

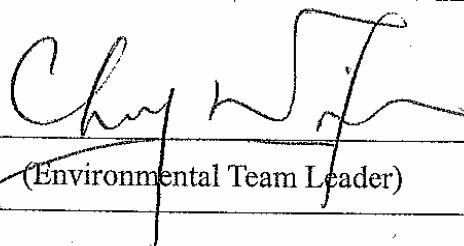
**CWE-ZHEC Joint Venture**

**Contract No. CV/2004/03 – Maintenance  
and Repairs to Franchised and Licensed  
Ferry Pier (2005-2008)  
Construction of Yung Shue Wan Helipad –  
Works Order No. YSW/01/03**

**Environmental Monitoring and Audit  
Monthly Report (Version 1)**

June 2008

Certified By



(Environmental Team Leader)

REMARKS:

The information supplied and contained within this report is, to the best of our knowledge, correct at the time of printing.

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# TABLE OF CONTENTS

<b>EXECUTIVE SUMMARY .....</b>	<b>1</b>
Introduction.....	1
Environmental Monitoring Works.....	1
Environmental Licenses and Permits.....	2
Key Information in the Reporting Month .....	2
<b>1. INTRODUCTION.....</b>	<b>4</b>
Background.....	4
Project Organizations.....	4
Construction Programme .....	5
Summary of EM&A Requirements.....	6
<b>2. NOISE.....</b>	<b>7</b>
Monitoring Requirements .....	7
Monitoring Locations.....	7
Monitoring Equipment.....	7
Monitoring Parameters, Frequency and Duration .....	7
Monitoring Methodology and QA/QC Procedures .....	8
Maintenance and Calibration .....	8
Results and Observations.....	9
<b>3. WATER QUALITY .....</b>	<b>10</b>
Monitoring Requirements .....	10
Monitoring Locations.....	10
Monitoring Equipment.....	10
Monitoring Parameters, Frequency and Duration .....	10
Monitoring Methodology, Calibration Details and QA/QC Procedures.....	11
Results and Observations.....	11
<b>4. ENVIRONMENTAL AUDIT.....</b>	<b>12</b>
Site Audits.....	12
Review of Environmental Monitoring Procedures .....	12
Status of Environmental Licensing and Permitting .....	12
Status of Waste Management.....	12
Implementation Status of Environmental Mitigation Measures .....	13
Implementation Status of Event Action Plans .....	15
Summary of Complaints and Prosecutions .....	15
<b>5. FUTURE KEY ISSUES .....</b>	<b>16</b>
Key Issues for the Coming Month .....	16
Monitoring Schedule for the Next Month.....	16
Construction Program for the Next Month.....	16
<b>6. CONCLUSIONS AND RECOMMENDATIONS.....</b>	<b>17</b>
Conclusions.....	17
Recommendations.....	18

## **LIST OF TABLES**

Table I	Summary Table for Non-compliance Recorded in the Reporting Month
Table II	Summary Table for Key Information in the Reporting Month
Table 1.1	Key Project Contacts
Table 2.1	Noise Monitoring Stations
Table 2.2	Noise Monitoring Equipment
Table 2.3	Noise Monitoring Parameters, Frequency and Duration
Table 2.4	Baseline Noise Level and Allowed Construction Noise Level for Monitoring Stations
Table 3.1	Locations for Water Quality Monitoring
Table 3.2	Water Quality Monitoring Equipment
Table 3.3	Frequency and Parameters of Water Quality Monitoring
Table 4.1	Summary of Environmental Licensing and Permit Status
Table 4.2	Key Information in the EIA Report and the Status of EMIS

## **LIST OF FIGURES**

Figure 1.1	Layout Plan of the Project Site
Figure 2.1	ET's Organization Chart
Figure 3.1	Locations of Construction Noise Monitoring Stations and Water Quality Monitoring Stations

## **LIST OF APPENDICES**

A	Action and Limit Levels for Noise and Water Quality
B	Copies of Calibration Certificates
C	Quality Control Reports for SS Laboratory Analysis
D	Environmental Monitoring Schedules
E	Noise Monitoring Results and Graphical Presentations
F	Water Quality Monitoring Results and Graphical Presentations
G	Summary of Exceedance
H	Site Audit Summary
I	Summary of Amount of Waste Generated
J	Event Action Plans
K	Environmental Mitigation Implementation Schedule (EMIS)
L	Construction Programme
M	Complaint Logs

## ABBREVIATION AND ACRONYM

AL Levels	Action and Limit Levels
CEDD	Civil Engineering & Development Department
E / ER	Engineer/Engineer's Representative
EIA	Environmental Impact Assessment
EM&A	Environmental Monitoring and Audit
EMIS	Environmental Mitigation Implementation Schedule
EP	Environmental Permit
EPD	Environmental Protection Department
ET	Environmental Team
HVS	High Volume Sampler
IEC	Independent Environmental Checker
RE	Resident Engineer
RH	Relative Humidity
TSP	Total Suspended Particulates
QA/QC	Quality Assurance / Quality Control
SLM	Sound Level Meter
WMP	Waste Management Plan

## **EXECUTIVE SUMMARY**

### **Introduction**

1. This is the 10<sup>th</sup> Environmental Monitoring and Audit (EM&A) Report prepared by Cinotech Consultants Limited for the “Construction of Yung Shue Wan Helipad – Works order No. YSW/01/03 under Contract No. CV/2004/03” (the Project). This report documents the findings of EM&A Works conducted in June 2008.
2. The site activities undertaken in the reporting month included:
  - Precast concrete installation; and
  - cast concrete on slab.

### **Environmental Monitoring Works**

3. Environmental monitoring for the Project was performed in accordance with the updated EM&A Manual and the monitoring results were checked and reviewed. Site audits were conducted once per week. The implementation of the environmental mitigation measures, Event Action Plans and environmental complaint handling procedures were also checked.

4. Summary of the non-compliance of the reporting month is tabulated in Table I.

**Table I Summary Table for Non-compliance Recorded in the Reporting Month**

Parameter	No. of Exceedance		No. of Exceedance Due to the Project		Action Taken
	Action Level	Limit Level	Action Level	Limit Level	
Noise	0	0	0	0	N/A
Water	0	0	0	0	N/A

*Construction Noise*

5. All construction noise monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.

*Water Quality*

6. All water quality monitoring was conducted as scheduled in the reporting month. No Action/Limit level exceedance was recorded.

**Environmental Licenses and Permits**

7. Licenses/Permits granted to the Project include the Environmental Permit (EP) for the Project, An Environmental Permit No. EP-242/2006 was issued on 13 March 2006 for this Project (EP) to the CEDD as Permit Holder.

**Key Information in the Reporting Month**

8. Summary of key information in the reporting month is tabulated in Table II.

**Table II Summary Table for Key Information in the Reporting Month**

Event	Event Details		Action Taken	Status	Remark
	Number	Nature			
Complaint received	0	---	N/A	N/A	---
Changes to the assumptions and key construction / operation activities recorded	0	---	N/A	N/A	---
Status of submissions under EP	1	Monthly EM&A Report (May 08)	Submitted to EPD on 6 <sup>th</sup> June 2008 (EP condition 4.4).	N/A	---
Notifications of any summons & prosecutions received	0	---	N/A	N/A	---
<p><b><u>Future Key Issues:</u></b></p> <p>Major site activities for the coming month include:</p> <ul style="list-style-type: none"> <li>• Cast concrete on slab; and</li> <li>• Installation of steelwork &amp; miscellaneous.</li> </ul>					



## 1. INTRODUCTION

### Background

- 1.1 The Project “Construction of Yung Shue Wan Helipad” (Works order No.YSWH/01/03) under Contract No. CV/2004/03 was awarded to CWE-ZHEC Joint Venture (hereinafter called the “Contractor”) by the Civil Engineering and Development Department (CEDD) of the Hong Kong Special Administrative Region (HKSAR).
- 1.2 The Project has been planned and managed in-house by the Land Works Division of CEDD on behalf of the Home Affairs Department (HAD). The Project mainly comprises the construction works of a helipad used solely for emergency purpose with diameter of 25 metres and an Emergency Vehicular Access of about 25 metres long and 3.5 metres wide connecting the helipad with existing road. The general layout of the Project is shown in Figure 1.1.
- 1.3 The Project is a ‘designated project’ under Item B.2, Schedule 2 of the Environmental Impact Assessment Ordinance (EIAO) by virtue of being: “*A helipad within 300m of existing or planned residential development*”. An environmental impact assessment (EIA) report has been prepared in 2005 for the Project to consider the key issues of noise, air quality, water quality, construction waste, ecological and cultural impacts, and identify possible mitigation measures.
- 1.4 An Environmental Permit No. EP-242/2006 was issued on 13 March 2006 for this Project (EP) to the CEDD as the Permit Holder. An updated Environmental Monitoring and Audit Manual (the EM&A Manual) was prepared to fulfill requirements stipulated in Condition 2.4 of the EP.
- 1.5 Cinotech Consultants Limited was commissioned by the CWE-ZHEC Joint Venture (the Contractor) to undertake the Environmental Monitoring and Audit (EM&A) works for the Project. The Updated EM&A Manual was prepared by Cinotech to fulfill the requirements of the EP. This is the 10<sup>th</sup> monthly EM&A report summarizing the EM&A works for the Project in June 2008.

### Project Organizations

- 1.6 Different parties with different levels of involvement in the project organization include:
- Project Proponent –Civil Engineering and Development Department (CEDD)
  - The Engineer of the Engineer’s Representative (ER) –Civil Engineering and Development Department (CEDD)
  - Environmental Team (ET) – Cinotech Consultants Limited.
  - Independent Environmental Checker (IEC) – Mannings (Asia) Company Limited
  - Environmental Protection Department (EPD) – Environmental Regulations Enforcer
  - Contractor - CWE-ZHEC Joint Venture

1.7 The responsibilities of respective parties are detailed in Sections 1.21 to 1.38 of the Updated EM&A Manual of the Project.

1.8 The key contacts of the Project are shown in Table 1.1 and the organization chart of ET is shown in Figure 2.1.

**Table 1.1 Key Project Contacts**

Party	Role	Name	Position	Phone No.	Fax No.
CEDD	Permit Holder	Mr. K.S Cheng	Engineer	2762 5455	2714 2054
		Mr. M.O Chiu	Senior Inspector of Works	2762 5552	
CEDD	Engineer	Mr. Fung Ping Lun	Engineer	2762 5068	27142054
		Mr. K.S Cheng	Engineer	2762 5455	
Cinotech	Environmental Team	Dr. Priscilla Choy	ET Leader	2151 2089	3107 1388
		Ms. Tammy Lin	Project Coordinator & Audit Team Leader	2151 2095	
		Mr. Henry Leung	Monitoring Team Leader	2151 2087	
Mannings (Asia)	Independent Environmental Checker	Mr. Mark Cheung	Independent Environmental Checker	31682028	31682022
		Mr. Simon Ng	Assistant Independent Environmental Checker		
CWE-ZHEC Joint Venture	Contractor	Mr. Alan Mong	Site Agent	2727 0128	2379 5931
		Mr. Y.F. Chao	Project Manager	2727 0128	2379 5931

### Construction Programme

1.9 The site activities undertaken in the reporting month included:

- Precast concrete installation; and
- Cast concrete on slab.

## **Summary of EM&A Requirements**

- 1.10 The EM&A programme requires construction phase monitoring construction noise and water quality and environmental site audit. The EM&A requirements for each parameter are described in the following sections, including:
- All monitoring parameters;
  - Action and Limit levels for all environmental parameters;
  - Event Action Plans;
  - Environmental mitigation measures, as recommended in the project EIA study final report; and
  - Environmental requirements in contract documents.
- 1.11 The advice on the implementation status of environmental protection and pollution control/mitigation measures is summarized in Section 4 of this report.
- 1.12 This report presents the monitoring results, observations, locations, equipment, period, methodology and QA/QC procedures of the required monitoring parameters, namely water and noise levels and audit works for the Project in June 2008.

**2. NOISE****Monitoring Requirements**

- 2.1 Two noise monitoring stations, namely N3 and N5 were designated in the Updated EM&A Manual for impact monitoring. Appendix A shows the established Action and Limit Levels for the environmental monitoring works.

**Monitoring Locations**

- 2.2 Noise monitoring was conducted at two designated monitoring stations as listed in Table 2.1. Figure 3.1 shows the locations of these stations.

**Table 2.1 Noise Monitoring Stations**

Monitoring Stations	Locations
N3	North Lamma Clinic
N5	No. 105 Yung Shue Wan Main Street

**Monitoring Equipment**

- 2.3 Table 2.2 summarizes the noise monitoring equipment. Copies of calibration certificates are provided in Appendix B.

**Table 2.2 Noise Monitoring Equipment**

Equipment	Model and Make	Qty.
Integrating Sound Level Meter	B&K Model 2238	3
Calibrator	B&K 4231	2

**Monitoring Parameters, Frequency and Duration**

- 2.4 Table 2.3 summarizes the monitoring parameters, frequency and total duration of monitoring. The noise monitoring schedule is shown in Appendix D.

**Table 2.3 Noise Monitoring Parameters, Frequency and Duration**

Monitoring Stations	Parameter	Period	Frequency	Measurement
N3 N5	L <sub>10</sub> (30 min.) dB(A) L <sub>90</sub> (30 min.) dB(A) L <sub>eq</sub> (30 min.) dB(A)	0700-1900 hrs on normal weekdays	Once per week	Façade

### Monitoring Methodology and QA/QC Procedures

- The Sound Level Meter was set on a tripod at a height of 1.2 m above the ground.
- For free field measurement, the meter was positioned away from any nearby reflective surfaces. All records for free field noise levels were adjusted with a correction of +3 dB(A).
- The battery condition was checked to ensure the correct functioning of the meter.
- Parameters such as frequency weighting, the time weighting and the measurement time were set as follows:
  - frequency weighting : A
  - time weighting : Fast
  - time measurement : 30 minutes / 5 minutes
- Prior to and after each noise measurement, the meter was calibrated using a Calibrator for 94.0 dB at 1000 Hz. If the difference in the calibration level before and after measurement was more than 1.0 dB, the measurement would be considered invalid and repeat of noise measurement would be required after re-calibration or repair of the equipment.
- The wind speed was frequently checked with the portable wind meter.
- At the end of the monitoring period, the L<sub>eq</sub>, L<sub>90</sub> and L<sub>10</sub> were recorded. In addition, site conditions and noise sources were recorded on a standard record sheet.
- Noise measurement was paused temporarily during periods of high intrusive noise if possible and observation was recorded when intrusive noise was not avoided.
- Noise monitoring was cancelled in the presence of fog, rain, and wind with a steady speed exceeding 5 m/s, or wind with gusts exceeding 10 m/s.

### Maintenance and Calibration

- 2.5 The microphone head of the sound level meter and calibrator was cleaned with soft cloth regularly.
- 2.6 The meters were sent to the supplier to check and calibrate on a yearly interval.

## Results and Observations

- 2.7 Noise monitoring at the two designated locations was conducted as scheduled in the reporting month.
- 2.8 All the Construction Noise Levels (CNLs) reported in this report were adjusted with the corresponding baseline level (i.e. Measured Leq – Baseline Leq = Measured CNL), in order to facilitate the interpretation of the noise exceedance. The baseline noise level and the allowed CNL at each designated noise monitoring station are presented at Table 3.4.
- 2.9 No Action/Limit Level exceedance was recorded.
- 2.10 Noise monitoring results and graphical presentations are shown in Appendix E. In accordance with Condition 5.2 of the EP, all environmental monitoring data was made available to the public via internet access at the website <http://nteema.cedd.gov.hk/YSWHelipad/>.
- 2.11 The major noise source identified at the designated noise monitoring stations was the activities around Yung Shue Wan Playground.

**Table 2.4 Baseline Noise Level and Allowed Construction Noise Level for Monitoring Stations**

Station	Baseline Noise Level, dB (A)	Allowed CNL, dB (A)
N3 – North Lamma Clinic	60.8 (at 0700 – 1900 hrs on normal weekdays)	75 (at 0700 – 1900 hrs on normal weekdays)
	59.7 (at 1900 – 2300 hrs on all days & 0700 – 1900 hrs on holidays)	
	59.4 (at 2300 – 0700 hrs of the next day)	
N4 – Yung Shue Wan Playground	63.8 (at 0700 – 1900 hrs on normal weekdays)	75 (at 0700 – 1900 hrs on normal weekdays)
	61.4 (at 1900 – 2300 hrs on all days & 0700 – 1900 hrs on holidays)	
	63.6 (at 2300 – 0700 hrs of the next day)	

### 3. WATER QUALITY

#### Monitoring Requirements

- 3.1 Dissolved oxygen (DO concentration in mg/L and DO saturation in percentage), Turbidity (Tby in NTU), Suspended Solid (SS in mg/L), pH, salinity and both water and ambient temperature monitoring were conducted to monitor the water quality. Appendix A shows the established Action/Limit Levels for the environmental monitoring works.

#### Monitoring Locations

- 3.2 Locations of designated Water Quality Monitoring Stations are shown in **Figure 3.1** and described in Table 3.1. Samples shall be taken at all designated Monitoring and Control Stations.

**Table 3.1 Locations for Water Quality Monitoring**

Monitoring Stations	Coordinates	
	Northing (m)	Easting (m)
<i>Control Station</i>		
C1	809 608.0	829 207.7
<i>Impact Stations</i>		
M1	809 544.0	829 213.0
M2	809 559.2	829 243.0

#### Monitoring Equipment

- 3.3 Table 3.2 summarizes the equipment used in the water quality monitoring program. All the monitoring equipment complied with the specifications is stipulated in the Updated EM&A Manual. Copies of the calibration certificates of the equipment are shown in Appendix B.

**Table 3.2 Water Quality Monitoring Equipment**

Equipment	Model and Make	Qty.
Multi-parameter Water Quality System	YSI 6820-C-M	2
Monitoring Position Equipment	“Magellan” Handheld GPS Model GPS-320	1

#### Monitoring Parameters, Frequency and Duration

- 3.4 Table 3.3 summarizes the monitoring parameters, monitoring period and frequencies of water quality monitoring.

**Table 3.3 Frequency and Parameters of Water Quality Monitoring**

Station	Parameters	Frequency
C1	DO, SS, turbidity, salinity, pH & temperature	1 day per week during the marine work and 3 days per week during the piling work, at mid- flood and mid-ebb
M1		
M2		

### Monitoring Methodology, Calibration Details and QA/QC Procedures

#### Instrumentation

- 3.5 A multi-parameter meter (Model YSI 6820 C-M) was used to measure DO, DO saturation, turbidity, salinity and temperature.

#### Operating/Analytical Procedures

- 3.6 At each measurement, two consecutive measurements of DO concentration, DO saturation, salinity, turbidity and temperature were taken. Where the difference in the value between the first and second readings of each set was more than 25% of the value of the first reading, the reading was discarded and further readings were taken.
- 3.7 For SS measurement, duplicate water samples for SS were taken and analysed at each monitoring station at each sample depth. The sample bottles were then packed in cool-boxes (without being frozen), and delivered to a HOKLAS accredited laboratory for analysis of suspended solids concentrations within 24 hours.

