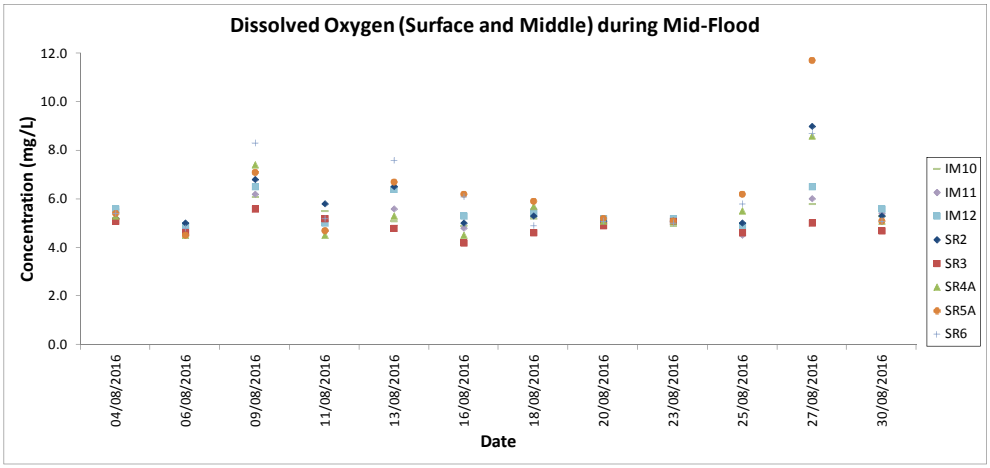
IM9


Dissolved Oxygen (Surface and Middle) during Mid-Flood
Concentration (mg/L)
12.0
10.0
8.0
6.0
4.0
2.0
0.0
04/08/2016
06/08/2016
09/08/2016
11/08/2016
13/08/2016
16/08/2016
18/08/2016
20/08/2016
23/08/2016
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Date
IM10
IM11
IM12
SR2
SR3
SR4A
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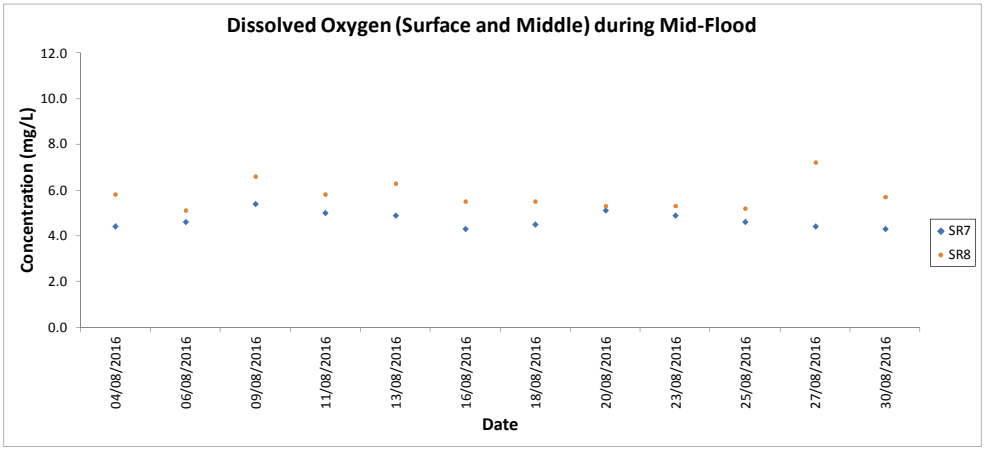
SR6


Dissolved Oxygen (Surface and Middle) during Mid-Flood
Concentration (mg/L)
12.0
10.0
8.0
6.0
4.0
2.0
0.0
04/08/2016
06/08/2016
09/08/2016
11/08/2016
13/08/2016
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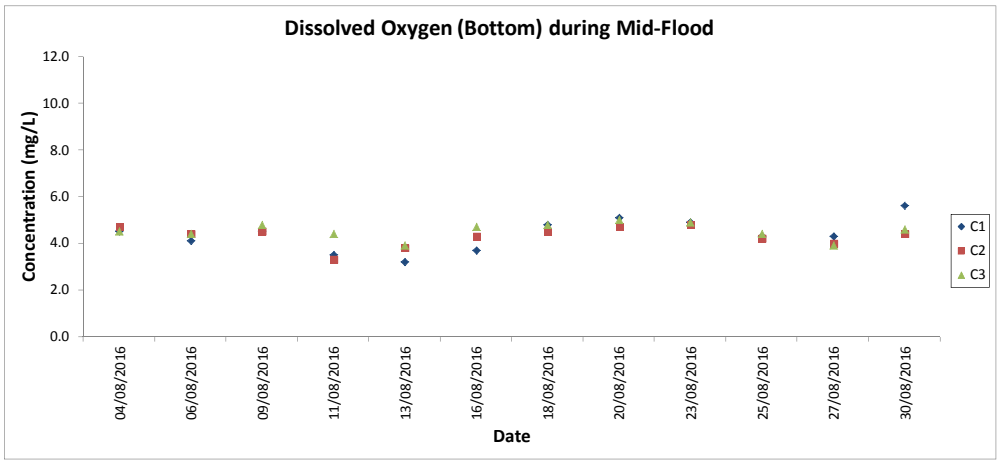
30/08/2016
Date
SR7
SR8


Dissolved Oxygen (Bottom) during Mid-Flood
Concentration (mg/L)
12.0
10.0
8.0
6.0
4.0
2.0
0.0
04/08/2016
06/08/2016
09/08/2016
11/08/2016
13/08/2016
16/08/2016
18/08/2016
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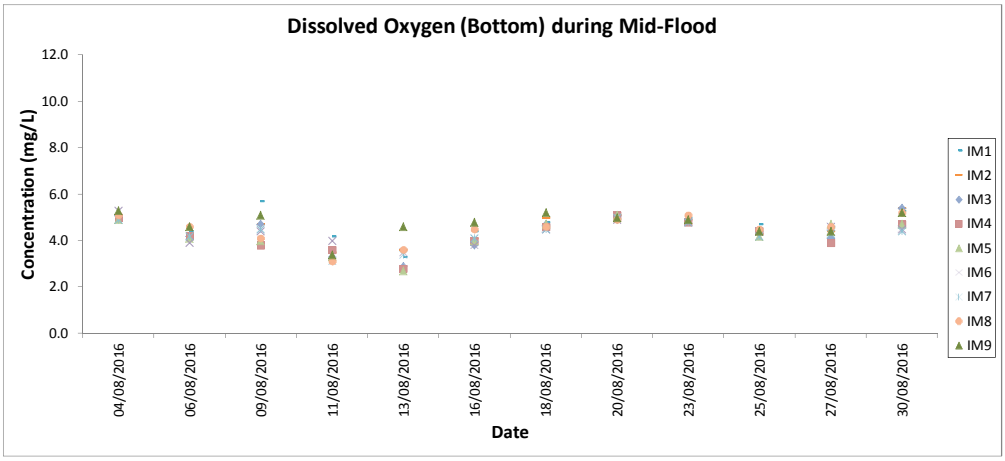
23/08/2016
25/08/2016
27/08/2016
30/08/2016
Date
C1
C2
C3


Dissolved Oxygen (Bottom) during Mid-Flood
Concentration (mg/L)
12.0
10.0
8.0
6.0
4.0
2.0
0.0
04/08/2016
06/08/2016
09/08/2016
11/08/2016
13/08/2016
16/08/2016
18/08/2016
20/08/2016
23/08/2016
25/08/2016
27/08/2016
30/08/2016
Date
IM1
IM2
IM3
IM4
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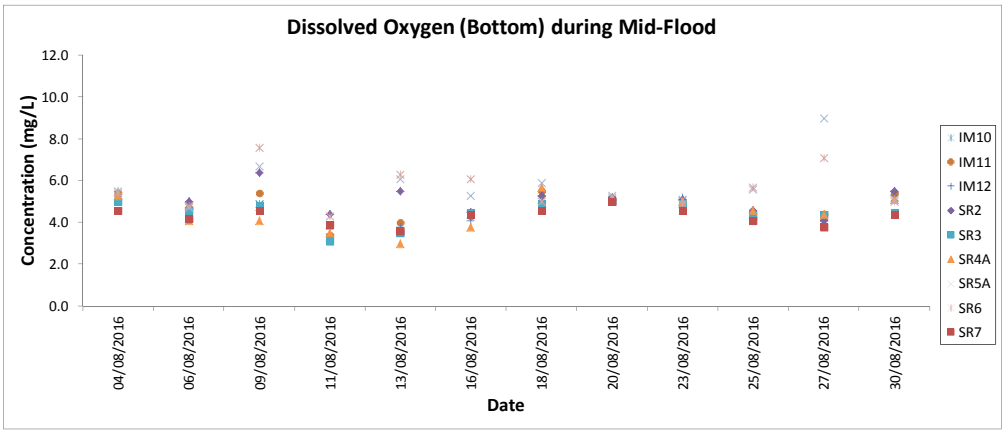
IM7
IM8
IM9


Dissolved Oxygen (Bottom) during Mid-Flood
Concentration (mg/L)
12.0
10.0
8.0
6.0
4.0
2.0
0.0
04/08/2016
06/08/2016
09/08/2016
11/08/2016
13/08/2016
16/08/2016
18/08/2016
20/08/2016
23/08/2016
25/08/2016
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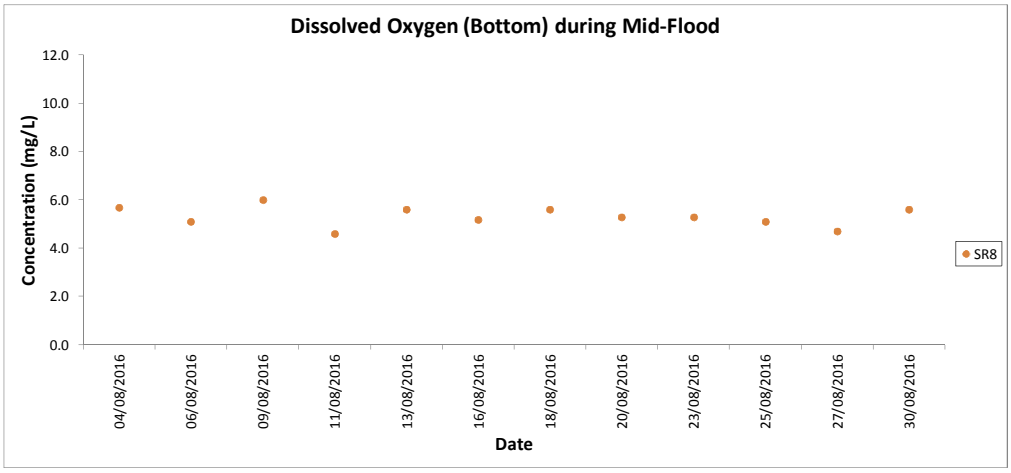
30/08/2016
Date
IM10
IM11
IM12
SR2
SR3
SR4A
SR5A
SR6
SR7


Dissolved Oxygen (Bottom) during Mid-Flood
Concentration (mg/L)
12.0
10.0
8.0
6.0
4.0
2.0
0.0
04/08/2016
06/08/2016
09/08/2016
11/08/2016
13/08/2016
16/08/2016
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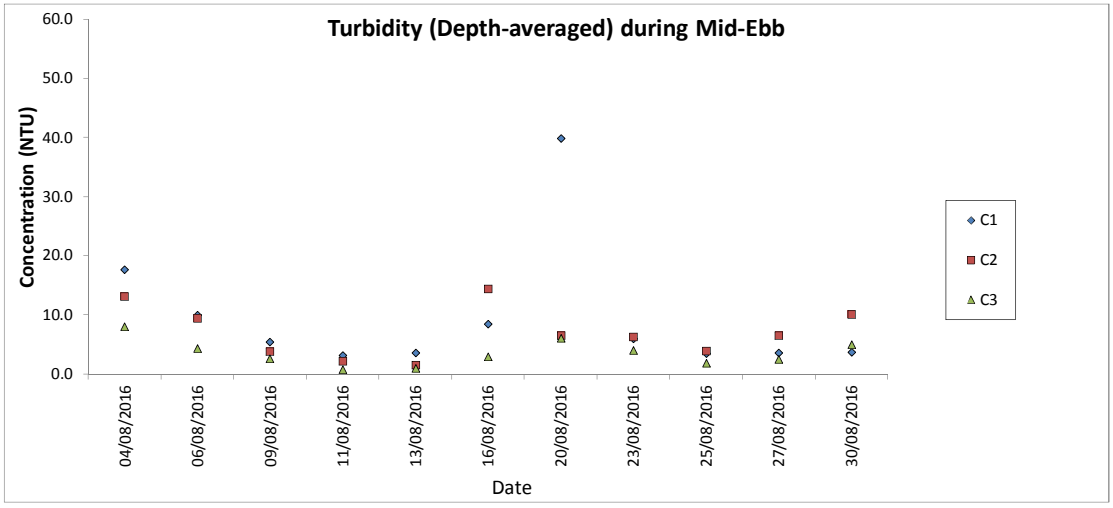
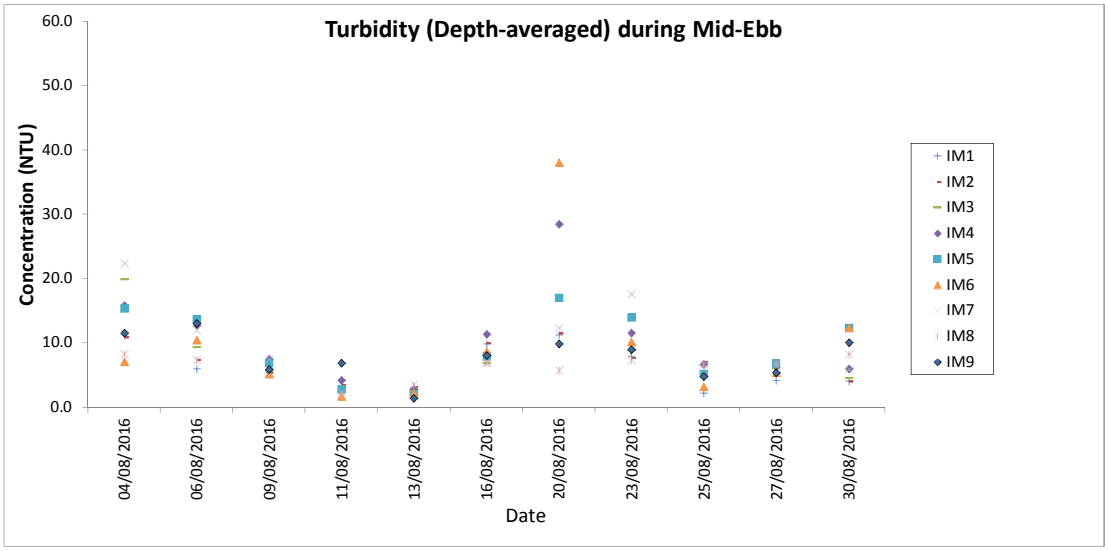
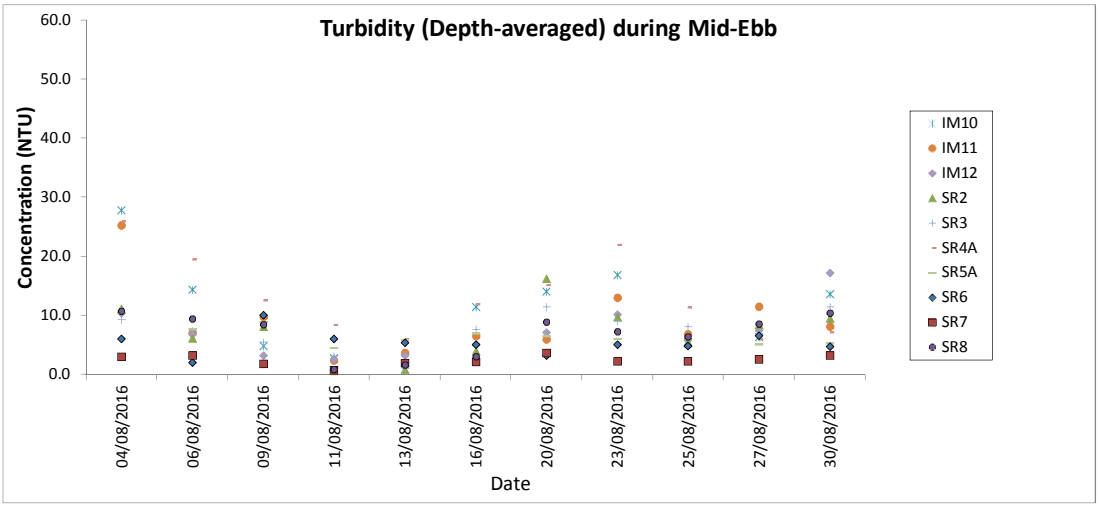
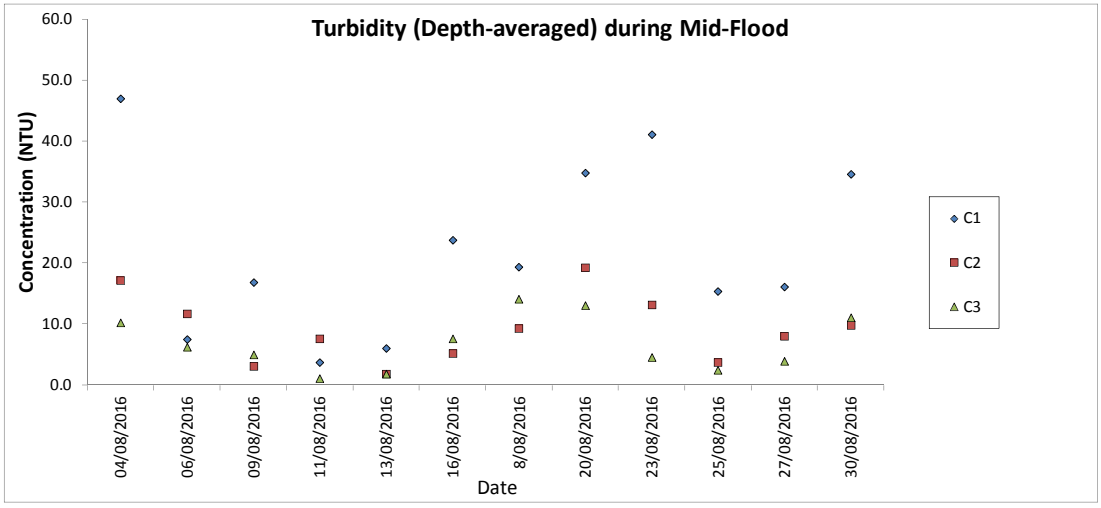
30/08/2016
Date
SR8







Note: The action and limit level of turbidity can be referred to table 4.2 of the monthly EM&A report.


