

The Hongkong Electric Co Ltd

香港電燈有限公司



ENVIRONMENTAL IMPACT ASSESSMENT (EIA) ORDINANCE, CAP. 499

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**LAMMA POWER STATION EXTENSION
ENVIRONMENTAL MONITORING & AUDIT PROGRAMME
AT CONSTRUCTION PHASE**

Report Title Monthly EM&A Report
 (July 2005)

Date 12/08/2005

Certified by


(Mr. IP Tat-Yan, Environmental Team Leader)

Verified by

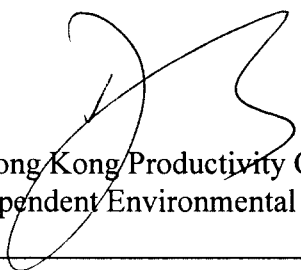

(Hong Kong Productivity Council,
Independent Environmental Checker)

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EXECUTIVE SUMMARY

This is the fifty-second monthly Environmental Monitoring and Audit (EM&A) report for the Project “Construction of Lamma Power Station Extension” prepared by the Environmental Team (ET). This report presents the results of impact monitoring on air quality and noise for the said project in July 2005.

After successful completion of post-project monitoring in September 2002, no further marine water quality monitoring for the reclamation works would be required.

Air and noise monitoring were performed. The results were checked against the established Action/Limit (AL) levels. An on-site audit was conducted once per week. The implementation status of the environmental mitigation measures, Event/Action Plan and environmental complaint handling procedures were also checked.

Construction Activities Undertaken

Construction activities for Lamma Extension during the reporting month are tabulated as follows:

Item	Construction Activities
Unit L9 Civil and Building Works	Main Station Building, 275kV Switching Station, Shunt Reactor, Chimney, Drainage, Fire Services Water Tank and Fire Pump House, C.W. Culvert System, C.W. Equipment Room, and Lamma Power Station Addition and Alteration (LPS A&A) Works
Unit L9 Mechanical Erection	Erection of HRSG, Steam Turbine, Gas Turbine, Generator, Condenser, Aux Equipment, Air duct / Inlet Filter, HRSG Inlet Duct and Piping Support / Piping Erection; Insulation Work; and Installation of Platform, Pipe Rack, Intake Aux Equipment and BOP Piping
Unit L9 Electrical, Instrumentation & Control Erection	Busduct Installation, Control Panel/Marshalling Panel/Battery & Rack Installation, Cable Tray & Earthing Installation and Cable Laying & Termination
275kV Switching Station Erection	Materials Delivery & Installation of GIS and Shunt Reactors
Transmission System	Site formation work and tunnel excavation at the Lamma Power Station Cable Duct No.1, cable landing points N2, N4 & N5, filling of quarry spall, Type 2 and Type 1 rockfill at N2 and N4 respectively
Gas Pipeline	Post-trenching work
Miscellaneous	Slurry ash piping & filling

Environmental Monitoring Works

All monitoring work at designated stations was performed as scheduled satisfactorily.

Air Quality

No exceedance of Action/Limit levels on 1-hour TSP and 24-hour TSP for air quality was recorded in the month.

Noise

Construction work for Lamma Extension was carried out during the restricted hours including evening-time, holidays and night-time under valid Construction Noise Permits. No exceedance of Action and Limit levels for noise arising from the construction of Lamma Extension and transmission system was recorded in the month.

Site Environmental Audit

Independent Environmental Checker (IEC) conducted a site inspection on 20/07/2005. The inspection result is attached in Appendix H.

Site audits were carried out on a weekly basis to monitor environmental issues on the construction site. The Gas Receiving Station area had been handed over to the Superstructure contractor and the checklist of 09/07/2005 was the last one. The site conditions were generally satisfactory. All required mitigation measures were implemented.

Environmental Licensing and Permitting

Description	Permit No.	Valid Period		Issued To	Date of Issuance
		From	To		
Varied Environmental Permit	EP-071/2000/C	18/05/05	-	HEC	18/05/05
Construction Noise Permit	GW-RS0678-04	10/01/05	09/07/05	Contractor	07/01/05
Construction Noise Permit	GW-RS0679-04	10/01/05	09/07/05	Contractor	06/01/05
Construction Noise Permit	GW-RS0097-05	21/02/05	09/08/05	Contractor	18/02/05
Construction Noise Permit	GW-RE0018-05	25/02/05	24/08/05	Contractor	07/02/05
Construction Noise Permit	GW-RS0013-05	25/02/05	24/08/05	Contractor	21/02/05
Construction Noise Permit	GW-RN0062-05	02/03/05	01/09/05	Contractor	01/03/05
Construction Noise Permit	GW-RS0139-05	17/03/05	16/09/05	Contractor	17/03/05
Construction Noise Permit	GW-RS0146-05	21/03/05	20/09/05	Contractor	21/03/05
Construction Noise Permit	GW-RS0242-05	29/04/05	28/09/05	Contractor	27/04/05
Construction Noise Permit	GW-RS0243-05	29/04/05	28/09/05	Contractor	27/04/05

Description	Permit No.	Valid Period		Issued To	Date of Issuance
		From	To		
Construction Noise Permit	GW-RS0246-05	29/04/05	09/10/05	Contractor	29/04/05
Construction Noise Permit	GW-RS0317-05	26/05/05	25/11/05	Contractor	26/05/05
Construction Noise Permit	GW-RS0318-05	26/05/05	25/11/05	Contractor	26/05/05
Construction Noise Permit	GW-RS0416-05	10/07/05	09/01/06	Contractor	30/06/05
Dumping Permit	EP/MD/05-051	01/03/05	31/08/05	Contractor	28/01/05
Dumping Permit	EP/MD/05-115	01/03/05	31/08/05	Contractor	22/02/05
Dumping Permit	EP/MD/05-132	04/03/05	03/07/05	Contractor	03/03/05
Dumping Permit	EP/MD/06-014	24/06/05	23/07/05	Contractor	21/06/05
Registration of Chemical Waste Producer	WPN5213-912-P2781-07	11/06/04	-	Contractor	11/06/04
Registration of Chemical Waste Producer	WPN5213-912-K2801-03	15/09/04	-	Contractor	15/09/04
Registration of Chemical Waste Producer	WPN5517-912-T2007-01	08/12/92	-	Contractor	08/12/92
Registration of Chemical Waste Producer	WPN5213-912-W2852-09	25/01/05	-	Contractor	25/01/05
Registration of Chemical Waste Producer	WPN4111-912-M2534-09	20/06/05	-	Contractor	20/06/05
WPCO Discharge Licence	EP890/W2/XD020	22/11/04	30/11/09	Contractor	22/11/04

Implementation Status of Environmental Mitigation Measures

Environmental mitigation measures for the construction activities as recommended in the EM&A manual were implemented in the reporting month.

Environmental Complaints

One enquiry about muddy water was received in the reporting month regarding the submarine cable works offshore Cyberport. The incident was found to be an accidental seepage of dredged materials and the contractor was warned to take appropriate measures to prevent it from happening again. Site supervision would also be strengthened.

Future Key Issues

The future key issues to be considered in the coming month are as follows:

Unit L9 Civil and Building Works

- to continue monitoring the noise level during construction and to ensure compliance with the CNP's already obtained;
- to continue executing the preventive measures for avoiding noise exceedance and keep monitoring/ reviewing the performance;
- to monitor and review the sufficiency of the dust suppression measures provided and increase the resources accordingly if necessary;

Unit L9 Mechanical Erection

- to continue monitoring the noise level during construction
- to continue executing the preventive measures for avoiding noise exceedance and keep monitoring/ reviewing the performance;
- to monitor and review the sufficiency of the dust suppression measures provided and increase the resources accordingly if necessary;

Unit L9 Electrical Erection

- to continue monitoring the noise level during construction
- to continue executing the preventive measures for avoiding noise exceedance and keep monitoring/ reviewing the performance;
- to monitor and review the sufficiency of the dust suppression measures provided and increase the resources accordingly if necessary;

275KV Switching Station Erection

- to continue monitoring the noise level during construction
- to continue executing the preventive measures for avoiding noise exceedance and keep monitoring/ reviewing the performance;
- to monitor and review the sufficiency of the dust suppression measures provided and increase the resources accordingly if necessary;

Transmission System

- to continue monitoring the noise level during construction;
- to continue executing the preventive measures for avoiding noise exceedance and keep monitoring/ reviewing the performance;
- to monitor and review the sufficiency of the dust suppression measures provided and increase the resources accordingly if necessary;
- to closely monitor the construction activities in order to avoid disturbance to the rare plants;
- to provide temporary fire fighting equipment for prevention of fire within the work sites.

Concluding Remarks

The environmental performance of the project was generally satisfactory.

1. INTRODUCTION

1.1 Background

The Environmental Team (hereinafter called the “ET”) was formed within the Hongkong Electric Co. Ltd (HEC) to undertake Environmental Monitoring and Audit for “Construction of Lamma Power Station Extension” (hereinafter called the “Project”). Under the requirements of Section 6 of Environmental Permit EP-071/2000/C, an EM&A programme for impact environmental monitoring set out in the EM&A Manual (Construction Phase) is required to be implemented. In accordance with the EM&A Manual, environmental monitoring of air quality, noise and water quality and regular environmental audits are required for the Project. As the post-project marine water monitoring was successfully completed in September 2002, no further water quality monitoring for the reclamation works would be required.

The Project involves the construction of a gas-fired power station employing combined cycled gas turbine technology, forming an extension to the existing Lamma Power Station. The key elements of the Project including the construction activities associated with the transmission system and submarine gas pipeline are outlined as follows.

- dredging and reclamation to form approximately 22 hectares of usable area;
- construction of six 300MW class gas-fired combined cycle units;
- construction of a gas receiving station;
- construction of a new transmission system linking the Lamma Extension to load centres on Hong Kong Island;
- laying of a gas pipeline for the supply of natural gas to the new power station

This report summarizes the environmental monitoring and audit work for the Project for the month of July 2005.

1.2 Project Organisation

An Environmental Management Committee (EMC) has been set up in HEC to oversee the Project. The management structure includes the following:

- Environmental Protection Department (The Authority);
- Environmental Manager (The Chairman of the Environmental Management Committee);
- Engineer;
- Independent Environmental Checker (IEC);
- Environmental Team (ET);
- Contractor.

The project organisation chart for the construction EM&A programme is shown in Appendix A.

1.3 Construction Works undertaken during the Reporting Month

Construction activities for Unit L9 civil and building works were for the Main Station Building, 275kV Switching Station, Shunt Reactor, Chimney, Drainage, Fire Services Water Tank and Fire Pump House, C.W. Culvert System, C.W. Equipment Room and LPS A&A Works. Construction activities for Unit L9 mechanical works were the erection of HRSG, Steam Turbine, Gas Turbine, Generator, Condenser, Auxiliary Equipment, Air duct / Inlet Filter, HRSG Inlet Duct, Piping Support / Piping, Insulation Work, and installation of Platform, Pipe Rack, Intake Auxiliary Equipment and BOP Piping. Construction activities for Unit L9 electrical, instrumentation & control erection were Busduct installation, Control Panel / Marshalling Panel / Battery & Rack installation, Cable Tray & Earthing installation and Cable Laying & Termination. The construction activities for 275KV Switching Station erection were materials delivery & installation of GIS and Shunt Reactors. Construction activities for Unit L9's associated transmission system were site formation work and tunnel excavation at the Lamma Power Station Cable Duct No.1, cable landing points N2, N4 & N5, and filling of quarry spill, Type 2 and Type 1 rockfill at N2 and N4 respectively. The dredging/excavation of submarine cable trench outside I1 Landing Point was started in early July 2005. A separate monthly EM&A report for submarine pipeline prepared by the consultant, as one of ET members, is shown in Appendix K. Uncontaminated materials were dumped at the assigned location within the South Cheung Chau Spoil Disposal Area. Layout plans for construction site and transmission system are shown in Figure 1.1 and Figure 1.2 respectively. Figure 1.3 and Figure 1.4 show the dumping locations in July 2005.

The main construction activities carried out during the reporting month and the corresponding environmental mitigation measures are summarized in Table 1.1. The implementation of major mitigation measures in the month is provided in Appendix I.

Table 1.1 Construction Activities and Their Corresponding Environmental Mitigation Measures

Item	Construction Activities	Environmental Mitigation Measures
Unit L9 Civil and Building Works		
1.	Main Station Building	<p>Air</p> <p>– Dust suppression measures implemented.</p> <p>Noise</p> <p>– General noise mitigation measures employed at all work sites throughout the construction phase.</p> <p>Waste Management</p> <p>– Waste Management Plan submitted and implemented.</p>

Item	Construction Activities	Environmental Mitigation Measures
2.	275kV Switching Station	<p>Air</p> <ul style="list-style-type: none"> – Dust suppression measures implemented. <p>Noise</p> <ul style="list-style-type: none"> – General noise mitigation measures employed at all work sites throughout the construction phase. <p>Waste Management</p> <ul style="list-style-type: none"> – Waste Management Plan submitted and implemented.
3.	Shunt Reactor	<p>Air</p> <ul style="list-style-type: none"> – Dust suppression measures implemented. <p>Noise</p> <ul style="list-style-type: none"> – General noise mitigation measures employed at all work sites throughout the construction phase. <p>Waste Management</p> <ul style="list-style-type: none"> – Waste Management Plan submitted and implemented.
4.	Chimney	<p>Air</p> <ul style="list-style-type: none"> – Dust suppression measures implemented. <p>Noise</p> <ul style="list-style-type: none"> – General noise mitigation measures employed at all work sites throughout the construction phase. <p>Waste Management</p> <ul style="list-style-type: none"> – Waste Management Plan submitted and implemented.
5.	Drainage Works	<p>Air</p> <ul style="list-style-type: none"> – Dust suppression measures implemented. <p>Noise</p> <ul style="list-style-type: none"> – General noise mitigation measures employed at all work sites throughout the construction phase. <p>Waste Management</p> <ul style="list-style-type: none"> – Waste Management Plan submitted and implemented.

Item	Construction Activities	Environmental Mitigation Measures
6.	Fire Services Water Tank and Fire Pump House	<p>Air</p> <ul style="list-style-type: none"> – Dust suppression measures implemented. <p>Noise</p> <ul style="list-style-type: none"> – General noise mitigation measures employed at all work sites throughout the construction phase. <p>Waste Management</p> <ul style="list-style-type: none"> – Waste Management Plan submitted and implemented.
7.	C.W. Culvert System	<p>Air</p> <ul style="list-style-type: none"> – Dust suppression measures implemented. <p>Noise</p> <ul style="list-style-type: none"> – General noise mitigation measures employed at all work sites throughout the construction phase. <p>Waste Management</p> <ul style="list-style-type: none"> – Waste Management Plan submitted and implemented.
8.	C.W. Equipment Room	<p>Air</p> <ul style="list-style-type: none"> – Dust suppression measures implemented. <p>Noise</p> <ul style="list-style-type: none"> – General noise mitigation measures employed at all work sites throughout the construction phase. <p>Waste Management</p> <ul style="list-style-type: none"> – Waste Management Plan submitted and implemented.
9.	LPS A&A Works	<p>Air</p> <ul style="list-style-type: none"> – Dust suppression measures implemented. <p>Noise</p> <ul style="list-style-type: none"> – General noise mitigation measures employed at all work sites throughout the construction phase. <p>Waste Management</p> <ul style="list-style-type: none"> – Waste Management Plan submitted and implemented.

Item	Construction Activities	Environmental Mitigation Measures
Construction of Transmission System		
10.	Site formation work and tunnel excavation at the Lamma Power Station Cable Duct No.1, cable landing points N2, N4 & N5	Air Quality – Dust suppression measures implemented. Noise – General noise mitigation measures employed at all work sites throughout the construction phase. Terrestrial Ecology – Special care and close monitoring to avoid disturbances to the rare plant species. – Temporary fire fighting equipment provided within the work area during construction.
11.	Filling of quarry spill, Type 2 and Type 1 rockfill at N2 and N4 respectively	Noise – General noise mitigation measures employed at all work sites throughout the construction phase.
Unit L9 Mechanical Erection		
12.	HRSB Erection	Air – Dust suppression measures implemented. Noise – General noise mitigation measures employed at all work sites throughout the construction phase. Waste Management – Waste Management Plan submitted and implemented.
13.	Steam Turbine Erection	Air – Dust suppression measures implemented. Noise – General noise mitigation measures employed at all work sites throughout the construction phase. Waste Management – Waste Management Plan submitted and implemented.

Item	Construction Activities	Environmental Mitigation Measures
14.	Gas Turbine Erection	<p>Air</p> <ul style="list-style-type: none"> – Dust suppression measures implemented. <p>Noise</p> <ul style="list-style-type: none"> – General noise mitigation measures employed at all work sites throughout the construction phase. <p>Waste Management</p> <ul style="list-style-type: none"> – Waste Management Plan submitted and implemented.
15.	Generator Erection	<p>Air</p> <ul style="list-style-type: none"> – Dust suppression measures implemented. <p>Noise</p> <ul style="list-style-type: none"> – General noise mitigation measures employed at all work sites throughout the construction phase. <p>Waste Management</p> <ul style="list-style-type: none"> – Waste Management Plan submitted and implemented.
16.	Condenser Erection	<p>Air</p> <ul style="list-style-type: none"> – Dust suppression measures implemented. <p>Noise</p> <ul style="list-style-type: none"> – General noise mitigation measures employed at all work sites throughout the construction phase. <p>Waste Management</p> <ul style="list-style-type: none"> – Waste Management Plan submitted and implemented.
17.	Auxiliary Equipment Erection	<p>Air</p> <ul style="list-style-type: none"> – Dust suppression measures implemented. <p>Noise</p> <ul style="list-style-type: none"> – General noise mitigation measures employed at all work sites throughout the construction phase. <p>Waste Management</p> <ul style="list-style-type: none"> – Waste Management Plan submitted and implemented.

Item	Construction Activities	Environmental Mitigation Measures
18.	Air duct / Inlet Filter	<p>Air</p> <ul style="list-style-type: none"> – Dust suppression measures implemented. <p>Noise</p> <ul style="list-style-type: none"> – General noise mitigation measures employed at all work sites throughout the construction phase. <p>Waste Management</p> <ul style="list-style-type: none"> – Waste Management Plan submitted and implemented.
19.	HRSB Inlet Duct	<p>Air</p> <ul style="list-style-type: none"> – Dust suppression measures implemented. <p>Noise</p> <ul style="list-style-type: none"> – General noise mitigation measures employed at all work sites throughout the construction phase. <p>Waste Management</p> <ul style="list-style-type: none"> – Waste Management Plan submitted and implemented.
20.	Piping Support / Piping Erection	<p>Air</p> <ul style="list-style-type: none"> – Dust suppression measures implemented. <p>Noise</p> <ul style="list-style-type: none"> – General noise mitigation measures employed at all work sites throughout the construction phase. <p>Waste Management</p> <ul style="list-style-type: none"> – Waste Management Plan submitted and implemented.
21.	Insulation Work	<p>Air</p> <ul style="list-style-type: none"> – Dust suppression measures implemented. <p>Noise</p> <ul style="list-style-type: none"> – General noise mitigation measures employed at all work sites throughout the construction phase. <p>Waste Management</p> <ul style="list-style-type: none"> – Waste Management Plan submitted and implemented.

Item	Construction Activities	Environmental Mitigation Measures
22.	Platform Installation	<p>Air</p> <ul style="list-style-type: none"> – Dust suppression measures implemented. <p>Noise</p> <ul style="list-style-type: none"> – General noise mitigation measures employed at all work sites throughout the construction phase. <p>Waste Management</p> <ul style="list-style-type: none"> – Waste Management Plan submitted and implemented.
23.	Pipe Rack Installation	<p>Air</p> <ul style="list-style-type: none"> – Dust suppression measures implemented. <p>Noise</p> <ul style="list-style-type: none"> – General noise mitigation measures employed at all work sites throughout the construction phase. <p>Waste Management</p> <ul style="list-style-type: none"> – Waste Management Plan submitted and implemented.
24.	Intake Aux Equipment Installation	<p>Air</p> <ul style="list-style-type: none"> – Dust suppression measures implemented. <p>Noise</p> <ul style="list-style-type: none"> – General noise mitigation measures employed at all work sites throughout the construction phase. <p>Waste Management</p> <ul style="list-style-type: none"> – Waste Management Plan submitted and implemented.
25.	BOP Piping Installation	<p>Air</p> <ul style="list-style-type: none"> – Dust suppression measures implemented. <p>Noise</p> <ul style="list-style-type: none"> – General noise mitigation measures employed at all work sites throughout the construction phase. <p>Waste Management</p> <ul style="list-style-type: none"> – Waste Management Plan submitted and implemented.

Item	Construction Activities	Environmental Mitigation Measures
Unit L9 Electrical, Instrumentation & Control Erection		
26.	Busduct Installation	<p>Air</p> <ul style="list-style-type: none"> – Dust suppression measures implemented. <p>Noise</p> <ul style="list-style-type: none"> – General noise mitigation measures employed at all work sites throughout the construction phase. <p>Waste Management</p> <ul style="list-style-type: none"> – Waste Management Plan submitted and implemented.
27.	Control Panel/ Marshalling Panel/Battery & Rack Installation	<p>Air</p> <ul style="list-style-type: none"> – Dust suppression measures implemented. <p>Noise</p> <ul style="list-style-type: none"> – General noise mitigation measures employed at all work sites throughout the construction phase. <p>Waste Management</p> <ul style="list-style-type: none"> – Waste Management Plan submitted and implemented.
28.	Cable Tray & Earthing Installation	<p>Air</p> <ul style="list-style-type: none"> – Dust suppression measures implemented. <p>Noise</p> <ul style="list-style-type: none"> – General noise mitigation measures employed at all work sites throughout the construction phase. <p>Waste Management</p> <ul style="list-style-type: none"> – Waste Management Plan submitted and implemented.
29.	Cable Laying & Termination	<p>Air</p> <ul style="list-style-type: none"> – Dust suppression measures implemented. <p>Noise</p> <ul style="list-style-type: none"> – General noise mitigation measures employed at all work sites throughout the construction phase. <p>Waste Management</p> <ul style="list-style-type: none"> – Waste Management Plan submitted and implemented.

Item	Construction Activities	Environmental Mitigation Measures
275kV Switching Station Erection		
30.	Materials Delivery & Installation of GIS and Shunt Reactors	<p>Air</p> <p>– Dust suppression measures implemented.</p> <p>Noise</p> <p>– General noise mitigation measures employed at all work sites throughout the construction phase.</p> <p>Waste Management</p> <p>– Waste Management Plan submitted and implemented.</p>
Miscellaneous		
31.	Slurry ash piping & filling	<p>Noise</p> <p>– General noise mitigation measures implemented and silent type equipment deployed.</p>

1.4 Summary of EM&A Requirements

The EM&A program requires environmental monitoring for air, noise and water quality. As the post-project marine water monitoring was successfully completed in September 2002, no further water quality monitoring for the reclamation works would be required. The detailed EM&A monitoring work for air quality and noise are described in Sections 2 and 3 respectively. Regular environmental site audits for air quality, noise, water quality and waste management were carried out.

The following environmental audits are summarized in Section 4 of this report:

- Environmental monitoring results;
- Waste Management Records;
- Weekly site audit results;
- The status of environmental licensing and permits for the Project;
- The implementation status of environmental protection and pollution control/mitigation measures.

Future key issues will be reported in Section 5 of this report.

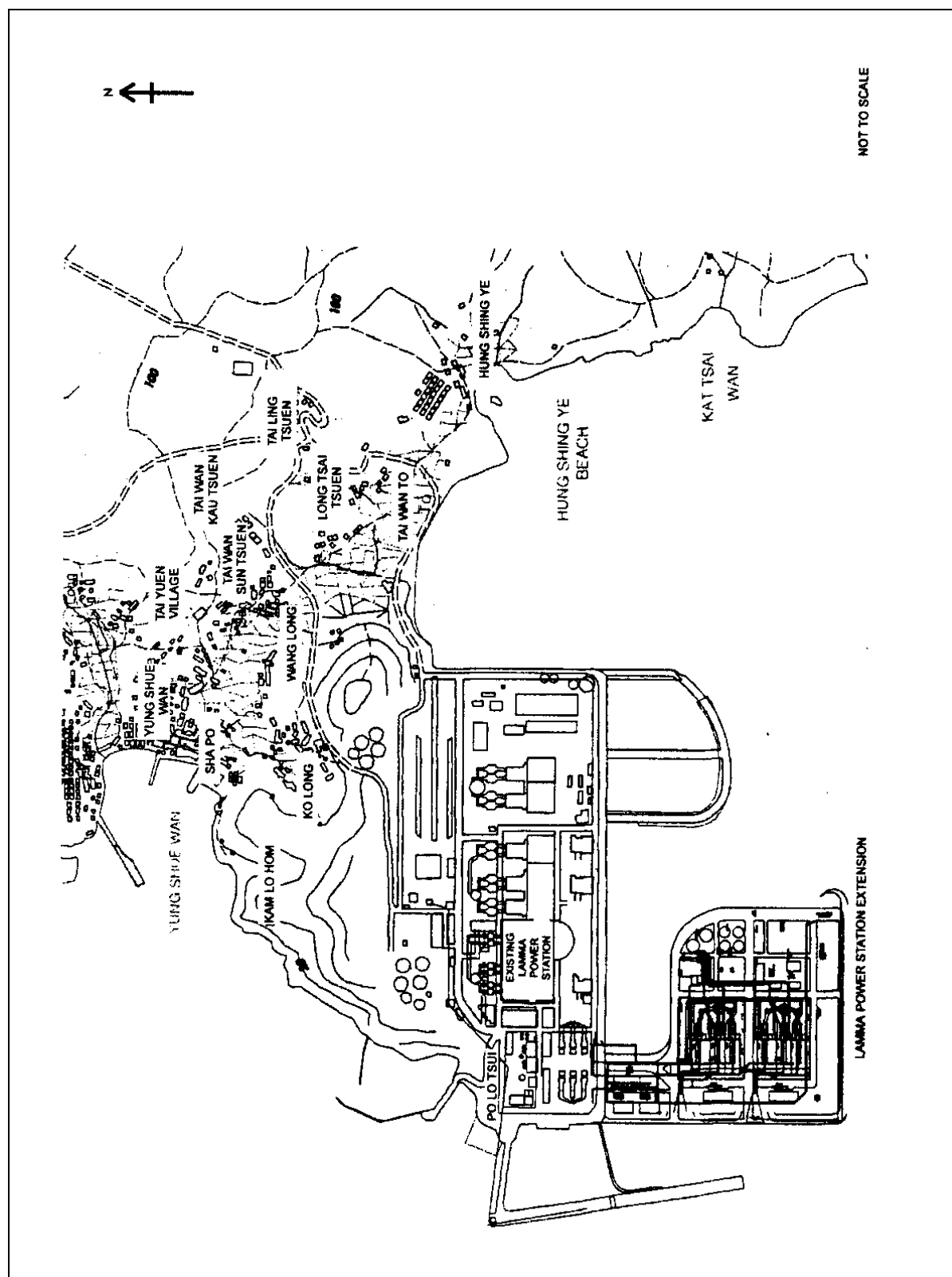


Figure 1.1 Layout of Work Site

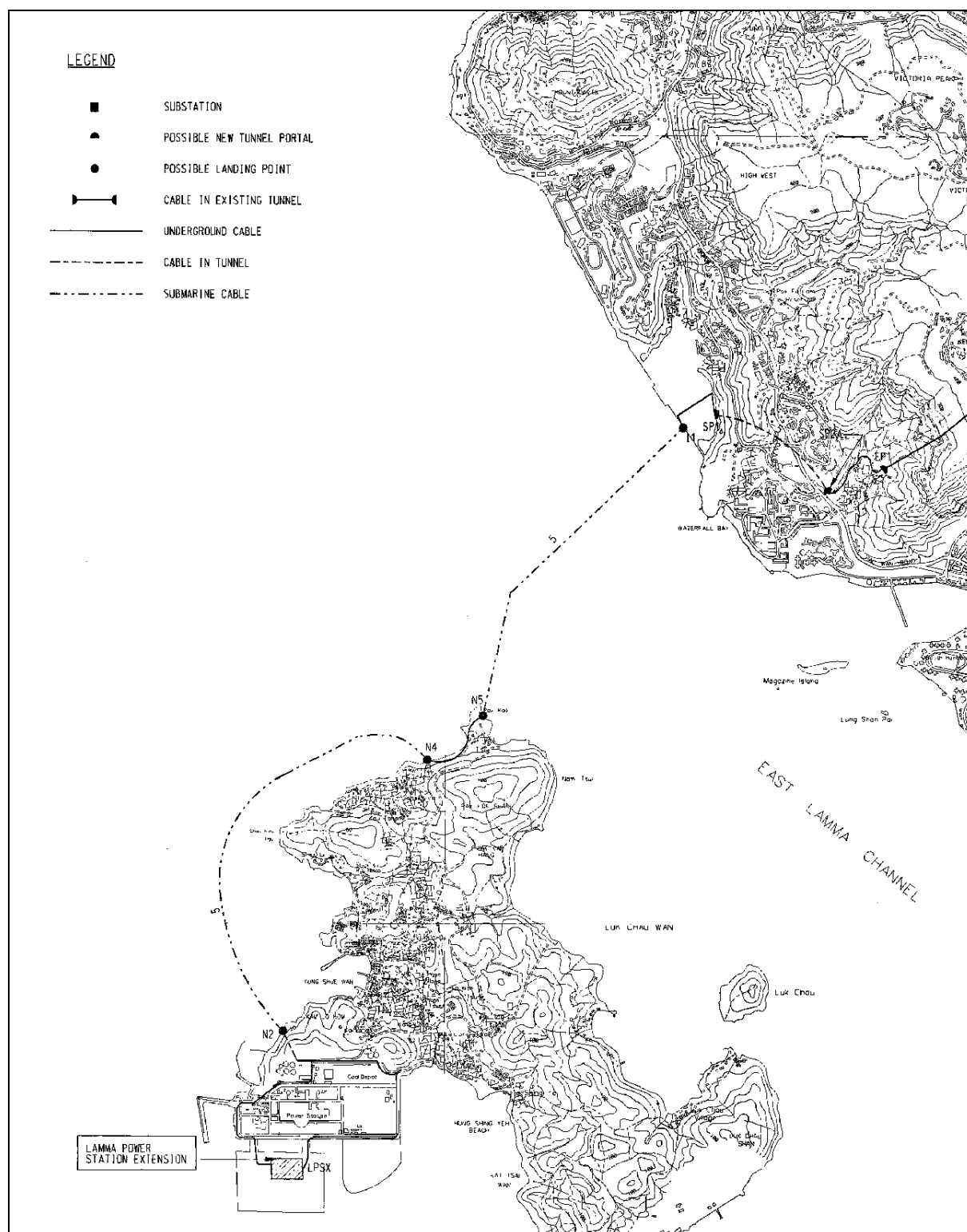
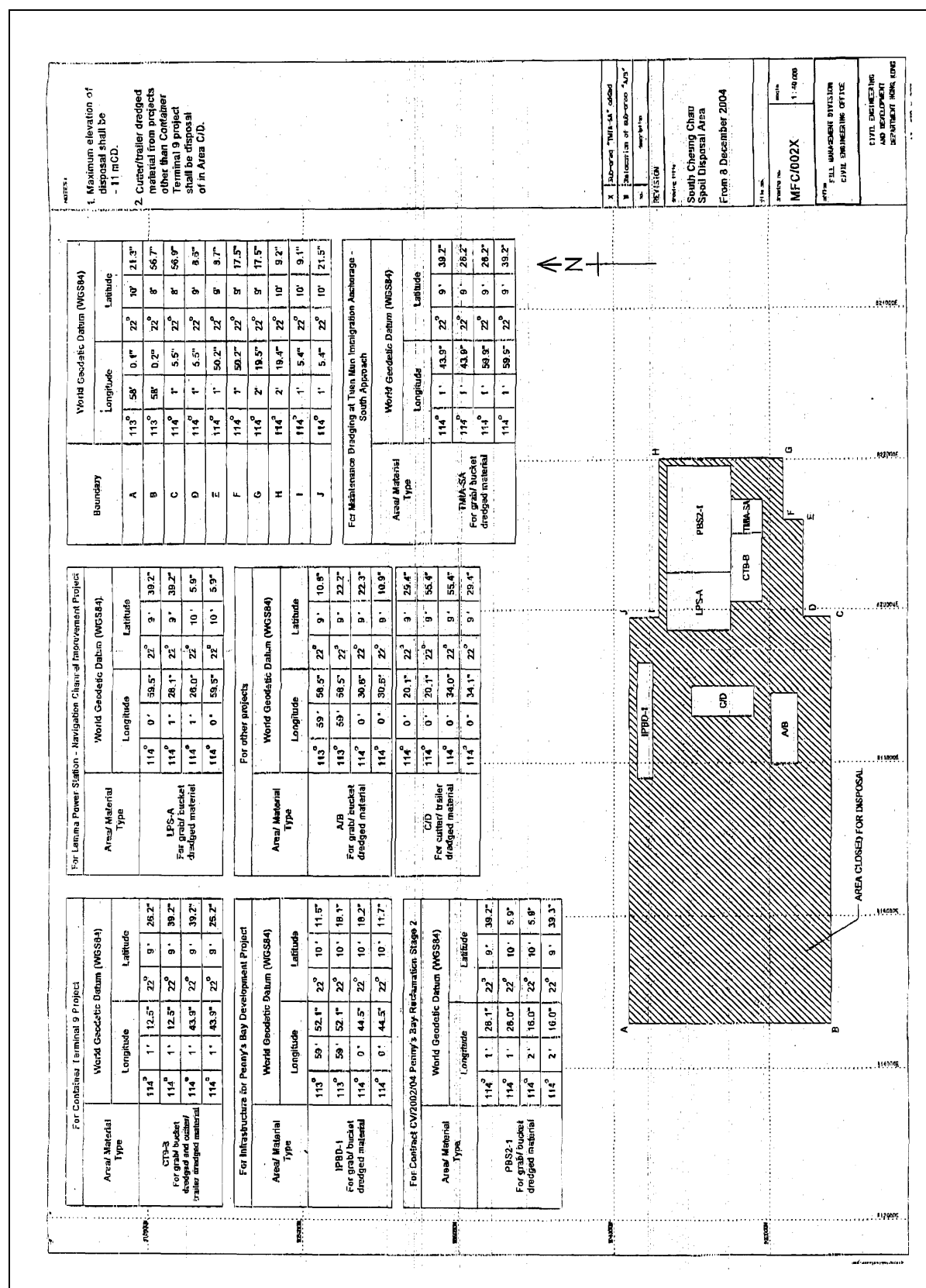


Figure 1.2 Cable Route of Transmission System



2. AIR QUALITY

2.1 Monitoring Requirements

1-hour and 24-hour TSP monitoring at agreed frequencies were conducted to monitor air quality. The impact monitoring data were checked against the Action/Limit Levels as determined in the Baseline Monitoring Report (Construction Phase). Appendix B shows the established Action/Limit Levels for Air Quality.

2.2 Monitoring Locations

Three dust monitoring locations were selected for 1-hour TSP sampling (AM1, AM2 & AM3) while four monitoring locations were selected for 24-hour TSP sampling (AM1, AM2, AM3 and AM4). Table 2.1 tabulates the monitoring stations. The locations of the monitoring stations are shown in Figure 2.1.

Table 2.1 Air Quality Monitoring Locations

Location I.D.	Description
AM1	Reservoir
AM2	East Gate
AM3	Ash Lagoon
AM4	Tai Yuen Village

2.3 Monitoring Equipment

Continuous 24-hour TSP air quality monitoring was performed using the GS2310 High Volume Air Samplers (HVAS), Partisol Model 2000 Sampler and the MINIVOL Portable Sampler at AM1&2, AM3 and AM4 respectively. TEOM Model 1400a continuous dust monitors were used to carry out 1-hour TSP monitoring at AM1, AM2 and AM3. Table 2.2 summarises the equipment used in dust monitoring.

Table 2.2 Air Quality Monitoring Equipment

Equipment	Model and Make
<i>24-hour sampling:</i> HVAS Sampler	Model GS2310 Anderson Instruments Inc.
Partisol Air Sampler	Partisol Model 2000 Rupprecht & Patashnick
MINIVOL Portable Sampler	AIRMETRICS
<i>1-hour sampling:</i> Continuous TSP Dust Meter	TEOM Model 1400a Rupprecht & Patashnick

2.4 Monitoring Parameters, Frequency and Duration

Table 2.3 summarises the monitoring parameters, duration and frequency of air quality monitoring. The monitoring schedule for the reporting month is shown in Appendix C.

Table 2.3 Air Quality Monitoring Parameter, Duration and Frequency

Monitoring Stations	Parameter	Duration	Frequency
AM1	1-hour TSP	1	3 hourly samples every 6 days
	24-hour TSP	24	Once every 6 days
AM2	1-hour TSP	1	3 hourly samples every 6 days
	24-hour TSP	24	Once every 6 days
AM3	1-hour TSP	1	3 hourly samples every 6 days
	24-hour TSP	24	Once every 6 days
AM4	24-hour TSP	24	Once every 6 days

2.5 Monitoring Procedures and Calibration Details

24- hour TSP Monitor:

Preparation of Filter Papers

- Visual inspection of filter papers was carried out to ensure that there were no pinholes, tears and creases;
- The filter papers were then labeled before sampling.
- The filter papers were equilibrated at room temperature and relative humidity < 50% for at least 24 hours before weighing.

Field Monitoring

- During collection of the sampled filter paper, the information on the elapse timer was logged. Site observations around the monitoring stations, which might have affected the monitoring results, were also recorded. Major pollution sources, if any, would be identified and reported. The flow record chart for the previous sampling was checked to see if there was any abnormality.
- The post-sampling filter papers were removed carefully from the filter holder and folded to avoid loss of fibres or dust particles from the filter papers;
- The filter holder and its surrounding were cleaned;
- A pre-weighed blank filter paper for the next sampling was put in place and aligned carefully. The filter holder was then tightened firmly to avoid leakage;
- A new flow record chart was loaded into the flow recorder;
- The programmable timer was set for the next 24 hrs sampling period, $\pm 1/2$ hr;
- The post-sampling filter papers were equilibrated at room temperature and relative humidity $< 50\%$ for at least 24 hours before weighing.

1- hour TSP Monitor:

- The following parameters of the TEOM model dust meters are regularly checked to ensure proper functionality:
 - Mass concentration;
 - Total mass;
 - Frequency of the tapered element;
 - Electrical noise;
 - Main flow;
 - Auxiliary flow.

Maintenance & Calibration

- The monitoring equipment and their accessories are maintained in good working conditions.
- Monitoring equipment is calibrated at monthly intervals. Calibration details are shown in Appendix F.

2.6 Results and Observations

All dust monitoring works were conducted on schedule. All monitoring data and graphical presentation of the monitoring results are provided in Appendix D. Key findings and observations are provided below:

1-hour TSP

No exceedance of 1-hour TSP Action/Limit Level was recorded in the month.

24-hour TSP

No exceedance of 24-hour TSP Action/Limit Level was recorded in the month.

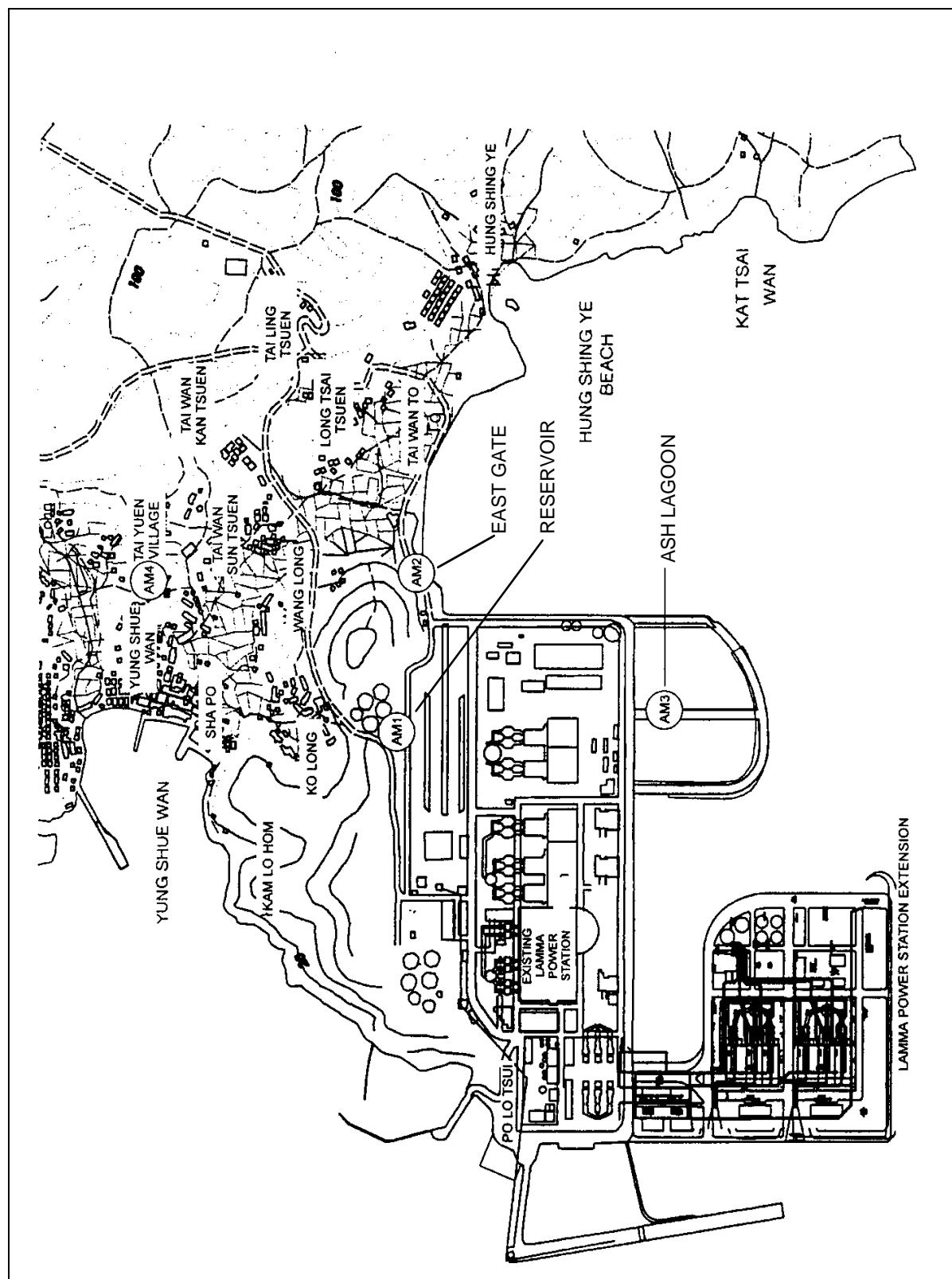


Figure 2.1 Location of Air Quality Monitoring Stations

3. NOISE

3.1 Monitoring Requirements

Continuous noise alarm monitoring at Ash Lagoon/Ching Lam were carried out to calculate the noise contributed by the construction activities at the two critical NSR's, viz. Long Tsai Tsuen/Hung Shing Ye and the school within the village of Tai Wan San Tsuen. The impact monitoring data for construction noise were checked against the limit levels specified in the EM&A Manual. With the availability of the construction noise permits, impact monitoring for the construction work during the restricted hours was also carried out. Section 4 presents the details of the construction noise permits.

Manual noise measurements at Pak Kok Tsui residences were carried out for the construction work of Transmission System in this reporting month. The impact noise monitoring data were checked against the limit levels specified in the EM&A Manual. Appendix B shows the established Action/Limit Levels for noise.

3.2 Monitoring Locations

In accordance with the EM&A manual, the identified noise monitoring locations are listed in Table 3.1 and shown in Figure 3.1 and Figure 3.2.

Table 3.1 Noise Monitoring Locations

Purpose of noise monitoring	Monitoring Location
Lamma Extension	Ash Lagoon
Lamma Extension	Ching Lam
Transmission System	Pak Kok Tsui residences (No.2 and No.8)

3.3 Monitoring Equipment

The sound level meters used for noise monitoring complied with International Electrotechnical Commission Publications 651:1979 (Type 1) and 804:1985 (Type 1). The noise monitoring equipment used is shown in Table 3.2.

Table 3.2 Noise Monitoring Equipment

Equipment	Model	
	Lamma Extension	Transmission System
Sound level meter	Rion NA-27/ B&K 2238F	Rion NL-31/ ACO 6224
Sound level calibrator	Rion NC-74	Rion NC-74/ ACO 2126

3.4 Monitoring Parameters, Frequency and Duration

Continuous alarm monitoring of A-weighted Leq levels was carried out at Ash Lagoon and Ching Lam while manual noise monitoring was conducted at Pak Kok Tsui residences. The measurement duration and parameter of noise monitoring were presented in Table 3.3 as follows:

Table 3.3 Noise Monitoring Duration and Parameter

Location	Time Period	Frequency	Parameter
Ash Lagoon Ching Lam	Daytime: 0700-1900 hrs on normal weekdays	Daytime: 30 minutes	30-min L_{Aeq}
	Evening-time & holidays: 0700-2300 hrs on holidays; and 1900-2300 hrs on all other days	Evening-time & holidays: 5 minutes	5-min L_{Aeq}
	Night-time: 2300-0700 hrs of next day	Night-time: 5 minutes	5-min L_{Aeq}
Pak Kok Tsui residences	0700-1900 hrs on normal weekdays	Twice per week	30-min L_{Aeq}

3.5 Monitoring Procedures and Calibration Details

Monitoring Procedures

Continuous Noise Monitoring for Lamma Extension Construction

The measured noise levels (MNL's) were collected at the noise alarm monitoring stations at Ash Lagoon and Ching Lam. The notional background noise levels (viz. baseline noise data at Ash Lagoon and Ching Lam) were applied to correct the corresponding MNL's in 30-min/5-min L_{Aeq} .

A wind speed sensor was installed at Station Building Rooftop. The wind speed signal was used to determine whether the data from Ash Lagoon and Ching Lam noise alarm monitoring stations were affected. The instantaneous data was discarded in case the instantaneous wind speed exceeded 10 m/s. The 30-min/5-min L_{Aeq} was considered valid only if the amount of valid data was equal to or above 70%.

When calibrating the noise measuring equipment, all observations around the monitoring stations, which might have affected the monitoring results, were recorded.

Manual Noise Monitoring for Transmission System Construction

Manual noise measurements were carried out at the Pak Kok Tsui residences in accordance with standard acoustical principles and practices for checking the impact of noise related to construction of the Transmission System.

Hand-held anemometer was used to measure the wind speed while taking noise measurements. If the wind speed is excessive, noise data will be discarded and re-measured.

Equipment Calibration

The sound level meters and calibrators have been verified by the manufacturer or accredited laboratory. Equipment for continuous noise monitoring was calibrated at site on a monthly basis.

The sound level meters used for manual noise measurement were calibrated with a sound level calibrator immediately before and after noise measurement in accordance with the relevant Technical Memoranda under the Noise Control Ordinance. Calibration details are shown in Appendix F.

3.6 Results and Observations

Continuous noise monitoring was conducted at the two monitoring stations at Ash Lagoon and Ching Lam while manual noise monitoring was carried out at the Pak Kok Tsui residences.

All monitoring results and their graphical presentations are provided in Appendix E. No exceedance of noise Action/Limit Level was recorded in the month.

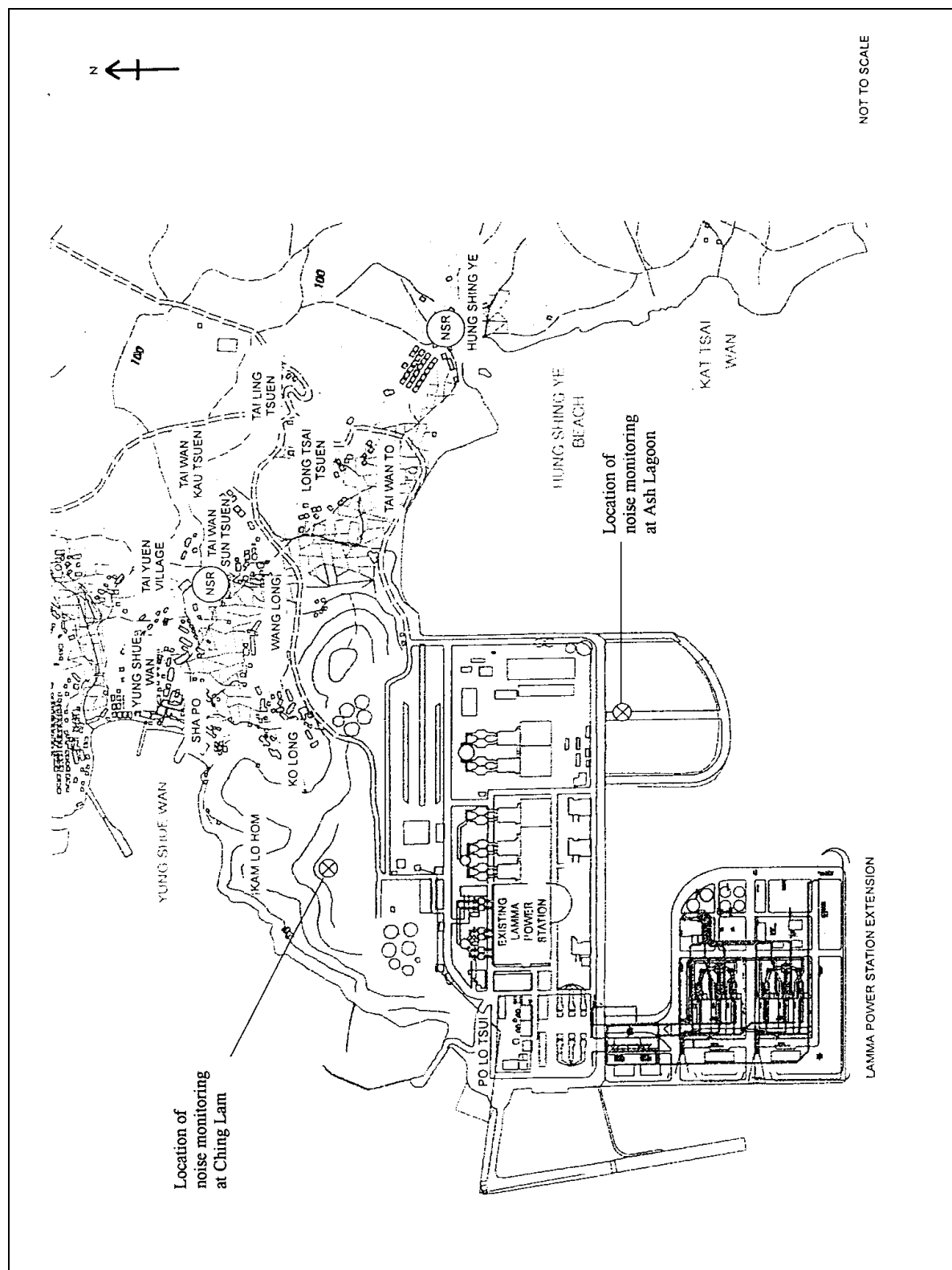


Figure 3.1 Location of Noise Monitoring Stations

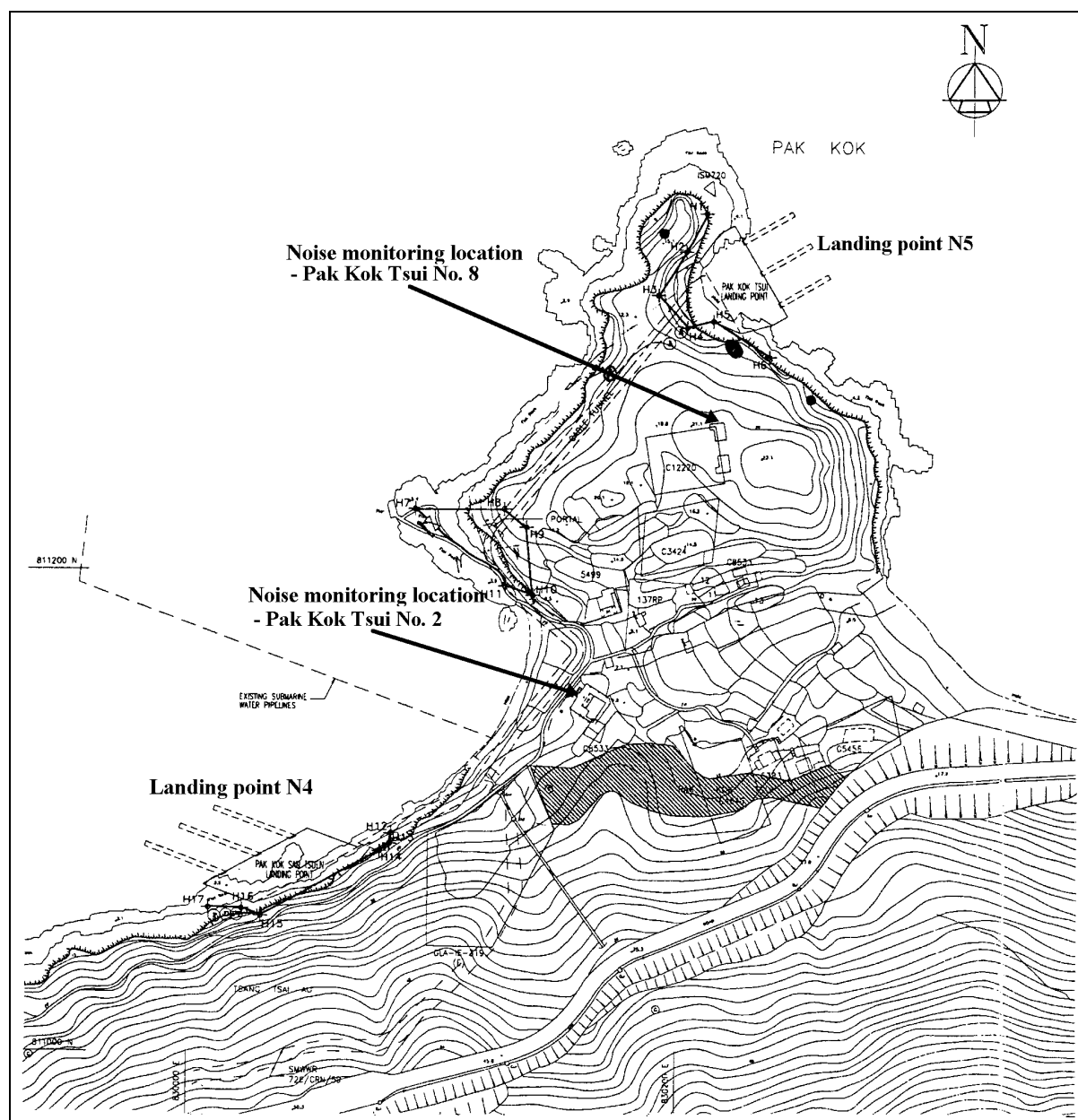


Figure 3.2 Locations of Manual Noise Monitoring

4. ENVIRONMENTAL AUDIT

4.1 Review of Environmental Monitoring Procedures

The environmental monitoring procedures were regularly reviewed by the Environmental Team. No modification to the existing monitoring procedures was recommended.

4.2 Assessment of Environmental Monitoring Results

Monitoring results for Air Quality and Noise

The environmental monitoring results for Air Quality and Noise in the reporting month presented in sections 2, 3 and 4 respectively are summarized in Table 4.1.

Table 4.1 Summary of AL Level Exceedances on Monitoring Parameters

Item	Parameter Monitored	Monitoring Period	No. of Exceedances In		Event/Action Plan Implementation Status and Results
			Action Level	Limit Level	
Air					
1	Ambient TSP (24-hour)	01/07/05-31/07/05	0	0	
2	Ambient TSP (1-hour)	01/07/05-31/07/05	0	0	
Noise					
1	Noise level at the critical NSR's predicted by the noise alarm monitoring system	01/07/05-31/07/05	0	0	
2	Manual noise monitoring at the Pak Kok Tsui residences	01/07/05-31/07/05	0	0	

Waste Management Records

The estimated amounts of different types of waste generated in July 2005 are shown in Table 4.2.

Table 4.2 Estimated Amounts of Waste Generated in July 2005

Waste Type	Examples	Estimated Amount
Construction Waste	Concrete Waste, Used formwork, reinforcement and wooden waste	53.5 Tonne
		236.3 m ³
General Refuse	Domestic wastes collected on site	24 Tonne

4.3 Site Environmental Audit

IEC conducted a site inspection on 20/07/2005. The inspection result is attached in Appendix H.

Site audits were carried out by ET on a weekly basis to monitor environmental issues at the construction sites to ensure that all mitigation measures were implemented timely and properly. The Gas Receiving Station area had been handed over to the Superstructure contractor and the checklist for 09/07/2005 is the last one. The site conditions were generally satisfactory. All required mitigation measures were implemented. The weekly site inspection results are attached in Appendix H.

4.4 Status of Environmental Licensing and Permitting

All permits/licenses obtained for the project are summarised in Table 4.3.

Table 4.3 Summary of Environmental Licensing and Permit Status

Description	Permit No.	Valid Period		Highlights	Status
		From	To		
Varied Environmental Permit	EP-071/2000/C	18/05/05	-	The whole construction work site	Valid
Construction Noise Permit	GW-RS0678-04	10/01/05	09/07/05	Operation of PME's allowed during the restricted hours (07:00-23:00 on holidays and 19:00-23:00 on all other days)	Superseded
Construction Noise Permit	GW-RS0679-04	10/01/05	09/07/05	Operation of PME's allowed during the restricted hours (07:00-23:00 on holidays and 19:00-23:00 on all other days)	Valid

Description	Permit No.	Valid Period		Highlights	Status
		From	To		
Construction Noise Permit	GW-RS0097-05	21/02/05	09/08/05	<p>Operation of PME's allowed during the restricted hours (general holidays including Sundays between 0700-0700 hrs on next day and any day not being a holiday between 1900-0700 hrs on next day).</p> <p>6 groups (A-F) of PME's are assigned. Only one group can be used. Groups A-E are restricted to general holidays including Sundays between 0700-2300 hrs and any day not being a general holiday between 1900-2300 hrs.</p>	Valid
Construction Noise Permit	GW-RE0018-05	25/02/05	24/08/05	<p>Operation of PME's allowed during the restricted hours (general holiday including Sundays between 0700-0700 hrs on next day and any day not being a general holiday between 1900-0700 hrs on next day).</p>	Valid
Construction Noise Permit	GW-RS0013-05	25/02/05	24/08/05	<p>Operation of PME's allowed during the restricted hours (general holidays including Sundays between 0700-0700 hrs on next day and any day not being a holiday between 1900-0700 hrs on next day).</p>	Valid

Description	Permit No.	Valid Period		Highlights	Status
		From	To		
Construction Noise Permit	GW-RN0062-05	02/03/05	01/09/05	Operation of PME's allowed during the restricted hours (general holiday including Sundays between 0700-0700 hrs on next day and any day not being a general holiday between 1900-0700 hrs on next day).	Valid
Construction Noise Permit	GW-RS0139-05	17/03/05	16/09/05	Operation of PME's allowed during the restricted hours (general holidays including Sundays between 0700-2300 hrs and any day not being a general holiday between 1900-2300 hrs).	Valid
Construction Noise Permit	GW-RS0146-05	21/03/05	20/09/05	Operation of PME's allowed during the restricted hours (any day between 2300-0700 hrs on next day).	Valid
Construction Noise Permit	GW-RS0242-05	29/04/05	28/09/05	Operation of PME's allowed during the restricted hours (any day between 2300-0700 hrs on next day).	Valid
Construction Noise Permit	GW-RS0243-05	29/04/05	28/09/05	Operation of PME's allowed during the restricted hours (general holidays including Sundays between 0700-2300 hrs and any day not being a general holiday between 1900-2300 hrs).	Valid

Description	Permit No.	Valid Period		Highlights	Status
		From	To		
Construction Noise Permit	GW-RS0246-05	29/04/05	09/10/05	Operation of PME's allowed during the restricted hours (general holidays including Sundays between 0700-1900 hrs and any day not being a general holiday between 1900-2100 hrs).	Valid
Construction Noise Permit	GW-RS0317-05	26/05/05	25/11/05	Operation of PME's allowed during the restricted hours (general holidays including Sundays between 0700-2300 hrs and any day not being a general holiday between 1900-2300 hrs).	Valid
Construction Noise Permit	GW-RS0318-05	26/05/05	25/11/05	Operation of PME's allowed during the restricted hours (any day between 2300-0700 hrs on next day).	Valid
Construction Noise Permit	GW-RS0416-05	10/07/05	09/01/06	Operation of PME's allowed during the restricted hours (general holidays including Sundays between 0700-2300 hrs and any day not being a general holiday between 1900-2300 hrs).	Valid
Dumping Permit	EP/MD/05-051	01/03/05	31/08/05	Dumping at South Cheung Chau Disposal Area; Supply and Installation of Submarine and Land Cables	Valid

Description	Permit No.	Valid Period		Highlights	Status
		From	To		
Dumping Permit	EP/MD/05-115	01/03/05	31/08/05	Dumping at South Cheung Chau Disposal Area; Supply and Installation of Submarine and Land Cables	Valid
Dumping Permit	EP/MD/05-132	04/03/05	03/07/05	Dumping at South Cheung Chau Disposal Area; Supply and Installation of Submarine Gas Pipeline	Valid
Dumping Permit	EP/MD/06-014	24/06/05	23/07/05	Dumping at East Sha Chau Contaminated Mud Disposal Site; Supply and Installation of Submarine and Land Cables	Valid
Registration of Chemical Waste Producer	WPN5213-912-P2781-07	11/06/04	-	Major Chemical Waste Type: Spent lubrication oil, waste car battery, paint or thinner contaminated container	Valid
Registration of Chemical Waste Producer	WPN5213-912-K2801-03	15/09/04	-	Major Chemical Waste Type: Spent lubricating oil, spent battery, contaminated soil with spent flammable liquid	Valid
Registration of Chemical Waste Producer	WPN5517-912-T2007-01	08/12/92	-	Major Chemical Waste Type for the construction work: lubrication oil and paints	Valid
Registration of Chemical Waste Producer	WPN5213-912-W2852-09	25/01/05	-	Major Chemical Waste Type: spent mineral oil/ lubricating oil, spent solvents, spent batteries and surplus paint	Valid

Description	Permit No.	Valid Period		Highlights	Status
		From	To		
Registration of Chemical Waste Producer	WPN4111-912-M2534-09	20/06/05	-	Major Chemical Waste Type: spent insulation oil for transformer	Valid
WPCO Discharge Licence	EP890/W2/XD020	22/11/04	30/11/09	Toilet for LMX construction site	Valid

4.5 Implementation Status of Environmental Mitigation Measures

Mitigation measures detailed in the permits and the EM&A Manual (Construction Phase) are required to be implemented. An updated summary of the Environmental Mitigation Implementation Schedule (EMIS) is presented in Appendix I.

4.6 Implementation Status of Event/Action Plans

The Event/Action Plans extracted from the EM&A Manual (Construction Phase) are presented in Appendix G.

4.7 Implementation Status of Environmental Complaint Handling Procedures

In July 2005, one verbal enquiry was received as summarized in Table 4.4.

Table 4.4 Environmental Complaints / Enquiries Received in July 2005

Case Reference / Date, Time Received / Date, Time Concerned	Descriptions /Actions Taken	Conclusion / Status
Reference: PD20050027 Received: 19/07/2005 (p.m.) Concerned: 15/07/2005 (15:06)	During a helicopter flight patrol, EPD observed muddy water around a dredger offshore Cyberport. EPD found it related to the submarine cable works for this Project and requested HEC to look into the matter. The incident was found to be an accidental seepage of dredged materials and the contractor was warned to take appropriate measures to prevent it from happening again. Site supervision would also be strengthened. EPD was replied accordingly.	The incident was found to be an accidental seepage of dredged materials. Case closed.

Table 4.5 Outstanding Environmental Complaints / Enquiries Carried Over

Case Reference / Date, Time Received / Date, Time Concerned	Descriptions /Actions Taken	Conclusion / Status
Nil	N/A	N/A

5. FUTURE KEY ISSUES

5.1 Status of Natural Gas supply

Based on current project schedule, HEC anticipates there is no delay in the supply of natural gas.

5.2 Key Issues for the Coming Month

Key issues to be considered in the coming month include:

Unit L9 Civil and Building Works

Noise Impact

- To continue monitoring the noise level during construction and to ensure compliance with the CNP's already obtained.
- To continue executing the preventive measures for avoiding noise exceedance and keep monitoring/ reviewing the noise performance.

Air Impact

- To monitor and review the sufficiency of the dust suppression measures provided and increase the resources accordingly if necessary.

Unit L9 Mechanical Erection

Noise Impact

- To continue monitoring the noise level during construction.
- To continue executing the preventive measures for avoiding noise exceedance and keep monitoring/ reviewing the noise performance.

Air Impact

- To monitor and review the sufficiency of the dust suppression measures provided and increase the resources accordingly if necessary.

Unit L9 Electrical, Instrumentation & Control Erection

Noise Impact

- To continue monitoring the noise level during construction.
- To continue executing the preventive measures for avoiding noise exceedance and keep monitoring/ reviewing the noise performance.

Air Impact

- To monitor and review the sufficiency of the dust suppression measures provided and increase the resources accordingly if necessary.

275KV Switching Station Erection

Noise Impact

- To continue monitoring the noise level during construction.
- To continue executing the preventive measures for avoiding noise exceedance and keep monitoring/ reviewing the noise performance.

Air Impact

- To monitor and review the sufficiency of the dust suppression measures provided and increase the resources accordingly if necessary.