#### Maintenance and Calibration

- 3.8 Before each round of monitoring, a zero check in distilled water was performed with the turbidity probe of YSI 6820-C-M. The probe was then calibrated with a solution of known NTU.
- 3.9 QA/QC procedures as attached in Appendix C are available for the SS analyzed in the HOKLAS-accredited laboratory, WELLAB Ltd.

### Results and Observations

- 3.10 Water quality monitoring was conducted as scheduled in the reporting month. The monitoring data and graphical presentations of the monitoring results are shown in Appendix F. Details of the Exceedance Report are shown in **Appendix G**.
- 3.11 In accordance with Condition 5.2 of the EP, all environmental monitoring data was made available to the public via internet access at the website <http://nteema.cedd.gov.hk/YSWHelipad/>.
- 3.12 No Action/Limit Level exceedance was recorded in the reporting month.



#### **4. ENVIRONMENTAL AUDIT**

##### **Site Audits**

- 4.1 Site audits were carried out on a weekly basis to monitor the timely implementation of proper environmental management practices and mitigation measures in the Project site. The summaries of site audits are attached in Appendix H.
- 4.2 Site audits were conducted on 4<sup>th</sup>, 11<sup>th</sup>, 17<sup>th</sup> and 26<sup>th</sup> June 2008. No non-compliance was observed during the site audits.

##### **Review of Environmental Monitoring Procedures**

- 4.3 The monitoring works conducted by the monitoring team were inspected regularly. The following observations have been recorded for the monitoring works:

##### *Noise Monitoring*

- The monitoring team recorded all observations around the monitoring stations, which might affect the monitoring result.
- Major noise sources were identified and recorded. Other intrusive noise attributing to the result was trimmed off by pausing the monitoring temporarily.

##### *Water Quality Monitoring*

- The monitoring team recorded all observations around the monitoring stations, which might affect the monitoring result.
- The monitoring team recorded the weather condition on the monitoring day.

##### **Status of Environmental Licensing and Permitting**

- 4.4 All permits/licenses obtained for the Project are summarized in Table 4.1.

##### **Status of Waste Management**

- 4.5 The amount of wastes generated by the activities of the Project in June 2008 is shown in Appendix I.

**Table 4.1 Summary of Environmental Licensing and Permit Status**

Permit No.	Valid Period		Section	Status
	From	To		
<b>Environmental Permit (EP)</b>				
EP-242/2006	13/3/2006	N/A	A helipad used solely for emergency purpose with diameter of 25 metres and an Emergency Vehicular Access of about 25 metres long and 3.5 metres wide connecting the helipad with existing road.	Valid

### Implementation Status of Environmental Mitigation Measures

4.6 According to the *EIAO Guidance Note No. 14/2003*, the key information in the EIA Report is summarized in Table 4.2. According to the EIA Report, air quality, noise and water quality would be the key issues during the construction and operation of the Yung Shue Wan Helipad. Details of the implementation of mitigation measures are provided in the Appendix K.

**Table 4.2 Key Information in the EIA Report and the Status of EMIS**

	Issues	Assumptions and Assessment	Recommended Mitigation Measures
Construction	Air	With the implementation of dust suppression mitigation measures, the level of construction dust would comply with the relevant AQO.	<ul style="list-style-type: none"> <li>• Restricting heights from which material are dropped</li> <li>• Covering the materials on truck with tarpaulin sheet</li> <li>• Watering of the dusty areas, at least twice a day</li> <li>• Provide wheel-washing facilities at site exit(s)</li> <li>• Traveling speeds should be controlled</li> </ul>
	Noise	Noise level at most of NSRs would exceed the noise criteria without mitigation measures.	Good site practice, adoption of quiet construction plant, reduction of on-time operation of plant, movable noise barrier and avoid simultaneous noisy activities.
	Water	Adverse impacts on the water quality	Good site practice, adoption of use holding tank that should be fitted with a tight fitting seal, excavator grab seal is tightly closed and the hoist speed is suitably low, large objects should be removed from the excavator grab and use small diameter pre-bored piling instead of dredging and reclamation for construction of helipad

	Issues	Assumptions and Assessment	Recommended Mitigation Measures
	Ecology	Ecology concentration, if unmitigated, it would not comply with the Protection of Endangered Species of Animals and Plants Ordinance (Cap. 586). [Replaced the animals & Plants Ordinance (Protection of Endangered Species) (Cap. 187) in December 2006]	Silt curtain should be installed Good site practice measures: <ul style="list-style-type: none"> <li>• Particular care should be taken when demolishing the existing concrete planter and decommissioning the silt curtain</li> <li>• Materials storage areas should be located well away from the seawall and covered during the works.</li> <li>• Holding tank that should be fitted with a tight fitting seal</li> <li>• Excavator seal is tightly closed and the hoist speed is suitably low</li> <li>• Large objects should be removed from the excavator grab and use small diameter pre-bored piling instead of dredging and reclamation for construction of helipad</li> </ul>
	Waste	Potential for environmental impacts (Visual impacts and nuisance)	Good site practice, adoption of proper on-site handling and storage (covered containers), reuse (of inert C&D materials) and off-site disposal (via approved waste collectors to approved waste facilities and/or disposal grounds) the generation.
Operation	Noise	NSRs along the alignment would be exposed to noise level exceeding the noise limit without mitigation measures.	<ul style="list-style-type: none"> <li>• Use of quieter helicopter type EC155B1 in priority</li> <li>• Reduce the angle of the helicopter flights path</li> <li>• The helipad will be solely for emergency use</li> </ul>
	Waste	Potential for environmental impacts without mitigation measures.	<ul style="list-style-type: none"> <li>• The helipad will only be used for emergency purposes.</li> <li>• No equipment will be placed on the landing pad or along the EVA</li> </ul>

4.7 During the weekly environmental site inspections in the reporting period, no non-conformance was identified. There are no observations and recommendations.

**Implementation Status of Event Action Plans**

- 4.8 The Event Action Plans for noise and water quality are presented in Appendix J.

**Construction Noise**

- 4.9 No Action/Limit Level exceedance was recorded for construction noise.

**Water Quality**

- 4.10 No Action/Limit Level exceedance was recorded for water quality.

**Summary of Complaints and Prosecutions**

- 4.11 No environmental prosecution and complaint was received in the reporting month.
- 4.12 No environmental prosecution was received in the reporting month.
- 4.13 There were no environmental complaint and no prosecution received since the commencement of the Project. The Complaint Log is attached in Appendix M.

## **5. FUTURE KEY ISSUES**

### **Key Issues for the Coming Month**

5.1 Key environmental issues in the coming month include:

- Cast concrete on slab; and
- Installation of steelwork & miscellaneous.

### **Monitoring Schedule for the Next Month**

5.2 The tentative environmental monitoring schedules for the next month are shown in Appendix D.

### **Construction Program for the Next Month**

5.3 The tentative construction program for the Project is provided in **Appendix L**.

## **6. CONCLUSIONS AND RECOMMENDATIONS**

### **Conclusions**

- 6.1 Environmental monitoring works were performed in the reporting month and all monitoring results were checked and reviewed.

#### Construction Noise Monitoring

- 6.2 All construction noise monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.

#### Water Quality Monitoring

- 6.3 All water quality monitoring was performed as scheduled. No Action/Limit Level exceedance was recorded.

#### Complaint and Prosecution

- 6.4 No environmental prosecution and complaint was received in the reporting month.

## Recommendations

6.5 According to the environmental audit performed in the reporting month, the following recommendations were made:

### *Dust Impact*

- To prohibit any open burning on site.
- To regularly maintain the machinery and vehicles on site.
- To follow up any exceedance caused by the construction works.
- To implement dust suppression measures on all haul roads, stockpiles, dry surfaces and excavation works.
- To provide hoarding

### *Noise Impact*

- To inspect the noise sources inside the site.
- To follow up any exceedance caused by the construction works.
- To space out noisy equipment and position the equipment as far away as possible from sensitive receivers.
- To provide temporary noise barriers for operations of noisy equipment near the noise sensitive receivers in an appropriate location.

### *Water Impact*

- To identify any wastewater discharges from site.
- To provide silt curtain surrounding the whole of the piling site.
- To check the holding tank should be fitted with a tight fitting seal.
- To ensure the excavator grab seal is tightly closed.

### *Waste/Chemical Management*

- To check for any accumulation of waste materials or rubbish on site.
- To avoid any discharge or accidental spillage of chemical waste or oil directly from the site.
- To avoid improper handling or storage of oil drum on site.

### *Ecology*

- To provide silt curtain, checked and maintenance throughout the construction period

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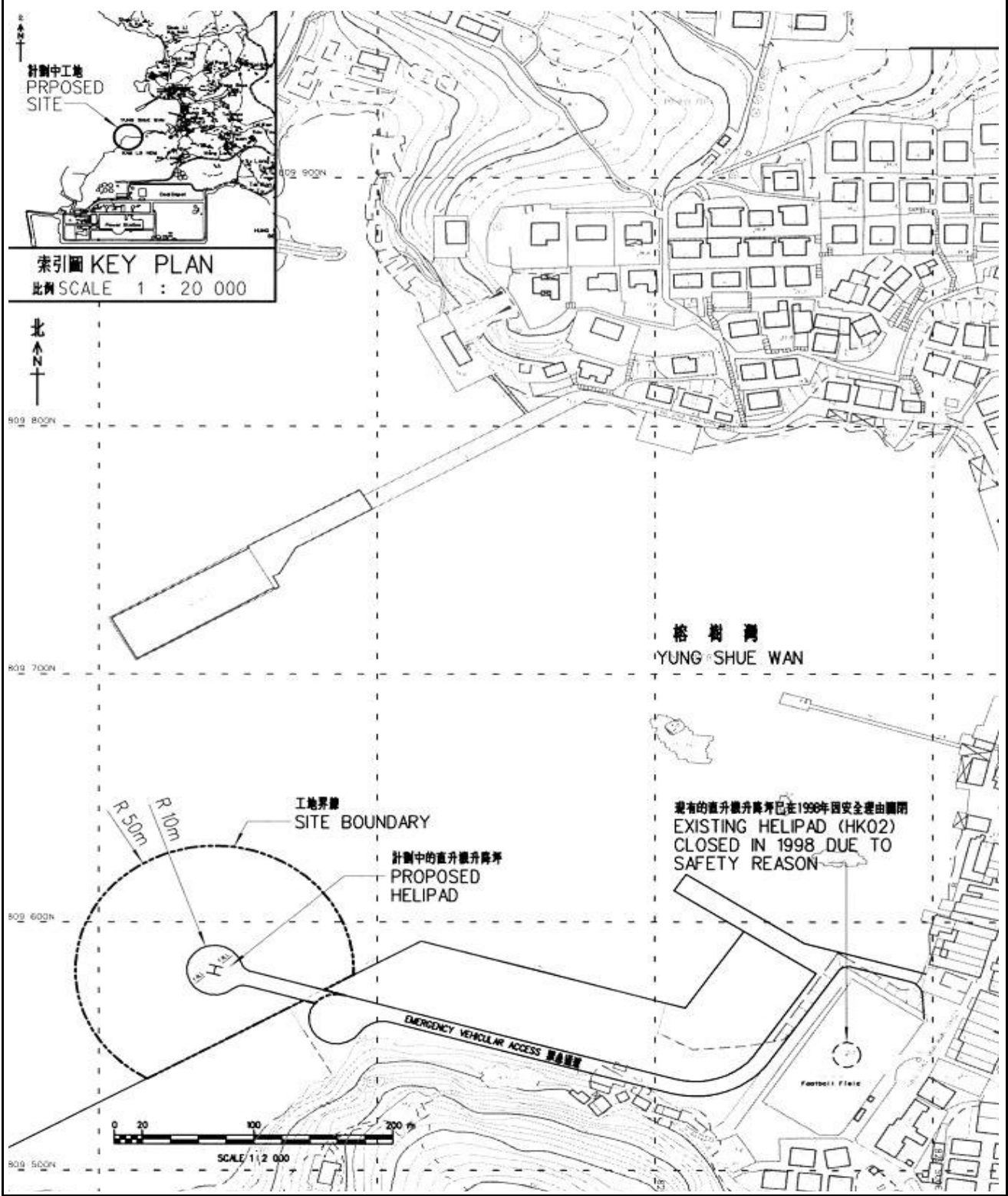
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## FIGURES

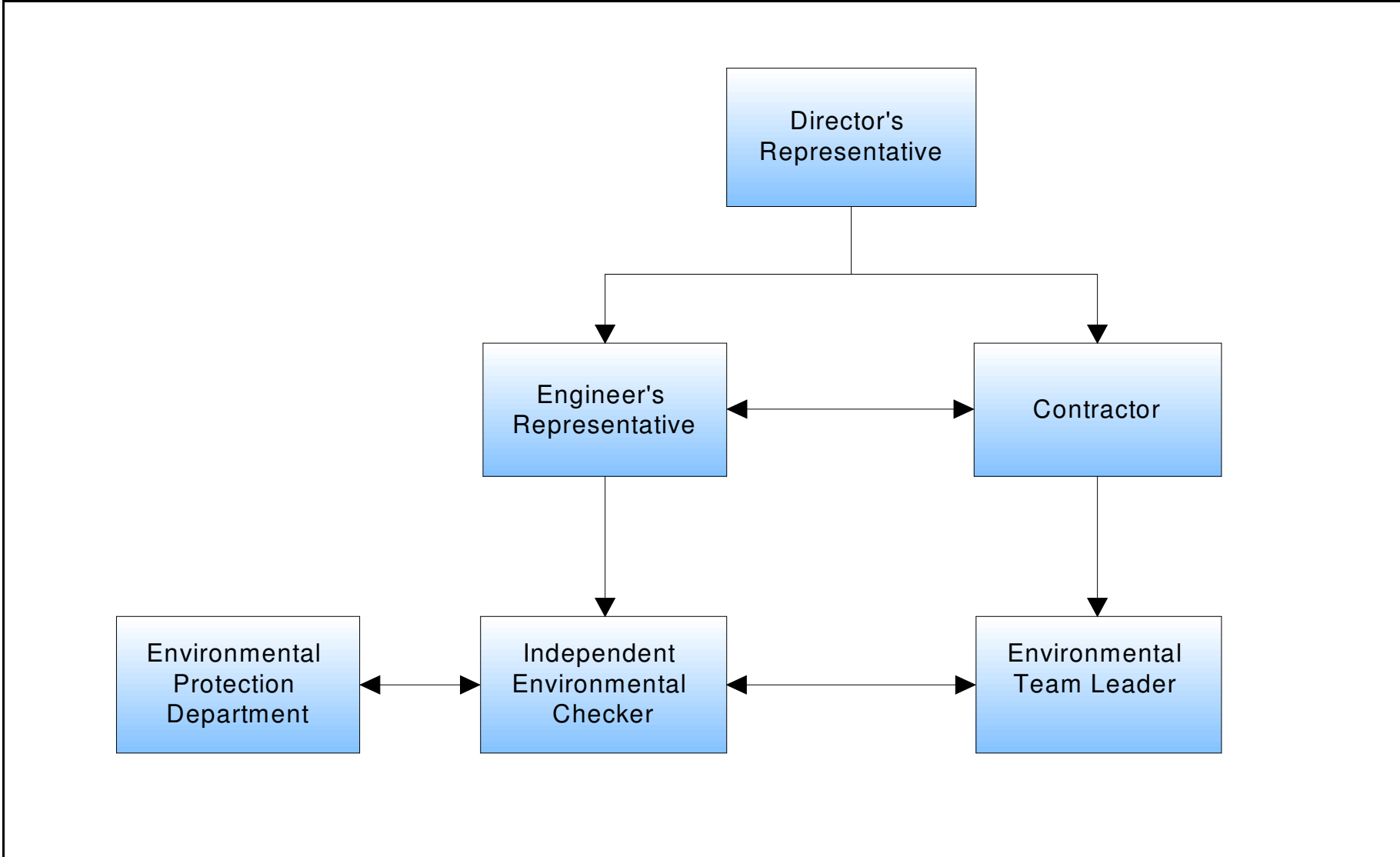
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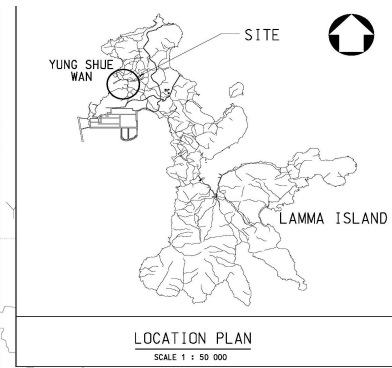
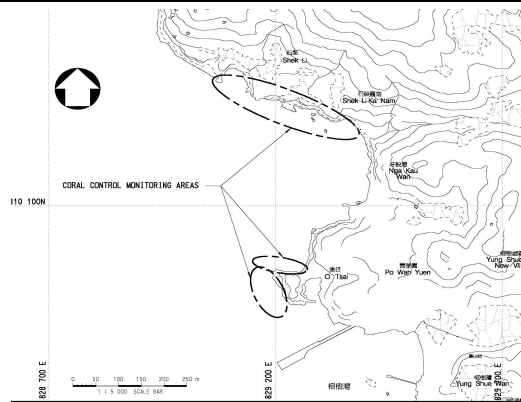