Turbidity (Depth-averaged) during Mid-Flood
Concentration (NTU)
60.0
50.0
40.0
30.0
20.0
10.0
0.0
04/08/2016
06/08/2016
09/08/2016
11/08/2016
13/08/2016
16/08/2016
8/08/2016
20/08/2016
23/08/2016
25/08/2016
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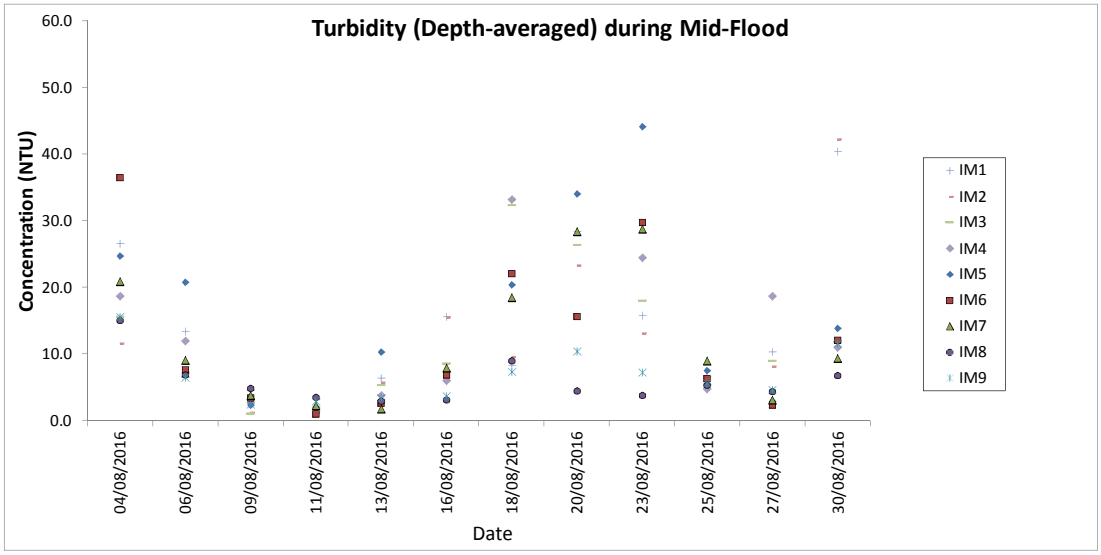
30/08/2016
Date
C1
C2
C3


Turbidity (Depth-averaged) during Mid-Flood
Concentration (NTU)
60.0
50.0
40.0
30.0
20.0
10.0
0.0
04/08/2016
06/08/2016
09/08/2016
11/08/2016
13/08/2016
16/08/2016
18/08/2016
20/08/2016
23/08/2016
25/08/2016
27/08/2016
30/08/2016
Date
IM1
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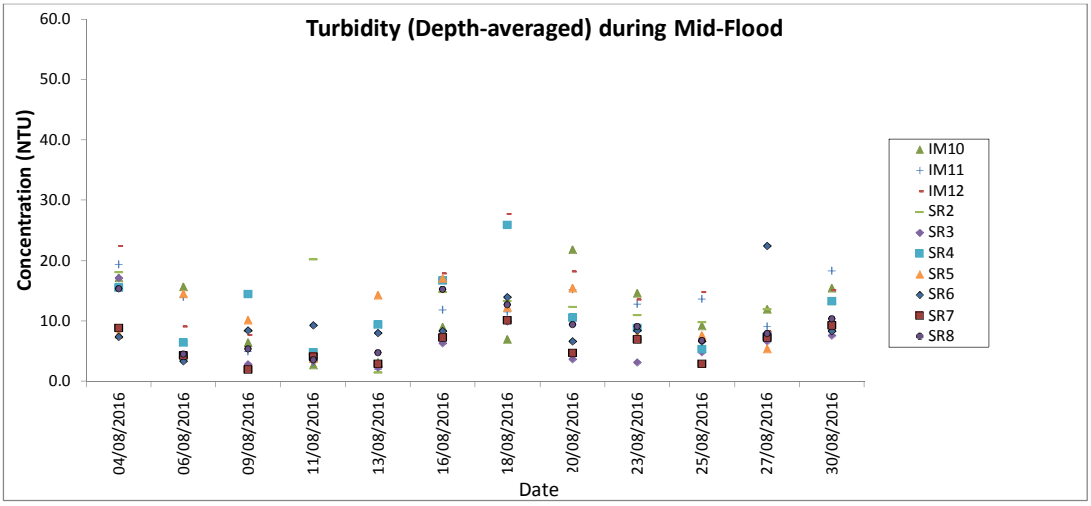
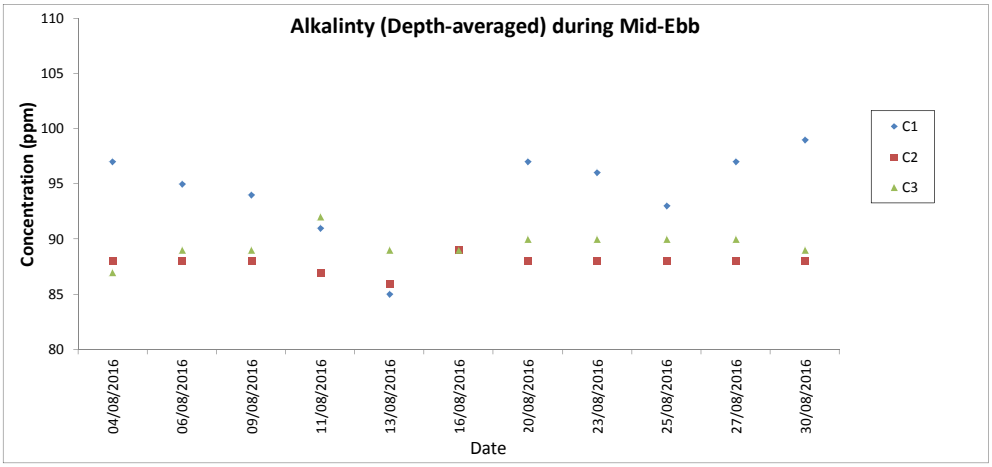
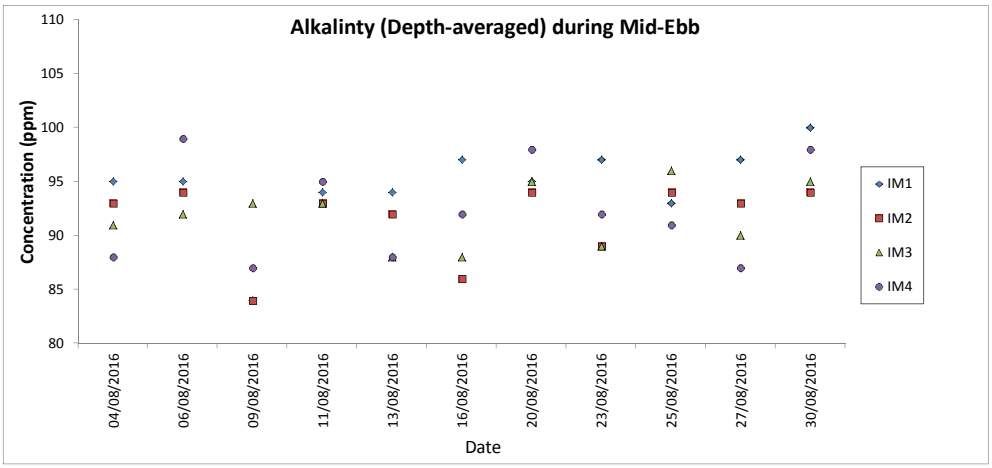
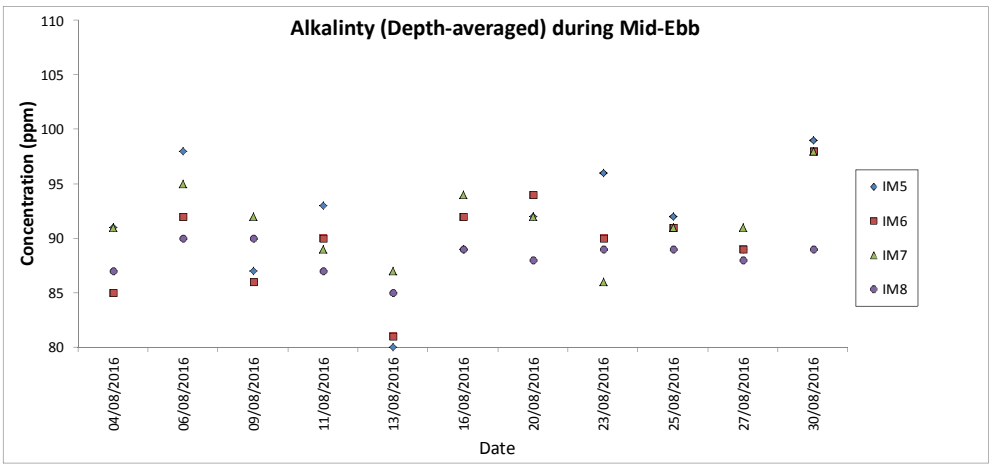
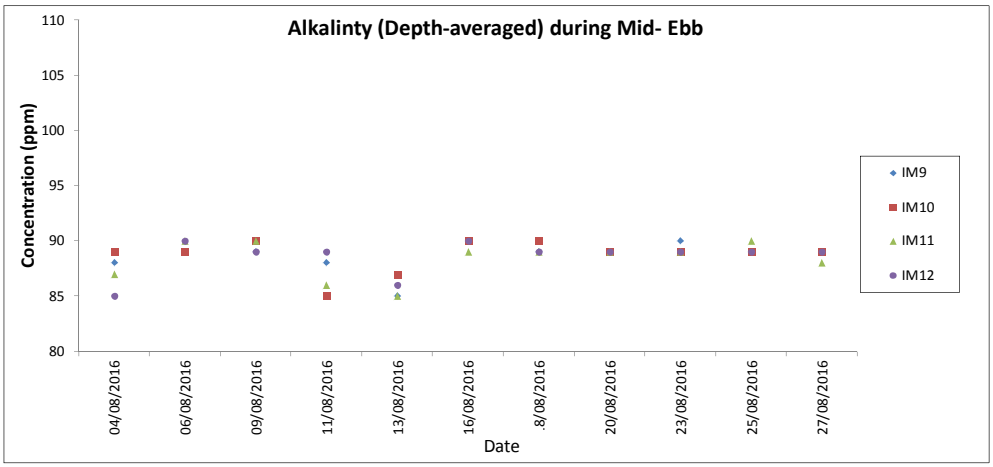

Turbidity (Depth-averaged) during Mid-Flood
Concentration (NTU)
60.0
50.0
40.0
30.0
20.0
10.0
0.0
04/08/2016
06/08/2016
09/08/2016
11/08/2016
13/08/2016
16/08/2016
18/08/2016
20/08/2016
23/08/2016
25/08/2016
27/08/2016
30/08/2016
Date
IM10
IM11
IM12
SR2
SR3
SR4
SR5
SR6
SR7
SR8

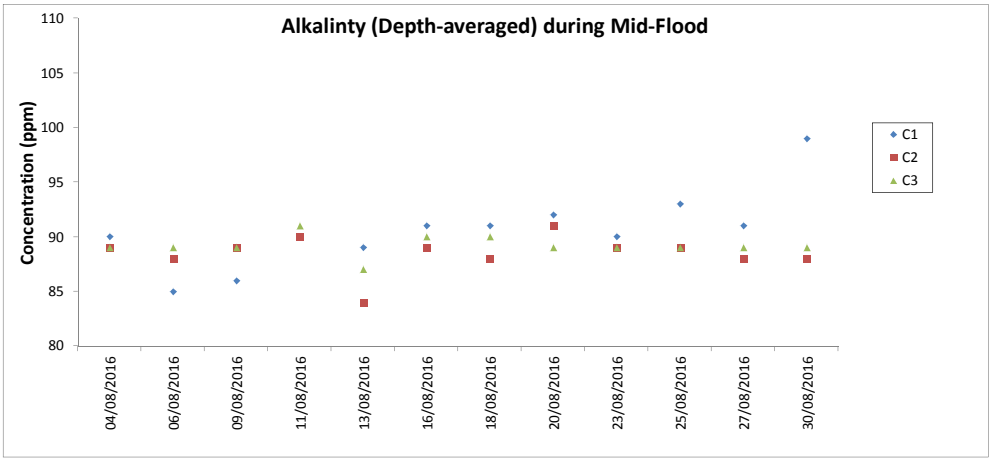


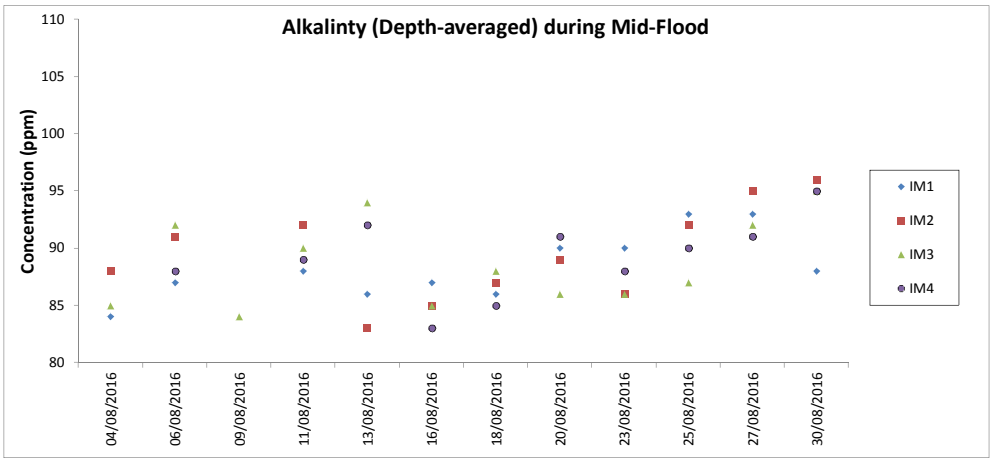


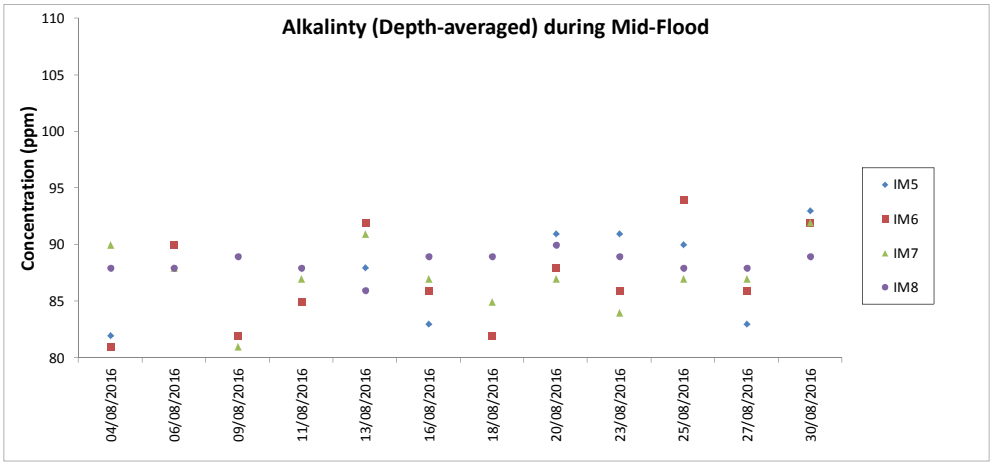


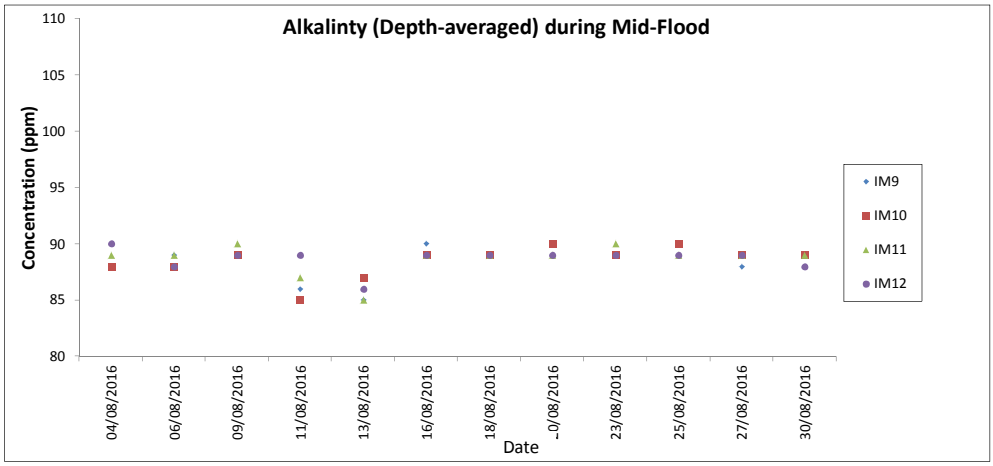


Note: The action and limit level of alkalinity can be referred to table 4.2 of the monthly EM&A report.