Transmission System

Noise Impact

- To continue monitoring the noise level during construction.
- To continue executing the preventive measures for avoiding noise exceedance and keep monitoring/ reviewing the performance.

Air Impact

- To monitor and review the sufficiency of the dust suppression measures provided and increase the resources accordingly if necessary.

Terrestrial Ecology Impact

- To closely monitor the construction activities in order to avoid disturbance to the rare plants.
- To provide temporary fire fighting equipment for prevention of fire within the work sites.

5.3 Monitoring Schedules for the Next 3 Months

With the completion of post-project monitoring, no further marine water quality monitoring for the reclamation works is required.

The tentative environmental monitoring schedules for the next 3 months are shown in Appendix C.

5.4 Construction Program for the Next 3 Months

The period of construction activity of slurry ash piping & filling is tentatively from August 2005 to October 2005. The tentative construction programs for the next 3 months are shown in Appendix J.

6. CONCLUSION

All monitoring work at designated stations was performed as scheduled satisfactorily. The environmental monitoring works and site inspection were performed as scheduled in the reporting month. All monitoring results were checked and reviewed.

No Action/Limit level exceedance on 1-hour and 24-hour TSP level was recorded in the reporting month.

No Action/Limit level exceedance on noise was recorded in the reporting month.

Environmental mitigation measures recommended in the EM&A manual for the construction activities were implemented in the reporting month. One enquiry about muddy water was received in the reporting month regarding the submarine cable works offshore Cyberport. The incident was found to be an accidental seepage of dredged materials and the contractor was warned to take appropriate measures to prevent it from happening again. Site supervision would also be strengthened. No prosecution was received for this Project in the reporting period.

The environmental performance of the Project was generally satisfactory.

Appendix A Organization Chart

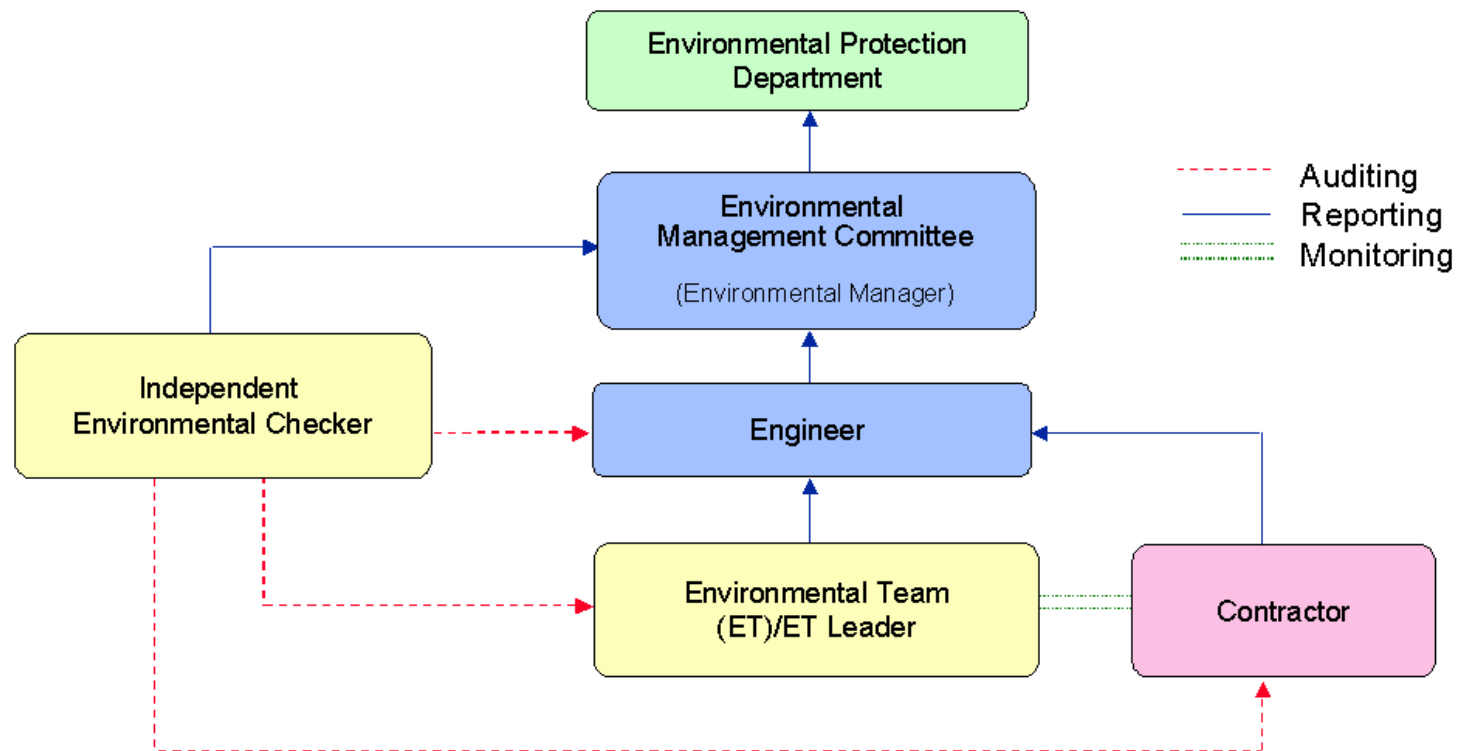


Figure A.1 Organisation of EM&A Programme at Construction Phase

Appendix B Action and Limit Levels for Air Quality and Noise Monitoring

B.1. Air

Table B.1 Action and Limit Levels for 1-hour and 24-hour TSP

	Action Level, $\mu\text{g}/\text{m}^3$	Limit Level, $\mu\text{g}/\text{m}^3$
1-hour TSP*	340	500
24-hour TSP	190	260

* No Action/Limit Level for 1-hour TSP is applied to AM4 where no real time dust monitor is installed.

B.2. Noise

Table B.2 presents the Action and Limit (AL) levels for construction noise other than percussive piling.

Table B.2 AL Levels for Construction Noise (Other than Percussive Piling)

Parameters	Action	Limit
Noise Levels at the NSR's at Long Tsai Tsuen/Hung Shing Ye and school within the village of Tai Wan San Tsuen predicted by the noise alarm monitoring system	When one or more documented complaints are received	a. 75 dB(A) in $L_{Aeq,30 \text{ min}}$ (07:00-19:00 hrs on normal weekdays) (Note 1)
Manual noise monitoring at the nearest Pak Kok Tsui residences to cable landing points N4 and N5		b. subject to statutory control under the Noise Control Ordinance (07:00-23:00 hrs on holidays and 19:00-23:00 hrs on all other days). Set to 60 dB(A) in $L_{Aeq,5 \text{ min}}$ c. subject to statutory control under the Noise Control Ordinance (23:00-07:00 hrs of next day). Set to 45 dB(A) in $L_{Aeq,5 \text{ min}}$
Note: 1. For educational institution, the limit level shall be 70 dB(A), reduced to 65 dB(A) during examination periods.		

Appendix C Environmental Monitoring Schedule

Table C.1 Monitoring schedule for 24hr and 1hr TSP monitoring for Lamma Extension Construction (July 2005 to October 2005)

24hr TSP Monitoring	1hr TSP Monitoring
06/Jul/2005	06/Jul/2005 1500hr to 1800hr
12/Jul/2005	12/Jul/2005 1500hr to 1800hr
18/Jul/2005	18/Jul/2005 1500hr to 1800hr
24/Jul/2005	24/Jul/2005 1500hr to 1800hr
30/Jul/2005	30/Jul/2005 1500hr to 1800hr
05/Aug/2005	05/Aug/2005 1500hr to 1800hr
11/Aug/2005	11/Aug/2005 1500hr to 1800hr
17/Aug/2005	17/Aug/2005 1500hr to 1800hr
23/Aug/2005	23/Aug/2005 1500hr to 1800hr
29/Aug/2005	29/Aug/2005 1500hr to 1800hr
04/Sep/2005	04/Sep/2005 1500hr to 1800hr
10/Sep/2005	10/Sep/2005 1500hr to 1800hr
16/Sep/2005	16/Sep/2005 1500hr to 1800hr
22/Sep/2005	22/Sep/2005 1500hr to 1800hr
28/Sep/2005	28/Sep/2005 1500hr to 1800hr
04/Oct/2005	04/Oct/2005 1500hr to 1800hr
10/Oct/2005	10/Oct/2005 1500hr to 1800hr
16/Oct/2005	16/Oct/2005 1500hr to 1800hr
22/Oct/2005	22/Oct/2005 1500hr to 1800hr
28/Oct/2005	28/Oct/2005 1500hr to 1800hr

Table C.2 Manual Noise Monitoring Schedule for Transmission System Construction
(July 2005 to October 2005)

Date	Monitoring Start Time
05/Jul/2005	10:00
08/Jul/2005	14:00
12/Jul/2005	10:00
15/Jul/2005	14:00
19/Jul/2005	10:00
22/Jul/2005	14:00
26/Jul/2005	10:00
29/Jul/2005	14:00
02/Aug/2005	10:00
05/Aug/2005	14:00
09/Aug/2005	10:00
12/Aug/2005	14:00
16/Aug/2005	10:00
19/Aug/2005	14:00
23/Aug/2005	10:00
26/Aug/2005	14:00
30/Aug/2005	10:00
02/Sept/2005	14:00
06/Sept/2005	10:00
09/Sept/2005	14:00
13/Sept/2005	10:00
16/Sept/2005	14:00
20/Sept/2005	10:00
23/Sept/2005	14:00
27/Sept/2005	10:00
30/Sept/2005	14:00
04/Oct/2005	10:00
07/Oct/2005	14:00
10/Oct/2005	10:00
14/Oct/2005	14:00
18/Oct/2005	10:00
21/Oct/2005	14:00
25/Oct/2005	10:00
28/Oct/2005	14:00

APPENDIX D AIR QUALITY MONITORING RESULTS

Site: Lamma Power Station Extension

Month: July 2005

24 hour TSP Measurement:-

Date	TSP concentration ($\mu\text{g}/\text{m}^3$)				Weather Information (From Hong Kong Observatory)		
	Reservoir (AM1)	East Gate (AM2)	Ash Lagoon (AM3)	Tai Yuen Village (AM4)	Mean Wind Speed (km/hr)	Prevailing Wind Dir. (°)	Mean R.H. (%)
06/07/2005	31	63	23	29	6.1	280	74
12/07/2005	26	44	22	21	10.5	210	73
18/07/2005	63	155	58	53	32.4	280	72
24/07/2005	31	63	23	29	8.9	040	82
30/07/2005	31	74	26	28	33.8	120	94

1 hour TSP Measurement:-

Date	Time	TSP concentration ($\mu\text{g}/\text{m}^3$)		
		Reservoir (AM1)	East Gate (AM2)	Ash Lagoon (AM3)
06/07/2005	15:00-15:59	50	84	17
	16:00-16:59	57	154	26
	17:00-17:59	44	46	28
12/07/2005	15:00-15:59	27	51	8
	16:00-16:59	26	65	10
	17:00-17:59	24	41	9
18/07/2005	15:00-15:59	77	212	77
	16:00-16:59	76	130	85
	17:00-17:59	83	128	84
24/07/2005	15:00-15:59	32	25	19
	16:00-16:59	26	36	15
	17:00-17:59	27	36	32
30/07/2005	15:00-15:59	28	38	30
	16:00-16:59	25	31	21
	17:00-17:59	15	31	21

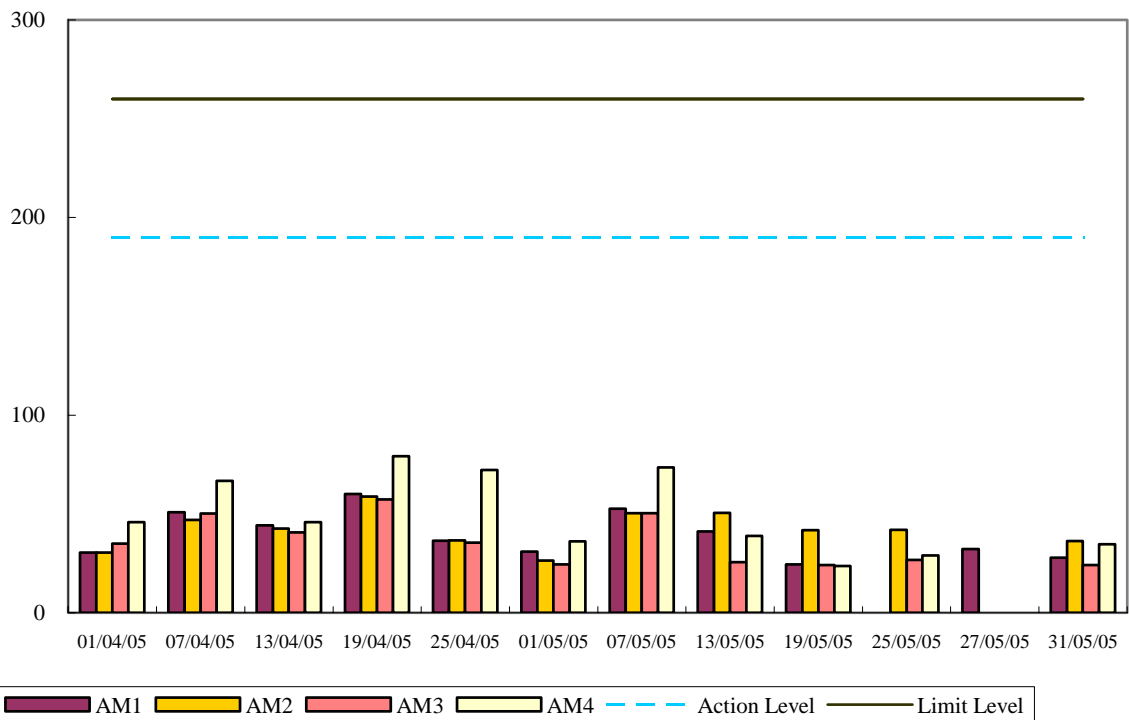
	1-hr TSP ($\mu\text{g}/\text{m}^3$)	24-hr TSP ($\mu\text{g}/\text{m}^3$)
Action Level	340	190
Limit Level	500	260

Calibration: Calibration details are shown in appendix F.

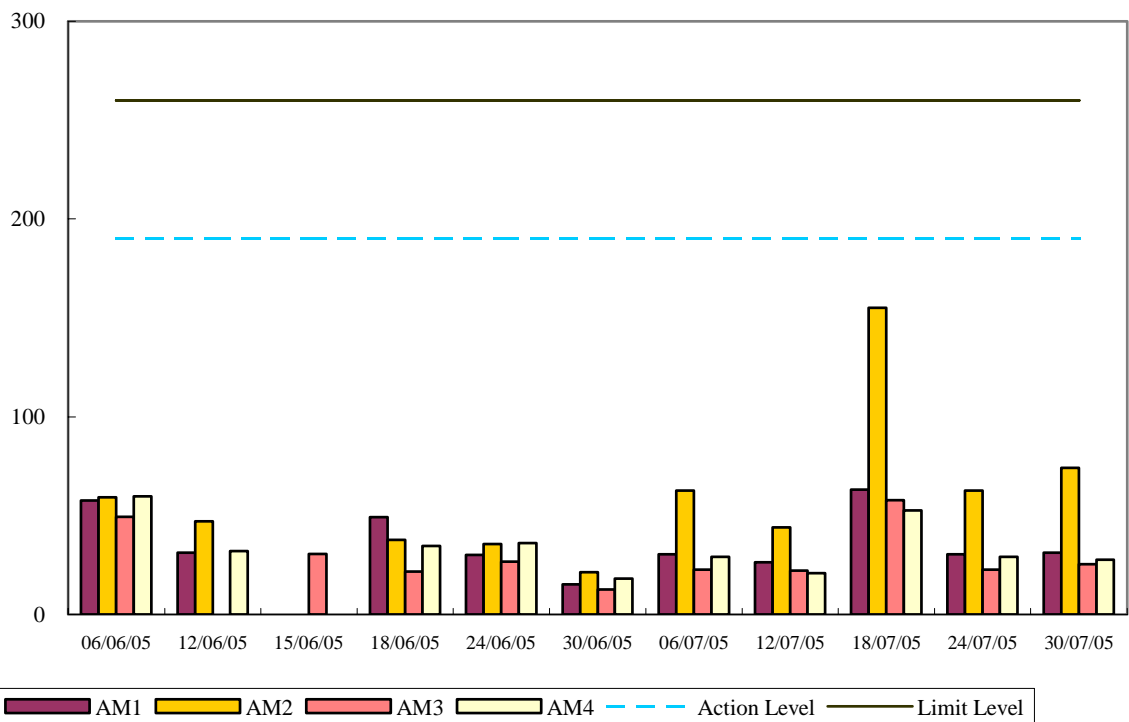
Equipment used:

Location	1-hr TSP	24-hr TSP
Reservoir and East Gate	TEOM 1400a	High Volume Air Sampler
Ash Lagoon		Partisol Model 2000 Sampler
Tai Yuen Village	-	MINIVOL Portable Sampler

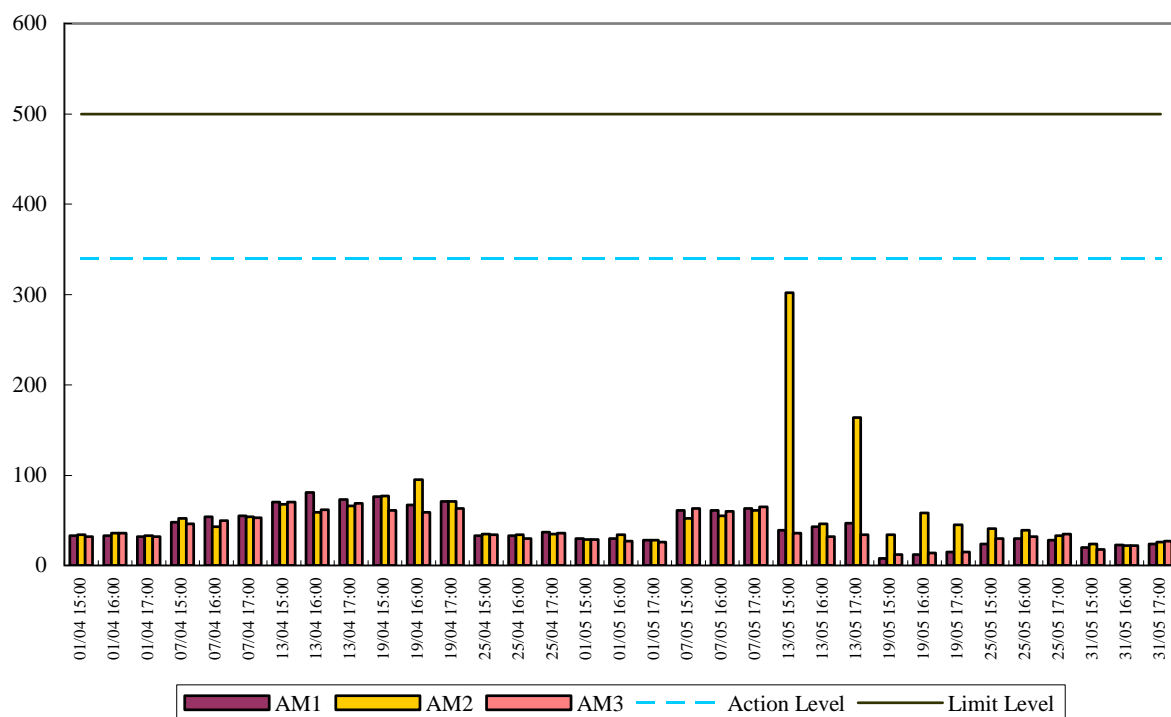
24-hr TSP Air Monitoring Data (April 2005 - May 2005)



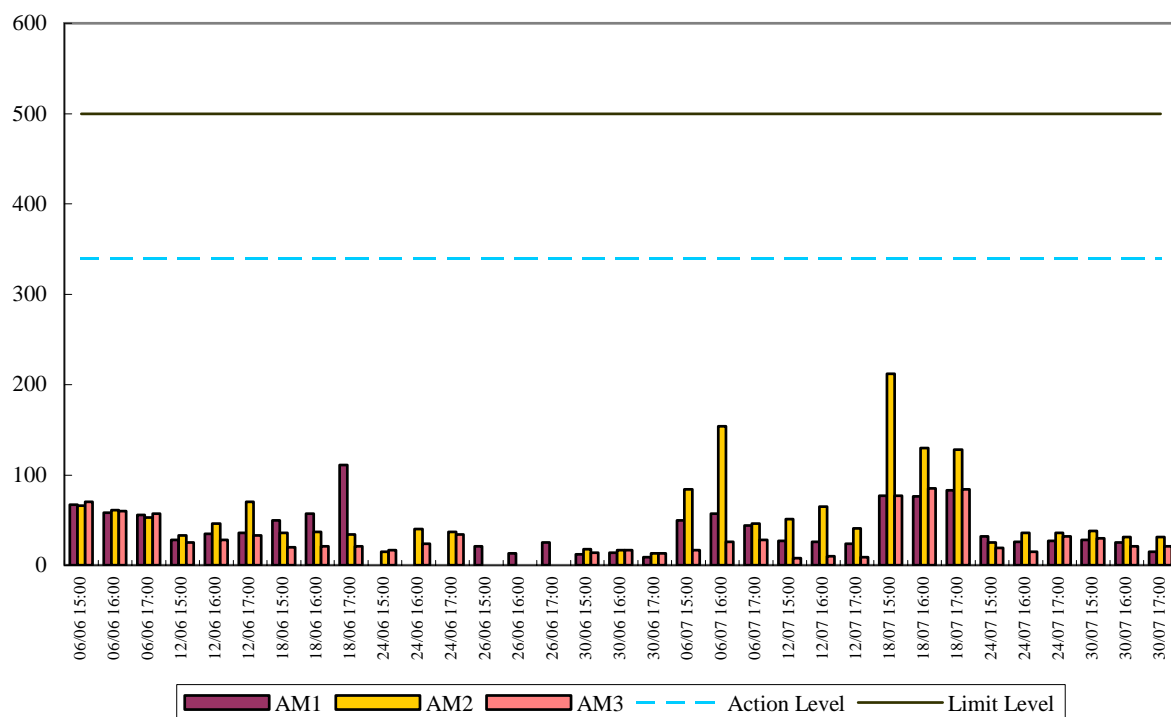
24-hr TSP Air Monitoring Data (June 2005 - July 2005)



1-hr TSP Air Monitoring Data (April 2005 - May 2005)



1-hr TSP Air Monitoring Data (June 2005 - July 2005)



Appendix E.1

Continuous Noise Monitoring Results for July 2005

Site: Lamma Power Station Extension - Superstructure and E&M Works
 Measurement Location: Ash Lagoon and Ching Lam
 Measurement Parameter: 30-min Leq (07:00-19:00 hrs on normal weekdays)
 5-min Leq (07:00-23:00 hrs on holidays and 19:00-23:00 hrs on all other days, and 23:00-07:00 hrs of next day)
 Noise Equipment Used: Rion NA-27 (Ash Lagoon) and B&K 2238F (Ching Lam) sound level meters and Rion NC-74 sound level calibrator
 Last Calibration Date: Rion NA-27 sound level meter - 17/02/2005
 B&K 2238F sound level meter - 13/07/2004
 Rion NC-74 calibrator - 17/02/2005

Date	Time	Calculated Noise Level at NSR at Long Tsai Tsuen/Hung Shing Ye (dB(A))		Limit Noise Level (dB(A))	Calculated Noise Level at NSR at the school within Tai Wan San Tsuen (dB(A))		Limit Noise Level (dB(A))
		Max	Avg		Max	Avg	
01/07/2005	07:00-23:00	42	40	60	38	36	60
01/07/2005	23:00-07:00	43	36	45	34	29	45
02/07/2005	07:00-19:00	--	--	75	--	--	70
02/07/2005	19:00-23:00	36	36	60	31	31	60
02/07/2005	23:00-07:00	39	34	45	35	30	45
03/07/2005	07:00-23:00	41	37	60	--	--	60
03/07/2005	23:00-07:00	37	34	45	32	29	45
04/07/2005	07:00-19:00	32	32	75	27	27	70
04/07/2005	19:00-23:00	--	--	60	--	--	60
04/07/2005	23:00-07:00	22	20	45	17	15	45
05/07/2005	07:00-19:00	--	--	75	--	--	70
05/07/2005	19:00-23:00	--	--	60	--	--	60
05/07/2005	23:00-07:00	39	35	45	33	28	45
06/07/2005	07:00-19:00	--	--	75	--	--	70
06/07/2005	19:00-23:00	37	37	60	32	32	60
06/07/2005	23:00-07:00	41	37	45	36	32	45
07/07/2005	07:00-19:00	--	--	75	--	--	70
07/07/2005	19:00-23:00	--	--	60	--	--	60
07/07/2005	23:00-07:00	42	37	45	38	33	45
08/07/2005	07:00-19:00	--	--	75	--	--	70
08/07/2005	19:00-23:00	--	--	60	--	--	60
08/07/2005	23:00-07:00	43	36	45	38	31	45

Date	Time	Calculated Noise Level at NSR at Long Tsai Tsuen/Hung Shing Ye (dB(A))		Limit Noise Level (dB(A))	Calculated Noise Level at NSR at the school within Tai Wan San Tsuen (dB(A))		Limit Noise Level (dB(A))
		Max	Avg		Max	Avg	
09/07/2005	07:00-19:00	--	--	75	--	--	70
09/07/2005	19:00-23:00	--	--	60	--	--	60
09/07/2005	23:00-07:00	36	32	45	32	27	45
10/07/2005	07:00-23:00	47	43	60	35	35	60
10/07/2005	23:00-07:00	44	38	45	38	33	45
11/07/2005	07:00-19:00	--	--	75	--	--	70
11/07/2005	19:00-23:00	--	--	60	--	--	60
11/07/2005	23:00-07:00	38	34	45	34	30	45
12/07/2005	07:00-19:00	--	--	75	--	--	70
12/07/2005	19:00-23:00	--	--	60	--	--	60
12/07/2005	23:00-07:00	44	35	45	39	30	45
13/07/2005	07:00-19:00	--	--	75	--	--	70
13/07/2005	19:00-23:00	--	--	60	--	--	60
13/07/2005	23:00-07:00	36	32	45	32	27	45
14/07/2005	07:00-19:00	--	--	75	--	--	70
14/07/2005	19:00-23:00	--	--	60	--	--	60
14/07/2005	23:00-07:00	38	33	45	34	28	45
15/07/2005	07:00-19:00	--	--	75	--	--	70
15/07/2005	19:00-23:00	--	--	60	--	--	60
15/07/2005	23:00-07:00	40	33	45	35	28	45
16/07/2005	07:00-19:00	--	--	75	--	--	70
16/07/2005	19:00-23:00	--	--	60	--	--	60
16/07/2005	23:00-07:00	39	32	45	34	27	45
17/07/2005	07:00-23:00	33	33	60	28	28	60
17/07/2005	23:00-07:00	41	38	45	36	33	45
18/07/2005	07:00-19:00	35	35	75	31	31	70
18/07/2005	19:00-23:00	--	--	60	--	--	60
18/07/2005	23:00-07:00	43	38	45	39	33	45
19/07/2005	07:00-19:00	35	35	75	30	30	70
19/07/2005	19:00-23:00	--	--	60	--	--	60
19/07/2005	23:00-07:00	45	42	45	38	35	45
20/07/2005	07:00-19:00	--	--	75	--	--	70
20/07/2005	19:00-23:00	--	--	60	--	--	60
20/07/2005	23:00-07:00	41	37	45	36	32	45
21/07/2005	07:00-19:00	--	--	75	--	--	70

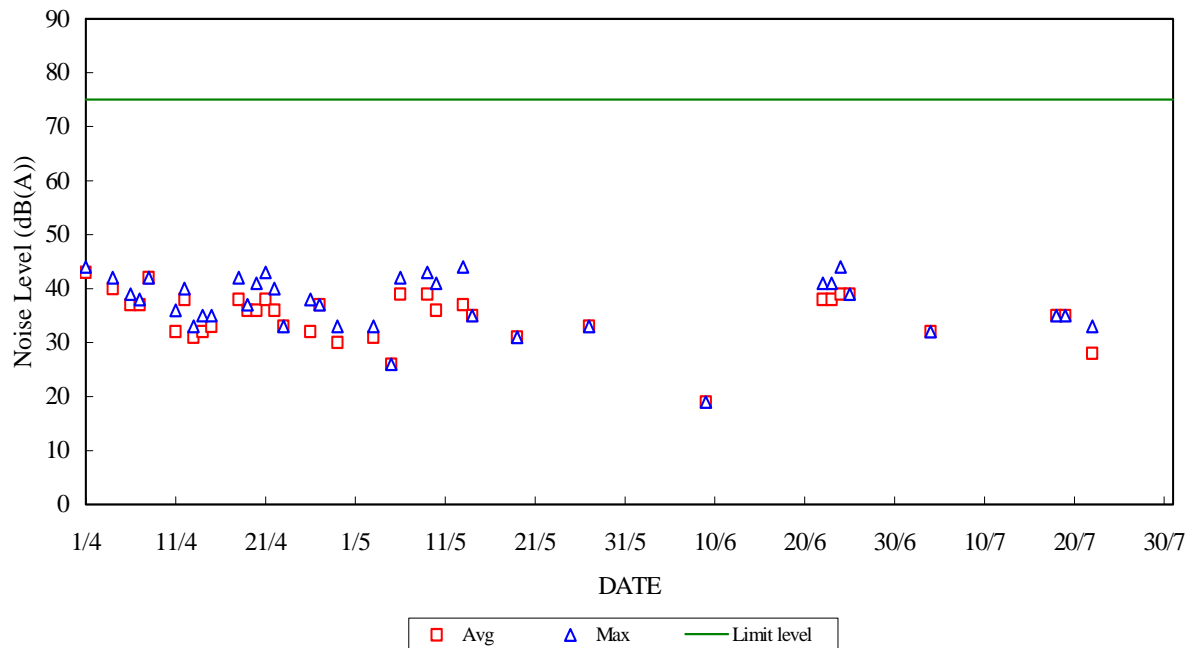
Date	Time	Calculated Noise Level at NSR at Long Tsai Tsuen/Hung Shing Ye (dB(A))		Limit Noise Level (dB(A))	Calculated Noise Level at NSR at the school within Tai Wan San Tsuen (dB(A))		Limit Noise Level (dB(A))
		Max	Avg		Max	Avg	
21/07/2005	19:00-23:00	--	--	60	--	--	60
21/07/2005	23:00-07:00	45	39	45	40	34	45
22/07/2005	07:00-19:00	33	28	75	28	23	70
22/07/2005	19:00-23:00	--	--	60	--	--	60
22/07/2005	23:00-07:00	43	35	45	32	28	45
23/07/2005	07:00-19:00	--	--	75	--	--	70
23/07/2005	19:00-23:00	27	26	60	22	22	60
23/07/2005	23:00-07:00	42	34	45	33	28	45
24/07/2005	07:00-23:00	37	34	60	31	30	60
24/07/2005	23:00-07:00	39	32	45	33	27	45
25/07/2005	07:00-19:00	--	--	75	--	--	70
25/07/2005	19:00-23:00	32	32	60	27	27	60
25/07/2005	23:00-07:00	34	30	45	30	25	45
26/07/2005	07:00-19:00	--	--	75	--	--	70
26/07/2005	19:00-23:00	44	41	60	39	36	60
26/07/2005	23:00-07:00	32	27	45	28	23	45
27/07/2005	07:00-19:00	--	--	75	--	--	70
27/07/2005	19:00-23:00	--	--	60	--	--	60
27/07/2005	23:00-07:00	36	31	45	31	26	45
28/07/2005	07:00-19:00	--	--	75	--	--	70
28/07/2005	19:00-23:00	42	36	60	37	31	60
28/07/2005	23:00-07:00	38	31	45	33	27	45
29/07/2005	07:00-19:00	--	--	75	--	--	70
29/07/2005	19:00-23:00	36	32	60	31	27	60
29/07/2005	23:00-07:00	45	36	45	40	32	45
30/07/2005	07:00-19:00	--	--	75	--	--	70
30/07/2005	19:00-23:00	38	36	60	33	31	60
30/07/2005	23:00-07:00	40	34	45	35	29	45
31/07/2005	07:00-23:00	30	28	60	26	24	60
31/07/2005	23:00-07:00	35	31	45	31	26	45

Note: "--" represents the measured noise monitoring data lower than the established notional background level/discarded under strong wind.

Construction Noise Monitoring in April 2005 - July 2005

NSR at Long Tsai Tsuen/Hung Shing Ye

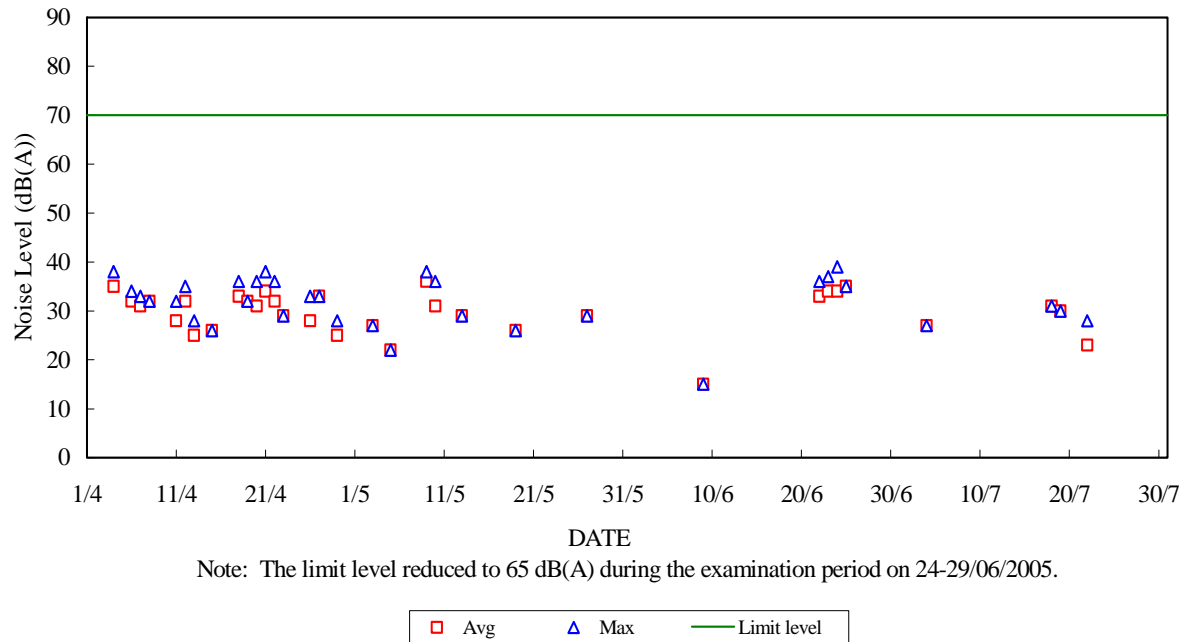
07:00-19:00 hrs on Normal Weekdays

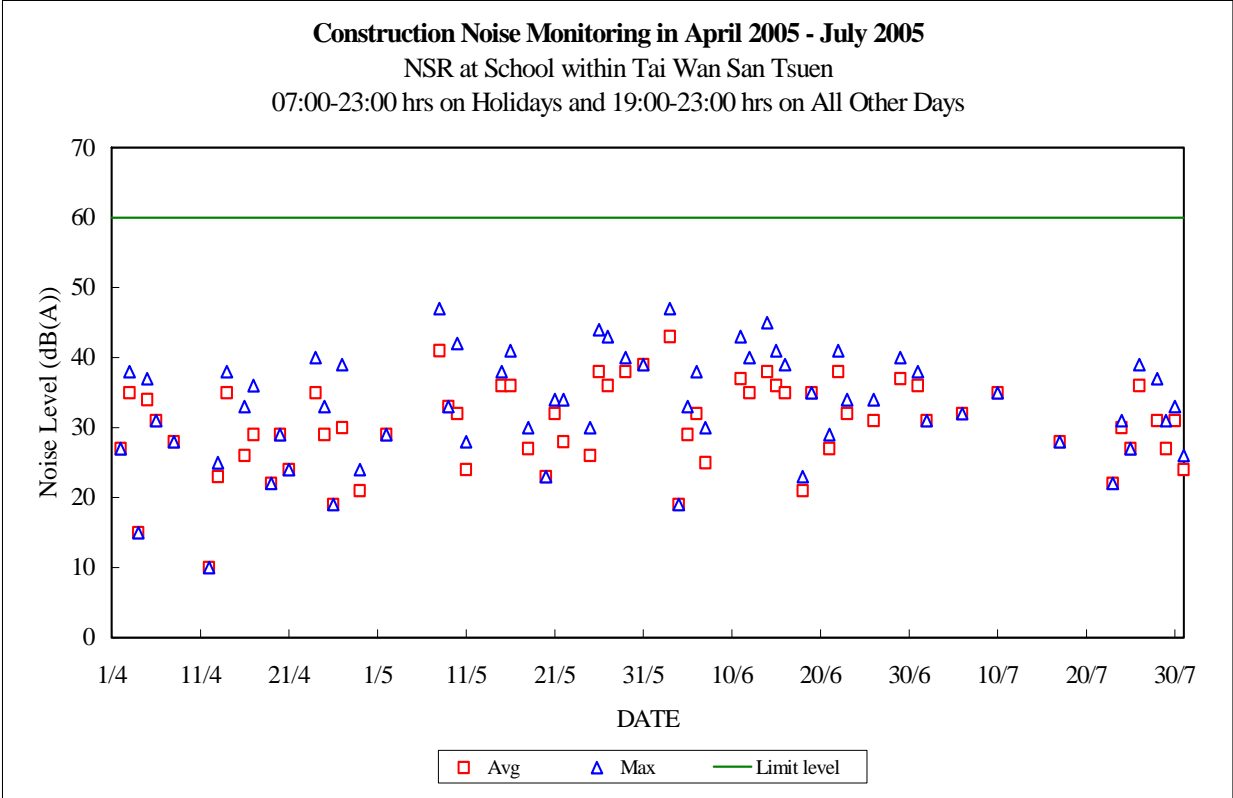
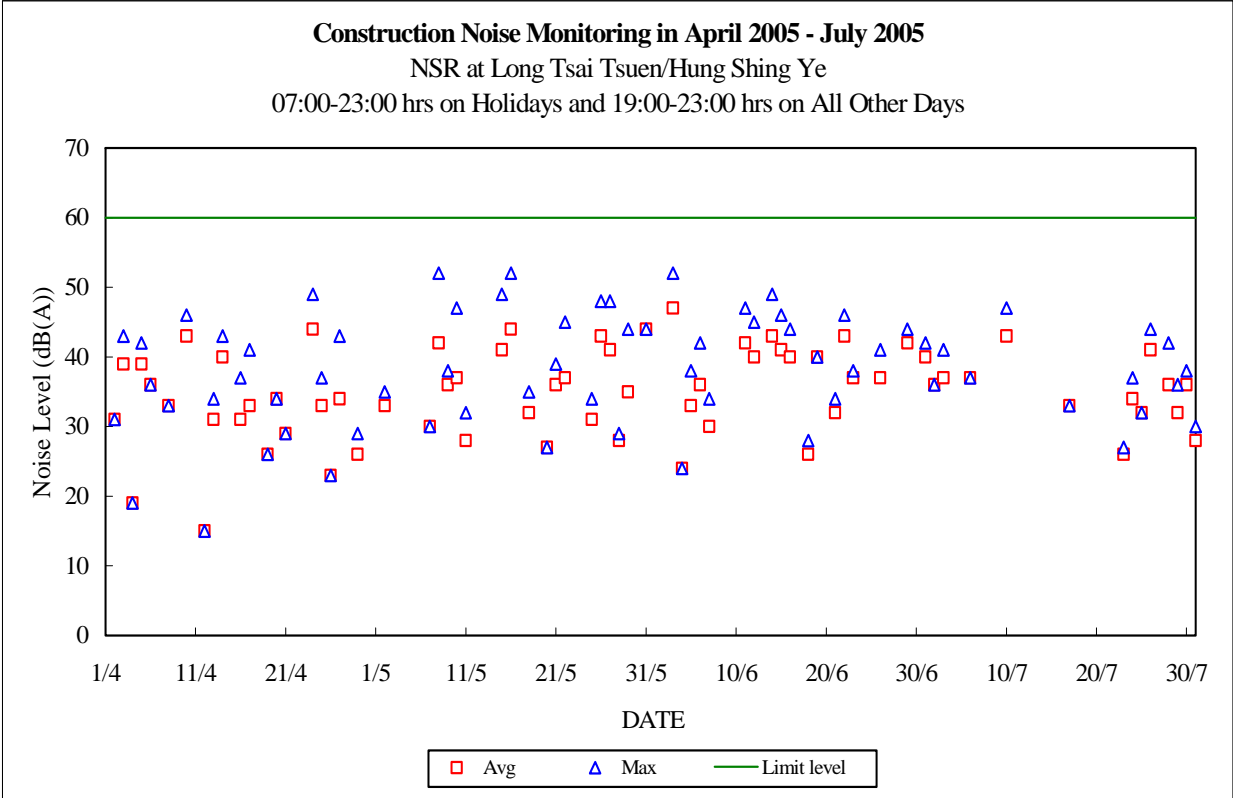


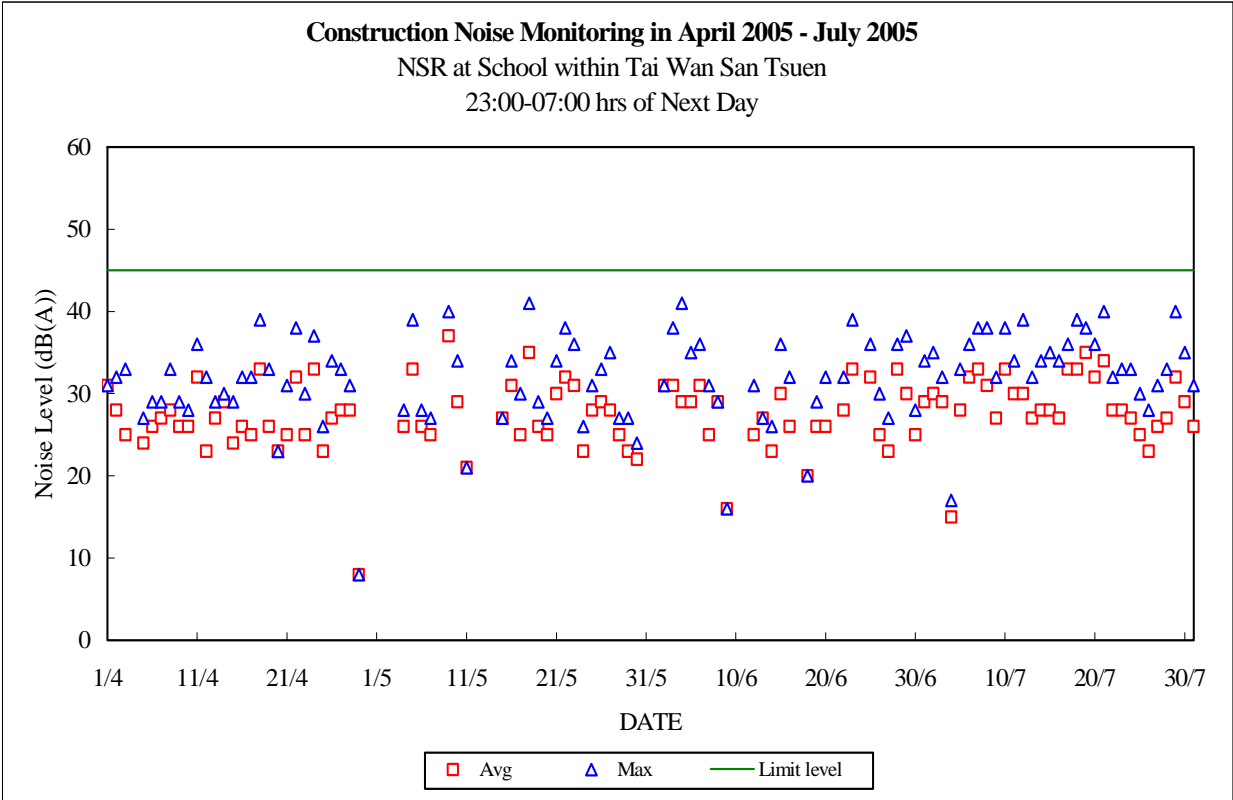
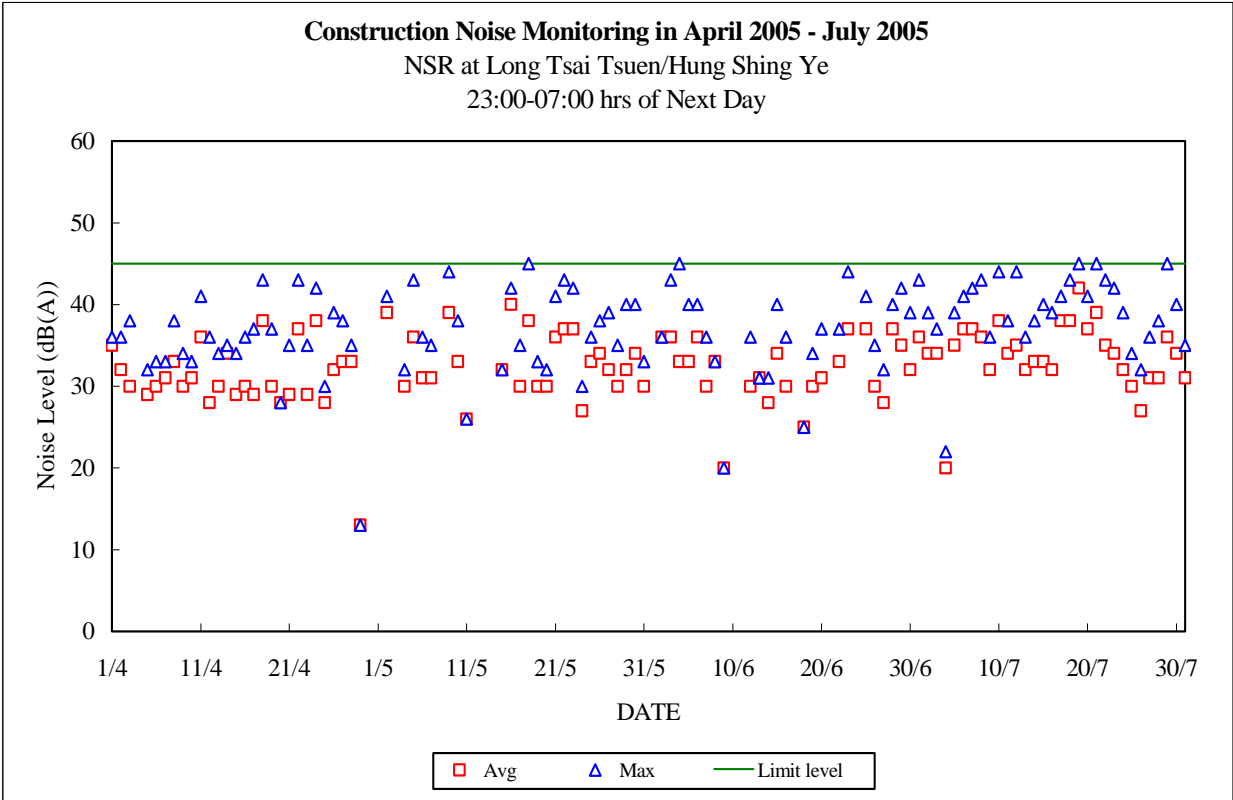
Construction Noise Monitoring in April 2005 - July 2005

NSR at School within Tai Wan San Tsuen

07:00-19:00 hrs on Normal Weekdays







Appendix E.2

Manual Noise Monitoring Results for July 2005

Site: Lamma Power Station Extension - Transmission System
Measurement Parameter: 30-min Leq (07:00-19:00 hrs on normal weekdays)
Noise Equipment Used: Rion NL-31 sound level meter & Rion NC-74 sound level calibrator (05/07-15/07/2005) and ACO 6224 sound level meter & ACO 2126 sound level calibrator (19/07-29/07/2005)
Wind Speed Equipment: Extech Instruments 45118
Last Calibration Date: Rion NL-31 sound level meter - 08/07/2004
Rion NC-74 sound level calibrator - 09/08/2004
ACO 6224 sound level meter - 11/04/2005
ACO 2126 sound level calibrator - 01/02/2005

Measurement Location: N4 - Pak Kok Tsui No.2

Date	Time	Measured Noise Level (dB(A))	Notional Background Noise Level (dB(A))	Corrected Noise Level (dB(A))	Limit Noise Level (dB(A))	Wind Speed (m/s)
05/07/2005	10:00-10:30	57.6	54.9	54.3	75	<5
08/07/2005	14:00-14:30	56.7	54.9	52.0	75	<5
12/07/2005	10:00-10:30	53.8	54.9	--	75	<5
15/07/2005	14:00-14:30	56.4	54.9	51.1	75	<5
19/07/2005	10:00-10:30	60.2	54.9	58.7	75	<5
22/07/2005	14:00-14:30	63.8	54.9	63.2	75	<5
26/07/2005	10:00-10:30	56.8	54.9	52.3	75	<5
29/07/2005	14:00-14:30	57.7	54.9	54.5	75	<5

Measurement Location: N5 - Pak Kok Tsui No.8

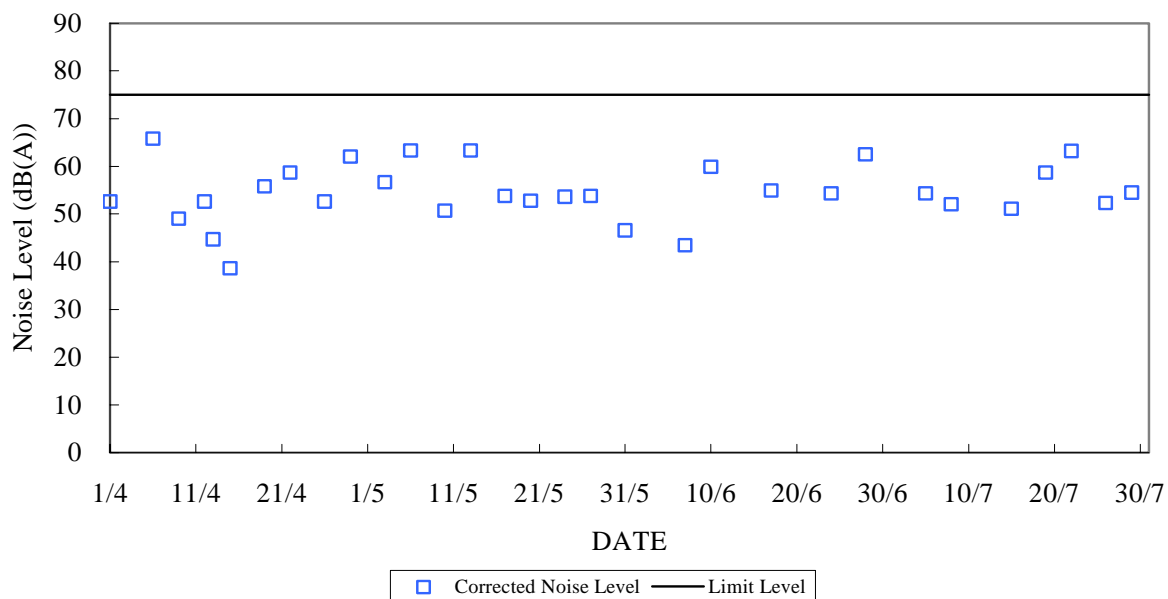
Date	Time	Measured Noise Level (Db(A))	Notional Background Noise Level (dB(A))	Corrected Noise Level (dB(A))	Limit Noise Level (dB(A))	Wind Speed (m/s)
05/07/2005	10:40-11:10	52.6	54.9	--	75	<5
08/07/2005	14:40-15:10	48.2	54.9	--	75	<5
12/07/2005	10:40-11:10	49.8	54.9	--	75	<5
15/07/2005	14:40-15:10	49.9	54.9	--	75	<5
19/07/2005	10:40-11:10	49.9	54.9	--	75	<5
22/07/2005	14:40-15:10	54.8	54.9	--	75	<5
26/07/2005	10:40-11:10	48.8	54.9	--	75	<5
29/07/2005	14:40-15:10	50.2	54.9	--	75	<5

Note:

1. The noise generated from local noisy events (e.g. dog barking, passing-by pedestrians, motor vehicle, aeroplane, helicopter, etc.) was manually removed during measurement as far as practicable.
2. "--" represents the measured noise monitoring data lower than the established notional background level.

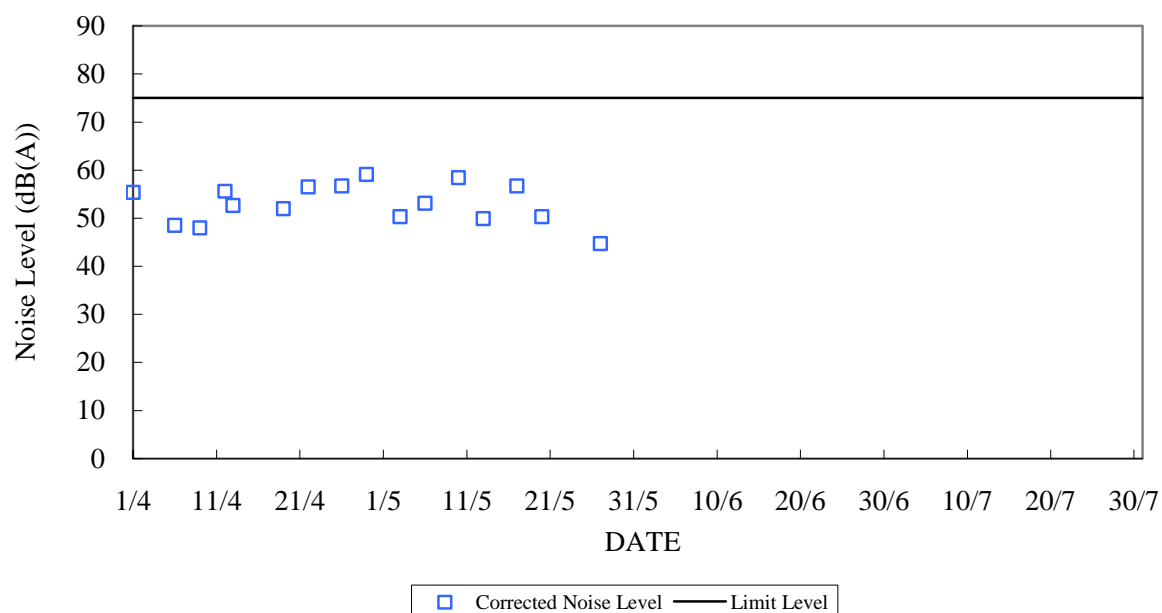
Construction Noise Monitoring in April 2005 - July 2005

NSR at N4 - Pak Kok Tsui No. 2
07:00 -19:00 hrs on Normal Weekdays



Construction Noise Monitoring in April 2005 - July 2005

NSR at N5 - Pak Kok Tsui No. 8
07:00 -19:00 hrs on Normal Weekdays



Appendix F

The QA/QC Procedures and Results

HIGH VOLUME AIR SAMPLER
SITE VISIT LOG SHEET

Site Name:	<u>RE</u>	Site No.:	<u>AM1</u>
Date of visit:	<u>19-7-2005</u>	Hour of Visit:	<u>1035</u>
Staff name:	<u>W. L. MAH</u>	HVAS S/N:	<u>2198</u>
Used filter paper no.:	<u>LS43</u>	New filter paper no.:	<u>LS45</u>
Type of filter:	<u>Glass-fibre</u>		

I. Ambient Conditions

Temperature, $T_a = \frac{273 + 36.5}{309.5}$ K Pressure, $P_a = \underline{1004}$ mb

II. Correction of manometer reading

Calibration orifice No.	Manometer reading at site conditions corresponds to $Q_{STD} = 40 \text{ ft}^3/\text{min.}$ (inch H_2O)
1534(09/2004)	$\Delta H_a = 18.33(T_a/P_a) = \underline{5.65}$

Manometer reading before calibration: 5.60
Adjustment of flow controller (Y/N): N
Manometer reading after calibration: 5.60

Note: Tolerance Limit of HVAS flow: $\pm 1.0 \text{ ft}^3/\text{min.}$ Corresponding limits for manometer : $\pm 0.2 \text{ inch H}_2\text{O}$

III. General Conditions of HVAS

IV. Remarks

HIGH VOLUME AIR SAMPLER SITE VISIT LOG SHEET

Site Name: EG Site No.: AM2
 Date of visit: 19-7-08 Hour of Visit: 10.00
 Staff name: W.L.MAK, H.K. TANG HVAS S/N: 2195
 Used filter paper no.: LS44 New filter paper no.: LS46
 Type of filter: Glass-fibre

I. Ambient Conditions

Temperature, $T_a = \frac{32 + 273}{3.05}$ K Pressure, $P_a = 1005$ mb

II. Correction of manometer reading

Calibration orifice No.	Manometer reading at site conditions corresponds to $Q_{STD} = 40 \text{ ft}^3/\text{min}$. (inch H_2O)
1534(09/2004)	$\Delta H_a = 18.33(T_a/P_a) = 5.56$

Manometer reading before calibration: 5.4
 Adjustment of flow controller (Y/N): Y
 Manometer reading after calibration: 5.5

Note: Tolerance Limit of HVAS flow: $\pm 1.0 \text{ ft}^3/\text{min}$. Corresponding limits for manometer : $\pm 0.2 \text{ inch H}_2\text{O}$

III. General Conditions of HVAS

IV. Remarks

PARTISOL TSP SAMPLER
SITE VISIT LOG SHEET

Site Name: Ash Lagoon Site Number: AM3
Date of Visit: 18-7-05 Hour of Visit: 11:30
Staff Name: W. L. MAK Partisol S/N: 1400B20755C410
Used Filter No.: PC67 New Filter No.: PC68
Ambient temperature: 34.8 °C Ambient pressure: 1004 mbar

I. General Services

1. Replace control unit Large In-line Filter X
2. Clean the sample inlet head ✓
3. Clean sample tube ✓
4. Clean / Replace pump head X
5. Clean / Replace piston X

II. Operational Audits (3 months interval as recommended by manufacturer)

1. Temperature Check (Ambient temperature $\pm 2^{\circ}\text{C}$)

_____ $^{\circ}\text{C}$ Calibration: Y / N _____ $^{\circ}\text{C}$
Before After

2. Pressure Check (Ambient pressure ± 20 mbar)(factor = 0.000987)

_____ mbar Calibration: Y / N _____ mbar
Before After

3. Flow Check (16.7 \pm 1.1 litre/min)

_____ l/min Calibration: Y / N _____ l/min
Before After

III. Remarks

MINI VOLUME AIR SAMPLER

SITE VISIT LOG SHEET

Site Name: TYU Site No.: AM4

Date of visit: 19-7-08 Hour of Visit: 10:40

Staff name: H.K. TSANG MINIVOL S/N: 3383

Used filter paper no.: MH53 New filter paper no.: MH54

Type of filter: Cellulose / Glass-fibre
(Delete as appropriate)

I. Calibration is performed by using Drycal DC-2 Flow Calibrator

5 Sl/min set point is recommended

5.0 Before 5.0 After

II. General Service of Mini Vol Air Sampler

1. Clean Rotameter: X
2. Clean / replace Pump Valves: X
3. Clean / replace Pump Diaphragms: X
4. Clean Impaction Inlet: ✓
5. Replace Timer Battery Every 6 months: X
6. Replace Inlet Filter: ✓

III. Remarks

THE HONGKONG ELECTRIC CO., LTD.
LAMMA POWER STATION EXTENSION
TEOM 1400A CONTINUOUS DUST MONITOR
DATA QUALITY ASSURANCE LOG SHEET

Month : July Year : 2005

Reservoir (AM1)					
Date	Frequency (Hz) (230 – 260)	Noise (< 0.1)	Operation Mode (Mode 4)	Main Flow (l/min) (0.94 – 1.06)	Aux. Flow (l/min) (14.67 – 16.67)
6/7/2005	257.03	0.022	4	1.00	15.68
12/7/2005	256.92	0.047	4	1.00	15.68
18/7/2005	256.86	0.042	4	1.00	15.68
24/7/2005	256.59	0.024	4	1.00	15.68
30/7/2005	255.57	0.031	4	1.00	15.68

East Gate (AM2)					
Date	Frequency (Hz) (230 – 250)	Noise (< 0.1)	Operation Mode (Mode 4)	Main Flow (l/min) (0.94 – 1.06)	Aux. Flow (l/min) (14.67 – 16.67)
6/7/2005	245.61	0.021	4	1.00	15.63
12/7/2005	245.48	0.036	4	0.99	15.64
18/7/2005	245.34	0.032	4	0.99	15.64
24/7/2005	245.76	0.029	4	1.00	15.62
30/7/2005	245.59	0.033	4	0.99	15.63

Ash Lagoon (AM3)					
Date	Frequency (Hz) (240 – 270)	Noise (< 0.1)	Operation Mode (Mode 4)	Main Flow (l/min) (0.94 – 1.06)	Aux. Flow (l/min) (14.67 – 16.67)
6/7/2005	248.19	0.045	4	1.00	15.67
12/7/2005	248.11	0.041	4	1.00	15.66
18/7/2005	249.10	0.046	4	1.00	15.67
24/7/2005	248.84	0.037	4	1.00	15.66
30/7/2005	248.74	0.068	4	1.00	15.67

Maintenance Record			
	Reservoir	East Gate	Ash Lagoon
TEOM Filter Exchange	✓	✓	✓
Clean TSP Inlet	✓	✓	✓
Replace flow in-line filter			
Pump Repair			
Leak Check			
Flow Audit			
Flow Controller Calibration			
A/C filter cleaning	✓	✓	✓

Remarks:

Prepared by :

Checked by :

THE HONGKONG ELECTRIC CO., LTD.
LAMMA POWER STATION EXTENSION
NOISE MONITORING STATION
SITE VISIT LOG SHEET

Location Ash Lagoon/~~Ching Lam~~*

Date 12-7-05 Time 14:00

Equipment Rion NA-27/~~B&K 2238F~~* Sound Level Meter

Serial Number 00111465/00111466/00111467/2343838/2356907*

Staff Attended W.J. MAK ; H.K. TSANG

1. Calibration

Acoustic calibrator used Rion NC-74

Calibration level before adjustment (dB(A)) 93.9

Calibration level after adjustment (dB(A)) 94

2. Weather Conditions

a. Sunny/~~fine~~/~~cloudy~~/~~showery~~/~~heavy rain~~*

b. ~~Strong wind~~/~~breeze~~/~~calm~~*

3. Remark/Observation

Note: * - Please delete where inappropriate

18/5/2004

THE HONGKONG ELECTRIC CO., LTD.
LAMMA POWER STATION EXTENSION
NOISE MONITORING STATION
SITE VISIT LOG SHEET

Location Ash Lagoon/Ching Lam*

Date 12-7-05 Time 11:00

Equipment Rion NA-27/B&K 2238F* Sound Level Meter

Serial Number ~~001111465/001111466/001111467/2343838/2356907*~~

Staff Attended W.L. MAK ; H.K. Kwok

1. Calibration

Acoustic calibrator used Rion NC-74

Calibration level before adjustment (dB(A)) 93.8

Calibration level after adjustment (dB(A)) 94

2. Weather Conditions

a. ~~Sunny/fine/cloudy/showery/heavy rain*~~

b. ~~Strong wind/breeze/calm*~~

3. Remark/Observation

Note: * - Please delete where inappropriate

18/5/2004

Equipment Calibration Record for July 2005

Site: Civil works for 275kV Cable Route from Lamma Island to Cyberport

Noise Equipment Used: RION NL – 31(*) / ACO TYPE 6224(#)

Calibrator Used: RION NC – 74(*) / ACO TYPE 2126(#)

Measurement Location: N4 – Pak Kok Tsui No. 2

Date	Calibration Level before Measurement (dB(A))	Calibration Level after Measurement (dB(A))	Calibrated by
05/07/2005(*)	94.0	94.0	Anthony Wong
08/07/2005(*)	94.0	94.0	Anthony Wong
12/07/2005(*)	94.0	94.0	Anthony Wong
15/07/2005(*)	94.0	94.0	Anthony Wong
19/07/2005(#)	94.0	94.0	Anthony Wong
22/07/2005(#)	94.0	94.0	Anthony Wong
26/07/2005(#)	94.0	94.0	Anthony Wong
29/07/2005(#)	94.0	94.0	Anthony Wong

Measurement Location: N5 – Pak Kok Tsui No. 8

Date	Calibration Level before Measurement (dB(A))	Calibration Level after Measurement (dB(A))	Calibrated by
05/07/2005(*)	94.0	94.0	Anthony Wong
08/07/2005(*)	94.0	94.0	Anthony Wong
12/07/2005(*)	94.0	94.0	Anthony Wong
15/07/2005(*)	94.0	94.0	Anthony Wong
19/07/2005(#)	94.0	94.0	Anthony Wong
22/07/2005(#)	94.0	94.0	Anthony Wong
26/07/2005(#)	94.0	94.0	Anthony Wong
29/07/2005(#)	94.0	94.0	Anthony Wong

Note: Measurement accepted as valid only if the calibration levels from before and after the noise measurement agreed to within 1.0 dB.