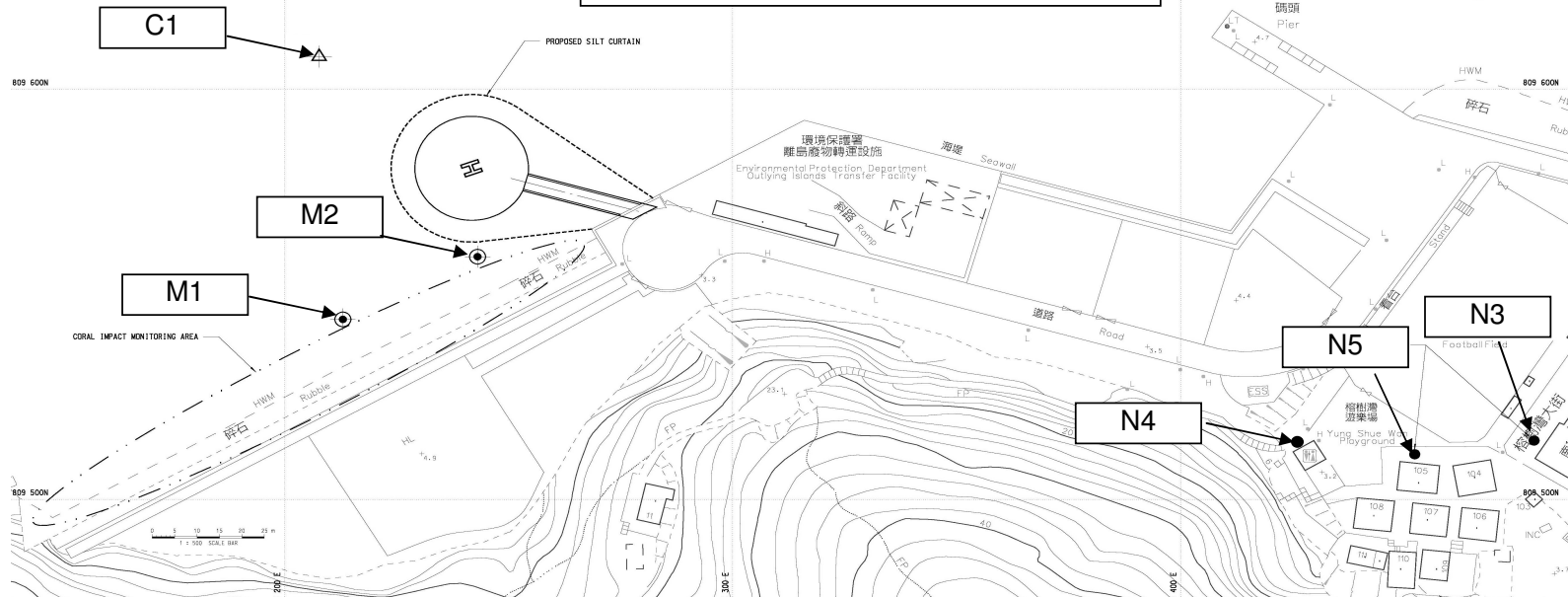
Title Contract No. CV/2004/03 Maintenance and Repairs to Franchised and Licensed Ferry Piers (2005 – 2008) Construction of Yung Shue Wan Helipad – Works Order No. YSWH/01/03  Site Layout Plan	Scale N.T.S	Project No. MA7018	<b>CINOTECH</b>
	Date May-08	Figure 1.1	



Title	Contract No. CV/2004/03 Maintenance and Repairs to Franchised and Licensed Ferry Piers (2005 – 2008) Construction of Yung Shue Wan Helipad – Works Order No. YSWH/01/03	Scale	N.T.S	Propos	MA7018	CINOTECH
		Date	May-08	Figure		
Project Organization Chart						



**Water Quality Monitoring Stations**  
 - C1, M1 & M2  
**Noise Monitoring Stations (Baseline)**  
 - N3 & N4  
**Noise Monitoring Stations (Impact)**  
 - N3 & N5



Title Contract No. CV/2004/03  
 Maintenance and Repairs to Franchised and Licensed Ferry Piers (2005 – 2008)  
 Construction of Yung Shue Wan Helipad – Works Order No. YSWH/01/03  
 Location of Noise and Water Quality Monitoring Stations

Scale	N.T.S	Project No.	MA7018
Date	May-08	Figure	3.1



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**APPENDIX A  
ACTION AND LIMIT LEVELS**

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## Action and Limit Levels

**Table A-1 Action and Limit Level for Construction Noise**

Time Period	Action Level	Limit Level
0700-1900 hrs on normal weekdays	When one documented complaint is received	75 dB(A)

**Table A-2 Action and Limit Level for Water Quality**

Parameter (unit)	Action	Limit
Dissolved Oxygen (mg/L) (surface, middle, bottom)	<i>Surface and middle</i> 5%-ile of baseline for surface and middle layers  <i>Bottom</i> 5%-ile of baseline for bottom layer	<i>Surface and middle</i> 4 mg/L or 1%-ile of baseline for surface and middle layers  <i>Bottom</i> 2 mg/L or 1%-ile of baseline for bottom layer
SS (mg/L) Depth average	95%-ile of baseline data or 120% of upstream control station's SS at the same tide of the same day.	99%-ile of baseline or 130% of SS readings at the upstream control station at the same tide of same day and specific sensitive receiver water quality requirements.
Turbidity (NTU) (depth average)	95%-ile of baseline data or 120% of upstream control station's turbidity at the same tide of the same day.	99%-ile of baseline or 130% of turbidity at the upstream control station at the same tide of same day.

**Notes:**

- "Depth-averaged" is calculated by taking the arithmetic means of reading all three depths.
- For DO, non-compliance of the water quality limit occurs when monitoring result is lower than the limit.
- For SS & turbidity non-compliance of the water quality limits occur when monitoring result is higher than the limits.
- All the figures given in the table are used for reference only and the Engineer may amend the figures whenever it is considered as necessary

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**APPENDIX B  
COPIES OF CALIBRATION  
CERTIFCATES**

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## TEST REPORT

**APPLICANT:** Cinotech Consultants Limited  
Room 1710, Technology Park,  
18 On Lai Street,  
Shatin, NT, Hong Kong

Test Report No.:	C/N/71213/1
Date of Issue:	2007-12-14
Date Received:	2007-12-13
Date Tested:	2007-12-14
Date Completed:	2007-12-14
Next Due Date:	2008-12-13

**ATTN:** Mr. Henry Leung

Page: 1 of 1

### Certificate of Calibration

**Item for calibration:**

Description	: Integrating Sound Level Meter
Manufacturer	: Brüel & Kjær
Model No.	: B&K 2238
Serial No.	: 2337665
Microphone No.	: 2289749
Equipment No.	: N-01-01

**Test conditions:**

Room Temperature	: 20 degree Celsius
Relative Humidity	: 60%

**Test Specifications:**

Performance checking at 94 and 114 dB

**Methodology:**

In-house method, according to manufacturer instruction manual

**Results:**

Reference Set Point, dB	Instrument Readings, dB
94	94.0
114	114.0

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**



**PATRICK TSE**  
Senior Chemist

## TEST REPORT

**APPLICANT:** Cinotech Consultants Limited  
1601-1610 Delta House,  
3 On Yiu Street,  
Shatin, N.T.

Test Report No.:	C/N/70903-1
Date of Issue:	2007-09-03
Date Received:	2007-09-01
Date Tested:	2007-09-03
Date Completed:	2007-09-03
Next Due Date:	2008-09-02

**ATTN:** Mr. Henry Leung

Page: 1 of 1

### Certificate of Calibration

**Item for calibration:**

Description	: Integrating Sound Level Meter
Manufacturer	: Brüel & Kjær
Model No.	: B&K 2238
Serial No.	: 2359311
Microphone No.	: 2346382
Equipment No.	: N-01-03

**Test conditions:**

Room Temperature	: 22 degree Celsius
Relative Humidity	: 62%

**Test Specifications:**

Performance checking at 94 and 114 dB

**Methodology:**

In-house method, according to manufacturer instruction manual

**Results:**

Reference Set Point, dB	Instrument Readings, dB
94	94.0
114	114.0

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**



**PATRICK TSE**  
Senior Chemist



## TEST REPORT

**APPLICANT:** Cinotech Consultants Limited  
1602-1610 Delta House,  
3 On Yiu Street,  
Shatin, N.T.

Test Report No.:	C/N/70903-2
Date of Issue:	2007-09-03
Date Received:	2007-09-01
Date Tested:	2007-09-03
Date Completed:	2007-09-03
Next Due Date:	2008-09-02

**ATTN:** Mr. Henry Leung

Page: 1 of 1

### Certificate of Calibration

**Item for calibration:**

Description	: Integrating Sound Level Meter
Manufacturer	: Brüel & Kjær
Model No.	: B&K 2238
Serial No.	: 2359303
Equipment No.	: N-01-04

**Test conditions:**

Room Temperature	: 22 degree Celsius
Relative Humidity	: 62%

**Test Specifications:**

Performance checking at 94 and 114 dB

**Methodology:**

In-house method, according to manufacturer instruction manual

**Results:**

Reference Set Point, dB	Instrument Readings, dB
94	94.0
114	114.0

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**



**PATRICK TSE**  
Senior Chemist

## TEST REPORT

**APPLICANT:** Cinotech Consultants Limited  
Room 1710, Technology Park,  
18 On Lai Street,  
Shatin, NT, Hong Kong

Test Report No.:	C/N/71015/1
Date of Issue:	2007-10-15
Date Received:	2007-10-13
Date Tested:	2007-10-13
Date Completed:	2007-10-15
Next Due Date:	2008-10-14

**ATTN:** Mr. Henry Leung

Page: 1 of 1

### Certificate of Calibration

**Item for calibration:**

Description	: Integrating Sound Level Meter
Manufacturer	: Brüel & Kjær
Model No.	: B&K 2238
Serial No.	: 2394976
Microphone No.	: 2407349
Equipment No.	: N-01-05

**Test conditions:**

Room Temperature	: 21 degree Celsius
Relative Humidity	: 60%

**Test Specifications:**

Performance checking at 94 and 114 dB

**Methodology:**

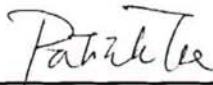
In-house method, according to manufacturer instruction manual

**Results:**

Reference Set Point, dB	Instrument Readings, dB
94	94.0
114	114.0

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**



**PATRICK TSE**  
Senior Chemist

## TEST REPORT

**APPLICANT:** Cinotech Consultants Limited  
Room 1710, Technology Park,  
18 On Lai Street,  
Shatin, NT, Hong Kong

Test Report No.:	C/N/71116/2
Date of Issue:	2007-11-16
Date Received:	2007-11-15
Date Tested:	2007-11-15
Date Completed:	2007-11-16
Next Due Date:	2008-11-15

**ATTN:** Mr. Henry Leung

Page: 1 of 1

### Item for calibration:

Description	: Acoustical Calibrator
Manufacturer	: Brüel & Kjær
Model No.	: 4231
Serial No.	: 2326353
Project No.	: C13
Equipment No.	: N-02-01

### Test conditions:

Room Temperature	: 20 degree Celsius
Relative Humidity	: 59%
Pressure	: 1015.2 hPa

### Methodology:

The sound calibrator has been calibrated in accordance with the documented procedures and using standard(s) and instrument(s) which are recommended by the manufacturer, or equivalent.

### Results:

Sound Pressure Level	Measured SPL	Tolerance
At 94 dB SPL	94.0	94.0 ± 0.1 dB

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**



**PATRICK TSE**  
Senior Chemist

## TEST REPORT

**APPLICANT:** Cinotech Consultants Limited  
Room 1710, Technology Park,  
18 On Lai Street,  
Shatin, NT, Hong Kong

Test Report No.:	C/06/80305
Date of Issue:	2008-03-05
Date Received:	2008-03-03
Date Tested:	2008-03-03
Date Completed:	2008-03-05
Next Due Date:	2009-03-04

**ATTN:** Mr. Henry Leung

Page: 1 of 1

### Item for calibration:

Description	: Acoustical Calibrator
Manufacturer	: Brüel & Kjær
Model No.	: 4231
Serial No.	: 2343007
Project No.	: C13
Equipment No.	: N-02-02

### Test conditions:

Room Temperature	: 20 degree Celsius
Relative Humidity	: 65%
Pressure	: 1020.1hPa

### Methodology:

The sound calibrator has been calibrated in accordance with the documented procedures and using standard(s) and instrument(s) which are recommended by the manufacturer, or equivalent.

### Results:

Sound Pressure Level	Measured SPL	Tolerance
At 94 dB SPL	94.0	94.0 ± 0.2 dB

PREPARED AND CHECKED BY:

For and On Behalf of **WELLAB Ltd.**



**PATRICK TSE**

Laboratory Manager

## TEST REPORT

**APPLICANT:** Cinotech Consultants Limited  
Room 1710, Technology Park,  
18 On Lai Street,  
Shatin, NT, Hong Kong

Test Report No.:	C/W/80505-1
Date of Issue:	2008-05-06
Date Received:	2008-05-05
Date Tested:	2008-05-05
Date Completed:	2008-05-06
Next Due Date:	2008-08-05

**ATTN:** Mr. Henry Leung

Page: 1 of 2

### Certificate of Calibration

**Item for calibration:**

Description : Sonde Environmental Monitoring System  
Manufacturer : YSI  
Model No. : 6820-C-M  
Serial No. : 02D0126AA  
Equipment No. : W.03.01  
Project No. : C013

**Test conditions:**

Room Temperature : 21 degree Celsius  
Relative Humidity : 62%

**Test Specifications:**

Conductivity & Salinity Sensor, Model: 6560, S/N: 05A1209  
1. Conductivity performance check with Potassium Chloride standard solution  
2. Salinity performance check with Sodium Chloride standard solution  
Dissolved Oxygen Sensor, Model: 6562, S/N: 04A0145  
1. Performance check against Winkler titration  
Turbidity Sensor, Model: 6136, S/N: 05A1610AJ  
1. Calibration check with Formazin standard solution  
pH Meter, Model: 6561, S/N: 01J  
1. Calibration check with standard pH buffer  
Depth Meter  
1. Calibration check at 1m water level depth

**Methodologies:**

1. YSI 6-Series Sonde Environmental Monitoring System Instruction Manual  
2. In-house method with reference to APHA and ISO standards

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
Laboratory Manager

## TEST REPORT

Test Report No.:	C/W/80505-1
Date of Issue:	2008-05-06
Date Received:	2008-05-05
Date Tested:	2008-05-05
Date Completed:	2008-05-06
Next Due Date:	2008-08-05

Page: 2 of 2

### Results:

#### 1. Conductivity performance check

Specific Conductivity, $\mu\text{S}/\text{cm}$		Correction, $\mu\text{S}/\text{cm}$	Acceptable range
Salinity Meter (C1)	Theoretical Value (C2)	$D = C1 - C2$	
1421	1420	2	$1420 \pm 20$

#### 2. Salinity Performance check

Salinity, ppt		Correction, ppt	Acceptable range
Instrument Reading	Theoretical Value		
30.0	30.0	0.0	$30.0 \pm 3$

#### 3. Dissolved Oxygen check

Oxygen level in water at 20°C	Dissolved Oxygen, mg O <sub>2</sub> /L		Correction, mg O <sub>2</sub> /L	Acceptable range
	D.O. Meter	Winkler Titration		
Saturated	9.1	9.1	0.0	$\pm 0.2$
Half-saturated	5.6	5.6	0.0	$\pm 0.2$
Zero	0.0	0.0	0.0	$\pm 0.2$

#### 4. Turbidity check

Turbidity value in solution, NTU	Calibration Value, NTU	Correction, NTU	Acceptable range
0.00	0.00	0.00	$0.00 \pm 0.05$
100	100	0	$100 \pm 5$

#### 5. pH Meter check

Test Parameters	Performance characteristic	Acceptable range
Liquid junction error $\Delta\text{pH}_j$ , pH unit	0.01	Less than 0.05
Shift on stirring $\Delta\text{pH}_s$ , pH unit	0.01	Less than 0.02
Noise $\Delta\text{pH}_n$ , pH unit	0.00	Less than 0.02

#### 6. Depth Meter check

Instrument Reading, m	Calibration Value, m	Correction, m	Acceptable range
1.0	1.00	0.00	$1.00 \pm 0.05$

\*\*\*\*\*END OF REPORT\*\*\*\*\*



## TEST REPORT

**APPLICANT:** Cinotech Consultants Limited  
Room 1710, Technology Park,  
18 On Lai Street,  
Shatin, NT, Hong Kong

Test Report No.:	C/W/80505-2
Date of Issue:	2008-05-06
Date Received:	2008-05-05
Date Tested:	2008-05-05
Date Completed:	2008-05-06
Next Due Date:	2008-08-05

**ATTN:** Mr. Henry Leung

Page: 1 of 2

### Certificate of Calibration

**Item for calibration:**

Description : Sonde Environmental Monitoring System  
Manufacturer : YSI  
Model No. : 6820-C-M  
Serial No. : 02D0293AA  
Equipment No. : W.03.02  
Project No. : C013

**Test conditions:**

Room Temperature : 21 degree Celsius  
Relative Humidity : 62%

**Test Specifications:**

Conductivity & Salinity Sensor, Model: 6560, S/N: 02C0886  
1. Conductivity performance check with Potassium Chloride standard solution  
2. Salinity performance check with Sodium Chloride standard solution  
Dissolved Oxygen Sensor, Model: 6562, S/N: 0261137  
1. Performance check against Winkler titration  
Turbidity Sensor, Model: 6136, S/N: 05F2030AQ  
1. Calibration check with Formazin standard solution  
pH Meter, Model: 6561, S/N: 02A  
1. Calibration check with standard pH buffer  
Depth Meter  
1. Calibration check at 1m water level depth

**Methodologies:**

1. YSI 6-Series Sonde Environmental Monitoring System Instruction Manual  
2. In-house method with reference to APHA and ISO standards

*PREPARED AND CHECKED BY:*  
For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
Laboratory Manager

## TEST REPORT

Test Report No.:	C/W/80505-2
Date of Issue:	2008-05-06
Date Received:	2008-05-05
Date Tested:	2008-05-05
Date Completed:	2008-05-06
Next Due Date:	2008-08-05
Page:	2 of 2

### Results:

#### 1. Conductivity performance check

Specific Conductivity, $\mu\text{S}/\text{cm}$		Correction, $\mu\text{S}/\text{cm}$	Acceptable range
Salinity Meter (C1)	Theoretical Value (C2)	$D = C1 - C2$	
1420	1420	0	$1420 \pm 20$

#### 2. Salinity Performance check

Salinity, ppt		Correction, ppt	Acceptable range
Instrument Reading	Theoretical Value		
30.1	30.0	0.1	$30.0 \pm 3$

#### 3. Dissolved Oxygen check

Oxygen level in water at 20°C	Dissolved Oxygen, mg O <sub>2</sub> /L		Correction, mg O <sub>2</sub> /L	Acceptable range
	D.O. Meter	Winkler Titration		
Saturated	9.0	9.0	0.0	$\pm 0.2$
Half-saturated	5.8	5.8	0.0	$\pm 0.2$
Zero	0.0	0.0	0.0	$\pm 0.2$

#### 4. Turbidity check

Turbidity value in solution, NTU	Calibration Value, NTU	Correction, NTU	Acceptable range
0.00	0.00	0.00	$0.00 \pm 0.05$
100	100	0	$100 \pm 5$

#### 5. pH Meter check

Test Parameters	Performance characteristic	Acceptable range
Liquid junction error $\Delta\text{pH}_j$ , pH unit	0.01	Less than 0.05
Shift on stirring $\Delta\text{pH}_s$ , pH unit	0.01	Less than 0.02
Noise $\Delta\text{pH}_n$ , pH unit	0.01	Less than 0.02

#### 6. Depth Meter check

Instrument Reading, m	Calibration Value, m	Correction, m	Acceptable range
1.0	1.00	0.00	$1.00 \pm 0.05$

\*\*\*\*\*END OF REPORT\*\*\*\*\*



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**APPENDIX C  
QUALITY CONTROL REPORTS FOR SS  
LABORATORY ANALYSIS**

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**TEST REPORT**  
**QC REPORT**