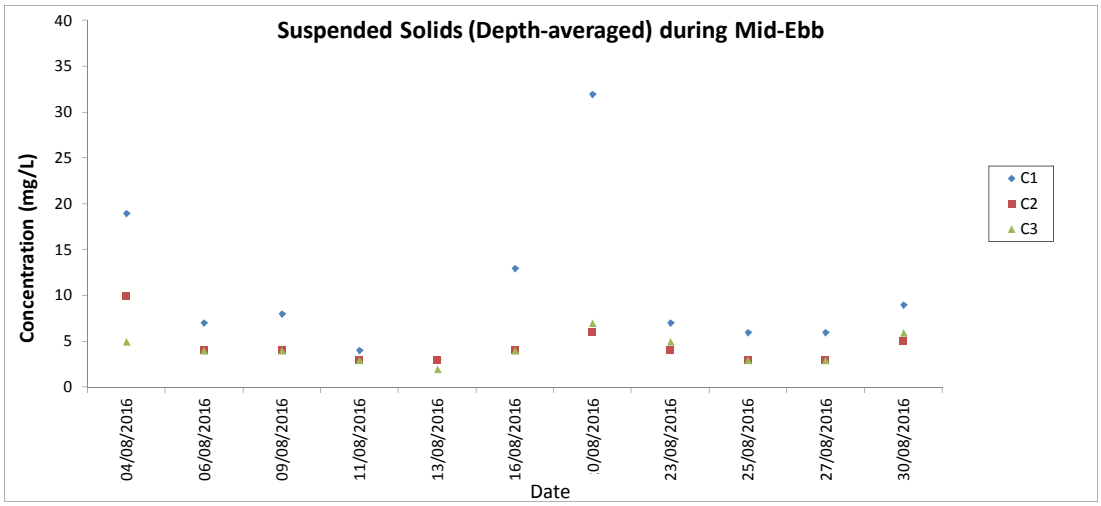


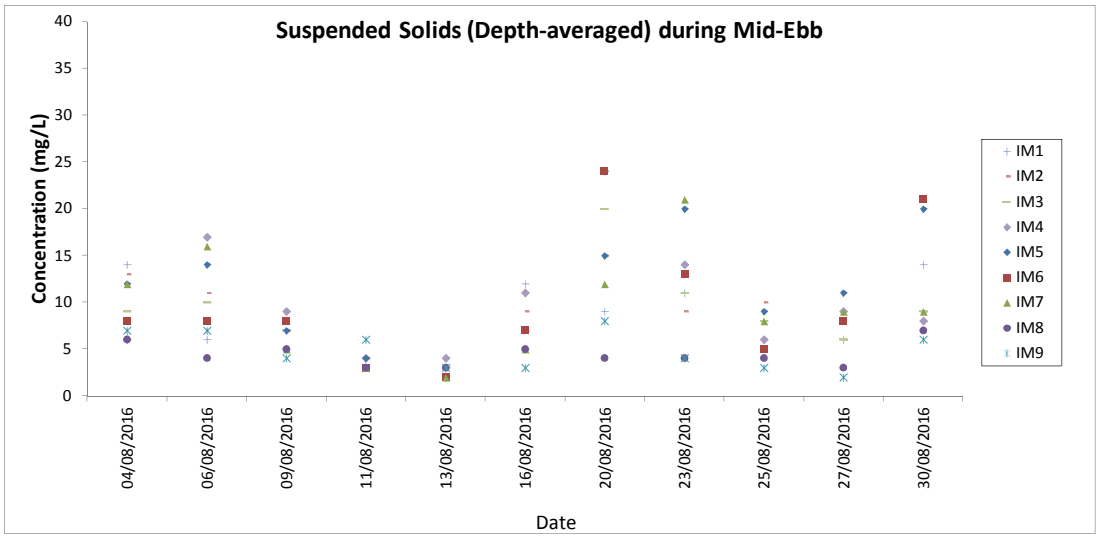


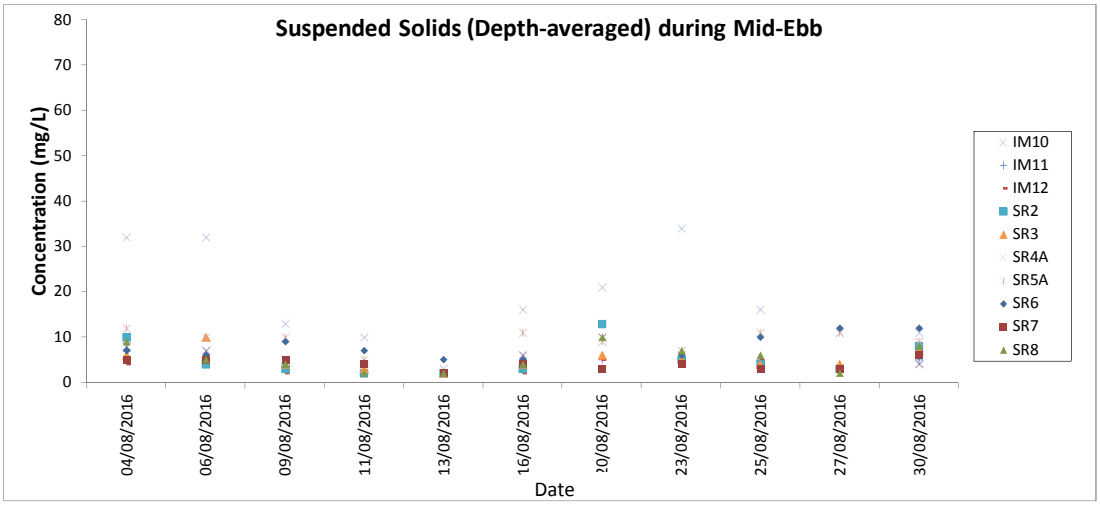




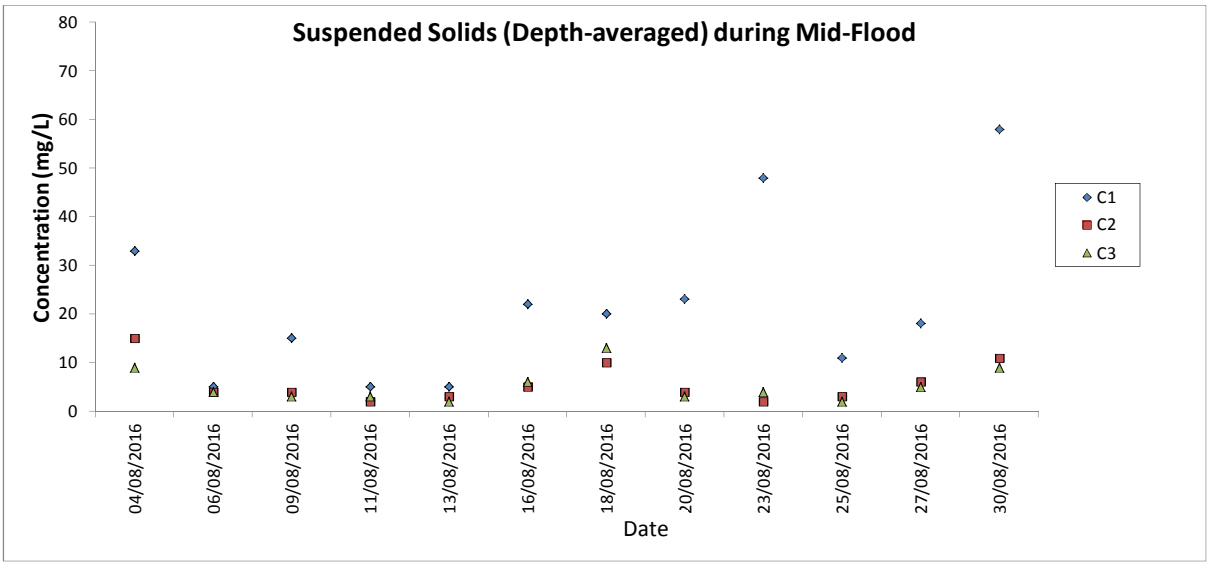
Note: The action and limit level of alkalinity can be referred to table 4.2 of the monthly EM&A report.

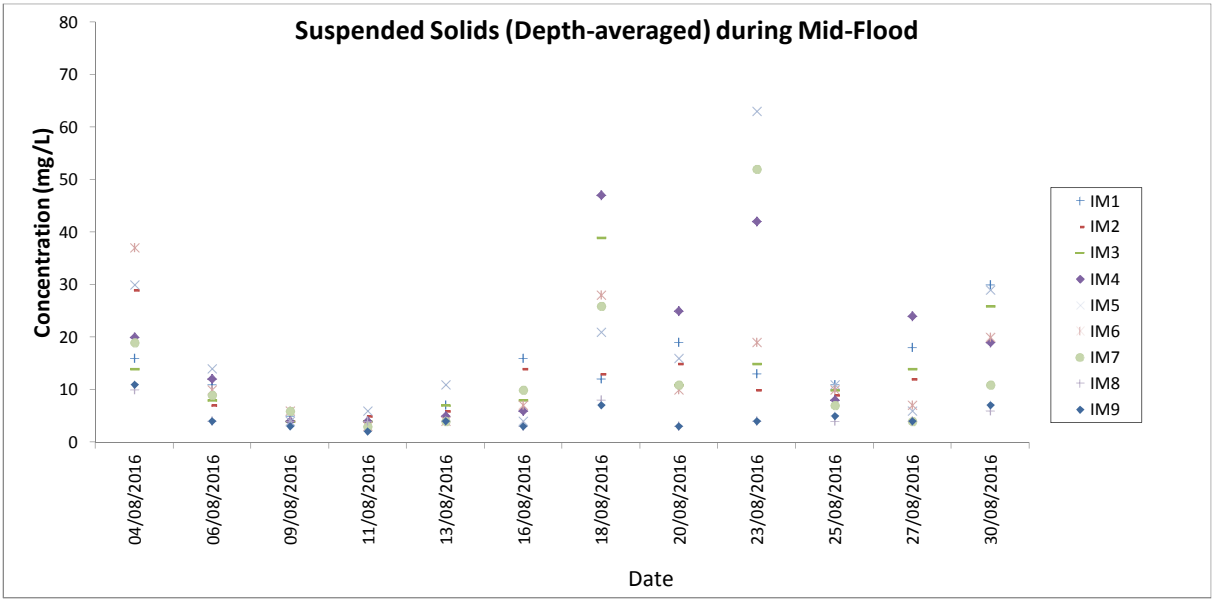


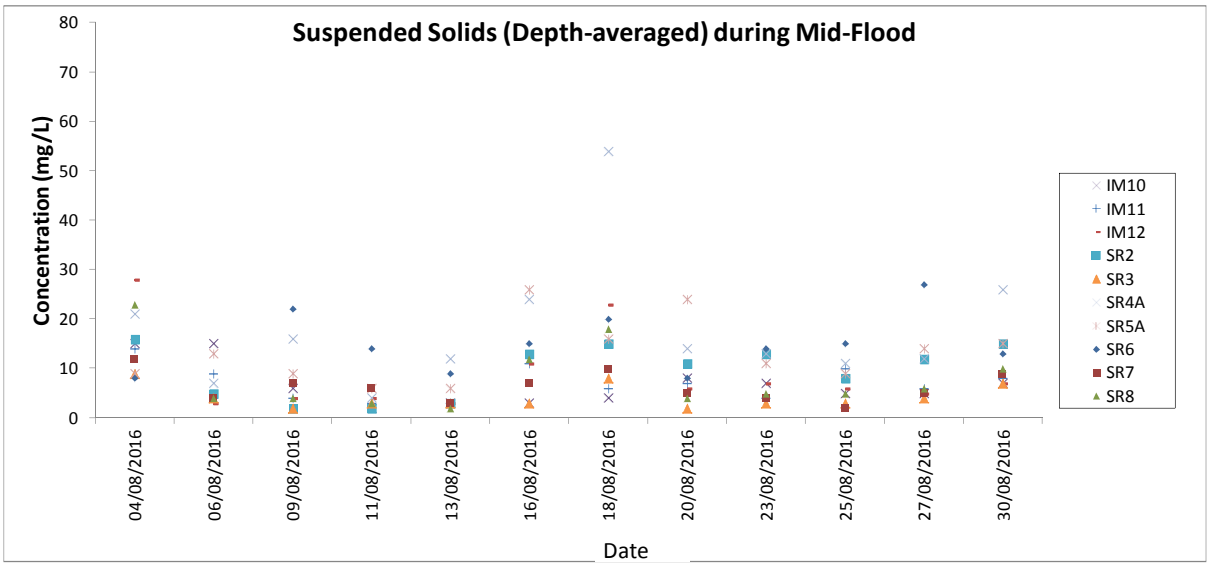




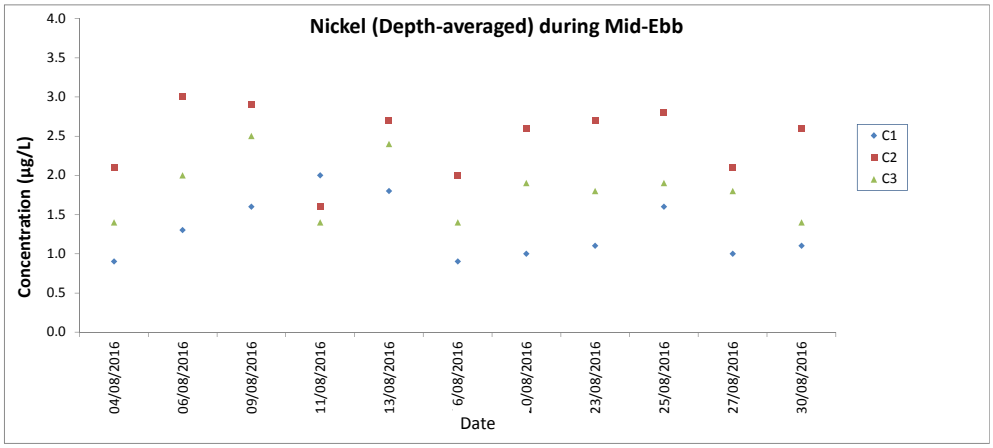
Note: The action and limit level of Suspended Solids can be referred to table 4.2 of the monthly EM&A report.

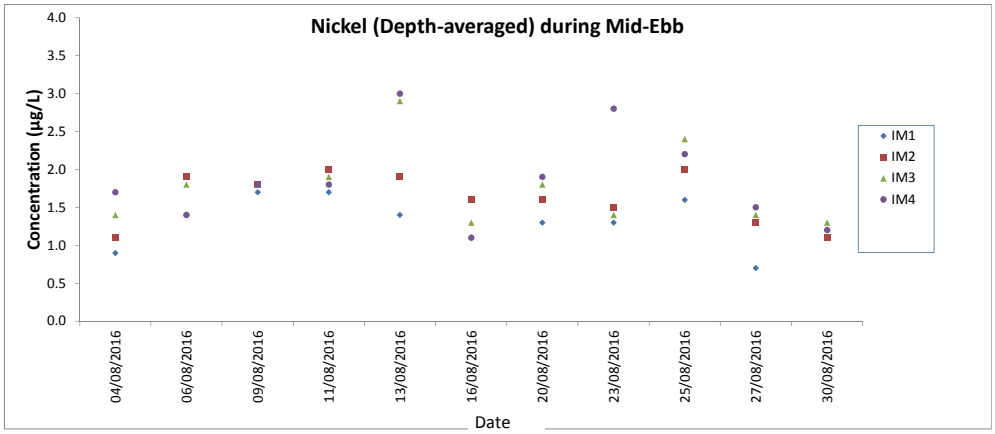


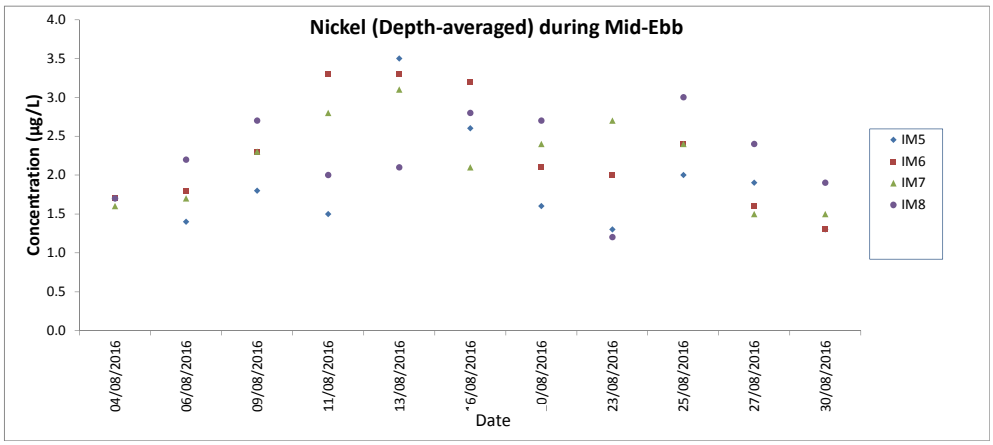


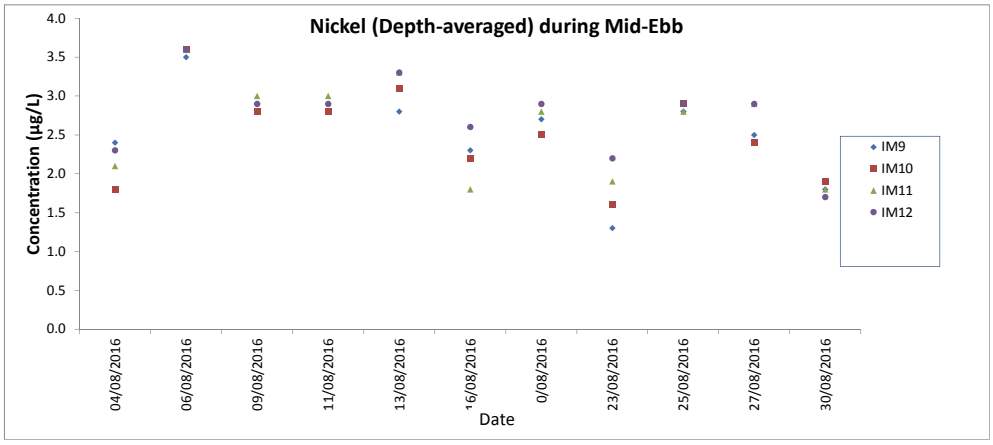


Note: The action and limit level of Suspended Solids can be referred to table 4.2 of the monthly EM&A report.

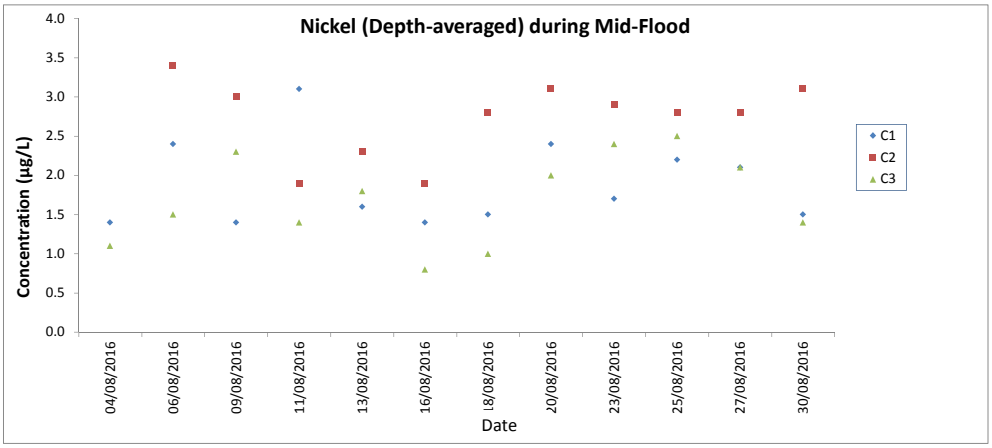


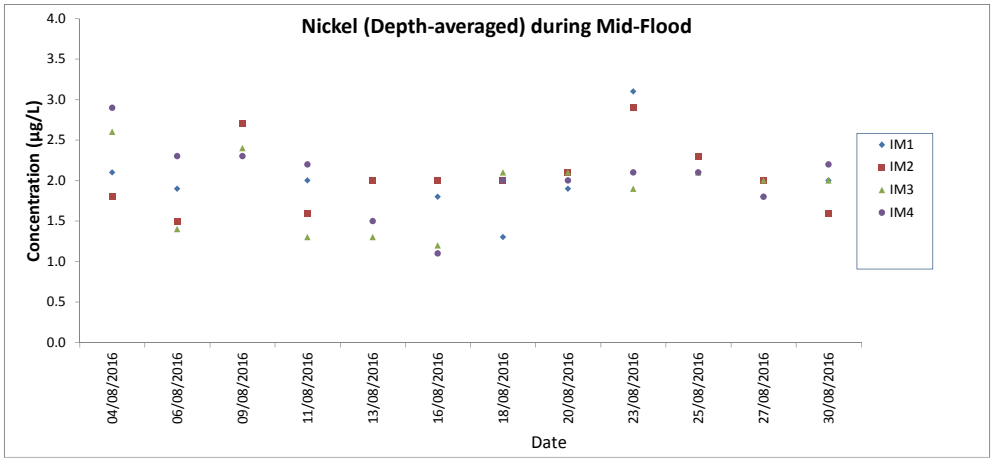


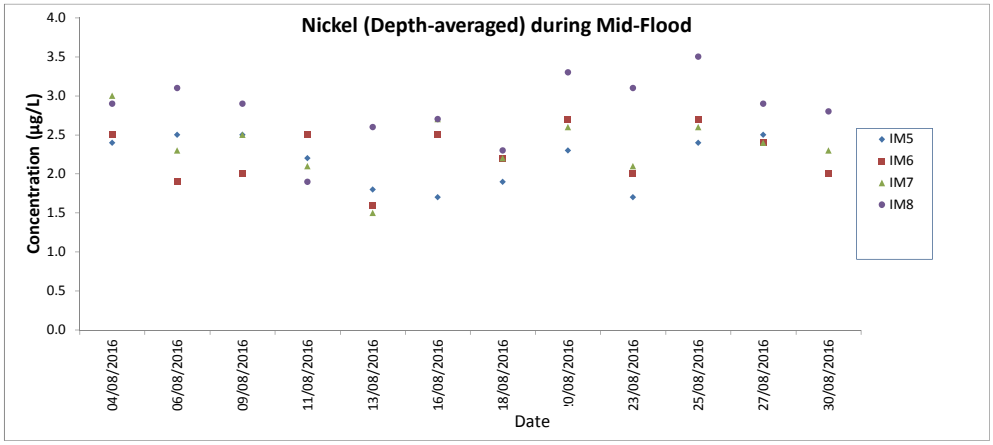


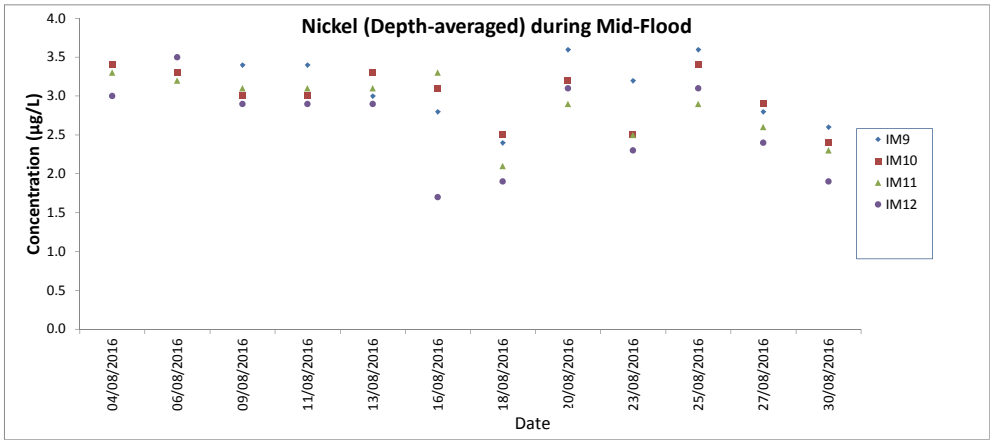


Note: The action and limit level of Nickel can be referred to table 4.2 of the monthly EM&A report.