Appendix G Event/Action Plans

Table G.1 Event and Action Plans for Air Quality

Event	Monitoring	Action		
	ET Leader	IEC	Engineer	Contractor
Action Level				
Exceedance of one sample	Identify source Inform Engineer and IEC verbally Repeat measurement to confirm finding	Check monitoring data submitted by ET and advise Engineer.	Notify Contractor Checking monitoring data and contractor's working methods	Rectify any unacceptable practice amend any working methods if appropriate
Exceedance of two or more consecutive samples	Identify source Inform Engineer and IEC verbally Repeat measurement to confirm finding Increase monitoring frequency Discuss with Engineer and Contractor on remedial actions required If exceedance continues, arrange meeting with Engineer If exceedance stops, discontinue additional monitoring	Check monitoring data submitted by ET and advise Engineer. Provide feedback to the Engineer on the remedial actions proposed by the ET / Contractor Advise Engineer on the effectiveness of the proposed remedial measures Verify the implementation of the remedial measures	Confirm receipt of notification of failure in writing Notify contractor Checking monitoring data and contractor's working methods Discuss proposed remedial actions with the ET and Contractor Ensure remedial actions properly implemented	Submit proposals for remedial actions to Engineer within 3 working days of notifications Implement the agreed proposals Amend proposal if appropriate
Limit level				
Exceedance of one sample	Repeat measurement to confirm finding. Identify the source(s) of the impact. If the exceedance is found to be valid and due to the Construction works, verbally advise the Contractor, Engineer and IEC, and inform the EPD of the exceedance, as soon as practicable. Increase monitoring frequency to daily Assess the effectiveness of the contractor's remedial actions and keep Engineer, IEC and EPD informed of the results	Check monitoring data submitted by ET and advise Engineer Provide feedback to the Engineer on the remedial actions proposed by the ET / Contractor Advise Engineer on the effectiveness of the proposed remedial measures Verify the implementation of the remedial measures	Confirm receipt of notification of failure in writing Notify Contractor Checking monitoring data and Contractor's working method Discuss with ET and Contractor on remedial actions to be provided Ensure remedial measures properly implemented	Take immediate action to avoid further exceedance Submit proposals for remedial actions to Engineer within 3 working days of notifications Implement the agreed proposals Amend proposal if appropriate

Event	Monitoring		Action	
	ET Leader	IEC	Engineer	Contractor
Exceedance of two or more consecutive samples	Identify source	Provide feedback to the Engineer on the remedial actions proposed by the ET / Contractor	Confirm receipt of notification of failure in writing	Take immediate action to avoid further exceedance
	If the exceedance is found to be valid and due to the construction works, verbally advise the Contractor, Engineer and IEC, and inform the EPD of the exceedance as soon as practicable.	Advise Engineer on the effectiveness of the proposed remedial measures	Checking monitoring data and Contractor's working methods	Submit proposals for remedial actions to Engineer within 3 working days of notifications
	Repeat measurement to confirm finding	Verify the implementation of the remedial measures	Notify Contractor	Implement the agreed proposals
	Increase monitoring frequency to daily		Discuss proposed remedial actions with ET and Contractor	Resubmit proposals if problem still not under control
	Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented		Ensure remedial measures properly implemented	
	Arrange meeting with Engineer and Contractor to discuss the remedial actions to be taken		If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop the portion of work until the exceedance is abated	Stop the relevant portion of works as determined by the Engineer until the exceedance is abated
	If exceedance stops, discontinue additional monitoring			

Table G.2 Event and Action Plans for Construction Noise

Exceedance	ET Leader	IEC	Engineer	Contractor
Action Level	Undertake noise measurement/check monitoring data to establish validity of complaint.	Review the analysed results submitted by the ET.	Notify Contractor of the complaint if proven.	Submit proposals for remedial actions to Engineer.
	If the complaint is valid, inform Engineer and IEC verbally.	Review the remedial measures proposed by the Contractor and advise the Engineer and ET accordingly.	Check Contractor's working methods and advise IEC and ET accordingly.	Amend proposals if required by the Engineer.
	Identify the source(s) of the noise.	Verify the implementation of the remedial measures.	Remind the Contractor of his contractual obligations and discuss remedial actions.	Implement the remedial actions immediately upon instruction from the Engineer.
	Discuss remedial actions required with Contractor and Engineer.		Keep the Contractor informed of the efficacy of remedial actions.	Liaise with the Engineer to optimise the effectiveness of the agreed mitigation.
	Increase manual monitoring frequency to assess efficacy of remedial measures.			
	If exceedance continues, review implementation of appropriate mitigation measures.			
Limit Level	Repeat manual measurement/check monitoring data to confirm findings.	Agree potential remedial actions with Engineer, ET and Contractor.	Notify Contractor of exceedance.	Take immediate action to avoid further exceedance.
	Identify the source(s) of the impact. If the exceedance is found to be valid and due to the Construction works, verbally advise the Contractor, Engineer and IEC, and inform the EPD of the exceedance, as soon as practicable.	Review Contractor's remedial actions / measures to ensure their effectiveness and advise the Engineer and ET accordingly.	Check Contractor's working methods and advise IEC and ET accordingly.	Submit proposals for remedial actions to Engineer.
	Discuss remedial actions required with Engineer.	Verify the implementation of the remedial measures	Discuss with Contractor the remedial actions to be implemented.	Amend proposals if required by the Engineer.
	Increase manual monitoring frequency to assess efficacy of remedial measures.		Keep the Contractor informed of the efficacy of remedial actions. If the exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop the portion of work until the exceedance is abated	Implement remedial actions immediately upon instruction from the Engineer. If the exceedance continues, consider what portion of the work is responsible and, as instructed by the Engineer, stop the portion of work until the exceedance is abated

Table G.3 Event and Action Plans for Water Quality

Exceedance	ET Leader	IEC	Engineer	Contractor
Action level exceeded on one sampling day	<p>Verbally inform the Contractor, and IEC.</p> <p>Repeat in-situ measurement to confirm findings;</p> <p>Identify source(s) of impact;</p> <p>Check monitoring data, all plant, equipment and Contractor's working methods;</p> <p>Discuss mitigation measures with Engineer and Contractor;</p> <p>Repeat measurement on next day of exceedance.</p>	<p>Provide feedback to the Engineer on the remedial actions proposed by the ET / Contractor</p> <p>Advise Engineer on the effectiveness of the proposed remedial measures</p> <p>Verify the implementation of the remedial measures</p>	<p>Discuss with Contractor the proposed mitigation measures;</p> <p>Make agreement on the mitigation measures to be implemented;</p> <p>Assess the effectiveness of the implemented mitigation measures.</p>	<p>Inform the Engineer and confirm notification of the non-compliance in writing;</p> <p>Rectify unacceptable practice;</p> <p>Check all plant and equipment;</p> <p>Consider changes of working methods;</p> <p>Propose and discuss mitigation measures with Engineer;</p> <p>Implement the agreed mitigation measures.</p>
Action level exceeded on more than one consecutive sampling day	<p>Repeat in-situ measurements to confirm findings;</p> <p>Identify source(s) of impact;</p> <p>Inform Contractor and IEC;</p> <p>Check monitoring data, all plant, equipment and Contractor's working methods;</p> <p>Discuss mitigation measure with Engineer and Contractor;</p> <p>Ensure mitigation measures are implemented;</p> <p>Prepare to increase the monitoring frequency to daily;</p> <p>Repeat measurement on next day of exceedance.</p>	<p>Provide feedback to the Engineer on the remedial actions proposed by the ET / Contractor</p> <p>Advise Engineer on the effectiveness of the proposed remedial measures</p> <p>Verify the implementation of the remedial measures</p>	<p>Discuss with ET and Contractor on the proposed mitigation measures;</p> <p>Make agreement on the mitigation measures to be implemented;</p> <p>Assess the effectiveness of the implemented mitigation measures.</p>	<p>Inform the Engineer and confirm notification of the non-compliance in writing;</p> <p>Rectify unacceptable practice;</p> <p>Check all plant and equipment; Consider changes of working methods;</p> <p>Propose mitigation measures to Engineer within 3 working days and discuss with ET and Engineer;</p> <p>Implement the agreed mitigation measures.</p>

Exceedance	ET Leader	IEC	Engineer	Contractor
Limit level exceeded on one sampling day	<p>Verbally inform the Contractor, IEC and the EPD of the exceedance;</p> <p>Repeat in-situ measurement to confirm findings;</p> <p>Identify source(s) of impact;</p> <p>Check monitoring data, all plant, equipment and Contractor's working methods;</p> <p>Discuss mitigation measure with Engineer and Contractor;</p> <p>Ensure mitigation measures are implemented;</p> <p>Increase the monitoring frequency to daily until no exceedance of Limit level.</p>	<p>Provide feedback to the Engineer on the remedial actions proposed by the ET / Contractor</p> <p>Advise Engineer on the effectiveness of the proposed remedial measures</p> <p>Verify the implementation of the remedial measures</p>	<p>Discuss with Contractor on the proposed mitigation measures;</p> <p>Request Contractor to critically review the working methods;</p> <p>Make agreement on the mitigation measures to be implemented;</p> <p>Assess the effectiveness of the implemented mitigation measures.</p>	<p>Inform the Engineer and confirm notification of the non-compliance in writing;</p> <p>Rectify unacceptable practice;</p> <p>Check all plant and equipment; Consider changes of working methods;</p> <p>Propose mitigation measures to Engineer within 3 working days and discuss with Engineer;</p> <p>Implement the agreed mitigation measures.</p>
Limit level exceeded by more than one consecutive sampling day	<p>Repeat in-situ measurement to confirm findings;</p> <p>Identify source(s) of impact;</p> <p>Inform Contractor, IEC and EPD;</p> <p>Check monitoring data, all plant, equipment and Contractor's working methods;</p> <p>Discuss mitigation measure with Engineer and Contractor;</p> <p>Ensure mitigation measures are implemented;</p> <p>Increase the monitoring frequency to daily until no exceedance of Limit level for two consecutive days.</p>	<p>Provide feedback to the Engineer on the remedial actions proposed by the ET / Contractor</p> <p>Advise Engineer on the effectiveness of the proposed remedial measures</p> <p>Verify the implementation of the remedial measures</p>	<p>Discuss with Contractor on the proposed mitigation measures;</p> <p>Request Contractor to critically review the working methods;</p> <p>Make agreement on the mitigation measures to be implemented;</p> <p>Assess the effectiveness of the implemented mitigation measures;</p> <p>Consider and instruct, if necessary, the Contractor to slow down or to stop all or part of the marine works until no exceedance of the Limit Level.</p>	<p>Inform the Engineer and confirm notification of the non-compliance in writing;</p> <p>Rectify unacceptable practice;</p> <p>Check all plant and equipment; Consider changes of working methods;</p> <p>Propose mitigation measures to Engineer within 3 working days and discuss with Engineer;</p> <p>Implement the agreed mitigation measures..</p> <p>As directed by the Engineer, to slow down or to stop all or part of the marine work</p>

Appendix H

Site Audit Summary

(In order to save paper, the weekly inspection checklists are provided only in electronic copy in the CD-ROM enclosed.)

The Hongkong Electric Co. Ltd.
Lamma Power Station Extension – Site Formation, Piling Works and
Superstructure Works
Weekly Site Inspection Checklist

Inspection date 6/7/05 Time 10:00 Inspected By ET: Ringo Wong
 Contractor: Paul Yip
 Site EMX - Superstructure

Weather

Condition ☐ Sunny ☒ Fine ☐ Overcast ☐ Hazy ☐ Drizzle ☐ Rain ☐ Storm
 Temperature 23 °C Humidity ☐ High ☒ Moderate ☐ Low
 Wind ☐ Calm ☒ Light ☐ Breeze ☐ Strong

GENERAL

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
VEP 1.5	Has a copy of the most update Environmental Permit been displayed at all vehicular site entrances/exits for public information?		/			
VEP 1.6	Is a copy of EIA report kept in Engineers' and Contractors' offices on site?		/			

AIR QUALITY

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
General Requirements						
Cap311R: 3	Has the contractors notified EPD of the construction site which is classified as a notifiable work in a specified form? If there is any change in the notice, do the contractors notify EPD of the change?		/			
Cap311R: Sch 12(3)	A compressed air jet shall not be used for cleaning or clearing dust from any vehicle, equipment, other materials or person. Is this observed?		/			
Cap311	Do the contractors possess valid Air Pollution Control Specified Processes Licenses for the concrete batching plant wherever applicable and have it available for inspection?	/				
Construction Sites						
EM&A: A1	Are haul roads paved with concrete or sprayed with water to keep the entire road wet?		/			
Stockpiling of dusty materials						
Cap311R: Sch 18	Are stockpiles of dusty materials entirely covered with impervious sheets or sheltered on the top and 3 sides or sprayed with water to maintain the entire surface wet to prevent dust emission?	/				

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
	Cement and dry pulverized fuel ash (PFA)					
Cap311R: Sch 15(3)	Are the storage silos for cement or dry PFA prevented from overfilling?	/				
Cap311R: Sch 15(4)	Are the handlings of cement or dry PFA through a totally enclosed system equipped with air pollution control equipment at the vent of the system?	/				
Cap311R: Sch 15(2)	Is bulk cement or dry PFA stored in a closed silo fitted with a high-level alarm?	/				
Cap311R: Sch 17	Are the cement, dry PFA or other dusty materials collected by the air pollution control equipment disposed of in totally enclosed containers?	/				
	Loading, unloading or transfer of dusty materials					
Cap311R: Sch 19	Are dusty materials, except cement and dry PFA, sprayed with water immediately prior to any loading, unloading or transfer operation?	/				
EM&A: A1	Are the dropping heights of the fill materials controlled to a practical level to minimize fugitive dust emission?	/				
	Use of vehicles					
Cap311R: Sch 21(2) EM&A: A1	Is every load of dusty material on the vehicles leaving the construction site covered entirely by clean impervious sheeting?	/				
Cap311R: Sch 21(1)	Is every vehicle wheel-washed by the wheel washing facilities to remove any dusty materials from its body and wheels before leaving the construction site?		/			
	Transfer of dusty materials using a belt conveyor system					
Cap311R: Sch 20(1)	Are belt conveyors used for transfer of dusty materials covered on the top and 2 sides?	/				
Cap311R: Sch 20(2)	Is every transfer point between any two-belt conveyors totally enclosed?	/				
Cap311R: Sch 20(3)	Is a belt scraper or equivalent device installed at the head pulley of every conveyor? Is the belt scraper equipped with bottom plates or similar means to prevent falling of materials from the return belts?	/				
Cap311R: Sch 20(4)	Are stockpiling conveyors equipped with level adjusting mechanism to maintain the dropping height within 1 m?	/				
	Concrete batching plant					
EM&A: A2	Are the loading, unloading, handling, transfer or storage of any dusty materials carried out in a totally enclosed system?	/				
EM&A: A2	Are dusty materials, except cement and dry PFA, wetted by water spray system?	/				
EM&A: A2	Are all the receiving hoppers enclosed on three (3) sides up to 3m above unloading point?	/				
EM&A: A2	Are all the conveyor transfer points totally enclosed?	/				

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
	Miscellaneous					
Cap311R: Sch 16	Are completed earthworks sealed and hydroseeded and planted as soon as possible?	/				
Cap311O	Is open burning prohibited?		/			
Cap311	Is black smoke emission from plant/equipment avoided?		/			

WASTE/CHEMICAL WASTE MANAGEMENT

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
	Dredged Materials					
WMP EM&A: E3	Does the appropriate contractor possess valid dumping permits for dredged marine mud and have them available for inspection?	/				
WMP EM&A: E3	Has the contractor kept a complete set of dumping records/ticketing system and made them available for inspection?	/				
EM&A: E3	Are wastes disposed of at licensed sites?	/				
	Construction Waste and Excavated Materials					
WMP EM&A: E3	Does the Contractor possess a valid Public Dumping License for construction waste and excavated materials and make it available for inspection?	/				
WMP	Has the Contractor maintained disposal records for the construction waste and excavated materials, and made them available for inspection?	/				
WMP	Is suitable concrete waste/excavated material used for on-site reclamation/filling works?		/			
WMP	Are the used formworks reused as far as possible before being disposed of in a landfill site?		/			
WMP	Are the remaining unsuitable excavated materials disposed of at the public filling areas?	/				
EM&A: E3	Are wastes disposed of at licensed sites?	/				
	General refuse					
WMP	Has the Contractor maintained a disposal record for general refuse and made it available for inspection?		/			
WMP	Is general refuse stored within receptacles and separated from chemical wastes?		/			
WMP	Is the refuse disposed of regularly and properly?		/			
WMP	Are burning of refuse at site and dumping at sea prohibited?		/			
	Chemical Waste					
EM&A: E3	Has the contractor obtained the necessary disposal permits from the relevant authority, if required, according to Waste Disposal (Chemical Waste) (General Regulation)?	/				

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
WDO	Has the Contractor been registered as a chemical waste producer?	/				
EM&A: E3	Has the Contractor kept all the trip tickets for the disposal of chemical waste and made them available for inspection?	/				
EM&A: E4	Is chemical waste handled according to the Code of Practice on the Packaging, Handling and Storage of Chemical Waste?"	/				
EM&A: E4	Is the chemical waste storage, if any, well maintained, kept closed and locked?	/				
Storage, collection and transportation of waste						
EM&A: E3	Are wastes transported by enclosed containers or covered trucks?	/				
EM&A: E3	Are waste materials segregated and sorted into 3 categories as follows?	.				
	(1) public fill materials for on-site reuse, or disposal at public filling area;	/				
	(2) reusable / recyclable materials;	/				
	(3) un-reusable / non-recyclable waste for landfill disposal.	/				
EM&A: E3	Are the records of the quantities of wastes generated and disposed off-site for the 3 categories of waste properly maintained?	/				

WATER QUALITY

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
Surface Run-off						
PN1/94	Are the silt removal facilities, channels and manholes maintained and the deposited silt and grit removed regularly?	/				
PN1/94	Are earthworks final surfaces well compacted and the subsequent permanent work or surface protection carried out immediately after the final surfaces are formed to prevent erosion caused by rainstorms? Is appropriate drainage like intercepting channels provided where necessary?	/				
PN1/94	Are measures taken to minimize the ingress of rainwater into trenches? Is rainwater pumped out from trenches or foundation excavations discharged into storm drains via silt removal facilities?	/				
PN1/94	Are open stockpiles of construction materials (e.g. aggregates, sand and fill material) on site covered with tarpaulin or similar fabric during rainstorms? Are measures taken to prevent the washing away of construction materials, soil, silt or debris into the drainage system?	/				
PN1/94	Are manholes (including newly constructed ones) adequately covered and temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage system, and to prevent storm run-off from getting into foul sewers?	/				
Groundwater						
PN1/94	Is groundwater that pumped out of wells discharged into storm drains after the removal of silt in silt removal facilities?	/				

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
	Boring and Drilling Water					
PN1/94	Is water that used in ground boring and drilling for site investigation or rock/soil anchoring recirculated as far as possible after sedimentation? If there is a need for final disposal, is the wastewater discharged into storm drains via silt removal facilities?	/				
	Wheel Washing Water					
PN1/94	Is a wheel-washing bay provided at every exit if practicable and is the silt removed from wash-water before discharging into storm drains?		/			

MARINE ECOLOGY

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
EM&A: G1	Are all percussive piling works conducted on reclaimed land to avoid noise impact to marine mammals?	/				
EM&A: G2	Do the marine vessels moving to and from the construction site strictly follow the routes stated in the "Plan for Dredging & Reclamation, Routing of Construction Related Marine Vessels, and Installation of Silt Curtain"?	/				
EM&A: G3	Is rubble mound seawall constructed to the south and west edges of the reclamation to enhance recolonisation of marine organisms?	/				

NOISE

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
EM&A : C1	Are working programmes scheduled to minimize noise nuisance?		/			
EM&A: C1	Are construction works or equipment sited to minimize noise nuisance?		/			
EM&A: C1	Are all plant and equipment maintained in good operating conditions?		/			
EM&A: C1/GP	Is idle equipment turned off or throttled down?		/			
EM&A: C1	Are methods of working devised and arranged to minimize noise nuisance?		/			
EM&A: C1)	Are construction works carried out in a manner to minimize noise nuisance?		/			
EM&A: C2	To mitigate construction noise during Sunday's and public holidays, is either one of the following measures adopted? a) Mitigation by portable noise barriers at noise sources or b) Rescheduling of some powered mechanical equipment to less sensitive time periods?		/			
EM&A: C3	To mitigate night time construction noise, is dredging equipment equipped with silencers or mufflers?	/				
NCO	Are valid construction noise permits, if required, available for inspection?		/			
NCO	Are conditions of construction noise permits, if any, for the relevant part(s) of the works implemented accordingly?		/			
NCO	Are valid noise emission labels fixed at air compressors and hand held percussive breakers?		/			
	Major noise source(s)	<input type="checkbox"/> Traffic	<input checked="" type="checkbox"/> Construction activities inside the site			
		<input type="checkbox"/> Construction activities outside the site	<input type="checkbox"/> Others _____			

Abbreviation

VEP:	Varied Environmental Permit	EM&A:	EM&A Manual (Construction Phase)
WMP:	Waste Management Plan	NCO:	Noise Control Ordinance
Cap311R:	APC (Construction Dust) Regulation	WDO:	Waste Disposal Ordinance
Cap311O:	APC (Open Burning) Regulation		
Cap311:	Air Pollution Control Ordinance		
PN1/94:	Practice Note for Professional Persons (Construction Site Drainage)		
Unk:	Unknown		

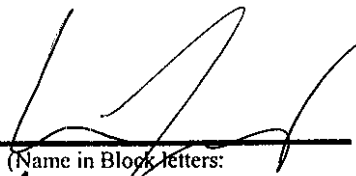
Remark


Nil

Signatures

ET Member

Contractor's Representative


(Name in Block letters:
Larry Wang


(Name in Block letters:
Wong Ho Hong - PKC

11th November 2002

The Hongkong Electric Co. Ltd.
Lamma Power Station Extension – Site Formation, Piling Works and
Superstructure Works
Weekly Site Inspection Checklist

Inspection date 13/7/85 Time 10:00 Inspected By ET: Ringo Wang
Contractor Paul Y
Site EMX - Superstructure

Weather

Condition ☐ Sunny ☒ Fine ☐ Overcast ☐ Hazy ☐ Drizzle ☐ Rain ☐ Storm
Temperature 33 °C Humidity ☐ High ☒ Moderate ☐ Low
Wind ☐ Calm ☒ Light ☐ Breeze ☐ Strong

GENERAL

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
VEP 1.5	Has a copy of the most update Environmental Permit been displayed at all vehicular site entrances/exits for public information?		<input checked="" type="checkbox"/>			
VEP 1.6	Is a copy of EIA report kept in Engineers' and Contractors' offices on site?		<input checked="" type="checkbox"/>			

AIR QUALITY

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
General Requirements						
Cap311R: 3	Has the contractors notified EPD of the construction site which is classified as a notifiable work in a specified form? If there is any change in the notice, do the contractors notify EPD of the change?		<input checked="" type="checkbox"/>			
Cap311R: Sch 12(3)	A compressed air jet shall not be used for cleaning or clearing dust from any vehicle, equipment, other materials or person. Is this observed?		<input checked="" type="checkbox"/>			
Cap311	Do the contractors possess valid Air Pollution Control Specified Processes Licenses for the concrete batching plant wherever applicable and have it available for inspection?	<input checked="" type="checkbox"/>				
Construction Sites						
EM&A: A1	Are haul roads paved with concrete or sprayed with water to keep the entire road wet?		<input checked="" type="checkbox"/>			
Stockpiling of dusty materials						
Cap311R: Sch 18	Are stockpiles of dusty materials entirely covered with impervious sheets or sheltered on the top and 3 sides or sprayed with water to maintain the entire surface wet to prevent dust emission?	<input checked="" type="checkbox"/>				

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
	Cement and dry pulverized fuel ash (PFA)					
Cap311R: Sch 15(3)	Are the storage silos for cement or dry PFA prevented from overfilling?	/				
Cap311R: Sch 15(4)	Are the handlings of cement or dry PFA through a totally enclosed system equipped with air pollution control equipment at the vent of the system?	/				
Cap311R: Sch 15(2)	Is bulk cement or dry PFA stored in a closed silo fitted with a high-level alarm?	/				
Cap311R: Sch 17	Are the cement, dry PFA or other dusty materials collected by the air pollution control equipment disposed of in totally enclosed containers?	/				
	Loading, unloading or transfer of dusty materials					
Cap311R: Sch 19	Are dusty materials, except cement and dry PFA, sprayed with water immediately prior to any loading, unloading or transfer operation?	/				
EM&A: A1	Are the dropping heights of the fill materials controlled to a practical level to minimize fugitive dust emission?	/				
	Use of vehicles					
Cap311R: Sch 21(2) EM&A: A1	Is every load of dusty material on the vehicles leaving the construction site covered entirely by clean impervious sheeting?	/				
Cap311R: Sch 21(1)	Is every vehicle wheel-washed by the wheel washing facilities to remove any dusty materials from its body and wheels before leaving the construction site?		/			
	Transfer of dusty materials using a belt conveyor system					
Cap311R: Sch 20(1)	Are belt conveyors used for transfer of dusty materials covered on the top and 2 sides?	/				
Cap311R: Sch 20(2)	Is every transfer point between any two-belt conveyors totally enclosed?	/				
Cap311R: Sch 20(3)	Is a belt scraper or equivalent device installed at the head pulley of every conveyor? Is the belt scraper equipped with bottom plates or similar means to prevent falling of materials from the return belts?	/				
Cap311R: Sch 20(4)	Are stockpiling conveyors equipped with level adjusting mechanism to maintain the dropping height within 1 m?	/				
	Concrete batching plant					
EM&A: A2	Are the loading, unloading, handling, transfer or storage of any dusty materials carried out in a totally enclosed system?	/				
EM&A: A2	Are dusty materials, except cement and dry PFA, wetted by water spray system?	/				
EM&A: A2	Are all the receiving hoppers enclosed on three (3) sides up to 3m above unloading point?	/				
EM&A: A2	Are all the conveyor transfer points totally enclosed?	/				

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
	Miscellaneous					
Cap311R: Sch 16	Are completed earthworks sealed and hydroseeded and planted as soon as possible?	/				
Cap311O	Is open burning prohibited?		/			
Cap311	Is black smoke emission from plant/equipment avoided?		/			

WASTE/CHEMICAL WASTE MANAGEMENT

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
	Dredged Materials					
WMP EM&A: E3	Does the appropriate contractor possess valid dumping permits for dredged marine mud and have them available for inspection?	/				
WMP EM&A: E3	Has the contractor kept a complete set of dumping records/ticketing system and made them available for inspection?	/				
EM&A: E3	Are wastes disposed of at licensed sites?	/				
	Construction Waste and Excavated Materials					
WMP EM&A: E3	Does the Contractor possess a valid Public Dumping License for construction waste and excavated materials and make it available for inspection?	/				
WMP	Has the Contractor maintained disposal records for the construction waste and excavated materials, and made them available for inspection?	/				
WMP	Is suitable concrete waste/excavated material used for on-site reclamation/filling works?		/			
WMP	Are the used formworks reused as far as possible before being disposed of in a landfill site?		/			
WMP	Are the remaining unsuitable excavated materials disposed of at the public filling areas?	/				
EM&A: E3	Are wastes disposed of at licensed sites?	/				
	General refuse					
WMP	Has the Contractor maintained a disposal record for general refuse and made it available for inspection?		/			
WMP	Is general refuse stored within receptacles and separated from chemical wastes?		/			
WMP	Is the refuse disposed of regularly and properly?		/			
WMP	Are burning of refuse at site and dumping at sea prohibited?		/			
	Chemical Waste					
EM&A: E3	Has the contractor obtained the necessary disposal permits from the relevant authority, if required, according to Waste Disposal (Chemical Waste) (General Regulation)?	/				

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
WDO	Has the Contractor been registered as a chemical waste producer?	/				
EM&A: E3	Has the Contractor kept all the trip tickets for the disposal of chemical waste and made them available for inspection?	/				
EM&A: E4	Is chemical waste handled according to the Code of Practice on the Packaging, Handling and Storage of Chemical Waste?"	/				
EM&A: E4	Is the chemical waste storage, if any, well maintained, kept closed and locked?	/				
Storage, collection and transportation of waste						
EM&A: E3	Are wastes transported by enclosed containers or covered trucks?	/				
EM&A: E3	Are waste materials segregated and sorted into 3 categories as follows?					
	(1) public fill materials for on-site reuse, or disposal at public filling area;	/				
	(2) reusable / recyclable materials;	/				
	(3) un-reusable / non-recyclable waste for landfill disposal.	/				
EM&A: E3	Are the records of the quantities of wastes generated and disposed off-site for the 3 categories of waste properly maintained?	/				

WATER QUALITY

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
Surface Run-off						
PN1/94	Are the silt removal facilities, channels and manholes maintained and the deposited silt and grit removed regularly?	/				
PN1/94	Are earthworks final surfaces well compacted and the subsequent permanent work or surface protection carried out immediately after the final surfaces are formed to prevent erosion caused by rainstorms? Is appropriate drainage like intercepting channels provided where necessary?	/				
PN1/94	Are measures taken to minimize the ingress of rainwater into trenches? Is rainwater pumped out from trenches or foundation excavations discharged into storm drains via silt removal facilities?	/				
PN1/94	Are open stockpiles of construction materials (e.g. aggregates, sand and fill material) on site covered with tarpaulin or similar fabric during rainstorms? Are measures taken to prevent the washing away of construction materials, soil, silt or debris into the drainage system?	/				
PN1/94	Are manholes (including newly constructed ones) adequately covered and temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage system, and to prevent storm run-off from getting into foul sewers?	/				
Groundwater						
PN1/94	Is groundwater that pumped out of wells discharged into storm drains after the removal of silt in silt removal facilities?	/				

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
	Boring and Drilling Water					
PN1/94	Is water that used in ground boring and drilling for site investigation or rock/soil anchoring recirculated as far as possible after sedimentation? If there is a need for final disposal, is the wastewater discharged into storm drains via silt removal facilities?	/				
	Wheel Washing Water					
PN1/94	Is a wheel-washing bay provided at every exit if practicable and is the silt removed from wash-water before discharging into storm drains?		/			

MARINE ECOLOGY

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
EM&A: G1	Are all percussive piling works conducted on reclaimed land to avoid noise impact to marine mammals?	/				
EM&A: G2	Do the marine vessels moving to and from the construction site strictly follow the routes stated in the "Plan for Dredging & Reclamation, Routing of Construction Related Marine Vessels, and Installation of Silt Curtain"?	/				
EM&A: G3	Is rubble mound seawall constructed to the south and west edges of the reclamation to enhance recolonisation of marine organisms?	/				

NOISE

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
EM&A : C1	Are working programmes scheduled to minimize noise nuisance?		/			
EM&A: C1	Are construction works or equipment sited to minimize noise nuisance?		/			
EM&A: C1	Are all plant and equipment maintained in good operating conditions?		/			
EM&A: C1/GP	Is idle equipment turned off or throttled down?		/			
EM&A: C1	Are methods of working devised and arranged to minimize noise nuisance?		/			
EM&A: C1)	Are construction works carried out in a manner to minimize noise nuisance?		/			
EM&A: C2	To mitigate construction noise during Sunday's and public holidays, is either one of the following measures adopted? a) Mitigation by portable noise barriers at noise sources or b) Rescheduling of some powered mechanical equipment to less sensitive time periods?		/			
EM&A: C3	To mitigate night time construction noise, is dredging equipment equipped with silencers or mufflers?	/				
NCO	Are valid construction noise permits, if required, available for inspection?		/			
NCO	Are conditions of construction noise permits, if any, for the relevant part(s) of the works implemented accordingly?		/			
NCO	Are valid noise emission labels fixed at air compressors and hand held percussive breakers?		/			
	Major noise source(s)	<input type="checkbox"/> Traffic		<input checked="" type="checkbox"/> Construction activities inside the site		
		<input type="checkbox"/> Construction activities outside the site		<input type="checkbox"/> Others _____		

Abbreviation

VEP:	Varied Environmental Permit	EM&A:	EM&A Manual (Construction Phase)
WMP:	Waste Management Plan	NCO:	Noise Control Ordinance
Cap311R:	APC (Construction Dust) Regulation	WDO:	Waste Disposal Ordinance
Cap311O:	APC (Open Burning) Regulation		
Cap311:	Air Pollution Control Ordinance		
PN1/94:	Practice Note for Professional Persons (Construction Site Drainage)		
Unk:	Unknown		


Remark

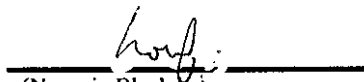
Nil

Signatures

ET Member

Contractor's Representative


(Name in Block letters:
Larry Wong)


(Name in Block letters:
Wong Ho Hay-PK)

11th November 2002

The Hongkong Electric Co. Ltd.
Lamma Power Station Extension – Site Formation, Piling Works and
Superstructure Works
Weekly Site Inspection Checklist

Inspection date 20/7/05 Time 10:00 Inspected By ET: Ringo Ng
 Contractor Paul
 Site LMX - Superstructure

Weather

Condition ☐ Sunny ☒ Fine ☐ Overcast ☐ Hazy ☐ Drizzle ☐ Rain ☐ Storm
 Temperature 34 °C Humidity ☐ High ☒ Moderate ☐ Low
 Wind ☐ Calm ☒ Light ☐ Breeze ☐ Strong

GENERAL

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
VEP 1.5	Has a copy of the most update Environmental Permit been displayed at all vehicular site entrances/exits for public information?		<input checked="" type="checkbox"/>			
VEP 1.6	Is a copy of EIA report kept in Engineers' and Contractors' offices on site?		<input checked="" type="checkbox"/>			

AIR QUALITY

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
General Requirements						
Cap311R: 3	Has the contractors notified EPD of the construction site which is classified as a notifiable work in a specified form? If there is any change in the notice, do the contractors notify EPD of the change?		<input checked="" type="checkbox"/>			
Cap311R: Sch 12(3)	A compressed air jet shall not be used for cleaning or clearing dust from any vehicle, equipment, other materials or person. Is this observed?		<input checked="" type="checkbox"/>			
Cap311	Do the contractors possess valid Air Pollution Control Specified Processes Licenses for the concrete batching plant wherever applicable and have it available for inspection?	<input checked="" type="checkbox"/>				
Construction Sites						
EM&A: A1	Are haul roads paved with concrete or sprayed with water to keep the entire road wet?		<input checked="" type="checkbox"/>			
Stockpiling of dusty materials						
Cap311R: Sch 18	Are stockpiles of dusty materials entirely covered with impervious sheets or sheltered on the top and 3 sides or sprayed with water to maintain the entire surface wet to prevent dust emission?	<input checked="" type="checkbox"/>				

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
	Cement and dry pulverized fuel ash (PFA)					
Cap311R: Sch 15(3)	Are the storage silos for cement or dry PFA prevented from overfilling?	/				
Cap311R: Sch 15(4)	Are the handlings of cement or dry PFA through a totally enclosed system equipped with air pollution control equipment at the vent of the system?	/				
Cap311R: Sch 15(2)	Is bulk cement or dry PFA stored in a closed silo fitted with a high-level alarm?	/				
Cap311R: Sch 17	Are the cement, dry PFA or other dusty materials collected by the air pollution control equipment disposed of in totally enclosed containers?	/				
	Loading, unloading or transfer of dusty materials					
Cap311R: Sch 19	Are dusty materials, except cement and dry PFA, sprayed with water immediately prior to any loading, unloading or transfer operation?	/				
EM&A: A1	Are the dropping heights of the fill materials controlled to a practical level to minimize fugitive dust emission?	/				
	Use of vehicles					
Cap311R: Sch 21(2) EM&A: A1	Is every load of dusty material on the vehicles leaving the construction site covered entirely by clean impervious sheeting?	/				
Cap311R: Sch 21(1)	Is every vehicle wheel-washed by the wheel washing facilities to remove any dusty materials from its body and wheels before leaving the construction site?		/			
	Transfer of dusty materials using a belt conveyor system					
Cap311R: Sch 20(1)	Are belt conveyors used for transfer of dusty materials covered on the top and 2 sides?	/				
Cap311R: Sch 20(2)	Is every transfer point between any two-belt conveyors totally enclosed?	/				
Cap311R: Sch 20(3)	Is a belt scraper or equivalent device installed at the head pulley of every conveyor? Is the belt scraper equipped with bottom plates or similar means to prevent falling of materials from the return belts?	/				
Cap311R: Sch 20(4)	Are stockpiling conveyors equipped with level adjusting mechanism to maintain the dropping height within 1 m?	/				
	Concrete batching plant					
EM&A: A2	Are the loading, unloading, handling, transfer or storage of any dusty materials carried out in a totally enclosed system?	/				
EM&A: A2	Are dusty materials, except cement and dry PFA, wetted by water spray system?	/				
EM&A: A2	Are all the receiving hoppers enclosed on three (3) sides up to 3m above unloading point?	/				
EM&A: A2	Are all the conveyor transfer points totally enclosed?	/				

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
	Miscellaneous					
Cap311R; Sch 16	Are completed earthworks sealed and hydroseeded and planted as soon as possible?	/				
Cap311O	Is open burning prohibited?		/			
Cap311	Is black smoke emission from plant/equipment avoided?		/			

WASTE/CHEMICAL WASTE MANAGEMENT

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
	Dredged Materials					
WMP EM&A: E3	Does the appropriate contractor possess valid dumping permits for dredged marine mud and have them available for inspection?	/				
WMP EM&A: E3	Has the contractor kept a complete set of dumping records/ticketing system and made them available for inspection?	/				
EM&A: E3	Are wastes disposed of at licensed sites?	/				
	Construction Waste and Excavated Materials					
WMP EM&A: E3	Does the Contractor possess a valid Public Dumping License for construction waste and excavated materials and make it available for inspection?	/				
WMP	Has the Contractor maintained disposal records for the construction waste and excavated materials, and made them available for inspection?	/				
WMP	Is suitable concrete waste/excavated material used for on-site reclamation/filling works?		/			
WMP	Are the used formworks reused as far as possible before being disposed of in a landfill site?		/			
WMP	Are the remaining unsuitable excavated materials disposed of at the public filling areas?	/				
EM&A: E3	Are wastes disposed of at licensed sites?	/				
	General refuse					
WMP	Has the Contractor maintained a disposal record for general refuse and made it available for inspection?		/			
WMP	Is general refuse stored within receptacles and separated from chemical wastes?		/			
WMP	Is the refuse disposed of regularly and properly?		/			
WMP	Are burning of refuse at site and dumping at sea prohibited?		/			
	Chemical Waste					
EM&A: E3	Has the contractor obtained the necessary disposal permits from the relevant authority, if required, according to Waste Disposal (Chemical Waste) (General Regulation)?	/				

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
WDO	Has the Contractor been registered as a chemical waste producer?	/				
EM&A: E3	Has the Contractor kept all the trip tickets for the disposal of chemical waste and made them available for inspection?	/				
EM&A: E4	Is chemical waste handled according to the Code of Practice on the Packaging, Handling and Storage of Chemical Waste'?"	/				
EM&A: E4	Is the chemical waste storage, if any, well maintained, kept closed and locked?	/				
Storage, collection and transportation of waste						
EM&A: E3	Are wastes transported by enclosed containers or covered trucks?	/				
EM&A: E3	Are waste materials segregated and sorted into 3 categories as follows?					
	(1) public fill materials for on-site reuse, or disposal at public filling area;	/				
	(2) reusable / recyclable materials;	/				
	(3) un-reusable / non-recyclable waste for landfill disposal.	/				
EM&A: E3	Are the records of the quantities of wastes generated and disposed off-site for the 3 categories of waste properly maintained?	/				

WATER QUALITY

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
Surface Run-off						
PN1/94	Are the silt removal facilities, channels and manholes maintained and the deposited silt and grit removed regularly?	/				
PN1/94	Are earthworks final surfaces well compacted and the subsequent permanent work or surface protection carried out immediately after the final surfaces are formed to prevent erosion caused by rainstorms? Is appropriate drainage like intercepting channels provided where necessary?	/				
PN1/94	Are measures taken to minimize the ingress of rainwater into trenches? Is rainwater pumped out from trenches or foundation excavations discharged into storm drains via silt removal facilities?	/				
PN1/94	Are open stockpiles of construction materials (e.g, aggregates, sand and fill material) on site covered with tarpaulin or similar fabric during rainstorms? Are measures taken to prevent the washing away of construction materials, soil, silt or debris into the drainage system?	/				
PN1/94	Are manholes (including newly constructed ones) adequately covered and temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage system, and to prevent storm run-off from getting into foul sewers?	/				
Groundwater						
PN1/94	Is groundwater that pumped out of wells discharged into storm drains after the removal of silt in silt removal facilities?	/				

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
	Boring and Drilling Water					
PN1/94	Is water that used in ground boring and drilling for site investigation or rock/soil anchoring recirculated as far as possible after sedimentation? If there is a need for final disposal, is the wastewater discharged into storm drains via silt removal facilities?	/				
	Wheel Washing Water					
PN1/94	Is a wheel-washing bay provided at every exit if practicable and is the silt removed from wash-water before discharging into storm drains?		/			

MARINE ECOLOGY

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
EM&A: G1	Are all percussive piling works conducted on reclaimed land to avoid noise impact to marine mammals?	/				
EM&A: G2	Do the marine vessels moving to and from the construction site strictly follow the routes stated in the "Plan for Dredging & Reclamation, Routing of Construction Related Marine Vessels, and Installation of Silt Curtain"?	/				
EM&A: G3	Is rubble mound seawall constructed to the south and west edges of the reclamation to enhance recolonisation of marine organisms?	/				

NOISE

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
EM&A : C1	Are working programmes scheduled to minimize noise nuisance?		/			
EM&A: C1	Are construction works or equipment sited to minimize noise nuisance?		/			
EM&A: C1	Are all plant and equipment maintained in good operating conditions?		/			
EM&A: C1/GP	Is idle equipment turned off or throttled down?		/			
EM&A: C1	Are methods of working devised and arranged to minimize noise nuisance?		/			
EM&A: C1)	Are construction works carried out in a manner to minimize noise nuisance?		/			
EM&A: C2	To mitigate construction noise during Sunday's and public holidays, is either one of the following measures adopted? a) Mitigation by portable noise barriers at noise sources or b) Rescheduling of some powered mechanical equipment to less sensitive time periods?		/			
EM&A: C3	To mitigate night time construction noise, is dredging equipment equipped with silencers or mufflers?	/				
NCO	Are valid construction noise permits, if required, available for inspection?		/			
NCO	Are conditions of construction noise permits, if any, for the relevant part(s) of the works implemented accordingly?		/			
NCO	Are valid noise emission labels fixed at air compressors and hand held percussive breakers?		/			
	Major noise source(s)	<input type="checkbox"/> Traffic	<input checked="" type="checkbox"/> Construction activities inside the site			
		<input type="checkbox"/> Construction activities outside the site	<input type="checkbox"/> Others _____			

Abbreviation

VEP:	Varied Environmental Permit	EM&A:	EM&A Manual (Construction Phase)
WMP:	Waste Management Plan	NCO:	Noise Control Ordinance
Cap311R:	APC (Construction Dust) Regulation	WDO:	Waste Disposal Ordinance
Cap311O:	APC (Open Burning) Regulation		
Cap311:	Air Pollution Control Ordinance		
PN1/94:	Practice Note for Professional Persons (Construction Site Drainage)		
Unk:	Unknown		

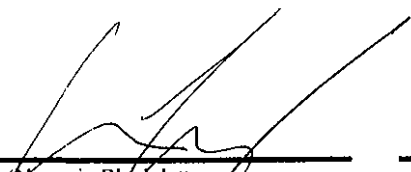
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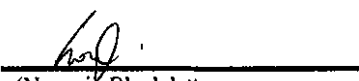
1. Air compressor should be kept closed.

Signatures

ET Member


Contractor's Representative


(Name in Block letters:
Larry Wong)


(Name in Block letters:
Wong Ho Hong - PC)

IEC's Representative
This site inspection was carried out
in the presence of IEC's representative

11th November 2002


(Name in Block Letters:
Chan Tin Man)

The Hongkong Electric Co. Ltd.
Lamma Power Station Extension – Site Formation, Piling Works and
Superstructure Works
Weekly Site Inspection Checklist

Inspection date 21/7/05 Time 10:00 Inspected By ET: Rhys Jones
 Contractor: Paul
 Site LMX - Superstructure.

Weather

Condition ☐ Sunny ☒ Fine ☐ Overcast ☐ Hazy ☐ Drizzle ☐ Rain ☐ Storm
 Temperature 33 °C Humidity ☐ High ☒ Moderate ☐ Low
 Wind ☐ Calm ☒ Light ☐ Breeze ☐ Strong

GENERAL

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
VEP 1.5	Has a copy of the most update Environmental Permit been displayed at all vehicular site entrances/exits for public information?		/			
VEP 1.6	Is a copy of EIA report kept in Engineers' and Contractors' offices on site?		/			

AIR QUALITY

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
General Requirements						
Cap311R: 3	Has the contractors notified EPD of the construction site which is classified as a notifiable work in a specified form? If there is any change in the notice, do the contractors notify EPD of the change?		/			
Cap311R: Sch 12(3)	A compressed air jet shall not be used for cleaning or clearing dust from any vehicle, equipment, other materials or person. Is this observed?		/			
Cap311	Do the contractors possess valid Air Pollution Control Specified Processes Licenses for the concrete batching plant wherever applicable and have it available for inspection?	/				
Construction Sites						
EM&A : A1	Are haul roads paved with concrete or sprayed with water to keep the entire road wet?		/			
Stockpiling of dusty materials						
Cap311R: Sch 18	Are stockpiles of dusty materials entirely covered with impervious sheets or sheltered on the top and 3 sides or sprayed with water to maintain the entire surface wet to prevent dust emission?	/				

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
Cement and dry pulverized fuel ash (PFA)						
Cap311R: Sch 15(3)	Are the storage silos for cement or dry PFA prevented from overfilling?	/				
Cap311R: Sch 15(4)	Are the handlings of cement or dry PFA through a totally enclosed system equipped with air pollution control equipment at the vent of the system?	/				
Cap311R: Sch 15(2)	Is bulk cement or dry PFA stored in a closed silo fitted with a high-level alarm?	/				
Cap311R: Sch 17	Are the cement, dry PFA or other dusty materials collected by the air pollution control equipment disposed of in totally enclosed containers?	/				
Loading, unloading or transfer of dusty materials						
Cap311R: Sch 19	Are dusty materials, except cement and dry PFA, sprayed with water immediately prior to any loading, unloading or transfer operation?	/				
EM&A: A1	Are the dropping heights of the fill materials controlled to a practical level to minimize fugitive dust emission?	/				
Use of vehicles						
Cap311R: Sch 21(2) EM&A: A1	Is every load of dusty material on the vehicles leaving the construction site covered entirely by clean impervious sheeting?	/				
Cap311R: Sch 21(1)	Is every vehicle wheel-washed by the wheel washing facilities to remove any dusty materials from its body and wheels before leaving the construction site?		/			
Transfer of dusty materials using a belt conveyor system						
Cap311R: Sch 20(1)	Are belt conveyors used for transfer of dusty materials covered on the top and 2 sides?	/				
Cap311R: Sch 20(2)	Is every transfer point between any two-belt conveyors totally enclosed?	/				
Cap311R: Sch 20(3)	Is a belt scraper or equivalent device installed at the head pulley of every conveyor? Is the belt scraper equipped with bottom plates or similar means to prevent falling of materials from the return belts?	/				
Cap311R: Sch 20(4)	Are stockpiling conveyors equipped with level adjusting mechanism to maintain the dropping height within 1 m?	/				
Concrete batching plant						
EM&A: A2	Are the loading, unloading, handling, transfer or storage of any dusty materials carried out in a totally enclosed system?	/				
EM&A: A2	Are dusty materials, except cement and dry PFA, wetted by water spray system?	/				
EM&A: A2	Are all the receiving hoppers enclosed on three (3) sides up to 3m above unloading point?	/				
EM&A: A2	Are all the conveyor transfer points totally enclosed?	/				

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
	Miscellaneous					
Cap311R: Sch. 16	Are completed earthworks sealed and hydroseeded and planted as soon as possible?	/				
Cap311O	Is open burning prohibited?		/			
Cap311	Is black smoke emission from plant/equipment avoided?		/			

WASTE/CHEMICAL WASTE MANAGEMENT

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
	Dredged Materials					
WMP EM&A: E3	Does the appropriate contractor possess valid dumping permits for dredged marine mud and have them available for inspection?	/				
WMP EM&A: E3	Has the contractor kept a complete set of dumping records/ticketing system and made them available for inspection?	/				
EM&A: E3	Are wastes disposed of at licensed sites?	/				
	Construction Waste and Excavated Materials					
WMP EM&A: E3	Does the Contractor possess a valid Public Dumping License for construction waste and excavated materials and make it available for inspection?	/				
WMP	Has the Contractor maintained disposal records for the construction waste and excavated materials, and made them available for inspection?	/				
WMP	Is suitable concrete waste/excavated material used for on-site reclamation/filling works?		/			
WMP	Are the used formworks reused as far as possible before being disposed of in a landfill site?		/			
WMP	Are the remaining unsuitable excavated materials disposed of at the public filling areas?	/				
EM&A: E3	Are wastes disposed of at licensed sites?	/				
	General refuse					
WMP	Has the Contractor maintained a disposal record for general refuse and made it available for inspection?		/			
WMP	Is general refuse stored within receptacles and separated from chemical wastes?		/			
WMP	Is the refuse disposed of regularly and properly?		/			
WMP	Are burning of refuse at site and dumping at sea prohibited?		/			
	Chemical Waste					
EM&A: E3	Has the contractor obtained the necessary disposal permits from the relevant authority, if required, according to Waste Disposal (Chemical Waste) (General Regulation)?	/				

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
WDO	Has the Contractor been registered as a chemical waste producer?	/				
EM&A: E3	Has the Contractor kept all the trip tickets for the disposal of chemical waste and made them available for inspection?	/				
EM&A: E4	Is chemical waste handled according to the Code of Practice on the Packaging, Handling and Storage of Chemical Waste?	/				
EM&A: E4	Is the chemical waste storage, if any, well maintained, kept closed and locked?	/				
Storage, collection and transportation of waste						
EM&A: E3	Are wastes transported by enclosed containers or covered trucks?	/				
EM&A: E3	Are waste materials segregated and sorted into 3 categories as follows?					
	(1) public fill materials for on-site reuse, or disposal at public filling area;	/				
	(2) reusable / recyclable materials;	/				
	(3) un-reusable / non-recyclable waste for landfill disposal.	/				
EM&A: E3	Are the records of the quantities of wastes generated and disposed off-site for the 3 categories of waste properly maintained?	/				

WATER QUALITY

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
Surface Run-off						
PN1/94	Are the silt removal facilities, channels and manholes maintained and the deposited silt and grit removed regularly?	/				
PN1/94	Are earthworks final surfaces well compacted and the subsequent permanent work or surface protection carried out immediately after the final surfaces are formed to prevent erosion caused by rainstorms? Is appropriate drainage like intercepting channels provided where necessary?	/				
PN1/94	Are measures taken to minimize the ingress of rainwater into trenches? Is rainwater pumped out from trenches or foundation excavations discharged into storm drains via silt removal facilities?	/				
PN1/94	Are open stockpiles of construction materials (e.g. aggregates, sand and fill material) on site covered with tarpaulin or similar fabric during rainstorms? Are measures taken to prevent the washing away of construction materials, soil, silt or debris into the drainage system?	/				
PN1/94	Are manholes (including newly constructed ones) adequately covered and temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage system, and to prevent storm run-off from getting into foul sewers?	/				
Groundwater						
PN1/94	Is groundwater that pumped out of wells discharged into storm drains after the removal of silt in silt removal facilities?	/				

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
	Boring and Drilling Water					
PN1/94	Is water that used in ground boring and drilling for site investigation or rock/soil anchoring recirculated as far as possible after sedimentation? If there is a need for final disposal, is the wastewater discharged into storm drains via silt removal facilities?	/				
	Wheel Washing Water					
PN1/94	Is a wheel-washing bay provided at every exit if practicable and is the silt removed from wash-water before discharging into storm drains?		/			

MARINE ECOLOGY

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
EM&A: G1	Are all percussive piling works conducted on reclaimed land to avoid noise impact to marine mammals?	/				
EM&A: G2	Do the marine vessels moving to and from the construction site strictly follow the routes stated in the "Plan for Dredging & Reclamation, Routing of Construction Related Marine Vessels, and Installation of Silt Curtain"?	/				
EM&A: G3	Is rubble mound seawall constructed to the south and west edges of the reclamation to enhance recolonisation of marine organisms?	/				

NOISE

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
EM&A : C1	Are working programmes scheduled to minimize noise nuisance?		/			
EM&A: C1	Are construction works or equipment sited to minimize noise nuisance?		/			
EM&A: C1	Are all plant and equipment maintained in good operating conditions?		/			
EM&A: C1/GP	Is idle equipment turned off or throttled down?		/			
EM&A: C1	Are methods of working devised and arranged to minimize noise nuisance?		/			
EM&A: C1)	Are construction works carried out in a manner to minimize noise nuisance?		/			
EM&A: C2	To mitigate construction noise during Sunday's and public holidays, is either one of the following measures adopted? a) Mitigation by portable noise barriers at noise sources or b) Rescheduling of some powered mechanical equipment to less sensitive time periods?		/			
EM&A: C3	To mitigate night time construction noise, is dredging equipment equipped with silencers or mufflers?	/				
NCO	Are valid construction noise permits, if required, available for inspection?		/			
NCO	Are conditions of construction noise permits, if any, for the relevant part(s) of the works implemented accordingly?		/			
NCO	Are valid noise emission labels fixed at air compressors and hand held percussive breakers?		/			
	Major noise source(s)	<input type="checkbox"/> Traffic	<input checked="" type="checkbox"/> Construction activities inside the site			
		<input type="checkbox"/> Construction activities outside the site	<input type="checkbox"/> Others _____			

Abbreviation

VEP:	Varied Environmental Permit	EM&A:	EM&A Manual (Construction Phase)
WMP:	Waste Management Plan	NCO:	Noise Control Ordinance
Cap311R:	APC (Construction Dust) Regulation	WDO:	Waste Disposal Ordinance
Cap311O:	APC (Open Burning) Regulation		
Cap311:	Air Pollution Control Ordinance		
PN1/94:	Practice Note for Professional Persons (Construction Site Drainage)		
Unk:	Unknown		


Remark

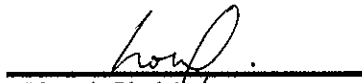
N:1

Signatures

ET Member

Contractor's Representative


(Name in Block letters:
Lung Wong


(Name in Block letters:
Wong Ho Hing - PRC

11th November 2002

The Hongkong Electric Co. Ltd.
Lamma Power Station Extension – E&M Works
Weekly Site Inspection Checklist

Inspection date 7 JULY 2005 Time 09:30 Inspected By ET: W. W. CHU (HEC)
 Contractor: W. F. KWOK (IDK)
 Site LMX 9 Mech. Erection Area

Weather

Condition ☐ Sunny ☐ Fine ☐ Overcast ☐ Hazy ☐ Drizzle ☒ Rain ☐ Storm
 Temperature 30 °C Humidity ☒ High ☐ Moderate ☐ Low
 Wind ☒ Calm ☐ Light ☐ Breeze ☐ Strong

GENERAL

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
VEP 1.5	Has a copy of the most update Environmental Permit been displayed at all vehicular site entrances/exits for public information?		✓			
VEP 1.6	Is a copy of EIA report kept in Engineers' and Contractors' offices on site?		✓			

AIR QUALITY

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
General Requirements						
Cap311R: 3	Has the contractors notified EPD of the construction site which is classified as a notifiable work in a specified form? If there is any change in the notice, do the contractors notify EPD of the change?	✓				
Cap311R: Sch 12(3)	A compressed air jet shall not be used for cleaning or clearing dust from any vehicle, equipment, other materials or person. Is this observed?		✓			
Cap311	Do the contractors possess valid Air Pollution Control Specified Processes Licenses for the concrete batching plant wherever applicable and have it available for inspection?	✓				
Construction Sites						
EM&A : A1	Are haul roads paved with concrete or sprayed with water to keep the entire road wet?		✓			Spraying By PR
Stockpiling of dusty materials						
Cap311R: Sch 18	Are stockpiles of dusty materials entirely covered with impervious sheets or sheltered on the top and 3 sides or sprayed with water to maintain the entire surface wet to prevent dust emission?	✓				

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
Cement and dry pulverized fuel ash (PFA)						
Cap311R: Sch 15(3)	Are the storage silos for cement or dry PFA prevented from overfilling?	✓				
Cap311R: Sch 15(4)	Are the handlings of cement or dry PFA through a totally enclosed system equipped with air pollution control equipment at the vent of the system?	✓				
Cap311R: Sch 15(2)	Is bulk cement or dry PFA stored in a closed silo fitted with a high-level alarm?	✓				
Cap311R: Sch 17	Are the cement, dry PFA or other dusty materials collected by the air pollution control equipment disposed of in totally enclosed containers?	✓				
Loading, unloading or transfer of dusty materials						
Cap311R: Sch 19	Are dusty materials, except cement and dry PFA, sprayed with water immediately prior to any loading, unloading or transfer operation?	✓				
EM&A: A1	Are the dropping heights of the fill materials controlled to a practical level to minimize fugitive dust emission?	✓				
Use of vehicles						
Cap311R: Sch 21(2) EM&A: A1	Is every load of dusty material on the vehicles leaving the construction site covered entirely by clean impervious sheeting?	✓				
Cap311R: Sch 21(1)	Is every vehicle wheel-washed by the wheel washing facilities to remove any dusty materials from its body and wheels before leaving the construction site?		✓			Cleaning Provided By P.Y.
Transfer of dusty materials using a belt conveyor system						
Cap311R: Sch 20(1)	Are belt conveyors used for transfer of dusty materials covered on the top and 2 sides?	✓				
Cap311R: Sch 20(2)	Is every transfer point between any two-belt conveyors totally enclosed?	✓				
Cap311R: Sch 20(3)	Is a belt scraper or equivalent device installed at the head pulley of every conveyor? Is the belt scraper equipped with bottom plates or similar means to prevent falling of materials from the return belts?	✓				
Cap311R: Sch 20(4)	Are stockpiling conveyors equipped with level adjusting mechanism to maintain the dropping height within 1 m?	✓				
Concrete batching plant						
EM&A: A2	Are the loading, unloading, handling, transfer or storage of any dusty materials carried out in a totally enclosed system?	✓				
EM&A: A2	Are dusty materials, except cement and dry PFA, wetted by water spray system?	✓				
EM&A: A2	Are all the receiving hoppers enclosed on three (3) sides up to 3m above unloading point?	✓				
EM&A: A2	Are all the conveyor transfer points totally enclosed?	✓				

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
	Miscellaneous					
Cap311R: Sch 16	Are completed earthworks sealed and hydroseeded and planted as soon as possible?	✓				
Cap311O	Is open burning prohibited?		✓			
Cap311	Is black smoke emission from plant/equipment avoided?		✓			

WASTE/CHEMICAL WASTE MANAGEMENT

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
	Dredged Materials					
WMP EM&A: E3	Does the appropriate contractor possess valid dumping permits for dredged marine mud and have them available for inspection?	✓				
WMP EM&A: E3	Has the contractor kept a complete set of dumping records/ticketing system and made them available for inspection?	✓				
EM&A: E3	Are wastes disposed of at licensed sites?	✓				
	Construction Waste and Excavated Materials					
WMP EM&A: E3	Does the Contractor possess a valid Public Dumping License for construction waste and excavated materials and make it available for inspection?	✓				
WMP	Has the Contractor maintained disposal records for the construction waste and excavated materials, and made them available for inspection?	✓				
WMP	Is suitable concrete waste/excavated material used for on-site reclamation/filling works?	✓				
WMP	Are the used formworks reused as far as possible before being disposed of in a landfill site?	✓				
WMP	Are the remaining unsuitable excavated materials disposed of at the public filling areas?	✓				
EM&A: E3	Are wastes disposed of at licensed sites?	✓				
	General refuse					
WMP	Has the Contractor maintained a disposal record for general refuse and made it available for inspection?		✓			
WMP	Is general refuse stored within receptacles and separated from chemical wastes?		✓			
WMP	Is the refuse disposed of regularly and properly?		✓			
WMP	Are burning of refuse at site and dumping at sea prohibited?		✓			
	Chemical Waste					
EM&A: E3	Has the contractor obtained the necessary disposal permits from the relevant authority, if required, according to Waste Disposal (Chemical Waste) (General Regulation)?	✓				

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
WDO	Has the Contractor been registered as a chemical waste producer?		✓			
EM&A: E3	Has the Contractor kept all the trip tickets for the disposal of chemical waste and made them available for inspection?		✓			
EM&A: E4	Is chemical waste handled according to the Code of Practice on the Packaging, Handling and Storage of Chemical Waste?"		✓			
EM&A: E4	Is the chemical waste storage, if any, well maintained, kept closed and locked?		✓			
Storage, collection and transportation of waste						
EM&A: E3	Are wastes transported by enclosed containers or covered trucks?		✓			
EM&A: E3	Are waste materials segregated and sorted into 3 categories as follows?					
	(1) public fill materials for on-site reuse, or disposal at public filling area;	✓				
	(2) reusable / recyclable materials;	✓				
	(3) un-reusable / non-recyclable waste for landfill disposal.		✓			
EM&A: E3	Are the records of the quantities of wastes generated and disposed off-site for the 3 categories of waste properly maintained?		✓			

WATER QUALITY

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
Surface Run-off						
PN1/94	Are the silt removal facilities, channels and manholes maintained and the deposited silt and grit removed regularly?	✓				
PN1/94	Are earthworks final surfaces well compacted and the subsequent permanent work or surface protection carried out immediately after the final surfaces are formed to prevent erosion caused by rainstorms? Is appropriate drainage like intercepting channels provided where necessary?	✓				
PN1/94	Are measures taken to minimize the ingress of rainwater into trenches? Is rainwater pumped out from trenches or foundation excavations discharged into storm drains via silt removal facilities?	✓				
PN1/94	Are open stockpiles of construction materials (e.g, aggregates, sand and fill material) on site covered with tarpaulin or similar fabric during rainstorms? Are measures taken to prevent the washing away of construction materials, soil, silt or debris into the drainage system?	✓				
PN1/94	Are manholes (including newly constructed ones) adequately covered and temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage system, and to prevent storm run-off from getting into foul sewers?	✓				
Groundwater						
PN1/94	Is groundwater that pumped out of wells discharged into storm drains after the removal of silt in silt removal facilities?	✓				

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
	Boring and Drilling Water					
PN1/94	Is water that used in ground boring and drilling for site investigation or rock/soil anchoring recirculated as far as possible after sedimentation? If there is a need for final disposal, is the wastewater discharged into storm drains via silt removal facilities?	✓				
	Wheel Washing Water					
PN1/94	Is a wheel-washing bay provided at every exit if practicable and is the silt removed from wash-water before discharging into storm drains?	✓				

MARINE ECOLOGY

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
EM&A: G1	Are all percussive piling works conducted on reclaimed land to avoid noise impact to marine mammals?	✓				
EM&A: G2	Do the marine vessels moving to and from the construction site strictly follow the routes stated in the "Plan for Dredging & Reclamation, Routing of Construction Related Marine Vessels, and Installation of Silt Curtain"?	✓				
EM&A: G3	Is rubble mound seawall constructed to the south and west edges of the reclamation to enhance recolonisation of marine organisms?	✓				

NOISE

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
EM&A : C1	Are working programmes scheduled to minimize noise nuisance?		✓			
EM&A: C1	Are construction works or equipment sited to minimize noise nuisance?		✓			
EM&A: C1	Are all plant and equipment maintained in good operating conditions?		✓			
EM&A: C1/GP	Is idle equipment turned off or throttled down?		✓			
EM&A: C1	Are methods of working devised and arranged to minimize noise nuisance?		✓			
EM&A: C1)	Are construction works carried out in a manner to minimize noise nuisance?		✓			
EM&A: C2	To mitigate construction noise during Sunday's and public holidays, is either one of the following measures adopted? a) Mitigation by portable noise barriers at noise sources or b) Rescheduling of some powered mechanical equipment to less sensitive time periods?		✓			
EM&A: C3	To mitigate night time construction noise, is dredging equipment equipped with silencers or mufflers?	✓				
NCO	Are valid construction noise permits, if required, available for inspection?		✓			
NCO	Are conditions of construction noise permits, if any, for the relevant part(s) of the works implemented accordingly?		✓			
NCO	Are valid noise emission labels fixed at air compressors and hand held percussive breakers?		✓			
	Major noise source(s)	<input type="checkbox"/> Traffic		<input checked="" type="checkbox"/> Construction activities inside the site		
		<input type="checkbox"/> Construction activities outside the site		<input type="checkbox"/> Others _____		

Abbreviation

VEP:	Varied Environmental Permit	EM&A:	EM&A Manual (Construction Phase)
WMP:	Waste Management Plan	NCO:	Noise Control Ordinance
Cap311R:	APC (Construction Dust) Regulation	WDO:	Waste Disposal Ordinance
Cap311O:	APC (Open Burning) Regulation		
Cap311:	Air Pollution Control Ordinance		
PN1/94:	Practice Note for Professional Persons (Construction Site Drainage)		
Unk:	Unknown		

Remark

Signatures

ET Member

Contractor's Representative



(Name in Block letters:

W.W. Chan)



(Name in Block letters:

W.F. Kwok)

The Hongkong Electric Co. Ltd.
Lamma Power Station Extension – E&M Works
Weekly Site Inspection Checklist

Inspection date 14 July 2005 Time 07:30 Inspected By ET: W. Sin (HEC)
 Contractor: W. F. Kwok (TPK)
 Site LMX-9 Mech. Erection Area