**APPLICANT: Cinotech Consultants Limited**  
**RM 1710, Technology Park,**  
**18 On Lai Street,**  
**Shatin, N.T., Hong Kong**

Laboratory No.:	06729
Date of Issue:	2008/06/06
Date Received:	2008/06/05
Date Tested:	2008/06/05
Date Completed:	2008/06/06

Page: 1 of 1

**ATTN: Mr. Henry Leung**

Sampling Site: Construction of Yung Shue Wan Helipad  
Project No.: MA7018  
Sampling Date: 2008/06/05  
Number of Sample: 28  
Custody No.: MA7018/80605

\*\*\*\*\*

Total Suspended Solids	Duplicate Analysis			QC Recovery, %
Sampling Point	Trial 1, mg/L	Trial 2, mg/L	Difference, %	
C1BF	17	18	5	92

\*\*\*\*\*END OF REPORT\*\*\*\*\*

*PREPARED AND CHECKED BY:*  
For and On Behalf of **WELLAB Ltd.**



**PATRICK TSE**  
*Laboratory Manager*

**TEST REPORT**

**QC REPORT**

**APPLICANT: Cinotech Consultants Limited**  
**RM 1710, Technology Park,**  
**18 On Lai Street,**  
**Shatin, N.T., Hong Kong**

Laboratory No.:	06759
Date of Issue:	2008/06/12
Date Received:	2008/06/11
Date Tested:	2008/06/11
Date Completed:	2008/06/12

**ATTN: Mr. Henry Leung**

Page: 1 of 1

Sampling Site: Construction of Yung Shue Wan Helipad  
Project No.: MA7018  
Sampling Date: 2008/06/11  
Number of Sample: 28  
Custody No.: MA7018/80611

\*\*\*\*\*

Total Suspended Solids	Duplicate Analysis			QC Recovery, %
Sampling Point	Trial 1, mg/L	Trial 2, mg/L	Difference, %	
C1BF	12	13	4	96

\*\*\*\*\*END OF REPORT\*\*\*\*\*

*PREPARED AND CHECKED BY:*  
For and On Behalf of **WELLAB Ltd.**



**PATRICK TSE**  
*Laboratory Manager*

**TEST REPORT**

**QC REPORT**

**APPLICANT: Cinotech Consultants Limited**  
**RM 1710, Technology Park,**  
**18 On Lai Street,**  
**Shatin, N.T., Hong Kong**

Laboratory No.:	06787
Date of Issue:	2008/06/18
Date Received:	2008/06/17
Date Tested:	2008/06/17
Date Completed:	2008/06/18

**ATTN: Mr. Henry Leung**

Page: 1 of 1

Sampling Site: Construction of Yung Shue Wan Helipad  
Project No.: MA7018  
Sampling Date: 2008/06/17  
Number of Sample: 28  
Custody No.: MA7018/80617

\*\*\*\*\*

Total Suspended Solids	Duplicate Analysis			QC Recovery, %
Sampling Point	Trial 1, mg/L	Trial 2, mg/L	Difference, %	
C1BF	16	15	12	93

\*\*\*\*\*END OF REPORT\*\*\*\*\*

*PREPARED AND CHECKED BY:*  
For and On Behalf of **WELLAB Ltd.**



**PATRICK TSE**  
*Laboratory Manager*

**TEST REPORT**

**QC REPORT**

**APPLICANT: Cinotech Consultants Limited**  
**RM 1710, Technology Park,**  
**18 On Lai Street,**  
**Shatin, N.T., Hong Kong**

Laboratory No.:	06859
Date of Issue:	2008/06/27
Date Received:	2008/06/26
Date Tested:	2008/06/26
Date Completed:	2008/06/27

**ATTN: Mr. Henry Leung**

Page: 1 of 1

Sampling Site: Construction of Yung Shue Wan Helipad  
Project No.: MA7018  
Sampling Date: 2008/06/26  
Number of Sample: 28  
Custody No.: MA7018/80626

\*\*\*\*\*

Total Suspended Solids	Duplicate Analysis			QC Recovery, %
Sampling Point	Trial 1, mg/L	Trial 2, mg/L	Difference, %	
C1BF	17	18	8	95

\*\*\*\*\*END OF REPORT\*\*\*\*\*

*PREPARED AND CHECKED BY:*  
For and On Behalf of **WELLAB Ltd.**



**PATRICK TSE**  
*Laboratory Manager*

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**APPENDIX D  
ENVIRONMENTAL MONITORING  
SCHEDULES**

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**Contract No. CV/2004/03 - Maintenance and Repairs to Franchised and Licensed Ferry Piers (2005 – 2008)**  
**Construction of Yung Shue Wan Helipad – Works Order No. YSWH/01/03**  
**Impact Water Quality Monitoring Schedule for June 2008**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
<b>1-Jun</b>	2-Jun	3-Jun	4-Jun	5-Jun	6-Jun	7-Jun
				Mid-Flood 8:00 Mid-Ebb 13:30		
<b>8-Jun</b>	<b>9-Jun</b>	10-Jun	11-Jun	12-Jun	13-Jun	14-Jun
			Mid-Flood 12:15 Mid-Ebb 18:00			
<b>15-Jun</b>	16-Jun	17-Jun	18-Jun	19-Jun	20-Jun	21-Jun
		Mid-Ebb 11:43 Mid-Flood 18:00				
<b>22-Jun</b>	23-Jun	24-Jun	25-Jun	26-Jun	27-Jun	28-Jun
				Mid-Flood 10:55 Mid-Ebb 17:19		
<b>29-Jun</b>	30-Jun	1-Jul	2-Jul	3-Jul	4-Jul	5-Jul

The schedule may be changed due to unforeseen circumstances (adverse weather, etc)  
 NA indicated favourable tide occurs during non-working hours

**Contract No. CV/2004/03 - Maintenance and Repairs to Franchised and Licensed Ferry Piers (2005 – 2008)**  
**Construction of Yung Shue Wan Helipad – Works Order No. YSWH/01/03**  
**Tentative Impact Water Quality Monitoring Schedule for July 2008**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1-Jul	2-Jul	3-Jul	4-Jul	5-Jul
				Mid-Flood 8:00 Mid-Ebb 12:25		
<b>6-Jul</b>	7-Jul	8-Jul	9-Jul	10-Jul	11-Jul	12-Jul
	Mid-Flood 8:38 Mid-Ebb 15:34		Mid-Flood 10:21 Mid-Ebb 16:51		Mid-Ebb 8:00 Mid-Flood 13:24	
<b>13-Jul</b>	14-Jul	15-Jul	16-Jul	17-Jul	18-Jul	19-Jul
	Mid-Ebb 10:13 Mid-Flood 18:00		Mid-Ebb 11:24 Mid-Flood 18:00		Mid-Ebb 12:32 Mid-Flood 18:00	
<b>20-Jul</b>	21-Jul	22-Jul	23-Jul	24-Jul	25-Jul	26-Jul
	Mid-Flood 8:00 Mid-Ebb 14:17		Mid-Flood 8:54 Mid-Ebb 15:23		Mid-Flood 10:43 Mid-Ebb 16:41	
<b>27-Jul</b>	28-Jul	29-Jul	30-Jul	31-Jul	1-Aug	2-Aug
	Mid-Ebb 8:39 Mid-Flood 16:21		Mid-Ebb 10:34 Mid-Flood 18:00		Mid-Ebb 12:18 Mid-Flood 18:00	

The schedule may be changed due to unforeseen circumstances (adverse weather, etc)  
 NA indicated favourable tide occurs during non-working hours



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**APPENDIX E  
NOISE MONITORING RESULTS AND  
GRAPHICAL PRESENTATION**

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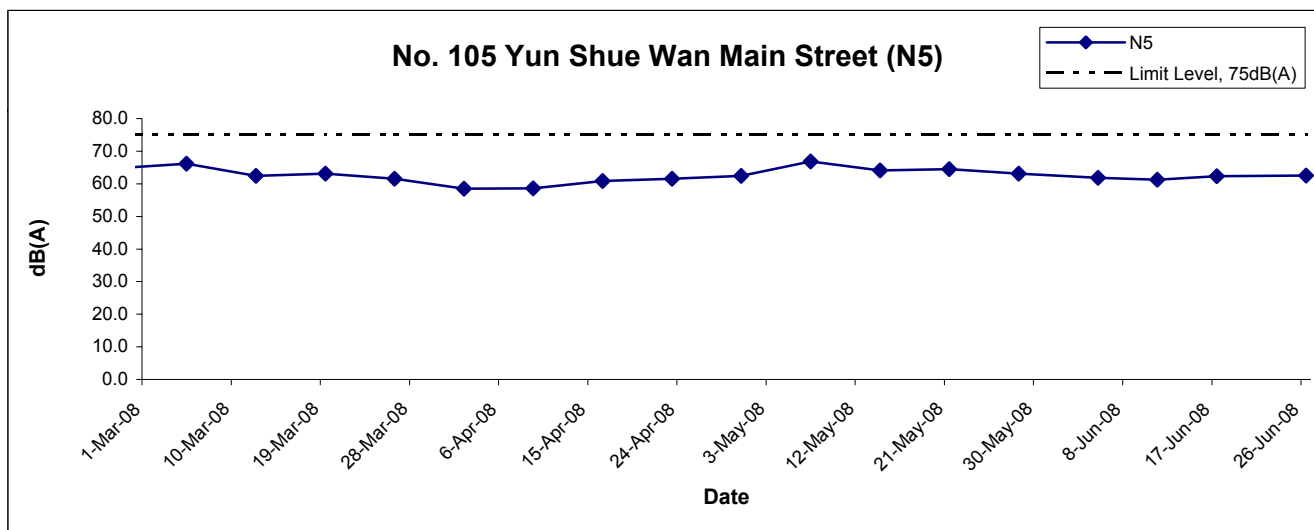
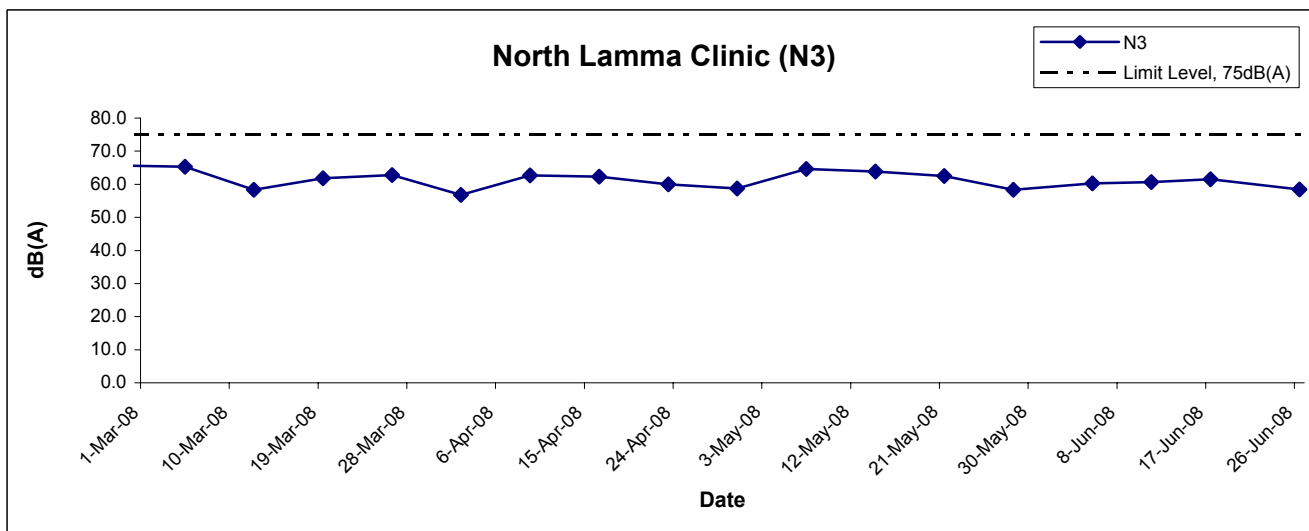
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## Appendix E - Noise Monitoring Results

Location N3 - North Lamma Clinic					
Date	Time	Weather	dB (A) (30-min)		
			L <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>
5-Jun-08	09:30	Cloudy	60.3	62.5	59.0
11-Jun-08	15:05	Sunny	60.7	62.0	59.0
17-Jun-08	15:35	Cloudy	61.5	63.0	60.0
26-Jun-08	13:00	Cloudy	58.4	62.5	54.5
		Average	60.4	62.5	58.6
		Minimum	58.4	62.0	54.5
		Maximum	61.5	63.0	60.0

Location N5 - No. 105 Yun Shue Wan Main Street					
Date	Time	Weather	dB (A) (30-min)		
			L <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>
5-Jun-08	10:05	Cloudy	61.8	63.5	60.0
11-Jun-08	14:30	Sunny	61.3	62.5	59.0
17-Jun-08	15:00	Cloudy	62.3	63.5	60.0
26-Jun-08	14:00	Cloudy	62.5	66.0	56.5
		Average	62.0	64.1	59.1
		Minimum	61.3	62.5	56.5
		Maximum	62.5	66.0	60.0

## Noise Levels



Title Contract No. CV/2004/03 Maintenance and Repairs to Franchised and Licensed Ferry Piers (2005 - 2008) Construction of Yung Shue Wan Helipad - Works Order No. YSWH/01/03  Graphical Presentation of Construction Noise Monitoring Results	Scale N.T.S	Project No. MA7018	
	Date Jun 08	Appendix E	

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**APPENDIX F  
WATER QUALITY MONITORING  
RESULTS AND GRAPHICAL  
PRESENTATION**

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### Water Quality Monitoring Results at C1 - Mid-Ebb Tide

Date	Weather Condition	Sea Condition**	Sampling Time	Depth (m)	Water Temperature (°C)		Ambient Temperature (°C)		pH		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)			
					Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*	
5-Jun-08	Fine	Moderate	13:24	Surface	1	27.0 26.9	27.0	26.9 26.9	26.9	7.3 7.3	7.3	31.7 31.7	31.7	87.3 87.2	87.3	6.8 6.8	6.8	6.8	4.7 4.4	4.6	4.6	19.0 20.0	19.5	22.2
				Middle	3	26.9 26.9	26.9	26.9 26.9	26.9	7.2 7.3	7.3	31.7 31.7	31.7	86.6 86.5	86.6	6.7 6.7	6.7		4.6 4.6	4.6		19.0 19.0	19.0	
				Bottom	5	26.9 26.8	26.9	26.9 26.9	26.9	7.3 7.3	7.3	31.6 31.6	31.6	87.8 87.6	87.7	6.8 6.8	6.8		4.6 4.6	4.6		28.0 28.0	28.0	
11-Jun-08	Rainy	Moderate	17:55	Surface	1	25.6 25.6	25.6	27.3 27.3	27.3	7.4 7.4	7.4	31.9 31.9	31.9	87.3 87.5	87.4	6.9 6.9	6.9	7.0	4.5 4.4	4.5	4.5	11.0 12.0	11.5	10.5
				Middle	3	25.5 25.5	25.5	27.3 27.3	27.3	7.4 7.4	7.4	31.8 31.9	31.9	90.2 90.6	90.4	7.1 7.1	7.1		4.5 4.5	4.5		11.0 11.0	11.0	
				Bottom	5	25.7 25.7	25.7	27.3 27.3	27.3	7.4 7.4	7.4	31.9 31.9	31.9	89.3 89.1	89.2	7.0 7.0	7.0		4.4 4.4	4.4		9.0 9.0	9.0	
17-Jun-08	Rainy	Moderate	11:33	Surface	1	25.4 25.4	25.4	24.7 24.7	24.7	7.4 7.4	7.4	30.8 30.8	30.8	86.2 86.2	86.2	6.7 6.7	6.7	6.7	4.2 4.1	4.2	4.5	15.0 15.0	15.0	13.7
				Middle	3	25.5 25.5	25.5	24.7 24.7	24.7	7.4 7.4	7.4	30.8 30.8	30.8	84.3 84.4	84.4	6.6 6.6	6.6		4.2 4.2	4.2		15.0 15.0	15.0	
				Bottom	5	25.3 25.3	25.3	24.7 24.7	24.7	7.5 7.5	7.5	30.8 30.8	30.8	81.4 81.1	81.3	6.4 6.4	6.4		5.2 5.1	5.2		11.0 11.0	11.0	
26-Jun-08	Rainy	Moderate	16:32	Surface	1	28.1 28.1	28.1	27.8 27.8	27.8	7.3 7.3	7.3	30.3 30.3	30.3	91.5 91.2	91.4	6.4 6.4	6.4	6.3	3.6 3.3	3.5	4.5	13.0 13.0	13.0	15.5
				Middle	3	28.2 28.3	28.3	27.8 27.8	27.8	7.3 7.3	7.3	30.5 30.8	30.7	90.7 88.0	89.4	6.3 6.1	6.2		3.7 3.7	3.7		15.0 15.0	15.0	
				Bottom	5	28.3 28.3	28.3	27.8 27.8	27.8	7.3 7.3	7.3	31.1 31.0	31.1	82.1 82.8	82.5	5.7 5.8	5.8		6.3 6.3	6.3		19.0 18.0	18.5	