Note: The action and limit level of Nickel can be referred to table 4.2 of the monthly EM&A report.
The monitoring results of Chromium at all monitoring stations were below the reporting limit <0.2 µg/L,
the impact monitoring results of Chromium at all monitoring stations can be referred to Appendix E. of the monthly EM&A report.

Chinese White Dolphin Monitoring Results

CWD Small Vessel Line-transect Survey **Survey Effort Data**

DATE	AREA	BEAU	KM SEARCHED	SEASON	VESSEL	TYPE
19-May-16	NEL	2	4.18	SPRING	32166	3RS ET
19-May-16	NEL	3	26.02	SPRING	32166	3RS ET
19-May-16	NEL	4	17.30	SPRING	32166	3RS ET
23-May-16	NWL	2	55.49	SPRING	32166	3RS ET
23-May-16	NWL	3	16.07	SPRING	32166	3RS ET
23-May-16	NWL	4	0.50	SPRING	32166	3RS ET
24-May-16	AW	2	4.58	SPRING	32166	3RS ET
24-May-16	WL	1	11.26	SPRING	32166	3RS ET
24-May-16	WL	2	16.40	SPRING	32166	3RS ET
24-May-16	WL	3	2.19	SPRING	32166	3RS ET
24-May-16	SWL	2	2.70	SPRING	32166	3RS ET
24-May-16	SWL	3	1.64	SPRING	32166	3RS ET
25-May-16	SWL	2	11.20	SPRING	32166	3RS ET
25-May-16	SWL	3	21.20	SPRING	32166	3RS ET
25-May-16	SWL	4	27.25	SPRING	32166	3RS ET
25-May-16	SWL	5	2.50	SPRING	32166	3RS ET
30-May-16	NWL	2	5.40	SPRING	32166	3RS ET
30-May-16	NWL	3	47.88	SPRING	32166	3RS ET
30-May-16	NWL	4	28.49	SPRING	32166	3RS ET
31-May-16	NEL	1	2.47	SPRING	32166	3RS ET
31-May-16	NEL	2	28.90	SPRING	32166	3RS ET
31-May-16	NEL	3	15.63	SPRING	32166	3RS ET
31-May-16	NWL	4	10.40	SPRING	32166	3RS ET
6-Jun-16	AW	2	4.91	SUMMER	32166	3RS ET
6-Jun-16	WL	2	28.70	SUMMER	32166	3RS ET
6-Jun-16	WL	3	4.97	SUMMER	32166	3RS ET
6-Jun-16	SWL	2	2.40	SUMMER	32166	3RS ET
6-Jun-16	SWL	3	1.16	SUMMER	32166	3RS ET
7-Jun-16	SWL	2	9.90	SUMMER	32166	3RS ET
7-Jun-16	SWL	3	45.15	SUMMER	32166	3RS ET
7-Jun-16	SWL	4	7.40	SUMMER	32166	3RS ET
4-Jul-16	NEL	2	3.40	SUMMER	32166	3RS ET
4-Jul-16	NEL	3	23.21	SUMMER	32166	3RS ET
4-Jul-16	NEL	4	19.39	SUMMER	32166	3RS ET
6-Jul-16	NEL	1	13.60	SUMMER	32166	3RS ET
6-Jul-16	NEL	2	14.68	SUMMER	32166	3RS ET
6-Jul-16	NEL	3	18.72	SUMMER	32166	3RS ET
7-Jul-16	AW	3	5.13	SUMMER	32166	3RS ET
7-Jul-16	WL	2	11.09	SUMMER	32166	3RS ET
7-Jul-16	WL	3	17.57	SUMMER	32166	3RS ET
7-Jul-16	SWL	2	5.16	SUMMER	32166	3RS ET
13-Jul-16	NWL	1	12.00	SUMMER	32166	3RS ET
13-Jul-16	NWL	2	66.80	SUMMER	32166	3RS ET
13-Jul-16	NWL	3	5.10	SUMMER	32166	3RS ET
14-Jul-16	AW	2	4.96	SUMMER	32166	3RS ET
14-Jul-16	WL	1	2.60	SUMMER	32166	3RS ET
14-Jul-16	WL	2	2.92	SUMMER	32166	3RS ET

DATE	AREA	BEAU	KM SEARCHED	SEASON	VESSEL	TYPE
14-Jul-16	WL	3	21.30	SUMMER	32166	3RS ET
14-Jul-16	WL	4	6.38	SUMMER	32166	3RS ET
14-Jul-16	SWL	3	7.09	SUMMER	32166	3RS ET
18-Jul-16	SWL	2	10.21	SUMMER	32166	3RS ET
18-Jul-16	SWL	3	38.54	SUMMER	32166	3RS ET
18-Jul-16	SWL	4	7.57	SUMMER	32166	3RS ET
18-Jul-16	SWL	5	2.02	SUMMER	32166	3RS ET
22-Jul-16	NWL	1	6.55	SUMMER	32166	3RS ET
22-Jul-16	NWL	2	11.58	SUMMER	32166	3RS ET
22-Jul-16	NWL	3	45.96	SUMMER	32166	3RS ET
22-Jul-16	NWL	4	13.28	SUMMER	32166	3RS ET
25-Jul-16	SWL	1	31.32	SUMMER	32166	3RS ET
25-Jul-16	SWL	2	15.35	SUMMER	32166	3RS ET
5-Aug-16	NEL	2	44.36	SUMMER	32166	3RS ET
5-Aug-16	NEL	3	2.64	SUMMER	32166	3RS ET
9-Aug-16	AW	2	4.76	SUMMER	32166	3RS ET
9-Aug-16	WL	1	8.07	SUMMER	32166	3RS ET
9-Aug-16	WL	2	16.14	SUMMER	32166	3RS ET
9-Aug-16	WL	3	3.70	SUMMER	32166	3RS ET
9-Aug-16	WL	4	1.80	SUMMER	32166	3RS ET
9-Aug-16	SWL	3	1.41	SUMMER	32166	3RS ET
9-Aug-16	SWL	4	0.77	SUMMER	32166	3RS ET
9-Aug-16	SWL	5	4.79	SUMMER	32166	3RS ET
10-Aug-16	SWL	1	14.30	SUMMER	32166	3RS ET
10-Aug-16	SWL	2	37.70	SUMMER	32166	3RS ET
10-Aug-16	SWL	3	11.10	SUMMER	32166	3RS ET
15-Aug-16	NEL	1	21.10	SUMMER	32166	3RS ET
15-Aug-16	NEL	2	26.00	SUMMER	32166	3RS ET
19-Aug-16	NWL	3	68.90	SUMMER	32166	3RS ET
19-Aug-16	NWL	4	12.60	SUMMER	32166	3RS ET
19-Aug-16	NWL	5	0.40	SUMMER	32166	3RS ET
22-Aug-16	AW	2	1.58	SUMMER	32166	3RS ET
22-Aug-16	AW	3	3.20	SUMMER	32166	3RS ET
22-Aug-16	WL	2	11.83	SUMMER	32166	3RS ET
22-Aug-16	WL	3	6.71	SUMMER	32166	3RS ET
22-Aug-16	WL	4	11.94	SUMMER	32166	3RS ET
22-Aug-16	SWL	3	0.83	SUMMER	32166	3RS ET
22-Aug-16	SWL	4	6.17	SUMMER	32166	3RS ET
24-Aug-16	NWL	1	34.84	SUMMER	32166	3RS ET
24-Aug-16	NWL	2	48.06	SUMMER	32166	3RS ET
25-Aug-16	SWL	1	11.89	SUMMER	32166	3RS ET
25-Aug-16	SWL	2	38.89	SUMMER	32166	3RS ET
25-Aug-16	SWL	3	12.60	SUMMER	32166	3RS ET

Notes:

CWD baseline monitoring surveys were conducted in July 2016 with two sets of transect surveys for all monitoring areas. The data collected was used to derive the running quarterly STG and ANI.

CWD monitoring survey data of the two preceding survey months (i.e. 18 May to 17 June 2016, and July 2016) are presented for reference only.

CWD Small Vessel Line-transect Survey

Sighting Data

DATE	STG #	TIME	CWD/FP	GP SZ	AREA	BEAU	PSD	EFFORT	TYPE	DEC LAT	DEC LON	SEASON	BOAT ASSOC.
23-May-16	1	1230	CWD	11	NWL	3	206	ON	3RS ET	22.4122	113.8810	SPRING	NONE
23-May-16	2	1310	CWD	3	NWL	3	6	ON	3RS ET	22.4033	113.8777	SPRING	NONE
24-May-16	1	1131	CWD	2	WL	3	17	ON	3RS ET	22.2234	113.8231	SPRING	NONE
24-May-16	2	1150	CWD	7	WL	2	38	ON	3RS ET	22.2196	113.8147	SPRING	NONE
24-May-16	3	1217	CWD	7	WL	2	141	ON	3RS ET	22.2141	113.8203	SPRING	NONE
24-May-16	4	1243	CWD	3	WL	2	295	ON	3RS ET	22.2143	113.8308	SPRING	NONE
24-May-16	5	1310	CWD	1	WL	2	289	ON	3RS ET	22.2055	113.8278	SPRING	NONE
24-May-16	6	1319	CWD	8	WL	2	35	ON	3RS ET	22.2044	113.8239	SPRING	NONE
24-May-16	7	1339	CWD	2	WL	2	20	ON	3RS ET	22.2184	113.8217	SPRING	NONE
24-May-16	8	1351	CWD	4	WL	2	83	ON	3RS ET	22.1959	113.8346	SPRING	NONE
24-May-16	9	1409	CWD	1	WL	3	16	ON	3RS ET	22.1871	113.8363	SPRING	NONE
24-May-16	10	1427	CWD	2	WL	2	N/A	OFF	3RS ET	22.1936	113.8471	SPRING	NONE
24-May-16	11	1451	CWD	6	SWL	3	1294	ON	3RS ET	22.1769	113.8591	SPRING	NONE
25-May-16	1	1057	FP	1	SWL	2	183	ON	3RS ET	22.1661	113.9361	SPRING	NONE
25-May-16	2	1115	FP	2	SWL	2	183	ON	3RS ET	22.1452	113.9303	SPRING	NONE
30-May-16	1	1435	CWD	1	NWL	3	60	ON	3RS ET	22.3513	113.8679	SPRING	NONE
06-Jun-16	1	1132	CWD	1	WL	2	100	ON	3RS ET	22.2503	113.8420	SUMMER	NONE
06-Jun-16	2	1303	CWD	2	WL	2	68	ON	3RS ET	22.2139	113.8138	SUMMER	NONE
06-Jun-16	3	1317	CWD	4	WL	3	227	ON	3RS ET	22.2137	113.8287	SUMMER	NONE
06-Jun-16	4	1425	CWD	1	WL	2	N/A	OFF	3RS ET	22.1914	113.8434	SUMMER	NONE
06-Jun-16	5	1431	CWD	5	SWL	2	137	ON	3RS ET	22.1912	113.8498	SUMMER	NONE
06-Jun-16	6	1509	CWD	3	SWL	3	1680	ON	3RS ET	22.1783	113.8602	SUMMER	NONE
07-Jun-16	1	1306	CWD	5	SWL	2	66	ON	3RS ET	22.2033	113.8976	SUMMER	NONE
07-Jun-16	2	1544	CWD	2	SWL	3	150	ON	3RS ET	22.2006	113.8675	SUMMER	NONE
07-Jul-16	1	1052	CWD	1	WL	2	957	ON	3RS ET	22.2504	113.8411	SUMMER	NONE
07-Jul-16	2	1113	CWD	5	WL	3	181	ON	3RS ET	22.2415	113.8463	SUMMER	NONE
07-Jul-16	3	1144	CWD	1	WL	3	91	ON	3RS ET	22.2412	113.8364	SUMMER	NONE
07-Jul-16	4	1202	CWD	4	WL	3	318	ON	3RS ET	22.2336	113.8237	SUMMER	NONE
07-Jul-16	5	1230	CWD	3	WL	2	161	ON	3RS ET	22.2324	113.8364	SUMMER	NONE
07-Jul-16	6	1311	CWD	1	WL	2	95	ON	3RS ET	22.2140	113.8301	SUMMER	NONE
07-Jul-16	7	1318	CWD	5	WL	2	19	ON	3RS ET	22.2144	113.8330	SUMMER	NONE

DATE	STG #	TIME	CWD/FP	GP SZ	AREA	BEAU	PSD	EFFORT	TYPE	DEC LAT	DEC LON	SEASON	BOAT ASSOC.
07-Jul-16	8	1341	CWD	4	WL	2	55	ON	3RS ET	22.2079	113.8398	SUMMER	NONE
07-Jul-16	9	1358	CWD	1	WL	2	100	ON	3RS ET	22.2053	113.8350	SUMMER	NONE
07-Jul-16	10	1423	CWD	1	WL	3	57	ON	3RS ET	22.1962	113.8314	SUMMER	NONE
07-Jul-16	11	1438	CWD	7	WL	3	265	ON	3RS ET	22.1959	113.8426	SUMMER	NONE
07-Jul-16	12	1535	CWD	1	SWL	2	555	ON	3RS ET	22.1825	113.8498	SUMMER	NONE
07-Jul-16	13	1601	CWD	4	SWL	2	151	ON	3RS ET	22.1909	113.8590	SUMMER	PURSE SEINE
14-Jul-16	1	1101	CWD	2	WL	4	N/A	OFF	3RS ET	22.2413	113.8425	SUMMER	NONE
14-Jul-16	2	1235	CWD	3	WL	4	186	ON	3RS ET	22.1873	113.8306	SUMMER	NONE
14-Jul-16	3	1316	CWD	1	SWL	3	N/A	OFF	3RS ET	22.1812	113.8589	SUMMER	NONE
18-Jul-16	1	1145	CWD	8	SWL	2	269	ON	3RS ET	22.1974	113.9184	SUMMER	NONE
18-Jul-16	2	1312	CWD	2	SWL	3	77	ON	3RS ET	22.1657	113.9027	SUMMER	NONE
18-Jul-16	3	1355	CWD	14	SWL	2	N/A	OFF	3RS ET	22.1988	113.8971	SUMMER	PURSE SEINE
18-Jul-16	4	1425	CWD	6	SWL	3	572	ON	3RS ET	22.1894	113.8982	SUMMER	NONE
18-Jul-16	5	1528	CWD	2	SWL	3	653	ON	3RS ET	22.2018	113.8877	SUMMER	NONE
22-Jul-16	1	0959	CWD	3	NWL	1	118	ON	3RS ET	22.3686	113.8683	SUMMER	NONE
22-Jul-16	2	1053	CWD	3	NWL	1	47	ON	3RS ET	22.3086	113.8689	SUMMER	NONE
22-Jul-16	3	1142	CWD	5	NWL	3	151	ON	3RS ET	22.2722	113.8725	SUMMER	NONE
22-Jul-16	4	1244	CWD	2	NWL	3	65	ON	3RS ET	22.3378	113.8782	SUMMER	NONE
22-Jul-16	5	1342	CWD	7	NWL	4	15	ON	3RS ET	22.3939	113.8726	SUMMER	NONE
25-Jul-16	1	1057	FP	6	SWL	1	73	ON	3RS ET	22.1659	113.9363	SUMMER	NONE
25-Jul-16	2	1109	FP	3	SWL	1	19	ON	3RS ET	22.1597	113.9357	SUMMER	NONE
25-Jul-16	3	1128	FP	1	SWL	1	72	ON	3RS ET	22.1460	113.9272	SUMMER	NONE
25-Jul-16	4	1137	FP	3	SWL	1	132	ON	3RS ET	22.1540	113.9273	SUMMER	NONE
25-Jul-16	5	1149	FP	3	SWL	1	255	ON	3RS ET	22.1686	113.9274	SUMMER	NONE
25-Jul-16	6	1347	CWD	8	SWL	2	644	ON	3RS ET	22.1845	113.8977	SUMMER	NONE
25-Jul-16	7	1441	CWD	6	SWL	1	1247	ON	3RS ET	22.2029	113.8783	SUMMER	NONE
25-Jul-16	8	1531	CWD	24	SWL	2	908	ON	3RS ET	22.1605	113.8705	SUMMER	NONE
09-Aug-16	1	1037	CWD	2	WL	1	8	ON	3RS ET	22.2625	113.8563	SUMMER	NONE
09-Aug-16	2	1047	CWD	1	WL	2	85	ON	3RS ET	22.2609	113.8515	SUMMER	NONE
09-Aug-16	3	1114	CWD	5	WL	2	98	ON	3RS ET	22.2504	113.8413	SUMMER	NONE
09-Aug-16	4	1146	CWD	3	WL	2	5	ON	3RS ET	22.2394	113.8278	SUMMER	NONE
09-Aug-16	5	1325	CWD	1	SWL	4	N/A	OFF	3RS ET	22.1936	113.8473	SUMMER	NONE
10-Aug-16	1	1059	FP	1	SWL	2	130	ON	3RS ET	22.1715	113.9353	SUMMER	NONE

DATE	STG #	TIME	CWD/FP	GP SZ	AREA	BEAU	PSD	EFFORT	TYPE	DEC LAT	DEC LON	SEASON	BOAT ASSOC.
10-Aug-16	2	1107	FP	6	SWL	2	396	ON	3RS ET	22.1624	113.9359	SUMMER	NONE
10-Aug-16	3	1116	FP	5	SWL	2	256	ON	3RS ET	22.1524	113.9356	SUMMER	NONE
19-Aug-16	1	1201	CWD	5	NWL	3	56	ON	3RS ET	22.3869	113.8890	SUMMER	NONE
19-Aug-16	2	1358	CWD	7	NWL	3	59	ON	3RS ET	22.3749	113.9066	SUMMER	NONE
22-Aug-16	1	0950	CWD	2	WL	2	N/A	OFF	3RS ET	22.3003	113.8665	SUMMER	NONE
22-Aug-16	2	1001	CWD	5	WL	3	197	ON	3RS ET	22.3023	113.8616	SUMMER	NONE
22-Aug-16	3	1046	CWD	5	WL	2	47	ON	3RS ET	22.2661	113.8592	SUMMER	NONE
22-Aug-16	4	1116	CWD	1	WL	2	213	ON	3RS ET	22.2503	113.8345	SUMMER	NONE
22-Aug-16	5	1145	CWD	1	WL	2	390	ON	3RS ET	22.2414	113.8408	SUMMER	NONE
22-Aug-16	6	1209	CWD	5	WL	2	183	ON	3RS ET	22.2367	113.8265	SUMMER	NONE
22-Aug-16	7	1237	CWD	7	WL	2	124	ON	3RS ET	22.2236	113.8369	SUMMER	NONE
22-Aug-16	8	1318	CWD	4	WL	4	245	ON	3RS ET	22.2143	113.8209	SUMMER	NONE
24-Aug-16	1	1216	CWD	6	NWL	1	32	ON	3RS ET	22.3785	113.8888	SUMMER	NONE
24-Aug-16	2	1336	CWD	1	NWL	2	27	ON	3RS ET	22.3797	113.8976	SUMMER	NONE
25-Aug-16	1	1013	CWD	1	SWL	2	N/A	OFF	3RS ET	22.1997	113.8684	SUMMER	NONE
25-Aug-16	2	1142	CWD	7	SWL	1	1303	ON	3RS ET	22.1498	113.8887	SUMMER	NONE

Abbreviations: STG# = Sighting Number; GP SZ = Dolphin Group Size; BEAU = Beaufort Sea State; PSD = Perpendicular Distance (in metres); N/A = Not Applicable; DEC LAT = Latitude (WGS84 in Decimal), DEC LON = Longitude (WGS84 in Decimal); BOAT ASSOC. = Fishing Boat Association

Notes:

CWD baseline monitoring surveys were conducted in July 2016 with two sets of transect surveys for all monitoring areas. The data collected was used to derive the running quarterly STG and ANI.