Weather

Condition ☒ Sunny ☐ Fine ☐ Overcast ☐ Hazy ☐ Drizzle ☐ Rain ☐ Storm
 Temperature 31 °C Humidity ☒ High ☐ Moderate ☐ Low
 Wind ☒ Calm ☐ Light ☐ Breeze ☐ Strong

GENERAL

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
VEP 1.5	Has a copy of the most update Environmental Permit been displayed at all vehicular site entrances/exits for public information?		<input checked="" type="checkbox"/>			
VEP 1.6	Is a copy of EIA report kept in Engineers' and Contractors' offices on site?		<input checked="" type="checkbox"/>			

AIR QUALITY

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
General Requirements						
Cap311R: 3	Has the contractors notified EPD of the construction site which is classified as a notifiable work in a specified form? If there is any change in the notice, do the contractors notify EPD of the change?	<input checked="" type="checkbox"/>				
Cap311R: Sch 12(3)	A compressed air jet shall not be used for cleaning or clearing dust from any vehicle, equipment, other materials or person. Is this observed?		<input checked="" type="checkbox"/>			
Cap311	Do the contractors possess valid Air Pollution Control Specified Processes Licenses for the concrete batching plant wherever applicable and have it available for inspection?	<input checked="" type="checkbox"/>				
Construction Sites						
EM&A: A1	Are haul roads paved with concrete or sprayed with water to keep the entire road wet?		<input checked="" type="checkbox"/>			Spraying By P.T.
Stockpiling of dusty materials						
Cap311R: Sch 18	Are stockpiles of dusty materials entirely covered with impervious sheets or sheltered on the top and 3 sides or sprayed with water to maintain the entire surface wet to prevent dust emission?	<input checked="" type="checkbox"/>				

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
Cement and dry pulverized fuel ash (PFA)						
Cap311R: Sch 15(3)	Are the storage silos for cement or dry PFA prevented from overfilling?	✓				
Cap311R: Sch 15(4)	Are the handlings of cement or dry PFA through a totally enclosed system equipped with air pollution control equipment at the vent of the system?	✓				
Cap311R: Sch 15(2)	Is bulk cement or dry PFA stored in a closed silo fitted with a high-level alarm?	✓				
Cap311R: Sch 17	Are the cement, dry PFA or other dusty materials collected by the air pollution control equipment disposed of in totally enclosed containers?	✓				
Loading, unloading or transfer of dusty materials						
Cap311R: Sch 19	Are dusty materials, except cement and dry PFA, sprayed with water immediately prior to any loading, unloading or transfer operation?	✓				
EM&A: A1	Are the dropping heights of the fill materials controlled to a practical level to minimize fugitive dust emission?	✓				
Use of vehicles						
Cap311R: Sch 21(2) EM&A: A1	Is every load of dusty material on the vehicles leaving the construction site covered entirely by clean impervious sheeting?	✓				
Cap311R: Sch 21(1)	Is every vehicle wheel-washed by the wheel washing facilities to remove any dusty materials from its body and wheels before leaving the construction site?		✓			Cleaning Provided By P.C.
Transfer of dusty materials using a belt conveyor system						
Cap311R: Sch 20(1)	Are belt conveyors used for transfer of dusty materials covered on the top and 2 sides?	✓				
Cap311R: Sch 20(2)	Is every transfer point between any two-belt conveyors totally enclosed?	✓				
Cap311R: Sch 20(3)	Is a belt scraper or equivalent device installed at the head pulley of every conveyor? Is the belt scraper equipped with bottom plates or similar means to prevent falling of materials from the return belts?	✓				
Cap311R: Sch 20(4)	Are stockpiling conveyors equipped with level adjusting mechanism to maintain the dropping height within 1 m?	✓				
Concrete batching plant						
EM&A: A2	Are the loading, unloading, handling, transfer or storage of any dusty materials carried out in a totally enclosed system?	✓				
EM&A: A2	Are dusty materials, except cement and dry PFA, wetted by water spray system?	✓				
EM&A: A2	Are all the receiving hoppers enclosed on three (3) sides up to 3m above unloading point?	✓				
EM&A: A2	Are all the conveyor transfer points totally enclosed?	✓				

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
	Miscellaneous					
Cap311R: Sch 16	Are completed earthworks sealed and hydroseeded and planted as soon as possible?	✓				
Cap311O	Is open burning prohibited?		✓			
Cap311	Is black smoke emission from plant/equipment avoided?		✓			

WASTE/CHEMICAL WASTE MANAGEMENT

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
	Dredged Materials					
WMP EM&A: E3	Does the appropriate contractor possess valid dumping permits for dredged marine mud and have them available for inspection?	✓				
WMP EM&A: E3	Has the contractor kept a complete set of dumping records/ticketing system and made them available for inspection?	✓				
EM&A: E3	Are wastes disposed of at licensed sites?	✓				
	Construction Waste and Excavated Materials					
WMP EM&A: E3	Does the Contractor possess a valid Public Dumping License for construction waste and excavated materials and make it available for inspection?	✓				
WMP	Has the Contractor maintained disposal records for the construction waste and excavated materials, and made them available for inspection?	✓				
WMP	Is suitable concrete waste/excavated material used for on-site reclamation/filling works?	✓				
WMP	Are the used formworks reused as far as possible before being disposed of in a landfill site?	✓				
WMP	Are the remaining unsuitable excavated materials disposed of at the public filling areas?	✓				
EM&A: E3	Are wastes disposed of at licensed sites?	✓				
	General refuse					
WMP	Has the Contractor maintained a disposal record for general refuse and made it available for inspection?		✓			
WMP	Is general refuse stored within receptacles and separated from chemical wastes?		✓			
WMP	Is the refuse disposed of regularly and properly?		✓			
WMP	Are burning of refuse at site and dumping at sea prohibited?		✓			
	Chemical Waste					
EM&A: E3	Has the contractor obtained the necessary disposal permits from the relevant authority, if required, according to Waste Disposal (Chemical Waste) (General Regulation)?	✓				

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
WDO	Has the Contractor been registered as a chemical waste producer?		✓			
EM&A: E3	Has the Contractor kept all the trip tickets for the disposal of chemical waste and made them available for inspection?		✓			
EM&A: E4	Is chemical waste handled according to the Code of Practice on the Packaging, Handling and Storage of Chemical Waste?"		✓			
EM&A: E4	Is the chemical waste storage, if any, well maintained, kept closed and locked?		✓			
Storage, collection and transportation of waste						
EM&A: E3	Are wastes transported by enclosed containers or covered trucks?		✓			
EM&A: E3	Are waste materials segregated and sorted into 3 categories as follows?					
	(1) public fill materials for on-site reuse, or disposal at public filling area;	✓				
	(2) reusable / recyclable materials;	✓				
	(3) un-reusable / non-recyclable waste for landfill disposal.		✓			
EM&A: E3	Are the records of the quantities of wastes generated and disposed off-site for the 3 categories of waste properly maintained?		✓			

WATER QUALITY

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
Surface Run-off						
PN1/94	Are the silt removal facilities, channels and manholes maintained and the deposited silt and grit removed regularly?	✓				
PN1/94	Are earthworks final surfaces well compacted and the subsequent permanent work or surface protection carried out immediately after the final surfaces are formed to prevent erosion caused by rainstorms? Is appropriate drainage like intercepting channels provided where necessary?	✓				
PN1/94	Are measures taken to minimize the ingress of rainwater into trenches? Is rainwater pumped out from trenches or foundation excavations discharged into storm drains via silt removal facilities?	✓				
PN1/94	Are open stockpiles of construction materials (e.g. aggregates, sand and fill material) on site covered with tarpaulin or similar fabric during rainstorms? Are measures taken to prevent the washing away of construction materials, soil, silt or debris into the drainage system?	✓				
PN1/94	Are manholes (including newly constructed ones) adequately covered and temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage system, and to prevent storm run-off from getting into foul sewers?	✓				
Groundwater						
PN1/94	Is groundwater that pumped out of wells discharged into storm drains after the removal of silt in silt removal facilities?	✓				

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
	Boring and Drilling Water					
PN1/94	Is water that used in ground boring and drilling for site investigation or rock/soil anchoring recirculated as far as possible after sedimentation? If there is a need for final disposal, is the wastewater discharged into storm drains via silt removal facilities?	✓				
	Wheel Washing Water					
PN1/94	Is a wheel-washing bay provided at every exit if practicable and is the silt removed from wash-water before discharging into storm drains?	✓				

MARINE ECOLOGY

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
EM&A: G1	Are all percussive piling works conducted on reclaimed land to avoid noise impact to marine mammals?	✓				
EM&A: G2	Do the marine vessels moving to and from the construction site strictly follow the routes stated in the "Plan for Dredging & Reclamation, Routing of Construction Related Marine Vessels, and Installation of Silt Curtain"?	✓				
EM&A: G3	Is rubble mound seawall constructed to the south and west edges of the reclamation to enhance recolonisation of marine organisms?	✓				

NOISE

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
EM&A : C1	Are working programmes scheduled to minimize noise nuisance?		✓			
EM&A: C1	Are construction works or equipment sited to minimize noise nuisance?		✓			
EM&A: C1	Are all plant and equipment maintained in good operating conditions?		✓			
EM&A: C1/GP	Is idle equipment turned off or throttled down?		✓			
EM&A: C1	Are methods of working devised and arranged to minimize noise nuisance?		✓			
EM&A: C1)	Are construction works carried out in a manner to minimize noise nuisance?		✓			
EM&A: C2	To mitigate construction noise during Sunday's and public holidays, is either one of the following measures adopted? a) Mitigation by portable noise barriers at noise sources or b) Rescheduling of some powered mechanical equipment to less sensitive time periods?		✓			
EM&A: C3	To mitigate night time construction noise, is dredging equipment equipped with silencers or mufflers?	✓				
NCO	Are valid construction noise permits, if required, available for inspection?		✓			
NCO	Are conditions of construction noise permits, if any, for the relevant part(s) of the works implemented accordingly?		✓			
NCO	Are valid noise emission labels fixed at air compressors and hand held percussive breakers?		✓			
	Major noise source(s)	<input type="checkbox"/> Traffic		<input checked="" type="checkbox"/> Construction activities inside the site		
		<input type="checkbox"/> Construction activities outside the site		<input type="checkbox"/> Others _____		

Abbreviation


VEP:	Varied Environmental Permit	EM&A:	EM&A Manual (Construction Phase)
WMP:	Waste Management Plan	NCO:	Noise Control Ordinance
Cap311R:	APC (Construction Dust) Regulation	WDO:	Waste Disposal Ordinance
Cap311O:	APC (Open Burning) Regulation		
Cap311:	Air Pollution Control Ordinance		
PN1/94:	Practice Note for Professional Persons (Construction Site Drainage)		
Unk:	Unknown		

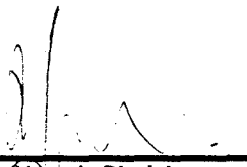
Remark

Signatures

ET Member

Contractor's Representative


(Name in Block letters:
W. S. W.)


(Name in Block letters:
W. F. Kwok)

The Hongkong Electric Co. Ltd.
Lamma Power Station Extension – E&M Works
Weekly Site Inspection Checklist

Inspection date 20 July 2015 Time 10:30 Inspected By ET: J M Chiu
 Site LMA 9 Mech Erection Contractor: Alan Chan

Weather

Condition ☐ Sunny ☐ Fine ☒ Overcast ☐ Hazy ☐ Drizzle ☐ Rain ☐ Storm
 Temperature 30 °C Humidity ☒ High ☐ Moderate ☐ Low
 Wind ☒ Calm ☐ Light ☐ Breeze ☐ Strong

GENERAL

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
VEP 1.5	Has a copy of the most update Environmental Permit been displayed at all vehicular site entrances/exits for public information?		<input checked="" type="checkbox"/>			
VEP 1.6	Is a copy of EIA report kept in Engineers' and Contractors' offices on site?		<input checked="" type="checkbox"/>			

AIR QUALITY

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
General Requirements						
Cap311R: 3	Has the contractors notified EPD of the construction site which is classified as a notifiable work in a specified form? If there is any change in the notice, do the contractors notify EPD of the change?	<input checked="" type="checkbox"/>				
Cap311R: Sch 12(3)	A compressed air jet shall not be used for cleaning or clearing dust from any vehicle, equipment, other materials or person. Is this observed?		<input checked="" type="checkbox"/>			
Cap311	Do the contractors possess valid Air Pollution Control Specified Processes Licenses for the concrete batching plant wherever applicable and have it available for inspection?	<input checked="" type="checkbox"/>				
Construction Sites						
EM&A : A1	Are haul roads paved with concrete or sprayed with water to keep the entire road wet?		<input checked="" type="checkbox"/>			Spraying by PY
Stockpiling of dusty materials						
Cap311R: Sch 18	Are stockpiles of dusty materials entirely covered with impervious sheets or sheltered on the top and 3 sides or sprayed with water to maintain the entire surface wet to prevent dust emission?	<input checked="" type="checkbox"/>				

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
Cement and dry pulverized fuel ash (PFA)						
Cap311R: Sch 15(3)	Are the storage silos for cement or dry PFA prevented from overfilling?	✓				
Cap311R: Sch 15(4)	Are the handlings of cement or dry PFA through a totally enclosed system equipped with air pollution control equipment at the vent of the system?	✓				
Cap311R: Sch 15(2)	Is bulk cement or dry PFA stored in a closed silo fitted with a high-level alarm?	✓				
Cap311R: Sch 17	Are the cement, dry PFA or other dusty materials collected by the air pollution control equipment disposed of in totally enclosed containers?	✓				
Loading, unloading or transfer of dusty materials						
Cap311R: Sch 19	Are dusty materials, except cement and dry PFA, sprayed with water immediately prior to any loading, unloading or transfer operation?	✓				
EM&A: A1	Are the dropping heights of the fill materials controlled to a practical level to minimize fugitive dust emission?	✓				
Use of vehicles						
Cap311R: Sch 21(2) EM&A: A1	Is every load of dusty material on the vehicles leaving the construction site covered entirely by clean impervious sheeting?	✓				
Cap311R: Sch 21(1)	Is every vehicle wheel-washed by the wheel washing facilities to remove any dusty materials from its body and wheels before leaving the construction site?		✓			
Transfer of dusty materials using a belt conveyor system						
Cap311R: Sch 20(1)	Are belt conveyors used for transfer of dusty materials covered on the top and 2 sides?	✓				
Cap311R: Sch 20(2)	Is every transfer point between any two-belt conveyors totally enclosed?	✓				
Cap311R: Sch 20(3)	Is a belt scraper or equivalent device installed at the head pulley of every conveyor? Is the belt scraper equipped with bottom plates or similar means to prevent falling of materials from the return belts?	✓				
Cap311R: Sch 20(4)	Are stockpiling conveyors equipped with level adjusting mechanism to maintain the dropping height within 1 m?	✓				
Concrete batching plant						
EM&A: A2	Are the loading, unloading, handling, transfer or storage of any dusty materials carried out in a totally enclosed system?	✓				
EM&A: A2	Are dusty materials, except cement and dry PFA, wetted by water spray system?	✓				
EM&A: A2	Are all the receiving hoppers enclosed on three (3) sides up to 3m above unloading point?	✓				
EM&A: A2	Are all the conveyor transfer points totally enclosed?	✓				

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
	Miscellaneous					
Cap311R: Sch 16	Are completed earthworks sealed and hydroseeded and planted as soon as possible?	✓				
Cap3110	Is open burning prohibited?		✓			
Cap311	Is black smoke emission from plant/equipment avoided?		✓			

WASTE/CHEMICAL WASTE MANAGEMENT

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
	Dredged Materials					
WMP EM&A: E3	Does the appropriate contractor possess valid dumping permits for dredged marine mud and have them available for inspection?	✓				
WMP EM&A: E3	Has the contractor kept a complete set of dumping records/ticketing system and made them available for inspection?	✓				
EM&A: E3	Are wastes disposed of at licensed sites?	✓				
	Construction Waste and Excavated Materials					
WMP EM&A: E3	Does the Contractor possess a valid Public Dumping License for construction waste and excavated materials and make it available for inspection?	✓				
WMP	Has the Contractor maintained disposal records for the construction waste and excavated materials, and made them available for inspection?	✓				
WMP	Is suitable concrete waste/excavated material used for on-site reclamation/filling works?	✓				
WMP	Are the used formworks reused as far as possible before being disposed of in a landfill site?	✓				
WMP	Are the remaining unsuitable excavated materials disposed of at the public filling areas?	✓				
EM&A: E3	Are wastes disposed of at licensed sites?	✓				
	General refuse					
WMP	Has the Contractor maintained a disposal record for general refuse and made it available for inspection?		✓			
WMP	Is general refuse stored within receptacles and separated from chemical wastes?		✓			
WMP	Is the refuse disposed of regularly and properly?		✓			
WMP	Are burning of refuse at site and dumping at sea prohibited?		✓			
	Chemical Waste					
EM&A: E3	Has the contractor obtained the necessary disposal permits from the relevant authority, if required, according to Waste Disposal (Chemical Waste) (General Regulation)?	✓				

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
WDO	Has the Contractor been registered as a chemical waste producer?		✓			
EM&A: E3	Has the Contractor kept all the trip tickets for the disposal of chemical waste and made them available for inspection?		✓			
EM&A: E4	Is chemical waste handled according to the Code of Practice on the Packaging, Handling and Storage of Chemical Waste?"		✓			
EM&A: E4	Is the chemical waste storage, if any, well maintained, kept closed and locked?		✓			
Storage, collection and transportation of waste						
EM&A: E3	Are wastes transported by enclosed containers or covered trucks?		✓			
EM&A: E3	Are waste materials segregated and sorted into 3 categories as follows?					
	(1) public fill materials for on-site reuse, or disposal at public filling area;	✓				
	(2) reusable / recyclable materials;	✓				
	(3) un-reusable / non-recyclable waste for landfill disposal.		✓			
EM&A: E3	Are the records of the quantities of wastes generated and disposed off-site for the 3 categories of waste properly maintained?		✓			

WATER QUALITY

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
Surface Run-off						
PN1/94	Are the silt removal facilities, channels and manholes maintained and the deposited silt and grit removed regularly?	✓				
PN1/94	Are earthworks final surfaces well compacted and the subsequent permanent work or surface protection carried out immediately after the final surfaces are formed to prevent erosion caused by rainstorms? Is appropriate drainage like intercepting channels provided where necessary?	✓				
PN1/94	Are measures taken to minimize the ingress of rainwater into trenches? Is rainwater pumped out from trenches or foundation excavations discharged into storm drains via silt removal facilities?	✓				
PN1/94	Are open stockpiles of construction materials (e.g, aggregates, sand and fill material) on site covered with tarpaulin or similar fabric during rainstorms? Are measures taken to prevent the washing away of construction materials, soil, silt or debris into the drainage system?	✓				
PN1/94	Are manholes (including newly constructed ones) adequately covered and temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage system, and to prevent storm run-off from getting into foul sewers?	✓				
Groundwater						
PN1/94	Is groundwater that pumped out of wells discharged into storm drains after the removal of silt in silt removal facilities?	✓				

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
	Boring and Drilling Water					
PN1/94	Is water that used in ground boring and drilling for site investigation or rock/soil anchoring recirculated as far as possible after sedimentation? If there is a need for final disposal, is the wastewater discharged into storm drains via silt removal facilities?	✓				
	Wheel Washing Water					
PN1/94	Is a wheel-washing bay provided at every exit if practicable and is the silt removed from wash-water before discharging into storm drains?	✓				

MARINE ECOLOGY

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
EM&A: G1	Are all percussive piling works conducted on reclaimed land to avoid noise impact to marine mammals?	✓				
EM&A: G2	Do the marine vessels moving to and from the construction site strictly follow the routes stated in the "Plan for Dredging & Reclamation, Routing of Construction Related Marine Vessels, and Installation of Silt Curtain"?	✓				
EM&A: G3	Is rubble mound seawall constructed to the south and west edges of the reclamation to enhance recolonisation of marine organisms?	✓				

NOISE

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
EM&A : C1	Are working programmes scheduled to minimize noise nuisance?		✓			
EM&A: C1	Are construction works or equipment sited to minimize noise nuisance?		✓			
EM&A: C1	Are all plant and equipment maintained in good operating conditions?		✓			
EM&A: C1/GP	Is idle equipment turned off or throttled down?		✓			
EM&A: C1	Are methods of working devised and arranged to minimize noise nuisance?		✓			
EM&A: C1)	Are construction works carried out in a manner to minimize noise nuisance?		✓			
EM&A: C2	To mitigate construction noise during Sunday's and public holidays, is either one of the following measures adopted? a) Mitigation by portable noise barriers at noise sources or b) Rescheduling of some powered mechanical equipment to less sensitive time periods?		✓			
EM&A: C3	To mitigate night time construction noise, is dredging equipment equipped with silencers or mufflers?	✓				
NCO	Are valid construction noise permits, if required, available for inspection?		✓			
NCO	Are conditions of construction noise permits, if any, for the relevant part(s) of the works implemented accordingly?		✓			
NCO	Are valid noise emission labels fixed at air compressors and hand held percussive breakers?		✓			
	Major noise source(s)	<input checked="" type="checkbox"/> Traffic <input checked="" type="checkbox"/> Construction activities inside the site				
		<input type="checkbox"/> Construction activities outside the site <input type="checkbox"/> Others _____				

Abbreviation

VEP:	Varied Environmental Permit	EM&A:	EM&A Manual (Construction Phase)
WMP:	Waste Management Plan	NCO:	Noise Control Ordinance
Cap311R:	APC (Construction Dust) Regulation	WDO:	Waste Disposal Ordinance
Cap311O:	APC (Open Burning) Regulation		
Cap311:	Air Pollution Control Ordinance		
PN1/94:	Practice Note for Professional Persons (Construction Site Drainage)		
Unk:	Unknown		

Remark


Signatures


ET Member


Contractor's Representative

IEC's Representative

This site inspection was carried out
in the presence of IEC's representative


(Name in Block letters:
Y M Chim)


(Name in Block letters:
ALAN CHAN)


Name in Block Letters:
(Chan To Mo)

The Hongkong Electric Co. Ltd.
Lamma Power Station Extension – E&M Works
Weekly Site Inspection Checklist

Inspection date 29 July 2015 Time 09:30 Inspected By ET: W. Sun (HKE)
 Contractor: W. F. Kwok (TOK)
 Site LMX- Mech. Extension Area

Weather

Condition ☐ Sunny ☐ Fine ☐ Overcast ☐ Hazy ☐ Drizzle ☒ Rain ☐ Storm
 Temperature 28 °C Humidity ☒ High ☐ Moderate ☐ Low
 Wind ☐ Calm ☒ Light ☐ Breeze ☐ Strong

GENERAL

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
VEP 1.5	Has a copy of the most update Environmental Permit been displayed at all vehicular site entrances/exits for public information?		✓			
VEP 1.6	Is a copy of EIA report kept in Engineers' and Contractors' offices on site?		✓			

AIR QUALITY

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
General Requirements						
Cap311R: 3	Has the contractors notified EPD of the construction site which is classified as a notifiable work in a specified form? If there is any change in the notice, do the contractors notify EPD of the change?	✓				
Cap311R: Sch 12(3)	A compressed air jet shall not be used for cleaning or clearing dust from any vehicle, equipment, other materials or person. Is this observed?		✓			
Cap311	Do the contractors possess valid Air Pollution Control Specified Processes Licenses for the concrete batching plant wherever applicable and have it available for inspection?	✓				
Construction Sites						
EM&A: A1	Are haul roads paved with concrete or sprayed with water to keep the entire road wet?		✓			Sprayed By B.P.Y.
Stockpiling of dusty materials						
Cap311R: Sch 18	Are stockpiles of dusty materials entirely covered with impervious sheets or sheltered on the top and 3 sides or sprayed with water to maintain the entire surface wet to prevent dust emission?	✓				

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
Cement and dry pulverized fuel ash (PFA)						
Cap311R: Sch 15(3)	Are the storage silos for cement or dry PFA prevented from overfilling?	✓				
Cap311R: Sch 15(4)	Are the handlings of cement or dry PFA through a totally enclosed system equipped with air pollution control equipment at the vent of the system?	✓				
Cap311R: Sch 15(2)	Is bulk cement or dry PFA stored in a closed silo fitted with a high-level alarm?	✓				
Cap311R: Sch 17	Are the cement, dry PFA or other dusty materials collected by the air pollution control equipment disposed of in totally enclosed containers?	✓				
Loading, unloading or transfer of dusty materials						
Cap311R: Sch 19	Are dusty materials, except cement and dry PFA, sprayed with water immediately prior to any loading, unloading or transfer operation?	✓				
EM&A: A1	Are the dropping heights of the fill materials controlled to a practical level to minimize fugitive dust emission?	✓				
Use of vehicles						
Cap311R: Sch 21(2) EM&A: A1	Is every load of dusty material on the vehicles leaving the construction site covered entirely by clean impervious sheeting?	✓				
Cap311R: Sch 21(1)	Is every vehicle wheel-washed by the wheel washing facilities to remove any dusty materials from its body and wheels before leaving the construction site?		✓			Cleaning Provided By P.C.
Transfer of dusty materials using a belt conveyor system						
Cap311R: Sch 20(1)	Are belt conveyors used for transfer of dusty materials covered on the top and 2 sides?	✓				
Cap311R: Sch 20(2)	Is every transfer point between any two-belt conveyors totally enclosed?	✓				
Cap311R: Sch 20(3)	Is a belt scraper or equivalent device installed at the head pulley of every conveyor? Is the belt scraper equipped with bottom plates or similar means to prevent falling of materials from the return belts?	✓				
Cap311R: Sch 20(4)	Are stockpiling conveyors equipped with level adjusting mechanism to maintain the dropping height within 1 m?	✓				
Concrete batching plant						
EM&A: A2	Are the loading, unloading, handling, transfer or storage of any dusty materials carried out in a totally enclosed system?	✓				
EM&A: A2	Are dusty materials, except cement and dry PFA, wetted by water spray system?	✓				
EM&A: A2	Are all the receiving hoppers enclosed on three (3) sides up to 3m above unloading point?	✓				
EM&A: A2	Are all the conveyor transfer points totally enclosed?	✓				

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
	Miscellaneous					
Cap311R: Sch 16	Are completed earthworks sealed and hydroseeded and planted as soon as possible?	✓				
Cap311O	Is open burning prohibited?		✓			
Cap311	Is black smoke emission from plant/equipment avoided?		✓			

WASTE/CHEMICAL WASTE MANAGEMENT

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
	Dredged Materials					
WMP EM&A: E3	Does the appropriate contractor possess valid dumping permits for dredged marine mud and have them available for inspection?	✓				
WMP EM&A: E3	Has the contractor kept a complete set of dumping records/ticketing system and made them available for inspection?	✓				
EM&A: E3	Are wastes disposed of at licensed sites?	✓				
	Construction Waste and Excavated Materials					
WMP EM&A: E3	Does the Contractor possess a valid Public Dumping License for construction waste and excavated materials and make it available for inspection?	✓				
WMP	Has the Contractor maintained disposal records for the construction waste and excavated materials, and made them available for inspection?	✓				
WMP	Is suitable concrete waste/excavated material used for on-site reclamation/filling works?	✓				
WMP	Are the used formworks reused as far as possible before being disposed of in a landfill site?	✓				
WMP	Are the remaining unsuitable excavated materials disposed of at the public filling areas?	✓				
EM&A: E3	Are wastes disposed of at licensed sites?	✓				
	General refuse					
WMP	Has the Contractor maintained a disposal record for general refuse and made it available for inspection?		✓			
WMP	Is general refuse stored within receptacles and separated from chemical wastes?		✓			
WMP	Is the refuse disposed of regularly and properly?		✓			
WMP	Are burning of refuse at site and dumping at sea prohibited?		✓			
	Chemical Waste					
EM&A: E3	Has the contractor obtained the necessary disposal permits from the relevant authority, if required, according to Waste Disposal (Chemical Waste) (General Regulation)?	✓				

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
WDO	Has the Contractor been registered as a chemical waste producer?		✓			
EM&A: E3	Has the Contractor kept all the trip tickets for the disposal of chemical waste and made them available for inspection?		✓			
EM&A: E4	Is chemical waste handled according to the Code of Practice on the Packaging, Handling and Storage of Chemical Waste?"		✓			
EM&A: E4	Is the chemical waste storage, if any, well maintained, kept closed and locked?		✓			
Storage, collection and transportation of waste						
EM&A: E3	Are wastes transported by enclosed containers or covered trucks?		✓			
EM&A: E3	Are waste materials segregated and sorted into 3 categories as follows?					
	(1) public fill materials for on-site reuse, or disposal at public filling area;	✓				
	(2) reusable / recyclable materials;	✓				
	(3) un-reusable / non-recyclable waste for landfill disposal.		✓			
EM&A: E3	Are the records of the quantities of wastes generated and disposed off-site for the 3 categories of waste properly maintained?		✓			

WATER QUALITY

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
Surface Run-off						
PN1/94	Are the silt removal facilities, channels and manholes maintained and the deposited silt and grit removed regularly?	✓				
PN1/94	Are earthworks final surfaces well compacted and the subsequent permanent work or surface protection carried out immediately after the final surfaces are formed to prevent erosion caused by rainstorms? Is appropriate drainage like intercepting channels provided where necessary?	✓				
PN1/94	Are measures taken to minimize the ingress of rainwater into trenches? Is rainwater pumped out from trenches or foundation excavations discharged into storm drains via silt removal facilities?	✓				
PN1/94	Are open stockpiles of construction materials (e.g. aggregates, sand and fill material) on site covered with tarpaulin or similar fabric during rainstorms? Are measures taken to prevent the washing away of construction materials, soil, silt or debris into the drainage system?	✓				
PN1/94	Are manholes (including newly constructed ones) adequately covered and temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage system, and to prevent storm run-off from getting into foul sewers?	✓				
Groundwater						
PN1/94	Is groundwater that pumped out of wells discharged into storm drains after the removal of silt in silt removal facilities?	✓				

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
	Boring and Drilling Water					
PN1/94	Is water that used in ground boring and drilling for site investigation or rock/soil anchoring recirculated as far as possible after sedimentation? If there is a need for final disposal, is the wastewater discharged into storm drains via silt removal facilities?	✓				
	Wheel Washing Water					
PN1/94	Is a wheel-washing bay provided at every exit if practicable and is the silt removed from wash-water before discharging into storm drains?	✓				

MARINE ECOLOGY

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
EM&A: G1	Are all percussive piling works conducted on reclaimed land to avoid noise impact to marine mammals?	✓				
EM&A: G2	Do the marine vessels moving to and from the construction site strictly follow the routes stated in the "Plan for Dredging & Reclamation, Routing of Construction Related Marine Vessels, and Installation of Silt Curtain"?	✓				
EM&A: G3	Is rubble mound seawall constructed to the south and west edges of the reclamation to enhance recolonisation of marine organisms?	✓				

NOISE

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
EM&A : C1	Are working programmes scheduled to minimize noise nuisance?		✓			
EM&A: C1	Are construction works or equipment sited to minimize noise nuisance?		✓			
EM&A: C1	Are all plant and equipment maintained in good operating conditions?		✓			
EM&A: C1/GP	Is idle equipment turned off or throttled down?		✓			
EM&A: C1	Are methods of working devised and arranged to minimize noise nuisance?		✓			
EM&A: C1)	Are construction works carried out in a manner to minimize noise nuisance?		✓			
EM&A: C2	To mitigate construction noise during Sunday's and public holidays, is either one of the following measures adopted? a) Mitigation by portable noise barriers at noise sources or b) Rescheduling of some powered mechanical equipment to less sensitive time periods?		✓			
EM&A: C3	To mitigate night time construction noise, is dredging equipment equipped with silencers or mufflers?	✓				
NCO	Are valid construction noise permits, if required, available for inspection?		✓			
NCO	Are conditions of construction noise permits, if any, for the relevant part(s) of the works implemented accordingly?		✓			
NCO	Are valid noise emission labels fixed at air compressors and hand held percussive breakers?		✓			
	Major noise source(s)	<input type="checkbox"/> Traffic		<input checked="" type="checkbox"/> Construction activities inside the site		
		<input type="checkbox"/> Construction activities outside the site		<input type="checkbox"/> Others _____		

Abbreviation


VEP:	Varied Environmental Permit	EM&A:	EM&A Manual (Construction Phase)
WMP:	Waste Management Plan	NCO:	Noise Control Ordinance
Cap311R:	APC (Construction Dust) Regulation	WDO:	Waste Disposal Ordinance
Cap311O:	APC (Open Burning) Regulation		
Cap311:	Air Pollution Control Ordinance		
PN1/94:	Practice Note for Professional Persons (Construction Site Drainage)		
Unk:	Unknown		


Remark

Signatures

ET Member

Contractor's Representative


(Name in Block letters:
W. S. W.)


(Name in Block letters:
W. F. Kwok)

The Hongkong Electric Co. Ltd.
Lamma Power Station Extension – E&M Works
Weekly Site Inspection Checklist

Inspection date 6 July 2015 Time 09:55 hrs Inspected By ET: T.F. CHAN / PDE
 Contractor: PETER CHENG / ST-NO20
 Site LMX-L9 Electrical Erection Area

Weather

Condition ☐ Sunny ☒ Fine ☐ Overcast ☐ Hazy ☐ Drizzle ☐ Rain ☐ Storm
 Temperature 30 °C Humidity ☒ High ☐ Moderate ☐ Low
 Wind ☐ Calm ☒ Light ☐ Breeze ☐ Strong

GENERAL

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
VEP 1.5	Has a copy of the most update Environmental Permit been displayed at all vehicular site entrances/exits for public information?		✓			
VEP 1.6	Is a copy of EIA report kept in Engineers' and Contractors' offices on site?		✓			

AIR QUALITY

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
General Requirements						
Cap311R: 3	Has the contractors notified EPD of the construction site which is classified as a notifiable work in a specified form? If there is any change in the notice, do the contractors notify EPD of the change?	✓				
Cap311R: Sch 12(3)	A compressed air jet shall not be used for cleaning or clearing dust from any vehicle, equipment, other materials or person. Is this observed?		✓			
Cap311	Do the contractors possess valid Air Pollution Control Specified Processes Licenses for the concrete batching plant wherever applicable and have it available for inspection?	✓				
Construction Sites						
EM&A : A1	Are haul roads paved with concrete or sprayed with water to keep the entire road wet?		✓			Water Spraying Provided By Paul Y.
Stockpiling of dusty materials						
Cap311R: Sch 18	Are stockpiles of dusty materials entirely covered with impervious sheets or sheltered on the top and 3 sides or sprayed with water to maintain the entire surface wet to prevent dust emission?	✓				

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
Cement and dry pulverized fuel ash (PFA)						
Cap311R: Sch 15(3)	Are the storage silos for cement or dry PFA prevented from overfilling?	✓				
Cap311R: Sch 15(4)	Are the handlings of cement or dry PFA through a totally enclosed system equipped with air pollution control equipment at the vent of the system?	✓				
Cap311R: Sch 15(2)	Is bulk cement or dry PFA stored in a closed silo fitted with a high-level alarm?	✓				
Cap311R: Sch 17	Are the cement, dry PFA or other dusty materials collected by the air pollution control equipment disposed of in totally enclosed containers?	✓				
Loading, unloading or transfer of dusty materials						
Cap311R: Sch 19	Are dusty materials, except cement and dry PFA, sprayed with water immediately prior to any loading, unloading or transfer operation?	✓				
EM&A: A1	Are the dropping heights of the fill materials controlled to a practical level to minimize fugitive dust emission?	✓				
Use of vehicles						
Cap311R: Sch 21(2) EM&A: A1	Is every load of dusty material on the vehicles leaving the construction site covered entirely by clean impervious sheeting?	✓				
Cap311R: Sch 21(1)	Is every vehicle wheel-washed by the wheel washing facilities to remove any dusty materials from its body and wheels before leaving the construction site?		✓			Wheel Washing Services Provided By Paul Y.
Transfer of dusty materials using a belt conveyor system						
Cap311R: Sch 20(1)	Are belt conveyors used for transfer of dusty materials covered on the top and 2 sides?	✓				
Cap311R: Sch 20(2)	Is every transfer point between any two-belt conveyors totally enclosed?	✓				
Cap311R: Sch 20(3)	Is a belt scraper or equivalent device installed at the head pulley of every conveyor? Is the belt scraper equipped with bottom plates or similar means to prevent falling of materials from the return belts?	✓				
Cap311R: Sch 20(4)	Are stockpiling conveyors equipped with level adjusting mechanism to maintain the dropping height within 1 m?	✓				
Concrete batching plant						
EM&A: A2	Are the loading, unloading, handling, transfer or storage of any dusty materials carried out in a totally enclosed system?	✓				
EM&A: A2	Are dusty materials, except cement and dry PFA, wetted by water spray system?	✓				
EM&A: A2	Are all the receiving hoppers enclosed on three (3) sides up to 3m above unloading point?	✓				
EM&A: A2	Are all the conveyor transfer points totally enclosed?	✓				

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
	Miscellaneous					
Cap311R: Sch 16	Are completed earthworks sealed and hydroseeded and planted as soon as possible?	✓				
Cap311O	Is open burning prohibited?		✓			
Cap311	Is black smoke emission from plant/equipment avoided?		✓			

WASTE/CHEMICAL WASTE MANAGEMENT

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
	Dredged Materials					
WMP EM&A: E3	Does the appropriate contractor possess valid dumping permits for dredged marine mud and have them available for inspection?	✓				
WMP EM&A: E3	Has the contractor kept a complete set of dumping records/ticketing system and made them available for inspection?	✓				
EM&A: E3	Are wastes disposed of at licensed sites?	✓				
	Construction Waste and Excavated Materials					
WMP EM&A: E3	Does the Contractor possess a valid Public Dumping License for construction waste and excavated materials and make it available for inspection?	✓				
WMP	Has the Contractor maintained disposal records for the construction waste and excavated materials, and made them available for inspection?	✓				
WMP	Is suitable concrete waste/excavated material used for on-site reclamation/filling works?	✓				
WMP	Are the used formworks reused as far as possible before being disposed of in a landfill site?	✓				
WMP	Are the remaining unsuitable excavated materials disposed of at the public filling areas?	✓				
EM&A: E3	Are wastes disposed of at licensed sites?	✓				
	General refuse					
WMP	Has the Contractor maintained a disposal record for general refuse and made it available for inspection?		✓			
WMP	Is general refuse stored within receptacles and separated from chemical wastes?		✓			
WMP	Is the refuse disposed of regularly and properly?		✓			
WMP	Are burning of refuse at site and dumping at sea prohibited?		✓			
	Chemical Waste					
EM&A: E3	Has the contractor obtained the necessary disposal permits from the relevant authority, if required, according to Waste Disposal (Chemical Waste) (General Regulation)?	✓				

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
WDO	Has the Contractor been registered as a chemical waste producer?	✓				
EM&A: E3	Has the Contractor kept all the trip tickets for the disposal of chemical waste and made them available for inspection?	✓				
EM&A: E4	Is chemical waste handled according to the Code of Practice on the Packaging, Handling and Storage of Chemical Waste?"	✓				
EM&A: E4	Is the chemical waste storage, if any, well maintained, kept closed and locked?	✓				
Storage, collection and transportation of waste						
EM&A: E3	Are wastes transported by enclosed containers or covered trucks?		✓			
EM&A: E3	Are waste materials segregated and sorted into 3 categories as follows?	✓				
	(1) public fill materials for on-site reuse, or disposal at public filling area;					
	(2) reusable / recyclable materials;					
	(3) un-reusable / non-recyclable waste for landfill disposal.					
EM&A: E3	Are the records of the quantities of wastes generated and disposed off-site for the 3 categories of waste properly maintained?	✓				

WATER QUALITY

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
Surface Run-off						
PN1/94	Are the silt removal facilities, channels and manholes maintained and the deposited silt and grit removed regularly?	✓				
PN1/94	Are earthworks final surfaces well compacted and the subsequent permanent work or surface protection carried out immediately after the final surfaces are formed to prevent erosion caused by rainstorms? Is appropriate drainage like intercepting channels provided where necessary?	✓				
PN1/94	Are measures taken to minimize the ingress of rainwater into trenches? Is rainwater pumped out from trenches or foundation excavations discharged into storm drains via silt removal facilities?	✓				
PN1/94	Are open stockpiles of construction materials (e.g, aggregates, sand and fill material) on site covered with tarpaulin or similar fabric during rainstorms? Are measures taken to prevent the washing away of construction materials, soil, silt or debris into the drainage system?	✓				
PN1/94	Are manholes (including newly constructed ones) adequately covered and temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage system, and to prevent storm run-off from getting into foul sewers?	✓				
Groundwater						
PN1/94	Is groundwater that pumped out of wells discharged into storm drains after the removal of silt in silt removal facilities?	✓				

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
	Boring and Drilling Water					
PN1/94	Is water that used in ground boring and drilling for site investigation or rock/soil anchoring recirculated as far as possible after sedimentation? If there is a need for final disposal, is the wastewater discharged into storm drains via silt removal facilities?	✓				
	Wheel Washing Water					
PN1/94	Is a wheel-washing bay provided at every exit if practicable and is the silt removed from wash-water before discharging into storm drains?	✓				

MARINE ECOLOGY

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
EM&A: G1	Are all percussive piling works conducted on reclaimed land to avoid noise impact to marine mammals?	✓				
EM&A: G2	Do the marine vessels moving to and from the construction site strictly follow the routes stated in the "Plan for Dredging & Reclamation, Routing of Construction Related Marine Vessels, and Installation of Silt Curtain"?	✓				
EM&A: G3	Is rubble mound seawall constructed to the south and west edges of the reclamation to enhance recolonisation of marine organisms?	✓				

NOISE

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
EM&A : C1	Are working programmes scheduled to minimize noise nuisance?		✓			
EM&A: C1	Are construction works or equipment sited to minimize noise nuisance?		✓			
EM&A: C1	Are all plant and equipment maintained in good operating conditions?		✓			
EM&A: C1/GP	Is idle equipment turned off or throttled down?		✓			
EM&A: C1	Are methods of working devised and arranged to minimize noise nuisance?		✓			
EM&A: C1)	Are construction works carried out in a manner to minimize noise nuisance?		✓			
EM&A: C2	To mitigate construction noise during Sunday's and public holidays, is either one of the following measures adopted? a) Mitigation by portable noise barriers at noise sources or b) Rescheduling of some powered mechanical equipment to less sensitive time periods?		✓			
EM&A: C3	To mitigate night time construction noise, is dredging equipment equipped with silencers or mufflers?	✓				
NCO	Are valid construction noise permits, if required, available for inspection?	✓				
NCO	Are conditions of construction noise permits, if any, for the relevant part(s) of the works implemented accordingly?	✓				
NCO	Are valid noise emission labels fixed at air compressors and hand held percussive breakers?	✓				Air Compressor removed off site for other projects
	Major noise source(s)	<input type="checkbox"/> Traffic	<input checked="" type="checkbox"/> Construction activities inside the site			
		<input type="checkbox"/> Construction activities outside the site	<input type="checkbox"/> Others _____			

Abbreviation


VEP:	Varied Environmental Permit	
WMP:	Waste Management Plan	EM&A: EM&A Manual (Construction Phase)
Cap311R:	APC (Construction Dust) Regulation	NCO: Noise Control Ordinance
Cap311O:	APC (Open Burning) Regulation	WDO: Waste Disposal Ordinance
Cap311:	Air Pollution Control Ordinance	
PN1/94:	Practice Note for Professional Persons (Construction Site Drainage)	
Unk:	Unknown	

Remark

Signatures

ET Member

Contractor's Representative


(Name in Block letters:

CHIU Toi Fu)

PDE


(Name in Block letters:

PETER CHIENG)

SARKU

12th January 2005

The Hongkong Electric Co. Ltd.
Lamma Power Station Extension – E&M Works
Weekly Site Inspection Checklist

Inspection date 13 July 2005 Time 09:25hrs Inspected By ET: T. F. CHIN / PDE
 Contractor: PETER CHENG / SANKO
 Site 1Mx- L9 Electric Freeston Area

Weather

Condition ☒ Sunny ☐ Fine ☐ Overcast ☐ Hazy ☐ Drizzle ☐ Rain ☐ Storm
 Temperature 29 °C Humidity ☒ High ☐ Moderate ☐ Low
 Wind ☐ Calm ☒ Light ☐ Breeze ☐ Strong

GENERAL

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
VEP 1.5	Has a copy of the most update Environmental Permit been displayed at all vehicular site entrances/exits for public information?		<input checked="" type="checkbox"/>			
VEP 1.6	Is a copy of EIA report kept in Engineers' and Contractors' offices on site?		<input checked="" type="checkbox"/>			

AIR QUALITY

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
General Requirements						
Cap311R: 3	Has the contractors notified EPD of the construction site which is classified as a notifiable work in a specified form? If there is any change in the notice, do the contractors notify EPD of the change?	<input checked="" type="checkbox"/>				
Cap311R: Sch 12(3)	A compressed air jet shall not be used for cleaning or clearing dust from any vehicle, equipment, other materials or person. Is this observed?		<input checked="" type="checkbox"/>			
Cap311	Do the contractors possess valid Air Pollution Control Specified Processes Licenses for the concrete batching plant wherever applicable and have it available for inspection?	<input checked="" type="checkbox"/>				
Construction Sites						
EM&A : A1	Are haul roads paved with concrete or sprayed with water to keep the entire road wet?		<input checked="" type="checkbox"/>			Water Spraying Provided By Paul Y.
Stockpiling of dusty materials						
Cap311R: Sch 18	Are stockpiles of dusty materials entirely covered with impervious sheets or sheltered on the top and 3 sides or sprayed with water to maintain the entire surface wet to prevent dust emission?	<input checked="" type="checkbox"/>				

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
	Cement and dry pulverized fuel ash (PFA)					
Cap311R: Sch 15(3)	Are the storage silos for cement or dry PFA prevented from overfilling?	✓				
Cap311R: Sch 15(4)	Are the handlings of cement or dry PFA through a totally enclosed system equipped with air pollution control equipment at the vent of the system?	✓				
Cap311R: Sch 15(2)	Is bulk cement or dry PFA stored in a closed silo fitted with a high-level alarm?	✓				
Cap311R: Sch 17	Are the cement, dry PFA or other dusty materials collected by the air pollution control equipment disposed of in totally enclosed containers?	✓				
	Loading, unloading or transfer of dusty materials					
Cap311R: Sch 19	Are dusty materials, except cement and dry PFA, sprayed with water immediately prior to any loading, unloading or transfer operation?	✓				
EM&A: A1	Are the dropping heights of the fill materials controlled to a practical level to minimize fugitive dust emission?	✓				
	Use of vehicles					
Cap311R: Sch 21(2) EM&A: A1	Is every load of dusty material on the vehicles leaving the construction site covered entirely by clean impervious sheeting?	✓				
Cap311R: Sch 21(1)	Is every vehicle wheel-washed by the wheel washing facilities to remove any dusty materials from its body and wheels before leaving the construction site?		✓			Wheel Washing Services Provided By Paul Y.
	Transfer of dusty materials using a belt conveyor system					
Cap311R: Sch 20(1)	Are belt conveyors used for transfer of dusty materials covered on the top and 2 sides?	✓				
Cap311R: Sch 20(2)	Is every transfer point between any two-belt conveyors totally enclosed?	✓				
Cap311R: Sch 20(3)	Is a belt scraper or equivalent device installed at the head pulley of every conveyor? Is the belt scraper equipped with bottom plates or similar means to prevent falling of materials from the return belts?	✓				
Cap311R: Sch 20(4)	Are stockpiling conveyors equipped with level adjusting mechanism to maintain the dropping height within 1 m?	✓				
	Concrete batching plant					
EM&A: A2	Are the loading, unloading, handling, transfer or storage of any dusty materials carried out in a totally enclosed system?	✓				
EM&A: A2	Are dusty materials, except cement and dry PFA, wetted by water spray system?	✓				
EM&A: A2	Are all the receiving hoppers enclosed on three (3) sides up to 3m above unloading point?	✓				
EM&A: A2	Are all the conveyor transfer points totally enclosed?	✓				

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
	Miscellaneous					
Cap311R: Sch 16	Are completed earthworks sealed and hydroseeded and planted as soon as possible?	✓				
Cap311O	Is open burning prohibited?		✓			
Cap311	Is black smoke emission from plant/equipment avoided?		✓			

WASTE/CHEMICAL WASTE MANAGEMENT

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
	Dredged Materials					
WMP EM&A: E3	Does the appropriate contractor possess valid dumping permits for dredged marine mud and have them available for inspection?	✓				
WMP EM&A: E3	Has the contractor kept a complete set of dumping records/ticketing system and made them available for inspection?	✓				
EM&A: E3	Are wastes disposed of at licensed sites?	✓				
	Construction Waste and Excavated Materials					
WMP EM&A: E3	Does the Contractor possess a valid Public Dumping License for construction waste and excavated materials and make it available for inspection?	✓				
WMP	Has the Contractor maintained disposal records for the construction waste and excavated materials, and made them available for inspection?	✓				
WMP	Is suitable concrete waste/excavated material used for on-site reclamation/filling works?	✓				
WMP	Are the used formworks reused as far as possible before being disposed of in a landfill site?	✓				
WMP	Are the remaining unsuitable excavated materials disposed of at the public filling areas?	✓				
EM&A: E3	Are wastes disposed of at licensed sites?	✓				
	General refuse					
WMP	Has the Contractor maintained a disposal record for general refuse and made it available for inspection?		✓			
WMP	Is general refuse stored within receptacles and separated from chemical wastes?		✓			
WMP	Is the refuse disposed of regularly and properly?		✓			
WMP	Are burning of refuse at site and dumping at sea prohibited?		✓			
	Chemical Waste					
EM&A: E3	Has the contractor obtained the necessary disposal permits from the relevant authority, if required, according to Waste Disposal (Chemical Waste) (General Regulation)?	✓				

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
WDO	Has the Contractor been registered as a chemical waste producer?	✓				
EM&A: E3	Has the Contractor kept all the trip tickets for the disposal of chemical waste and made them available for inspection?	✓				
EM&A: E4	Is chemical waste handled according to the Code of Practice on the Packaging, Handling and Storage of Chemical Waste?"	✓				
EM&A: E4	Is the chemical waste storage, if any, well maintained, kept closed and locked?	✓				
Storage, collection and transportation of waste						
EM&A: E3	Are wastes transported by enclosed containers or covered trucks?		✓			
EM&A: E3	Are waste materials segregated and sorted into 3 categories as follows?	✓				
	(1) public fill materials for on-site reuse, or disposal at public filling area;					
	(2) reusable / recyclable materials;					
	(3) un-reusable / non-recyclable waste for landfill disposal.					
EM&A: E3	Are the records of the quantities of wastes generated and disposed off-site for the 3 categories of waste properly maintained?	✓				

WATER QUALITY

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
Surface Run-off						
PN1/94	Are the silt removal facilities, channels and manholes maintained and the deposited silt and grit removed regularly?	✓				
PN1/94	Are earthworks final surfaces well compacted and the subsequent permanent work or surface protection carried out immediately after the final surfaces are formed to prevent erosion caused by rainstorms? Is appropriate drainage like intercepting channels provided where necessary?	✓				
PN1/94	Are measures taken to minimize the ingress of rainwater into trenches? Is rainwater pumped out from trenches or foundation excavations discharged into storm drains via silt removal facilities?	✓				
PN1/94	Are open stockpiles of construction materials (e.g, aggregates, sand and fill material) on site covered with tarpaulin or similar fabric during rainstorms? Are measures taken to prevent the washing away of construction materials, soil, silt or debris into the drainage system?	✓				
PN1/94	Are manholes (including newly constructed ones) adequately covered and temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage system, and to prevent storm run-off from getting into foul sewers?	✓				
Groundwater						
PN1/94	Is groundwater that pumped out of wells discharged into storm drains after the removal of silt in silt removal facilities?	✓				

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
	Boring and Drilling Water					
PN1/94	Is water that used in ground boring and drilling for site investigation or rock/soil anchoring recirculated as far as possible after sedimentation? If there is a need for final disposal, is the wastewater discharged into storm drains via silt removal facilities?	✓				
	Wheel Washing Water					
PN1/94	Is a wheel-washing bay provided at every exit if practicable and is the silt removed from wash-water before discharging into storm drains?	✓				

MARINE ECOLOGY

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
EM&A: G1	Are all percussive piling works conducted on reclaimed land to avoid noise impact to marine mammals?	✓				
EM&A: G2	Do the marine vessels moving to and from the construction site strictly follow the routes stated in the "Plan for Dredging & Reclamation, Routing of Construction Related Marine Vessels, and Installation of Silt Curtain"?	✓				
EM&A: G3	Is rubble mound seawall constructed to the south and west edges of the reclamation to enhance recolonisation of marine organisms?	✓				

NOISE

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
EM&A : C1	Are working programmes scheduled to minimize noise nuisance?		✓			
EM&A: C1	Are construction works or equipment sited to minimize noise nuisance?		✓			
EM&A: C1	Are all plant and equipment maintained in good operating conditions?		✓			
EM&A: C1/GP	Is idle equipment turned off or throttled down?		✓			
EM&A: C1	Are methods of working devised and arranged to minimize noise nuisance?		✓			
EM&A: C1)	Are construction works carried out in a manner to minimize noise nuisance?		✓			
EM&A: C2	To mitigate construction noise during Sunday's and public holidays, is either one of the following measures adopted? a) Mitigation by portable noise barriers at noise sources or b) Rescheduling of some powered mechanical equipment to less sensitive time periods?		✓			
EM&A: C3	To mitigate night time construction noise, is dredging equipment equipped with silencers or mufflers?	✓				
NCO	Are valid construction noise permits, if required, available for inspection?	✓				
NCO	Are conditions of construction noise permits, if any, for the relevant part(s) of the works implemented accordingly?	✓				
NCO	Are valid noise emission labels fixed at air compressors and hand held percussive breakers?	✓				Air Compressor removed off site for other projects
	Major noise source(s)	<input type="checkbox"/> Traffic	<input checked="" type="checkbox"/> Construction activities inside the site			
		<input type="checkbox"/> Construction activities outside the site	<input type="checkbox"/> Others _____			

Abbreviation

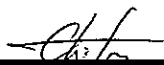
VEP:	Varied Environmental Permit	EM&A:	EM&A Manual (Construction Phase)
WMP:	Waste Management Plan	NCO:	Noise Control Ordinance
Cap311R:	APC (Construction Dust) Regulation	WDO:	Waste Disposal Ordinance
Cap311O:	APC (Open Burning) Regulation		
Cap311:	Air Pollution Control Ordinance		
PN1/94:	Practice Note for Professional Persons (Construction Site Drainage)		
Unk:	Unknown		

Remark

Signatures

ET Member

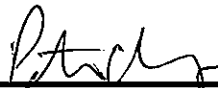
Contractor's Representative



(Name in Block letters:

CHIU TOI FA)

PDE



(Name in Block letters:

Peterson SANKO)

SANKO.

12th January 2005

The Hongkong Electric Co. Ltd.
Lamma Power Station Extension – E&M Works
Weekly Site Inspection Checklist

Inspection date 20 July 2005 Time 10:35 hrs Inspected By ET: T.F. CHU / PDE
 Contractor: C.M. LO / SANKO
 Site Lmx-19 Electrical Erection Area

Weather

Condition ☒ Sunny ☐ Fine ☐ Overcast ☐ Hazy ☐ Drizzle ☐ Rain ☐ Storm
 Temperature 34 °C Humidity ☒ High ☐ Moderate ☐ Low
 Wind ☒ Calm ☐ Light ☐ Breeze ☐ Strong

GENERAL

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
VEP 1.5	Has a copy of the most update Environmental Permit been displayed at all vehicular site entrances/exits for public information?		<input checked="" type="checkbox"/>			
VEP 1.6	Is a copy of EIA report kept in Engineers' and Contractors' offices on site?		<input checked="" type="checkbox"/>			

AIR QUALITY

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
General Requirements						
Cap311R: 3	Has the contractors notified EPD of the construction site which is classified as a notifiable work in a specified form? If there is any change in the notice, do the contractors notify EPD of the change?	<input checked="" type="checkbox"/>				
Cap311R: Sch 12(3)	A compressed air jet shall not be used for cleaning or clearing dust from any vehicle, equipment, other materials or person. Is this observed?		<input checked="" type="checkbox"/>			
Cap311	Do the contractors possess valid Air Pollution Control Specified Processes Licenses for the concrete batching plant wherever applicable and have it available for inspection?	<input checked="" type="checkbox"/>				
Construction Sites						
EM&A: A1	Are haul roads paved with concrete or sprayed with water to keep the entire road wet?		<input checked="" type="checkbox"/>			Water Spraying Provided By Paul Y.
Stockpiling of dusty materials						
Cap311R: Sch 18	Are stockpiles of dusty materials entirely covered with impervious sheets or sheltered on the top and 3 sides or sprayed with water to maintain the entire surface wet to prevent dust emission?	<input checked="" type="checkbox"/>				

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
Cement and dry pulverized fuel ash (PFA)						
Cap311R: Sch 15(3)	Are the storage silos for cement or dry PFA prevented from overfilling?	✓				
Cap311R: Sch 15(4)	Are the handlings of cement or dry PFA through a totally enclosed system equipped with air pollution control equipment at the vent of the system?	✓				
Cap311R: Sch 15(2)	Is bulk cement or dry PFA stored in a closed silo fitted with a high-level alarm?	✓				
Cap311R: Sch 17	Are the cement, dry PFA or other dusty materials collected by the air pollution control equipment disposed of in totally enclosed containers?	✓				
Loading, unloading or transfer of dusty materials						
Cap311R: Sch 19	Are dusty materials, except cement and dry PFA, sprayed with water immediately prior to any loading, unloading or transfer operation?	✓				
EM&A: A1	Are the dropping heights of the fill materials controlled to a practical level to minimize fugitive dust emission?	✓				
Use of vehicles						
Cap311R: Sch 21(2) EM&A: A1	Is every load of dusty material on the vehicles leaving the construction site covered entirely by clean impervious sheeting?	✓				
Cap311R: Sch 21(1)	Is every vehicle wheel-washed by the wheel washing facilities to remove any dusty materials from its body and wheels before leaving the construction site?		✓			Wheel Washing Service Provided By Paul Y.
Transfer of dusty materials using a belt conveyor system						
Cap311R: Sch 20(1)	Are belt conveyors used for transfer of dusty materials covered on the top and 2 sides?	✓				
Cap311R: Sch 20(2)	Is every transfer point between any two-belt conveyors totally enclosed?	✓				
Cap311R: Sch 20(3)	Is a belt scraper or equivalent device installed at the head pulley of every conveyor? Is the belt scraper equipped with bottom plates or similar means to prevent falling of materials from the return belts?	✓				
Cap311R: Sch 20(4)	Are stockpiling conveyors equipped with level adjusting mechanism to maintain the dropping height within 1 m?	✓				
Concrete batching plant						
EM&A: A2	Are the loading, unloading, handling, transfer or storage of any dusty materials carried out in a totally enclosed system?	✓				
EM&A: A2	Are dusty materials, except cement and dry PFA, wetted by water spray system?	✓				
EM&A: A2	Are all the receiving hoppers enclosed on three (3) sides up to 3m above unloading point?	✓				
EM&A: A2	Are all the conveyor transfer points totally enclosed?	✓				

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
	Miscellaneous					
Cap311R: Sch 16	Are completed earthworks sealed and hydroseeded and planted as soon as possible?	✓				
Cap311O	Is open burning prohibited?		✓			
Cap311	Is black smoke emission from plant/equipment avoided?		✓			

WASTE/CHEMICAL WASTE MANAGEMENT

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
	Dredged Materials					
WMP EM&A: E3	Does the appropriate contractor possess valid dumping permits for dredged marine mud and have them available for inspection?	✓				
WMP EM&A: E3	Has the contractor kept a complete set of dumping records/ticketing system and made them available for inspection?	✓				
EM&A: E3	Are wastes disposed of at licensed sites?	✓				
	Construction Waste and Excavated Materials					
WMP EM&A: E3	Does the Contractor possess a valid Public Dumping License for construction waste and excavated materials and make it available for inspection?	✓				
WMP	Has the Contractor maintained disposal records for the construction waste and excavated materials, and made them available for inspection?	✓				
WMP	Is suitable concrete waste/excavated material used for on-site reclamation/filling works?	✓				
WMP	Are the used formworks reused as far as possible before being disposed of in a landfill site?	✓				
WMP	Are the remaining unsuitable excavated materials disposed of at the public filling areas?	✓				
EM&A: E3	Are wastes disposed of at licensed sites?	✓				
	General refuse					
WMP	Has the Contractor maintained a disposal record for general refuse and made it available for inspection?		✓			
WMP	Is general refuse stored within receptacles and separated from chemical wastes?		✓			
WMP	Is the refuse disposed of regularly and properly?		✓			
WMP	Are burning of refuse at site and dumping at sea prohibited?		✓			
	Chemical Waste					
EM&A: E3	Has the contractor obtained the necessary disposal permits from the relevant authority, if required, according to Waste Disposal (Chemical Waste) (General Regulation)?	✓				

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
WDO	Has the Contractor been registered as a chemical waste producer?	✓				
EM&A: E3	Has the Contractor kept all the trip tickets for the disposal of chemical waste and made them available for inspection?	✓				
EM&A: E4	Is chemical waste handled according to the Code of Practice on the Packaging, Handling and Storage of Chemical Waste?"	✓				
EM&A: E4	Is the chemical waste storage, if any, well maintained, kept closed and locked?	✓				
Storage, collection and transportation of waste						
EM&A: E3	Are wastes transported by enclosed containers or covered trucks?		✓			
EM&A: E3	Are waste materials segregated and sorted into 3 categories as follows?	✓				
	(1) public fill materials for on-site reuse, or disposal at public filling area;					
	(2) reusable / recyclable materials;					
	(3) un-reusable / non-recyclable waste for landfill disposal.					
EM&A: E3	Are the records of the quantities of wastes generated and disposed off-site for the 3 categories of waste properly maintained?	✓				

WATER QUALITY

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
Surface Run-off						
PN1/94	Are the silt removal facilities, channels and manholes maintained and the deposited silt and grit removed regularly?	✓				
PN1/94	Are earthworks final surfaces well compacted and the subsequent permanent work or surface protection carried out immediately after the final surfaces are formed to prevent erosion caused by rainstorms? Is appropriate drainage like intercepting channels provided where necessary?	✓				
PN1/94	Are measures taken to minimize the ingress of rainwater into trenches? Is rainwater pumped out from trenches or foundation excavations discharged into storm drains via silt removal facilities?	✓				
PN1/94	Are open stockpiles of construction materials (e.g, aggregates, sand and fill material) on site covered with tarpaulin or similar fabric during rainstorms? Are measures taken to prevent the washing away of construction materials, soil, silt or debris into the drainage system?	✓				
PN1/94	Are manholes (including newly constructed ones) adequately covered and temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage system, and to prevent storm run-off from getting into foul sewers?	✓				
Groundwater						
PN1/94	Is groundwater that pumped out of wells discharged into storm drains after the removal of silt in silt removal facilities?	✓				

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
	Boring and Drilling Water					
PN1/94	Is water that used in ground boring and drilling for site investigation or rock/soil anchoring recirculated as far as possible after sedimentation? If there is a need for final disposal, is the wastewater discharged into storm drains via silt removal facilities?	✓				
	Wheel Washing Water					
PN1/94	Is a wheel-washing bay provided at every exit if practicable and is the silt removed from wash-water before discharging into storm drains?	✓				

MARINE ECOLOGY

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
EM&A: G1	Are all percussive piling works conducted on reclaimed land to avoid noise impact to marine mammals?	✓				
EM&A: G2	Do the marine vessels moving to and from the construction site strictly follow the routes stated in the "Plan for Dredging & Reclamation, Routing of Construction Related Marine Vessels, and Installation of Silt Curtain"?	✓				
EM&A: G3	Is rubble mound seawall constructed to the south and west edges of the reclamation to enhance recolonisation of marine organisms?	✓				

NOISE

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
EM&A : C1	Are working programmes scheduled to minimize noise nuisance?		✓			
EM&A: C1	Are construction works or equipment sited to minimize noise nuisance?		✓			
EM&A: C1	Are all plant and equipment maintained in good operating conditions?		✓			
EM&A: C1/GP	Is idle equipment turned off or throttled down?		✓			
EM&A: C1	Are methods of working devised and arranged to minimize noise nuisance?		✓			
EM&A: C1)	Are construction works carried out in a manner to minimize noise nuisance?		✓			
EM&A: C2	To mitigate construction noise during Sunday's and public holidays, is either one of the following measures adopted? a) Mitigation by portable noise barriers at noise sources or b) Rescheduling of some powered mechanical equipment to less sensitive time periods?		✓			
EM&A: C3	To mitigate night time construction noise, is dredging equipment equipped with silencers or mufflers?		✓			
NCO	Are valid construction noise permits, if required, available for inspection?	✓				
NCO	Are conditions of construction noise permits, if any, for the relevant part(s) of the works implemented accordingly?	✓				
NCO	Are valid noise emission labels fixed at air compressors and hand held percussive breakers?	✓				
	Major noise source(s)	<input type="checkbox"/> Traffic		<input checked="" type="checkbox"/> Construction activities inside the site		
		<input type="checkbox"/> Construction activities outside the site		<input type="checkbox"/> Others _____		

Abbreviation

VEP:	Varied Environmental Permit	
WMP:	Waste Management Plan	EM&A: EM&A Manual (Construction Phase)
Cap311R:	APC (Construction Dust) Regulation	NCO: Noise Control Ordinance
Cap311O:	APC (Open Burning) Regulation	WDO: Waste Disposal Ordinance
Cap311:	Air Pollution Control Ordinance	
PN1/94:	Practice Note for Professional Persons (Construction Site Drainage)	
Unk:	Unknown	

Remark

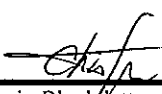
Signatures


ET Member

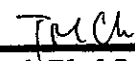
Contractor's Representative

IEC's Representative

**This site inspection was carried out
in the presence of IEC's representative**


(Name in Block letters:
CHIU TOI FU)
PDE


(Name in Block letters:
LO CHUNG MAN)
SANKO.