### Water Quality Monitoring Results at C1 - Mid-Flood Tide

Date	Weather Condition	Sea Condition**	Sampling Time	Depth (m)	Water Temperature (°C)		Ambient Temperature (°C)		pH		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)			
					Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*	
5-Jun-08	Sunny	Moderate	07:51	Surface	1	26.2 26.2	26.2	24.3 24.3	24.3	7.3 7.3	7.3	31.6 31.7	31.7	88.4 86.8	87.6	7.0 6.8	6.9	6.8	4.2 4.2	4.2	4.3	19.0 18.0	18.5	17.8
				Middle	3	26.2 26.2	26.2	24.3 24.3	24.3	7.3 7.3	7.3	31.7 31.7	31.7	84.4 84.2	84.3	6.6 6.6	6.6		4.6 4.5	4.6		18.0 18.0	18.0	
				Bottom	5	26.1 26.1	26.1	24.3 24.3	24.3	7.3 7.3	7.3	31.7 31.7	31.7	84.0 84.0	84.0	6.6 6.6	6.6		4.1 4.1	4.1		17.0 17.0	17.0	
11-Jun-08	Rainy	Moderate	12:08	Surface	1	25.6 25.6	25.6	28.2 28.2	28.2	7.5 7.5	7.5	31.7 31.7	31.7	87.0 86.7	86.9	6.9 6.9	6.9	6.9	4.0 4.1	4.1	4.4	13.0 13.0	13.0	12.3
				Middle	3	25.7 25.6	25.7	28.2 28.2	28.2	7.4 7.4	7.4	31.8 31.8	31.8	86.1 86.0	86.1	6.9 6.8	6.9		4.2 4.2	4.2		12.0 12.0	12.0	
				Bottom	5	25.3 25.3	25.3	28.2 28.2	28.2	7.5 7.5	7.5	31.8 31.8	31.8	84.6 84.3	84.5	6.7 6.7	6.7		4.8 4.8	4.8		12.0 12.0	12.0	
17-Jun-08	Rainy	Moderate	17:56	Surface	1	25.2 25.2	25.2	24.5 24.5	24.5	7.4 7.4	7.4	29.8 29.8	29.8	86.9 86.6	86.8	6.8 6.7	6.8	6.8	4.1 4.1	4.1	4.7	11.0 11.0	11.0	12.7
				Middle	3	25.1 25.1	25.1	24.5 24.5	24.5	7.5 7.6	7.6	29.9 29.9	29.9	87.4 87.2	87.3	6.8 6.8	6.8		4.8 4.7	4.8		11.0 11.0	11.0	
				Bottom	5	25.0 25.0	25.0	24.5 24.5	24.5	7.5 7.4	7.5	29.7 29.8	29.8	87.4 86.9	87.2	6.8 6.7	6.8		5.3 5.2	5.3		16.0 16.0	16.0	
26-Jun-08	Rainy	Moderate	11:01	Surface	1	29.6 29.7	29.7	28.1 28.1	28.1	7.3 7.3	7.3	30.8 30.9	30.9	84.6 85.6	85.1	7.2 6.9	7.1	6.9	3.7 4.0	3.9	4.8	16.0 16.0	16.0	15.5
				Middle	3	29.1 29.1	29.1	28.1 28.1	28.1	7.3 7.3	7.3	31.1 31.1	31.1	74.4 72.7	73.6	6.7 6.6	6.7		4.4 4.6	4.5		15.0 15.0	15.0	
				Bottom	5	27.3 27.2	27.3	28.1 28.1	28.1	7.3 7.2	7.3	33.8 33.9	33.9	71.1 70.4	70.8	5.1 4.6	4.9		6.4 5.7	6.1		17.0 17.0	17.0	

Remarks: \* DA: Depth-Averaged  
 \*\* Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher  
 \*\*\* Cancelled due to Thunderstorm Warning

### Water Quality Monitoring Results at M1 - Mid-Ebb Tide

Date	Weather Condition	Sea Condition**	Sampling Time	Depth (m)	Water Temperature (°C)		Ambient Temperature (°C)		pH		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)						
					Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*				
5-Jun-08	Fine	Moderate	13:31	Surface	1	27.1 27.1	27.1	26.9 26.9	26.9	7.3 7.3	7.3	31.7 31.7	31.7	87.0 86.8	86.9	6.8 6.8	6.8	6.8	4.5 4.4	4.5	4.5	27.0 26.0	26.5	26.3			
				Middle	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-		-	-		-	-	-
				Bottom	3	27.1 27.1	27.1	26.9 26.9	26.9	7.4 7.4	7.4	31.7 31.7	31.7	86.5 86.4	86.5	6.7 6.7	6.7		6.7	6.7		4.4 4.3	4.4		4.4	26.0 26.0	26.0
11-Jun-08	Rainy	Moderate	18:01	Surface	1	25.5 25.6	25.6	27.3 27.3	27.3	7.5 7.5	7.5	31.9 31.9	31.9	88.8 88.7	88.8	6.9 6.9	6.9	6.9	4.5 4.5	4.5	4.4	8.0 8.0	8.0	8.8			
				Middle	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-		-	-		-	-	-
				Bottom	3	25.5 25.5	25.5	27.3 27.3	27.3	7.5 7.5	7.5	31.9 31.9	31.9	86.3 86.0	86.2	6.7 6.7	6.7		6.7	6.7		4.3 4.2	4.3		4.3	9.0 10.0	9.5
17-Jun-08	Rainy	Moderate	11:40	Surface	1	25.5 25.5	25.5	24.7 24.7	24.7	7.5 7.5	7.5	30.8 30.8	30.8	87.0 86.5	86.8	6.9 6.8	6.9	6.9	4.1 4.1	4.1	4.2	11.0 11.0	11.0	12.5			
				Middle	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-		-	-		-	-	-
				Bottom	3	25.6 25.6	25.6	24.7 24.7	24.7	7.6 7.6	7.6	30.8 30.8	30.8	84.7 84.5	84.6	6.7 6.6	6.7		6.7	6.7		4.3 4.3	4.3		4.3	14.0 14.0	14.0
26-Jun-08	Rainy	Moderate	16:41	Surface	1	28.2 28.2	28.2	27.8 27.8	27.8	7.3 7.3	7.3	30.4 30.5	30.5	85.8 86.2	86.0	6.0 6.0	6.0	6.0	3.1 3.1	3.1	4.4	15.0 15.0	15.0	14.0			
				Middle	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-		-	-		-	-	-
				Bottom	3	28.2 28.3	28.3	27.8 27.8	27.8	7.3 7.3	7.3	30.6 30.6	30.6	86.0 85.3	85.7	6.0 5.9	6.0		6.0	6.0		5.7 5.7	5.7		5.7	13.0 13.0	13.0

### Water Quality Monitoring Results at M1 - Mid-Flood Tide

Date	Weather Condition	Sea Condition**	Sampling Time	Depth (m)	Water Temperature (°C)		Ambient Temperature (°C)		pH		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)						
					Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*				
5-Jun-08	Sunny	Moderate	07:57	Surface	1	26.3 26.3	26.3	24.3 24.3	24.3	7.3 7.3	7.3	31.6 31.6	31.6	91.4 90.5	91.0	7.2 7.1	7.2	7.2	4.0 4.1	4.1	4.3	19.0 19.0	19.0	19.0			
				Middle	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-		-	-		-	-	-
				Bottom	4	26.3 26.3	26.3	24.3 24.3	24.3	7.3 7.3	7.3	31.7 31.7	31.7	88.3 87.8	88.1	6.9 6.9	6.9		6.9	6.9		4.3 4.4	4.4		4.4	19.0 19.0	19.0
11-Jun-08	Rainy	Moderate	12:16	Surface	1	26.1 26.1	26.1	28.2 28.2	28.2	7.4 7.5	7.5	31.8 31.7	31.8	86.3 85.9	86.1	6.4 6.4	6.4	6.4	4.4 4.5	4.5	4.9	7.0 8.0	7.5	10.3			
				Middle	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-		-	-		-	-	-
				Bottom	4	25.5 25.5	25.5	28.2 28.2	28.2	7.5 7.5	7.5	31.8 31.8	31.8	84.6 84.6	84.6	6.4 6.4	6.4		6.4	6.4		5.1 5.2	5.2		5.2	13.0 13.0	13.0
17-Jun-08	Rainy	Moderate	18:02	Surface	1	25.5 25.5	25.5	24.5 24.5	24.5	7.5 7.5	7.5	29.9 29.9	29.9	86.9 86.5	86.7	6.7 6.6	6.7	6.7	4.2 4.2	4.2	4.3	10.0 10.0	10.0	11.0			
				Middle	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-		-	-		-	-	-
				Bottom	3	25.6 25.6	25.6	24.5 24.5	24.5	7.6 7.6	7.6	29.7 29.8	29.8	85.3 84.0	84.7	6.6 6.4	6.5		6.5	6.5		4.4 4.4	4.4		4.4	12.0 12.0	12.0
26-Jun-08	Rainy	Moderate	11:11	Surface	1	29.1 29.4	29.3	28.1 28.1	28.1	7.3 7.3	7.3	30.8 30.9	30.9	70.9 74.2	72.6	6.5 6.6	6.6	6.6	3.5 3.5	3.5	4.1	18.0 18.0	18.0	14.0			
				Middle	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-		-	-		-	-	-
				Bottom	4	29.2 29.2	29.2	28.1 28.1	28.1	7.3 7.3	7.3	31.2 31.2	31.2	71.1 68.6	69.9	6.4 6.3	6.4		6.4	6.4		4.6 4.6	4.6		4.6	14.0 15.0	14.5

Remarks: \* DA: Depth-Averaged  
 \*\* Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher  
 \*\*\* Cancelled due to Thunderstorm Warning

### Water Quality Monitoring Results at M2 - Mid-Ebb Tide

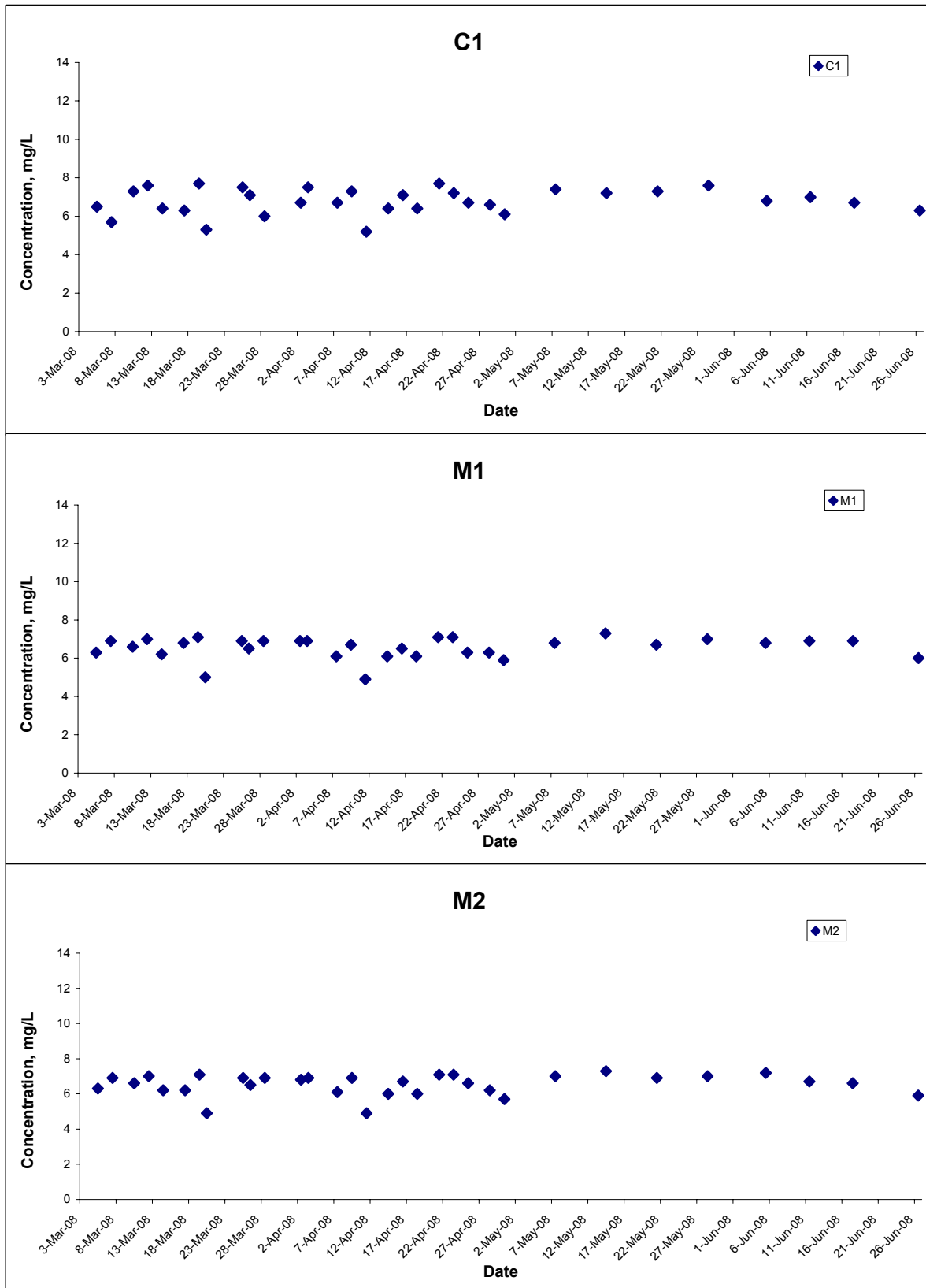
Date	Weather Condition	Sea Condition**	Sampling Time	Depth (m)	Water Temperature (°C)		Ambient Temperature (°C)		pH		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)						
					Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*				
5-Jun-08	Fine	Moderate	13:36	Surface	1	27.4 27.4	27.4	26.9 26.9	26.9	7.3 7.3	7.3	31.7 31.7	31.7	90.8 90.0	90.4	7.2 7.1	7.2	7.2	4.5 4.4	4.5	4.4	26.0 26.0	26.0	24.5			
				Middle	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-		-	-		-	-	-
				Bottom	3	27.0 27.0	27.0	26.9 26.9	26.9	7.3 7.3	7.3	31.7 31.7	31.7	88.8 88.7	88.8	6.9 6.9	6.9		6.9	4.2 4.2		4.2	4.2		23.0 23.0	23.0	
11-Jun-08	Rainy	Moderate	18:08	Surface	1	25.8 25.8	25.8	27.3 27.3	27.3	7.5 7.5	7.5	31.8 31.8	31.8	85.2 85.2	85.2	6.7 6.7	6.7	6.7	4.8 4.8	4.8	4.9	9.0 9.0	9.0	10.5			
				Middle	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-		-	-		-	-	
				Bottom	3	25.6 25.6	25.6	27.3 27.3	27.3	7.5 7.5	7.5	31.9 31.9	31.9	85.6 85.7	85.7	6.8 6.8	6.8		6.8	4.9 4.9		4.9	4.9		12.0 12.0	12.0	
17-Jun-08	Rainy	Moderate	11:47	Surface	1	25.6 25.5	25.6	24.7 24.7	24.7	7.6 7.6	7.6	30.8 30.8	30.8	83.5 83.1	83.3	6.6 6.5	6.6	6.6	4.0 4.0	4.0	4.1	12.0 13.0	12.5	12.8			
				Middle	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-		-	-		-	-	
				Bottom	3	25.5 25.5	25.5	24.7 24.7	24.7	7.5 7.5	7.5	30.8 30.8	30.8	80.2 80.7	80.5	6.1 6.2	6.2		6.2	4.2 4.2		4.2	4.2		13.0 13.0	13.0	
26-Jun-08	Rainy	Moderate	16:52	Surface	1	28.2 28.2	28.2	27.8 27.8	27.8	7.3 7.3	7.3	30.2 30.2	30.2	84.8 85.1	85.0	5.9 5.9	5.9	5.9	4.0 3.4	3.7	4.7	10.0 11.0	10.5	11.8			
				Middle	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-		-	-		-	-	
				Bottom	3	28.3 28.3	28.3	27.8 27.8	27.8	7.3 7.3	7.3	30.6 30.7	30.7	82.6 81.6	82.1	5.7 5.7	5.7		5.7	5.6 5.6		5.6	5.6		13.0 13.0	13.0	

### Water Quality Monitoring Results at M2 - Mid-Flood Tide

Date	Weather Condition	Sea Condition**	Sampling Time	Depth (m)	Water Temperature (°C)		Ambient Temperature (°C)		pH		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)					
					Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*			
5-Jun-08	Sunny	Moderate	08:04	Surface	1	26.3 26.3	26.3	24.3 24.3	24.3	7.3 7.3	7.3	31.7 31.7	31.7	87.1 86.9	87.0	6.8 6.8	6.8	6.8	4.7 4.7	4.7	4.7	18.0 18.0	18.0	16.8		
				Middle	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-		-	-		-	-
				Bottom	4	26.2 26.2	26.2	24.3 24.3	24.3	7.4 7.4	7.4	31.7 31.7	31.7	88.9 88.2	88.6	7.0 6.9	7.0		7.0	4.6 4.6		4.6	4.6		15.0 16.0	15.5
11-Jun-08	Rainy	Moderate	12:22	Surface	1	26.2 26.2	26.2	28.2 28.2	28.2	7.5 7.5	7.5	31.8 31.8	31.8	85.2 85.2	85.2	6.4 6.4	6.4	6.4	3.9 3.8	3.9	4.4	8.0 8.0	8.0	9.5		
				Middle	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-		-	-		-	-
				Bottom	4	25.3 25.3	25.3	28.2 28.2	28.2	7.5 7.5	7.5	31.8 31.8	31.8	89.3 89.4	89.4	7.1 7.0	7.1		7.1	4.8 4.9		4.9	4.9		11.0 11.0	11.0
17-Jun-08	Rainy	Moderate	18:08	Surface	1	25.5 25.5	25.5	24.5 24.5	24.5	7.5 7.5	7.5	29.8 29.8	29.8	85.5 85.3	85.4	6.6 6.6	6.6	6.6	4.3 4.4	4.4	4.8	9.0 10.0	9.5	10.5		
				Middle	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-		-	-		-	-
				Bottom	3	25.6 25.6	25.6	24.5 24.5	24.5	7.7 7.7	7.7	30.0 30.0	30.0	82.1 81.9	82.0	6.4 6.4	6.4		6.4	5.1 5.0		5.1	5.1		12.0 11.0	11.5
26-Jun-08	Rainy	Moderate	11:22	Surface	1	29.4 29.4	29.4	28.1 28.1	28.1	7.3 7.3	7.3	30.8 31.0	30.9	73.3 74.3	73.8	6.6 6.6	6.6	6.6	2.8 2.8	2.8	4.8	17.0 17.0	17.0	11.8		
				Middle	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-		-	-		-	-
				Bottom	4	28.8 28.4	28.6	28.1 28.1	28.1	7.4 7.4	7.4	31.6 32.0	31.8	72.9 62.0	67.5	6.6 5.9	6.3		6.3	6.8 6.8		6.8	6.8		14.0 14.0	14.0

Remarks: \* DA: Depth-Averaged  
 \*\* Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher  
 \*\*\* Cancelled due to Thunderstorm Warning