CWD monitoring survey data of the two preceding survey months (i.e. 18 May to 17 June 2016, and July 2016) are presented for reference only. No relevant figure or text will be mentioned in the monthly EM&A report.

Calculation of the running quarterly STG and ANI in the whole survey area (NEL, NWL, AW, WL, SWL):

A total of 1195.86 km of survey effort was collected under Beaufort Sea State 3 or below with favourable visibility; total no. of 59 on-effort sightings and total number of 246 dolphins from on-effort sightings were collected under such condition. Calculation of the running quarterly encounter rates are shown as below:

Running Quarterly Encounter Rate of Number of Dolphin Sightings (STG)

$$STG = \frac{59}{1195.86}\ x\ 100 = 4.93$$

Running Quarterly Encounter Rate of Number of Dolphins (ANI)

$$ANI = \frac{246}{1195.86}\ x\ 100 = 20.57$$

CWD Small Vessel Line-transect Survey **Photo Identification**

WLMM030_20160809_1_2	WLMM043_20160809_1_9
WLMM046_20160809_3_3	NLMM002_20160819_1_3
NLMM035_20160819_1_7	NLMM036_20160819_1_3

NLMM037_20160819_1_9

NLMM002_20160819_2_1

NLMM004_20160819_2_4

NLMM035_20160819_2_1

NLMM036_20160819_2_2

NLMM037_20160819_2_8

NLMM028_20160822_1_3

NLMM038_20160822_1_2

WLMM038_20160822_2_6

WLMM047_20160822_2_1

WLMM048_20160822_2_8

NLMM005_20160822_3_2

NLMM019_20160822_3_1

WLMM049_20160822_4_4

SLMM015_20160822_6_2

SLMM010_20160822_7_2

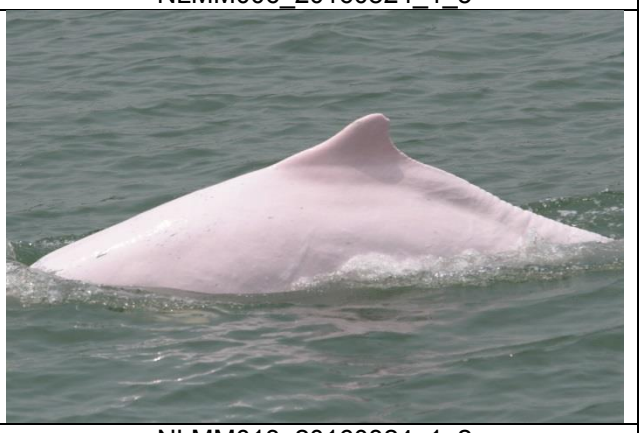
SLMM011_20160822_7_4

SLMM015_20160822_7_3

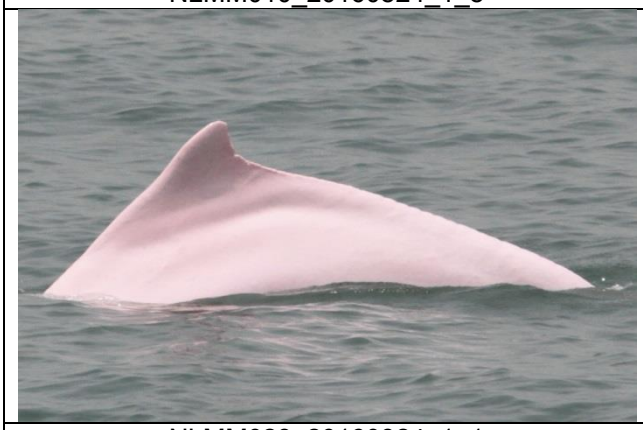
NLMM002_20160824_1_1

NLMM006_20160824_1_5

NLMM010_20160824_1_8

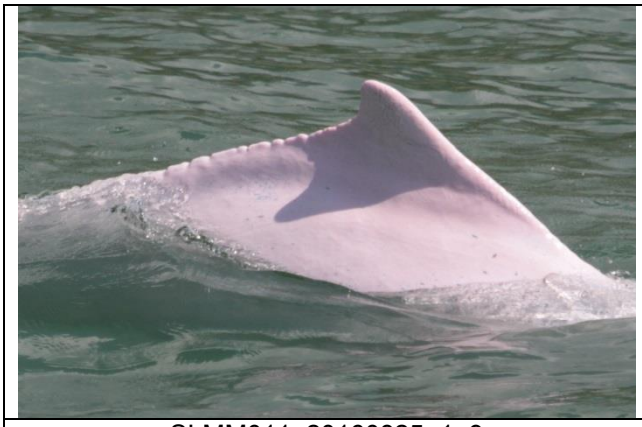


NLMM013_20160824_1_2



NLMM028_20160824_1_1

NLMM038_20160824_1_3

	
SLMM011_20160825_1_9	

CWD Land-based Theodolite Tracking

CWD Groups by Survey Date

Date	Station	Start Time	End Time	Duration	Beaufort Range	Visibility	No. of Focal Follow Dolphin Groups Tracked	Dolphin Group Size Range
1-Aug-16	Sha Chau	8:29	13:09	4:40	1	3-4	0	N/A
5-Aug-16	Lung Kwu Chau	8:35	14:45	6:10	2	3	8	2-6
9-Aug-16	Sha Chau	8:30	16:00	7:30	1-4	2-3	1	1
11-Aug-16	Lung Kwu Chau	8:49	14:50	6:01	2-3	2-4	3	2-3
23-Aug-16	Lung Kwu Chau	8:37	14:37	6:00	1	2-3	0	N/A

Visibility: 1=Excellent, 2=Good, 3=Fair, 4=Poor

Appendix F. QA/QC Procedure

ALS Environmental

QUALITY ASSURANCE & QUALITY CONTROL

ALS Hong Kong is staffed with qualified chemists who conduct analytical testing using well documented procedures based on the universally recognised methodologies of USEPA, APHA, ASTM.

All laboratory procedures are regulated by comprehensive QA / QC programmes established to monitor and control every aspect of the operation. A minimum of 10% of all samples analysed by ALS Technichem are part of the Quality Assurance protocol.

The laboratory is HOKLAS accredited (Reg. No. 066) for a large range of chemical and biological tests covering environmental and food analyses.

Our QA/QC procedures are designed to ensure reliable analytical results to our clients.

1. INSTRUMENT CALIBRATION

All equipment and instruments meet the requirements and specifications of the documented test procedures.

1.1 Daily Performance Checks

The performance checks are carried out once in every 24 hour operating period for most capital instruments, such as:

- Liquid Chromatography – Mass Spectrometry/Mass Spectrometry
- Gas Chromatography – Mass Selective Detector
- Gas Chromatography – Flame Ionization Detector
- Gas Chromatography – Electron Capture Detector
- Inductively Coupled Plasma – Mass Spectrometer
- Inductively Coupled Plasma – Atomic Emission Spectrometer
- Flow Injection Mercury Analyzer
- Automatic Discret Analyzer
- Flow Injection Analyzer
- Electronic Balance

Should the instrument fail the daily check repeatedly then the appropriate maintenance is undertaken to rectify the problem prior to sample analysis.

1.2 Calibration

A minimum 5 point calibration covering the working range of the samples to be analysed is run with each group of samples. Laboratory Blanks are run at a frequency of 1 in every 20 samples or 1 between each analytical lot of samples, which ever is the more frequent.

A mid-range calibration standard is analysed regularly during the operating period to ensure consistency.

1.3 Calibration Check

A calibration standard is analysed regularly during the operating period to ensure consistency.

2. QUALITY CONTROL (QC) SAMPLES

QC samples comprise those which monitor and control the laboratory performance namely Laboratory Control Sample (LCS), Duplicate Control Sample (DCS), Method Blanks and those which are used for data assessment and the evaluation of matrix effects by using Surrogates, Matrix Spike (MS), Matrix Spike Duplicate (MSD) and Sample Duplicates.

Field contamination is monitored by the analysis of Trip Blanks (VOCs) and Equipment Rinsate Samples.

The organics laboratory processes field samples in QC lots of 20 according to the analysis required. These 20 samples may consist of a number of sample batches independently submitted to the laboratory.

The inorganics laboratory lots samples in groups of 20 to 50 depending on the analyte to be determined. Quality control samples such as Laboratory Blanks and Quality Control Sample, and/or Certified Reference Materials (CRM) are run at a frequency of 1 in 20 per 'lot' of samples. Sample Duplicates and Matrix Spikes are run at a frequency of 1 in 20 or 1 per batch, whichever is more frequent.

2.1 Laboratory Control Sample (LCS) & Duplicate Control Sample (DCS) - (Organics only)

(a) Accuracy - the closeness of agreement between an observed value and a reference value.

The observed value is the average of the LCS and the DCS values. The reference value is the spike value. The accuracy is expressed as the % Recovery and is calculated as follows:

% Recovery = (Observed Value/Spiked Value) x 100

(b) Precision - the agreement among a set of replicate results.

Precision is expressed as the Relative Percent Difference (RPD) between the LCS and DCS detected levels, against the average of these levels.

The RPD is calculated as follows:

RPD = [(Results 1 - Result 2) / Average] x 100

The accuracy and precision data are evaluated against laboratory established control limits. (If laboratory control limits have not been established for a particular method, control limits as specified in USEPA SW 846 may be utilised).

QC results falling outside the control limits are automatically flagged.

The acceptance criterion used is that 80 percent of the precision and accuracy values must fall within the control limits. If this criterion is not met, corrective action must be taken. This may include repeat sample analysis.

2.2 Laboratory / Reagent Blank

For the laboratory blank to be acceptable, the concentration in the blank of any analyte of concern should not be higher than ½ of reporting limit (LOR) for that analyte.

Blank correction may be performed if the blank result is found to be greater than LOR and it is attributed to the analytical method and/or reagents involved.

2.3 Surrogates (Organics Only)

Surrogate results are reported as percent recovery. Since surrogate spike recoveries indicate the presence of sample specific interferences, USEPA documented recovery limits are used as a guidance only.

The surrogate standards are used for semivolatile and volatile analyses. The semivolatile analysis includes SVOC, pesticide and PCB tests. The volatile analysis includes VOC and BTEX.

2.4 Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

MS and MSD results are used for data assessment and evaluation of method precision and bias in a given matrix.

2.5 Sample Duplicate

The duplicate results are used for evaluation of laboratory precision in a given matrix.

The RPD values of the duplicates are used as the rejection or acceptance criteria.

Generally, water samples are repeated if the RPD is greater than 20 percent and there is sufficient sample for reanalysis.

The RPD for soils should be within 25 percent, however, this may be dependent upon sample homogeneity.

ALS Environmental

QUALITY ASSURANCE & QUALITY CONTROL

TABLE 1: QC TERMS, DEFINITIONS, PURPOSE FOR MONITORING & FREQUENCY

QC TERM	DEFINITION	TO MONITOR	FREQUENCY
Work Order	A set of samples received from a customer for analysis.	-	-
QC Lot	A set of 20 samples analysed under the same analytical conditions. A QC Lot may consist of samples from a number of work orders.	-	-
Analytical Lot	A group of samples prepared at the same time for a given analyte.	-	-
Control Limits	Upper and lower limits based on statistical analysis of laboratory historical performance data.	Laboratory precision and bias.	-
Laboratory Quality Control Samples			
Method Blank *(BLK)*	An analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation.	Contamination introduced in the laboratory.	1 per QC lot of 20 samples
Sample Duplicate *(DUP)*	An intra-laboratory split sample randomly selected from the sample batch.	Method precision in a given sample matrix.	1 per QC lot of 20 samples
Matrix Spike *(MS)*	A split sample spiked with the target analytes prior to sample preparation and analysis.	Method bias in a given sample matrix.	1 per QC lot of 20 samples
Matrix Spike Duplicate *(MSD)*	An split sample spiked as per the MS.	*Ditto*	*ditto*
Laboratory Control Sample *(LCS)*	A known, interference free matrix spiked with target analytes.	Laboratory preparation technique.	1 per QC lot of 20 samples
Duplicate Control Sample *(DCS)*	As per the SCS.	Preparation technique reproducibility (precision).	*Ditto*
Certified Reference Material (CRM)	A certified reference material containing target analytes with known concentrations and associated uncertainities and	Monitoring overall performance of each step during analysis, including sample preparation. For Inorganic analysis.	1 per QC Lot, per analytical method.
Surrogate Spike *(organic testing only)*	Compounds similar in composition and behaviour to the target analytes but not commonly found in samples.	Matrix interference on a per sample basis.	Surrogates are added to all samples for selected organic analyses.
Filed Quality Control Samples			
Equipment Rinsate	A sample of reagent water used by client in field to rinse the sampling equipment between the decontamination and sampling steps	Equipment decontamination.	as directed by client.
Trip Blank *(usually VOC testing)*	A sample of analyte free media is taken from the laboratory to the sampling site and returned to the laboratory unopened.	Contamination from shipping and field handling. Most applicable to volatile analysis.	as directed by client.

QUALITY ASSURANCE & QUALITY CONTROL

TABLE 2: LABORATORY QUALITY CONTROL SCHEDULES

ORGANICS –

QUALITY CONTROL ITEM	QCS2	QCS3	QCS4
Laboratory Blank	√	√	√
Batch Duplicate	√	√	√
Matrix Spike (MS)	•	√	√
Single Control Sample (SCS)	√	√	√
Duplicate Control Sample (DCS)	•	•	√
Surrogate *(organics only)*	√	√	√
Matrix Spike Duplicate (MSD)	•	•	√

INORGANICS -

QUALITY CONTROL ITEM	QCS2	QCS3	QCS4
Laboratory Blank	√	√	√
Batch Duplicate	√	√	√
Matrix Spike (MS)	√	√	√
Single Control Sample (SCS)	√	√	√
Duplicate Control Sample (DCS)	•	•	√
Matrix Spike Duplicate (MSD)	•	•	√

√ Analysis performed in the schedule.

• Analysis not performed in the schedule.

Appendix G. Status of Environmental Permits and Licences

Statutory Reference	Description		Permit/ Reference No.	Status
EIAO	Environmental Permit		EP-489/2014	Approved on 7 Nov 2014
Contract No.	**Description**	**Location**	**Permit/ Reference No.**	**Status**
P560 (R)	Notification of Construction Work under APCO	Launching Site	397150	Receipt acknowledged by EPD on 15 Jan 2016
		Site Office	397151	
		Stockpiling Area	398015	Receipt acknowledged by EPD on 18 Jan 2016
	Construction Noise Permit (General Works)	Launching Site	GW-RS0334-16	Approved on 5 Apr 2016
		CAD Antenna Farm and North Runway	GW-RS0500-16	Approved on 18 May 2016
		Site Office	GW-RS0421-16	Approved on 3 May 2016
		Stockpiling Area	GW-RS0338-16	Approved on 5 Apr 2016
	Discharge License under WPCO	Launching Site	WT00024249-2016	Approved on 25 Apr 2016
		Stockpiling Area	WT00024250-2016	Approved on 25 Apr 2016
	Registration as Chemical Waste Producer	Launching Site	WPN 5213-951-L2902-01	Completion of Registration on 11 Jan 2016
		Stockpiling Area	WPN 5213-951-L2902-02	Completion of Registration on 24 Mar 2016
	Bill Account for disposal		A/C 7023982	Approval granted from EPD on 14 Dec 2015
3201	Notification of Construction Work under APCO	Whole Site	406004	Receipt acknowledged by EPD on 10 Aug 2016
	Bill Account for disposal		A/C 7025760	Approval granted from EPD on 31 Aug 2016
3204	Notification of Construction Work under APCO	Whole Site	406446	Receipt acknowledged by EPD on 19 Aug 2016

Appendix H. Cumulative Statistics on Exceedances, Environmental Complaints, Notification of Summons and Status of Prosecution

Statistics for Exceedances for 1-hour TSP, Noise and Waste Monitoring

		Total no. recorded in the reporting month	Total no. recorded since the project commenced
1-hr TSP	Action	0	0
	Limit	0	0
Noise	Action	0	0
	Limit	0	0
Waste	Action	0	0
	Limit	0	0

Remark: Exceedances, which are not project related, are not shown in this table.

Statistics for Complaints, Notifications of Summons and Prosecution

Reporting Period	Cumulative Statistics		
	Complaints	Notifications of Summons	Prosecutions
This reporting month	0	0	0
From 28 December 2015 to end of the reporting month	0	0	0

Appendix I.Data of SkyPier HSF Movements to/from Zhuhai and Macau (between 1 and 31 August 2016)

Data of SkyPier HSF Movements to/from Zhuhai and Macau (between 1 and 31 August 2016)