Name in Block Letters:
(Chen Tin Mo)

12th January 2005

The Hongkong Electric Co. Ltd.
Lamma Power Station Extension – E&M Works
Weekly Site Inspection Checklist

Inspection date 27 July 2008 Time 11:25 hrs Inspected By ET: T.F. CHIU / PDE
 Contractor: PETER CHENG / SAN K O.
 Site LMX - L9 Electrical Erection Area.

Weather

Condition ☒ Sunny ☐ Fine ☐ Overcast ☐ Hazy ☐ Drizzle ☐ Rain ☐ Storm
 Temperature 31 °C Humidity ☐ High ☒ Moderate ☐ Low
 Wind ☐ Calm ☒ Light ☐ Breeze ☐ Strong

GENERAL

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
VEP 1.5	Has a copy of the most update Environmental Permit been displayed at all vehicular site entrances/exits for public information?		<input checked="" type="checkbox"/>			
VEP 1.6	Is a copy of EIA report kept in Engineers' and Contractors' offices on site?		<input checked="" type="checkbox"/>			

AIR QUALITY

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
General Requirements						
Cap311R: 3	Has the contractors notified EPD of the construction site which is classified as a notifiable work in a specified form? If there is any change in the notice, do the contractors notify EPD of the change?	<input checked="" type="checkbox"/>				
Cap311R: Sch 12(3)	A compressed air jet shall not be used for cleaning or clearing dust from any vehicle, equipment, other materials or person. Is this observed?		<input checked="" type="checkbox"/>			
Cap311	Do the contractors possess valid Air Pollution Control Specified Processes Licenses for the concrete batching plant wherever applicable and have it available for inspection?	<input checked="" type="checkbox"/>				
Construction Sites						
EM&A : A1	Are haul roads paved with concrete or sprayed with water to keep the entire road wet?		<input checked="" type="checkbox"/>			Water Spraying Provided By Paul Y.
Stockpiling of dusty materials						
Cap311R: Sch 18	Are stockpiles of dusty materials entirely covered with impervious sheets or sheltered on the top and 3 sides or sprayed with water to maintain the entire surface wet to prevent dust emission?	<input checked="" type="checkbox"/>				

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
Cement and dry pulverized fuel ash (PFA)						
Cap311R: Sch 15(3)	Are the storage silos for cement or dry PFA prevented from overfilling?	✓				
Cap311R: Sch 15(4)	Are the handlings of cement or dry PFA through a totally enclosed system equipped with air pollution control equipment at the vent of the system?	✓				
Cap311R: Sch 15(2)	Is bulk cement or dry PFA stored in a closed silo fitted with a high-level alarm?	✓				
Cap311R: Sch 17	Are the cement, dry PFA or other dusty materials collected by the air pollution control equipment disposed of in totally enclosed containers?	✓				
Loading, unloading or transfer of dusty materials						
Cap311R: Sch 19	Are dusty materials, except cement and dry PFA, sprayed with water immediately prior to any loading, unloading or transfer operation?	✓				
EM&A: A1	Are the dropping heights of the fill materials controlled to a practical level to minimize fugitive dust emission?	✓				
Use of vehicles						
Cap311R: Sch 21(2) EM&A: A1	Is every load of dusty material on the vehicles leaving the construction site covered entirely by clean impervious sheeting?	✓				
Cap311R: Sch 21(1)	Is every vehicle wheel-washed by the wheel washing facilities to remove any dusty materials from its body and wheels before leaving the construction site?		✓			Wheel Washing System Provided By Paul Y.
Transfer of dusty materials using a belt conveyor system						
Cap311R: Sch 20(1)	Are belt conveyors used for transfer of dusty materials covered on the top and 2 sides?	✓				
Cap311R: Sch 20(2)	Is every transfer point between any two-belt conveyors totally enclosed?	✓				
Cap311R: Sch 20(3)	Is a belt scraper or equivalent device installed at the head pulley of every conveyor? Is the belt scraper equipped with bottom plates or similar means to prevent falling of materials from the return belts?	✓				
Cap311R: Sch 20(4)	Are stockpiling conveyors equipped with level adjusting mechanism to maintain the dropping height within 1 m?	✓				
Concrete batching plant						
EM&A: A2	Are the loading, unloading, handling, transfer or storage of any dusty materials carried out in a totally enclosed system?	✓				
EM&A: A2	Are dusty materials, except cement and dry PFA, wetted by water spray system?	✓				
EM&A: A2	Are all the receiving hoppers enclosed on three (3) sides up to 3m above unloading point?	✓				
EM&A: A2	Are all the conveyor transfer points totally enclosed?	✓				

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
	Miscellaneous					
Cap311R: Sch 16	Are completed earthworks sealed and hydroseeded and planted as soon as possible?	✓				
Cap311O	Is open burning prohibited?		✓			
Cap311	Is black smoke emission from plant/equipment avoided?		✓			

WASTE/CHEMICAL WASTE MANAGEMENT

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
	Dredged Materials					
WMP EM&A: E3	Does the appropriate contractor possess valid dumping permits for dredged marine mud and have them available for inspection?	✓				
WMP EM&A: E3	Has the contractor kept a complete set of dumping records/ticketing system and made them available for inspection?	✓				
EM&A: E3	Are wastes disposed of at licensed sites?	✓				
	Construction Waste and Excavated Materials					
WMP EM&A: E3	Does the Contractor possess a valid Public Dumping License for construction waste and excavated materials and make it available for inspection?	✓				
WMP	Has the Contractor maintained disposal records for the construction waste and excavated materials, and made them available for inspection?	✓				
WMP	Is suitable concrete waste/excavated material used for on-site reclamation/filling works?	✓				
WMP	Are the used formworks reused as far as possible before being disposed of in a landfill site?	✓				
WMP	Are the remaining unsuitable excavated materials disposed of at the public filling areas?	✓				
EM&A: E3	Are wastes disposed of at licensed sites?	✓				
	General refuse					
WMP	Has the Contractor maintained a disposal record for general refuse and made it available for inspection?		✓			
WMP	Is general refuse stored within receptacles and separated from chemical wastes?		✓			
WMP	Is the refuse disposed of regularly and properly?		✓			
WMP	Are burning of refuse at site and dumping at sea prohibited?		✓			
	Chemical Waste					
EM&A: E3	Has the contractor obtained the necessary disposal permits from the relevant authority, if required, according to Waste Disposal (Chemical Waste) (General Regulation)?	✓				

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
WDO	Has the Contractor been registered as a chemical waste producer?	✓				
EM&A: E3	Has the Contractor kept all the trip tickets for the disposal of chemical waste and made them available for inspection?	✓				
EM&A: E4	Is chemical waste handled according to the Code of Practice on the Packaging, Handling and Storage of Chemical Waste”?	✓				
EM&A: E4	Is the chemical waste storage, if any, well maintained, kept closed and locked?	✓				
Storage, collection and transportation of waste						
EM&A: E3	Are wastes transported by enclosed containers or covered trucks?		✓			
EM&A: E3	Are waste materials segregated and sorted into 3 categories as follows?	✓				
	(1) public fill materials for on-site reuse, or disposal at public filling area;					
	(2) reusable / recyclable materials;					
	(3) un-reusable / non-recyclable waste for landfill disposal.					
EM&A: E3	Are the records of the quantities of wastes generated and disposed off-site for the 3 categories of waste properly maintained?	✓				

WATER QUALITY

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
Surface Run-off						
PN1/94	Are the silt removal facilities, channels and manholes maintained and the deposited silt and grit removed regularly?	✓				
PN1/94	Are earthworks final surfaces well compacted and the subsequent permanent work or surface protection carried out immediately after the final surfaces are formed to prevent erosion caused by rainstorms? Is appropriate drainage like intercepting channels provided where necessary?	✓				
PN1/94	Are measures taken to minimize the ingress of rainwater into trenches? Is rainwater pumped out from trenches or foundation excavations discharged into storm drains via silt removal facilities?	✓				
PN1/94	Are open stockpiles of construction materials (e.g. aggregates, sand and fill material) on site covered with tarpaulin or similar fabric during rainstorms? Are measures taken to prevent the washing away of construction materials, soil, silt or debris into the drainage system?	✓				
PN1/94	Are manholes (including newly constructed ones) adequately covered and temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage system, and to prevent storm run-off from getting into foul sewers?	✓				
Groundwater						
PN1/94	Is groundwater that pumped out of wells discharged into storm drains after the removal of silt in silt removal facilities?	✓				

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
	Boring and Drilling Water					
PN1/94	Is water that used in ground boring and drilling for site investigation or rock/soil anchoring recirculated as far as possible after sedimentation? If there is a need for final disposal, is the wastewater discharged into storm drains via silt removal facilities?	✓				
	Wheel Washing Water					
PN1/94	Is a wheel-washing bay provided at every exit if practicable and is the silt removed from wash-water before discharging into storm drains?	✓				

MARINE ECOLOGY

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
EM&A: G1	Are all percussive piling works conducted on reclaimed land to avoid noise impact to marine mammals?	✓				
EM&A: G2	Do the marine vessels moving to and from the construction site strictly follow the routes stated in the "Plan for Dredging & Reclamation, Routing of Construction Related Marine Vessels, and Installation of Silt Curtain"?	✓				
EM&A: G3	Is rubble mound seawall constructed to the south and west edges of the reclamation to enhance recolonisation of marine organisms?	✓				

NOISE

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
EM&A : C1	Are working programmes scheduled to minimize noise nuisance?		✓			
EM&A: C1	Are construction works or equipment sited to minimize noise nuisance?		✓			
EM&A: C1	Are all plant and equipment maintained in good operating conditions?		✓			
EM&A: C1/GP	Is idle equipment turned off or throttled down?		✓			
EM&A: C1	Are methods of working devised and arranged to minimize noise nuisance?		✓			
EM&A: C1)	Are construction works carried out in a manner to minimize noise nuisance?		✓			
EM&A: C2	To mitigate construction noise during Sunday's and public holidays, is either one of the following measures adopted? a) Mitigation by portable noise barriers at noise sources or b) Rescheduling of some powered mechanical equipment to less sensitive time periods?		✓			
EM&A: C3	To mitigate night time construction noise, is dredging equipment equipped with silencers or mufflers?		✓			
NCO	Are valid construction noise permits, if required, available for inspection?	✓				
NCO	Are conditions of construction noise permits, if any, for the relevant part(s) of the works implemented accordingly?	✓				
NCO	Are valid noise emission labels fixed at air compressors and hand held percussive breakers?	✓				
	Major noise source(s)	<input type="checkbox"/> Traffic	<input checked="" type="checkbox"/> Construction activities inside the site			
		<input type="checkbox"/> Construction activities outside the site	<input type="checkbox"/> Others _____			

Abbreviation


VEP:	Varied Environmental Permit	EM&A:	EM&A Manual (Construction Phase)
WMP:	Waste Management Plan	NCO:	Noise Control Ordinance
Cap311R:	APC (Construction Dust) Regulation	WDO:	Waste Disposal Ordinance
Cap311O:	APC (Open Burning) Regulation		
Cap311:	Air Pollution Control Ordinance		
PN1/94:	Practice Note for Professional Persons (Construction Site Drainage)		
Unk:	Unknown		


Remark

Signatures

ET Member

Contractor's Representative


(Name in Block letters:
CHIU Toi Fu)
PDG


(Name in Block letters:
P. Ten Omen)
SANKO.

12th January 2005

The Hongkong Electric Co. Ltd.
Lamma Power Station Extension – E&M Works
Weekly Site Inspection Checklist

Inspection date 7/7/2005 Time 10:00 Inspected By ET: W. L. LI / PPE
 Contractor: S H Suen / MSHK
 Site LMX 275KV S/S Erection contract

Weather

Condition ☐ Sunny ☐ Fine ☐ Overcast ☐ Hazy ☐ Drizzle ☒ Rain ☐ Storm
Temperature 27 °C **Humidity** ☒ High ☐ Moderate ☐ Low
Wind ☐ Calm ☒ Light ☐ Breeze ☐ Strong

GENERAL

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
VEP 1.5	Has a copy of the most update Environmental Permit been displayed at all vehicular site entrances/exits for public information?		<input checked="" type="checkbox"/>			
VEP 1.6	Is a copy of EIA report kept in Engineers' and Contractors' offices on site?		<input checked="" type="checkbox"/>			

AIR QUALITY

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
General Requirements						
Cap311R: 3	Has the contractors notified EPD of the construction site which is classified as a notifiable work in a specified form? If there is any change in the notice, do the contractors notify EPD of the change?	<input checked="" type="checkbox"/>				
Cap311R: Sch 12(3)	A compressed air jet shall not be used for cleaning or clearing dust from any vehicle, equipment, other materials or person. Is this observed?		<input checked="" type="checkbox"/>			
Cap311	Do the contractors possess valid Air Pollution Control Specified Processes Licenses for the concrete batching plant wherever applicable and have it available for inspection?	<input checked="" type="checkbox"/>				
Construction Sites						
EM&A : A1	Are haul roads paved with concrete or sprayed with water to keep the entire road wet?		<input checked="" type="checkbox"/>			WATER SPRAYING PROVIDED BY PAUL Y
Stockpiling of dusty materials						
Cap311R: Sch 18	Are stockpiles of dusty materials entirely covered with impervious sheets or sheltered on the top and 3 sides or sprayed with water to maintain the entire surface wet to prevent dust emission?	<input checked="" type="checkbox"/>				

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
Cement and dry pulverized fuel ash (PFA)						
Cap311R: Sch 15(3)	Are the storage silos for cement or dry PFA prevented from overfilling?	✓				
Cap311R: Sch 15(4)	Are the handlings of cement or dry PFA through a totally enclosed system equipped with air pollution control equipment at the vent of the system?	✓				
Cap311R: Sch 15(2)	Is bulk cement or dry PFA stored in a closed silo fitted with a high-level alarm?	✓				
Cap311R: Sch 17	Are the cement, dry PFA or other dusty materials collected by the air pollution control equipment disposed of in totally enclosed containers?	✓				
Loading, unloading or transfer of dusty materials						
Cap311R: Sch 19	Are dusty materials, except cement and dry PFA, sprayed with water immediately prior to any loading, unloading or transfer operation?	✓				
EM&A: A1	Are the dropping heights of the fill materials controlled to a practical level to minimize fugitive dust emission?	✓				
Use of vehicles						
Cap311R: Sch 21(2) EM&A: A1	Is every load of dusty material on the vehicles leaving the construction site covered entirely by clean impervious sheeting?	✓				
Cap311R: Sch 21(1)	Is every vehicle wheel-washed by the wheel washing facilities to remove any dusty materials from its body and wheels before leaving the construction site?		✓			WHEEL WASHING FACILITIES PROVIDED BY PRANAL Y
Transfer of dusty materials using a belt conveyor system						
Cap311R: Sch 20(1)	Are belt conveyors used for transfer of dusty materials covered on the top and 2 sides?	✓				
Cap311R: Sch 20(2)	Is every transfer point between any two-belt conveyors totally enclosed?	✓				
Cap311R: Sch 20(3)	Is a belt scraper or equivalent device installed at the head pulley of every conveyor? Is the belt scraper equipped with bottom plates or similar means to prevent falling of materials from the return belts?	✓				
Cap311R: Sch 20(4)	Are stockpiling conveyors equipped with level adjusting mechanism to maintain the dropping height within 1 m?	✓				
Concrete batching plant						
EM&A: A2	Are the loading, unloading, handling, transfer or storage of any dusty materials carried out in a totally enclosed system?	✓				
EM&A: A2	Are dusty materials, except cement and dry PFA, wetted by water spray system?	✓				
EM&A: A2	Are all the receiving hoppers enclosed on three (3) sides up to 3m above unloading point?	✓				
EM&A: A2	Are all the conveyor transfer points totally enclosed?	✓				

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
	Miscellaneous					
Cap311R: Sch 16	Are completed earthworks sealed and hydroseeded and planted as soon as possible?	✓				
Cap311O	Is open burning prohibited?		✓			
Cap311	Is black smoke emission from plant/equipment avoided?		✓			

WASTE/CHEMICAL WASTE MANAGEMENT

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
	Dredged Materials					
WMP EM&A: E3	Does the appropriate contractor possess valid dumping permits for dredged marine mud and have them available for inspection?	✓				
WMP EM&A: E3	Has the contractor kept a complete set of dumping records/ticketing system and made them available for inspection?	✓				
EM&A: E3	Are wastes disposed of at licensed sites?	✓				
	Construction Waste and Excavated Materials					
WMP EM&A: E3	Does the Contractor possess a valid Public Dumping License for construction waste and excavated materials and make it available for inspection?	✓				
WMP	Has the Contractor maintained disposal records for the construction waste and excavated materials, and made them available for inspection?	✓				
WMP	Is suitable concrete waste/excavated material used for on-site reclamation/filling works?	✓				
WMP	Are the used formworks reused as far as possible before being disposed of in a landfill site?	✓				
WMP	Are the remaining unsuitable excavated materials disposed of at the public filling areas?	✓				
EM&A: E3	Are wastes disposed of at licensed sites?	✓				
	General refuse					
WMP	Has the Contractor maintained a disposal record for general refuse and made it available for inspection?		✓			
WMP	Is general refuse stored within receptacles and separated from chemical wastes?		✓			
WMP	Is the refuse disposed of regularly and properly?		✓			
WMP	Are burning of refuse at site and dumping at sea prohibited?		✓			
	Chemical Waste					
EM&A: E3	Has the contractor obtained the necessary disposal permits from the relevant authority, if required, according to Waste Disposal (Chemical Waste) (General Regulation)?	✓				

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
WDO	Has the Contractor been registered as a chemical waste producer?		✓			
EM&A: E3	Has the Contractor kept all the trip tickets for the disposal of chemical waste and made them available for inspection?		✓			
EM&A: E4	Is chemical waste handled according to the Code of Practice on the Packaging, Handling and Storage of Chemical Waste"?		✓			
EM&A: E4	Is the chemical waste storage, if any, well maintained, kept closed and locked?		✓			
Storage, collection and transportation of waste						
EM&A: E3	Are wastes transported by enclosed containers or covered trucks?		✓			
EM&A: E3	Are waste materials segregated and sorted into 3 categories as follows?	✓				
	(1) public fill materials for on-site reuse, or disposal at public filling area;					
	(2) reusable / recyclable materials;					
	(3) un-reusable / non-recyclable waste for landfill disposal.					
EM&A: E3	Are the records of the quantities of wastes generated and disposed off-site for the 3 categories of waste properly maintained?	✓				

WATER QUALITY

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
Surface Run-off						
PN1/94	Are the silt removal facilities, channels and manholes maintained and the deposited silt and grit removed regularly?	✓				
PN1/94	Are earthworks final surfaces well compacted and the subsequent permanent work or surface protection carried out immediately after the final surfaces are formed to prevent erosion caused by rainstorms? Is appropriate drainage like intercepting channels provided where necessary?	✓				
PN1/94	Are measures taken to minimize the ingress of rainwater into trenches? Is rainwater pumped out from trenches or foundation excavations discharged into storm drains via silt removal facilities?	✓				
PN1/94	Are open stockpiles of construction materials (e.g, aggregates, sand and fill material) on site covered with tarpaulin or similar fabric during rainstorms? Are measures taken to prevent the washing away of construction materials, soil, silt or debris into the drainage system?	✓				
PN1/94	Are manholes (including newly constructed ones) adequately covered and temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage system, and to prevent storm run-off from getting into foul sewers?	✓				
Groundwater						
PN1/94	Is groundwater that pumped out of wells discharged into storm drains after the removal of silt in silt removal facilities?	✓				

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
	Boring and Drilling Water					
PN1/94	Is water that used in ground boring and drilling for site investigation or rock/soil anchoring recirculated as far as possible after sedimentation? If there is a need for final disposal, is the wastewater discharged into storm drains via silt removal facilities?	✓				
	Wheel Washing Water					
PN1/94	Is a wheel-washing bay provided at every exit if practicable and is the silt removed from wash-water before discharging into storm drains?	✓				

MARINE ECOLOGY

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
EM&A: G1	Are all percussive piling works conducted on reclaimed land to avoid noise impact to marine mammals?	✓				
EM&A: G2	Do the marine vessels moving to and from the construction site strictly follow the routes stated in the "Plan for Dredging & Reclamation, Routing of Construction Related Marine Vessels, and Installation of Silt Curtain"?	✓				
EM&A: G3	Is rubble mound seawall constructed to the south and west edges of the reclamation to enhance recolonisation of marine organisms?	✓				

NOISE

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
EM&A : C1	Are working programmes scheduled to minimize noise nuisance?		✓			
EM&A: C1	Are construction works or equipment sited to minimize noise nuisance?		✓			
EM&A: C1	Are all plant and equipment maintained in good operating conditions?		✓			
EM&A: C1/GP	Is idle equipment turned off or throttled down?		✓			
EM&A: C1	Are methods of working devised and arranged to minimize noise nuisance?		✓			
EM&A: C1)	Are construction works carried out in a manner to minimize noise nuisance?		✓			
EM&A: C2	To mitigate construction noise during Sunday's and public holidays, is either one of the following measures adopted? a) Mitigation by portable noise barriers at noise sources or b) Rescheduling of some powered mechanical equipment to less sensitive time periods?		✓			
EM&A: C3	To mitigate night time construction noise, is dredging equipment equipped with silencers or mufflers?	✓				
NCO	Are valid construction noise permits, if required, available for inspection?	✓				
NCO	Are conditions of construction noise permits, if any, for the relevant part(s) of the works implemented accordingly?	✓				
NCO	Are valid noise emission labels fixed at air compressors and hand held percussive breakers?	✓				
	Major noise source(s)	<input type="checkbox"/> Traffic	<input checked="" type="checkbox"/> Construction activities inside the site			
		<input type="checkbox"/> Construction activities outside the site	<input type="checkbox"/> Others _____			

Abbreviation

VEP:	Varied Environmental Permit	
WMP:	Waste Management Plan	EM&A: EM&A Manual (Construction Phase)
Cap311R:	APC (Construction Dust) Regulation	NCO: Noise Control Ordinance
Cap311O:	APC (Open Burning) Regulation	WDO: Waste Disposal Ordinance
Cap311:	Air Pollution Control Ordinance	
PN1/94:	Practice Note for Professional Persons (Construction Site Drainage)	
Unk:	Unknown	

Remark

Signatures

ET Member

Contractor's Representative



(Name in Block letters:

W. L. Li)



(Name in Block letters:

S. H. S. W. N.)

12th January 2005

The Hongkong Electric Co. Ltd.
Lamma Power Station Extension – E&M Works
Weekly Site Inspection Checklist

Inspection date 14/7/2005 Time 10:00 Inspected By ET: D. L. LI / PDE
 Site LMX 275KV S/S Extension CONTRACT Contractor: S H SHEN / MCHC

Weather

Condition ☒ Sunny ☐ Fine ☐ Overcast ☐ Hazy ☐ Drizzle ☐ Rain ☐ Storm
 Temperature 31 °C Humidity ☐ High ☒ Moderate ☐ Low
 Wind ☐ Calm ☒ Light ☐ Breeze ☐ Strong

GENERAL

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
VEP 1.5	Has a copy of the most update Environmental Permit been displayed at all vehicular site entrances/exits for public information?		<input checked="" type="checkbox"/>			
VEP 1.6	Is a copy of EIA report kept in Engineers' and Contractors' offices on site?		<input checked="" type="checkbox"/>			

AIR QUALITY

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
General Requirements						
Cap311R: 3	Has the contractors notified EPD of the construction site which is classified as a notifiable work in a specified form? If there is any change in the notice, do the contractors notify EPD of the change?	<input checked="" type="checkbox"/>				
Cap311R: Sch 12(3)	A compressed air jet shall not be used for cleaning or clearing dust from any vehicle, equipment, other materials or person. Is this observed?		<input checked="" type="checkbox"/>			
Cap311	Do the contractors possess valid Air Pollution Control Specified Processes Licenses for the concrete batching plant wherever applicable and have it available for inspection?	<input checked="" type="checkbox"/>				
Construction Sites						
EM&A : A1	Are haul roads paved with concrete or sprayed with water to keep the entire road wet?		<input checked="" type="checkbox"/>			WATER SPRAYING PROVIDED BY PAUL Y
Stockpiling of dusty materials						
Cap311R: Sch 18	Are stockpiles of dusty materials entirely covered with impervious sheets or sheltered on the top and 3 sides or sprayed with water to maintain the entire surface wet to prevent dust emission?	<input checked="" type="checkbox"/>				

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
Cement and dry pulverized fuel ash (PFA)						
Cap311R: Sch 15(3)	Are the storage silos for cement or dry PFA prevented from overfilling?	✓				
Cap311R: Sch 15(4)	Are the handlings of cement or dry PFA through a totally enclosed system equipped with air pollution control equipment at the vent of the system?	✓				
Cap311R: Sch 15(2)	Is bulk cement or dry PFA stored in a closed silo fitted with a high-level alarm?	✓				
Cap311R: Sch 17	Are the cement, dry PFA or other dusty materials collected by the air pollution control equipment disposed of in totally enclosed containers?	✓				
Loading, unloading or transfer of dusty materials						
Cap311R: Sch 19	Are dusty materials, except cement and dry PFA, sprayed with water immediately prior to any loading, unloading or transfer operation?	✓				
EM&A: A1	Are the dropping heights of the fill materials controlled to a practical level to minimize fugitive dust emission?	✓				
Use of vehicles						
Cap311R: Sch 21(2) EM&A: A1	Is every load of dusty material on the vehicles leaving the construction site covered entirely by clean impervious sheeting?	✓				
Cap311R: Sch 21(1)	Is every vehicle wheel-washed by the wheel washing facilities to remove any dusty materials from its body and wheels before leaving the construction site?		✓			WHEEL WASH FACILITIES PROVIDED BY PAUL Y
Transfer of dusty materials using a belt conveyor system						
Cap311R: Sch 20(1)	Are belt conveyors used for transfer of dusty materials covered on the top and 2 sides?	✓				
Cap311R: Sch 20(2)	Is every transfer point between any two-belt conveyors totally enclosed?	✓				
Cap311R: Sch 20(3)	Is a belt scraper or equivalent device installed at the head pulley of every conveyor? Is the belt scraper equipped with bottom plates or similar means to prevent falling of materials from the return belts?	✓				
Cap311R: Sch 20(4)	Are stockpiling conveyors equipped with level adjusting mechanism to maintain the dropping height within 1 m?	✓				
Concrete batching plant						
EM&A: A2	Are the loading, unloading, handling, transfer or storage of any dusty materials carried out in a totally enclosed system?	✓				
EM&A: A2	Are dusty materials, except cement and dry PFA, wetted by water spray system?	✓				
EM&A: A2	Are all the receiving hoppers enclosed on three (3) sides up to 3m above unloading point?	✓				
EM&A: A2	Are all the conveyor transfer points totally enclosed?	✓				

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
	Miscellaneous					
Cap311R: Sch 16	Are completed earthworks sealed and hydroseeded and planted as soon as possible?	✓				
Cap311O	Is open burning prohibited?		✓			
Cap311	Is black smoke emission from plant/equipment avoided?		✓			

WASTE/CHEMICAL WASTE MANAGEMENT

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
	Dredged Materials					
WMP EM&A: E3	Does the appropriate contractor possess valid dumping permits for dredged marine mud and have them available for inspection?	✓				
WMP EM&A: E3	Has the contractor kept a complete set of dumping records/ticketing system and made them available for inspection?	✓				
EM&A: E3	Are wastes disposed of at licensed sites?	✓				
	Construction Waste and Excavated Materials					
WMP EM&A: E3	Does the Contractor possess a valid Public Dumping License for construction waste and excavated materials and make it available for inspection?	✓				
WMP	Has the Contractor maintained disposal records for the construction waste and excavated materials, and made them available for inspection?	✓				
WMP	Is suitable concrete waste/excavated material used for on-site reclamation/filling works?	✓				
WMP	Are the used formworks reused as far as possible before being disposed of in a landfill site?	✓				
WMP	Are the remaining unsuitable excavated materials disposed of at the public filling areas?	✓				
EM&A: E3	Are wastes disposed of at licensed sites?	✓				
	General refuse					
WMP	Has the Contractor maintained a disposal record for general refuse and made it available for inspection?		✓			
WMP	Is general refuse stored within receptacles and separated from chemical wastes?		✓			
WMP	Is the refuse disposed of regularly and properly?		✓			
WMP	Are burning of refuse at site and dumping at sea prohibited?		✓			
	Chemical Waste					
EM&A: E3	Has the contractor obtained the necessary disposal permits from the relevant authority, if required, according to Waste Disposal (Chemical Waste) (General Regulation)?	✓				

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
WDO	Has the Contractor been registered as a chemical waste producer?		✓			
EM&A: E3	Has the Contractor kept all the trip tickets for the disposal of chemical waste and made them available for inspection?		✓			
EM&A: E4	Is chemical waste handled according to the Code of Practice on the Packaging, Handling and Storage of Chemical Waste?"		✓			
EM&A: E4	Is the chemical waste storage, if any, well maintained, kept closed and locked?		✓			
Storage, collection and transportation of waste						
EM&A: E3	Are wastes transported by enclosed containers or covered trucks?		✓			
EM&A: E3	Are waste materials segregated and sorted into 3 categories as follows?	✓				
	(1) public fill materials for on-site reuse, or disposal at public filling area;					
	(2) reusable / recyclable materials;					
	(3) un-reusable / non-recyclable waste for landfill disposal.					
EM&A: E3	Are the records of the quantities of wastes generated and disposed off-site for the 3 categories of waste properly maintained?	✓				

WATER QUALITY

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
Surface Run-off						
PN1/94	Are the silt removal facilities, channels and manholes maintained and the deposited silt and grit removed regularly?	✓				
PN1/94	Are earthworks final surfaces well compacted and the subsequent permanent work or surface protection carried out immediately after the final surfaces are formed to prevent erosion caused by rainstorms? Is appropriate drainage like intercepting channels provided where necessary?	✓				
PN1/94	Are measures taken to minimize the ingress of rainwater into trenches? Is rainwater pumped out from trenches or foundation excavations discharged into storm drains via silt removal facilities?	✓				
PN1/94	Are open stockpiles of construction materials (e.g, aggregates, sand and fill material) on site covered with tarpaulin or similar fabric during rainstorms? Are measures taken to prevent the washing away of construction materials, soil, silt or debris into the drainage system?	✓				
PN1/94	Are manholes (including newly constructed ones) adequately covered and temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage system, and to prevent storm run-off from getting into foul sewers?	✓				
Groundwater						
PN1/94	Is groundwater that pumped out of wells discharged into storm drains after the removal of silt in silt removal facilities?	✓				

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
	Boring and Drilling Water					
PN1/94	Is water that used in ground boring and drilling for site investigation or rock/soil anchoring recirculated as far as possible after sedimentation? If there is a need for final disposal, is the wastewater discharged into storm drains via silt removal facilities?	✓				
	Wheel Washing Water					
PN1/94	Is a wheel-washing bay provided at every exit if practicable and is the silt removed from wash-water before discharging into storm drains?	✓				

MARINE ECOLOGY

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
EM&A: G1	Are all percussive piling works conducted on reclaimed land to avoid noise impact to marine mammals?	✓				
EM&A: G2	Do the marine vessels moving to and from the construction site strictly follow the routes stated in the "Plan for Dredging & Reclamation, Routing of Construction Related Marine Vessels, and Installation of Silt Curtain"?	✓				
EM&A: G3	Is rubble mound seawall constructed to the south and west edges of the reclamation to enhance recolonisation of marine organisms?	✓				

NOISE

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
EM&A : C1	Are working programmes scheduled to minimize noise nuisance?		✓			
EM&A: C1	Are construction works or equipment sited to minimize noise nuisance?		✓			
EM&A: C1	Are all plant and equipment maintained in good operating conditions?		✓			
EM&A: C1/GP	Is idle equipment turned off or throttled down?		✓			
EM&A: C1	Are methods of working devised and arranged to minimize noise nuisance?		✓			
EM&A: C1)	Are construction works carried out in a manner to minimize noise nuisance?		✓			
EM&A: C2	To mitigate construction noise during Sunday's and public holidays, is either one of the following measures adopted? a) Mitigation by portable noise barriers at noise sources or b) Rescheduling of some powered mechanical equipment to less sensitive time periods?		✓			
EM&A: C3	To mitigate night time construction noise, is dredging equipment equipped with silencers or mufflers?	✓				
NCO	Are valid construction noise permits, if required, available for inspection?	✓				
NCO	Are conditions of construction noise permits, if any, for the relevant part(s) of the works implemented accordingly?	✓				
NCO	Are valid noise emission labels fixed at air compressors and hand held percussive breakers?	✓				
	Major noise source(s)	<input type="checkbox"/> Traffic	<input checked="" type="checkbox"/> Construction activities inside the site			
		<input type="checkbox"/> Construction activities outside the site	<input type="checkbox"/> Others _____			

Abbreviation


VEP:	Varied Environmental Permit	EM&A:	EM&A Manual (Construction Phase)
WMP:	Waste Management Plan	NCO:	Noise Control Ordinance
Cap311R:	APC (Construction Dust) Regulation	WDO:	Waste Disposal Ordinance
Cap311O:	APC (Open Burning) Regulation		
Cap311:	Air Pollution Control Ordinance		
PN1/94:	Practice Note for Professional Persons (Construction Site Drainage)		
Unk:	Unknown		


Remark

Signatures

ET Member

Contractor's Representative


(Name in Block letters:
W. L. G.)


(Name in Block letters:
S. S. S. S.)

12th January 2005

The Hongkong Electric Co. Ltd.
Lamma Power Station Extension – E&M Works
Weekly Site Inspection Checklist

Inspection date 20 July 2005 Time 10:35 hrs Inspected By ET: T.F. CHIU / PDE
 Site LUX 275KV S/S Erection Area. Contractor: S.H. Suen / H&K

Weather

Condition ☒ Sunny ☐ Fine ☐ Overcast ☐ Hazy ☐ Drizzle ☐ Rain ☐ Storm
Temperature 34 °C **Humidity** ☒ High ☐ Moderate ☐ Low
Wind ☒ Calm ☐ Light ☐ Breeze ☐ Strong

GENERAL

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
VEP 1.5	Has a copy of the most update Environmental Permit been displayed at all vehicular site entrances/exits for public information?		✓			
VEP 1.6	Is a copy of EIA report kept in Engineers' and Contractors' offices on site?		✓			

AIR QUALITY

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
General Requirements						
Cap311R: 3	Has the contractors notified EPD of the construction site which is classified as a notifiable work in a specified form? If there is any change in the notice, do the contractors notify EPD of the change?	✓				
Cap311R: Sch 12(3)	A compressed air jet shall not be used for cleaning or clearing dust from any vehicle, equipment, other materials or person. Is this observed?		✓			
Cap311	Do the contractors possess valid Air Pollution Control Specified Processes Licenses for the concrete batching plant wherever applicable and have it available for inspection?	✓				
Construction Sites						
EM&A: A1	Are haul roads paved with concrete or sprayed with water to keep the entire road wet?		✓			WATER SPRAYING PROVIDED BY PAUL Y.
Stockpiling of dusty materials						
Cap311R: Sch 18	Are stockpiles of dusty materials entirely covered with impervious sheets or sheltered on the top and 3 sides or sprayed with water to maintain the entire surface wet to prevent dust emission?	✓				

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
Cement and dry pulverized fuel ash (PFA)						
Cap311R: Sch 15(3)	Are the storage silos for cement or dry PFA prevented from overfilling?	✓				
Cap311R: Sch 15(4)	Are the handlings of cement or dry PFA through a totally enclosed system equipped with air pollution control equipment at the vent of the system?	✓				
Cap311R: Sch 15(2)	Is bulk cement or dry PFA stored in a closed silo fitted with a high-level alarm?	✓				
Cap311R: Sch 17	Are the cement, dry PFA or other dusty materials collected by the air pollution control equipment disposed of in totally enclosed containers?	✓				
Loading, unloading or transfer of dusty materials						
Cap311R: Sch 19	Are dusty materials, except cement and dry PFA, sprayed with water immediately prior to any loading, unloading or transfer operation?	✓				
EM&A: A1	Are the dropping heights of the fill materials controlled to a practical level to minimize fugitive dust emission?	✓				
Use of vehicles						
Cap311R: Sch 21(2) EM&A: A1	Is every load of dusty material on the vehicles leaving the construction site covered entirely by clean impervious sheeting?	✓				
Cap311R: Sch 21(1)	Is every vehicle wheel-washed by the wheel washing facilities to remove any dusty materials from its body and wheels before leaving the construction site?		✓			WHEEL WASH SERVICE PROVIDED BY PAULY.
Transfer of dusty materials using a belt conveyor system						
Cap311R: Sch 20(1)	Are belt conveyors used for transfer of dusty materials covered on the top and 2 sides?	✓				
Cap311R: Sch 20(2)	Is every transfer point between any two-belt conveyors totally enclosed?	✓				
Cap311R: Sch 20(3)	Is a belt scraper or equivalent device installed at the head pulley of every conveyor? Is the belt scraper equipped with bottom plates or similar means to prevent falling of materials from the return belts?	✓				
Cap311R: Sch 20(4)	Are stockpiling conveyors equipped with level adjusting mechanism to maintain the dropping height within 1 m?	✓				
Concrete batching plant						
EM&A: A2	Are the loading, unloading, handling, transfer or storage of any dusty materials carried out in a totally enclosed system?	✓				
EM&A: A2	Are dusty materials, except cement and dry PFA, wetted by water spray system?	✓				
EM&A: A2	Are all the receiving hoppers enclosed on three (3) sides up to 3m above unloading point?	✓				
EM&A: A2	Are all the conveyor transfer points totally enclosed?	✓				

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
	Miscellaneous					
Cap311R: Sch 16	Are completed earthworks sealed and hydroseeded and planted as soon as possible?	✓				
Cap311O	Is open burning prohibited?		✓			
Cap311	Is black smoke emission from plant/equipment avoided?		✓			

WASTE/CHEMICAL WASTE MANAGEMENT

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
	Dredged Materials					
WMP EM&A: E3	Does the appropriate contractor possess valid dumping permits for dredged marine mud and have them available for inspection?	✓				
WMP EM&A: E3	Has the contractor kept a complete set of dumping records/ticketing system and made them available for inspection?	✓				
EM&A: E3	Are wastes disposed of at licensed sites?	✓				
	Construction Waste and Excavated Materials					
WMP EM&A: E3	Does the Contractor possess a valid Public Dumping License for construction waste and excavated materials and make it available for inspection?	✓				
WMP	Has the Contractor maintained disposal records for the construction waste and excavated materials, and made them available for inspection?	✓				
WMP	Is suitable concrete waste/excavated material used for on-site reclamation/filling works?	✓				
WMP	Are the used formworks reused as far as possible before being disposed of in a landfill site?	✓				
WMP	Are the remaining unsuitable excavated materials disposed of at the public filling areas?	✓				
EM&A: E3	Are wastes disposed of at licensed sites?	✓				
	General refuse					
WMP	Has the Contractor maintained a disposal record for general refuse and made it available for inspection?		✓			
WMP	Is general refuse stored within receptacles and separated from chemical wastes?		✓			
WMP	Is the refuse disposed of regularly and properly?		✓			
WMP	Are burning of refuse at site and dumping at sea prohibited?		✓			
	Chemical Waste					
EM&A: E3	Has the contractor obtained the necessary disposal permits from the relevant authority, if required, according to Waste Disposal (Chemical Waste) (General Regulation)?	✓				

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
WDO	Has the Contractor been registered as a chemical waste producer?		✓			
EM&A: E3	Has the Contractor kept all the trip tickets for the disposal of chemical waste and made them available for inspection?		✓			
EM&A: E4	Is chemical waste handled according to the Code of Practice on the Packaging, Handling and Storage of Chemical Waste?"?		✓			
EM&A: E4	Is the chemical waste storage, if any, well maintained, kept closed and locked?		✓			
Storage, collection and transportation of waste						
EM&A: E3	Are wastes transported by enclosed containers or covered trucks?		✓			
EM&A: E3	Are waste materials segregated and sorted into 3 categories as follows?	✓				
	(1) public fill materials for on-site reuse, or disposal at public filling area;					
	(2) reusable / recyclable materials;					
	(3) un-reusable / non-recyclable waste for landfill disposal.					
EM&A: E3	Are the records of the quantities of wastes generated and disposed off-site for the 3 categories of waste properly maintained?	✓				

WATER QUALITY

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
Surface Run-off						
PN1/94	Are the silt removal facilities, channels and manholes maintained and the deposited silt and grit removed regularly?	✓				
PN1/94	Are earthworks final surfaces well compacted and the subsequent permanent work or surface protection carried out immediately after the final surfaces are formed to prevent erosion caused by rainstorms? Is appropriate drainage like intercepting channels provided where necessary?	✓				
PN1/94	Are measures taken to minimize the ingress of rainwater into trenches? Is rainwater pumped out from trenches or foundation excavations discharged into storm drains via silt removal facilities?	✓				
PN1/94	Are open stockpiles of construction materials (e.g, aggregates, sand and fill material) on site covered with tarpaulin or similar fabric during rainstorms? Are measures taken to prevent the washing away of construction materials, soil, silt or debris into the drainage system?	✓				
PN1/94	Are manholes (including newly constructed ones) adequately covered and temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage system, and to prevent storm run-off from getting into foul sewers?	✓				
Groundwater						
PN1/94	Is groundwater that pumped out of wells discharged into storm drains after the removal of silt in silt removal facilities?	✓				

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
	Boring and Drilling Water					
PN1/94	Is water that used in ground boring and drilling for site investigation or rock/soil anchoring recirculated as far as possible after sedimentation? If there is a need for final disposal, is the wastewater discharged into storm drains via silt removal facilities?	✓				
	Wheel Washing Water					
PN1/94	Is a wheel-washing bay provided at every exit if practicable and is the silt removed from wash-water before discharging into storm drains?	✓				

MARINE ECOLOGY

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
EM&A: G1	Are all percussive piling works conducted on reclaimed land to avoid noise impact to marine mammals?	✓				
EM&A: G2	Do the marine vessels moving to and from the construction site strictly follow the routes stated in the "Plan for Dredging & Reclamation, Routing of Construction Related Marine Vessels, and Installation of Silt Curtain"?	✓				
EM&A: G3	Is rubble mound seawall constructed to the south and west edges of the reclamation to enhance recolonisation of marine organisms?	✓				

NOISE

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
EM&A : C1	Are working programmes scheduled to minimize noise nuisance?		✓			
EM&A: C1	Are construction works or equipment sited to minimize noise nuisance?		✓			
EM&A: C1	Are all plant and equipment maintained in good operating conditions?		✓			
EM&A: C1/GP	Is idle equipment turned off or throttled down?		✓			
EM&A: C1	Are methods of working devised and arranged to minimize noise nuisance?		✓			
EM&A: C1)	Are construction works carried out in a manner to minimize noise nuisance?		✓			
EM&A: C2	To mitigate construction noise during Sunday's and public holidays, is either one of the following measures adopted? a) Mitigation by portable noise barriers at noise sources or b) Rescheduling of some powered mechanical equipment to less sensitive time periods?		✓			
EM&A: C3	To mitigate night time construction noise, is dredging equipment equipped with silencers or mufflers?	✓				
NCO	Are valid construction noise permits, if required, available for inspection?	✓				
NCO	Are conditions of construction noise permits, if any, for the relevant part(s) of the works implemented accordingly?	✓				
NCO	Are valid noise emission labels fixed at air compressors and hand held percussive breakers?	✓				
	Major noise source(s)	<input type="checkbox"/> Traffic	<input checked="" type="checkbox"/> Construction activities inside the site			
		<input type="checkbox"/> Construction activities outside the site	<input type="checkbox"/> Others _____			

Abbreviation

VEP:	Varied Environmental Permit	
WMP:	Waste Management Plan	EM&A: EM&A Manual (Construction Phase)
Cap311R:	APC (Construction Dust) Regulation	NCO: Noise Control Ordinance
Cap311O:	APC (Open Burning) Regulation	WDO: Waste Disposal Ordinance
Cap311:	Air Pollution Control Ordinance	
PN1/94:	Practice Note for Professional Persons (Construction Site Drainage)	
Unk:	Unknown	

Remark

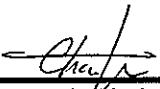
Signatures

ET Member

Contractor's Representative

IEC's Representative

**This site inspection was carried out
in the presence of IEC's representative**


(Name in Block letters:


CHIU Toi Fu)

RDE


(Name in Block letters:

S.H. SUEN)

MEMK


Name in Block Letters:
(Chan Tin Mo)

12th January 2005

The Hongkong Electric Co. Ltd.
Lamma Power Station Extension – E&M Works
Weekly Site Inspection Checklist

Inspection date 27 July 2015 Time 10:00 hrs Inspected By ET: W. C. Li / P015
 Site LHX 275KV S/S ERECTIONS CONTRACT Contractor: S H SUGS / MEHIC

Weather

Condition ☒ Sunny ☐ Fine ☐ Overcast ☐ Hazy ☐ Drizzle ☐ Rain ☐ Storm
 Temperature 31 °C Humidity ☐ High ☒ Moderate ☐ Low
 Wind ☒ Calm ☐ Light ☐ Breeze ☐ Strong

GENERAL

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
VEP 1.5	Has a copy of the most update Environmental Permit been displayed at all vehicular site entrances/exits for public information?		<input checked="" type="checkbox"/>			
VEP 1.6	Is a copy of EIA report kept in Engineers' and Contractors' offices on site?		<input checked="" type="checkbox"/>			

AIR QUALITY

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
General Requirements						
Cap311R: 3	Has the contractors notified EPD of the construction site which is classified as a notifiable work in a specified form? If there is any change in the notice, do the contractors notify EPD of the change?	<input checked="" type="checkbox"/>				
Cap311R: Sch 12(3)	A compressed air jet shall not be used for cleaning or clearing dust from any vehicle, equipment, other materials or person. Is this observed?		<input checked="" type="checkbox"/>			
Cap311	Do the contractors possess valid Air Pollution Control Specified Processes Licenses for the concrete batching plant wherever applicable and have it available for inspection?	<input checked="" type="checkbox"/>				
Construction Sites						
EM&A : A1	Are haul roads paved with concrete or sprayed with water to keep the entire road wet?		<input checked="" type="checkbox"/>			WATER SPRAYING PROVIDED BY PAUL Y
Stockpiling of dusty materials						
Cap311R: Sch 18	Are stockpiles of dusty materials entirely covered with impervious sheets or sheltered on the top and 3 sides or sprayed with water to maintain the entire surface wet to prevent dust emission?	<input checked="" type="checkbox"/>				

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
Cement and dry pulverized fuel ash (PFA)						
Cap311R: Sch 15(3)	Are the storage silos for cement or dry PFA prevented from overfilling?	✓				
Cap311R: Sch 15(4)	Are the handlings of cement or dry PFA through a totally enclosed system equipped with air pollution control equipment at the vent of the system?	✓				
Cap311R: Sch 15(2)	Is bulk cement or dry PFA stored in a closed silo fitted with a high-level alarm?	✓				
Cap311R: Sch 17	Are the cement, dry PFA or other dusty materials collected by the air pollution control equipment disposed of in totally enclosed containers?	✓				
Loading, unloading or transfer of dusty materials						
Cap311R: Sch 19	Are dusty materials, except cement and dry PFA, sprayed with water immediately prior to any loading, unloading or transfer operation?	✓				
EM&A: A1	Are the dropping heights of the fill materials controlled to a practical level to minimize fugitive dust emission?	✓				
Use of vehicles						
Cap311R: Sch 21(2) EM&A: A1	Is every load of dusty material on the vehicles leaving the construction site covered entirely by clean impervious sheeting?	✓				
Cap311R: Sch 21(1)	Is every vehicle wheel-washed by the wheel washing facilities to remove any dusty materials from its body and wheels before leaving the construction site?		✓			WHEEL WASH FACILITIES PROVIDED BY PAUL Y
Transfer of dusty materials using a belt conveyor system						
Cap311R: Sch 20(1)	Are belt conveyors used for transfer of dusty materials covered on the top and 2 sides?	✓				
Cap311R: Sch 20(2)	Is every transfer point between any two-belt conveyors totally enclosed?	✓				
Cap311R: Sch 20(3)	Is a belt scraper or equivalent device installed at the head pulley of every conveyor? Is the belt scraper equipped with bottom plates or similar means to prevent falling of materials from the return belts?	✓				
Cap311R: Sch 20(4)	Are stockpiling conveyors equipped with level adjusting mechanism to maintain the dropping height within 1 m?	✓				
Concrete batching plant						
EM&A: A2	Are the loading, unloading, handling, transfer or storage of any dusty materials carried out in a totally enclosed system?	✓				
EM&A: A2	Are dusty materials, except cement and dry PFA, wetted by water spray system?	✓				
EM&A: A2	Are all the receiving hoppers enclosed on three (3)sides up to 3m above unloading point?	✓				
EM&A: A2	Are all the conveyor transfer points totally enclosed?	✓				

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
	Miscellaneous					
Cap311R: Sch 16	Are completed earthworks sealed and hydroseeded and planted as soon as possible?	✓				
Cap311O	Is open burning prohibited?		✓			
Cap311	Is black smoke emission from plant/equipment avoided?		✓			

WASTE/CHEMICAL WASTE MANAGEMENT

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
	Dredged Materials					
WMP EM&A: E3	Does the appropriate contractor possess valid dumping permits for dredged marine mud and have them available for inspection?	✓				
WMP EM&A: E3	Has the contractor kept a complete set of dumping records/ticketing system and made them available for inspection?	✓				
EM&A: E3	Are wastes disposed of at licensed sites?	✓				
	Construction Waste and Excavated Materials					
WMP EM&A: E3	Does the Contractor possess a valid Public Dumping License for construction waste and excavated materials and make it available for inspection?	✓				
WMP	Has the Contractor maintained disposal records for the construction waste and excavated materials, and made them available for inspection?	✓				
WMP	Is suitable concrete waste/excavated material used for on-site reclamation/filling works?	✓				
WMP	Are the used formworks reused as far as possible before being disposed of in a landfill site?	✓				
WMP	Are the remaining unsuitable excavated materials disposed of at the public filling areas?	✓				
EM&A: E3	Are wastes disposed of at licensed sites?	✓				
	General refuse					
WMP	Has the Contractor maintained a disposal record for general refuse and made it available for inspection?		✓			
WMP	Is general refuse stored within receptacles and separated from chemical wastes?		✓			
WMP	Is the refuse disposed of regularly and properly?		✓			
WMP	Are burning of refuse at site and dumping at sea prohibited?		✓			
	Chemical Waste					
EM&A: E3	Has the contractor obtained the necessary disposal permits from the relevant authority, if required, according to Waste Disposal (Chemical Waste) (General Regulation)?	✓				

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
WDO	Has the Contractor been registered as a chemical waste producer?		✓			
EM&A: E3	Has the Contractor kept all the trip tickets for the disposal of chemical waste and made them available for inspection?		✓			
EM&A: E4	Is chemical waste handled according to the Code of Practice on the Packaging, Handling and Storage of Chemical Waste?"		✓			
EM&A: E4	Is the chemical waste storage, if any, well maintained, kept closed and locked?		✓			
Storage, collection and transportation of waste						
EM&A: E3	Are wastes transported by enclosed containers or covered trucks?		✓			
EM&A: E3	Are waste materials segregated and sorted into 3 categories as follows?	✓				
	(1) public fill materials for on-site reuse, or disposal at public filling area;					
	(2) reusable / recyclable materials;					
	(3) un-reusable / non-recyclable waste for landfill disposal.					
EM&A: E3	Are the records of the quantities of wastes generated and disposed off-site for the 3 categories of waste properly maintained?	✓				

WATER QUALITY

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
Surface Run-off						
PN1/94	Are the silt removal facilities, channels and manholes maintained and the deposited silt and grit removed regularly?	✓				
PN1/94	Are earthworks final surfaces well compacted and the subsequent permanent work or surface protection carried out immediately after the final surfaces are formed to prevent erosion caused by rainstorms? Is appropriate drainage like intercepting channels provided where necessary?	✓				
PN1/94	Are measures taken to minimize the ingress of rainwater into trenches? Is rainwater pumped out from trenches or foundation excavations discharged into storm drains via silt removal facilities?	✓				
PN1/94	Are open stockpiles of construction materials (e.g, aggregates, sand and fill material) on site covered with tarpaulin or similar fabric during rainstorms? Are measures taken to prevent the washing away of construction materials, soil, silt or debris into the drainage system?	✓				
PN1/94	Are manholes (including newly constructed ones) adequately covered and temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage system, and to prevent storm run-off from getting into foul sewers?	✓				
Groundwater						
PN1/94	Is groundwater that pumped out of wells discharged into storm drains after the removal of silt in silt removal facilities?	✓				

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
	Boring and Drilling Water					
PN1/94	Is water that used in ground boring and drilling for site investigation or rock/soil anchoring recirculated as far as possible after sedimentation? If there is a need for final disposal, is the wastewater discharged into storm drains via silt removal facilities?	✓				
	Wheel Washing Water					
PN1/94	Is a wheel-washing bay provided at every exit if practicable and is the silt removed from wash-water before discharging into storm drains?	✓				

MARINE ECOLOGY

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
EM&A: G1	Are all percussive piling works conducted on reclaimed land to avoid noise impact to marine mammals?	✓				
EM&A: G2	Do the marine vessels moving to and from the construction site strictly follow the routes stated in the "Plan for Dredging & Reclamation, Routing of Construction Related Marine Vessels, and Installation of Silt Curtain"?	✓				
EM&A: G3	Is rubble mound seawall constructed to the south and west edges of the reclamation to enhance recolonisation of marine organisms?	✓				

NOISE

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
EM&A : C1	Are working programmes scheduled to minimize noise nuisance?		✓			
EM&A: C1	Are construction works or equipment sited to minimize noise nuisance?		✓			
EM&A: C1	Are all plant and equipment maintained in good operating conditions?		✓			
EM&A: C1/GP	Is idle equipment turned off or throttled down?		✓			
EM&A: C1	Are methods of working devised and arranged to minimize noise nuisance?		✓			
EM&A: C1)	Are construction works carried out in a manner to minimize noise nuisance?		✓			
EM&A: C2	To mitigate construction noise during Sunday's and public holidays, is either one of the following measures adopted? a) Mitigation by portable noise barriers at noise sources or b) Rescheduling of some powered mechanical equipment to less sensitive time periods?		✓			
EM&A: C3	To mitigate night time construction noise, is dredging equipment equipped with silencers or mufflers?	✓				
NCO	Are valid construction noise permits, if required, available for inspection?	✓				
NCO	Are conditions of construction noise permits, if any, for the relevant part(s) of the works implemented accordingly?	✓				
NCO	Are valid noise emission labels fixed at air compressors and hand held percussive breakers?	✓				
	Major noise source(s)	<input type="checkbox"/> Traffic	<input checked="" type="checkbox"/> Construction activities inside the site			
		<input type="checkbox"/> Construction activities outside the site	<input type="checkbox"/> Others _____			

Abbreviation

VEP:	Varied Environmental Permit	
WMP:	Waste Management Plan	EM&A: EM&A Manual (Construction Phase)
Cap311R:	APC (Construction Dust) Regulation	NCO: Noise Control Ordinance
Cap311O:	APC (Open Burning) Regulation	WDO: Waste Disposal Ordinance
Cap311:	Air Pollution Control Ordinance	
PN1/94:	Practice Note for Professional Persons (Construction Site Drainage)	
Unk:	Unknown	

Remark

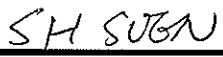
Signatures

ET Member

Contractor's Representative


(Name in Block letters:

W. L. Li


(Name in Block letters:

SH SUGN

12th January 2005

The Hongkong Electric Co. Ltd.
Lamma Power Station Extension – E&M Works
Weekly Site Inspection Checklist

Inspection date 2/7/05. Time 13:30. Inspected By ET: WWCm
 Contractor: JOHNATHAN
 Site LMX - GRS

Weather

Condition ☒ Sunny ☐ Fine ☐ Overcast ☐ Hazy ☐ Drizzle ☐ Rain ☐ Storm
 Temperature 30 °C Humidity ☐ High ☒ Moderate ☐ Low
 Wind ☐ Calm ☒ Light ☐ Breeze ☐ Strong

GENERAL

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
VEP 1.5	Has a copy of the most update Environmental Permit been displayed at all vehicular site entrances/exits for public information?		<input checked="" type="checkbox"/>			
VEP 1.6	Is a copy of EIA report kept in Engineers' and Contractors' offices on site?		<input checked="" type="checkbox"/>			

AIR QUALITY

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
General Requirements						
Cap311R: 3	Has the contractors notified EPD of the construction site which is classified as a notifiable work in a specified form? If there is any change in the notice, do the contractors notify EPD of the change?		<input checked="" type="checkbox"/>			
Cap311R: Sch 12(3)	A compressed air jet shall not be used for cleaning or clearing dust from any vehicle, equipment, other materials or person. Is this observed?	<input checked="" type="checkbox"/>				
Cap311	Do the contractors possess valid Air Pollution Control Specified Processes Licenses for the concrete batching plant wherever applicable and have it available for inspection?	<input checked="" type="checkbox"/>				
Construction Sites						
EM&A: A1	Are haul roads paved with concrete or sprayed with water to keep the entire road wet?		<input checked="" type="checkbox"/>			
Stockpiling of dusty materials						
Cap311R: Sch 18	Are stockpiles of dusty materials entirely covered with impervious sheets or sheltered on the top and 3 sides or sprayed with water to maintain the entire surface wet to prevent dust emission?		<input checked="" type="checkbox"/>			

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
Cement and dry pulverized fuel ash (PFA)						
Cap311R: Sch 15(3)	Are the storage silos for cement or dry PFA prevented from overfilling?	✓				
Cap311R: Sch 15(4)	Are the handlings of cement or dry PFA through a totally enclosed system equipped with air pollution control equipment at the vent of the system?	✓				
Cap311R: Sch 15(2)	Is bulk cement or dry PFA stored in a closed silo fitted with a high-level alarm?	✓				
Cap311R: Sch 17	Are the cement, dry PFA or other dusty materials collected by the air pollution control equipment disposed of in totally enclosed containers?	✓				
Loading, unloading or transfer of dusty materials						
Cap311R: Sch 19	Are dusty materials, except cement and dry PFA, sprayed with water immediately prior to any loading, unloading or transfer operation?	✓				
EM&A: A1	Are the dropping heights of the fill materials controlled to a practical level to minimize fugitive dust emission?	✓				
Use of vehicles						
Cap311R: Sch 21(2) EM&A: A1	Is every load of dusty material on the vehicles leaving the construction site covered entirely by clean impervious sheeting?	✓				
Cap311R: Sch 21(1)	Is every vehicle wheel-washed by the wheel washing facilities to remove any dusty materials from its body and wheels before leaving the construction site?	✓				
Transfer of dusty materials using a belt conveyor system						
Cap311R: Sch 20(1)	Are belt conveyors used for transfer of dusty materials covered on the top and 2 sides?	✓				
Cap311R: Sch 20(2)	Is every transfer point between any two-belt conveyors totally enclosed?	✓				
Cap311R: Sch 20(3)	Is a belt scraper or equivalent device installed at the head pulley of every conveyor? Is the belt scraper equipped with bottom plates or similar means to prevent falling of materials from the return belts?	✓				
Cap311R: Sch 20(4)	Are stockpiling conveyors equipped with level adjusting mechanism to maintain the dropping height within 1 m?	✓				
Concrete batching plant						
EM&A: A2	Are the loading, unloading, handling, transfer or storage of any dusty materials carried out in a totally enclosed system?	✓				
EM&A: A2	Are dusty materials, except cement and dry PFA, wetted by water spray system?	✓				
EM&A: A2	Are all the receiving hoppers enclosed on three (3) sides up to 3m above unloading point?	✓				
EM&A: A2	Are all the conveyor transfer points totally enclosed?	✓				

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
Miscellaneous						
Cap311R: Sch 16	Are completed earthworks sealed and hydroseeded and planted as soon as possible?	✓				
Cap311O	Is open burning prohibited?		✓			
Cap311	Is black smoke emission from plant/equipment avoided?	✓				

WASTE/CHEMICAL WASTE MANAGEMENT

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
Dredged Materials						
WMP EM&A: E3	Does the appropriate contractor possess valid dumping permits for dredged marine mud and have them available for inspection?		✓			
WMP EM&A: E3	Has the contractor kept a complete set of dumping records/ticketing system and made them available for inspection?		✓			
EM&A: E3	Are wastes disposed of at licensed sites?		✓			
Construction Waste and Excavated Materials						
WMP EM&A: E3	Does the Contractor possess a valid Public Dumping License for construction waste and excavated materials and make it available for inspection?		✓			
WMP	Has the Contractor maintained disposal records for the construction waste and excavated materials, and made them available for inspection?	✓				
WMP	Is suitable concrete waste/excavated material used for on-site reclamation/filling works?		✓			
WMP	Are the used formworks reused as far as possible before being disposed of in a landfill site?	✓				
WMP	Are the remaining unsuitable excavated materials disposed of at the public filling areas?	✓				
EM&A: E3	Are wastes disposed of at licensed sites?	✓				
General refuse						
WMP	Has the Contractor maintained a disposal record for general refuse and made it available for inspection?		✓			
WMP	Is general refuse stored within receptacles and separated from chemical wastes?		✓			
WMP	Is the refuse disposed of regularly and properly?		✓			
WMP	Are burning of refuse at site and dumping at sea prohibited?		✓			
Chemical Waste						
EM&A: E3	Has the contractor obtained the necessary disposal permits from the relevant authority, if required, according to Waste Disposal (Chemical Waste) (General Regulation)?	✓				

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
WDO	Has the Contractor been registered as a chemical waste producer?		✓			
EM&A: E3	Has the Contractor kept all the trip tickets for the disposal of chemical waste and made them available for inspection?	✓				
EM&A: E4	Is chemical waste handled according to the Code of Practice on the Packaging, Handling and Storage of Chemical Waste?"		✓			
EM&A: E4	Is the chemical waste storage, if any, well maintained, kept closed and locked?		✓			
Storage, collection and transportation of waste						
EM&A: E3	Are wastes transported by enclosed containers or covered trucks?	✓				
EM&A: E3	Are waste materials segregated and sorted into 3 categories as follows?					
	(1) public fill materials for on-site reuse, or disposal at public filling area;	✓				
	(2) reusable / recyclable materials;	✓				
	(3) un-reusable / non-recyclable waste for landfill disposal.	✓				
EM&A: E3	Are the records of the quantities of wastes generated and disposed off-site for the 3 categories of waste properly maintained?		✓			

WATER QUALITY

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
Surface Run-off						
PN1/94	Are the silt removal facilities, channels and manholes maintained and the deposited silt and grit removed regularly?	✓				
PN1/94	Are earthworks final surfaces well compacted and the subsequent permanent work or surface protection carried out immediately after the final surfaces are formed to prevent erosion caused by rainstorms? Is appropriate drainage like intercepting channels provided where necessary?	✓				
PN1/94	Are measures taken to minimize the ingress of rainwater into trenches? Is rainwater pumped out from trenches or foundation excavations discharged into storm drains via silt removal facilities?	✓				
PN1/94	Are open stockpiles of construction materials (c.g, aggregates, sand and fill material) on site covered with tarpaulin or similar fabric during rainstorms? Are measures taken to prevent the washing away of construction materials, soil, silt or debris into the drainage system?	✓				
PN1/94	Are manholes (including newly constructed ones) adequately covered and temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage system, and to prevent storm run-off from getting into foul sewers?	✓				
Groundwater						
PN1/94	Is groundwater that pumped out of wells discharged into storm drains after the removal of silt in silt removal facilities?	✓				

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
	Boring and Drilling Water					
PNI/94	Is water that used in ground boring and drilling for site investigation or rock/soil anchoring recirculated as far as possible after sedimentation? If there is a need for final disposal, is the wastewater discharged into storm drains via silt removal facilities?	✓				
	Wheel Washing Water					
PNI/94	Is a wheel-washing bay provided at every exit if practicable and is the silt removed from wash-water before discharging into storm drains?	✓				

MARINE ECOLOGY

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
EM&A: G1	Are all percussive piling works conducted on reclaimed land to avoid noise impact to marine mammals?	✓				
EM&A: G2	Do the marine vessels moving to and from the construction site strictly follow the routes stated in the "Plan for Dredging & Reclamation, Routing of Construction Related Marine Vessels, and Installation of Silt Curtain"?		✓			
EM&A: G3	Is rubble mound seawall constructed to the south and west edges of the reclamation to enhance recolonisation of marine organisms?	✓				