## Dissolved Oxygen (Surface & Middle) at Mid-Ebb Tide

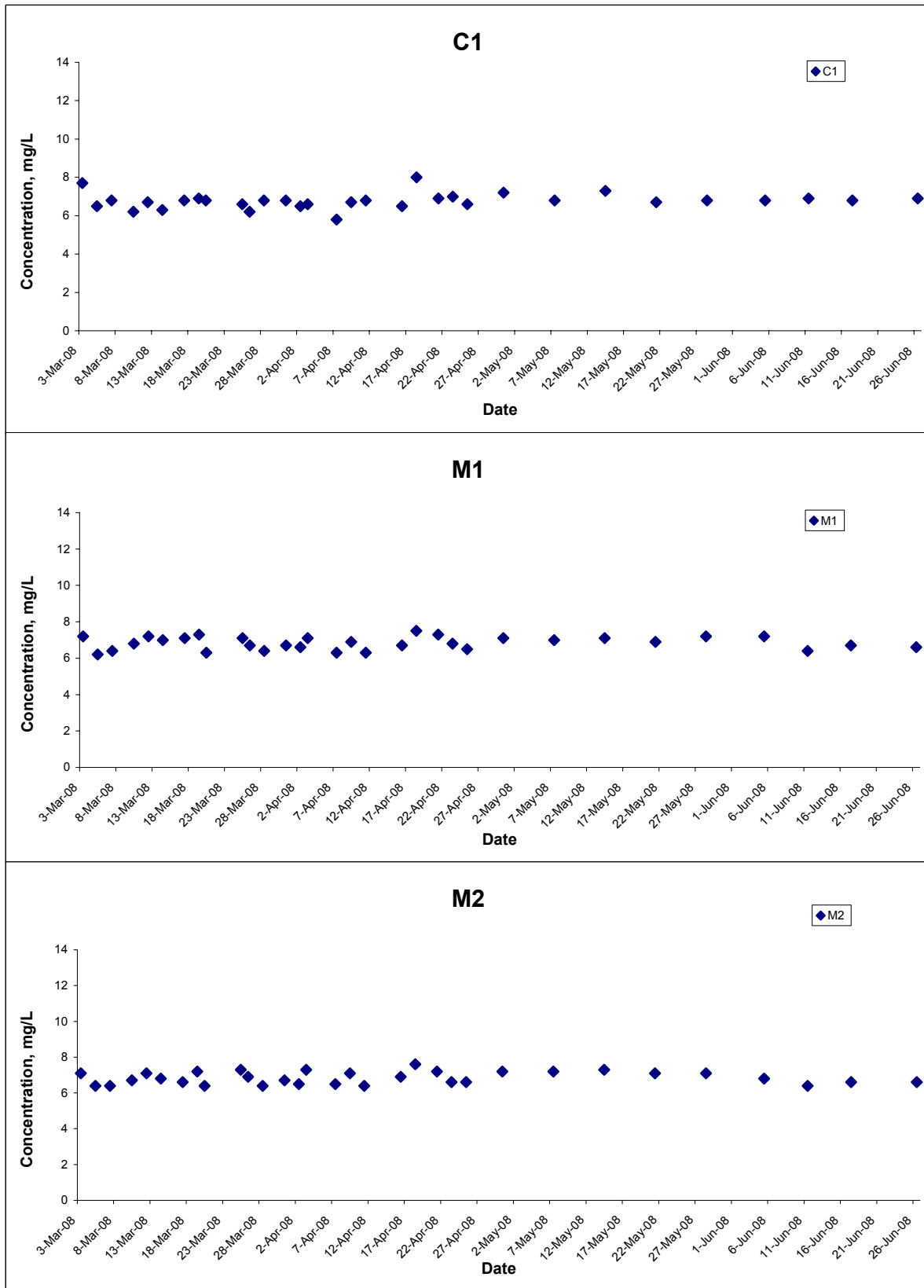


Title Contract No. CV/2004/03 Maintenance and Repairs to Franchised and Licensed Ferry Piers (2005 - 2008) Construction of Yung Shue Wan Helipad - Works Order No. YSWH/01/03 <b>Graphical Presentation of Water Quality Monitoring Results</b>	Scale	N.T.S	Project No.	MA7018
	Date	Jun 08	Appendix	F





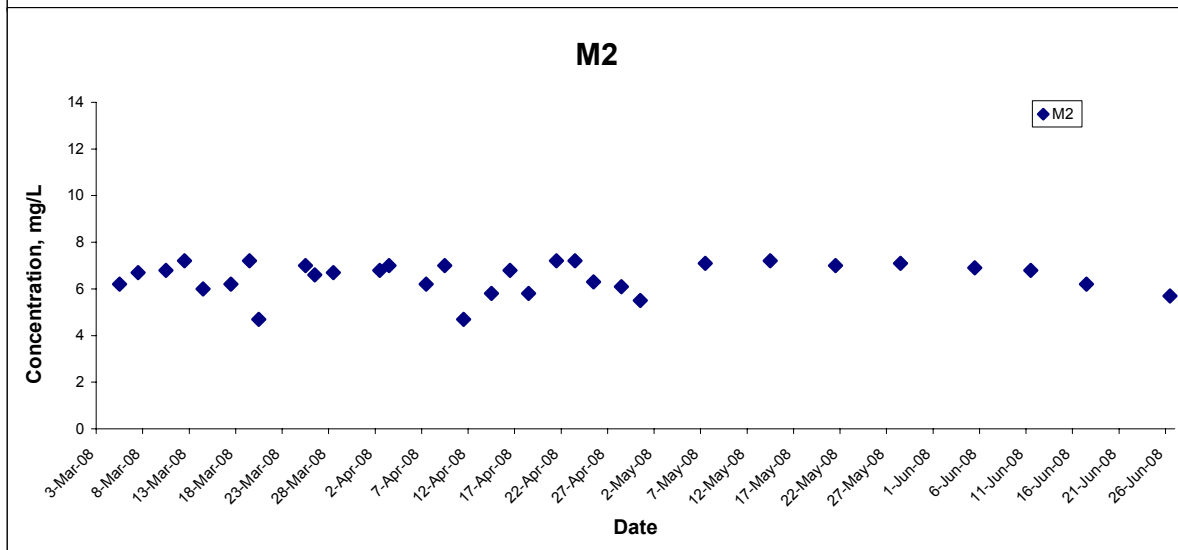
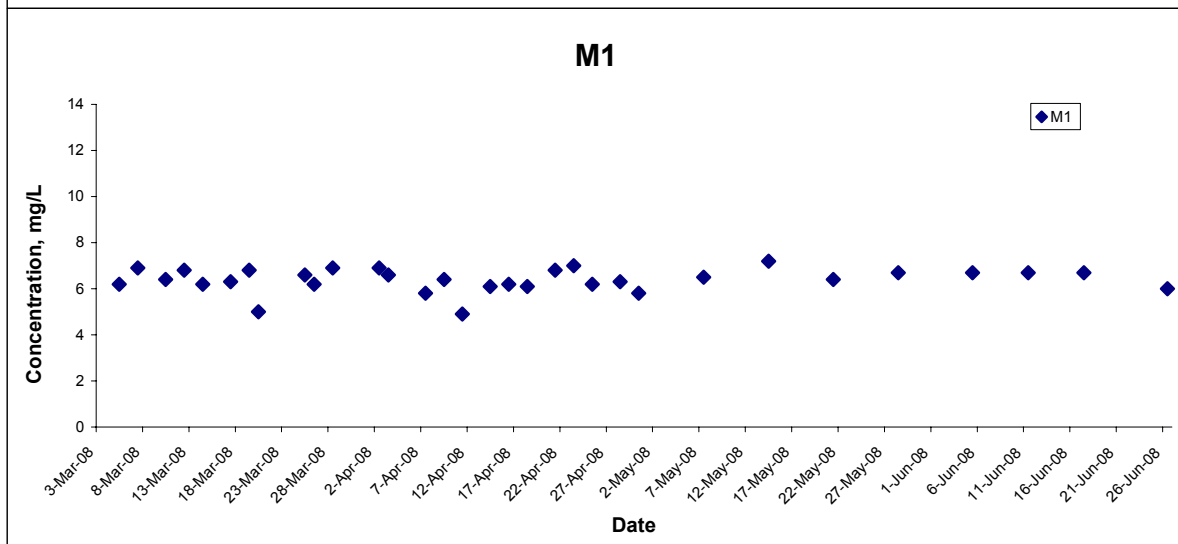
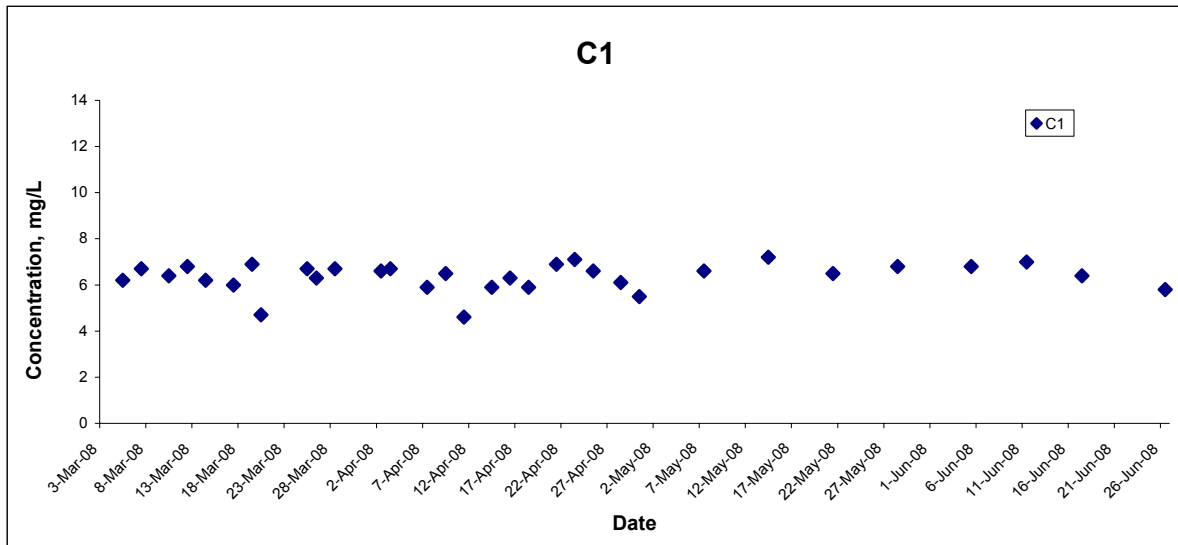
## Dissolved Oxygen (Surface & Middle) at Mid-Flood Tide



Title Contract No. CV/2004/03 Maintenance and Repairs to Franchised and Licensed Ferry Piers (2005 - 2008) Construction of Yung Shue Wan Helipad - Works Order No. YSWH/01/03 <b>Graphical Presentation of Water Quality Monitoring Results</b>	Scale	N.T.S	Project No.	MA7018
	Date	Jun 08	Appendix	F



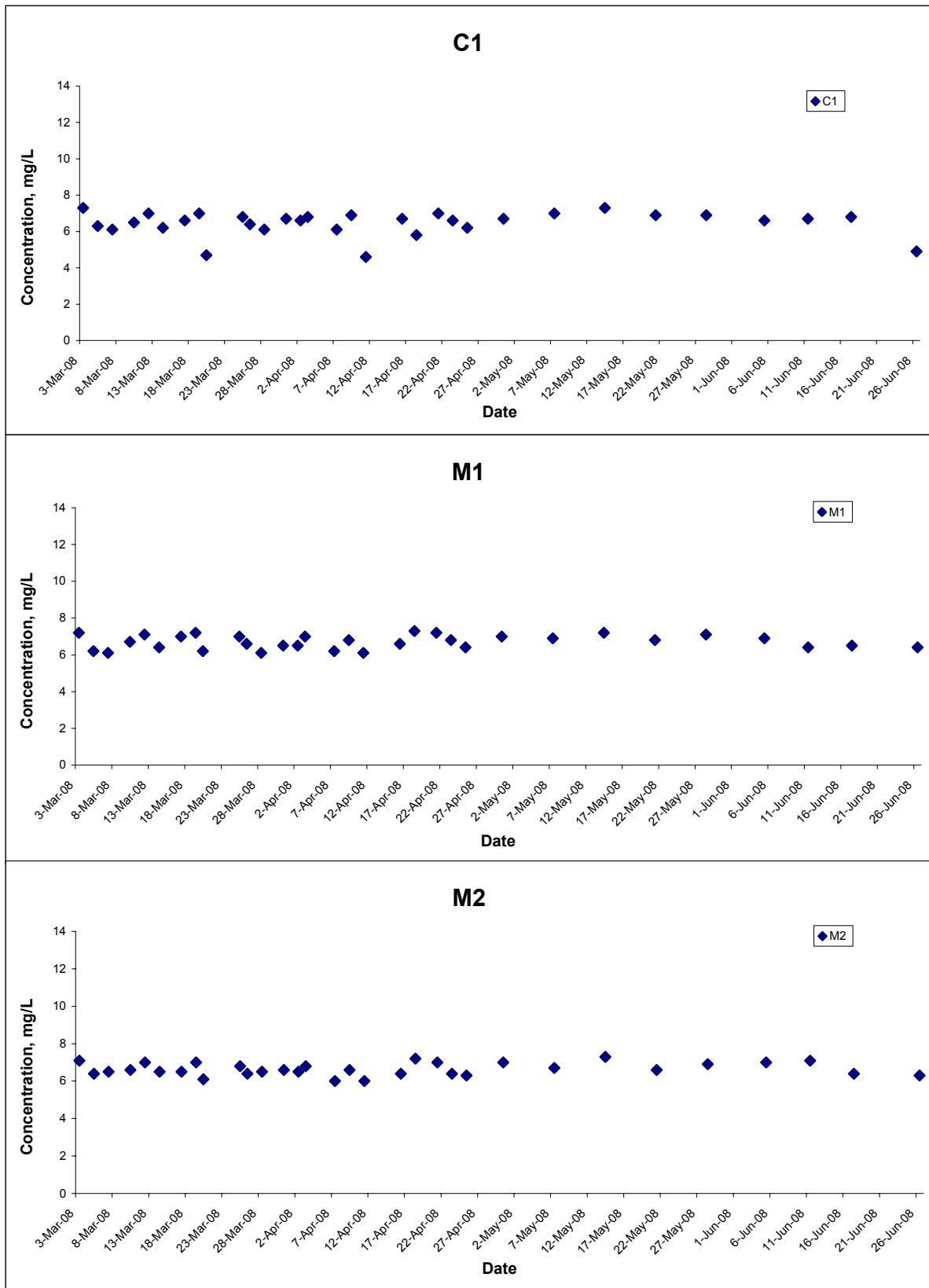
### Dissolved Oxygen (Bottom) at Mid-Ebb Tide



Title Contract No. CV/2004/03 Maintenance and Repairs to Franchised and Licensed Ferry Piers (2005 - 2008) Construction of Yung Shue Wan Helipad - Works Order No. YSWH/01/03 <b>Graphical Presentation of Water Quality Monitoring Results</b>	Scale	N.T.S	Project No.	MA7018
	Date	Jun 08	Appendix	F

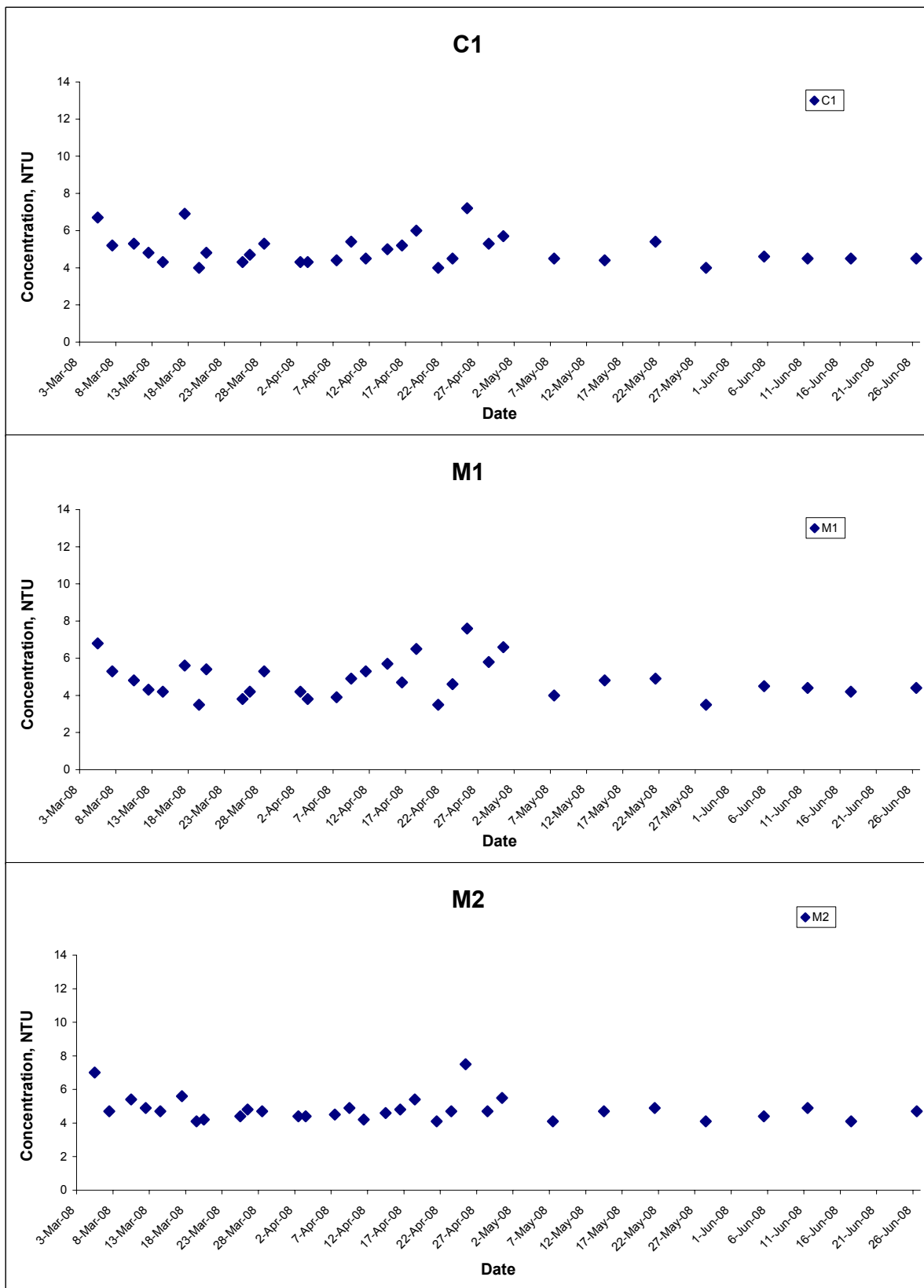
CINOTECH

## Dissolved Oxygen (Bottom) at Mid-Flood Tide



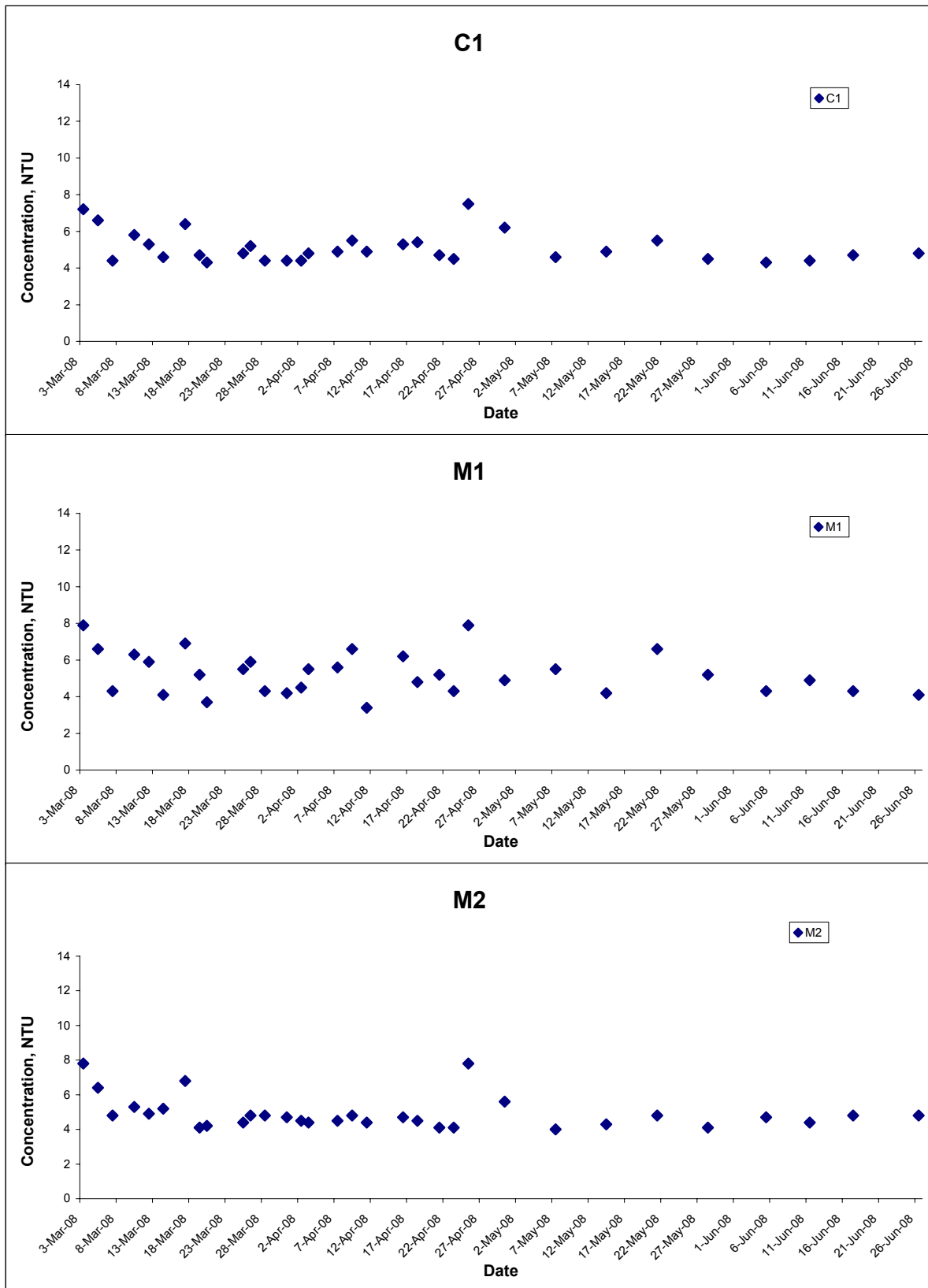
Title Contract No. CV/2004/03 Maintenance and Repairs to Franchised and Licensed Ferry Piers (2005 - 2008) Construction of Yung Shue Wan Helipad - Works Order No. YSWH/01/03 <b>Graphical Presentation of Water Quality Monitoring Results</b>	Scale	Project No.	
	Scale	N.T.S	
	Date	Appendix	
	Jun 08	F	