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [MFM - Macao (Maritime Ferry Terminal) YFT – Macao (Taipa) ZUI - Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Prevailing Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
01-Aug	08:20	3A061	YFT	Arrival	12.1	-	-
01-Aug	08:52	8S210	MFM	Arrival	10.7	-	-
01-Aug	10:03	3A071	MFM	Arrival	12.2	-	-
01-Aug	10:38	8S212	MFM	Arrival	12.1	-	-
01-Aug	10:56	3A081	ZUI	Arrival	13.3	-	-
01-Aug	11:10	8S121	MFM	Departure	10.0	-	-
01-Aug	11:21	3A063	YFT	Arrival	12.3	-	-
01-Aug	12:05	3A168	YFT	Departure	12.6	-	-
01-Aug	12:19	3A181	ZUI	Departure	12.4	-	-
01-Aug	13:00	8S215	MFM	Arrival	10.9	-	-
01-Aug	13:15	3A064	YFT	Arrival	13.5	-	-
01-Aug	13:25	8S123	MFM	Departure	10.5	-	-
01-Aug	13:34	3A164	YFT	Departure	12.6	-	-
01-Aug	13:48	3A082	ZUI	Arrival	14.6	≤5	<2 min
01-Aug	14:30	3A182	ZUI	Departure	12.2	-	-
01-Aug	15:04	3A065	YFT	Arrival	11.9	-	-
01-Aug	16:24	3A167	YFT	Departure	12.3	-	-
01-Aug	16:42	8S218	MFM	Arrival	10.6	-	-
01-Aug	16:55	3A067	YFT	Arrival	12.1	-	-
02-Aug	14:58	3A065	YFT	Arrival	13.4	-	-
02-Aug	16:20	3A167	YFT	Departure	12.8	-	-
02-Aug	16:26	8S218	MFM	Arrival	11.9	-	-
02-Aug	17:03	8S126	MFM	Departure	11.6	-	-
02-Aug	17:06	3A067	YFT	Arrival	12.1	-	-
02-Aug	20:51	8S2113	MFM	Arrival	12.0	-	-
02-Aug	21:06	3A169	YFT	Departure	13.0	-	-
02-Aug	22:01	8S128	MFM	Departure	12.0	-	-
03-Aug	08:24	3A061	YFT	Arrival	12.8	-	-
03-Aug	08:32	8S210	MFM	Arrival	11.2	-	-
03-Aug	10:03	3A071	MFM	Arrival	10.9	-	-
03-Aug	10:36	8S212	MFM	Arrival	12.3	-	-
03-Aug	10:47	3A081	ZUI	Arrival	13.5	-	-
03-Aug	11:04	8S121	MFM	Departure	11.8	-	-
03-Aug	11:23	3A063	YFT	Arrival	12.2	-	-
03-Aug	11:48	3A168	YFT	Departure	12.0	-	-
03-Aug	12:11	3A181	ZUI	Departure	13.4	-	-
03-Aug	12:51	8S215	MFM	Arrival	12.5	-	-
03-Aug	13:07	3A064	YFT	Arrival	12.3	-	-
03-Aug	13:26	8S123	MFM	Departure	12.0	-	-
03-Aug	13:38	3A164	YFT	Departure	11.7	-	-
03-Aug	13:57	3A082	ZUI	Arrival	12.8	-	-
03-Aug	14:17	3A182	ZUI	Departure	12.4	-	-
03-Aug	14:45	3A065	YFT	Arrival	12.3	-	-
03-Aug	16:29	3A167	YFT	Departure	12.6	-	-
03-Aug	16:39	3A083	ZUI	Arrival	12.8	-	-
03-Aug	16:46	8S218	MFM	Arrival	11.7	-	-
03-Aug	17:15	3A183	ZUI	Departure	12.9	-	-
03-Aug	17:16	3A067	YFT	Arrival	11.0	-	-
03-Aug	17:17	8S126	MFM	Departure	12.3	-	-
03-Aug	19:51	3A084	ZUI	Arrival	12.9	-	-
03-Aug	20:08	3A185	ZUI	Departure	13.6	-	-
03-Aug	20:51	8S2113	MFM	Arrival	11.9	-	-
03-Aug	21:09	3A169	YFT	Departure	12.6	-	-
03-Aug	22:00	8S128	MFM	Departure	11.4	-	-
04-Aug	08:20	3A061	YFT	Arrival	10.2	-	-
04-Aug	08:30	8S210	MFM	Arrival	11.5	-	-
04-Aug	09:59	3A071	MFM	Arrival	10.4	-	-
04-Aug	10:44	8S212	MFM	Arrival	10.8	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [MFM - Macao (Maritime Ferry Terminal) YFT – Macao (Taipa) ZUI - Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Prevailing Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
04-Aug	10:47	3A081	ZUI	Arrival	13.0	-	-
04-Aug	11:20	8S121	MFM	Departure	11.2	-	-
04-Aug	11:21	3A063	YFT	Arrival	13.1	-	-
04-Aug	11:52	3A168	YFT	Departure	13.0	-	-
04-Aug	12:25	3A181	ZUI	Departure	13.2	-	-
04-Aug	12:59	3A064	YFT	Arrival	11.6	-	-
04-Aug	13:17	8S215	MFM	Arrival	11.2	-	-
04-Aug	13:17	8S123	MFM	Departure	12.4	-	-
04-Aug	13:36	3A164	YFT	Departure	12.1	-	-
04-Aug	14:02	3A082	ZUI	Arrival	13.3	-	-
04-Aug	14:15	3A182	ZUI	Departure	13.0	-	-
04-Aug	14:59	3A065	YFT	Arrival	12.8	-	-
04-Aug	16:31	3A167	YFT	Departure	12.8	≤5	<1 min
04-Aug	16:40	8S218	MFM	Arrival	11.6	-	-
04-Aug	16:42	3A083	ZUI	Arrival	12.7	-	-
04-Aug	16:58	3A067	YFT	Arrival	11.4	-	-
04-Aug	17:17	8S126	MFM	Departure	12.2	-	-
04-Aug	17:21	3A183	ZUI	Departure	12.9	-	-
04-Aug	20:02	3A084	ZUI	Arrival	12.1	-	-
04-Aug	20:25	3A185	ZUI	Departure	12.9	-	-
04-Aug	20:53	8S2113	MFM	Arrival	No AIS Data		
04-Aug	21:06	3A169	YFT	Departure	12.6	-	-
04-Aug	22:38	8S128	MFM	Departure	11.2	-	-
05-Aug	08:15	3A061	YFT	Arrival	11.3	-	-
05-Aug	08:28	8S210	MFM	Arrival	12.2	-	-
05-Aug	10:00	3A071	MFM	Arrival	9.3	-	-
05-Aug	10:41	8S212	MFM	Arrival	10.2	-	-
05-Aug	10:43	3A081	ZUI	Arrival	12.6	-	-
05-Aug	11:14	8S121	MFM	Departure	11.8	-	-
05-Aug	11:22	3A063	YFT	Arrival	13.0	-	-
05-Aug	11:44	3A168	YFT	Departure	13.2	-	-
05-Aug	12:13	3A181	ZUI	Departure	12.2	-	-
05-Aug	12:48	8S215	MFM	Arrival	12.3	-	-
05-Aug	13:02	3A064	YFT	Arrival	12.0	-	-
05-Aug	13:22	8S123	MFM	Departure	11.8	-	-
05-Aug	13:38	3A164	YFT	Departure	11.6	-	-
05-Aug	14:00	3A082	ZUI	Arrival	13.5	-	-
05-Aug	14:27	3A182	ZUI	Departure	12.3	-	-
05-Aug	14:59	3A065	YFT	Arrival	12.6	-	-
05-Aug	16:26	3A167	YFT	Departure	12.6	≤5	<1 min
05-Aug	16:40	8S218	MFM	Arrival	12.2	-	-
05-Aug	16:44	3A083	ZUI	Arrival	12.4	-	-
05-Aug	16:59	3A067	YFT	Arrival	11.8	-	-
05-Aug	17:19	3A183	ZUI	Departure	12.3	-	-
05-Aug	17:20	8S126	MFM	Departure	10.9	-	-
05-Aug	19:55	3A084	ZUI	Arrival	12.0	-	-
05-Aug	20:12	3A185	ZUI	Departure	12.6	-	-
05-Aug	20:56	8S2113	MFM	Arrival	12.4	-	-
05-Aug	21:04	3A169	YFT	Departure	12.4	-	-
05-Aug	22:09	8S128	MFM	Departure	11.5	-	-
06-Aug	08:23	3A061	YFT	Arrival	13.3	≤5	<1 min
06-Aug	08:32	8S210	MFM	Arrival	12.3	-	-
06-Aug	10:00	3A071	MFM	Arrival	12.1	-	-
06-Aug	10:45	8S212	MFM	Arrival	12.2	-	-
06-Aug	11:02	3A081	ZUI	Arrival	12.8	-	-
06-Aug	11:11	8S121	MFM	Departure	11.9	-	-
06-Aug	11:25	3A063	YFT	Arrival	12.4	-	-
06-Aug	11:43	3A168	YFT	Departure	13.6	-	-
06-Aug	12:15	3A181	ZUI	Departure	13.8	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [MFM - Macao (Maritime Ferry Terminal) YFT – Macao (Taipa) ZUI - Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Prevailing Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
06-Aug	12:51	8S215	MFM	Arrival	11.1	-	-
06-Aug	13:02	3A064	YFT	Arrival	12.1	-	-
06-Aug	13:18	8S123	MFM	Departure	10.5	-	-
06-Aug	13:36	3A164	YFT	Departure	12.2	-	-
06-Aug	13:58	3A082	ZUI	Arrival	13.1	-	-
06-Aug	14:15	3A182	ZUI	Departure	13.3	-	-
06-Aug	15:01	3A065	YFT	Arrival	13.1	-	-
06-Aug	16:21	3A167	YFT	Departure	13.3	-	-
06-Aug	16:47	3A083	ZUI	Arrival	13.0	-	-
06-Aug	16:47	8S218	MFM	Arrival	8.9	-	-
06-Aug	16:59	3A067	YFT	Arrival	11.6	-	-
06-Aug	16:59	3A183	ZUI	Departure	13.5	-	-
06-Aug	17:21	8S126	MFM	Departure	10.7	-	-
06-Aug	19:54	3A084	ZUI	Arrival	12.3	-	-
06-Aug	20:16	3A185	ZUI	Departure	13.8	-	-
06-Aug	21:01	8S2113	MFM	Arrival	11.5	-	-
06-Aug	21:08	3A169	YFT	Departure	12.3	-	-
06-Aug	22:10	8S128	MFM	Departure	11.9	-	-
07-Aug	08:17	3A061	YFT	Arrival	12.5	-	-
07-Aug	08:40	8S210	MFM	Arrival	10.9	-	-
07-Aug	09:52	3A071	MFM	Arrival	11.6	-	-
07-Aug	10:34	8S212	MFM	Arrival	11.8	-	-
07-Aug	10:43	3A081	ZUI	Arrival	11.6	-	-
07-Aug	11:04	8S121	MFM	Departure	11.8	-	-
07-Aug	11:31	3A063	YFT	Arrival	12.5	-	-
07-Aug	11:49	3A168	YFT	Departure	11.8	-	-
07-Aug	12:10	3A181	ZUI	Departure	13.2	-	-
07-Aug	12:44	8S215	MFM	Arrival	13.1	-	-
07-Aug	13:00	3A064	YFT	Arrival	11.8	-	-
07-Aug	13:26	8S123	MFM	Departure	13.4	-	-
07-Aug	13:29	3A164	YFT	Departure	11.5	-	-
07-Aug	13:52	3A082	ZUI	Arrival	12.8	-	-
07-Aug	14:21	3A182	ZUI	Departure	13.3	-	-
07-Aug	14:55	3A065	YFT	Arrival	12.1	-	-
07-Aug	16:21	3A167	YFT	Departure	12.3	-	-
07-Aug	16:36	8S218	MFM	Arrival	13.1	-	-
07-Aug	16:42	3A083	ZUI	Arrival	13.2	-	-
07-Aug	16:57	3A067	YFT	Arrival	12.1	-	-
07-Aug	17:09	3A183	ZUI	Departure	13.0	-	-
07-Aug	17:17	8S126	MFM	Departure	13.5	-	-
07-Aug	19:55	3A084	ZUI	Arrival	12.2	≤5	<1 min
07-Aug	20:16	3A185	ZUI	Departure	13.2	-	-
07-Aug	20:56	8S2113	MFM	Arrival	12.3	-	-
07-Aug	21:04	3A169	YFT	Departure	13.0	-	-
07-Aug	22:01	8S128	MFM	Departure	12.4	-	-
08-Aug	08:18	3A061	YFT	Arrival	12.5	-	-
08-Aug	08:33	8S210	MFM	Arrival	13.2	-	-
08-Aug	09:52	3A071	MFM	Arrival	11.8	-	-
08-Aug	10:43	3A081	ZUI	Arrival	12.3	-	-
08-Aug	10:43	8S212	MFM	Arrival	12.4	-	-
08-Aug	11:05	8S121	MFM	Departure	11.9	-	-
08-Aug	11:20	3A063	YFT	Arrival	11.2	-	-
08-Aug	11:44	3A168	YFT	Departure	11.6	-	-
08-Aug	12:17	3A181	ZUI	Departure	13.7	-	-
08-Aug	12:54	8S215	MFM	Arrival	12.2	-	-
08-Aug	13:03	3A064	YFT	Arrival	8.6	-	-
08-Aug	13:20	8S123	MFM	Departure	12.2	-	-
08-Aug	13:37	3A164	YFT	Departure	12.5	-	-
08-Aug	13:53	3A082	ZUI	Arrival	12.9	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [MFM - Macao (Maritime Ferry Terminal) YFT – Macao (Taipa) ZUI - Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Prevailing Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
08-Aug	14:23	3A182	ZUI	Departure	13.3	-	-
08-Aug	15:00	3A065	YFT	Arrival	11.4	-	-
08-Aug	16:22	3A167	YFT	Departure	11.4	-	-
08-Aug	16:35	3A083	ZUI	Arrival	12.9	-	-
08-Aug	16:54	8S218	MFM	Arrival	12.6	-	-
08-Aug	16:58	3A067	YFT	Arrival	12.3	≤5	<1 min
08-Aug	17:13	8S126	MFM	Departure	12.4	-	-
08-Aug	17:20	3A183	ZUI	Departure	12.8	-	-
08-Aug	20:00	3A084	ZUI	Arrival	13.6	-	-
08-Aug	20:18	3A185	ZUI	Departure	12.8	-	-
08-Aug	21:01	8S2113	MFM	Arrival	11.3	-	-
08-Aug	21:03	3A169	YFT	Departure	12.4	-	-
08-Aug	22:00	8S128	MFM	Departure	10.9	-	-
09-Aug	08:24	3A061	YFT	Arrival	12.2	-	-
09-Aug	08:34	8S210	MFM	Arrival	9.3	-	-
09-Aug	09:52	3A071	MFM	Arrival	12.6	-	-
09-Aug	10:43	3A081	ZUI	Arrival	13.4	-	-
09-Aug	10:44	8S212	MFM	Arrival	12.7	-	-
09-Aug	11:16	8S121	MFM	Departure	11.7	-	-
09-Aug	11:21	3A063	YFT	Arrival	12.0	≤5	<1 min
09-Aug	11:51	3A168	YFT	Departure	11.9	-	-
09-Aug	12:13	3A181	ZUI	Departure	13.7	-	-
09-Aug	13:00	8S215	MFM	Arrival	10.6	-	-
09-Aug	13:06	3A064	YFT	Arrival	10.3	-	-
09-Aug	13:33	3A164	YFT	Departure	11.1	-	-
09-Aug	13:33	8S123	MFM	Departure	11.1	-	-
09-Aug	13:45	3A082	ZUI	Arrival	12.1	-	-
09-Aug	14:14	3A182	ZUI	Departure	13.6	-	-
09-Aug	15:02	3A065	YFT	Arrival	12.4	-	-
09-Aug	16:18	3A167	YFT	Departure	11.1	-	-
09-Aug	16:33	3A083	ZUI	Arrival	13.5	-	-
09-Aug	16:43	8S218	MFM	Arrival	10.8	-	-
09-Aug	17:05	3A183	ZUI	Departure	12.7	-	-
09-Aug	17:06	3A067	YFT	Arrival	9.3	-	-
09-Aug	17:06	8S126	MFM	Departure	10.0	-	-
09-Aug	19:46	3A084	ZUI	Arrival	13.3	-	-
09-Aug	20:15	3A185	ZUI	Departure	12.4	-	-
09-Aug	20:59	8S2113	MFM	Arrival	11.7	-	-
09-Aug	21:01	3A169	YFT	Departure	12.4	-	-
09-Aug	22:02	8S128	MFM	Departure	12.1	-	-
10-Aug	08:17	3A061	YFT	Arrival	12.1	-	-
10-Aug	08:42	8S210	MFM	Arrival	11.1	-	-
10-Aug	09:51	3A071	MFM	Arrival	12.3	≤5	<1 min
10-Aug	10:45	8S212	MFM	Arrival	12.4	-	-
10-Aug	10:51	3A081	ZUI	Arrival	12.5	-	-
10-Aug	11:22	8S121	MFM	Departure	12.6	-	-
10-Aug	11:31	3A063	YFT	Arrival	9.6	-	-
10-Aug	12:12	3A168	YFT	Departure	12.8	-	-
10-Aug	12:16	3A181	ZUI	Departure	13.4	-	-
10-Aug	12:47	8S215	MFM	Arrival	12.3	-	-
10-Aug	13:04	3A064	YFT	Arrival	12.0	-	-
10-Aug	13:31	8S123	MFM	Departure	12.0	-	-
10-Aug	13:40	3A164	YFT	Departure	13.2	-	-
10-Aug	14:00	3A082	ZUI	Arrival	13.0	-	-
10-Aug	14:21	3A182	ZUI	Departure	14.3	-	-
10-Aug	15:15	3A065	YFT	Arrival	12.3	-	-
10-Aug	16:35	3A167	YFT	Departure	13.0	-	-
10-Aug	16:40	3A083	ZUI	Arrival	13.3	-	-
10-Aug	16:43	8S218	MFM	Arrival	11.3	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [MFM - Macao (Maritime Ferry Terminal) YFT – Macao (Taipa) ZUI - Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Prevailing Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
10-Aug	17:00	3A067	YFT	Arrival	12.9	-	-
10-Aug	17:06	3A183	ZUI	Departure	13.1	-	-
10-Aug	17:18	8S126	MFM	Departure	12.6	-	-
10-Aug	19:55	3A084	ZUI	Arrival	14.0	-	-
10-Aug	20:24	3A185	ZUI	Departure	12.6	-	-
10-Aug	20:55	8S2113	MFM	Arrival	13.1	-	-
10-Aug	21:02	3A169	YFT	Departure	10.9	-	-
10-Aug	22:00	8S128	MFM	Departure	12.9	-	-
11-Aug	08:18	3A061	YFT	Arrival	12.0	-	-
11-Aug	08:30	8S210	MFM	Arrival	12.4	-	-
11-Aug	10:01	3A071	MFM	Arrival	12.8	-	-
11-Aug	10:36	8S212	MFM	Arrival	12.8	-	-
11-Aug	10:44	3A081	ZUI	Arrival	12.9	-	-
11-Aug	11:29	8S121	MFM	Departure	13.6	-	-
11-Aug	11:33	3A063	YFT	Arrival	12.4	-	-
11-Aug	11:55	3A168	YFT	Departure	12.8	-	-
11-Aug	12:15	3A181	ZUI	Departure	13.8	-	-
11-Aug	12:42	8S215	MFM	Arrival	12.7	-	-
11-Aug	12:55	3A064	YFT	Arrival	11.7	-	-
11-Aug	13:21	8S123	MFM	Departure	12.3	-	-
11-Aug	13:37	3A164	YFT	Departure	11.9	-	-
11-Aug	13:53	3A082	ZUI	Arrival	12.6	-	-
11-Aug	14:22	3A182	ZUI	Departure	13.3	-	-
11-Aug	15:01	3A065	YFT	Arrival	10.1	-	-
11-Aug	16:23	3A167	YFT	Departure	12.8	-	-
11-Aug	16:38	3A083	ZUI	Arrival	13.2	-	-
11-Aug	16:41	8S218	MFM	Arrival	10.4	-	-