NOISE

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
EM&A : C1	Are working programmes scheduled to minimize noise nuisance?	✓				
EM&A: C1	Are construction works or equipment sited to minimize noise nuisance?		✓			
EM&A: C1	Are all plant and equipment maintained in good operating conditions?		✓			
EM&A: C1/GP	Is idle equipment turned off or throttled down?		✓			
EM&A: C1	Are methods of working devised and arranged to minimize noise nuisance?	✓				
EM&A: C1)	Are construction works carried out in a manner to minimize noise nuisance?	✓				
EM&A: C2	To mitigate construction noise during Sunday's and public holidays, is either one of the following measures adopted? a) Mitigation by portable noise barriers at noise sources or b) Rescheduling of some powered mechanical equipment to less sensitive time periods?	✓				
EM&A: C3	To mitigate night time construction noise, is dredging equipment equipped with silencers or mufflers?	✓				
NCO	Are valid construction noise permits, if required, available for inspection?		✓			
NCO	Are conditions of construction noise permits, if any, for the relevant part(s) of the works implemented accordingly?		✓			
NCO	Are valid noise emission labels fixed at air compressors and hand held percussive breakers?		✓			
	Major noise source(s)	<input type="checkbox"/> Traffic	<input checked="" type="checkbox"/> Construction activities inside the site			
		<input type="checkbox"/> Construction activities outside the site	<input type="checkbox"/> Others _____			

Abbreviation

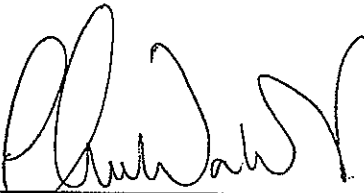
VEP:	Varied Environmental Permit	EM&A:	EM&A Manual (Construction Phase)
WMP:	Waste Management Plan	NCO:	Noise Control Ordinance
Cap311R:	APC (Construction Dust) Regulation	WDO:	Waste Disposal Ordinance
Cap311O:	APC (Open Burning) Regulation		
Cap311:	Air Pollution Control Ordinance		
PN1/94:	Practice Note for Professional Persons (Construction Site Drainage)		
Unk:	Unknown		

Remark

Signatures

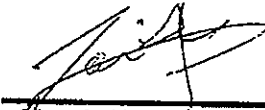
ET Member

Contractor's Representative



(Name in Block letters:

W.W. Chan)



(Name in Block letters:

Yuen Siu Kai)

12th January 2005

The Hongkong Electric Co. Ltd.
Lamma Power Station Extension – E&M Works
Weekly Site Inspection Checklist

Inspection date 7 Jul 05 Time 13:30 Inspected By ET: WLV, CHH (HRC)
 Site LHX - GRS Contractor: Jonathan Yuen (Chai-kee)

Weather

Condition ☒ Sunny ☐ Fine ☐ Overcast ☐ Hazy ☐ Drizzle ☐ Rain ☐ Storm
 Temperature 30 °C Humidity ☐ High ☒ Moderate ☐ Low
 Wind ☐ Calm ☒ Light ☐ Breeze ☐ Strong

GENERAL

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
VEP 1.5	Has a copy of the most update Environmental Permit been displayed at all vehicular site entrances/exits for public information?		✓			
VEP 1.6	Is a copy of EIA report kept in Engineers' and Contractors' offices on site?		✓			

AIR QUALITY

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
General Requirements						
Cap311R: 3	Has the contractors notified EPD of the construction site which is classified as a notifiable work in a specified form? If there is any change in the notice, do the contractors notify EPD of the change?		✓			
Cap311R: Sch 12(3)	A compressed air jet shall not be used for cleaning or clearing dust from any vehicle, equipment, other materials or person. Is this observed?	✓				
Cap311	Do the contractors possess valid Air Pollution Control Specified Processes Licenses for the concrete batching plant wherever applicable and have it available for inspection?	✓				
Construction Sites						
EM&A: A1	Are haul roads paved with concrete or sprayed with water to keep the entire road wet?		✓			
Stockpiling of dusty materials						
Cap311R: Sch 18	Are stockpiles of dusty materials entirely covered with impervious sheets or sheltered on the top and 3 sides or sprayed with water to maintain the entire surface wet to prevent dust emission?		✓			

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
Cement and dry pulverized fuel ash (PFA)						
Cap311R: Sch 15(3)	Are the storage silos for cement or dry PFA prevented from overfilling?	✓				
Cap311R: Sch 15(4)	Are the handlings of cement or dry PFA through a totally enclosed system equipped with air pollution control equipment at the vent of the system?	✓				
Cap311R: Sch 15(2)	Is bulk cement or dry PFA stored in a closed silo fitted with a high-level alarm?	✓				
Cap311R: Sch 17	Are the cement, dry PFA or other dusty materials collected by the air pollution control equipment disposed of in totally enclosed containers?	✓				
Loading, unloading or transfer of dusty materials						
Cap311R: Sch 19	Are dusty materials, except cement and dry PFA, sprayed with water immediately prior to any loading, unloading or transfer operation?	✓				
EM&A: A1	Are the dropping heights of the fill materials controlled to a practical level to minimize fugitive dust emission?	✓				
Use of vehicles						
Cap311R: Sch 21(2) EM&A: A1	Is every load of dusty material on the vehicles leaving the construction site covered entirely by clean impervious sheeting?	✓				
Cap311R: Sch 21(1)	Is every vehicle wheel-washed by the wheel washing facilities to remove any dusty materials from its body and wheels before leaving the construction site?	✓				
Transfer of dusty materials using a belt conveyor system						
Cap311R: Sch 20(1)	Are belt conveyors used for transfer of dusty materials covered on the top and 2 sides?	✓				
Cap311R: Sch 20(2)	Is every transfer point between any two-belt conveyors totally enclosed?	✓				
Cap311R: Sch 20(3)	Is a belt scraper or equivalent device installed at the head pulley of every conveyor? Is the belt scraper equipped with bottom plates or similar means to prevent falling of materials from the return belts?	✓				
Cap311R: Sch 20(4)	Are stockpiling conveyors equipped with level adjusting mechanism to maintain the dropping height within 1 m?	✓				
Concrete batching plant						
EM&A: A2	Are the loading, unloading, handling, transfer or storage of any dusty materials carried out in a totally enclosed system?	✓				
EM&A: A2	Are dusty materials, except cement and dry PFA, wetted by water spray system?	✓				
EM&A: A2	Are all the receiving hoppers enclosed on three (3) sides up to 3m above unloading point?	✓				
EM&A: A2	Are all the conveyor transfer points totally enclosed?	✓				

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
	Miscellaneous					
Cap311R: Sch 16	Are completed earthworks sealed and hydroseeded and planted as soon as possible?	✓				
Cap311O	Is open burning prohibited?		✓			
Cap311	Is black smoke emission from plant/equipment avoided?	✓				

WASTE/CHEMICAL WASTE MANAGEMENT

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
	Dredged Materials					
WMP EM&A: E3	Does the appropriate contractor possess valid dumping permits for dredged marine mud and have them available for inspection?		✓			
WMP EM&A: E3	Has the contractor kept a complete set of dumping records/ticketing system and made them available for inspection?		✓			
EM&A: E3	Are wastes disposed of at licensed sites?		✓			
	Construction Waste and Excavated Materials					
WMP EM&A: E3	Does the Contractor possess a valid Public Dumping License for construction waste and excavated materials and make it available for inspection?		✓			
WMP	Has the Contractor maintained disposal records for the construction waste and excavated materials, and made them available for inspection?	✓				
WMP	Is suitable concrete waste/excavated material used for on-site reclamation/filling works?		✓			
WMP	Are the used formworks reused as far as possible before being disposed of in a landfill site?	✓				
WMP	Are the remaining unsuitable excavated materials disposed of at the public filling areas?	✓				
EM&A: E3	Are wastes disposed of at licensed sites?	✓				
	General refuse					
WMP	Has the Contractor maintained a disposal record for general refuse and made it available for inspection?		✓			
WMP	Is general refuse stored within receptacles and separated from chemical wastes?		✓			
WMP	Is the refuse disposed of regularly and properly?		✓			
WMP	Are burning of refuse at site and dumping at sea prohibited?		✓			
	Chemical Waste					
EM&A: E3	Has the contractor obtained the necessary disposal permits from the relevant authority, if required, according to Waste Disposal (Chemical Waste) (General Regulation)?	✓				

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
WDO	Has the Contractor been registered as a chemical waste producer?		✓			
EM&A: E3	Has the Contractor kept all the trip tickets for the disposal of chemical waste and made them available for inspection?	✓				
EM&A: E4	Is chemical waste handled according to the Code of Practice on the Packaging, Handling and Storage of Chemical Waste?		✓			
EM&A: E4	Is the chemical waste storage, if any, well maintained, kept closed and locked?		✓			
Storage, collection and transportation of waste						
EM&A: E3	Are wastes transported by enclosed containers or covered trucks?	✓				
EM&A: E3	Are waste materials segregated and sorted into 3 categories as follows?					
	(1) public fill materials for on-site reuse, or disposal at public filling area;	✓				
	(2) reusable / recyclable materials;	✓				
	(3) un-reusable / non-recyclable waste for landfill disposal.	✓				
EM&A: E3	Are the records of the quantities of wastes generated and disposed off-site for the 3 categories of waste properly maintained?		✓			

WATER QUALITY

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
Surface Run-off						
PN1/94	Are the silt removal facilities, channels and manholes maintained and the deposited silt and grit removed regularly?	✓				
PN1/94	Are earthworks final surfaces well compacted and the subsequent permanent work or surface protection carried out immediately after the final surfaces are formed to prevent erosion caused by rainstorms? Is appropriate drainage like intercepting channels provided where necessary?	✓				
PN1/94	Are measures taken to minimize the ingress of rainwater into trenches? Is rainwater pumped out from trenches or foundation excavations discharged into storm drains via silt removal facilities?	✓				
PN1/94	Are open stockpiles of construction materials (e.g. aggregates, sand and fill material) on site covered with tarpaulin or similar fabric during rainstorms? Are measures taken to prevent the washing away of construction materials, soil, silt or debris into the drainage system?	✓				
PN1/94	Are manholes (including newly constructed ones) adequately covered and temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage system, and to prevent storm run-off from getting into foul sewers?	✓				
Groundwater						
PN1/94	Is groundwater that pumped out of wells discharged into storm drains after the removal of silt in silt removal facilities?	✓				

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
	Boring and Drilling Water					
PN1/94	Is water that used in ground boring and drilling for site investigation or rock/soil anchoring recirculated as far as possible after sedimentation? If there is a need for final disposal, is the wastewater discharged into storm drains via silt removal facilities?	✓				
	Wheel Washing Water					
PN1/94	Is a wheel-washing bay provided at every exit if practicable and is the silt removed from wash-water before discharging into storm drains?	✓				

MARINE ECOLOGY

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
EM&A: G1	Are all percussive piling works conducted on reclaimed land to avoid noise impact to marine mammals?	✓				
EM&A: G2	Do the marine vessels moving to and from the construction site strictly follow the routes stated in the "Plan for Dredging & Reclamation, Routing of Construction Related Marine Vessels, and Installation of Silt Curtain"?		✓			
EM&A: G3	Is rubble mound seawall constructed to the south and west edges of the reclamation to enhance recolonisation of marine organisms?	✓				

NOISE

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
EM&A : C1	Are working programmes scheduled to minimize noise nuisance?	✓				
EM&A: C1	Are construction works or equipment sited to minimize noise nuisance?		✓			
EM&A: C1	Are all plant and equipment maintained in good operating conditions?		✓			
EM&A: C1/GP	Is idle equipment turned off or throttled down?		✓			
EM&A: C1	Are methods of working devised and arranged to minimize noise nuisance?	✓				
EM&A: C1)	Are construction works carried out in a manner to minimize noise nuisance?	✓				
EM&A: C2	To mitigate construction noise during Sunday's and public holidays, is either one of the following measures adopted? a) Mitigation by portable noise barriers at noise sources or b) Rescheduling of some powered mechanical equipment to less sensitive time periods?	✓				
EM&A: C3	To mitigate night time construction noise, is dredging equipment equipped with silencers or mufflers?	✓				
NCO	Are valid construction noise permits, if required, available for inspection?		✓			
NCO	Are conditions of construction noise permits, if any, for the relevant part(s) of the works implemented accordingly?		✓			
NCO	Are valid noise emission labels fixed at air compressors and hand held percussive breakers?		✓			
	Major noise source(s)	<input type="checkbox"/> Traffic		<input checked="" type="checkbox"/> Construction activities inside the site		
		<input type="checkbox"/> Construction activities outside the site		<input type="checkbox"/> Others _____		

Abbreviation

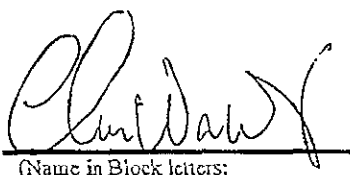
VEP:	Varied Environmental Permit	EM&A: EM&A Manual (Construction Phase)
WMP:	Waste Management Plan	NCO: Noise Control Ordinance
Cap311R:	APC (Construction Dust) Regulation	WDO: Waste Disposal Ordinance
Cap311O:	APC (Open Burning) Regulation	
Cap311:	Air Pollution Control Ordinance	
PN1/94:	Practice Note for Professional Persons (Construction Site Drainage)	
Unk:	Unknown	

Remark

Signatures

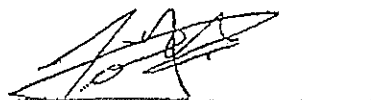
ET Member

Contractor's Representative



(Name in Block letters:

W. W. Au



(Name in Block letters:

Yuen Siu Koi

12th January 2005

The Hongkong Electric Co. Ltd.
Lamma Power Station Extension – Construction of Transmission System
Weekly Site Inspection Checklist

Inspection date 06/07/05 Time 14:00 Inspected by ET: Hendry Ho
Contractor: Kier

Site Transmission Route (Civil Work)

Weather

Condition ☒ Sunny ☐ Fine ☐ Overcast ☐ Hazy ☐ Drizzle ☐ Rain ☐ Storm

Temperature 33 °C Humidity ☐ High ☒ Moderate ☐ Low

Wind ☐ Calm ☒ Light ☐ Breeze ☐ Strong

GENERAL

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
VEP 1.5	Has a copy of the most updated Environmental Permit been displayed at all vehicular site entrances/exits for public information?		✓			
VEP 1.6	Is a copy of EIA report kept in Engineers' and Contractors' offices on site?		✓			

AIR QUALITY

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
General Requirements						
Cap311R:	Has the contractors notified EPD of the construction site which is classified as a notifiable work in a specified form? If there is any change in the notice? If yes, did the contractors notify EPD of the change?	✓				
Cap311R: Sch 12(3)	A compressed air jet shall not be used for cleaning or clearing dust from any vehicle, equipment, other materials or person. Has this been observed?	✓				
Stockpiling of dusty materials						
Cap311R: Sch 18 EM&A:J1	Are stockpiles of dusty materials entirely covered with impervious sheets or sheltered on the top and 3 sides or sprayed with water to maintain the entire surface wet to prevent dust emission?		✓			
Use of vehicles						
Cap311R: Sch 21(2)	Is every load of dusty material on the vehicles leaving the construction site covered entirely by clean impervious sheeting?		✓			LPS site
Miscellaneous						
Cap311R: Sch 16	Are completed earthworks sealed and hydroseeded and planted as soon as possible?	✓				

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
Cap311O	Is open burning prohibited?		✓			
Cap311	Is black smoke emission from plant/equipment avoided?		✓			

WASTE/CHEMICAL WASTE MANAGEMENT

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
Dredged Materials						
Cap466	Does the appropriate contractor possess valid dumping permits for dredged marine mud and have them available for inspection?		✓			
Cap466	Are wastes disposed of at licensed sites?		✓			
Construction Waste and Excavated Materials						
Cap354	Does the Contractor possess a valid Public Dumping License for construction waste and excavated materials and make it available for inspection?	✓				
Cap354	Are wastes disposed of at licensed sites?	✓				
Chemical Waste						
Cap354C	Has the contractor obtained the necessary disposal permits from the relevant authority, if required, according to Waste Disposal (Chemical Waste) (General Regulation)?	✓				
Cap354C	Has the Contractor registered as a chemical waste producer?		✓			
Cap354C	Is chemical waste handled according to the "Code of Practice on the Packaging, Handling and Storage of Chemical Waste"?	✓				

MARINE ECOLOGY

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
EM&A: M1	Are rubble mound seawalls constructed for the landing and launching points at Lamma Island?	✓				

NOISE

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
EM&A: L1	Are quiet PME's or standard PME's with modest source noise controls used at the cable route from N4 to N5?	✓				
EM&A: L2 ~ L3	Are quiet PME's (particularly the barge-mounted crane) or PME's with comparably effective source noise controls used at landing point N5?	✓				
NCO	Are valid construction noise permits, if required, available for inspection?		✓			N4, N2, 11, LPS Landing Point
NCO	Are conditions of construction noise permits, if any, for the relevant part(s) of the works implemented accordingly?		✓			
NCO	Are valid noise emission labels fixed at air compressors and hand held percussive breakers?		✓			

TERRESTRIAL ECOLOGY

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
EM&A: O1	Are the construction activities at landing points N4 & N5 closely monitored to avoid impact on the uncommon and rare plant species <i>Celtis blanda</i> , <i>Pteris dispar</i> and <i>Ardicia pusilla</i> , and the restricted plants <i>Vitis balansaeana</i> , <i>Pterospermum heterophyllum</i> and <i>Rhapis excelsa</i> ?		✓			
EM&A: O2	Are fences erected in accordance with the Hoarding Plan and kept in good condition along the boundary of construction sites to prevent tipping, vehicle movements, and encroachment of personnel into adjacent wooded areas, particularly where the rare, uncommon and restricted plant species are located?		✓			
EM&A: Q3	Has regular checking been performed to ensure that the work site boundaries are not exceeded and that no damage occurs to surrounding areas?		✓			
EM&A: Q4	Is open fire prohibited and prevented within the work site boundary during construction? Is temporary fire fighting equipment provided in the work area during construction?		✓			
	Major noise source(s)	Traffic	✓	Construction activities inside the site		
		Construction activities outside the site	✓	Others: Birds		

Abbreviation

VEP:	Varied Environmental Permit	EM&A:	EM&A Manual (Construction Phase)
Cap311R:	APC (Construction Dust) Regulation	NCO:	Noise Control Ordinance
Cap311O:	APC (Open Burning) Regulation	Cap354:	Waste Disposal Ordinance
Cap311:	Air Pollution Control Ordinance	Cap354c:	WDO (Chemical Waste) (General) Regulation
Cap466:	Dumping at Sea Ordinance	Unk:	Unknown

Remark

(The following section contains horizontal lines for remarks, with a large diagonal line drawn across them from the bottom left to the top right.)

Signatures

ET Member

Contractor's Representative

(Handwritten signature of Henry S. T. Ho)

(Name in Block letters:

HENRY S. T. HO,

(Handwritten signature of Anthony Tang-Sin-Che)

(Name in Block letters:

Anthony Tang-Sin-Che

20th December 2001

The Hongkong Electric Co. Ltd.
Lamma Power Station Extension – Construction of Transmission System
Weekly Site Inspection Checklist

Inspection date 13/07/05 Time 14:00 Inspected by ET: Hendry Ho
Contractor: Kier

Site Transmission Route (Civil Work)

Weather

Condition ☒ Sunny ☐ Fine ☐ Overcast ☐ Hazy ☐ Drizzle ☐ Rain ☐ Storm

Temperature 32 °C Humidity ☐ High ☒ Moderate ☐ Low

Wind ☐ Calm ☒ Light ☐ Breeze ☐ Strong

GENERAL

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
VEP 1.5	Has a copy of the most updated Environmental Permit been displayed at all vehicular site entrances/exits for public information?		✓			
VEP 1.6	Is a copy of EIA report kept in Engineers' and Contractors' offices on site?		✓			

AIR QUALITY

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
General Requirements						
Cap311R:	Has the contractors notified EPD of the construction site which is classified as a notifiable work in a specified form? If there is any change in the notice? If yes, did the contractors notify EPD of the change?	✓				
Cap311R: Sch 12(3)	A compressed air jet shall not be used for cleaning or clearing dust from any vehicle, equipment, other materials or person. Has this been observed?	✓				
Stockpiling of dusty materials						
Cap311R: Sch 18 EM&A:J1	Are stockpiles of dusty materials entirely covered with impervious sheets or sheltered on the top and 3 sides or sprayed with water to maintain the entire surface wet to prevent dust emission?		✓			
Use of vehicles						
Cap311R: Sch 21(2)	Is every load of dusty material on the vehicles leaving the construction site covered entirely by clean impervious sheeting?		✓			LPS site
Miscellaneous						
Cap311R: Sch 16	Are completed earthworks sealed and hydroseeded and planted as soon as possible?	✓				

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
Cap311O	Is open burning prohibited?		✓			
Cap311	Is black smoke emission from plant/equipment avoided?		✓			

WASTE/CHEMICAL WASTE MANAGEMENT

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
Dredged Materials						
Cap466	Does the appropriate contractor possess valid dumping permits for dredged marine mud and have them available for inspection?		✓			
Cap466	Are wastes disposed of at licensed sites?		✓			
Construction Waste and Excavated Materials						
Cap354	Does the Contractor possess a valid Public Dumping License for construction waste and excavated materials and make it available for inspection?	✓				
Cap354	Are wastes disposed of at licensed sites?	✓				
Chemical Waste						
Cap354C	Has the contractor obtained the necessary disposal permits from the relevant authority, if required, according to Waste Disposal (Chemical Waste) (General Regulation)?	✓				
Cap354C	Has the Contractor registered as a chemical waste producer?		✓			
Cap354C	Is chemical waste handled according to the "Code of Practice on the Packaging, Handling and Storage of Chemical Waste"?	✓				

MARINE ECOLOGY

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
EM&A: M1	Are rubble mound seawalls constructed for the landing and launching points at Lamma Island?	✓				

NOISE

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
EM&A: L1	Are quiet PME's or standard PME's with modest source noise controls used at the cable route from N4 to N5?	✓				
EM&A: L2 ~ L5	Are quiet PME's (particularly the barge-mounted crane) or PME's with comparably effective source noise controls used at landing point N5?	✓				
NCO	Are valid construction noise permits, if required, available for inspection?		✓			N4, N2, II, LPS Landing Point
NCO	Are conditions of construction noise permits, if any, for the relevant part(s) of the works implemented accordingly?		✓			
NCO	Are valid noise emission labels fixed at air compressors and hand held percussive breakers?		✓			

TERRESTRIAL ECOLOGY

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
EM&A: O1	Are the construction activities at landing points N4 & N5 closely monitored to avoid impact on the uncommon and rare plant species <i>Celtis blondii</i> , <i>Pteris dispar</i> and <i>Ardicia pusilla</i> , and the restricted plants <i>Vitis balansaeana</i> , <i>Pterospermum heterophyllum</i> and <i>Rhapis excelsa</i> ?		✓			
EM&A: O2	Are fences erected in accordance with the Hoarding Plan and kept in good condition along the boundary of construction sites to prevent tipping, vehicle movements, and encroachment of personnel into adjacent wooded areas, particularly where the rare, uncommon and restricted plant species are located?		✓			
EM&A: Q3	Has regular checking been performed to ensure that the work site boundaries are not exceeded and that no damage occurs to surrounding areas?		✓			
EM&A: Q4	Is open fire prohibited and prevented within the work site boundary during construction? Is temporary fire fighting equipment provided in the work area during construction?		✓			
	Major noise source(s)	Traffic	✓	Construction activities inside the site		
		Construction activities outside the site	✓	Others: Birds		

Abbreviation

VEP: Varied Environmental Permit
Cap311R: APC (Construction Dust) Regulation
Cap311O: APC (Open Burning) Regulation
Cap311: Air Pollution Control Ordinance
Cap466: Dumping at Sea Ordinance

EM&A: EM&A Manual (Construction Phase)
NCO: Noise Control Ordinance
Cap354: Waste Disposal Ordinance
Cap354c: WDO (Chemical Waste) (General) Regulation
Unk: Unknown


Remark

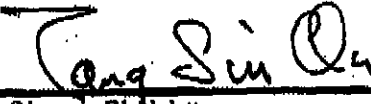
(This section contains horizontal lines for remarks, crossed out by a diagonal line.)

Signatures

ET Member

Contractor's Representative


(Name in Block letters:
HENRY S. HO)


(Name in Block letters:
Anthony)

20th December 2001

The Hongkong Electric Co. Ltd.
Lamma Power Station Extension – Construction of Transmission System
Weekly Site Inspection Checklist

Inspection date 20/07/05 Time 15:00 Inspected by ET: Hendry Ho
Contractor: Kier

Site Transmission Route (Civil Work)

Weather

Condition ☒ Sunny ☐ Fine ☐ Overcast ☐ Hazy ☐ Drizzle ☐ Rain ☐ Storm

Temperature 34 °C **Humidity** ☐ High ☒ Moderate ☐ Low

Wind ☐ Calm ☒ Light ☐ Breeze ☐ Strong

GENERAL

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
VEP 1.5	Has a copy of the most updated Environmental Permit been displayed at all vehicular site entrances/exits for public information?		✓			
VEP 1.6	Is a copy of EIA report kept in Engineers' and Contractors' offices on site?		✓			

AIR QUALITY

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
General Requirements						
Cap311R:	Has the contractors notified EPD of the construction site which is classified as a notifiable work in a specified form? If there is any change in the notice? If yes, did the contractors notify EPD of the change?	✓				
Cap311R: Sch 12(3)	A compressed air jet shall not be used for cleaning or clearing dust from any vehicle, equipment, other materials or person. Has this been observed?	✓				
Stockpiling of dusty materials						
Cap311R: Sch 18 EM&A:J1	Are stockpiles of dusty materials entirely covered with impervious sheets or sheltered on the top and 3 sides or sprayed with water to maintain the entire surface wet to prevent dust emission?		✓			
Use of vehicles						
Cap311R: Sch 21(2)	Is every load of dusty material on the vehicles leaving the construction site covered entirely by clean impervious sheeting?		✓			LPS site
Miscellaneous						
Cap311R: Sch 16	Are completed earthworks sealed and hydroseeded and planted as soon as possible?	✓				

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
Cap3110	Is open burning prohibited?		✓			
Cap311	Is black smoke emission from plant/equipment avoided?		✓			

WASTE/CHEMICAL WASTE MANAGEMENT

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
Dredged Materials						
Cap466	Does the appropriate contractor possess valid dumping permits for dredged marine mud and have them available for inspection?		✓			
Cap466	Are wastes disposed of at licensed sites?		✓			
Construction Waste and Excavated Materials						
Cap354	Does the Contractor possess a valid Public Dumping License for construction waste and excavated materials and make it available for inspection?	✓				
Cap354	Are wastes disposed of at licensed sites?	✓				
Chemical Waste						
Cap354C	Has the contractor obtained the necessary disposal permits from the relevant authority, if required, according to Waste Disposal (Chemical Waste) (General Regulation)?	✓				
Cap354C	Has the Contractor registered as a chemical waste producer?		✓			
Cap354C	Is chemical waste handled according to the "Code of Practice on the Packaging, Handling and Storage of Chemical Waste"?	✓				

MARINE ECOLOGY

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
EM&A: M1	Are rubble mound seawalls constructed for the landing and launching points at Lamma Island?	✓				

NOISE

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
EM&A: L1	Are quiet PME or standard PME with modest source noise controls used at the cable route from N4 to N5?	✓				
EM&A: L2 ~ L5	Are quiet PMEs (particularly the barge-mounted crane) or PMEs with comparably effective source noise controls used at landing point N5?	✓				
NCO	Are valid construction noise permits, if required, available for inspection?		✓			N4, N2, I1, LPS Landing Point
NCO	Are conditions of construction noise permits, if any, for the relevant part(s) of the works implemented accordingly?		✓			
NCO	Are valid noise emission labels fixed at air compressors and hand held percussive breakers?		✓			

TERRESTRIAL ECOLOGY

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
EM&A: O1	Are the construction activities at landing points N4 & N5 closely monitored to avoid impact on the uncommon and rare plant species <i>Celtis biondii</i> , <i>Pteris dispar</i> and <i>Ardicia pusilla</i> , and the restricted plants <i>Vitis balansaeana</i> , <i>Pterospermum heterophyllum</i> and <i>Rhapis excelsa</i> ?		✓			
EM&A: O2	Are fences erected in accordance with the Hoarding Plan and kept in good condition along the boundary of construction sites to prevent tipping, vehicle movements, and encroachment of personnel into adjacent wooded areas, particularly where the rare, uncommon and restricted plant species are located?		✓			
EM&A: Q3	Has regular checking been performed to ensure that the work site boundaries are not exceeded and that no damage occurs to surrounding areas?		✓			
EM&A: Q4	Is open fire prohibited and prevented within the work site boundary during construction? Is temporary fire fighting equipment provided in the work area during construction?		✓			
	Major noise source(s)	Traffic	✓	Construction activities inside the site		
		Construction activities outside the site	✓	Others: Birds		

Abbreviation

VEP: Varied Environmental Permit
Cap311R: APC (Construction Dust) Regulation
Cap311O: APC (Open Burning) Regulation
Cap311: Air Pollution Control Ordinance
Cap466: Dumping at Sea Ordinance


EM&A: EM&A Manual (Construction Phase)
NCO: Noise Control Ordinance
Cap354: Waste Disposal Ordinance
Cap354c: WDO (Chemical Waste) (General) Regulation
Unk: Unknown


Remark

Signatures

ET Member

Contractor's Representative


(Name in Block letters:
HENRY S.T. HO)


(Name in Block letters:
Jeff Wong)

20th December 2001

The Hongkong Electric Co. Ltd.
Lamma Power Station Extension – Construction of Transmission System
Weekly Site Inspection Checklist

Inspection date 27/07/05 Time 10:00 Inspected by ET: Hendry Ho
Contractor: Kier

Site Transmission Route (Civil Work)

Weather

Condition ☒ Sunny ☐ Fine ☐ Overcast ☐ Hazy ☐ Drizzle ☐ Rain ☐ Storm

Temperature 30 °C **Humidity** ☐ High ☒ Moderate ☐ Low

Wind ☐ Calm ☒ Light ☐ Breeze ☐ Strong

GENERAL

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
VEP 1.5	Has a copy of the most updated Environmental Permit been displayed at all vehicular site entrances/exits for public information?		✓			
VEP 1.6	Is a copy of EIA report kept in Engineers' and Contractors' offices on site?		✓			

AIR QUALITY

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
	General Requirements					
Cap311R:	Has the contractors notified EPD of the construction site which is classified as a notifiable work in a specified form? If there is any change in the notice? If yes, did the contractors notify EPD of the change?	✓				
Cap311R: Sch 12(3)	A compressed air jet shall not be used for cleaning or clearing dust from any vehicle, equipment, other materials or person. Has this been observed?	✓				
	Stockpiling of dusty materials					
Cap311R: Sch 18 EM&A:J1	Are stockpiles of dusty materials entirely covered with impervious sheets or sheltered on the top and 3 sides or sprayed with water to maintain the entire surface wet to prevent dust emission?		✓			
	Use of vehicles					
Cap311R: Sch 21(2)	Is every load of dusty material on the vehicles leaving the construction site covered entirely by clean impervious sheeting?		✓			LPS site
	Miscellaneous					
Cap311R: Sch 16	Are completed earthworks sealed and hydroseeded and planted as soon as possible?	✓				

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
Cap311O	Is open burning prohibited?		✓			
Cap311	Is black smoke emission from plant/equipment avoided?		✓			

WASTE/CHEMICAL WASTE MANAGEMENT

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
Dredged Materials						
Cap466	Does the appropriate contractor possess valid dumping permits for dredged marine mud and have them available for inspection?		✓			
Cap466	Are wastes disposed of at licensed sites?		✓			
Construction Waste and Excavated Materials						
Cap354	Does the Contractor possess a valid Public Dumping License for construction waste and excavated materials and make it available for inspection?	✓				
Cap354	Are wastes disposed of at licensed sited?	✓				
Chemical Waste						
Cap354C	Has the contractor obtained the necessary disposal permits from the relevant authority, if required, according to Waste Disposal (Chemical Waste) (General Regulation)?	✓				
Cap354C	Has the Contractor registered as a chemical waste producer?		✓			
Cap354C	Is chemical waste handled according to the "Code of Practice on the Packaging, Handling and Storage of Chemical Waste"?	✓				

MARINE ECOLOGY

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
EM&A: M1	Are rubble mound seawalls constructed for the landing and launching points at Lamma Island?	✓				

NOISE

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
EM&A: L1	Are quiet PMEs or standard PMEs with modest source noise controls used at the cable route from N4 to N5?	✓				
EM&A: L2 ~ L5	Are quiet PMEs (particularly the barge-mounted crane) or PMEs with comparably effective source noise controls used at landing point N5?	✓				
NCO	Are valid construction noise permits, if required, available for inspection?		✓			N4, N2, I1, LPS Landing Point
NCO	Are conditions of construction noise permits, if any, for the relevant part(s) of the works implemented accordingly?		✓			
NCO	Are valid noise emission labels fixed at air compressors and hand held percussive breakers?		✓			

TERRESTRIAL ECOLOGY

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
EM&A: O1	Are the construction activities at landing points N4 & N5 closely monitored to avoid impact on the uncommon and rare plant species <i>Celtis biondii</i> , <i>Pteris dispar</i> and <i>Ardicia pusilla</i> , and the restricted plants <i>Vitis balansaeana</i> , <i>Pterospermum heterophyllum</i> and <i>Rhapis excelsa</i> ?		✓			
EM&A: O2	Are fences erected in accordance with the Hoarding Plan and kept in good condition along the boundary of construction sites to prevent tipping, vehicle movements, and encroachment of personnel into adjacent wooded areas, particularly where the rare, uncommon and restricted plant species are located?		✓			
EM&A: Q3	Has regular checking been performed to ensure that the work site boundaries are not exceeded and that no damage occurs to surrounding areas?		✓			
EM&A: Q4	Is open fire prohibited and prevented within the work site boundary during construction? Is temporary fire fighting equipment provided in the work area during construction?		✓			
	Major noise source(s)	Traffic	✓	Construction activities inside the site		
		Construction activities outside the site	✓	Others: Birds and insects		

Abbreviation

VEP: Varied Environmental Permit
Cap311R: APC (Construction Dust) Regulation
Cap311O: APC (Open Burning) Regulation
Cap311: Air Pollution Control Ordinance
Cap466: Dumping at Sea Ordinance


EM&A: EM&A Manual (Construction Phase)
NCO: Noise Control Ordinance
Cap354: Waste Disposal Ordinance
Cap354c: WDO (Chemical Waste) (General) Regulation
Unk: Unknown


Remark

Signatures

ET Member

Contractor's Representative


(Name in Block letters:
HENRY S.T. Ho)


(Name in Block letters:
Anthony)

20th December 2001

The Hongkong Electric Co. Ltd.
Lamma Power Station Extension ? Construction of Transmission System
Weekly Site Inspection Checklist

Inspection date 8/7/05 Time 16:45 Inspected by ET: CK Wong
 Site Outside Landing Point II Contractor: J-POWER SYSTEMS

Weather

Condition ☒ Sunny ☐ Fine ☐ Overcast ☐ Hazy ☐ Drizzle ☐ Rain ☐ Storm
 Temperature 30 °C Humidity ☐ High ☐ Moderate ☒ Low
 Wind ☐ Calm ☐ Light ☒ Breeze ☐ Strong

GENERAL

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
VEP 1.5	Has a copy of the most updated Environmental Permit been displayed at all vehicular site entrances/exits for public information?		<input checked="" type="checkbox"/>			
VEP 1.6	Is a copy of EIA report kept in Engineers' and Contractors' offices on site?		<input checked="" type="checkbox"/>			

AIR QUALITY

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
General Requirements						
Cap311R:	Has the contractors notified EPD of the construction site which is classified as a notifiable work in a specified form? If there is any change in the notice? If yes, did the contractors notify EPD of the change?	<input checked="" type="checkbox"/>				
Cap311R: Sch 12(3)	A compressed air jet shall not be used for cleaning or clearing dust from any vehicle, equipment, other materials or person. Has this been observed?	<input checked="" type="checkbox"/>				
Stockpiling of dusty materials						
Cap311R: Sch 18 EM&A:J1	Are stockpiles of dusty materials entirely covered with impervious sheets or sheltered on the top and 3 sides or sprayed with water to maintain the entire surface wet to prevent dust emission?	<input checked="" type="checkbox"/>				
Use of vehicles						
Cap311R: Sch 21(2)	Is every load of dusty material on the vehicles leaving the construction site covered entirely by clean impervious sheeting?	<input checked="" type="checkbox"/>				
Miscellaneous						
Cap311R: Sch 16	Are completed earthworks sealed and hydroseeded and planted as soon as possible?	<input checked="" type="checkbox"/>				

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
Cap311O	Is open burning prohibited?	✓				
Cap311	Is black smoke emission from plant/equipment avoided?	✓				

WASTE/CHEMICAL WASTE MANAGEMENT

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
Dredged Materials						
Cap466	Does the appropriate contractor possess valid dumping permits for dredged marine mud and have them available for inspection?		✓			
Cap466	Are wastes disposed of at licensed sites?		✓			
Construction Waste and Excavated Materials						
Cap354	Does the Contractor possess a valid Public Dumping License for construction waste and excavated materials and make it available for inspection?	✓				
Cap354	Are wastes disposed of at licensed sites?	✓				
Chemical Waste						
Cap354C	Has the contractor obtained the necessary disposal permits from the relevant authority, if required, according to Waste Disposal (Chemical Waste) (General Regulation)?	✓				
Cap354C	Has the Contractor registered as a chemical waste producer?	✓				
Cap354C	Is chemical waste handled according to the Code of Practice on the Packaging, Handling and Storage of Chemical Waste?	✓				

MARINE ECOLOGY

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
EM&A: M1	Are rubble mound seawalls constructed for the landing and launching points at Lamma Island?	✓				

NOISE

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
EM&A: L1	Are quiet PMEs or standard PMEs with modest source noise controls used at the cable route from N4 to N5?	✓				
EM&A: L2 ~ L5	Are quiet PMEs (particularly the barge-mounted crane) or PMEs with comparably effective source noise controls used at landing point N5?	✓				
NCO	Are valid construction noise permits, if required, available for inspection?	✓				
NCO	Are conditions of construction noise permits, if any, for the relevant part(s) of the works implemented accordingly?	✓				
NCO	Are valid noise emission labels fixed at air compressors and hand held percussive breakers?	✓				

TERRESTRIAL ECOLOGY

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
EM&A: O1	Are the construction activities at landing points N4 & N5 closely monitored to avoid impact on the uncommon and rare plant species <i>Celtis biondii</i> , <i>Pteris dispar</i> and <i>Ardicia pusilla</i> , and the restricted plants <i>Vitis balansaeana</i> , <i>Pterospermum heterophyllum</i> and <i>Rhapis excelsa</i> ?	✓				
EM&A: O2	Are fences erected in accordance with the Hoarding Plan and kept in good condition along the boundary of construction sites to prevent tipping, vehicle movements, and encroachment of personnel into adjacent wooded areas, particularly where the rare, uncommon and restricted plant species are located?	✓				
EM&A: Q3	Has regular checking been performed to ensure that the work site boundaries are not exceeded and that no damage occurs to surrounding areas?	✓				
EM&A: Q4	Is open fire prohibited and prevented within the work site boundary during construction? Is temporary fire fighting equipment provided in the work area during construction?	✓				
	Major noise source(s)	<input type="checkbox"/> Traffic		<input checked="" type="checkbox"/> Construction activities inside the site		
		<input type="checkbox"/> Construction activities outside the site		<input type="checkbox"/> Others _____		

Abbreviation

VEP: Varied Environmental Permit
Cap311R: APC (Construction Dust) Regulation
Cap311O: APC (Open Burning) Regulation
Cap311: Air Pollution Control Ordinance
Cap466: Dumping at Sea Ordinance

EM&A: EM&A Manual (Construction Phase)
NCO: Noise Control Ordinance
Cap354: Waste Disposal Ordinance
Cap354c: WDO (Chemical Waste) (General) Regulation
Unk: Unknown

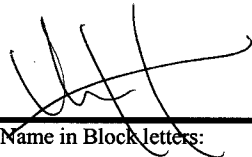
Remark


N/A

Signatures

ET Member

Contractor Representative


(Name in Block letters:
CK Wang)


(Name in Block letters:
BERRY YUK)

20th December 2001

The Hongkong Electric Co. Ltd.
Lamma Power Station Extension ? Construction of Transmission System
Weekly Site Inspection Checklist

Inspection date 15/7/05 Time 11:30 Inspected by ET: CKWong
 Site Outside Landing Point II Contractor: J-POWER SYSTEMS

Weather

Condition ☒ Sunny ☐ Fine ☐ Overcast ☐ Hazy ☐ Drizzle ☐ Rain ☐ Storm
 Temperature 32 °C Humidity ☐ High ☐ Moderate ☒ Low
 Wind ☐ Calm ☒ Light ☐ Breeze ☐ Strong

GENERAL

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
VEP 1.5	Has a copy of the most updated Environmental Permit been displayed at all vehicular site entrances/exits for public information?		<input checked="" type="checkbox"/>			
VEP 1.6	Is a copy of EIA report kept in Engineers' and Contractors' offices on site?		<input checked="" type="checkbox"/>			

AIR QUALITY

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
General Requirements						
Cap311R:	Has the contractors notified EPD of the construction site which is classified as a notifiable work in a specified form? If there is any change in the notice? If yes, did the contractors notify EPD of the change?	<input checked="" type="checkbox"/>				
Cap311R: Sch 12(3)	A compressed air jet shall not be used for cleaning or clearing dust from any vehicle, equipment, other materials or person. Has this been observed?	<input checked="" type="checkbox"/>				
Stockpiling of dusty materials						
Cap311R: Sch 18 EM&A:J1	Are stockpiles of dusty materials entirely covered with impervious sheets or sheltered on the top and 3 sides or sprayed with water to maintain the entire surface wet to prevent dust emission?	<input checked="" type="checkbox"/>				
Use of vehicles						
Cap311R: Sch 21(2)	Is every load of dusty material on the vehicles leaving the construction site covered entirely by clean impervious sheeting?	<input checked="" type="checkbox"/>				
Miscellaneous						
Cap311R: Sch 16	Are completed earthworks sealed and hydroseeded and planted as soon as possible?	<input checked="" type="checkbox"/>				

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
Cap311O	Is open burning prohibited?	✓				
Cap311	Is black smoke emission from plant/equipment avoided?	✓				

WASTE/CHEMICAL WASTE MANAGEMENT

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
Dredged Materials						
Cap466	Does the appropriate contractor possess valid dumping permits for dredged marine mud and have them available for inspection?		✓			
Cap466	Are wastes disposed of at licensed sites?		✓			
Construction Waste and Excavated Materials						
Cap354	Does the Contractor possess a valid Public Dumping License for construction waste and excavated materials and make it available for inspection?	✓				
Cap354	Are wastes disposed of at licensed sites?	✓				
Chemical Waste						
Cap354C	Has the contractor obtained the necessary disposal permits from the relevant authority, if required, according to Waste Disposal (Chemical Waste) (General Regulation)?	✓				
Cap354C	Has the Contractor registered as a chemical waste producer?	✓				
Cap354C	Is chemical waste handled according to the Code of Practice on the Packaging, Handling and Storage of Chemical Waste?	✓				

MARINE ECOLOGY

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
EM&A: M1	Are rubble mound seawalls constructed for the landing and launching points at Lamma Island?	✓				

NOISE

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
EM&A: L1	Are quiet PME's or standard PME's with modest source noise controls used at the cable route from N4 to N5?	✓				
EM&A: L2 ~ L5	Are quiet PME's (particularly the barge-mounted crane) or PME's with comparably effective source noise controls used at landing point N5?	✓				
NCO	Are valid construction noise permits, if required, available for inspection?	✓				
NCO	Are conditions of construction noise permits, if any, for the relevant part(s) of the works implemented accordingly?	✓				
NCO	Are valid noise emission labels fixed at air compressors and hand held percussive breakers?	✓				

TERRESTRIAL ECOLOGY

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
EM&A: O1	Are the construction activities at landing points N4 & N5 closely monitored to avoid impact on the uncommon and rare plant species <i>Celtis biondii</i> , <i>Pteris dispar</i> and <i>Ardicia pusilla</i> , and the restricted plants <i>Vitis balansaeana</i> , <i>Pterospermum heterophyllum</i> and <i>Rhapis excelsa</i> ?	✓				
EM&A: O2	Are fences erected in accordance with the Hoarding Plan and kept in good condition along the boundary of construction sites to prevent tipping, vehicle movements, and encroachment of personnel into adjacent wooded areas, particularly where the rare, uncommon and restricted plant species are located?	✓				
EM&A: Q3	Has regular checking been performed to ensure that the work site boundaries are not exceeded and that no damage occurs to surrounding areas?	✓				
EM&A: Q4	Is open fire prohibited and prevented within the work site boundary during construction? Is temporary fire fighting equipment provided in the work area during construction?	✓				
	Major noise source(s)	<input type="checkbox"/> Traffic		<input checked="" type="checkbox"/> Construction activities inside the site		
		<input type="checkbox"/> Construction activities outside the site		<input type="checkbox"/> Others _____		

Abbreviation

VEP: Varied Environmental Permit
Cap311R: APC (Construction Dust) Regulation
Cap311O: APC (Open Burning) Regulation
Cap311: Air Pollution Control Ordinance
Cap466: Dumping at Sea Ordinance

EM&A: EM&A Manual (Construction Phase)
NCO: Noise Control Ordinance
Cap354: Waste Disposal Ordinance
Cap354c: WDO (Chemical Waste) (General) Regulation
Unk: Unknown


Remark

N/A

Signatures

ET Member

Contractor/Representative



(Name in Block letters:

CKWONG)



(Name in Block letters:

BERRY YUEN.

20th December 2001

The Hongkong Electric Co. Ltd.
Lamma Power Station Extension – Construction of Transmission System
Weekly Site Inspection Checklist

Inspection date 21/7/05 Time 14:30 Inspected by ET: CK LUONG
 Contractor: J-POWER SYSTEMS
 Site Outside Landing Point I1

Weather

Condition ☐ Sunny ☒ Fine ☐ Overcast ☐ Hazy ☐ Drizzle ☐ Rain ☐ Storm
 Temperature 30 °C Humidity ☐ High ☒ Moderate ☐ Low
 Wind ☐ Calm ☒ Light ☐ Breeze ☐ Strong

GENERAL

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
VEP 1.5	Has a copy of the most updated Environmental Permit been displayed at all vehicular site entrances/exits for public information?		✓			
VEP 1.6	Is a copy of EIA report kept in Engineers' and Contractors' offices on site?		✓			

AIR QUALITY

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
General Requirements						
Cap311R:	Has the contractors notified EPD of the construction site which is classified as a notifiable work in a specified form? If there is any change in the notice? If yes, did the contractors notify EPD of the change?	✓				
Cap311R: Sch 12(3)	A compressed air jet shall not be used for cleaning or clearing dust from any vehicle, equipment, other materials or person. Has this been observed?	✓				
Stockpiling of dusty materials						
Cap311R: Sch 18 EM&A:J1	Are stockpiles of dusty materials entirely covered with impervious sheets or sheltered on the top and 3 sides or sprayed with water to maintain the entire surface wet to prevent dust emission?	✓				
Use of vehicles						
Cap311R: Sch 21(2)	Is every load of dusty material on the vehicles leaving the construction site covered entirely by clean impervious sheeting?	✓				
Miscellaneous						
Cap311R: Sch 16	Are completed earthworks sealed and hydroseeded and planted as soon as possible?	✓				

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
Cap311O	Is open burning prohibited?	✓				
Cap311	Is black smoke emission from plant/equipment avoided?	✓				

WASTE/CHEMICAL WASTE MANAGEMENT

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
Dredged Materials						
Cap466	Does the appropriate contractor possess valid dumping permits for dredged marine mud and have them available for inspection?		✓			
Cap466	Are wastes disposed of at licensed sites?		✓			
Construction Waste and Excavated Materials						
Cap354	Does the Contractor possess a valid Public Dumping License for construction waste and excavated materials and make it available for inspection?	✓				
Cap354	Are wastes disposed of at licensed sites?	✓				
Chemical Waste						
Cap354C	Has the contractor obtained the necessary disposal permits from the relevant authority, if required, according to Waste Disposal (Chemical Waste) (General Regulation)?	✓				
Cap354C	Has the Contractor registered as a chemical waste producer?	✓				
Cap354C	Is chemical waste handled according to the "Code of Practice on the Packaging, Handling and Storage of Chemical Waste"?	✓				

MARINE ECOLOGY

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
EM&A: M1	Are rubble mound seawalls constructed for the landing and launching points at Lamma Island?	✓				

NOISE

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
EM&A: L1	Are quiet PMEs or standard PMEs with modest source noise controls used at the cable route from N4 to N5?	✓				
EM&A: L2 ~ L5	Are quiet PMEs (particularly the barge-mounted crane) or PMEs with comparably effective source noise controls used at landing point N5?	✓				
NCO	Are valid construction noise permits, if required, available for inspection?	✓				
NCO	Are conditions of construction noise permits, if any, for the relevant part(s) of the works implemented accordingly?	✓				
NCO	Are valid noise emission labels fixed at air compressors and hand held percussive breakers?	✓				

TERRESTRIAL ECOLOGY

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
EM&A: O1	Are the construction activities at landing points N4 & N5 closely monitored to avoid impact on the uncommon and rare plant species <i>Celtis biondii</i> , <i>Pteris dispar</i> and <i>Ardicia pusilla</i> , and the restricted plants <i>Vitis balansaeana</i> , <i>Pterospermum heterophyllum</i> and <i>Rhapis excelsa</i> ?	✓				
EM&A: O2	Are fences erected in accordance with the Hoarding Plan and kept in good condition along the boundary of construction sites to prevent tipping, vehicle movements, and encroachment of personnel into adjacent wooded areas, particularly where the rare, uncommon and restricted plant species are located?	✓				
EM&A: Q3	Has regular checking been performed to ensure that the work site boundaries are not exceeded and that no damage occurs to surrounding areas?	✓				
EM&A: Q4	Is open fire prohibited and prevented within the work site boundary during construction? Is temporary fire fighting equipment provided in the work area during construction?	✓				
	Major noise source(s)	<input type="checkbox"/> Traffic		<input checked="" type="checkbox"/> Construction activities inside the site		
		<input type="checkbox"/> Construction activities outside the site		<input type="checkbox"/> Others _____		

Abbreviation

VEP: Varied Environmental Permit
Cap311R: APC (Construction Dust) Regulation
Cap311O: APC (Open Burning) Regulation
Cap311: Air Pollution Control Ordinance
Cap466: Dumping at Sea Ordinance

EM&A: EM&A Manual (Construction Phase)
NCO: Noise Control Ordinance
Cap354: Waste Disposal Ordinance
Cap354c: WDO (Chemical Waste) (General) Regulation
Unk: Unknown

Remark

Signatures

ET Member

Contractor's Representative


(Name in Block letters:

CK WONG)


(Name in Block letters:

BERRY YUEN)

Appendix I: Summary of EMIS

I.1. Power Station – Unit L9 Civil and Building Works (Part B of EIA Report)

Table I.1 Construction Phase Mitigation Measures and their Implementation

EM&A Log Ref.	Mitigation Measures	Implementation Status
	AIR QUALITY	
A1	For general construction works, the dust control measures stipulated under the Air Pollution Control (Construction Dust) Regulation shall be complied with, such as: <ul style="list-style-type: none"> the haul roads shall be sprayed with water to keep the entire road surface wet. the load carried by vehicle shall be covered by impervious sheeting to ensure no leakage of dusty materials from the vehicle. the heights from which fill materials are dropped shall be controlled to a practical level to minimise the fugitive dust arising from unloading. 	
		C
		C
		C
A2	For the concrete batching plant, the following control measures are recommended: <ul style="list-style-type: none"> loading, unloading, handling, transfer or storage of any dusty materials shall be carried out in a totally enclosed system. The materials which may generate airborne dust emissions shall be wetted by water spray system. All receiving hoppers shall be enclosed on three sides up to 3m above unloading point. All conveyor transfer points shall be totally enclosed. 	
		N/A
		N/A
		N/A
		N/A
	WATER QUALITY	
B1	The following configurations and maximum rates of dredging shall be allowed: <ul style="list-style-type: none"> 3 large grab dredgers and 1 small grab dredger operating concurrently, each with rates of working of 12,000 m³ day⁻¹ and 8,000 m³ day⁻¹ respectively. During the flood phase of the tidal cycle the total number of large dredgers working shall be reduced by one, while during the ebb phase of the tidal cycle no reductions in the total number of dredgers shall be required. 1 trailer dredger with a rate of working of 8,000 m³ day⁻¹, and 2 large grab dredgers, each with rates of working of 12,000 m³ day⁻¹ 	
		N/A
		N/A
B2	Silt curtains shall be installed on the eastern, southern and north western sides of the reclamation site during dredging for the reclamation construction. This is a required mitigation measure for the construction works and shall be implemented prior to the commencement of bulk dredging.	N/A
B3	As a necessary operational constraint combined bulk dredging and sand filling for site formation shall not be permitted at any time. In addition, sand filling for site platform shall take place behind constructed sea walls which pierce the water surface.	N/A
B4	HEC shall ensure design to divert all storm drains away from Hung Shing Ye Bay.	N/A

EM&A Log Ref.	Mitigation Measures	Implementation Status
B5	Sand fill for the rubble mound seawalls shall be placed by controlled pumping down the trailer arm.	N/A
B6	<p>EM&A shall confirm the acceptability of any impacts during construction and should any unacceptable impacts be found then one or more of the following mitigation measures shall be implemented:</p> <ul style="list-style-type: none"> reducing the number of dredgers working at any one time; reducing the rate of working of the dredgers; temporary suspension of operations; phasing of the works so that dredging / filling is only undertaken at certain stages of the tidal cycle. 	N/A
B7	<p>In addition to the above specific measures the following general working procedures shall be adopted.</p> <ul style="list-style-type: none"> fully-enclosed or watertight grabs shall be used to minimise loss of sediment during the raising of loaded grabs through the water column; the descent speed of grabs shall be controlled to minimise the seabed impact speed and to reduce the volume of over dredging; barges shall be loaded carefully to avoid splashing of material; all barges used for the transport of dredged materials shall be fitted with tight bottom seals in order to prevent leakage of material during loading and transport; all barges shall be filled to a level which ensures that material does not spill over during loading and transport to the disposal site and that adequate freeboard is maintained to ensure that the decks are not washed by wave action; the speed of trailer dredgers shall be controlled to prevent propeller wash from stirring up the sea bed sediments; "rainbowing" sand fill from trailer dredgers shall not be permitted; and the works shall cause no visible foam, oil, grease or litter or other objectionable matter to be present in the water within and adjacent to the dredging site and along the route to the disposal site. 	
		N/A
		N/A
		N/A
		N/A
		N/A
		N/A
		C
B8	Cumulative impacts shall be assessed through EM&A. Co-ordination with the EM&A consultants for other projects to determine if any exceedances are caused by the other projects or by HEC's activities. Should monitoring results indicate exceedances at sensitive receivers due to HEC's activities, then the above described mitigation measures shall be implemented until impacts reduce to acceptable levels.	N/A
	NOISE	
C1	General noise mitigation measures shall be employed at all work sites throughout the construction phase.	C
C2	Mitigate against general construction noise during Sunday's and public holidays, either at source with portable noise barriers, or by rescheduling of some PME's to less sensitive time periods.	C
C3	Mitigate against night time noise from dredging equipment, with silencers or mufflers.	N/A

EM&A Log Ref.	Mitigation Measures	Implementation Status
	LANDSCAPE & VISUAL IMPACTS	
D1	The following mitigation measures shall be allowed for landscape and visual improvement: <ul style="list-style-type: none"> Use rubble mound seawall along south and west edges of the reclamation to provide a more natural look. Break the mass of main buildings by varying the height/division into smaller units. Plant trees and vegetation for screening. Adopt colour scheme to blend the buildings into the scenery. 	N/A N/A N/A N/A
	WASTE MANAGEMENT	
E1	HEC to submit a Waste Management Plan for the construction phase to EPD. The Plan shall be verified by the IEC and shall describe the arrangements for avoidance, reuse, recovery and recycling, storage, collection, treatment and disposal of different categories of waste to be generated from the construction activities and shall take into account the recommendations of the EIA report.	C
	<i>Dredging Waste</i>	
E2	All vessels for marine transportation of dredged sediment shall be fitted with tight fitting seals to their bottom openings to prevent leakage of materials. In addition, loading of barges and hoppers shall be controlled to prevent splashing of dredged material into the surrounding water, and barges or hoppers should under no circumstances be filled to a level which shall cause the overflowing of materials or polluted water during loading or transportation	N/A
	<i>Storage, Collection and Transport of Waste</i>	
E3	<ul style="list-style-type: none"> Minimise windblown litter and dust during transportation by either covering trucks or transporting wastes in enclosed containers. Obtain the necessary waste disposal permits from the appropriate authorities, if they are required, in accordance with the Waste Disposal Ordinance (Cap.354), Waste Disposal (Chemical Waste) (General) Regulation (Cap.354), the Crown Land Ordinance (Cap 28), Dumping at Sea Ordinance (Cap 466) and Work Branch Technical Circular No. 22/92, Marine Disposal of Dredged Mud. Disposal of waste at Licensed sites; Develop procedures such as a ticketing system to facilitate tracking of marine mud and chemical waste, and to ensure that illegal disposal does not occur; Segregate and sort the waste materials into 3 categories: <ul style="list-style-type: none"> public fill (e.g. concrete and rubble) for re-use on-site or disposal at a public filling area; re-use and/or recycling waste (e.g. steel and other metals); waste which cannot be re-used and/or recycled (e.g. wood, glass and plastic) for landfill disposal. The sorting process shall be carefully monitored to avoid missing of the 3 categories. Different types of wastes shall be stockpiled and stored in different containers or skips to enhance re-use or recycling of materials and their proper disposal. Maintain records of the quantities of wastes generated and disposed off-site for each category of waste. 	N/A C C N/A N/A C

EM&A Log Ref.	Mitigation Measures	Implementation Status
E4	Chemical waste that is produced, as defined by Schedule 1 of the Waste Disposal (Chemical Waste) (General) Regulation, shall be handled in accordance with the Code of Practice on the Packaging, Handling and Storage of Chemical Wastes	N/A
	LAND CONTAMINATION	
F1	No land Contamination mitigation measures are required during the construction phase.	N/A
	MARINE ECOLOGY	
G1	All percussive piling works shall be conducted on reclaimed land to avoid noise impact to marine mammals	N/A
G2	All construction related vessels shall approach the extension site from the north and via the East Lamma Channel to avoid disturbance to the finless porpoise	C
G3	Rubble mound seawall to the south and west edges of the reclamation to enhance recolonisation of marine organisms	N/A
G4	Artificial Reefs of a volume not less than 400 m ³ shall be deployed in a location to be decided upon consultation with the Director of Agriculture and Fisheries to serve the purpose of an Additional Habitat Enhancement Measure.	N/A
	FISHERIES	
H1	No Fisheries-specific mitigation measures are required during the construction phase.	N/A
	RISK ASSESSMENT	
I1	No risk mitigation measures are required during the construction phase.	N/A

I.2. Power Station – Unit L9 Mechanical Erection (Part B of EIA Report)

Table I.2 Construction Phase Mitigation Measures and their Implementation

EM&A Log Ref.	Mitigation Measures	Implementation Status
	AIR QUALITY	
A1	For general construction works, the dust control measures stipulated under the Air Pollution Control (Construction Dust) Regulation shall be complied with, such as: <ul style="list-style-type: none"> the haul roads shall be sprayed with water to keep the entire road surface wet. the load carried by vehicle shall be covered by impervious sheeting to ensure no leakage of dusty materials from the vehicle. the heights from which fill materials are dropped shall be controlled to a practical level to minimise the fugitive dust arising from unloading. 	C N/A N/A
A2	For the concrete batching plant, the following control measures are recommended: <ul style="list-style-type: none"> loading, unloading, handling, transfer or storage of any dusty materials shall be carried out in a totally enclosed system. The materials which may generate airborne dust emissions shall be wetted by water spray system. All receiving hoppers shall be enclosed on three sides up to 3m above unloading point. All conveyor transfer points shall be totally enclosed. 	N/A N/A N/A N/A
	WATER QUALITY	
B1	The following configurations and maximum rates of dredging shall be allowed: <ul style="list-style-type: none"> 3 large grab dredgers and 1 small grab dredger operating concurrently, each with rates of working of 12,000 m³ day⁻¹ and 8,000 m³ day⁻¹ respectively. During the flood phase of the tidal cycle the total number of large dredgers working shall be reduced by one, while during the ebb phase of the tidal cycle no reductions in the total number of dredgers shall be required. 1 trailer dredger with a rate of working of 8,000 m³ day⁻¹, and 2 large grab dredgers, each with rates of working of 12,000 m³ day⁻¹ 	N/A N/A
B2	Silt curtains shall be installed on the eastern, southern and north western sides of the reclamation site during dredging for the reclamation construction. This is a required mitigation measure for the construction works and shall be implemented prior to the commencement of bulk dredging.	N/A
B3	As a necessary operational constraint combined bulk dredging and sand filling for site formation shall not be permitted at any time. In addition, sand filling for site platform shall take place behind constructed sea walls which pierce the water surface.	N/A
B4	HEC shall ensure design to divert all storm drains away from Hung Shing Ye Bay.	N/A

EM&A Log Ref.	Mitigation Measures	Implementation Status
B5	Sand fill for the rubble mound seawalls shall be placed by controlled pumping down the trailer arm.	N/A
B6	<p>EM&A shall confirm the acceptability of any impacts during construction and should any unacceptable impacts be found then one or more of the following mitigation measures shall be implemented:</p> <ul style="list-style-type: none"> reducing the number of dredgers working at any one time; reducing the rate of working of the dredgers; temporary suspension of operations; phasing of the works so that dredging / filling is only undertaken at certain stages of the tidal cycle. 	N/A
B7	<p>In addition to the above specific measures the following general working procedures shall be adopted.</p> <ul style="list-style-type: none"> fully-enclosed or watertight grabs shall be used to minimise loss of sediment during the raising of loaded grabs through the water column; the descent speed of grabs shall be controlled to minimise the seabed impact speed and to reduce the volume of over dredging; barges shall be loaded carefully to avoid splashing of material; all barges used for the transport of dredged materials shall be fitted with tight bottom seals in order to prevent leakage of material during loading and transport; all barges shall be filled to a level which ensures that material does not spill over during loading and transport to the disposal site and that adequate freeboard is maintained to ensure that the decks are not washed by wave action; the speed of trailer dredgers shall be controlled to prevent propeller wash from stirring up the sea bed sediments; "rainbowing" sand fill from trailer dredgers shall not be permitted; and the works shall cause no visible foam, oil, grease or litter or other objectionable matter to be present in the water within and adjacent to the dredging site and along the route to the disposal site. 	
		N/A
		N/A
		N/A
		N/A
		N/A
		N/A
		C
B8	Cumulative impacts shall be assessed through EM&A. Co-ordination with the EM&A consultants for other projects to determine if any exceedances are caused by the other projects or by HEC's activities. Should monitoring results indicate exceedances at sensitive receivers due to HEC's activities, then the above described mitigation measures shall be implemented until impacts reduce to acceptable levels.	N/A
	NOISE	
C1	General noise mitigation measures shall be employed at all work sites throughout the construction phase.	C
C2	Mitigate against general construction noise during Sunday's and public holidays, either at source with portable noise barriers, or by rescheduling of some PME's to less sensitive time periods.	C
C3	Mitigate against night time noise from dredging equipment, with silencers or mufflers.	N/A

EM&A Log Ref.	Mitigation Measures	Implementation Status
	LANDSCAPE & VISUAL IMPACTS	
D1	The following mitigation measures shall be allowed for landscape and visual improvement: <ul style="list-style-type: none"> Use rubble mound seawall along south and west edges of the reclamation to provide a more natural look. Break the mass of main buildings by varying the height/division into smaller units. Plant trees and vegetation for screening. Adopt colour scheme to blend the buildings into the scenery. 	N/A N/A N/A N/A
	WASTE MANAGEMENT	
E1	HEC to submit a Waste Management Plan for the construction phase to EPD. The Plan shall be verified by the IEC and shall describe the arrangements for avoidance, reuse, recovery and recycling, storage, collection, treatment and disposal of different categories of waste to be generated from the construction activities and shall take into account the recommendations of the EIA report.	C
	<i>Dredging Waste</i>	
E2	All vessels for marine transportation of dredged sediment shall be fitted with tight fitting seals to their bottom openings to prevent leakage of materials. In addition, loading of barges and hoppers shall be controlled to prevent splashing of dredged material into the surrounding water, and barges or hoppers should under no circumstances be filled to a level which shall cause the overflowing of materials or polluted water during loading or transportation	N/A
	<i>Storage, Collection and Transport of Waste</i>	
E3	<ul style="list-style-type: none"> Minimise windblown litter and dust during transportation by either covering trucks or transporting wastes in enclosed containers. Obtain the necessary waste disposal permits from the appropriate authorities, if they are required, in accordance with the Waste Disposal Ordinance (Cap.354), Waste Disposal (Chemical Waste) (General) Regulation (Cap.354), the Crown Land Ordinance (Cap 28), Dumping at Sea Ordinance (Cap 466) and Work Branch Technical Circular No. 22/92, Marine Disposal of Dredged Mud. Disposal of waste at Licensed sites; Develop procedures such as a ticketing system to facilitate tracking of marine mud and chemical waste, and to ensure that illegal disposal does not occur; Segregate and sort the waste materials into 3 categories: <ul style="list-style-type: none"> public fill (e.g. concrete and rubble) for re-use on-site or disposal at a public filling area; re-use and/or recycling waste (e.g. steel and other metals); waste which cannot be re-used and/or recycled (e.g. wood, glass and plastic) for landfill disposal. The sorting process shall be carefully monitored to avoid missing of the 3 categories. Different types of wastes shall be stockpiled and stored in different containers or skips to enhance re-use or recycling of materials and their proper disposal. Maintain records of the quantities of wastes generated and disposed off-site for each category of waste. 	C C C C C C