### Turbidity (Depth-averaged) at Mid-Ebb Tide



Title Contract No. CV/2004/03 Maintenance and Repairs to Franchised and Licensed Ferry Piers (2005 - 2008) Construction of Yung Shue Wan Helipad - Works Order No. YSWH/01/03 <b>Graphical Presentation of Water Quality Monitoring Results</b>	Scale N.T.S	Project No. MA7018	CINOTECH
	Date Jun 08	Appendix F	

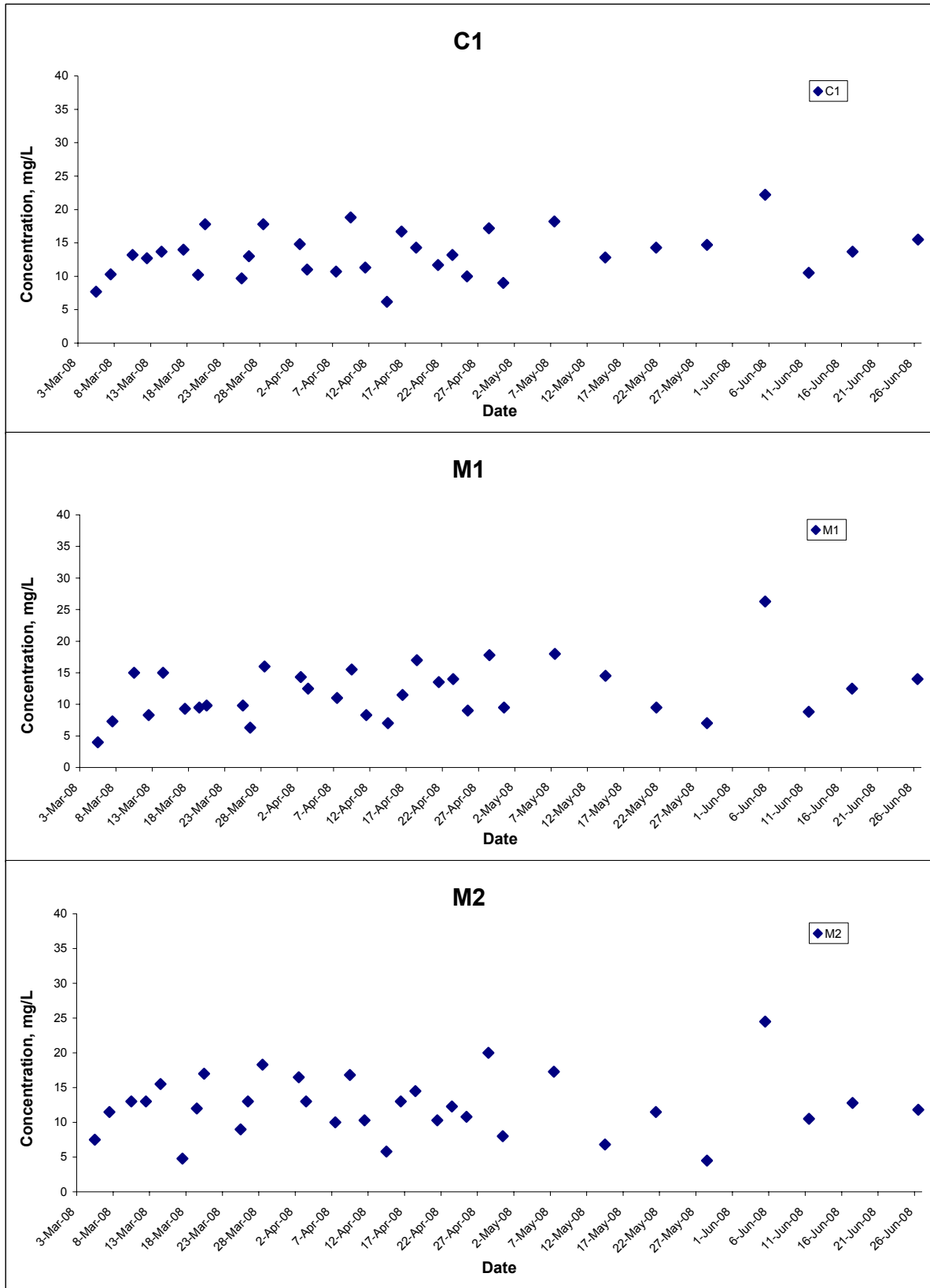
## Turbidity (Depth-averaged) at Mid-Flood Tide



Title Contract No. CV/2004/03 Maintenance and Repairs to Franchised and Licensed Ferry Piers (2005 - 2008) Construction of Yung Shue Wan Helipad - Works Order No. YSWH/01/03 <b>Graphical Presentation of Water Quality Monitoring Results</b>	Scale	N.T.S	Project No.	MA7018
	Date	Jun 08	Appendix	F

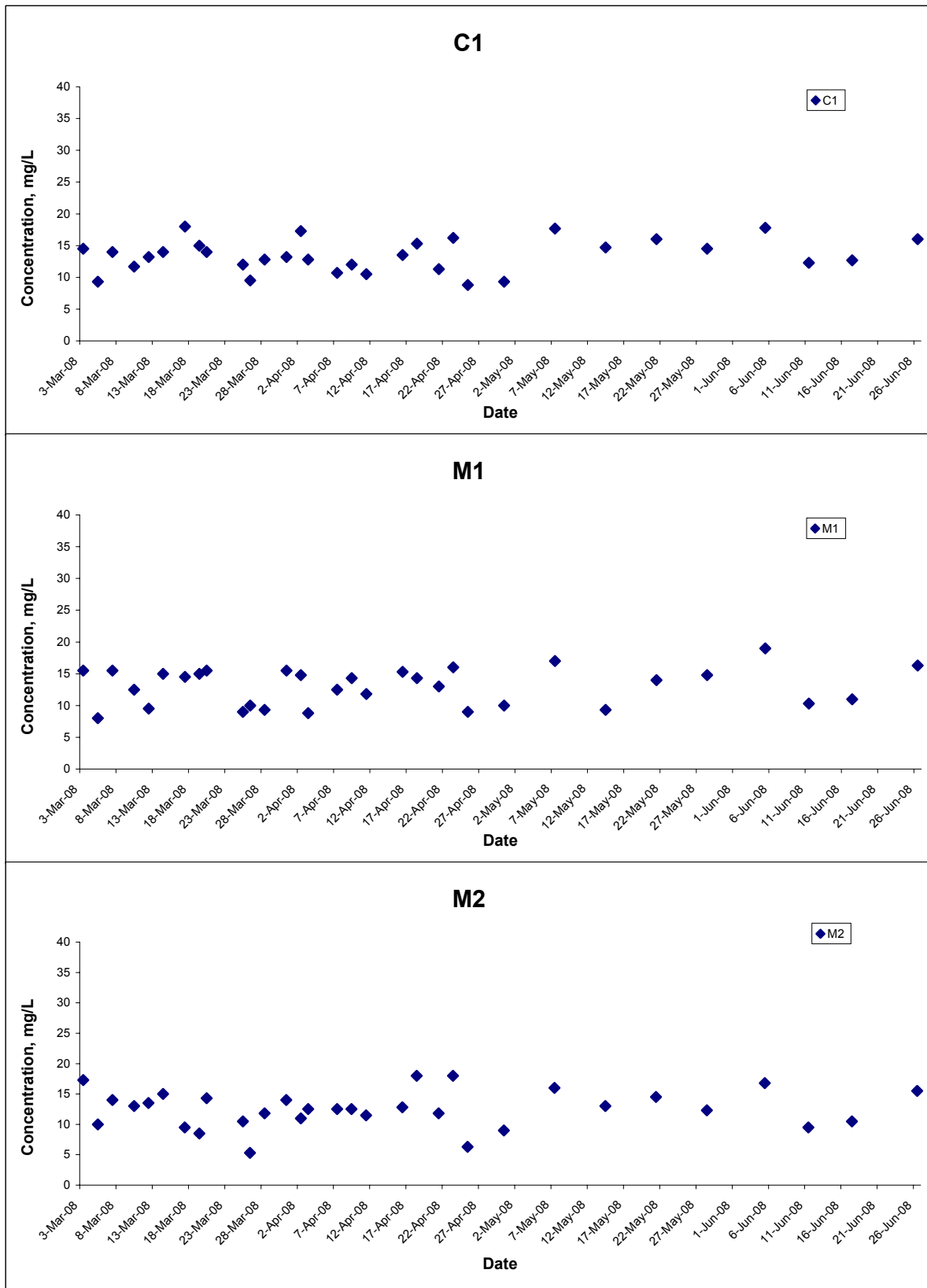
CINOTECH

## Suspended Solids (Depth-averaged) at Mid-Ebb Tide



Title Contract No. CV/2004/03 Maintenance and Repairs to Franchised and Licensed Ferry Piers (2005 - 2008) Construction of Yung Shue Wan Helipad - Works Order No. YSWH/01/03 <b>Graphical Presentation of Water Quality Monitoring Results</b>	Scale	Project No.	
	N.T.S MA7018	Date	
	Jun 08	F	

## Suspended Solids (Depth-averaged) at Mid-Flood Tide



Title Contract No. CV/2004/03 Maintenance and Repairs to Franchised and Licensed Ferry Piers (2005 - 2008) Construction of Yung Shue Wan Helipad - Works Order No. YSWH/01/03 <b>Graphical Presentation of Water Quality Monitoring Results</b>	Scale	Project No.	
	Date	Appendix	
	N.T.S	MA7018	
	Jun 08	F	

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**APPENDIX G**  
**SUMMARY OF EXCEEDANCE**

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**Contract No. CV/2004/03 – Maintenance and Repairs to Franchised and Licensed Ferry Piers  
(2005-2008)  
Construction of Yung Shue Wan Helipad – Works Order No. YSWH/01/03**

**Exceedance Report**

**(A) Exceedance Report for Construction Noise  
(NIL in the reporting month)**

**(B) Exceedance Report for water quality monitoring  
(NIL in the reporting month)**

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**APPENDIX H  
SITE AUDIT SUMMARY**

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**Maintenance and Repairs to Franchised and Licensed Ferry Piers (2005 – 2008)**

**Contract No. CV/2004/03**

**Construction of Yung Shue Wan Helipad**


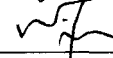
**Weekly Site Inspection Record Summary**

**Inspection Information**

Checklist Reference Number	80604
Date	4 June 2008
Time	10:45

Ref. No.	Non-Compliance	Related Item No.
-	None	-

Ref. No.	Remarks/Observations	Related Item No.
	<p><b>Water Quality</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during site inspection.</li> </ul> <p><b>Air Quality</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during site inspection.</li> </ul> <p><b>Noise</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during site inspection.</li> </ul> <p><b>Waste / Chemical Management</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during site inspection.</li> </ul> <p><b>Permit / Licenses</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during site inspection.</li> </ul> <p><b>Others</b></p> <ul style="list-style-type: none"> <li>Follow-up on previous site audit session (Ref. No. 80528), no environmental deficiency was identified during site inspection.</li> </ul>	

	Name	Signature	Date
Recorded by	Choi Wai Yi		4 June 2008
Checked by	Dr. Priscilla Choy		4 June 2008

**Maintenance and Repairs to Franchised and Licensed Ferry Piers (2005 – 2008)**

**Contract No. CV/2004/03**

**Construction of Yung Shue Wan Helipad**

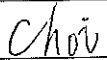
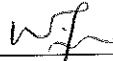
**Weekly Site Inspection Record Summary**

**Inspection Information**

Checklist Reference Number	80611
Date	11 June 2008
Time	14:00-15:00

Ref. No.	Non-Compliance	Related Item No.
-	None	-

Ref. No.	Remarks/Observations	Related Item No.
	<p><b>Water Quality</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during site inspection.</li> </ul> <p><b>Air Quality</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during site inspection.</li> </ul> <p><b>Noise</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during site inspection.</li> </ul> <p><b>Waste / Chemical Management</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during site inspection.</li> </ul> <p><b>Permit / Licenses</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during site inspection.</li> </ul> <p><b>Others</b></p> <ul style="list-style-type: none"> <li>Follow-up on previous site audit session (Ref. No. 80604), no environmental deficiency was identified during site inspection.</li> </ul>	

	Name	Signature	Date
Recorded by	Choi Wai Yi		11 June 2008
Checked by	Dr. Priscilla Choy		11 June 2008

*Maintenance and Repairs to Franchised and Licensed Ferry Piers (2005 – 2008)*

*Contract No. CV/2004/03*

*Construction of Yung Shue Wan Helipad*



**Weekly Site Inspection Record Summary**

**Inspection Information**

Checklist Reference Number	80617
Date	17 June 2008
Time	16:10

Ref. No.	Non-Compliance	Related Item No.
-	None	-

Ref. No.	Remarks/Observations	Related Item No.
	<p><i>Water Quality</i></p> <ul style="list-style-type: none"><li>• No environmental deficiency was identified during site inspection.</li></ul> <p><i>Air Quality</i></p> <ul style="list-style-type: none"><li>• No environmental deficiency was identified during site inspection.</li></ul> <p><i>Noise</i></p> <ul style="list-style-type: none"><li>• No environmental deficiency was identified during site inspection.</li></ul> <p><i>Waste / Chemical Management</i></p> <ul style="list-style-type: none"><li>• No environmental deficiency was identified during site inspection.</li></ul> <p><i>Permit / Licenses</i></p> <ul style="list-style-type: none"><li>• No environmental deficiency was identified during site inspection.</li></ul> <p><i>Others</i></p> <ul style="list-style-type: none"><li>• Follow-up on previous site audit session (Ref. No. 80611), no environmental deficiency was identified during site inspection.</li></ul>	

	Name	Signature	Date
Recorded by	Choi Wai Yi		17 June 2008
Checked by	Dr. Priscilla Choy		17 June 2008

**Maintenance and Repairs to Franchised and Licensed Ferry Piers (2005 – 2008)**

**Contract No. CV/2004/03**

**Construction of Yung Shue Wan Helipad**



**Weekly Site Inspection Record Summary**

**Inspection Information**

Checklist Reference Number	80626
Date	26 June 2008
Time	13:00

Ref. No.	Non-Compliance	Related Item No.
-	None	-

Ref. No.	Remarks/Observations	Related Item No.
	<p><b>Water Quality</b></p> <ul style="list-style-type: none"><li>• No environmental deficiency was identified during site inspection.</li></ul> <p><b>Air Quality</b></p> <ul style="list-style-type: none"><li>• No environmental deficiency was identified during site inspection.</li></ul> <p><b>Noise</b></p> <ul style="list-style-type: none"><li>• No environmental deficiency was identified during site inspection.</li></ul> <p><b>Waste / Chemical Management</b></p> <ul style="list-style-type: none"><li>• No environmental deficiency was identified during site inspection.</li></ul> <p><b>Permit / Licenses</b></p> <ul style="list-style-type: none"><li>• No environmental deficiency was identified during site inspection.</li></ul> <p><b>Others</b></p> <ul style="list-style-type: none"><li>• Follow-up on previous site audit session (Ref. No. 80617), no environmental deficiency was identified during site inspection.</li></ul>	

	Name	Signature	Date
Recorded by	Chan Hon Kwan		26 June 2008
Checked by	Dr. Priscilla Choy		26 June 2008

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**APPENDIX I  
SUMMARY OF AMOUNT OF WASTE  
GENERATED**

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# Appendix I

Name of Department: CWE-ZHEC Joint Venture

Contract No.: CV/2004/03

## Monthly Summary Waste Flow Table For 2008 (year)

Month	Actual Quantities of Inert C&D Materials Generated Monthly					Actual Quantities of C&D Waste Generated Monthly				
	Total Quantity Generated	Broken Concrete (see Note 2)	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Metals	Paper/ cardboard packaging	Plastics (see Note 1)	Chemical Waste	Others, e.g. general refuse
	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m <sup>3</sup> )
Jan	0.000	0.000	0.000	0.000	20.000	0.000	0.000	0.000	0.000	5.000
Feb	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	5.000
Mar	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Apr	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
May	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Jun	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>Sub-total</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>20.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>10.000</b>
July										
Aug										
Sep										
Oct										
Nov										
Dec										
<b>Total</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>20.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>10.000</b>

Notes: (1) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material.