11-Aug	16:55	3A067	YFT	Arrival	12.0	-	-
11-Aug	17:12	3A183	ZUI	Departure	12.7	-	-
11-Aug	17:30	8S126	MFM	Departure	11.9	-	-
11-Aug	19:42	3A084	ZUI	Arrival	13.3	-	-
11-Aug	20:19	3A185	ZUI	Departure	12.9	-	-
11-Aug	21:00	8S2113	MFM	Arrival	10.9	-	-
11-Aug	21:09	3A169	YFT	Departure	12.2	-	-
11-Aug	22:06	8S128	MFM	Departure	11.2	-	-
12-Aug	08:29	3A061	YFT	Arrival	9.0	-	-
12-Aug	08:30	8S210	MFM	Arrival	12.0	-	-
12-Aug	09:53	3A071	MFM	Arrival	12.1	-	-
12-Aug	10:48	8S212	MFM	Arrival	12.6	-	-
12-Aug	10:52	3A081	ZUI	Arrival	11.9	-	-
12-Aug	11:16	8S121	MFM	Departure	12.2	-	-
12-Aug	11:18	3A063	YFT	Arrival	13.2	-	-
12-Aug	11:48	3A168	YFT	Departure	13.8	-	-
12-Aug	12:23	3A181	ZUI	Departure	13.5	-	-
12-Aug	12:50	8S215	MFM	Arrival	10.8	-	-
12-Aug	13:01	3A064	YFT	Arrival	12.5	-	-
12-Aug	13:22	8S123	MFM	Departure	10.1	-	-
12-Aug	13:29	3A164	YFT	Departure	12.4	-	-
12-Aug	13:57	3A082	ZUI	Arrival	12.5	-	-
12-Aug	14:14	3A182	ZUI	Departure	13.1	-	-
12-Aug	14:56	3A065	YFT	Arrival	13.0	-	-
12-Aug	16:26	3A167	YFT	Departure	13.7	-	-
12-Aug	16:39	3A083	ZUI	Arrival	12.8	-	-
12-Aug	16:41	8S218	MFM	Arrival	10.4	-	-
12-Aug	17:03	3A067	YFT	Arrival	12.3	-	-
12-Aug	17:09	3A183	ZUI	Departure	14.2	-	-
12-Aug	17:14	8S126	MFM	Departure	9.7	-	-
12-Aug	19:47	3A084	ZUI	Arrival	12.4	-	-
12-Aug	20:06	3A185	ZUI	Departure	13.4	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [MFM - Macao (Maritime Ferry Terminal) YFT – Macao (Taipa) ZUI - Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Prevailing Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
12-Aug	21:04	8S2113	MFM	Arrival	12.3	-	-
12-Aug	21:08	3A169	YFT	Departure	13.3	-	-
12-Aug	22:04	8S128	MFM	Departure	12.7	-	-
13-Aug	08:28	3A061	YFT	Arrival	11.7	-	-
13-Aug	08:45	8S210	MFM	Arrival	11.1	-	-
13-Aug	09:56	3A071	MFM	Arrival	11.4	-	-
13-Aug	10:40	8S212	MFM	Arrival	13.1	-	-
13-Aug	11:08	8S121	MFM	Departure	11.0	-	-
13-Aug	11:13	3A081	ZUI	Arrival	12.3	-	-
13-Aug	11:33	3A063	YFT	Arrival	11.9	-	-
13-Aug	11:52	3A168	YFT	Departure	10.9	-	-
13-Aug	12:18	3A181	ZUI	Departure	12.9	-	-
13-Aug	12:47	8S215	MFM	Arrival	12.0	-	-
13-Aug	13:20	8S123	MFM	Departure	12.5	-	-
13-Aug	13:28	3A064	YFT	Arrival	12.7	-	-
13-Aug	13:46	3A164	YFT	Departure	13.1	-	-
13-Aug	13:53	3A082	ZUI	Arrival	11.8	-	-
13-Aug	14:21	3A182	ZUI	Departure	11.5	-	-
13-Aug	14:57	3A065	YFT	Arrival	11.6	-	-
13-Aug	16:34	3A167	YFT	Departure	11.6	-	-
13-Aug	16:37	3A083	ZUI	Arrival	13.0	-	-
13-Aug	16:42	8S218	MFM	Arrival	11.9	-	-
13-Aug	17:01	3A067	YFT	Arrival	12.3	-	-
13-Aug	17:12	3A183	ZUI	Departure	13.3	-	-
13-Aug	17:17	8S126	MFM	Departure	12.9	-	-
13-Aug	19:49	3A084	ZUI	Arrival	12.8	-	-
13-Aug	20:09	3A185	ZUI	Departure	13.4	-	-
13-Aug	20:53	8S2113	MFM	Arrival	9.2	-	-
13-Aug	21:09	3A169	YFT	Departure	11.6	-	-
13-Aug	22:00	8S128	MFM	Departure	10.5	-	-
14-Aug	08:16	3A061	YFT	Arrival	12.7	-	-
14-Aug	08:41	8S210	MFM	Arrival	12.9	-	-
14-Aug	09:57	3A071	MFM	Arrival	12.4	-	-
14-Aug	10:43	3A081	ZUI	Arrival	13.8	-	-
14-Aug	10:43	8S212	MFM	Arrival	13.4	-	-
14-Aug	11:09	8S121	MFM	Departure	13.4	-	-
14-Aug	11:21	3A063	YFT	Arrival	12.1	-	-
14-Aug	11:57	3A168	YFT	Departure	11.9	-	-
14-Aug	12:20	3A181	ZUI	Departure	12.9	-	-
14-Aug	12:53	8S215	MFM	Arrival	13.3	-	-
14-Aug	13:03	3A064	YFT	Arrival	12.3	-	-
14-Aug	13:20	8S123	MFM	Departure	12.4	-	-
14-Aug	13:40	3A164	YFT	Departure	12.4	-	-
14-Aug	13:47	3A082	ZUI	Arrival	12.5	-	-
14-Aug	14:14	3A182	ZUI	Departure	12.9	-	-
14-Aug	14:56	3A065	YFT	Arrival	11.8	-	-
14-Aug	16:25	3A083	ZUI	Arrival	13.5	-	-
14-Aug	16:29	3A167	YFT	Departure	11.8	-	-
14-Aug	16:43	8S218	MFM	Arrival	12.7	-	-
14-Aug	16:58	3A067	YFT	Arrival	12.0	-	-
14-Aug	17:23	8S126	MFM	Departure	11.9	-	-
14-Aug	17:28	3A183	ZUI	Departure	14.1	>15	<1 min
14-Aug	19:46	3A084	ZUI	Arrival	13.7	-	-
14-Aug	20:07	3A185	ZUI	Departure	12.8	-	-
14-Aug	21:04	8S2113	MFM	Arrival	12.1	-	-
14-Aug	21:06	3A169	YFT	Departure	12.8	-	-
14-Aug	22:03	8S128	MFM	Departure	12.2	-	-
15-Aug	08:26	3A061	YFT	Arrival	11.0	-	-
15-Aug	08:32	8S210	MFM	Arrival	12.0	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [MFM - Macao (Maritime Ferry Terminal) YFT – Macao (Taipa) ZUI - Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Prevailing Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
15-Aug	09:54	3A071	MFM	Arrival	12.7	-	-
15-Aug	10:51	3A081	ZUI	Arrival	12.8	-	-
15-Aug	10:54	8S212	MFM	Arrival	12.9	-	-
15-Aug	11:16	8S121	MFM	Departure	12.2	-	-
15-Aug	11:25	3A063	YFT	Arrival	11.9	-	-
15-Aug	11:48	3A168	YFT	Departure	12.4	-	-
15-Aug	12:20	3A181	ZUI	Departure	12.8	-	-
15-Aug	12:53	8S215	MFM	Arrival	10.5	-	-
15-Aug	13:02	3A064	YFT	Arrival	12.8	-	-
15-Aug	13:20	8S123	MFM	Departure	9.2	-	-
15-Aug	13:45	3A164	YFT	Departure	13.0	-	-
15-Aug	13:50	3A082	ZUI	Arrival	13.2	-	-
15-Aug	14:46	3A182	ZUI	Departure	13.4	>5 and ≤15	<1 min
15-Aug	15:04	3A065	YFT	Arrival	12.1	-	-
15-Aug	16:22	3A167	YFT	Departure	11.6	-	-
15-Aug	16:43	8S218	MFM	Arrival	10.3	-	-
15-Aug	16:45	3A083	ZUI	Arrival	13.0	-	-
15-Aug	17:04	3A067	YFT	Arrival	12.7	≤5	<1 min
15-Aug	17:15	8S126	MFM	Departure	10.5	-	-
15-Aug	17:19	3A183	ZUI	Departure	13.4	-	-
15-Aug	19:53	3A084	ZUI	Arrival	13.0	-	-
15-Aug	20:11	3A185	ZUI	Departure	13.5	-	-
15-Aug	20:59	8S2113	MFM	Arrival	11.6	-	-
15-Aug	21:03	3A169	YFT	Departure	13.1	≤5	<1 min
15-Aug	22:04	8S128	MFM	Departure	11.8	-	-
16-Aug	08:18	3A061	YFT	Arrival	12.8	-	-
16-Aug	08:32	8S210	MFM	Arrival	11.0	-	-
16-Aug	09:52	3A071	MFM	Arrival	13.0	-	-
16-Aug	10:46	3A081	ZUI	Arrival	13.5	-	-
16-Aug	10:50	8S212	MFM	Arrival	12.5	-	-
16-Aug	11:13	8S121	MFM	Departure	12.5	-	-
16-Aug	11:35	3A063	YFT	Arrival	12.4	-	-
16-Aug	11:54	3A168	YFT	Departure	11.2	-	-
16-Aug	12:19	3A181	ZUI	Departure	13.4	-	-
16-Aug	12:53	8S215	MFM	Arrival	13.1	-	-
16-Aug	13:01	3A064	YFT	Arrival	12.0	-	-
16-Aug	13:27	8S123	MFM	Departure	13.3	-	-
16-Aug	13:31	3A164	YFT	Departure	7.5	-	-
16-Aug	14:04	3A082	ZUI	Arrival	12.4	-	-
16-Aug	14:20	3A182	ZUI	Departure	11.5	-	-
16-Aug	15:15	3A065	YFT	Arrival	11.7	-	-
16-Aug	16:19	3A167	YFT	Departure	11.6	-	-
16-Aug	16:36	8S218	MFM	Arrival	13.2	-	-
16-Aug	16:38	3A083	ZUI	Arrival	11.9	-	-
16-Aug	16:58	3A067	YFT	Arrival	11.6	-	-
16-Aug	17:05	3A183	ZUI	Departure	13.4	-	-
16-Aug	17:21	8S126	MFM	Departure	13.5	-	-
16-Aug	19:52	3A084	ZUI	Arrival	13.1	-	-
16-Aug	20:11	3A185	ZUI	Departure	13.3	-	-
16-Aug	20:52	8S2113	MFM	Arrival	12.2	-	-
16-Aug	21:02	3A169	YFT	Departure	12.5	-	-
16-Aug	21:56	8S128	MFM	Departure	12.1	-	-
17-Aug	08:13	3A061	YFT	Arrival	11.9	-	-
17-Aug	08:33	8S210	MFM	Arrival	13.3	-	-
17-Aug	10:03	3A071	MFM	Arrival	13.3	-	-
17-Aug	10:39	8S212	MFM	Arrival	12.0	-	-
17-Aug	10:51	3A081	ZUI	Arrival	13.3	-	-
17-Aug	11:19	8S121	MFM	Departure	11.8	-	-
17-Aug	11:25	3A063	YFT	Arrival	12.1	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [MFM - Macao (Maritime Ferry Terminal) YFT – Macao (Taipa) ZUI - Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Prevailing Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
17-Aug	11:50	3A168	YFT	Departure	11.8	-	-
17-Aug	12:17	3A181	ZUI	Departure	14.0	-	-
17-Aug	12:57	3A064	YFT	Arrival	11.5	-	-
17-Aug	13:23	8S215	MFM	Arrival	12.2	-	-
17-Aug	13:42	3A164	YFT	Departure	11.2	-	-
17-Aug	13:53	8S123	MFM	Departure	12.0	-	-
17-Aug	14:03	3A082	ZUI	Arrival	12.9	-	-
17-Aug	14:19	3A182	ZUI	Departure	11.8	-	-
17-Aug	14:55	3A065	YFT	Arrival	11.7	-	-
17-Aug	16:30	3A167	YFT	Departure	12.2	-	-
17-Aug	16:37	3A083	ZUI	Arrival	13.0	-	-
17-Aug	16:40	8S218	MFM	Arrival	11.8	-	-
17-Aug	16:59	3A067	YFT	Arrival	11.6	-	-
17-Aug	17:13	3A183	ZUI	Departure	13.8	-	-
17-Aug	17:46	8S126	MFM	Departure	11.0	-	-
17-Aug	19:50	3A084	ZUI	Arrival	12.9	-	-
17-Aug	20:13	3A185	ZUI	Departure	13.3	-	-
17-Aug	20:56	8S2113	MFM	Arrival	12.8	-	-
17-Aug	21:15	3A169	YFT	Departure	11.8	-	-
17-Aug	22:05	8S128	MFM	Departure	12.8	-	-
18-Aug	08:19	3A061	YFT	Arrival	12.2	-	-
18-Aug	08:50	8S210	MFM	Arrival	8.8	-	-
18-Aug	09:54	3A071	MFM	Arrival	8.7	-	-
18-Aug	10:43	3A081	ZUI	Arrival	13.4	-	-
18-Aug	10:45	8S212	MFM	Arrival	12.1	-	-
18-Aug	11:11	8S121	MFM	Departure	11.4	-	-
18-Aug	11:29	3A063	YFT	Arrival	12.8	-	-
18-Aug	11:48	3A168	YFT	Departure	10.7	-	-
18-Aug	12:26	3A181	ZUI	Departure	11.9	-	-
18-Aug	12:55	8S215	MFM	Arrival	11.2	-	-
18-Aug	13:11	3A064	YFT	Arrival	12.4	-	-
18-Aug	13:30	8S123	MFM	Departure	10.4	-	-
18-Aug	13:32	3A164	YFT	Departure	9.5	-	-
18-Aug	13:43	3A082	ZUI	Arrival	12.0	-	-
18-Aug	14:26	3A182	ZUI	Departure	12.2	-	-
18-Aug	15:11	3A065	YFT	Arrival	11.6	-	-
18-Aug	16:26	3A167	YFT	Departure	10.4	-	-
18-Aug	16:44	3A083	ZUI	Arrival	13.2	-	-
18-Aug	16:46	8S218	MFM	Arrival	11.2	-	-
18-Aug	17:02	3A067	YFT	Arrival	11.6	-	-
18-Aug	17:06	3A183	ZUI	Departure	13.4	-	-
18-Aug	17:14	8S126	MFM	Departure	11.6	-	-
18-Aug	19:50	3A084	ZUI	Arrival	13.2	-	-
18-Aug	20:09	3A185	ZUI	Departure	13.1	-	-
18-Aug	20:56	8S2113	MFM	Arrival	11.9	-	-
18-Aug	21:01	3A169	YFT	Departure	12.4	-	-
18-Aug	21:52	8S128	MFM	Departure	12.0	-	-
19-Aug	08:19	3A061	YFT	Arrival	13.2	-	-
19-Aug	08:42	8S210	MFM	Arrival	10.1	-	-
19-Aug	09:54	3A071	MFM	Arrival	12.1	-	-
19-Aug	10:43	8S212	MFM	Arrival	12.4	-	-
19-Aug	10:50	3A081	ZUI	Arrival	13.0	-	-
19-Aug	11:11	8S121	MFM	Departure	12.8	-	-
19-Aug	11:26	3A063	YFT	Arrival	13.2	-	-
19-Aug	11:45	3A168	YFT	Departure	12.9	-	-
19-Aug	12:23	3A181	ZUI	Departure	13.4	-	-
19-Aug	12:50	8S215	MFM	Arrival	12.6	-	-
19-Aug	12:59	3A064	YFT	Arrival	12.8	-	-
19-Aug	13:19	8S123	MFM	Departure	12.9	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [MFM - Macao (Maritime Ferry Terminal) YFT – Macao (Taipa) ZUI - Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Prevailing Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
19-Aug	13:30	3A164	YFT	Departure	12.6	-	-
19-Aug	13:45	3A082	ZUI	Arrival	12.3	-	-
19-Aug	14:28	3A182	ZUI	Departure	12.7	-	-
19-Aug	14:58	8S124	MFM	Departure	11.4	-	-
19-Aug	15:03	3A065	YFT	Arrival	13.0	-	-
19-Aug	16:45	8S218	MFM	Arrival	11.7	-	-
19-Aug	16:45	3A167	YFT	Departure	13.0	-	-
19-Aug	16:51	3A083	ZUI	Arrival	12.7	-	-
19-Aug	17:10	3A067	YFT	Arrival	11.5	-	-
19-Aug	17:14	3A183	ZUI	Departure	13.7	-	-
19-Aug	17:15	8S126	MFM	Departure	12.9	-	-
19-Aug	19:53	3A084	ZUI	Arrival	12.7	-	-
19-Aug	20:11	3A185	ZUI	Departure	11.9	-	-
19-Aug	20:51	8S2113	MFM	Arrival	12.7	-	-
19-Aug	21:13	3A169	YFT	Departure	11.9	-	-
19-Aug	22:04	8S128	MFM	Departure	12.9	-	-
20-Aug	08:19	3A061	YFT	Arrival	11.7	-	-
20-Aug	08:29	8S210	MFM	Arrival	12.5	-	-
20-Aug	09:59	3A071	MFM	Arrival	12.4	-	-
20-Aug	10:43	3A081	ZUI	Arrival	12.4	-	-
20-Aug	10:56	8S212	MFM	Arrival	12.7	-	-
20-Aug	11:16	8S121	MFM	Departure	12.4	-	-
20-Aug	11:29	3A063	YFT	Arrival	12.4	≤5	<1 min
20-Aug	11:48	3A168	YFT	Departure	12.5	-	-
20-Aug	12:19	3A181	ZUI	Departure	13.7	-	-
20-Aug	12:47	8S215	MFM	Arrival	12.3	-	-
20-Aug	13:01	3A064	YFT	Arrival	13.3	-	-
20-Aug	13:30	8S123	MFM	Departure	9.7	>15	<1 min
20-Aug	13:31	3A164	YFT	Departure	12.3	-	-
20-Aug	13:51	3A082	ZUI	Arrival	11.2	-	-
20-Aug	14:15	3A182	ZUI	Departure	10.1	-	-
20-Aug	15:00	3A065	YFT	Arrival	12.8	-	-
20-Aug	16:28	3A167	YFT	Departure	13.0	-	-
20-Aug	16:36	8S218	MFM	Arrival	11.6	-	-
20-Aug	16:40	3A083	ZUI	Arrival	12.2	-	-
20-Aug	17:02	3A067	YFT	Arrival	12.8	-	-
20-Aug	17:02	3A183	ZUI	Departure	10.1	-	-
20-Aug	17:09	8S126	MFM	Departure	11.0	-	-
20-Aug	19:46	3A084	ZUI	Arrival	12.9	-	-
20-Aug	20:18	3A185	ZUI	Departure	13.3	-	-
20-Aug	21:01	8S2113	MFM	Arrival	12.5	-	-
20-Aug	21:09	3A169	YFT	Departure	11.7	-	-
20-Aug	22:08	8S128	MFM	Departure	10.7	-	-
21-Aug	08:21	3A061	YFT	Arrival	12.5	-	-
21-Aug	08:34	8S210	MFM	Arrival	10.4	-	-
21-Aug	09:57	3A071	MFM	Arrival	12.2	-	-
21-Aug	10:37	8S212	MFM	Arrival	12.3	-	-
21-Aug	10:41	3A081	ZUI	Arrival	12.8	-	-
21-Aug	11:07	8S121	MFM	Departure	12.2	-	-
21-Aug	11:30	3A063	YFT	Arrival	11.4	-	-
21-Aug	11:49	3A168	YFT	Departure	10.3	-	-
21-Aug	12:14	3A181	ZUI	Departure	13.8	-	-
21-Aug	12:41	8S215	MFM	Arrival	12.5	-	-
21-Aug	12:57	3A064	YFT	Arrival	13.3	-	-
21-Aug	13:15	8S123	MFM	Departure	12.2	-	-
21-Aug	13:37	3A164	YFT	Departure	13.8	-	-
21-Aug	13:56	3A082	ZUI	Arrival	12.8	-	-
21-Aug	14:18	3A182	ZUI	Departure	12.1	-	-
21-Aug	15:05	3A065	YFT	Arrival	11.8	>5 and ≤15	<1 min