EM&A Log Ref.	Mitigation Measures	Implementation Status
E4	Chemical waste that is produced, as defined by Schedule 1 of the Waste Disposal (Chemical Waste) (General) Regulation, shall be handled in accordance with the Code of Practice on the Packaging, Handling and Storage of Chemical Wastes	C
	LAND CONTAMINATION	
F1	No land Contamination mitigation measures are required during the construction phase.	N/A
	MARINE ECOLOGY	
G1	All percussive piling works shall be conducted on reclaimed land to avoid noise impact to marine mammals	N/A
G2	All construction related vessels shall approach the extension site from the north and via the East Lamma Channel to avoid disturbance to the finless porpoise	N/A
G3	Rubble mound seawall to the south and west edges of the reclamation to enhance recolonisation of marine organisms	N/A
G4	Artificial Reefs of a volume not less than 400 m ³ shall be deployed in a location to be decided upon consultation with the Director of Agriculture and Fisheries to serve the purpose of an Additional Habitat Enhancement Measure.	N/A
	FISHERIES	
H1	No Fisheries-specific mitigation measures are required during the construction phase.	N/A
	RISK ASSESSMENT	
I1	No risk mitigation measures are required during the construction phase.	N/A

I.3. Power Station – Unit L9 Electrical Erection (Part B of EIA Report)

Table I.3 Construction Phase Mitigation Measures and their Implementation

EM&A Log Ref.	Mitigation Measures	Implementation Status
	AIR QUALITY	
A1	For general construction works, the dust control measures stipulated under the Air Pollution Control (Construction Dust) Regulation shall be complied with, such as: <ul style="list-style-type: none"> the haul roads shall be sprayed with water to keep the entire road surface wet. the load carried by vehicle shall be covered by impervious sheeting to ensure no leakage of dusty materials from the vehicle. the heights from which fill materials are dropped shall be controlled to a practical level to minimise the fugitive dust arising from unloading. 	C
		N/A
		N/A
A2	For the concrete batching plant, the following control measures are recommended: <ul style="list-style-type: none"> loading, unloading, handling, transfer or storage or any dusty materials shall be carried out in a totally enclosed system. The materials which may generate airborne dust emissions shall be wetted by water spray system. All receiving hoppers shall be enclosed on three sides up to 3m above unloading point. All conveyor transfer points shall be totally enclosed. 	N/A
		N/A
		N/A
		N/A
		N/A
	WATER QUALITY	
B1	The following configurations and maximum rates of dredging shall be allowed: <ul style="list-style-type: none"> 3 large grab dredgers and 1 small grab dredger operating concurrently, each with rates of working of 12,000 m³ day⁻¹ and 8,000 m³ day⁻¹ respectively. During the flood phase of the tidal cycle the total number of large dredgers working shall be reduced by one, while during the ebb phase of the tidal cycle no reductions in the total number of dredgers shall be required. 1 trailer dredger with a rate of working of 8,000 m³ day⁻¹, and 2 large grab dredgers, each with rates of working of 12,000 m³ day⁻¹ 	N/A
		N/A
B2	Silt curtains shall be installed on the eastern, southern and north western sides of the reclamation site during dredging for the reclamation construction. This is a required mitigation measure for the construction works and shall be implemented prior to the commencement of bulk dredging.	N/A
B3	As a necessary operational constraint combined bulk dredging and sand filling for site formation shall not be permitted at any time. In addition, sand filling for site platform shall take place behind constructed sea walls which pierce the water surface.	N/A
B4	HEC shall ensure design to divert all storm drains away from Hung Shing Ye Bay.	N/A

EM&A Log Ref.	Mitigation Measures	Implementation Status
B5	Sand fill for the rubble mound seawalls shall be placed by controlled pumping down the trailer arm.	N/A
B6	<p>EM&A shall confirm the acceptability of any impacts during construction and should any unacceptable impacts be found then one or more of the following mitigation measures shall be implemented:</p> <ul style="list-style-type: none"> reducing the number of dredgers working at any one time; reducing the rate of working of the dredgers; temporary suspension of operations; phasing of the works so that dredging / filling is only undertaken at certain stages of the tidal cycle. 	N/A
B7	<p>In addition to the above specific measures the following general working procedures shall be adopted.</p> <ul style="list-style-type: none"> fully-enclosed or watertight grabs shall be used to minimise loss of sediment during the raising of loaded grabs through the water column; the descent speed of grabs shall be controlled to minimise the seabed impact speed and to reduce the volume of over dredging; barges shall be loaded carefully to avoid splashing of material; all barges used for the transport of dredged materials shall be fitted with tight bottom seals in order to prevent leakage of material during loading and transport; all barges shall be filled to a level which ensures that material does not spill over during loading and transport to the disposal site and that adequate freeboard is maintained to ensure that the decks are not washed by wave action; the speed of trailer dredgers shall be controlled to prevent propeller wash from stirring up the sea bed sediments; "rainbowing" sand fill from trailer dredgers shall not be permitted; and the works shall cause no visible foam, oil, grease or litter or other objectionable matter to be present in the water within and adjacent to the dredging site and along the route to the disposal site. 	
		N/A
		N/A
		N/A
		N/A
		N/A
		N/A
		N/A
B8	Cumulative impacts shall be assessed through EM&A. Co-ordination with the EM&A consultants for other projects to determine if any exceedances are caused by the other projects or by HEC's activities. Should monitoring results indicate exceedances at sensitive receivers due to HEC's activities, then the above described mitigation measures shall be implemented until impacts reduce to acceptable levels.	N/A
	NOISE	
C1	General noise mitigation measures shall be employed at all work sites throughout the construction phase.	C
C2	Mitigate against general construction noise during Sunday's and public holidays, either at source with portable noise barriers, or by rescheduling of some PME's to less sensitive time periods.	C
C3	Mitigate against night time noise from dredging equipment, with silencers or mufflers.	N/A

EM&A Log Ref.	Mitigation Measures	Implementation Status
	LANDSCAPE & VISUAL IMPACTS	
D1	The following mitigation measures shall be allowed for landscape and visual improvement: <ul style="list-style-type: none"> Use rubble mound seawall along south and west edges of the reclamation to provide a more natural look. Break the mass of main buildings by varying the height/division into smaller units. Plant trees and vegetation for screening. Adopt colour scheme to blend the buildings into the scenery. 	N/A
		N/A
		N/A
		N/A
	WASTE MANAGEMENT	
E1	HEC to submit a Waste Management Plan for the construction phase to EPD. The Plan shall be verified by the IEC and shall describe the arrangements for avoidance, reuse, recovery and recycling, storage, collection, treatment and disposal of different categories of waste to be generated from the construction activities and shall take into account the recommendations of the EIA report.	C
	<i>Dredging Waste</i>	
E2	All vessels for marine transportation of dredged sediment shall be fitted with tight fitting seals to their bottom openings to prevent leakage of materials. In addition, loading of barges and hoppers shall be controlled to prevent splashing of dredged material into the surrounding water, and barges or hoppers should under no circumstances be filled to a level which shall cause the overflowing of materials or polluted water during loading or transportation	N/A
	<i>Storage, Collection and Transport of Waste</i>	
E3	<ul style="list-style-type: none"> Minimise windblown litter and dust during transportation by either covering trucks or transporting wastes in enclosed containers. Obtain the necessary waste disposal permits from the appropriate authorities, if they are required, in accordance with the Waste Disposal Ordinance (Cap.354), Waste Disposal (Chemical Waste) (General) Regulation (Cap.354), the Crown Land Ordinance (Cap 28), Dumping at Sea Ordinance (Cap 466) and Work Branch Technical Circular No. 22/92, Marine Disposal of Dredged Mud. Disposal of waste at Licensed sites; Develop procedures such as a ticketing system to facilitate tracking of marine mud and chemical waste, and to ensure that illegal disposal does not occur; Segregate and sort the waste materials into 3 categories: <ul style="list-style-type: none"> public fill (e.g. concrete and rubble) for re-use on-site or disposal at a public filling area; re-use and/or recycling waste (e.g. steel and other metals); waste which cannot be re-used and/or recycled (e.g. wood, glass and plastic) for landfill disposal. The sorting process shall be carefully monitored to avoid missing of the 3 categories. Different types of wastes shall be stockpiled and stored in different containers or skips to enhance re-use or recycling of materials and their proper disposal. Maintain records of the quantities of wastes generated and disposed off-site for each category of waste. 	C
		C
		C
		C
		C

EM&A Log Ref.	Mitigation Measures	Implementation Status
E4	Chemical waste that is produced, as defined by Schedule 1 of the Waste Disposal (Chemical Waste) (General) Regulation, shall be handled in accordance with the Code of Practice on the Packaging, Handling and Storage of Chemical Wastes	C
	LAND CONTAMINATION	
F1	No land Contamination mitigation measures are required during the construction phase.	N/A
	MARINE ECOLOGY	
G1	All percussive piling works shall be conducted on reclaimed land to avoid noise impact to marine mammals	N/A
G2	All construction related vessels shall approach the extension site from the north and via the East Lamma Channel to avoid disturbance to the finless porpoise	N/A
G3	Rubble mound seawall to the south and west edges of the reclamation to enhance recolonisation of marine organisms	N/A
G4	Artificial Reefs of a volume not less than 400 m ³ shall be deployed in a location to be decided upon consultation with the Director of Agriculture and Fisheries to serve the purpose of an Additional Habitat Enhancement Measure.	N/A
	FISHERIES	
H1	No Fisheries-specific mitigation measures are required during the construction phase.	N/A
	RISK ASSESSMENT	
I1	No risk mitigation measures are required during the construction phase.	N/A

I.4. Power Station – 275kV Switching Station Erection (Part B of EIA Report)

Table I.4 Construction Phase Mitigation Measures and their Implementation

EM&A Log Ref.	Mitigation Measures	Implementation Status
	AIR QUALITY	
A1	For general construction works, the dust control measures stipulated under the Air Pollution Control (Construction Dust) Regulation shall be complied with, such as: <ul style="list-style-type: none"> the haul roads shall be sprayed with water to keep the entire road surface wet. the load carried by vehicle shall be covered by impervious sheeting to ensure no leakage of dusty materials from the vehicle. the heights from which fill materials are dropped shall be controlled to a practical level to minimise the fugitive dust arising from unloading. 	N/A N/A N/A
A2	For the concrete batching plant, the following control measures are recommended: <ul style="list-style-type: none"> loading, unloading, handling, transfer or storage or any dusty materials shall be carried out in a totally enclosed system. The materials which may generate airborne dust emissions shall be wetted by water spray system. All receiving hoppers shall be enclosed on three sides up to 3m above unloading point. All conveyor transfer points shall be totally enclosed. 	N/A N/A N/A N/A
	WATER QUALITY	
B1	The following configurations and maximum rates of dredging shall be allowed: <ul style="list-style-type: none"> 3 large grab dredgers and 1 small grab dredger operating concurrently, each with rates of working of 12,000 m³ day⁻¹ and 8,000 m³ day⁻¹ respectively. During the flood phase of the tidal cycle the total number of large dredgers working shall be reduced by one, while during the ebb phase of the tidal cycle no reductions in the total number of dredgers shall be required. 1 trailer dredger with a rate of working of 8,000 m³ day⁻¹, and 2 large grab dredgers, each with rates of working of 12,000 m³ day⁻¹ 	N/A N/A
B2	Silt curtains shall be installed on the eastern, southern and north western sides of the reclamation site during dredging for the reclamation construction. This is a required mitigation measure for the construction works and shall be implemented prior to the commencement of bulk dredging.	N/A
B3	As a necessary operational constraint combined bulk dredging and sand filling for site formation shall not be permitted at any time. In addition, sand filling for site platform shall take place behind constructed sea walls which pierce the water surface.	N/A
B4	HEC shall ensure design to divert all storm drains away from Hung Shing Ye Bay.	N/A

EM&A Log Ref.	Mitigation Measures	Implementation Status
B5	Sand fill for the rubble mound seawalls shall be placed by controlled pumping down the trailer arm.	N/A
B6	<p>EM&A shall confirm the acceptability of any impacts during construction and should any unacceptable impacts be found then one or more of the following mitigation measures shall be implemented:</p> <ul style="list-style-type: none"> reducing the number of dredgers working at any one time; reducing the rate of working of the dredgers; temporary suspension of operations; phasing of the works so that dredging / filling is only undertaken at certain stages of the tidal cycle. 	N/A
B7	<p>In addition to the above specific measures the following general working procedures shall be adopted.</p> <ul style="list-style-type: none"> fully-enclosed or watertight grabs shall be used to minimise loss of sediment during the raising of loaded grabs through the water column; the descent speed of grabs shall be controlled to minimise the seabed impact speed and to reduce the volume of over dredging; barges shall be loaded carefully to avoid splashing of material; all barges used for the transport of dredged materials shall be fitted with tight bottom seals in order to prevent leakage of material during loading and transport; all barges shall be filled to a level which ensures that material does not spill over during loading and transport to the disposal site and that adequate freeboard is maintained to ensure that the decks are not washed by wave action; the speed of trailer dredgers shall be controlled to prevent propeller wash from stirring up the sea bed sediments; "rainbowing" sand fill from trailer dredgers shall not be permitted; and the works shall cause no visible foam, oil, grease or litter or other objectionable matter to be present in the water within and adjacent to the dredging site and along the route to the disposal site. 	
		N/A
		N/A
		N/A
		N/A
		N/A
		N/A
		N/A
B8	Cumulative impacts shall be assessed through EM&A. Co-ordination with the EM&A consultants for other projects to determine if any exceedances are caused by the other projects or by HEC's activities. Should monitoring results indicate exceedances at sensitive receivers due to HEC's activities, then the above described mitigation measures shall be implemented until impacts reduce to acceptable levels.	N/A
	NOISE	
C1	General noise mitigation measures shall be employed at all work sites throughout the construction phase.	C
C2	Mitigate against general construction noise during Sunday's and public holidays, either at source with portable noise barriers, or by rescheduling of some PME's to less sensitive time periods.	C
C3	Mitigate against night time noise from dredging equipment, with silencers or mufflers.	N/A

EM&A Log Ref.	Mitigation Measures	Implementation Status
	LANDSCAPE & VISUAL IMPACTS	
D1	The following mitigation measures shall be allowed for landscape and visual improvement: <ul style="list-style-type: none"> Use rubble mound seawall along south and west edges of the reclamation to provide a more natural look. Break the mass of main buildings by varying the height/division into smaller units. Plant trees and vegetation for screening. Adopt colour scheme to blend the buildings into the scenery. 	N/A N/A N/A N/A
	WASTE MANAGEMENT	
E1	HEC to submit a Waste Management Plan for the construction phase to EPD. The Plan shall be verified by the IEC and shall describe the arrangements for avoidance, reuse, recovery and recycling, storage, collection, treatment and disposal of different categories of waste to be generated from the construction activities and shall take into account the recommendations of the EIA report.	C
	<i>Dredging Waste</i>	
E2	All vessels for marine transportation of dredged sediment shall be fitted with tight fitting seals to their bottom openings to prevent leakage of materials. In addition, loading of barges and hoppers shall be controlled to prevent splashing of dredged material into the surrounding water, and barges or hoppers should under no circumstances be filled to a level which shall cause the overflowing of materials or polluted water during loading or transportation	N/A
	<i>Storage, Collection and Transport of Waste</i>	
E3	<ul style="list-style-type: none"> Minimise windblown litter and dust during transportation by either covering trucks or transporting wastes in enclosed containers. Obtain the necessary waste disposal permits from the appropriate authorities, if they are required, in accordance with the Waste Disposal Ordinance (Cap.354), Waste Disposal (Chemical Waste) (General) Regulation (Cap.354), the Crown Land Ordinance (Cap 28), Dumping at Sea Ordinance (Cap 466) and Work Branch Technical Circular No. 22/92, Marine Disposal of Dredged Mud. Disposal of waste at Licensed sites; Develop procedures such as a ticketing system to facilitate tracking of marine mud and chemical waste, and to ensure that illegal disposal does not occur; Segregate and sort the waste materials into 3 categories: <ul style="list-style-type: none"> public fill (e.g. concrete and rubble) for re-use on-site or disposal at a public filling area; re-use and/or recycling waste (e.g. steel and other metals); waste which cannot be re-used and/or recycled (e.g. wood, glass and plastic) for landfill disposal. The sorting process shall be carefully monitored to avoid missing of the 3 categories. Different types of wastes shall be stockpiled and stored in different containers or skips to enhance re-use or recycling of materials and their proper disposal. Maintain records of the quantities of wastes generated and disposed off-site for each category of waste. 	C C C C C C

EM&A Log Ref.	Mitigation Measures	Implementation Status
E4	Chemical waste that is produced, as defined by Schedule 1 of the Waste Disposal (Chemical Waste) (General) Regulation, shall be handled in accordance with the Code of Practice on the Packaging, Handling and Storage of Chemical Wastes	C
	LAND CONTAMINATION	
F1	No land Contamination mitigation measures are required during the construction phase.	N/A
	MARINE ECOLOGY	
G1	All percussive piling works shall be conducted on reclaimed land to avoid noise impact to marine mammals	N/A
G2	All construction related vessels shall approach the extension site from the north and via the East Lamma Channel to avoid disturbance to the finless porpoise	N/A
G3	Rubble mound seawall to the south and west edges of the reclamation to enhance recolonisation of marine organisms	N/A
G4	Artificial Reefs of a volume not less than 400 m ³ shall be deployed in a location to be decided upon consultation with the Director of Agriculture and Fisheries to serve the purpose of an Additional Habitat Enhancement Measure.	N/A
	FISHERIES	
H1	No Fisheries-specific mitigation measures are required during the construction phase.	N/A
	RISK ASSESSMENT	
I1	No risk mitigation measures are required during the construction phase.	N/A

I.5. Transmission System – Civil Works (Part C of EIA Report)

Table I.5 Construction Phase Mitigation Measures and their Implementation

EM&A Log Ref.	Mitigation Measures	Implementation Status
	AIR QUALITY	
J1	To mitigate potential construction related dust impacts, the dust control measures stipulated under the Air Pollution Control (Construction Dust) Regulation shall be complied with, such as: <ul style="list-style-type: none"> all debris or materials shall be either covered or stored in a debris sheltered collection area; prior to any material handling, all dusty material shall be sprayed with water. 	C
		C
	WATER QUALITY	
K1	No mitigation measures are considered necessary.	N/A
	NOISE	
L1	N4-N5 Cable Route Selection and use of quiet PMEs, or use of modest source noise controls with standard PMEs	C
L2	N5 Landing Point Selection and use of quiet PMEs (particularly the barge-mounted crane), or use of comparably effective source noise controls with the PMEs;	C
L3	For non-percussive piling – use of equipment with a SWL of 113 dB(A) or less if there is no programme overlap of the piling with the site formation works, otherwise offsetting source noise controls shall be required.	N/A
L4	For percussive piling – use of equipment with a SWL of 115 dB(A) or less, otherwise, offsetting source noise controls shall be required.	N/A
L5	If non-percussive piling and site formation activities are to be carried out simultaneously then careful equipment selection and source controls shall be required for both activities to reduce each by approximately 3 dB(A).	N/A
	MARINE ECOLOGY	
M1	Construction of rubble mound seawalls for the landing and launching points at Lamma Island.	C
	FISHERIES	
N1	No fisheries-specific mitigation measures are required during the construction phase	N/A

EM&A Log Ref.	Mitigation Measures	Implementation Status
	<p>TERRESTRIAL ECOLOGY</p> <p>The following mitigation measures shall be implemented to protect the important plant species and minimizing disturbance to the surrounding environment through good construction practice, as recommended below:</p>	
O1	Avoidance of impact on the uncommon and rare plant species <i>Celtis biondii</i> , <i>Pteris dispar</i> and <i>Ardicia pusilla</i> , and the restricted plants <i>Vitis balansaeana</i> , <i>Pterospermum heterophyllum</i> and <i>Rhapis excelsa</i> , by locating the landing points N4 & N5 and the connecting cable trough in areas outside where these plant species are located (Figures 9.4b & 9.4c, Part C, Volume 2), as well as close monitoring of the construction activity.	C
O2	The erection of fences along the boundary of construction sites before the commencement of works to prevent tipping, vehicle movements, and encroachment of personnel into adjacent wooded areas, particularly where the rare, uncommon and restricted plant species are located.	C
O3	Regular checking to ensue that the work site boundaries are not exceeded and that no damage occurs to surrounding areas.	C
O4	The prohibition and prevention of open fires within the work site boundary during construction and provision of temporary fire fighting equipment in the work area during construction.	C
	<p>LANDSCAPE AND VISUAL IMPACT</p>	
P1	The visual impact of the Cable Landing Point I1 is considered negligible as it would have similar appearance as the existing sea wall and therefore no mitigation is required.	N/A
P2	<p>The proposed landing points N2, N4 and N5, the following landscaping mitigation measures are recommended to minimize the potential impacts:</p> <ul style="list-style-type: none"> Although the size of the landing points varies (N2 is 26x70m, N4 is 27x65m and N5 is 33x56m), each has a finished platform level at +6.00mPD. With the Low Water Level at +1.00mPD, the platforms shall be a maximum of some 5m above the water level at low tide. In order to minimize the visual impact of the landing points, the exposed sides of the platforms and the cable slipways shall be screened with irregularly arranged boulders of varying sizes to mimic the natural coastline features. The horizontal platform surface shall be finished with natural materials such as stone pavings or tiles. The cable trough in between Landing Points N4 and N5 is 5.5m wide and 260m long. The walkway that is formed above the cable trough shall be shielded by boulders (or, where practicable, shrub planting) from potential viewers from the sea and horizontal surfaces be finished with natural materials such as stone paving. Appropriate compensatory landscaping shall be provided for any disruption to existing vegetation to blend in with the surrounding setting. 	C
		N/A
		N/A

EM&A Log Ref.	Mitigation Measures	Implementation Status
	<ul style="list-style-type: none"> As a planning gain, parts of the landing points N4 and N5 and the cable trough between the landing points can be used for amenity and recreational purposes. Some low maintenance fixtures, matching with the natural environment, shall be built or placed on the landing points for public use. HEC shall resolve any management and maintenance requirements of the proposed mitigation measures during the processing stage of wayleave agreements. If required by Government, HEC commit to bear the management and maintenance responsibilities of these facilities. 	N/A

Remarks:

C - Compliance with mitigation measure
 NC - Non-compliance with mitigation measure
 N/A - Not Applicable

I.6. Transmission System – Cable Laying (Part C of EIA Report)

Table I.6 Construction Phase Mitigation Measures and their Implementation

EM&A Log Ref.	Mitigation Measures	Implementation Status
	AIR QUALITY	
J1	To mitigate potential construction related dust impacts, the dust control measures stipulated under the Air Pollution Control (Construction Dust) Regulation shall be complied with, such as: <ul style="list-style-type: none"> all debris or materials shall be either covered or stored in a debris sheltered collection area; prior to any material handling, all dusty material shall be sprayed with water. 	N/A
		N/A
	WATER QUALITY	
K1	No mitigation measures are considered necessary.	N/A
	NOISE	
L1	N4-N5 Cable Route Selection and use of quiet PMEs, or use of modest source noise controls with standard PMEs	N/A
L2	N5 Landing Point Selection and use of quiet PMEs (particularly the barge-mounted crane), or use of comparably effective source noise controls with the PMEs;	N/A
L3	For non-percussive piling – use of equipment with a SWL of 113 dB(A) or less if there is no programme overlap of the piling with the site formation works, otherwise offsetting source noise controls shall be required.	N/A
L4	For percussive piling – use of equipment with a SWL of 115 dB(A) or less, otherwise, offsetting source noise controls shall be required.	N/A
L5	If non-percussive piling and site formation activities are to be carried out simultaneously then careful equipment selection and source controls shall be required for both activities to reduce each by approximately 3 dB(A).	N/A
	MARINE ECOLOGY	
M1	Construction of rubble mound seawalls for the landing and launching points at Lamma Island.	N/A
	FISHERIES	
N1	No fisheries-specific mitigation measures are required during the construction phase	N/A

EM&A Log Ref.	Mitigation Measures	Implementation Status
	TERRESTRIAL ECOLOGY The following mitigation measures shall be implemented to protect the important plant species and minimizing disturbance to the surrounding environment through good construction practice, as recommended below:	
O1	Avoidance of impact on the uncommon and rare plant species <i>Celtis biondii</i> , <i>Pteris dispar</i> and <i>Ardicia pusilla</i> , and the restricted plants <i>Vitis balansaeana</i> , <i>Pterospermum heterophyllum</i> and <i>Rhapis excelsa</i> , by locating the landing points N4 & N5 and the connecting cable trough in areas outside where these plant species are located (Figures 9.4b & 9.4c, Part C, Volume 2), as well as close monitoring of the construction activity.	N/A
O2	The erection of fences along the boundary of construction sites before the commencement of works to prevent tipping, vehicle movements, and encroachment of personnel into adjacent wooded areas, particularly where the rare, uncommon and restricted plant species are located.	N/A
O3	Regular checking to ensue that the work site boundaries are not exceeded and that no damage occurs to surrounding areas.	N/A
O4	The prohibition and prevention of open fires within the work site boundary during construction and provision of temporary fire fighting equipment in the work area during construction.	N/A
	LANDSCAPE AND VISUAL IMPACT	
P1	The visual impact of the Cable Landing Point I1 is considered negligible as it would have similar appearance as the existing sea wall and therefore no mitigation is required.	N/A
P2	The proposed landing points N2, N4 and N5, the following landscaping mitigation measures are recommended to minimize the potential impacts: <ul style="list-style-type: none"> Although the size of the landing points varies (N2 is 26x70m, N4 is 27x65m and N5 is 33x56m), each has a finished platform level at +6.00mPD. With the Low Water Level at +1.00mPD, the platforms shall be a maximum of some 5m above the water level at low tide. In order to minimize the visual impact of the landing points, the exposed sides of the platforms and the cable slipways shall be screened with irregularly arranged boulders of varying sizes to mimic the natural coastline features. The horizontal platform surface shall be finished with natural materials such as stone pavings or tiles. The cable trough in between Landing Points N4 and N5 is 5.5m wide and 260m long. The walkway that is formed above the cable trough shall be shielded by boulders (or, where practicable, shrub planting) from potential viewers from the sea and horizontal surfaces be finished with natural materials such as stone paving. Appropriate compensatory landscaping shall be provided for any disruption to existing vegetation to blend in with the surrounding setting. 	
		N/A
		N/A

EM&A Log Ref.	Mitigation Measures	Implementation Status
	<ul style="list-style-type: none"> As a planning gain, parts of the landing points N4 and N5 and the cable trough between the landing points can be used for amenity and recreational purposes. Some low maintenance fixtures, matching with the natural environment, shall be built or placed on the landing points for public use. HEC shall resolve any management and maintenance requirements of the proposed mitigation measures during the processing stage of wayleave agreements. If required by Government, HEC commit to bear the management and maintenance responsibilities of these facilities. 	N/A

Remarks:

C - Compliance with mitigation measure
 NC - Non-compliance with mitigation measure
 N/A - Not Applicable

Appendix J

Tentative Construction Programme

ID	Task Name	Start	Finish	August					September					October					Nov
				31/7	7/8	14/8	21/8	28/8	4/9	11/9	18/9	25/9	2/10	9/10	16/10	23/10	30/10		
1	Civil Works																		
2																			
3	Site Procession & Preparation Work	Tue 25/5/04	Mon 12/7/04																
4																			
5	Within Lamma Power Station																		
6	Construction of Cable Duct	Mon 4/10/04	Thu 29/9/05																
7	Construction of Cable Duct North Portal	Mon 12/7/04	Wed 30/11/05																
8																			
9	Yung Shue Wan South																		
10	Construction of Cable Landing Point	Mon 12/7/04	Wed 30/11/05																
11	Construction of Cable Duct South Portal	Mon 12/7/04	Wed 30/11/05																
12																			
13	Pak Kok San Tsuen																		
14	Construction of Cable Landing Point	Tue 24/8/04	Fri 14/10/05																
15	Construction of Cable Trenches	Sat 30/7/05	Fri 14/10/05																
16	Construction of Cable Duct	Thu 25/11/04	Fri 14/10/05																
17	Construction of Cable Duct South Portal	Tue 24/8/04	Fri 14/10/05																
18																			
19	Pak Kok Tsui																		
20	Construction of Cable Landing Point	Mon 12/7/04	Wed 14/9/05																
21	Construction of Cable Duct North Portal	Mon 12/7/04	Wed 14/9/05																

Additional Transmission System for Lamma Power Station
275kV Cable Route from Lamma Island to Cyberport
3-Month Programme (Rev. E)

Task



Milestone



External Tasks



Split



Summary



External Milestone



Progress



Project Summary



Deadline



ID	Activities	Duration	Start	Finish	J	A	S	O	N
48	Excavation	30 days	28 Oct '04	26 Nov '04					
49	Pipe installation	30 days	11 Nov '04	10 Dec '04					
50	Testing	14 days	18 Dec '04	31 Dec '04					
51	Haunching and Road making good	14 days	25 Dec '04	07 Jan '05					
52	Chimney Road	72 days	08 Nov '04	18 Jan '05					
53	Excavation	30 days	08 Nov '04	07 Dec '04					
54	Pipe installation	30 days	22 Nov '04	21 Dec '04					
55	Testing	14 days	29 Dec '04	11 Jan '05					
56	Haunching and Road making good	14 days	05 Jan '05	18 Jan '05					
57									
58	C W Culvert System	459 days	15 Aug '04	16 Nov '05					
59	Outlet Section	336 days	15 Aug '04	16 Jul '05					
60	Excavation	14 days	15 Aug '04	28 Aug '04					
61	Install Sheet Pile	45 days	29 Aug '04	12 Oct '04					
62	Pending consent	28 days	13 Oct '04	09 Nov '04					
63	Install 1800mm Pipe	50 days	10 Nov '04	29 Dec '04					
64	Trust Block Construction	45 days	30 Dec '04	12 Feb '05					
65	Backfilling	10 days	13 Feb '05	22 Feb '05					
66	Install pipe pile	60 days	23 Feb '05	23 Apr '05					
67	Pending consent	28 days	24 Apr '05	21 May '05					
68	Excavation & install wailing	21 days	22 May '05	11 Jun '05					
69	Install 1800mm Pipe	14 days	12 Jun '05	25 Jun '05					
70	Manhole Construction	14 days	26 Jun '05	09 Jul '05					
71	Backfilling	7 days	10 Jul '05	16 Jul '05					
72	Inlet Section	152 days	13 Oct '04	13 Mar '05					
73	Excavation	14 days	13 Oct '04	26 Oct '04					
74	Install Sheet Pile	30 days	27 Oct '04	25 Nov '04					
75	Pending consent	28 days	26 Nov '04	23 Dec '04					
76	Install 1800mm Pipe	40 days	24 Dec '04	01 Feb '05					
77	Trust Block Construction	30 days	02 Feb '05	03 Mar '05					
78	Backfilling	10 days	04 Mar '05	13 Mar '05					
79									
80	C W Pump Equipment Room	53 days	15 May '05	06 Jul '05					
81	Excavation	4 days	15 May '05	18 May '05					
82	Substructure	14 days	19 May '05	01 Jun '05					
83	Superstructure	21 days	02 Jun '05	22 Jun '05					
84	Finishing	14 days	23 Jun '05	06 Jul '05					
85									
86	Pipe & Cable Rack	101 days	23 May '05	31 Aug '05					
87	Excavation	21 days	23 May '05	12 Jun '05					
88	Footing	30 days	13 Jun '05	12 Jul '05					
89	Steel Work	50 days	13 Jul '05	31 Aug '05					
90									
91	Gas Receiving Station	125 days	15 Jul '05	16 Nov '05					
92	Excavation	45 days	15 Jul '05	28 Aug '05					
93	RC Structure and finishing work	80 days	29 Aug '05	16 Nov '05					
94	Drainage and Road Work	60 days	29 Aug '05	27 Oct '05					

Lamma Power Station Extension - Unit 9 Civil and Building Work
3-Month Programme

Scheduled Activity

MITSUBISHI ELECTRIC (H.K.) LTD.

CONTRACT NO. 02/9006
LAMMA EXTENSION SWITCHING STATION
COMPLETE ERECTION, TESTING & COMMISSIONING OF
275kV GIS & SHUNT REACTORS AND ASSOCIATED EQUIPMENT

3 MONTH PROGRAMME (AUGUST 2005 TO OCTOBER 2005)

ID	Task Name	Start	Finish	AUGUST					SEPTEMBER					OCTOBER				
				31/7	7/8	14/8	21/8	28/8	4/9	11/9	18/9	25/9	2/10	9/10	16/10	23/10	30/10	
1	GIS ERECTION																	
1.1	GIS Installation	03/05/2005	10/08/2005															
1.2	Control Panel Installation	17/05/2005	25/06/2005															
1.3	Control Cabling Work	30/05/2005	27/08/2005															
1.4	Gas Work for GIS	27/06/2005	20/08/2005															
1.5	Inspection & Testing	04/07/2005	26/11/2005															
1.6	Interfacing Work with Power Cable	12/09/2005	15/07/2006															
2	SHUNT REACTOR ERECTION																	
2.1	Interfacing Work with Power Cable	26/09/2005	08/12/2005															
2.2																		
2.3																		
2.4																		
2.5																		
2.6																		

CONTRACT NO. 04/9013
LAMMA POWER STATION EXTENSION UNIT 9
COMPLETE ERECTION, INSPECTION, TESTING & COMMISSIONING OF
POWER BLOCK ELECTRICAL, INSTRUMENTATION AND CONTROL FACILITIES
3 MONTH PROGRAMME (AUGUST 2005 TO OCTOBER 2005)

ID	Task Name	Start	Finish	August					September				October				
				1/8	8/8	15/8	22/8	29/8	5/9	12/9	19/9	26/9	3/10	10/10	17/10	24/10	31/10
1																	
2	L9 Electrical Erection	Mon 1/8/05	Mon 31/10/05														
3	Transformer Installation	Mon 1/8/05	Mon 31/10/05														
4	Busduct Installation	Mon 1/8/05	Mon 31/10/05														
5	IPB Installation																
6	Control Panel Installation	Mon 1/8/05	Mon 31/10/05														
7	Cable Tray & Earthing Installation	Mon 1/8/05	Mon 31/10/05														
8	Conduit Installation	Mon 1/8/05	Mon 31/10/05														
9	Cable Laying	Mon 1/8/05	Mon 31/10/05														
10	Cable Termination	Mon 1/8/05	Mon 31/10/05														

				August					September					October				Nov
ID	Task Name	Start	Finish	31/7	7/8	14/8	21/8	28/8	4/9	11/9	18/9	25/9	2/10	9/10	16/10	23/10	30/10	
1																		
2	Pipeline Installation	Mon 1/8/05	Mon 31/10/05															
3																		
4	Rock Dumping	Mon 1/8/05	Mon 31/10/05															

Lamma Power Station Extension
Supply and Installation of Submarine Gas Pipeline
3-Month Programme

Task

Milestone

External Tasks

Split

Summary

External Milestone

Progress

Project Summary

Deadline

<Note>	1. Schedule will be modified due to the progress of works and weather conditions. 2. No activity on every Sundays and Public Holidays (excepted the submarine cables installation)
--------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Appendix K



Supply and Installation of Submarine Gas Pipeline

Monthly EM&A Report prepared by a Consultant as
one of the ET Members

LAMMA POWER STATION EXTENSION Supply and Installation of Submarine Gas Pipeline

Water Quality Monitoring During Post-Trenching Works Impact Monitoring Report

July 2005

1	05/08/05	Issued for Approval	WK	WB <i>AP</i>	AM <i>DSM</i>	
0	28/07/05	Issued for Comments	WK	WB	AM	
REV	DATE	DESCRIPTION	PREPARED	CHECKED	APPROVED	PURCHASER
STATUS CODE : A = Issued for comments – B = Issued for approval – C = Approved for Construction						
TOTAL OR PARTIAL REPRODUCTION AND/OR UTILIZATION OF THIS DOCUMENT ARE FORBIDDEN WITHOUT PRIOR WRITTEN AUTHORIZATION OF THE OWNER						
		THE HONGKONG ELECTRIC CO., LTD. LAMMA POWER STATION EXTENSION Supply and Installation of Submarine Gas Pipeline Contract No. 03/9008				
		 Saipem				
		Doc. No.: LTLD-32-1-138-G		REVISION 1	STATUS B	

**TABULATION OF REVISED PAGES**

PAGE	REVISIONS									PAGE	REVISIONS							
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2	x	x								52								
3	x	x								53								
4	x	x								54								
5	x	x								55								
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7	x	x								57								
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37										C	x	x						
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	HONGKONG ELECTRIC HOLDINGS LTD	
	 Saipem	
		Doc. Title: WQM during Post-Trenching Works – Impact Monitoring Report (July 05)
		Page ii

Saipem Asia Sdn. Bhd

**Lamma Power Station Extension
 – Supply and Installation
 of Submarine Gas Pipeline**

**Water Quality Monitoring During Post-
 Trenching Works
 Impact Monitoring Report (Version 1.B)**

July 2005

Approved By  (Project Director: Dr. HF Chan)

REMARKS:

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

CINOTECH accepts no responsibility for changes made to this report by third parties.

CINOTECH CONSULTANTS LTD

Room 1602-1610, Delta House,
 3 On Yiu Street,
 Shatin, NT, Hong Kong
 Tel: (852) 2151 2083 Fax: (852) 3107 1388
 Email: info@cinotech.com.hk

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LIST OF ABBREVIATION

DO	Dissolved Oxygen
EIA	Environmental Impact Assessment
EM&A	Environmental Monitoring and Audit
ET	Environmental Team
GPS	Global Positioning System
GRS	Gas Receiving Station
HEC	Hong Kong Electric Co. Ltd
HOKLAS	The Hong Kong Laboratory Accreditation Scheme
LNG	Liquefied Natural Gas
QA/QC	Quality Assurance / Quality Control
SS	Suspended Solids

EXECUTIVE SUMMARY

Introduction

1. This Impact Environmental Monitoring and Audit (EM&A) Report is prepared by Cinotech Consultants Limited (ET-Cinotech) for the post-trenching works for the project “Lamma Project Station Extension – Supply and Installation of Submarine Gas Pipeline” (the Project) in July 2005. The post-trenching works were commenced on 4th June 2005 and completed on 19th July 2005.
2. This report presents the impact environmental monitoring works performed at the sensitive receivers including Ping Chau, southern Po Toi and Lamma between 1st and 19th July 2005.

Environmental Monitoring Works

3. Environmental monitoring for the Project was performed as stipulated in the Work Procedure and the results were checked and reviewed.

Water Quality

4. Post-trenching activities were carried out at Ping Chau and south Lamma sensitive areas in the reporting month. Water quality monitoring was performed based on the progress of the post-trenching machine in accordance with the work procedure. The monitoring was conducted on 7th, 8th and 14th July 2005 at Ping Chau sensitive area and 19th July 2005 at south Lamma sensitive area in the reporting month.
5. There was no exceedance for all the parameters. No major pollution sources were identified during the monitoring. Summary of the non-compliance of the monitoring events is tabulated Table I.

Table I Summary Table for Non-compliance Recorded

Media / Nature	No. of Exceedances		Action Taken	Results of action taken	Remarks
	Action Level	Limit Level			
DO	0	0	N.A.	N.A.	-
Turbidity	0	0			
SS	0	0			

6. In accordance with the work procedure, the 5th initial water quality monitoring was also performed for pipeline alignment away from sensitive receivers on 5th July 2005. The details of the methodology, locations and results of the initial monitoring were presented in a separate report, “Initial Water Quality Monitoring for Post-Trenching Works Interim Report”.

Complaints and Prosecutions

7. No environmental complaint and prosecution were received during the reporting month.

Future Key Issues

8. Anchor protection/rock dumping works will be the major activities in the coming months. No major environmental impact is anticipated. Ad hoc site inspections will be conducted during the operation.

1 INTRODUCTION

Background

- 1.1 Hong Kong Electric Holdings Ltd. (HEC) intends to develop a 1,800 MW power station in Hong Kong Special Administrative Region (HKSAR) to meet the forecast increase in electricity demand to cope with the social and economical growth of the HKSAR. The proposed power station will be located at reclaimed land in the south of the existing Lamma Power Station at the western edge of Lamma Island, termed Lamma Power Station Extension.
- 1.2 The proposed Power Station will use natural gas as fuel to generate electricity. The natural gas will be supplied from Guandong Liquefied Natural Gas (GD LNG) Terminal located at Cheng Tou Jiao of Shenzhen PRC via a 20 inches diameter gas submarine pipeline.
- 1.3 HEC awarded Saipem Asia Sdn. Bhd. (hereafter called “the Contractor”) for the design, engineering, supply of materials, fabrication, testing at works, delivery to site, complete erection including pre-trenching, pipe laying, rock dumping, testing and pre-commissioning at site, preservation during the Defects Liability Period of Submarine Gas Pipeline under to Project titled “Lamma Power Station Extension – Supply and Installation of Submarine Gas Pipeline” (hereinafter called “the Project”). Cinotech Consultants Limited was subsequently commissioned by the Contractor as the Environmental Team (ET-Cinotech) to provide environmental consultancy services and to undertake the Environmental Monitoring and Audit (EM&A) works for the Project.
- 1.4 The Project works include Pre-Trenching works, Pipe-Lay installation, Post-Lay Trenching (Jetting) and Rock Dumping works related to the installation of 92 km of 20 inches diameter Submarine Gas Pipeline between Guandong Liquefied Natural Gas Terminal (GD LNG) and the receiving point at Gas Receiving Station (GRS) at South-West of Lamma Extension on Lamma Island of Hong Kong – SAR. An Environmental Permit (EP) has been issued for the Lamma Power Station Extension project. Variations to the EP requirements have been proposed recently for the Project works and the VEP no. EP-071/2000/C was issued on 18th May 2005.
- 1.5 In accordance with the requirements of the EM&A Manual, water quality monitoring should be carried out for the *jetting operations* for the first two weeks of the construction programme. Further monitoring after the initial two weeks should be carried out if unacceptable impacts are revealed. In addition, monitoring should be carried out at Ping Chau, southern Po Toi and southern Lamma when jetting operation is conducted in the vicinity of these ecological sensitive areas identified in the EIA report. The original water quality monitoring programme stipulated in the EM&A Manual has been reviewed and updated to cater for the proposed variations of the EP requirements. The updates include a 3-day intensive water quality programme, which supersedes the original two-week programme. Baseline and impact monitoring will also be undertaken at the said three sensitive zones defined in the EIA report.

WQM during Post-Trenching Works – Impact Monitoring Report (July 05)

- 1.6 A Work Procedure outlining the monitoring and audit programme to be undertaken for the post-trenching works was submitted. The baseline water quality monitoring was conducted at the three sensitive zones prior to the commencement of the post-trenching works. The post-trenching works were commenced on 4th June 2005 and completed on 19th July 2005.
- 1.7 In accordance with the work procedure, water quality monitoring should be undertaken at mid-flood and mid-ebb tides when the jetting activities are carried out at the three sensitive areas, Ping Chau, southern Po Toi and south Lamma identified in the EIA report. Water quality monitoring based on the progress of the post-trenching machine was performed in the reporting month. This report presents the monitoring locations, equipment, period, methodology, results and observations for the water quality measurements in July 2005.

Project Organizations

- 1.8 Different parties with different levels of involvement in the project organization include:
- Project Proponent –Hong Kong Electric Holdings Ltd. (HEC)
 - Contractor – Saipem Asia Sdn. Bhd.
 - Environmental Team (ET-Cinotech) – Cinotech Consultants Limited
- 1.9 The responsibilities of respective parties are detailed in Section 3 of the EM&A Requirements Review (Review) and the project organization chart is presented in Figure 3.1 of the Review. The key contacts of the ET- Cinotech are shown in Table 1.1.

Table 1.1 Key Project Contacts

Party	Name	Role	Phone No.	Fax No.
ET-Cinotech	Dr. Priscilla Choy	Project Manager	2151 2089	3107 1388
	Ms. Winniss Kong	Coordinator	2151 2068	3107 1388
	Mr. Henry Leung	Monitoring Team Leader	2151 2087	3107 1388

2 WATER QUALITY MONITORING

Monitoring Requirements

- 2.1 During the course of the post-trenching works, monitoring should be undertaken at mid-flood and mid-ebb tides, when the post-trenching activities are carried out at the three sensitive areas, Ping Chau, southern Po Toi and Lamma as identified in the EIA report.
- 2.2 In accordance with the work procedure, initial water quality monitoring was required. The initial water quality monitoring was performed between June and July 2005. The details of the methodology, locations and results of the initial monitoring were presented in a separate report, "Initial Water Quality Monitoring for Post-Trenching Works Interim Report".

Monitoring Parameters

- 2.3 The following water quality parameters were included in the monitoring programme.

Table 2.1 Water Quality Monitoring Parameters

Phase	Water Quality Parameters
Construction	<ul style="list-style-type: none">• Salinity (ppt)• Turbidity (NTU)• Dissolved oxygen (DO) (mg/L and % of saturation)• Suspended solids (SS) (mg/L)

Monitoring Equipment

- 2.4 The water samplers used for water quality monitoring were Kahlsico Water-Bottle Model 135DW150. The samplers with associated equipment complied with the specifications stipulated in the work procedure.
- 2.5 Table 2.2 summarizes the equipment used in the water quality monitoring program. All the monitoring equipment complied with the specifications stipulated in the work procedure. Copies of the calibration certificates of are attached in Appendix A.

Table 2.2 Water Quality Monitoring Equipment

Equipment	Model and Make	Qty.
Water Sampler	Kahlsico Water-Bottle Model 135DW 150	2
Multi-parameter Water Quality System	YSI 6820	2

Monitoring Locations

- 2.6 A total of fourteen water quality monitoring locations were selected at the three sensitive areas. Table 2.3 describes the locations of these monitoring stations. The locations of the control and impact monitoring stations are shown in Figures 2.1 and 2.2.

Table 2.3 Locations of Water Quality Monitoring Stations

ID	Location / Corresponding Sensitive Area	Type of Monitoring Station	Co-ordinates	
			Easting	Northing
L-C1	Lamma Island	Control Station	827183.8	807646.2
L-C2		Control Station	831676.1	802177.5
L-I1		Impact Station	828810.5	806397.2
L-I2		Impact Station	828885.4	803509.1
PT-C1	Po Toi	Control Station	842723.2	803604.7
PT-C2		Control Station	847367.7	801893.2
PT-I1		Impact Station	843897.0	802669.5
PT-I2		Impact Station	843788.9	802085.1
PT-I3		Impact Station	843751.8	801793.7
PC-C1	Ping Chau	Control Station	861173.7	848150.6
PC-C2		Control Station	864446.5	842633.7
PC-I1		Impact Station	862140.0	846255.0
PC-I2		Impact Station	862126.0	845003.0
PC-I3		Impact Station	863196.0	843564.0

Monitoring Frequency and Duration

- 2.7 Table 2.4 summarizes the monitoring period and frequencies of water quality monitoring.

Table 2.4 Frequency and Parameters of Water Quality Monitoring

Station	Parameters	Frequency	No. of depth
L-C1, L-C2, L-I1, L-I2, PT-C1, PT-C2, PT-I1, PT-I2, PT-I3, PC-C1, PC-C2, PC-I1, PC-I2, PC-I3	SS, turbidity, DO and in-situ parameters*	At mid-ebb and mid-flood tides when the post-trenching activities are carried out at the three sensitive areas shown in Figures 2.1 and 2.2	3 (1m below water surface, mid-depth and 1m above channel bed.)

Notes:

* In-situ parameters included temperature, salinity and DO saturation.

Monitoring Methodology, Calibration Details and QA/QC Procedures**Instrumentation**

- 2.8 A multi-parameter meter (Model YSI 6820 CE-C-M-Y) was used to measure DO, turbidity, salinity, and temperature. Digital Global Positioning Systems (DGPS) were used to ensure that the correction locations were arrived prior to measurement and sample collection.

Operating/Analytical Procedures

- 2.9 At each measurement, two consecutive measurements of in-situ parameters were taken. The probes were retrieved out of the water after the first measurement and then re-deployed for the second measurement. 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.
- 2.10 For SS measurement, grab samples were collected. Water samples of about 1,000 ml were collected and stored in polyethylene bottles. The sample bottles were packed into an ice-box and delivered to a HOKLAS Laboratory, WELLAB Ltd., for the analysis within 24 hours.

Maintenance and Calibration

- 2.11 Before each round of monitoring, a zero check in distilled water was performed with the turbidity probe of YSI 6820. The probe was kept in wet condition and then calibrated with a solution of known NTU.

- 2.12 Verifications of the DGPS were carried out at a known fixed reference point (survey nail obtained from the Survey and Mapping office of Lands Department). The position was monitored over a period of 5 minutes. Deviations of smaller than +/- 5 metres were demonstrated and recorded.
- 2.13 QA/QC procedures for the suspended solids analyzed in the HOKLAS-accredited laboratory, Wellab Limited are attached in Appendix C.

Results and Observations

- 2.14 The monitoring results and the graphical presentation are shown in Appendix C. Note that in Appendix C, the “sea condition” is given as indicative information and does not necessarily adhere to any standard sea state descriptions. In general, “calm” means small or no waves were observed; “rough” includes white-capped sea or rougher; and “moderate” means all conditions in between “calm” and “rough”.
- 2.15 Post-trenching activities were carried out at Po Toi and south Lamma sensitive areas in the reporting month. Water quality monitoring was conducted based on the progress of the post-trenching machine. The monitoring was conducted on 7th, 8th and 14th July 2005 at Ping Chau sensitive area and 19th July 2005 at south Lamma sensitive area.
- 2.16 No exceedance for DO, turbidity and SS concentrations were recorded at the impact monitoring stations at the two sensitive areas. The monitoring data of the impact monitoring stations were also comparable to that of the control stations. No major pollution source was observed during the monitoring sessions.

3 ENVIRONMENTAL AUDIT

Review of Environmental Monitoring Procedures

- 3.1 The monitoring works conducted by the monitoring team were inspected. The following observations have been recorded for the monitoring works:
- The monitoring team recorded all observations around the monitoring stations, which might affect the monitoring result.
 - The monitoring team recorded the weather and sea conditions on the monitoring day.

Implementation Status of Event Action Plans

- 3.2 The Event Action Plan for water quality is presented in Appendix E. No exceedance was recorded in the monitoring event. No action was required.

Implementation Status of Mitigation Measures

- 3.3 The implementation status of mitigation measures is summarized in Appendix G.

Summary of Non-compliance of the Environmental Quality Performance Limit

- 3.4 No non-compliance was recorded during the site audits in the reporting month.
- 3.5 In accordance with the work procedure, initial water quality monitoring was performed for pipeline alignment away from sensitive receivers between June and July 2005. The details of the methodology, locations and results of the initial monitoring were presented in a separate report, "Initial Water Quality Monitoring for Post-Trenching Works Interim Report".

Summary of Complaints and Prosecution

- 3.6 No environmental complaint and prosecution was received during the reporting month. The complaint log for the works is provided in Appendix H.

4 FUTURE KEY ISSUES

Key Issues for the Coming Month

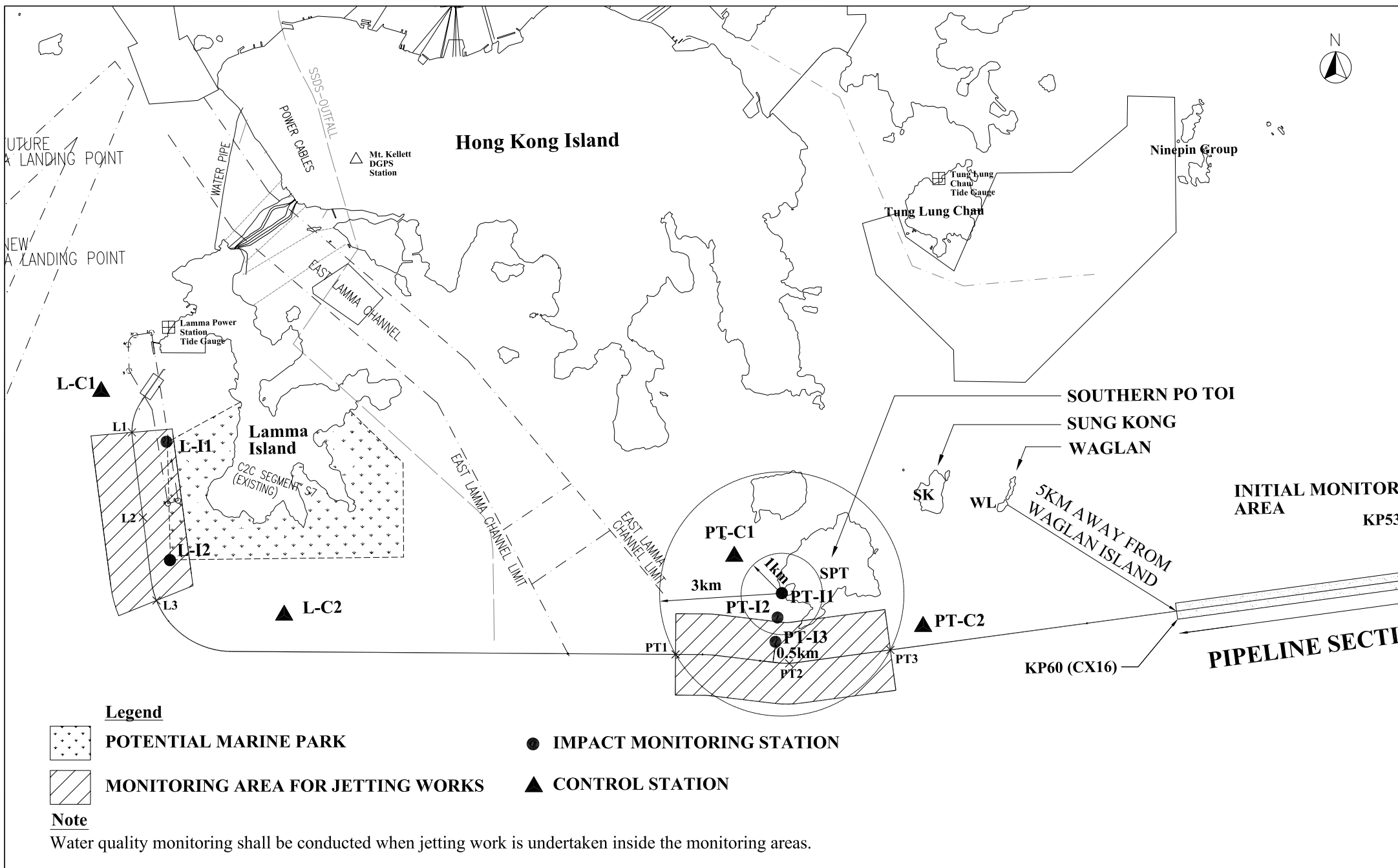
- 4.1 Anchor protection/rock dumping works will be the major activities in the coming months. No major environmental impact is anticipated. Ad hoc site inspections will be conducted during the operation.

5 CONCLUSIONS AND RECOMMENDATIONS

Conclusions

- 5.1 The post-trenching works were completed on 19th July 2005. Environmental monitoring works were performed on 7th, 8th and 14th July 2005 at Ping Chau sensitive area and 19th July 2005 at south Lamma sensitive area in accordance with the work procedure based on the progress of the post-trenching machine. All monitoring results were checked and reviewed.
- 5.2 There was no Action/Limit Level exceedance for all the water quality parameters. No major pollution sources were identified.

FIGURES



LAMMA POWER STATION EXTENSION

LOCATION OF MONITORING STATIONS (LAMMA SECTION)

Scale
1 : 120 000 A4

Date
JUN 05

Project
No. MA4017

Figure
No. 2.1

CINOTECH
consultants limited

GUANGDONG
LANDING POINT



Cheng Tou Jiao

PC-C1

Ping Chau

PC1

PC-I1

PC-I2

PC-I3

PC-C2

PC2

PC3

Mirs Bay

Legend



MARINE PARK



MONITORING AREA FOR JETTING WORKS



IMPACT MONITORING STATION



CONTROL STATION

Note

Water quality monitoring shall be conducted when jetting work is undertaken inside the monitoring area.

KP19

KP20

IM1

LAMMA POWER STATION EXTENSION

LOCATION OF MONITORING STATIONS (PING CHAU SECTION)

Scale

1 : 120 000 A4

Project
No.

MA4017

Date

JUN 05

Figure
No.

2.2

CINOTECH
consultants limited

**APPENDIX A
COPY OF CALIBRATION CERTIFICATES
OF MONITORING EQUIPMENT**

WELLAB LTD.

Unit C, 1/F, Goldlion Holdings Center
13-15 Yuen Shun Circuit,
Shatin, Hong Kong.
Tel: (852) 2898 7388
Fax: (852) 2898 7076

TEST REPORT

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

Test Report No.:	C/W/50514-1
Date of Issue:	2005-05-14
Date Received:	2005-05-13
Date Tested:	2005-05-13
Date Completed:	2005-05-14

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	: 22 degree Celsius
Relative Humidity	: 71%

Test Specifications:

Conductivity & Salinity Sensor, Model: 6560, S/N: 02C0465

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: 02C1269-1

1. Performance check against Winkler titration

Turbidity Sensor, Model: 6026, S/N: 5389

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 .

PATRICK TSE

Operation Manager

This test document cannot be reproduced in any way, except in full context, without the prior approval in writing of the laboratory.

WELLAB LTD.

Unit C, 1/F, Goldlion Holdings Center
13-15 Yuen Shun Circuit,
Shatin, Hong Kong.
Tel: (852) 2898 7388
Fax: (852) 2898 7076

TEST REPORT

Test Report No.:	C/W/50514-1
Date of Issue:	2005-05-14
Date Received:	2005-05-13
Date Tested:	2005-05-13
Date Completed:	2005-05-14

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)	$D = C1 - C2$	
1419	1418	1	1418 ± 20

2. Salinity Performance check

Salinity, ppt		Correction, ppt	Acceptable range
Instrument Reading	Theoretical Value		
30.2	30.0	0.2	30.0 ± 3

3. Dissolved Oxygen check

Oxygen level in water at 20°C	Dissolved Oxygen, mg O_2/L		Correction, mg O_2/L	Acceptable range
	D.O. Meter	Winkler Titration		
Saturated	9.1	9.0	0.1	± 0.1
Half-saturated	5.5	5.6	0.1	± 0.1
Zero	0.0	0.0	0.0	± 0.1

4. Turbidity check

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

5. pH Meter check

Test Parameters	Performance characteristic	Acceptable range
Liquid junction error ΔpH_j , pH unit	0.02	Less than 0.05
Shift on stirring ΔpH_s , pH unit	0.01	Less than 0.02
Noise ΔpH_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 ± 0.05

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

WELLAB LTD.

Unit C, 1/F, Goldlion Holdings Center
13-15 Yuen Shun Circuit,
Shatin, Hong Kong.
Tel: (852) 2898 7388
Fax: (852) 2898 7076

TEST REPORT

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

Test Report No.:	C/W/50514-3
Date of Issue:	2005-05-14
Date Received:	2005-05-13
Date Tested:	2005-05-13
Date Completed:	2005-05-14

ATTN: Mr. Henry Leung

Page: 1 of 2

Certificate of Calibration

Item for calibration:

Description	: Sonde Environmental Monitoring System
Manufacturer	: YSI
Model No.	: 6920-M
Serial No.	: 03H1764AA
Equipment No.	: W.03.03
Project No.	: C013

Test conditions:

Room Temperature	: 22 degree Celsius
Relative Humidity	: 71%

Test Specifications:

Conductivity & Salinity Sensor, Model: 6560, S/N: 03H1461
2. Conductivity performance check with Potassium Chloride standard solution
2. Salinity performance check with Sodium Chloride standard solution
Dissolved Oxygen Sensor, Model: 6562, S/N: 03H1723
1. Performance check against Winkler titration
Turbidity Sensor, Model: 6136, S/N: 03H1750
1. Calibration check with Formazin standard solution
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
Operation Manager

WELLAB LTD.

Unit C, 1/F, Goldlion Holdings Center
13-15 Yuen Shun Circuit,
Shatin, Hong Kong.
Tel: (852) 2898 7388
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TEST REPORT

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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	1418	2	1418 ± 20

2. Salinity Performance check

Salinity, ppt		Correction, ppt	Acceptable range
Instrument Reading	Theoretical Value		
30.1	30.0	0.1	30.0 ± 3

3. Dissolved Oxygen check

Oxygen level in water at 20°C	Dissolved Oxygen, mg O ₂ /L		Correction, mg O ₂ /L	Acceptable range
	D.O. Meter	Winkler Titration		
Saturated	9.0	9.1	0.1	± 0.1
Half-saturated	5.5	5.6	0.1	± 0.1
Zero	0.0	0.0	0.0	± 0.1

4. Turbidity check

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

5. Depth Meter check

Instrument Reading, m	Calibration Value, m	Correction, m	Acceptable range
1.0	1.00	0.00	1.00 ± 0.05

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

**APPENDIX B
ACTION AND LIMIT LEVELS FOR
WATER QUALITY MONITORING
DURING POST-TRENCHING WORKS**

Appendix B – Action and Limit Levels for Water Quality Monitoring during Post-Trenching Works

Parameter (unit)	Water Depth	Action Level	Limit Level
<u>Lamma Island – L-I1 and L-I2</u>			
DO (mg/L)	Surface and Middle	4.7	4
	Bottom	4.1	2
Turbidity (NTU)	Depth average	17.2	18.4
SS (mg/L)	Depth average	10.2	10.7
<u>Po Toi – PT-I1, PT-I2 and PT-I3</u>			
DO (mg/L)	Surface and Middle	5.0	5
	Bottom	3.3	2
Turbidity (NTU)	Depth average	14.0	21.9
SS (mg/L)	Depth average	6.7	7.2
<u>Ping Chau – PC-I1, PC-I2 and PC-I3</u>			
DO (mg/L)	Surface and Middle	4.8	4
	Bottom	2.9	2
Turbidity (NTU)	Depth average	11.2	13.0
SS (mg/L)	Depth average	5.7	7.6

Notes:

- For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits.
- For turbidity and SS, non-compliance of water quality limits occurs when monitoring result is higher than the limits.