(2) Broken concrete for recycling into aggregates.



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**APPENDIX J**  
**EVENT ACTION PLANS**

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**APPENDIX J – Event / Action Plan**

**Table J-1 Event / Action Plan Construction Noise**

Event	ACTION			
	ET Leader	IC (E)	ER	Contractor
Action Level	<ol style="list-style-type: none"> <li>1. Notify IC(E) and Contractor</li> <li>2. Carry out investigation</li> <li>3. Report the results of investigation to the IC(E) and Contractor</li> <li>4. Discuss with the Contractor and formulate remedial measures</li> <li>5. Increase monitoring frequency to check mitigation effectiveness</li> </ol>	<ol style="list-style-type: none"> <li>1. Review the analysed results submitted by the ET</li> <li>2. Review the proposed remedial measures by the Contractor and advise the ER accordingly</li> <li>3. Supervise the implementation of remedial measures</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of failure in writing</li> <li>2. Notify Contractor</li> <li>3. Require Contractor to propose remedial measures for the analysed noise problem</li> <li>4. Ensure remedial measures are properly implemented</li> </ol>	<ol style="list-style-type: none"> <li>1. Submit noise mitigation proposal to IC(E)</li> <li>2. Implement noise mitigation proposals</li> </ol>

<p>Limit Level</p>	<ol style="list-style-type: none"> <li>1. Notify IC(E), ER, EPD and Contractor</li> <li>2. Identify source</li> <li>3. Repeat measurement to confirm findings</li> <li>4. Increase monitoring frequency</li> <li>5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented</li> <li>6. Inform IE(E), ER and EPD the causes &amp; actions taken for the exceedances</li> <li>7. Assess effectiveness of Contractor's remedial actions and keep IC(E), EPD and ER informed of the results</li> <li>8. If exceedance stops, cease additional monitoring</li> </ol>	<ol style="list-style-type: none"> <li>1. Discuss amongst ER, ET, and Contractor on the potential remedial actions</li> <li>2. Review Contractor's remedial actions whenever necessary to assure their the ER accordingly</li> <li>3. Supervise the implementation of remedial measures</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of failure in writing</li> <li>2. Notify Contractor</li> <li>3. Require Contractor to propose remedial measures for the analysed noise problem</li> <li>4. Ensure remedial measures are properly implemented</li> <li>5. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated</li> </ol>	<ol style="list-style-type: none"> <li>1. Take immediate action to avoid further exceedance</li> <li>2. Submit proposal for remedial actions to IC(E) within 3 working days of notification</li> <li>3. Implement the agreed proposals</li> <li>4. Resubmit proposals if problem still not under control</li> <li>5. Stop the relevant portion of works as determined by the ER until the exceedance is abated</li> </ol>
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**Table J-2 Event / Action Plan for Water Quality Monitoring**

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
ACTION LEVEL				
1.Exceedance for one sample	<ol style="list-style-type: none"> <li>1. Identify source</li> <li>2. Inform ER &amp; IEC</li> <li>3. Repeat measurement to confirm finding</li> <li>4. Increase monitoring frequency to daily</li> </ol>	<ol style="list-style-type: none"> <li>1. Check monitoring data submitted by ET</li> </ol>	<ol style="list-style-type: none"> <li>1.Notify Contractor</li> <li>2.Check monitoring data and Contractor's working methods</li> </ol>	<ol style="list-style-type: none"> <li>1.Rectify any unacceptable practice</li> <li>2.Amend working methods if appropriate</li> </ol>
2.Exceedance for two or more consecutive samples	<ol style="list-style-type: none"> <li>1. Identify source</li> <li>2. Inform ER &amp; IEC</li> <li>3. Repeat measurements to confirm findings</li> <li>4. Increase monitoring frequency to daily</li> <li>5. Discuss with ER &amp; IEC for remedial actions required</li> <li>6. If exceedance continues, arrange meeting with ER &amp; IEC</li> <li>7. If exceedance stops, cease additional monitoring</li> </ol>	<ol style="list-style-type: none"> <li>1.Checking monitoring data submitted by ET</li> <li>2.Advise the ER &amp; ET on the effectiveness of the proposed remedial measures</li> <li>3.Supervise the implementation of the remedial measures</li> </ol>	<ol style="list-style-type: none"> <li>1.Confirm receipt of notification of failure in writing</li> <li>2.Notify Contractor</li> <li>3.Check Contractor's working methods</li> <li>4.Discuss with ET, IEC and Contractor on proposed remedial actions</li> <li>5.Ensure remedial actions properly implemented</li> </ol>	<ol style="list-style-type: none"> <li>1.Submit proposals for remedial actions to ER within 3 working days of notification</li> <li>2.Implement the agreed proposals</li> <li>3.Amend proposal if appropriate</li> </ol>
LIMIT LEVEL				
1.Exceedance for one sample	<ol style="list-style-type: none"> <li>1. Identify source</li> <li>2. Inform ER &amp; IEC and EPD</li> <li>3. Repeat measurement to confirm finding</li> <li>4. Increase monitoring frequency to daily</li> <li>5. Assess effectiveness of Contractor's remedial actions and keep EPD and ER &amp; IEC informed of the results</li> </ol>	<ol style="list-style-type: none"> <li>1.Check monitoring data submitted by ET</li> <li>2.Advise the ER &amp; ET on the effectiveness of the proposed remedial measures</li> <li>3.Supervise the implementation of the remedial measures</li> </ol>	<ol style="list-style-type: none"> <li>1.Confirm receipt of notification of failure in writing</li> <li>2.Notify Contractor</li> <li>3.Check monitoring data and Contractor's working methods</li> <li>4.Discuss with ET, IEC and Contractor on proposed remedial actions</li> <li>5.Ensure remedial actions properly implemented</li> </ol>	<ol style="list-style-type: none"> <li>1.Take immediate action to avoid further exceedance</li> <li>2.Submit proposals for remedial actions to ER within 3 working days of notification</li> <li>3.Implement the agreed proposals</li> <li>4.Amend proposal if appropriate</li> </ol>
2.Exceedance	<ol style="list-style-type: none"> <li>1. Identify source</li> </ol>	<ol style="list-style-type: none"> <li>1.Check monitoring data submitted by</li> </ol>	<ol style="list-style-type: none"> <li>1.Confirm receipt of notification of</li> </ol>	<ol style="list-style-type: none"> <li>1.Take immediate action to</li> </ol>

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

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**APPENDIX K  
ENVIRONMENTAL MITIGATION  
IMPLEMENTATION SCHEDULE (EMIS)**

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## Appendix K - Summary of Environmental Mitigation Implementation Schedule

Types of Impacts	Mitigation Measures	Status
<b>Construction Dust</b>	<ul style="list-style-type: none"> <li>Restricting heights from which materials are dropped, as far as practicable to minimise the fugitive dust arising from unloading/loading.</li> </ul>	^
	<ul style="list-style-type: none"> <li>All stockpiles of excavated materials or spoil of more than 50m<sup>3</sup> should be enclosed, covered or dampened during dry or windy conditions.</li> </ul>	^
	<ul style="list-style-type: none"> <li>Effective water sprays should be used to control potential dust emission sources such as unpaved haul roads and active construction areas.</li> </ul>	^
	<ul style="list-style-type: none"> <li>All spraying of materials and surfaces should avoid excessive water usage.</li> </ul>	^
	<ul style="list-style-type: none"> <li>Vehicles that have the potential to create dust while transporting materials should be covered, with the cover properly secured and extended over the edges of the side and tail boards.</li> </ul>	^
	<ul style="list-style-type: none"> <li>Materials should be dampened, if necessary, before transportation.</li> </ul>	^
	<ul style="list-style-type: none"> <li>Travelling speeds should be controlled to reduce traffic induced dust dispersion and re-suspension from the operating haul trucks.</li> </ul>	^
	<ul style="list-style-type: none"> <li>Vehicle washing facilities will be provided to minimize the quantity of material deposited on public roads.</li> <li>Erection of hoarding not less than 2.4m high from ground level along the site boundary.</li> </ul>	^
<b>Construction Noise</b>	<i>Construction Phase</i>	
	<ul style="list-style-type: none"> <li>Use of silenced plant, or plant equipped with mufflers or dampers in substitute or ordinary plant.</li> </ul>	^
	<ul style="list-style-type: none"> <li>Movable noise barriers positioned as close as possible to PMEs such that none of the PMEs will be visible when viewed from any noise sensitive facades.</li> </ul>	^
	<ul style="list-style-type: none"> <li>Noisy equipment and noisy activities should be located as far away from the NSRs as is practical.</li> </ul>	^
	<ul style="list-style-type: none"> <li>Unused equipment should be turned off.</li> <li>Number of powered mechanical equipment (PME) should be kept to minimum and the parallel use of noisy equipment/machinery should be avoided.</li> </ul>	^

Types of Impacts	Mitigation Measures	Status	
	<ul style="list-style-type: none"> <li>Regular maintenance of all plant and equipment.</li> </ul>	^	
	<ul style="list-style-type: none"> <li>Observe and comply with the statutory requirements and guidelines.</li> </ul>	^	
	<i>Operation Phase</i>		
	<ul style="list-style-type: none"> <li>Use of quieter helicopter type EC 155 B1 in priority.</li> </ul>	-	
	<ul style="list-style-type: none"> <li>Reduce the angle of the helicopter flight path from the standard 150 degrees to 80 degrees for the 'EC 155 B1' and to 70 degrees for 'Super Puma AS332 L2' helicopter</li> </ul>	-	
	<ul style="list-style-type: none"> <li>The helipad will be solely for emergency use.</li> </ul>	-	
<b>Ecology</b>	<ul style="list-style-type: none"> <li>Silt curtain to be installed surrounding the whole of the piling site.</li> </ul>	^	
	<i>Good site practice</i>		
	<ul style="list-style-type: none"> <li>Particular care should be taken when demolishing the existing concrete planter to ensure no waste enters the water column.</li> </ul>	N/A	
	<ul style="list-style-type: none"> <li>Particular care should be taken when decommissioning the silt curtain to avoid sudden dispersion of muddy water which may cause adverse impact to the nearby marine life;</li> </ul>	N/A	
	<ul style="list-style-type: none"> <li>Materials storage areas should be located well away from the seawall, and any such areas should be covered during the works.</li> </ul>	^	
	<ul style="list-style-type: none"> <li>The holding tank for sediment excavated from within the pile casing should be fitted with a tight fitting seal to prevent leakage.</li> </ul>	N/A	
	<ul style="list-style-type: none"> <li>Ensure that excavator seal is tightly closed and the hoist speed is suitably low.</li> </ul>	N/A	
	<ul style="list-style-type: none"> <li>The holding tank should not be filled to a level that will cause overflow of sediment during loading and transportation.</li> </ul>	N/A	
	<ul style="list-style-type: none"> <li>Large objects should be removed from the excavator grab to avoid sediment spills.</li> </ul>	N/A	
<ul style="list-style-type: none"> <li>The helipad shall be constructed by using small diameter pre-bored piling instead of dredging and reclamation.</li> </ul>	-		
<b>Water Quality</b>	<i>Construction Phase</i>		
	<ul style="list-style-type: none"> <li>Silt curtain to be installed surrounding the whole of the piling site.</li> </ul>	^	
<i>Good site practice</i>			



Types of Impacts	Mitigation Measures	Status
	<ul style="list-style-type: none"> <li>The holding tank should be fitted with a tight fitting seal to prevent sediment leakage.</li> </ul>	N/A
	<ul style="list-style-type: none"> <li>Ensure that excavator grab seal is tightly closed and the hoist speed is suitably low.</li> </ul>	N/A
	<ul style="list-style-type: none"> <li>The holding tank should not be filled to a level which will cause overflow of sediment during loading and transportation.</li> </ul>	N/A
	<ul style="list-style-type: none"> <li>Large objects should be removed from the excavator grab to avoid sediment spills.</li> </ul>	N/A
	<ul style="list-style-type: none"> <li>The helipad shall be constructed by using small diameter pre-bored piling instead of dredging and reclamation.</li> </ul>	-
<b>Waste / Chemical</b>	<ul style="list-style-type: none"> <li>Ensure that proper handling, storage, transportation and disposal of materials is implemented at the outset and throughout the construction phase of the helipad.</li> </ul>	^
	<ul style="list-style-type: none"> <li>In line with Government's position on waster minimization, the practice of avoiding and minimizing waster generation and waste recycling should be adopted as far as practicable.</li> </ul>	^
	<ul style="list-style-type: none"> <li>An on-site environmental co-ordinator should be identified at the outset of the works. The co-ordinaror shall prepare a Waste Management Plan.</li> </ul>	^
	<ul style="list-style-type: none"> <li>Spoil generated from the piling activities will need to be properly handled to minimize contamination to the marine water and any exposed ground areas due to leakage or improper storage (i.e. onto bare ground instead of into tanks).</li> </ul>	^
	<ul style="list-style-type: none"> <li>The reuse/recycling of all materials on site shall be investigated prior to treatment/disposal off site</li> </ul>	^
	<ul style="list-style-type: none"> <li>Good site practices shall be adopted from the commencement of works to avoid the generation of waste and to promote waste minimization practices.</li> </ul>	^
	<ul style="list-style-type: none"> <li>All waste material shall be sorted on site into inert and non-inert C&amp;D materials, and where the materials will be recycling or reused, these shall be further segregated. The Contractor shall be responsible for identifying which materials can be recycled/reused, whether on site or off site. In the event of the latter, the Contractor shall make arrangements for the collection of the recyclable materials. Any remaining non-inert waste shall be collected and disposed of to the refuse transfer station whilst any non-inert C&amp;D material shall be re-used on site as far as possible. If no use of the material can be found on site, the inert C&amp;D material can be delivered to a public filling area, public barging point or public stockpile area after obtaining the appropriate licence.</li> </ul>	^
<ul style="list-style-type: none"> <li>A trip ticket system should be established at the outset of the construction of the helipad to monitor the disposal of C&amp;D and solid wastes from the site to public filling facilities and landfills.</li> </ul>	^	

Types of Impacts	Mitigation Measures		Status
	<ul style="list-style-type: none"> <li>The Contractor shall register with EPD as a Chemical Waste Producer if there is any use of chemicals on site including lubricants, paints, diesel fuel, etc. Only licensed chemical waste collectors shall be employed to collect any chemical waster generated at site. The handling, storage, transportation and disposal of chemical wastes shall be conducted in accordance with the relevant guidelines as published by Government.</li> </ul>		^
	<ul style="list-style-type: none"> <li>A sufficient number of covered bins shall be provided on site for the containment of general refuse to prevent visual impacts and nuisance to sensitive receivers. These bins shall be cleared daily and the collected waste disposal of to the refuse transfer station. Further to the issue of Environment, Transport and Works Bureau Technical Circular (Works) No. 6/2002A, Enhanced Specification for Site Cleanliness and Tidiness, the Contractor is required to maintain a clean and hygienic site throughout the Project works.</li> </ul>		^
	<ul style="list-style-type: none"> <li>All Chemical toilets shall be regularly cleaned and the nightsoil collected and transported by a licensed contractor to a Government Sewage Treatment Works facility for disposal.</li> </ul>		^
	<ul style="list-style-type: none"> <li>Tool box talks shall be provided to workers about the concepts of site cleanliness and appropriate waste management procedures, including waste reduction, reuse and recycling.</li> </ul>		^
	<ul style="list-style-type: none"> <li>Contractor shall comply with all relevant statutory requirements and guidelines and their updated versions.</li> </ul>		-
	<ul style="list-style-type: none"> <li>The helipad shall be constructed by using small diameter pre-bored piling instead of dredging and reclamation.</li> </ul>		-
	<i>Operation Phase</i>		
	<ul style="list-style-type: none"> <li>The helipad will only be used for emergency purposes. No equipment will be placed on the landing pad or along the EVA. Helicopters will not be parked at the landing pad and all repair and maintenance works (on the helicopters) will be conducted off site. As such the only source of waste generation during the operation of the helipad is anticipated to be from the long-term maintenance of the pad.</li> </ul>		-
Remarks:	^ Compliance of mitigation measure;	X Non-compliance of mitigation measure;	
	N/A Not Applicable;	•Non-compliance but rectified by the contractor;	
	* Recommendation was made during site audit but improved/rectified by the contractor.		

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**APPENDIX L**  
**CONSTRUCTION PROGRAMME**

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**Works Order No. YSWH/01/03**  
**Three Month Rolling Programme of Yung Shue Wan Helipad Apr to Jul 2008**

ID	Task Name	Duration	Start	Finish	'08 Apr					'08 May				'08 Jun				'08 Jul						
					44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63
1	<b>Construction of Yubg Shue Wan Helipad</b>	<b>363 days</b>	<b>'07 Aug 2</b>	<b>'08 Jul 29</b>																				
2	<b>Piling Works</b>	<b>274 days</b>	<b>'07 Aug 2</b>	<b>'08 May 1</b>																				
3	Fabrication of Steel Casing	72 days	'07 Aug 4	'07 Oct 14																				
4	Erection of Silt Curtain	14 days	'07 Aug 2	'07 Aug 15																				
5	Ground Investigation (Pre-Drilling)	28 days	'07 Aug 16	'07 Sep 12																				
6	Pre-bored H-Pile Works (22nos.)	120 days	'07 Oct 15	'08 Feb 11																				
7	Piling Test	60 days	'08 Feb 12	'08 Apr 11																				
8	Erection of Bracing Beam to Piles	80 days	'08 Feb 12	'08 May 1																				
9																								
10	<b>Superstructure Works</b>	<b>289 days</b>	<b>'07 Oct 15</b>	<b>'08 Jul 29</b>																				
11	Fabrication of Pre-cast Concrete Unit	90 days	'07 Oct 15	'08 Jan 12																				
12	Pile Cap Construction	60 days	'08 Mar 10	'08 May 8																				
13	Precast Concrete Installation	40 days	'08 May 9	'08 Jun 17																				
14	Insitu Concrete Slab	28 days	'08 Jun 18	'08 Jul 15																				
15	Installation of Steelwork & Miscellaneous	14 days	'08 Jul 16	'08 Jul 29																				
16	Completion of Works	0 days	'08 Jul 29	'08 Jul 29																				

Project: Yueng Shue Wan Helipad - R  
 Date: '08 Jul 5

Task		Milestone		External Tasks		Progress	
Split		Summary		External MileTask			
Progress		Project Summary		Split			

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**APPENDIX M  
COMPLAINT LOG**

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**APPENDIX M – COMPLAINT LOG****Reporting Month:** June 2008

<b>Log Ref.</b>	<b>Location</b>	<b>Received Date</b>	<b>Details of Complaint</b>	<b>Investigation/Mitigation Action</b>	<b>Status</b>
N/A	N/A	N/A	N/A	N/A	N/A

**Remarks:** No environmental complaint was received in the reporting month.