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [MFM - Macao (Maritime Ferry Terminal) YFT – Macao (Taipa) ZUI - Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Prevailing Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
21-Aug	16:32	3A167	YFT	Departure	10.8	-	-
21-Aug	16:34	3A083	ZUI	Arrival	12.5	-	-
21-Aug	16:42	8S218	MFM	Arrival	12.6	-	-
21-Aug	16:59	3A067	YFT	Arrival	12.9	-	-
21-Aug	17:15	3A183	ZUI	Departure	13.7	-	-
21-Aug	17:18	8S126	MFM	Departure	12.8	-	-
21-Aug	19:53	3A084	ZUI	Arrival	12.4	-	-
21-Aug	20:17	3A185	ZUI	Departure	13.2	-	-
21-Aug	20:57	8S2113	MFM	Arrival	10.5	-	-
21-Aug	21:12	3A169	YFT	Departure	12.9	-	-
21-Aug	22:02	8S128	MFM	Departure	12.7	-	-
22-Aug	08:20	3A061	YFT	Arrival	12.2	-	-
22-Aug	08:30	8S210	MFM	Arrival	11.0	-	-
22-Aug	10:17	3A071	MFM	Arrival	11.8	-	-
22-Aug	10:37	8S212	MFM	Arrival	11.0	-	-
22-Aug	10:48	3A081	ZUI	Arrival	13.2	-	-
22-Aug	11:11	8S121	MFM	Departure	12.1	-	-
22-Aug	11:32	3A063	YFT	Arrival	13.2	-	-
22-Aug	11:56	3A168	YFT	Departure	13.6	-	-
22-Aug	12:26	3A181	ZUI	Departure	14.1	-	-
22-Aug	12:45	8S215	MFM	Arrival	13.5	-	-
22-Aug	13:00	3A064	YFT	Arrival	11.0	-	-
22-Aug	13:23	8S123	MFM	Departure	12.7	-	-
22-Aug	13:34	3A164	YFT	Departure	10.8	-	-
22-Aug	13:51	3A082	ZUI	Arrival	13.0	-	-
22-Aug	14:15	3A182	ZUI	Departure	13.6	-	-
22-Aug	14:57	3A065	YFT	Arrival	12.6	-	-
22-Aug	16:31	3A167	YFT	Departure	13.8	-	-
22-Aug	16:45	8S218	MFM	Arrival	13.1	-	-
22-Aug	16:48	3A083	ZUI	Arrival	13.3	-	-
22-Aug	16:54	3A067	YFT	Arrival	11.6	-	-
22-Aug	17:09	8S126	MFM	Departure	12.4	-	-
22-Aug	17:16	3A183	ZUI	Departure	13.2	-	-
22-Aug	19:50	3A084	ZUI	Arrival	13.7	-	-
22-Aug	20:12	3A185	ZUI	Departure	13.2	-	-
22-Aug	20:51	8S2113	MFM	Arrival	12.8	-	-
22-Aug	21:10	3A169	YFT	Departure	13.1	-	-
22-Aug	22:03	8S128	MFM	Departure	12.8	-	-
23-Aug	08:20	3A061	YFT	Arrival	11.5	-	-
23-Aug	08:26	8S210	MFM	Arrival	13.0	-	-
23-Aug	10:00	3A071	MFM	Arrival	11.4	-	-
23-Aug	10:36	8S212	MFM	Arrival	12.0	-	-
23-Aug	10:44	3A081	ZUI	Arrival	13.2	-	-
23-Aug	11:06	8S121	MFM	Departure	11.7	-	-
23-Aug	11:20	3A063	YFT	Arrival	12.3	-	-
23-Aug	12:02	3A168	YFT	Departure	12.7	-	-
23-Aug	12:15	3A181	ZUI	Departure	13.5	-	-
23-Aug	12:48	8S215	MFM	Arrival	10.8	-	-
23-Aug	12:58	3A064	YFT	Arrival	11.7	-	-
23-Aug	13:23	8S123	MFM	Departure	11.8	-	-
23-Aug	13:38	3A164	YFT	Departure	11.9	-	-
23-Aug	13:42	3A082	ZUI	Arrival	13.6	-	-
23-Aug	14:20	3A182	ZUI	Departure	13.8	-	-
23-Aug	14:56	3A065	YFT	Arrival	8.8	-	-
23-Aug	16:28	3A167	YFT	Departure	12.8	-	-
23-Aug	16:37	3A083	ZUI	Arrival	14.0	-	-
23-Aug	16:37	8S218	MFM	Arrival	11.7	-	-
23-Aug	17:03	3A067	YFT	Arrival	12.5	-	-
23-Aug	17:18	3A183	ZUI	Departure	13.5	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [MFM - Macao (Maritime Ferry Terminal) YFT – Macao (Taipa) ZUI - Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Prevailing Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
23-Aug	17:20	8S126	MFM	Departure	11.2	-	-
23-Aug	19:54	3A084	ZUI	Arrival	12.6	-	-
23-Aug	20:21	3A185	ZUI	Departure	13.9	-	-
23-Aug	20:57	8S2113	MFM	Arrival	10.4	-	-
23-Aug	21:03	3A169	YFT	Departure	12.3	-	-
23-Aug	21:56	8S128	MFM	Departure	11.2	-	-
24-Aug	08:24	3A061	YFT	Arrival	12.6	-	-
24-Aug	08:26	8S210	MFM	Arrival	11.4	-	-
24-Aug	10:00	3A071	MFM	Arrival	12.4	-	-
24-Aug	10:43	3A081	ZUI	Arrival	13.6	-	-
24-Aug	10:47	8S212	MFM	Arrival	9.6	-	-
24-Aug	11:10	8S121	MFM	Departure	12.1	-	-
24-Aug	11:31	3A063	YFT	Arrival	13.5	-	-
24-Aug	11:51	3A168	YFT	Departure	12.9	-	-
24-Aug	12:20	3A181	ZUI	Departure	12.7	-	-
24-Aug	12:48	8S215	MFM	Arrival	11.6	-	-
24-Aug	13:03	3A064	YFT	Arrival	11.8	-	-
24-Aug	13:18	8S123	MFM	Departure	11.9	-	-
24-Aug	13:39	3A164	YFT	Departure	12.2	-	-
24-Aug	13:59	3A082	ZUI	Arrival	12.7	-	-
24-Aug	14:25	3A182	ZUI	Departure	13.1	-	-
24-Aug	15:00	3A065	YFT	Arrival	13.5	-	-
24-Aug	16:27	3A167	YFT	Departure	12.9	-	-
24-Aug	16:34	8S218	MFM	Arrival	11.9	-	-
24-Aug	16:39	3A083	ZUI	Arrival	13.8	-	-
24-Aug	17:01	3A067	YFT	Arrival	12.3	-	-
24-Aug	17:05	3A183	ZUI	Departure	12.6	-	-
24-Aug	17:06	8S126	MFM	Departure	12.3	-	-
24-Aug	19:52	3A084	ZUI	Arrival	12.8	-	-
24-Aug	20:20	3A185	ZUI	Departure	12.9	-	-
24-Aug	20:55	8S2113	MFM	Arrival	12.6	-	-
24-Aug	21:04	3A169	YFT	Departure	12.9	-	-
24-Aug	21:55	8S128	MFM	Departure	13.7	-	-
25-Aug	08:18	3A061	YFT	Arrival	12.3	-	-
25-Aug	08:33	8S210	MFM	Arrival	11.6	-	-
25-Aug	10:03	3A071	MFM	Arrival	12.5	-	-
25-Aug	10:45	8S212	MFM	Arrival	11.8	-	-
25-Aug	11:05	3A081	ZUI	Arrival	13.3	-	-
25-Aug	11:13	8S121	MFM	Departure	12.8	-	-
25-Aug	11:29	3A063	YFT	Arrival	11.7	-	-
25-Aug	11:59	3A168	YFT	Departure	12.1	-	-
25-Aug	12:22	3A181	ZUI	Departure	12.9	-	-
25-Aug	12:44	8S215	MFM	Arrival	12.1	-	-
25-Aug	13:17	3A064	YFT	Arrival	9.8	-	-
25-Aug	13:17	8S123	MFM	Departure	12.5	-	-
25-Aug	13:36	3A164	YFT	Departure	11.3	-	-
25-Aug	13:58	3A082	ZUI	Arrival	12.4	-	-
25-Aug	14:20	3A182	ZUI	Departure	13.8	-	-
25-Aug	14:57	3A065	YFT	Arrival	12.4	-	-
25-Aug	16:27	3A167	YFT	Departure	11.9	-	-
25-Aug	16:38	3A083	ZUI	Arrival	13.7	-	-
25-Aug	16:49	8S218	MFM	Arrival	12.4	-	-
25-Aug	17:08	3A183	ZUI	Departure	12.7	-	-
25-Aug	17:13	8S126	MFM	Departure	13.2	-	-
25-Aug	17:14	3A067	YFT	Arrival	10.2	-	-
25-Aug	19:55	3A084	ZUI	Arrival	13.4	-	-
25-Aug	20:15	3A185	ZUI	Departure	13.1	-	-
25-Aug	20:51	8S2113	MFM	Arrival	10.8	-	-
25-Aug	21:03	3A169	YFT	Departure	12.7	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [MFM - Macao (Maritime Ferry Terminal) YFT – Macao (Taipa) ZUI - Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Prevailing Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
25-Aug	21:58	8S128	MFM	Departure	9.2	-	-
26-Aug	08:21	3A061	YFT	Arrival	12.2	≤5	<1 min
26-Aug	08:22	8S210	MFM	Arrival	12.6	-	-
26-Aug	10:10	3A071	MFM	Arrival	12.5	-	-
26-Aug	10:44	8S212	MFM	Arrival	12.0	-	-
26-Aug	10:51	3A081	ZUI	Arrival	13.0	-	-
26-Aug	11:08	8S121	MFM	Departure	11.6	-	-
26-Aug	11:23	3A063	YFT	Arrival	11.7	-	-
26-Aug	11:47	3A168	YFT	Departure	12.2	-	-
26-Aug	12:20	3A181	ZUI	Departure	13.3	-	-
26-Aug	12:50	8S215	MFM	Arrival	12.1	-	-
26-Aug	12:58	3A064	YFT	Arrival	11.1	-	-
26-Aug	13:25	8S123	MFM	Departure	12.4	-	-
26-Aug	13:31	3A164	YFT	Departure	11.9	-	-
26-Aug	13:58	3A082	ZUI	Arrival	12.5	-	-
26-Aug	14:20	3A182	ZUI	Departure	12.7	-	-
26-Aug	15:01	3A065	YFT	Arrival	12.1	-	-
26-Aug	16:18	3A167	YFT	Departure	11.9	-	-
26-Aug	16:29	3A083	ZUI	Arrival	12.8	-	-
26-Aug	16:42	8S218	MFM	Arrival	12.0	-	-
26-Aug	17:00	3A067	YFT	Arrival	12.3	-	-
26-Aug	17:11	3A183	ZUI	Departure	13.0	-	-
26-Aug	17:15	8S126	MFM	Departure	12.1	-	-
26-Aug	20:01	3A084	ZUI	Arrival	13.2	-	-
26-Aug	20:26	3A185	ZUI	Departure	13.0	-	-
26-Aug	20:57	8S2113	MFM	Arrival	12.0	-	-
26-Aug	21:07	3A169	YFT	Departure	13.6	-	-
26-Aug	22:03	8S128	MFM	Departure	11.9	-	-
27-Aug	08:19	3A061	YFT	Arrival	13.2	-	-
27-Aug	08:36	8S210	MFM	Arrival	12.2	-	-
27-Aug	10:02	3A071	MFM	Arrival	12.7	-	-
27-Aug	10:42	8S212	MFM	Arrival	12.3	-	-
27-Aug	11:13	3A081	ZUI	Arrival	12.7	-	-
27-Aug	11:15	8S121	MFM	Departure	11.9	-	-
27-Aug	11:25	3A063	YFT	Arrival	11.2	-	-
27-Aug	11:49	3A168	YFT	Departure	10.4	-	-
27-Aug	12:18	3A181	ZUI	Departure	13.4	-	-
27-Aug	12:48	8S215	MFM	Arrival	11.0	-	-
27-Aug	13:08	3A064	YFT	Arrival	10.8	-	-
27-Aug	13:14	8S123	MFM	Departure	10.4	-	-
27-Aug	13:29	3A164	YFT	Departure	12.0	-	-
27-Aug	13:42	3A082	ZUI	Arrival	11.8	-	-
27-Aug	14:17	3A182	ZUI	Departure	12.3	-	-
27-Aug	15:04	3A065	YFT	Arrival	11.5	-	-
27-Aug	16:16	3A167	YFT	Departure	11.8	-	-
27-Aug	16:40	8S218	MFM	Arrival	10.9	-	-
27-Aug	16:43	3A083	ZUI	Arrival	12.5	-	-
27-Aug	17:00	3A067	YFT	Arrival	13.1	-	-
27-Aug	17:03	8S126	MFM	Departure	11.4	-	-
27-Aug	17:05	3A183	ZUI	Departure	12.7	-	-
27-Aug	19:45	3A084	ZUI	Arrival	13.5	-	-
27-Aug	20:15	3A185	ZUI	Departure	11.9	-	-
27-Aug	20:48	8S2113	MFM	Arrival	13.0	-	-
27-Aug	21:00	3A169	YFT	Departure	12.0	-	-
27-Aug	21:57	8S128	MFM	Departure	13.3	-	-
28-Aug	08:16	3A061	YFT	Arrival	11.7	-	-
28-Aug	08:38	8S210	MFM	Arrival	10.5	-	-
28-Aug	10:01	3A071	MFM	Arrival	12.7	-	-
28-Aug	10:43	8S212	MFM	Arrival	11.4	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [MFM - Macao (Maritime Ferry Terminal) YFT – Macao (Taipa) ZUI - Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Prevailing Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
28-Aug	10:49	3A081	ZUI	Arrival	13.1	-	-
28-Aug	11:04	8S121	MFM	Departure	12.0	-	-
28-Aug	11:30	3A063	YFT	Arrival	12.3	-	-
28-Aug	11:45	3A168	YFT	Departure	12.7	-	-
28-Aug	12:16	3A181	ZUI	Departure	12.7	-	-
28-Aug	12:45	8S215	MFM	Arrival	13.2	-	-
28-Aug	12:57	3A064	YFT	Arrival	12.9	-	-
28-Aug	13:19	8S123	MFM	Departure	12.2	-	-
28-Aug	13:37	3A164	YFT	Departure	13.0	-	-
28-Aug	14:05	3A082	ZUI	Arrival	11.7	-	-
28-Aug	14:19	3A182	ZUI	Departure	12.4	-	-
28-Aug	15:02	3A065	YFT	Arrival	12.3	-	-
28-Aug	16:21	3A167	YFT	Departure	12.4	-	-
28-Aug	16:40	3A083	ZUI	Arrival	11.8	-	-
28-Aug	16:42	8S218	MFM	Arrival	13.3	-	-
28-Aug	16:55	3A067	YFT	Arrival	12.6	-	-
28-Aug	16:59	3A183	ZUI	Departure	11.8	-	-
28-Aug	17:07	8S126	MFM	Departure	13.0	-	-
28-Aug	19:45	3A084	ZUI	Arrival	13.1	-	-
28-Aug	20:22	3A185	ZUI	Departure	12.9	-	-
28-Aug	20:55	8S2113	MFM	Arrival	12.7	-	-
28-Aug	21:14	3A169	YFT	Departure	13.1	-	-
28-Aug	21:53	8S128	MFM	Departure	12.5	-	-
29-Aug	08:16	3A061	YFT	Arrival	11.9	-	-
29-Aug	08:21	8S210	MFM	Arrival	13.0	-	-
29-Aug	10:34	3A071	MFM	Arrival	13.4	-	-
29-Aug	10:46	3A081	ZUI	Arrival	13.0	-	-
29-Aug	11:12	8S212	MFM	Arrival	12.2	-	-
29-Aug	11:23	3A063	YFT	Arrival	12.9	-	-
29-Aug	11:28	8S121	MFM	Departure	12.5	-	-
29-Aug	11:47	3A168	YFT	Departure	12.2	-	-
29-Aug	12:21	3A181	ZUI	Departure	12.4	-	-
29-Aug	12:55	8S215	MFM	Arrival	11.9	-	-
29-Aug	13:00	3A064	YFT	Arrival	11.7	-	-
29-Aug	13:18	8S123	MFM	Departure	11.9	-	-
29-Aug	13:33	3A164	YFT	Departure	12.8	-	-
29-Aug	13:59	3A082	ZUI	Arrival	13.5	-	-
29-Aug	14:17	3A182	ZUI	Departure	12.2	-	-
29-Aug	14:57	3A065	YFT	Arrival	12.4	-	-
29-Aug	16:28	3A167	YFT	Departure	13.1	-	-
29-Aug	16:39	3A083	ZUI	Arrival	12.7	-	-
29-Aug	16:41	8S218	MFM	Arrival	12.5	-	-
29-Aug	16:57	3A067	YFT	Arrival	12.3	-	-
29-Aug	17:19	3A183	ZUI	Departure	13.9	-	-
29-Aug	17:22	8S126	MFM	Departure	10.9	-	-
29-Aug	19:52	3A084	ZUI	Arrival	12.8	-	-
29-Aug	20:13	3A185	ZUI	Departure	12.4	-	-
29-Aug	21:02	3A169	YFT	Departure	11.7	-	-
29-Aug	21:10	8S2113	MFM	Arrival	11.6	-	-
30-Aug	08:21	3A061	YFT	Arrival	12.0	-	-
30-Aug	08:26	8S210	MFM	Arrival	11.8	-	-
30-Aug	09:56	3A071	MFM	Arrival	8.6	-	-
30-Aug	10:52	3A081	ZUI	Arrival	12.7	-	-
30-Aug	10:55	8S212	MFM	Arrival	12.5	-	-
30-Aug	11:13	8S121	MFM	Departure	12.3	-	-
30-Aug	11:27	3A063	YFT	Arrival	12.3	-	-
30-Aug	11:51	3A168	YFT	Departure	13.0	-	-
30-Aug	12:13	3A181	ZUI	Departure	12.2	-	-
30-Aug	13:00	8S215	MFM	Arrival	11.1	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [MFM - Macao (Maritime Ferry Terminal) YFT – Macao (Taipa) ZUI - Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Prevailing Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
30-Aug	13:01	3A064	YFT	Arrival	12.4	-	-
30-Aug	13:18	8S123	MFM	Departure	12.4	-	-
30-Aug	13:27	3A164	YFT	Departure	11.8	-	-
30-Aug	13:43	3A082	ZUI	Arrival	11.7	≤5	<1 min
30-Aug	14:14	3A182	ZUI	Departure	11.5	-	-
30-Aug	15:04	3A065	YFT	Arrival	12.1	-	-
30-Aug	16:30	3A167	YFT	Departure	13.3	-	-
30-Aug	16:37	3A083	ZUI	Arrival	12.0	-	-
30-Aug	16:43	8S218	MFM	Arrival	12.0	-	-
30-Aug	17:01	3A067	YFT	Arrival	12.3	-	-
30-Aug	17:08	3A183	ZUI	Departure	13.4	-	-
30-Aug	17:13	8S126	MFM	Departure	12.0	-	-
30-Aug	19:47	3A084	ZUI	Arrival	12.1	-	-
30-Aug	20:10	3A185	ZUI	Departure	13.6	-	-
30-Aug	20:52	8S2113	MFM	Arrival	12.0	-	-
30-Aug	21:16	3A169	YFT	Departure	11.6	-	-
31-Aug	08:35	3A061	YFT	Arrival	5.7	-	-
31-Aug	08:37	8S210	MFM	Arrival	10.3	-	-
31-Aug	09:45	3A071	MFM	Arrival	11.7	-	-
31-Aug	10:41	3A081	ZUI	Arrival	13.2	-	-
31-Aug	10:42	8S212	MFM	Arrival	12.9	-	-
31-Aug	11:11	8S121	MFM	Departure	13.1	-	-
31-Aug	11:16	3A063	YFT	Arrival	12.5	-	-
31-Aug	11:49	3A168	YFT	Departure	11.6	-	-
31-Aug	12:16	3A181	ZUI	Departure	13.0	-	-
31-Aug	12:51	8S215	MFM	Arrival	13.0	-	-
31-Aug	12:59	3A064	YFT	Arrival	13.6	-	-
31-Aug	13:16	8S123	MFM	Departure	12.6	-	-
31-Aug	13:27	3A164	YFT	Departure	13.0	-	-
31-Aug	13:56	3A082	ZUI	Arrival	13.2	-	-
31-Aug	14:15	3A182	ZUI	Departure	12.1	-	-
31-Aug	15:00	3A065	YFT	Arrival	11.9	-	-
31-Aug	16:18	3A167	YFT	Departure	10.9	-	-
31-Aug	16:42	3A083	ZUI	Arrival	11.7	-	-
31-Aug	16:42	8S218	MFM	Arrival	13.2	-	-
31-Aug	16:56	3A067	YFT	Arrival	12.3	-	-
31-Aug	17:09	3A183	ZUI	Departure	13.1	-	-
31-Aug	17:10	8S126	MFM	Departure	13.2	-	-
31-Aug	19:50	3A084	ZUI	Arrival	12.7	-	-
31-Aug	20:08	3A185	ZUI	Departure	13.0	-	-
31-Aug	20:55	8S2113	MFM	Arrival	12.6	-	-
31-Aug	21:06	3A169	YFT	Departure	12.4	-	-
31-Aug	22:05	8S128	MFM	Departure	13.8	-	-

Follow-up on instantaneous speeding

Referring to the data of SkyPier HSF movements in August 2016, instantaneous speeding (i.e. a sudden change in speed at over 15 knots for a short period of time) within the SCZ was recorded from 17 HSF movements. Among the 17 HSF movements, the duration of instantaneous speeding of 16 movements were less than 1 minute, whilst the remaining one movement lasted for less than 2 minutes. After investigation, the AIS data and ferry operators' responses from 12 cases showed the cases were due to public safety / emergency reasons including local strong water currents and giving way to other vessels. The captain had reduced speed and maintained the speed at less than 15 knots after the public safety / emergency incidents. The remaining five cases are pending for ferry operator's responses and under investigation.

Eight HSF movements with no or insufficient transmission of AIS data received in August. Although radar graph has been provided for auditing, follow up action will be undertaken with the concerned ferry operator.