**APPENDIX C
WATER QUALITY MONITORING
RESULTS AND THE GRAPHICAL
PRESENTATION**

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

Date	Weather Condition	Sea Condition**	Sampling Time	Depth (m)		Temperature (°C)		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity(NTU)			Suspended Solids (mg/L)			
						Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Average	DA*	
07/19/05	Sunny	Calm	10:42	Surface	1	27.3	27.3	25.4	25.4	131.3	131.2	9.0	9.0	7.0	1.5	1.5	1.3	6.8	6.6	
						27.3		25.4		131.1		9.0			1.4			4.3		
				Middle	5.5	24.0	24.0	33.9	34.0	66.6	65.3	4.9	4.9		0.3	0.3				
						23.9		34.0		64.0		4.8			0.3					
				Bottom	10	22.8	22.8	34.7	34.7	51.7	51.3	4.2	4.2		2.2	2.1				
						22.8		34.6		50.9		4.2			2.0					

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 L-C1 - Mid-Flood Tide

Date	Weather Condition	Sea Condition**	Sampling Time	Depth (m)		Temperature (°C)		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)	
						Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Average	DA*
07/19/05	Sunny	Calm	17:03	Surface	1	26.2	26.0	26.8	27.7	100.5	99.1	7.0	5.8	1.9	2.0	4.4	5.3	11.8	
						25.7		28.6		97.6		6.8		6.9			2.1		2.0
				Middle	5	23.1	23.2	34.3	34.3	69.9	65.4	4.9		4.6	2.4		2.4		5.4
						23.2		34.3		60.9		4.3			4.6				2.3
				Bottom	9	22.6	22.6	34.8	34.8	49.3	49.3	4.2	4.2	8.3	8.7		24.8		
						22.6		34.8		49.2		4.2		4.2			9.0		8.7

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 L-C2 - Mid-Ebb Tide

Date	Weather Condition	Sea Condition**	Sampling Time	Depth (m)		Temperature (°C)		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)	
						Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Average	DA*
07/19/05	Sunny	Calm	11:29	Surface	1	26.6	26.9	28.4	27.9	110.7	111.6	7.6	7.7	5.6	0.8	0.9	2.4	5.4	4.3
				Middle	10	22.3		34.8		60.9		3.6			2.1			2.8	
						22.3		34.8		57.9		3.4			2.2				
				Bottom	19	22.1	22.1	34.8	34.9	46.6	46.2	3.8	3.8	3.8	4.0	4.2		4.8	
						22.1		34.9		45.8		3.7			4.3				

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 L-C2 - Mid-Flood Tide

Date	Weather Condition	Sea Condition**	Sampling Time	Depth (m)		Temperature (°C)		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity(NTU)			Suspended Solids (mg/L)			
						Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Average	DA*	
07/19/05	Sunny	Calm	16:10	Surface	1	25.4	25.4	32.0	32.1	85.8	85.2	5.9	5.9	5.1	0.4	0.5	0.5	2.2	4.7	6.6
						22.1		34.9		51.8		4.3			2.0				7.6	
				Middle	10.5	22.1	34.9	49.1	50.5	4.1	4.2	2.0	2.0		7.6					
						22.1	34.9	48.5	49.2	4.1	4.1	3.7	4.0	7.4						
				Bottom	20	22.1	34.9	49.8	49.2	4.1	4.1	4.1	4.3	7.4						

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 L-11 - Mid-Ebb Tide

Date	Weather Condition	Sea Condition**	Sampling Time	Depth (m)		Temperature (°C)		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)	
						Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Average	DA*
07/19/05	Sunny	Calm	10:55	Surface	1	27.2	27.2	26.0	26.1	127.0	128.1	8.7	8.8	6.8	0.9	1.0	1.6	6.0	5.5
						22.7		34.7		58.5		4.7			1.8				
				Middle	7.5	22.7	22.7	34.7	34.7	56.1	57.3	4.6	4.7	1.6	1.7	4.5			
						22.5	22.6	34.7	34.7	50.8	50.6	4.2	4.2	2.0	2.0	6.0			
				Bottom	14	22.6		34.7	50.4	4.2		4.2		2.0		2.0	6.0		

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 L-11 - Mid-Flood Tide

Date	Weather Condition	Sea Condition**	Sampling Time	Depth (m)		Temperature (°C)		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)	
						Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Average	DA*
07/19/05	Sunny	Calm	16:49	Surface	1	28.4	28.5	26.8	26.6	161.6	160.1	10.8	10.7	7.7	1.2	1.2	2.3	6.4	8.0
				Middle	8	23.0		34.5		58.8		4.7			1.1			5.8	
						22.9		34.5		57.6		4.6			0.2				
				Bottom	15	22.4	22.4	34.8	34.8	49.7	49.6	4.2	4.2	4.2	5.0	5.4		11.7	
						22.4		34.8		49.5		4.2			5.8				

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 L-12 - Mid-Ebb Tide

Date	Weather Condition	Sea Condition**	Sampling Time	Depth (m)		Temperature (°C)		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity(NTU)			Suspended Solids (mg/L)			
						Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Average	DA*	
07/19/05	Sunny	Calm	11:11	Surface	1	28.1	28.1	24.4	24.6	149.8	150.2	10.2	10.3	7.6	1.0	1.1	1.1	1.4	5.5	8.3
						28.0		24.7		59.5		150.5			10.3				1.1	
				Middle	12	22.2	22.2	34.8	34.8	52.8	56.2	4.9	4.8		4.9				1.2	
						22.2		34.8		49.7		4.1		1.4	12.5					
				Bottom	23	22.2	22.2	34.8	34.8	49.3	49.5	4.1	4.1	4.1	1.7	1.7	12.5			
						22.2		34.8		49.3		4.1		1.6						

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 L-12 - Mid-Flood Tide

Date	Weather Condition	Sea Condition**	Sampling Time	Depth (m)		Temperature (°C)		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)	
						Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Average	DA*
07/19/05	Sunny	Calm	16:31	Surface	1	24.9	24.8	32.8	33.0	95.8	89.5	6.6	5.3	0.3	0.3	3.4	5.3	8.0	
						24.6		33.1		56.8		5.7		6.2			0.3		2.5
				Middle	10.5	22.6	34.7	53.8	4.3	4.3	1.3	1.4		2.5					
						22.5	34.8	53.8	4.2	4.2	1.5								
				Bottom	20	22.1	34.9	49.6	4.2	4.2	8.3	8.4	16.3						
						22.1	34.9	49.6	4.2	8.5									

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 PC-C1 - Mid-Ebb Tide

Date	Weather Condition	Sea Condition**	Sampling Time	Depth (m)		Temperature (°C)		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)	
						Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Average	DA*
07/07/05	Fine	Moderate	13:34	Surface	1	30.2 30.2	30.2	25.7 25.7	25.7	127.4 128.6	128.0	8.3 8.4	8.4	6.0	0.2 0.2	0.2	1.9	3.0	4.0
				Middle	7.5	23.0 23.0	23.0	34.6 34.6	34.6	63.5 59.3	61.4	3.5 3.5	3.5		0.7 0.8	0.8		4.0	
				Bottom	14	22.1 22.0	22.1	34.7 34.7	34.7	33.7 32.7	33.2	2.4 2.3	2.4	2.4	4.4 5.1	4.8		5.0	
07/08/05	Sunny	Rough	14:17	Surface	1	30.4 30.4	30.4	25.5 25.5	25.5	121.2 121.1	121.2	7.9 7.9	7.9	6.1	0.3 0.3	0.3	3.0	4.0	3.5
				Middle	7.5	23.6 23.6	23.6	34.2 34.2	34.2	62.0 59.9	61.0	4.3 4.2	4.3		0.7 0.8	0.8		4.0	
				Bottom	14	22.0 22.1	22.1	34.7 34.7	34.7	34.8 34.4	34.6	2.5 2.5	2.5	2.5	8.6 7.2	7.9		2.5	
07/14/05	Sunny	Calm	15:58	Surface	1	31.1 31.1	31.1	34.9 34.7	34.8	112.7 112.7	112.7	7.2 7.2	7.2	6.1	0.3 0.3	0.3	1.0	2.5	4.6
				Middle	7.5	22.1 22.1	22.1	34.8 34.8	34.8	69.1 67.2	68.2	4.9 4.8	4.9		0.5 0.6	0.6		4.5	
				Bottom	14	21.7 21.7	21.7	34.8 34.8	34.8	39.2 38.6	38.9	2.9 2.8	2.9	2.9	2.0 2.0	2.0		6.8	

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 PC-C1 - Mid-Flood Tide

Date	Weather Condition	Sea Condition**	Sampling Time	Depth (m)		Temperature (°C)		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)	
						Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Average	DA*
07/07/05	Fine	Moderate	18:41	Surface	1	30.5 30.4	30.5	25.8 25.8	25.8	129.2 129.7	129.5	8.4 8.5	8.5	6.3	0.4 0.4	0.4	2.2	2.5	5.4
				Middle	7.5	23.1 23.1	23.1	34.6 34.6	34.6	60.5 53.1	56.8	4.2 3.7	4.0		0.5 0.6	0.6		3.4	
				Bottom	14	22.1 22.1	22.1	34.8 34.8	34.8	35.7 34.8	35.3	2.5 2.5	2.5	2.5	5.3 5.6	5.5		10.2	
07/08/05	Sunny	Rough	19:17	Surface	1	30.4 30.4	30.4	25.6 25.6	25.6	112.9 113.2	113.1	7.4 7.4	7.4	6.6	0.7 0.7	0.7	1.7	3.7	4.1
				Middle	7.5	27.5 24.9	26.2	28.2 33.2	30.7	85.7 82.7	84.2	5.8 5.7	5.8		0.7 0.6	0.7		5.3	
				Bottom	14	22.2 22.2	22.2	34.7 34.7	34.7	24.9 24.9	24.9	1.8 1.8	1.8	1.8	3.5 3.8	3.7		3.4	
07/14/05	Sunny	Calm	10:11	Surface	1	30.2 30.2	30.2	27.3 27.3	27.3	100.8 100.7	100.8	6.5 6.5	6.5	5.7	0.2 0.2	0.2	1.3	3.5	4.2
				Middle	7.5	22.1 22.0	22.1	34.7 34.7	34.7	72.1 63.4	67.8	5.1 4.5	4.8		0.5 0.6	0.6		3.2	
				Bottom	14	21.7 21.7	21.7	34.8 34.8	34.8	41.3 41.1	41.2	3.0 2.9	3.0	3.0	3.1 3.3	3.2		5.8	

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 PC-C2 - Mid-Ebb Tide

Date	Weather Condition	Sea Condition**	Sampling Time	Depth (m)		Temperature (°C)		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)	
						Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Average	DA*
07/07/05	Fine	Moderate	12:54	Surface	1	30.1 30.1	30.1	25.3 25.3	25.3	128.6 128.7	128.7	8.4 8.5	8.5	7.3	0.9 0.9	0.9	2.6	3.3	4.3
				Middle	8.5	22.1 22.1	22.1	34.6 34.6	34.6	89.2 81.3	85.3	6.4 5.8	6.1		1.2 1.2	1.2		3.5	
				Bottom	16	21.5 21.5	21.5	34.8 34.8	34.8	60.2 58.8	59.5	4.3 4.2	4.3	4.3	5.5 5.8	5.7		6.1	
07/08/05	Sunny	Rough	13:26	Surface	1	29.8 29.8	29.8	25.9 25.9	25.9	120.5 121.8	121.2	7.9 8.0	8.0	5.6	0.3 0.3	0.3	3.0	3.1	6.4
				Middle	8.5	22.5 22.6	22.6	34.7 34.6	34.7	44.5 45.6	45.1	3.2 3.2	3.2		0.7 0.7	0.7		4.5	
				Bottom	16	21.5 21.5	21.5	34.8 34.8	34.8	46.6 46.5	46.6	3.4 3.4	3.4	3.4	7.9 8.3	8.1		11.7	
07/14/05	Sunny	Calm	16:43	Surface	1	30.2 30.2	30.2	28.1 28.1	28.1	98.0 98.0	98.0	6.3 6.3	6.3	4.9	0.3 0.3	0.3	2.2	2.5	3.7
				Middle	8	22.4 22.5	22.5	34.7 34.7	34.7	49.0 48.9	49.0	3.5 3.5	3.5		0.7 0.6	0.7		3.1	
				Bottom	15	21.7 21.7	21.7	34.8 34.8	34.8	37.4 37.8	37.6	2.7 2.7	2.7	2.7	5.8 5.6	5.7		5.5	

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 PC-C2 - Mid-Flood Tide

Date	Weather Condition	Sea Condition**	Sampling Time	Depth (m)		Temperature (°C)		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)	
						Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Average	DA*
07/07/05	Fine	Moderate	19:14	Surface	1	30.4 30.4	30.4	25.1 25.0	25.1	121.6 122.2	121.9	8.0 8.0	8.0	6.8	0.2 0.2	0.2	3.1	2.5	5.3
				Middle	8.5	23.4 23.4	23.4	34.2 34.2	34.2	79.6 79.6	79.6	5.6 5.6	5.6		0.5 0.5	0.5		3.8	
				Bottom	16	21.5 21.5	21.5	34.8 34.8	34.8	52.8 52.2	52.5	3.8 3.8	3.8		8.4 8.9	8.7		9.7	
				Surface	1	29.9 29.7	29.8	26.3 26.1	26.2	119.7 113.0	116.4	7.9 7.4	7.7	7.6	0.2 0.2	0.2	2.7	3.8	4.3
				Middle	8.5	29.7 29.3	29.5	26.2 26.5	26.4	110.3 111.8	111.1	7.3 7.4	7.4		0.4 0.5	0.5		2.5	
				Bottom	16	22.0 22.0	22.0	34.7 34.7	34.7	65.8 65.2	65.5	4.4 4.3	4.4		7.7 6.8	7.3		6.5	
07/14/05	Sunny	Calm	09:28	Surface	1	29.7 29.7	29.7	27.8 27.8	27.8	106.3 106.3	106.3	6.9 6.9	6.9	6.3	0.2 0.2	0.2	1.6	4.2	4.5
				Middle	8.5	21.8 21.8	21.8	34.8 34.8	34.8	82.9 71.9	77.4	6.0 5.2	5.6		0.5 0.6	0.6		3.6	
				Bottom	16	21.6 21.6	21.6	34.8 34.8	34.8	44.4 44.1	44.3	3.2 3.2	3.2		3.8 3.9	3.9		5.6	

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 PC-I1 - Mid-Ebb Tide

Date	Weather Condition	Sea Condition**	Sampling Time	Depth (m)		Temperature (°C)		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)	
						Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Average	DA*
07/07/05	Fine	Moderate	13:23	Surface	1	30.4 30.4	30.4	25.2 25.2	25.2	127.4 127.7	127.6	8.3 8.4	8.4	6.3	0.4 0.5	0.5	1.5	3.5	5.2
				Middle	7.5	22.9 23.0	23.0	34.5 34.4	34.5	59.5 55.2	57.4	4.2 3.9	4.1		0.2 0.2	0.2		3.9	
				Bottom	14	21.9 21.9	21.9	34.7 34.7	34.7	39.8 38.6	39.2	3.0 2.9	3.0	3.0	3.8 3.7	3.8		8.1	
07/08/05	Sunny	Rough	14:05	Surface	1	30.2 30.1	30.2	25.9 25.9	25.9	115.0 117.4	116.2	7.5 7.7	7.6	6.3	0.4 0.4	0.4	1.2	3.2	3.2
				Middle	7.5	23.6 23.5	23.6	34.2 34.3	34.3	76.3 63.5	69.9	5.3 4.4	4.9		0.6 0.6	0.6		3.8	
				Bottom	14	22.1 22.0	22.1	34.7 34.7	34.7	38.4 38.7	38.6	3.0 3.1	3.1	3.1	2.7 2.4	2.6		2.6	
07/14/05	Sunny	Calm	15:47	Surface	1	30.8 30.8	30.8	27.6 27.6	27.6	111.4 111.3	111.4	7.1 7.1	7.1	5.3	0.4 0.5	0.5	1.7	2.5	3.1
				Middle	8	21.9 21.9	21.9	34.9 34.9	34.9	47.2 45.6	46.4	3.4 3.3	3.4		1.6 1.5	1.6		2.9	
				Bottom	15	21.8 21.7	21.8	34.9 34.9	34.9	40.2 40.9	40.6	2.9 3.0	3.0	3.0	2.9 2.8	2.9		3.8	

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 PC-I1 - Mid-Flood Tide

Date	Weather Condition	Sea Condition**	Sampling Time	Depth (m)		Temperature (°C)		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)	
						Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Average	DA*
07/07/05	Fine	Moderate	18:30	Surface	1	30.2 30.3	30.3	25.8 25.7	25.8	131.6 133.4	132.5	8.6 8.7	8.7	6.5	0.2 0.2	0.2	2.0	2.5	4.3
				Middle	7.5	23.1 23.1	23.1	34.5 34.5	34.5	64.0 57.5	60.8	4.5 4.0	4.3		0.7 0.7	0.7		3.3	
				Bottom	14	21.9 21.9	21.9	34.8 34.8	34.8	39.0 37.1	38.1	2.9 2.8	2.9		4.7 5.3	5.0		7.2	
07/08/05	Sunny	Rough	19:02	Surface	1	30.0 30.0	30.0	26.1 26.1	26.1	122.3 122.4	122.4	8.0 8.0	8.0	6.9	0.3 0.3	0.3	1.1	3.0	4.0
				Middle	7.5	25.7 25.5	25.6	32.1 32.1	32.1	102.5 97.3	99.9	6.0 5.3	5.7		0.4 0.4	0.4		4.2	
				Bottom	14	22.3 22.3	22.3	34.7 34.7	34.7	35.4 35.8	35.6	3.0 2.9	3.0		2.5 2.4	2.5		4.9	
07/14/05	Sunny	Calm	09:58	Surface	1	30.2 30.2	30.2	27.3 27.3	27.3	100.8 101.4	101.1	6.5 6.6	6.6	5.2	0.2 0.2	0.2	1.6	3.2	5.3
				Middle	7.5	22.0 21.9	22.0	34.8 34.8	34.8	54.4 47.0	50.7	3.9 3.4	3.7		1.3 1.6	1.5		5.1	
				Bottom	14	21.8 21.8	21.8	34.8 34.8	34.8	40.4 40.2	40.3	3.0 3.0	3.0		3.0 2.9	3.0		7.7	

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 PC-I2 - Mid-Ebb Tide

Date	Weather Condition	Sea Condition**	Sampling Time	Depth (m)		Temperature (°C)		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity(NTU)			Suspended Solids (mg/L)		
						Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Average	DA*
07/07/05	Fine	Moderate	13:10	Surface	1	30.0 30.1	30.1	25.8 25.7	25.8	126.2 127.4	126.8	8.3 8.4	8.4	6.7	0.9 1.0	1.0	2.1	2.5	4.4
				Middle	8	23.1 23.1	23.1	34.3 34.3	34.3	69.9 68.2	69.1	4.9 4.8	4.9		1.0 0.9	1.0		4.6	
				Bottom	15	21.6 21.6	21.6	34.8 34.8	34.8	49.3 48.9	49.1	3.6 3.5	3.6	3.6	4.4 4.4	4.4		6.1	
07/08/05	Sunny	Rough	13:54	Surface	1	29.8 29.8	29.8	26.3 26.2	26.3	119.9 121.1	120.5	7.9 8.0	8.0	6.2	0.3 0.3	0.3	3.6	2.5	5.6
				Middle	8	23.9 23.9	23.9	33.6 33.8	33.7	67.4 59.4	63.4	4.7 4.1	4.4		0.3 0.3	0.3		5.5	
				Bottom	15	21.7 21.7	21.7	34.7 34.7	34.7	46.1 45.7	45.9	3.3 3.3	3.3	3.3	10.4 10.2	10.3		8.7	
07/14/05	Sunny	Calm	16:14	Surface	1	30.4 30.3	30.4	28.0 28.0	28.0	101.8 102.1	102.0	6.6 6.6	6.6	5.6	0.3 0.3	0.3	0.7	2.7	4.5
				Middle	8	22.2 22.2	22.2	34.7 34.8	34.8	63.8 62.1	63.0	4.5 4.4	4.5		0.4 0.4	0.4		4.0	
				Bottom	15	21.7 21.7	21.7	34.8 34.8	34.8	40.5 40.7	40.6	2.9 3.0	3.0	3.0	1.5 1.5	1.5		6.9	

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 PC-I2 - Mid-Flood Tide

Date	Weather Condition	Sea Condition**	Sampling Time	Depth (m)		Temperature (°C)		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)	
						Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Average	DA*
07/07/05	Fine	Moderate	18:51	Surface	1	30.1 30.1	30.1	26.2 26.2	26.2	133.6 133.8	133.7	8.7 8.8	8.8	7.0	0.3 0.3	0.3	2.4	3.9	5.6
				Middle	8	23.4 23.2	23.3	34.2 34.2	34.2	80.5 68.0	74.3	5.6 4.8	5.2		0.2 0.2	0.2		4.2	
				Bottom	15	21.6 21.6	21.6	34.8 34.8	34.8	48.0 46.9	47.5	3.5 3.4	3.5		6.1 7.1	6.6		8.7	
				Surface	1	29.9 29.9	29.9	26.3 26.3	26.3	119.9 119.4	119.7	7.9 7.8	7.9	6.3	0.5 0.4	0.5	2.3	2.5	3.2
				Middle	8	24.5 23.9	24.2	32.8 33.7	33.3	73.0 61.7	67.4	5.1 4.3	4.7		0.4 0.5	0.5		4.3	
				Bottom	15	21.8 21.8	21.8	34.7 34.7	34.7	39.8 39.4	39.6	3.0 2.9	3.0		5.5 6.1	5.8		2.9	
07/14/05	Sunny	Calm	09:48	Surface	1	29.7 29.7	29.7	27.8 27.8	27.8	101.8 101.9	101.9	6.6 6.6	6.6	5.6	0.2 0.2	0.2	0.7	3.1	4.1
				Middle	8	22.1 22.0	22.1	34.7 34.7	34.7	68.7 59.9	64.3	4.9 4.3	4.6		0.5 0.4	0.5		3.0	
				Bottom	15	21.7 21.7	21.7	34.8 34.8	34.8	47.0 44.6	45.8	3.4 3.2	3.3		1.2 1.4	1.3		6.2	

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 PC-I3 - Mid-Ebb Tide

Date	Weather Condition	Sea Condition**	Sampling Time	Depth (m)		Temperature (°C)		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity(NTU)			Suspended Solids (mg/L)		
						Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Average	DA*
07/07/05	Fine	Moderate	13:01	Surface	1	30.2 30.2	30.2	24.8 24.8	24.8	121.3 122.3	121.8	8.0 8.1	8.1	7.0	0.9 0.8	0.9	1.5	2.5	3.4
				Middle	6	23.3 23.2	23.3	34.3 34.3	34.3	84.1 80.0	82.1	5.9 5.6	5.8		1.1 1.1	1.1		3.2	
				Bottom	11	21.7 21.7	21.7	34.8 34.7	34.8	57.1 54.3	55.7	4.1 3.9	4.0	4.0	2.4 2.4	2.4		4.4	
07/08/05	Sunny	Rough	13:41	Surface	1	29.7 29.7	29.7	26.1 26.1	26.1	121.5 121.6	121.6	8.0 8.0	8.0	6.8	0.3 0.3	0.3	1.3	3.1	4.7
				Middle	6	24.1 24.5	24.3	33.4 32.3	32.9	84.0 77.4	80.7	5.8 5.4	5.6		0.4 0.4	0.4		2.5	
				Bottom	11	22.3 25.8	24.1	34.7 31.9	33.3	45.1 39.8	42.5	3.2 2.9	3.1	3.1	3.0 3.4	3.2		8.4	
07/14/05	Sunny	Calm	16:28	Surface	1	30.2 30.2	30.2	28.1 28.1	28.1	98.0 98.1	98.1	6.3 6.3	6.3	5.4	0.3 0.3	0.3	2.1	2.5	4.1
				Middle	6	21.7 21.7	21.7	34.8 34.8	34.8	64.7 57.6	61.2	4.6 4.1	4.4		2.7 2.9	2.8		4.4	
				Bottom	11	21.7 21.7	21.7	34.8 34.8	34.8	50.4 46.6	48.5	3.6 3.4	3.5	3.5	3.1 3.5	3.3		5.3	

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 PC-I3 - Mid-Flood Tide

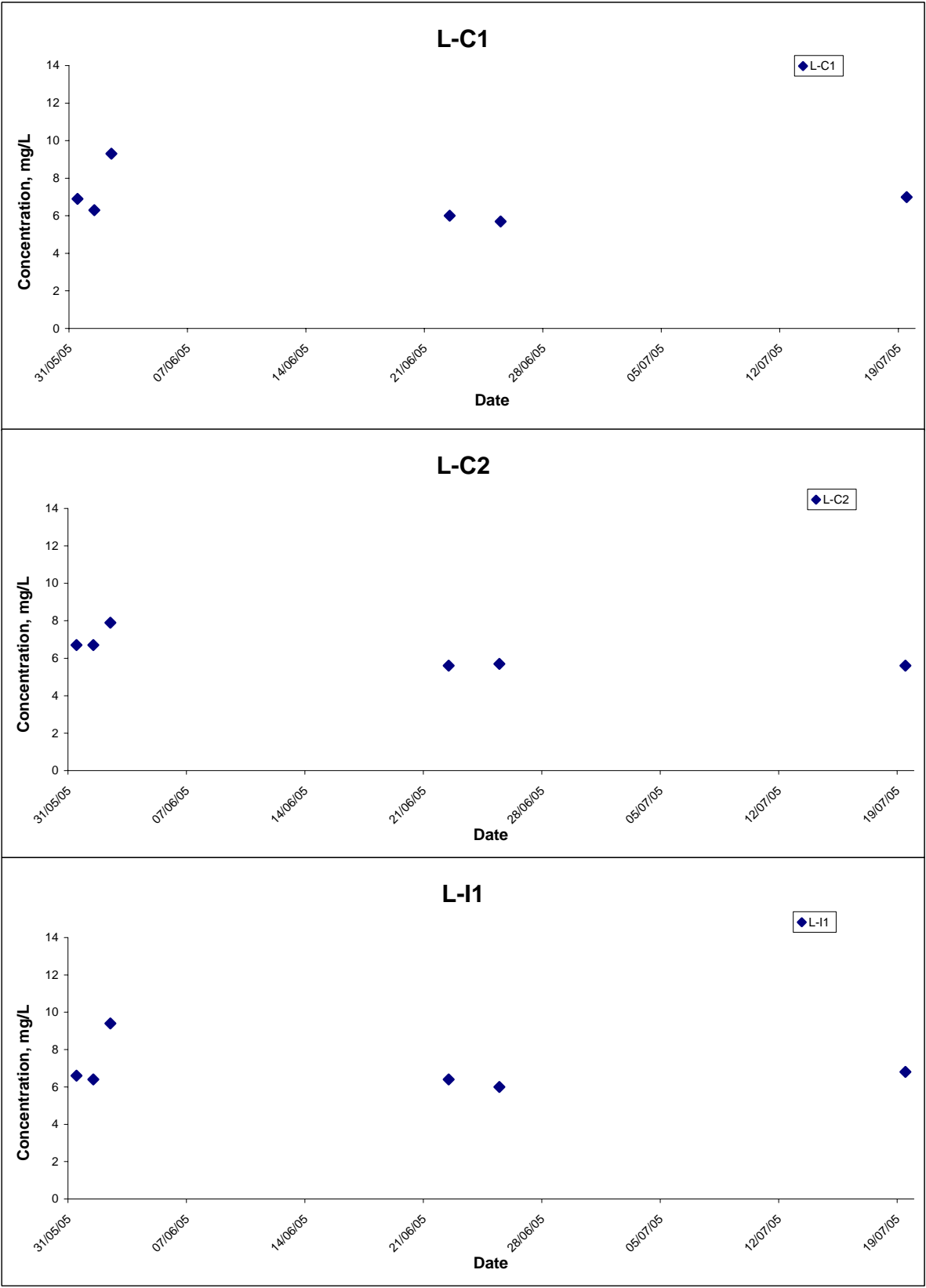
Date	Weather Condition	Sea Condition**	Sampling Time	Depth (m)		Temperature (°C)		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)	
						Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Average	DA*
07/07/05	Fine	Moderate	19:05	Surface	1	30.7 30.7	30.7	24.4 24.4	24.4	116.0 116.1	116.1	7.6 7.6	7.6	6.5	0.2 0.2	0.2	1.0	4.4	4.9
				Middle	6	23.5 23.5	23.5	34.1 34.1	34.1	80.0 72.0	76.0	5.6 5.0	5.3		0.4 0.4	0.4		5.9	
				Bottom	11	21.8 21.8	21.8	34.7 34.7	34.7	51.9 51.5	51.7	3.7 3.7	3.7	3.7	2.5 2.3	2.4		4.4	
07/08/05	Sunny	Rough	19:54	Surface	1	29.7 29.7	29.7	26.2 26.2	26.2	111.2 112.6	111.9	7.3 7.4	7.4	7.2	0.3 0.3	0.3	1.6	2.7	3.5
				Middle	6	29.7 29.6	29.7	26.2 26.2	26.2	107.7 104.6	106.2	7.1 6.9	7.0		0.5 0.6	0.6		2.5	
				Bottom	11	22.0 22.0	22.0	34.7 34.7	34.7	38.1 38.8	38.5	3.0 3.0	3.0	3.0	3.9 4.1	4.0		5.3	
07/14/05	Sunny	Calm	09:37	Surface	1	29.7 29.8	29.8	27.8 27.8	27.8	105.2 105.2	105.2	6.9 6.9	6.9	6.6	0.2 0.2	0.2	0.9	3.3	4.7
				Middle	6	22.5 22.4	22.5	34.6 34.7	34.7	94.7 80.8	87.8	6.7 5.7	6.2		0.2 0.2	0.2		3.2	
				Bottom	11	21.7 21.7	21.7	34.8 34.8	34.8	55.5 50.1	52.8	4.0 3.6	3.8	3.8	2.2 2.3	2.3		7.6	

Remarks: * DA: Depth-Averaged

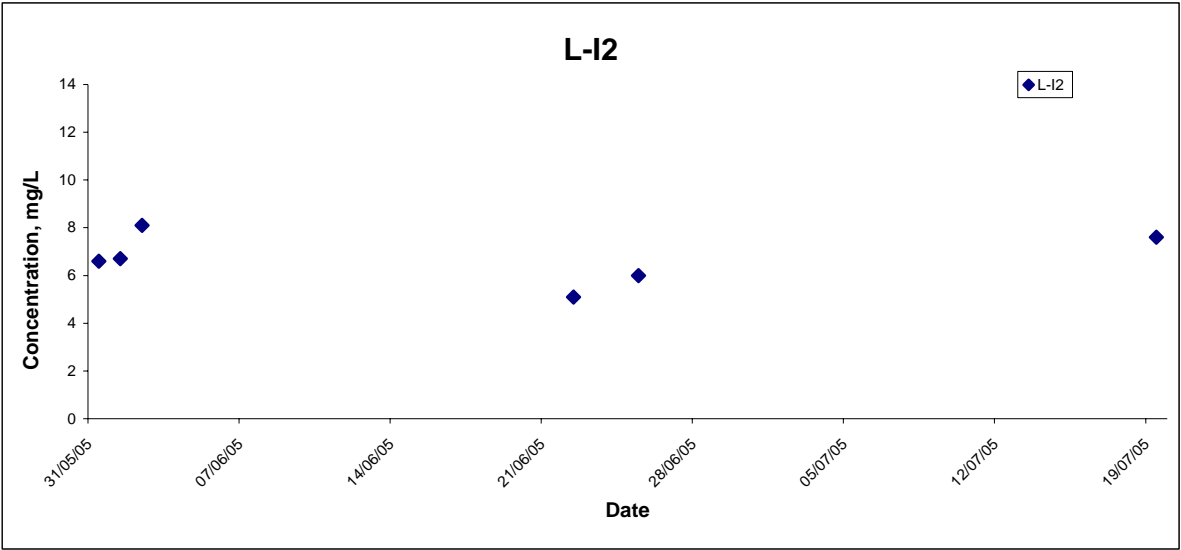
** Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher

*** Cancelled due to Thunderstorm Warning

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

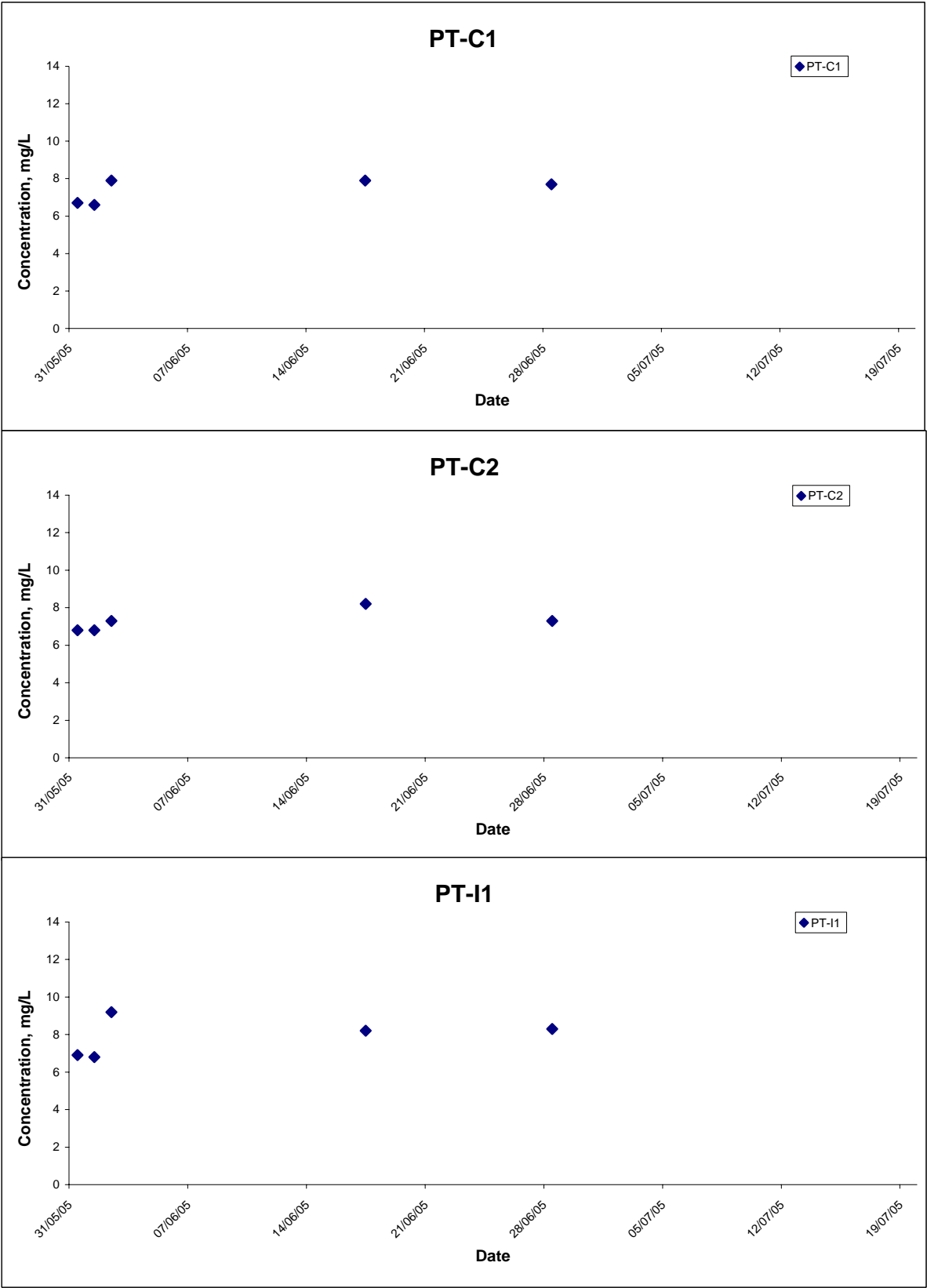


Dissolved Oxygen (Surface & Middle) at Mid-Ebb Tide

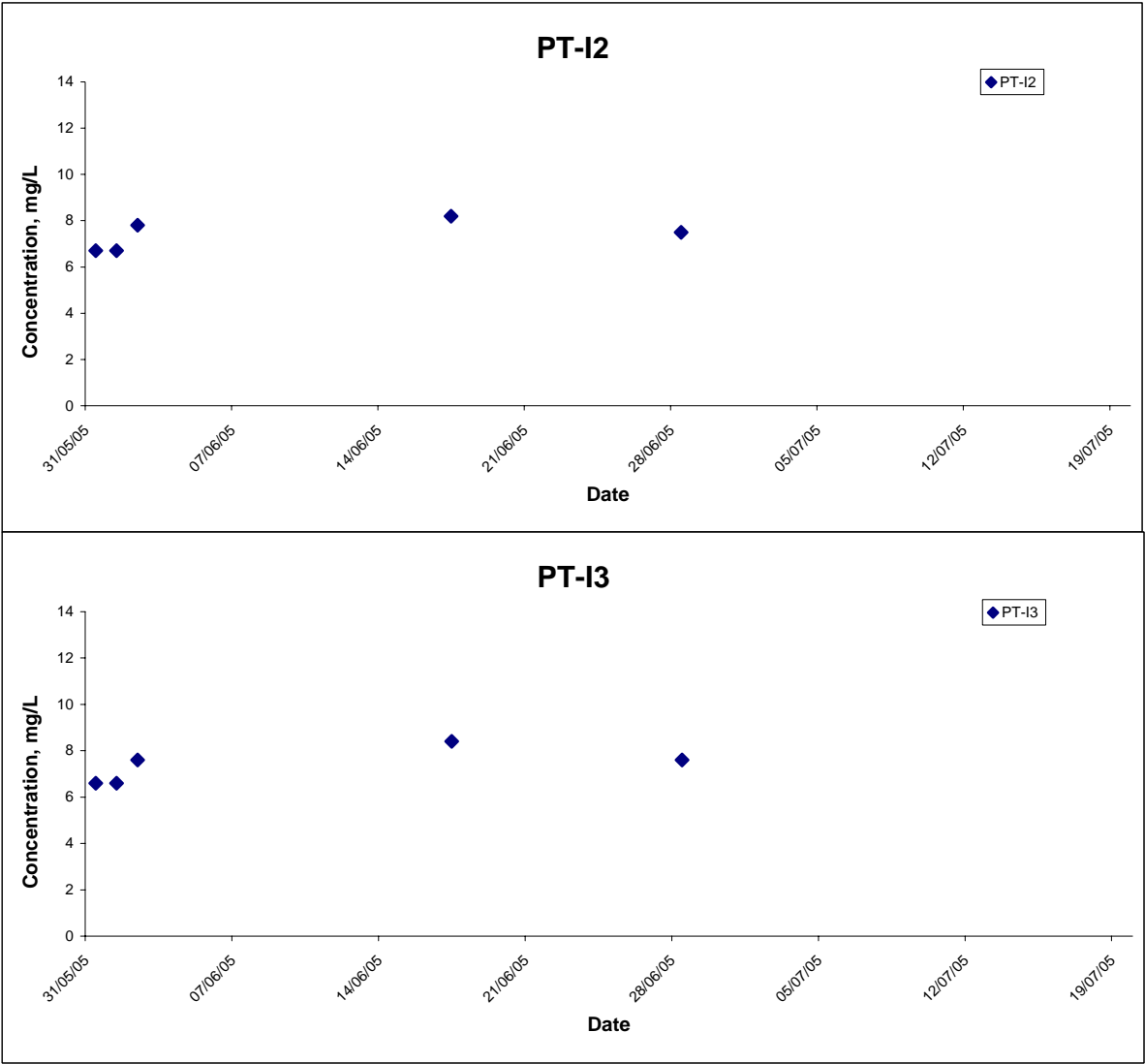


Title	Lamma Power Station Extension – Supply and Installation of Submarine Gas Pipeline Graphical Presentation of Water Quality Monitoring Results	Scale	N.T.S	Project No.	MA4017	CINOTECH
		Date	Jul 05	Appendix	C	

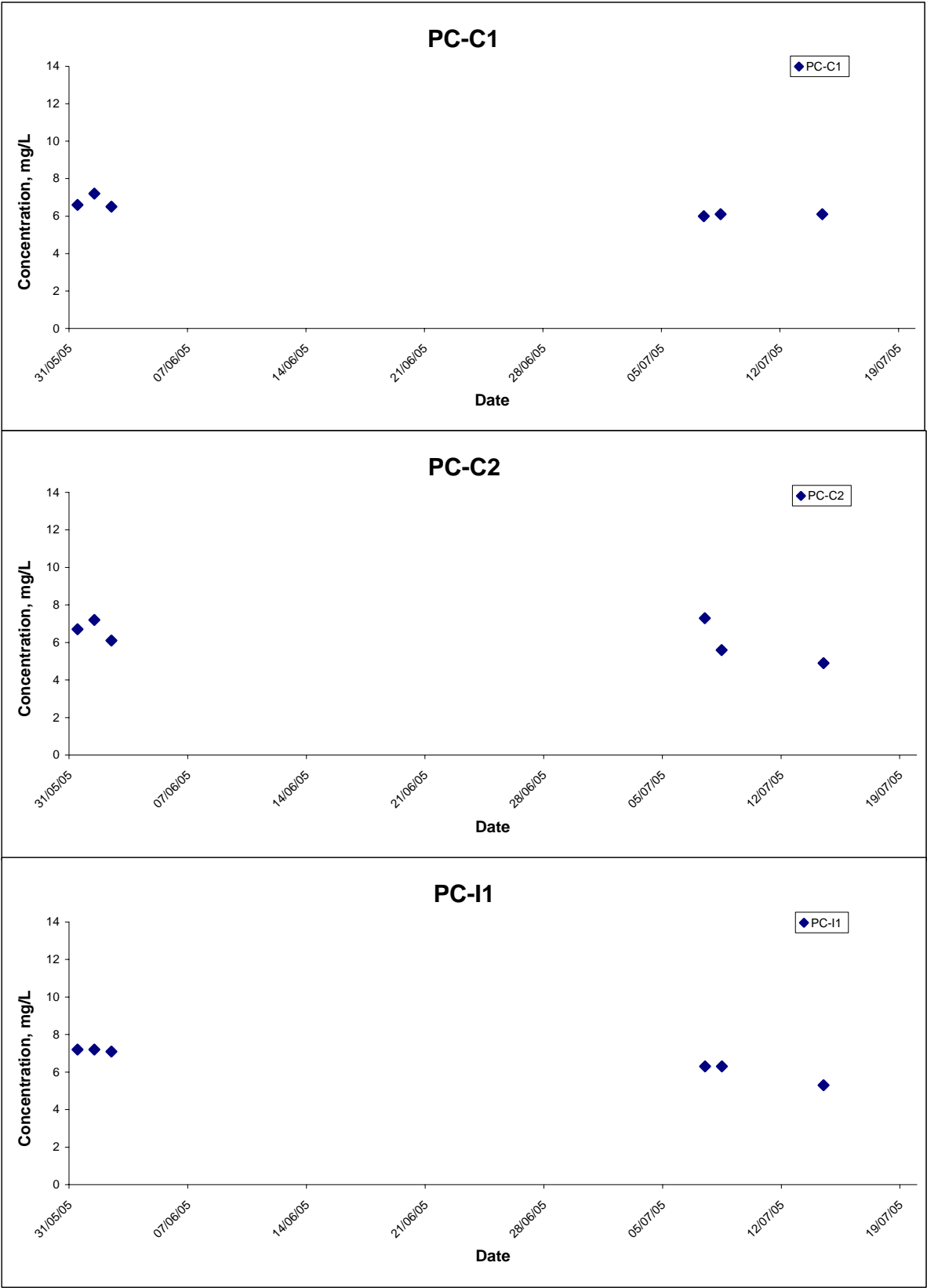
Dissolved Oxygen (Surface & Middle) at Mid-Ebb Tide



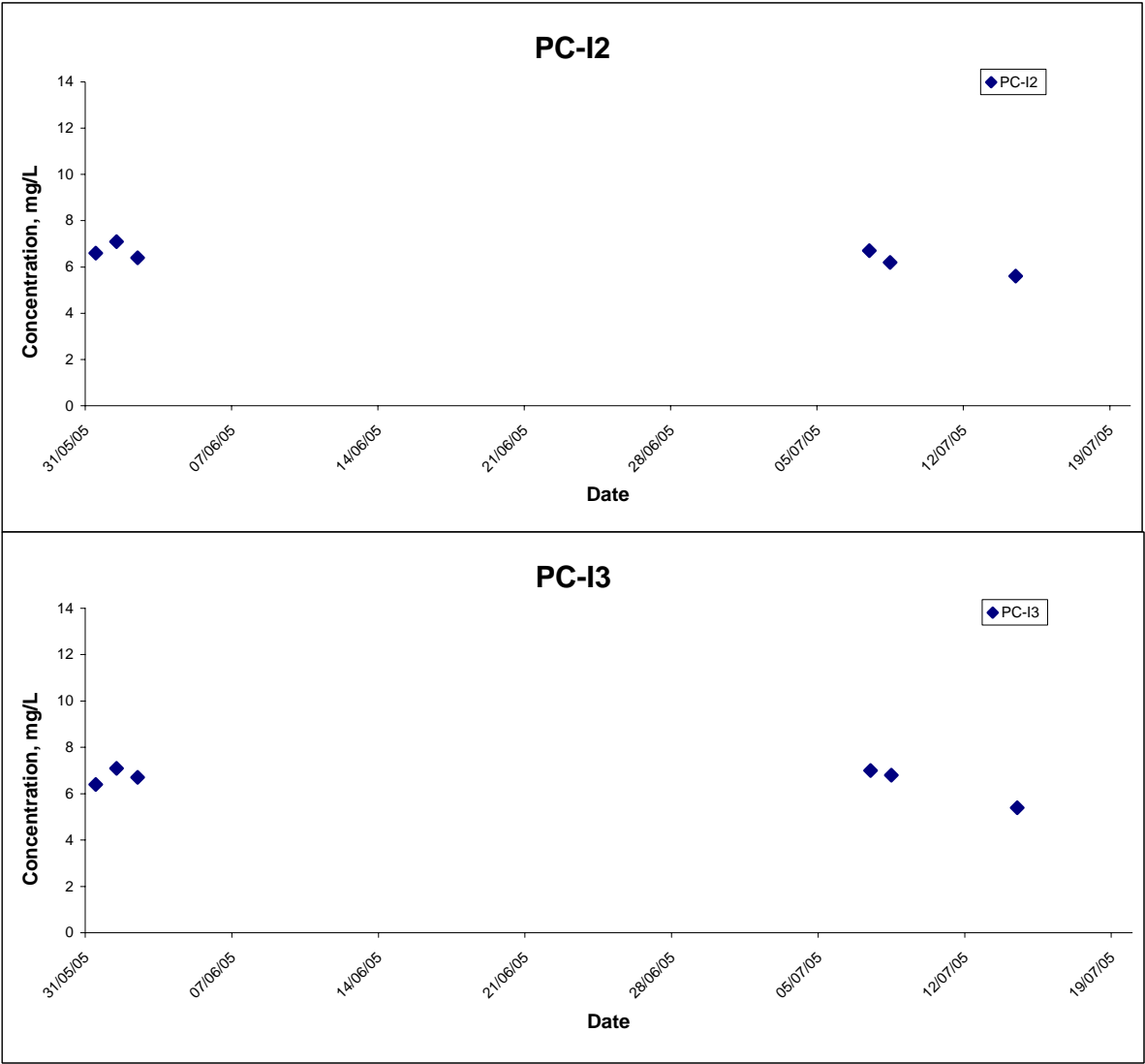
Dissolved Oxygen (Surface & Middle) at Mid-Ebb Tide



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

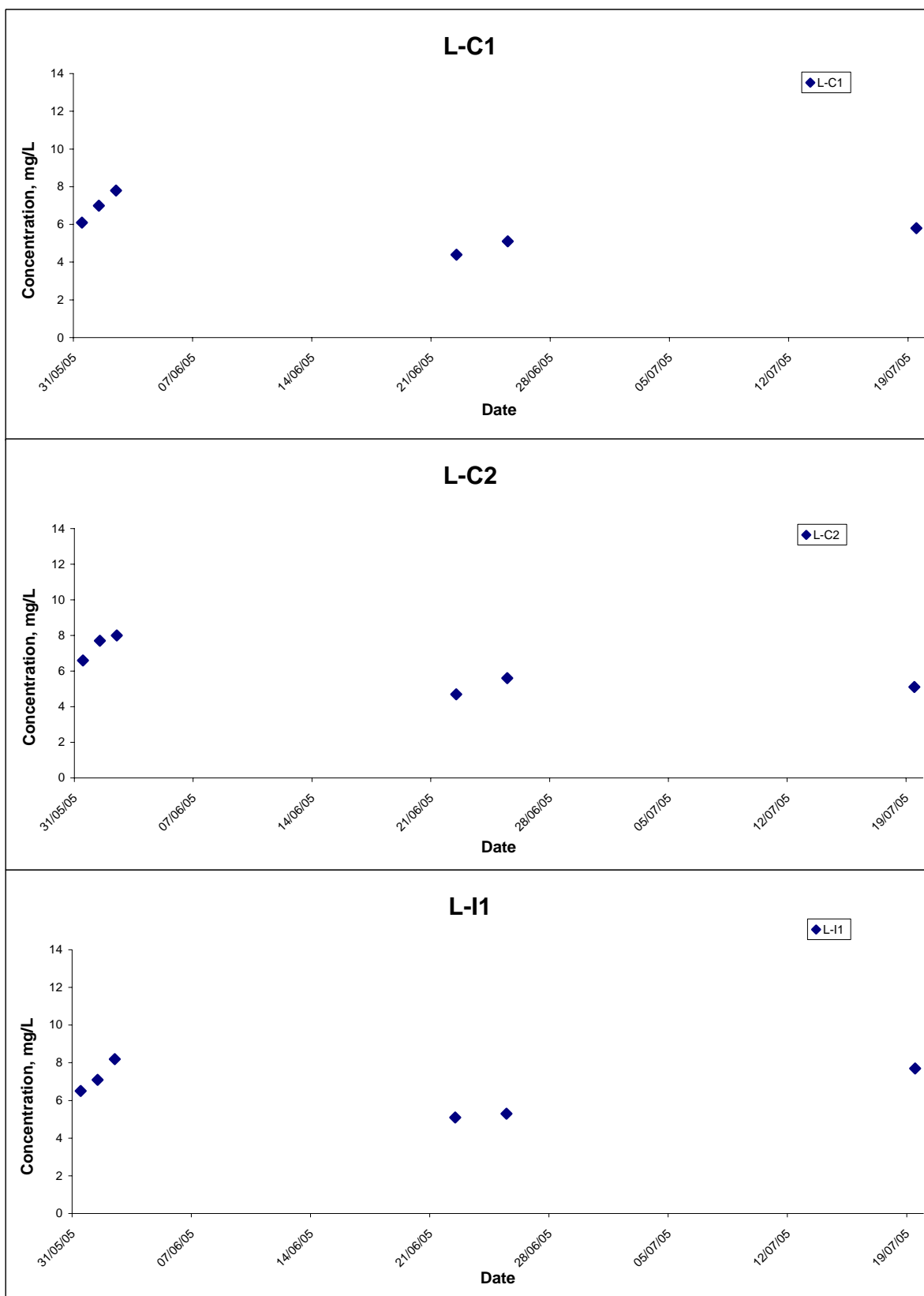


Dissolved Oxygen (Surface & Middle) at Mid-Ebb Tide



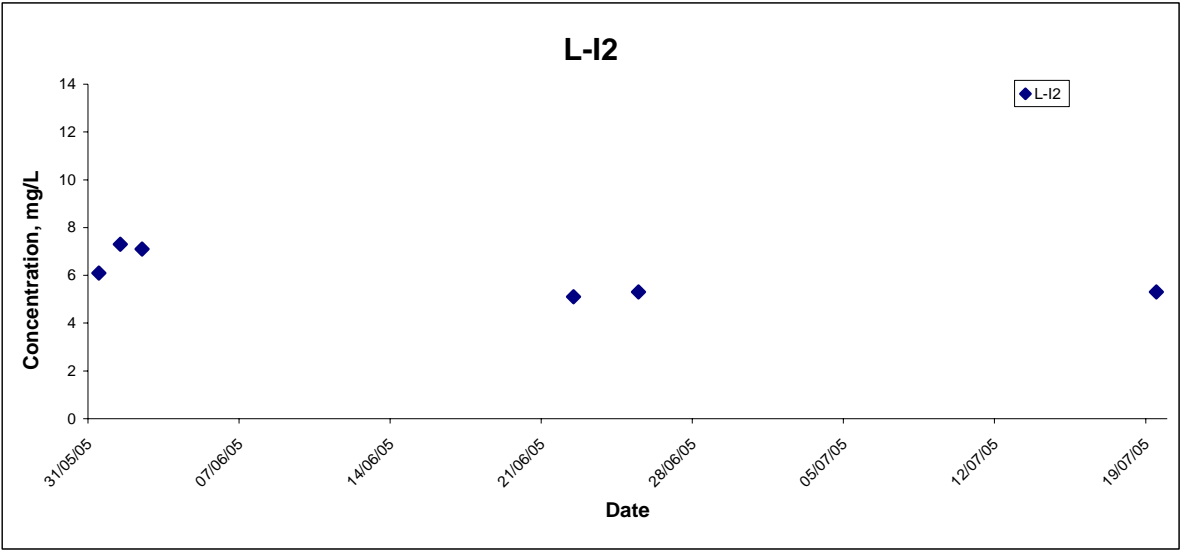
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		Date	Jul 05	Appendix	C	

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



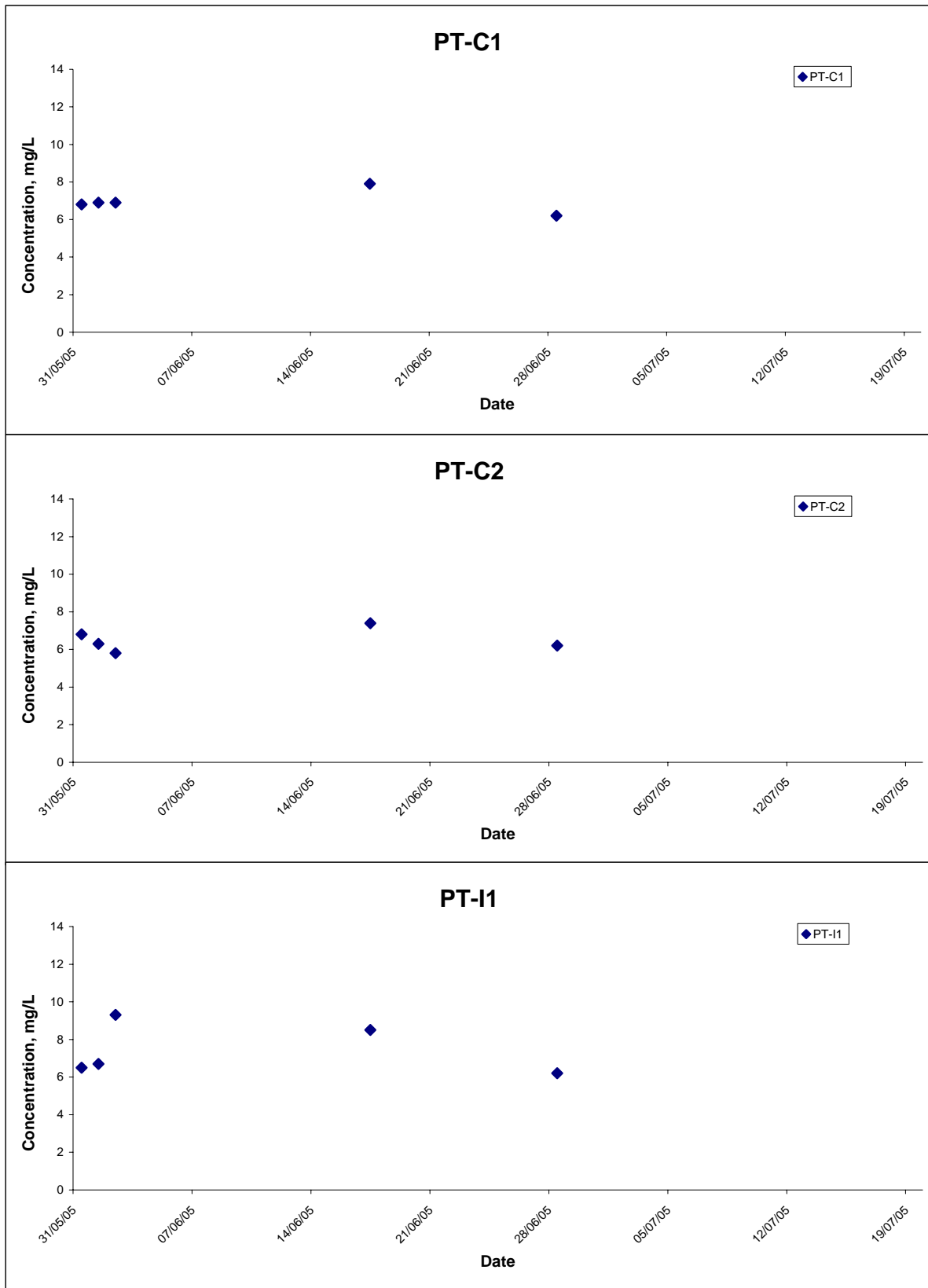
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	Date Jul 05	Appendix C	

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



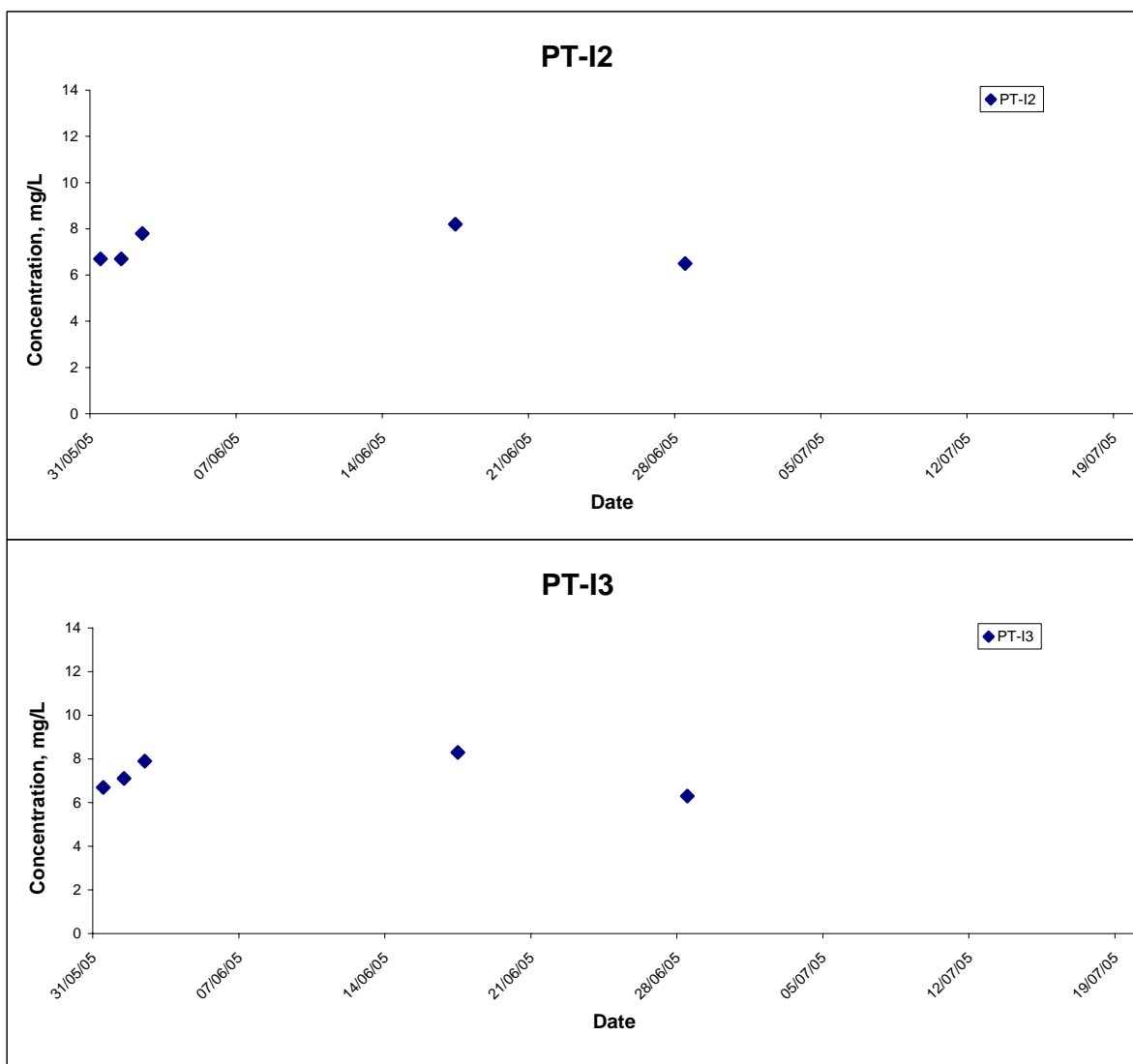
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		Date	Jul 05	Appendix	C	

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



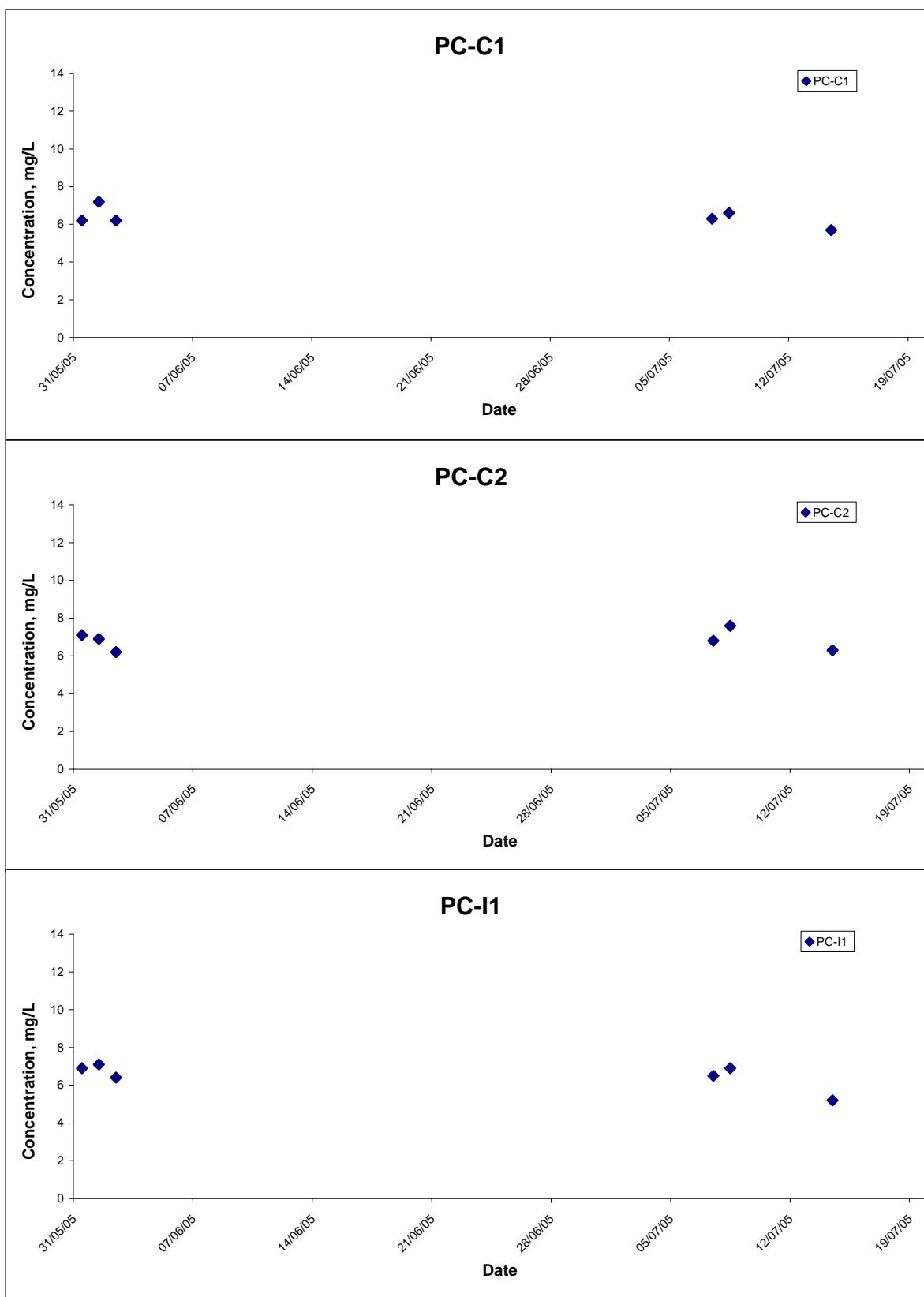
Title Lamma Power Station Extension – Supply and Installation of Submarine Gas Pipeline Graphical Presentation of Water Quality Monitoring Results	Scale N.T.S	Project No. MA4017	CINOTECH
	Date Jul 05	Appendix C	

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



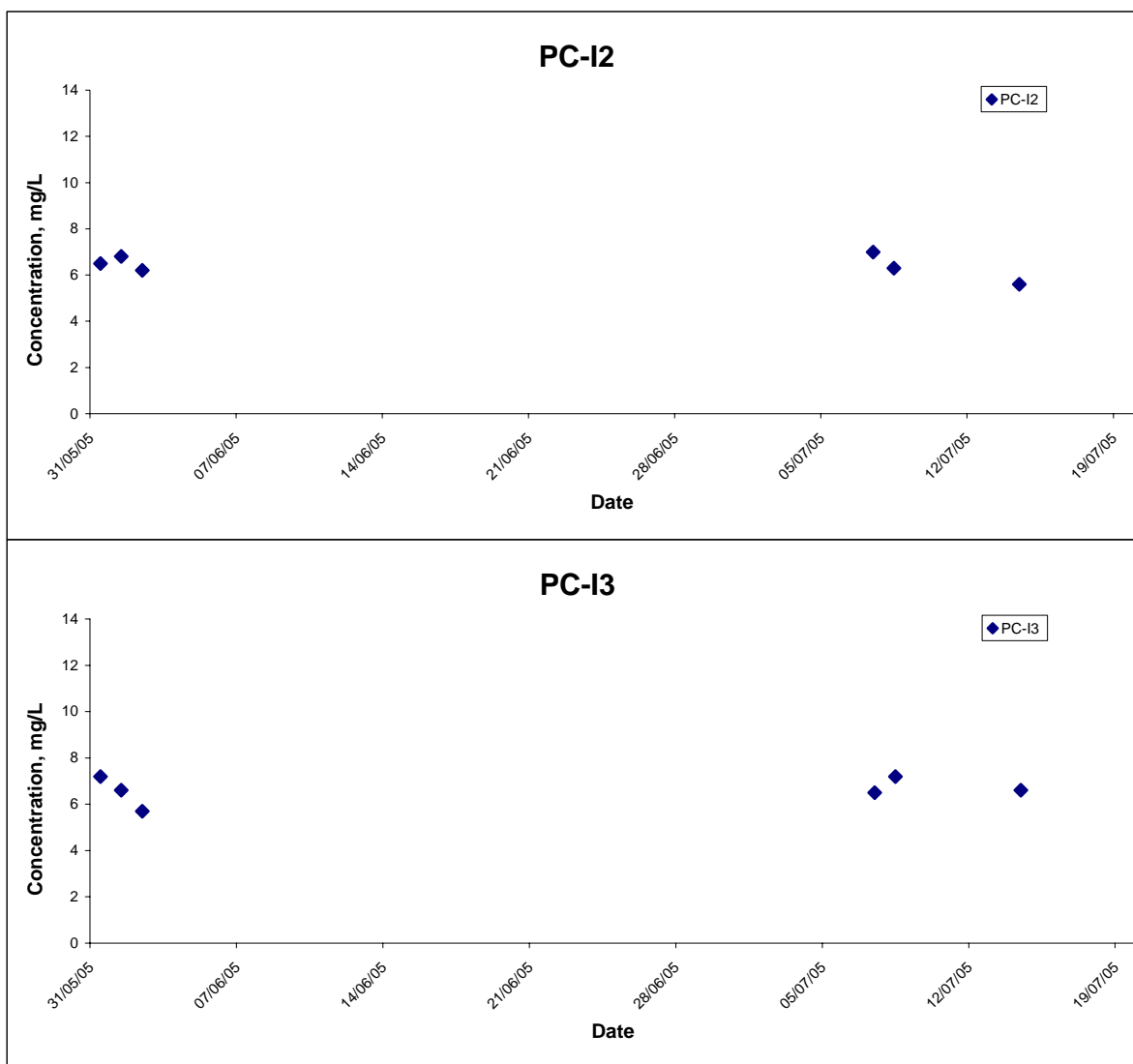
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		Date	Jul 05	Appendix	C	

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



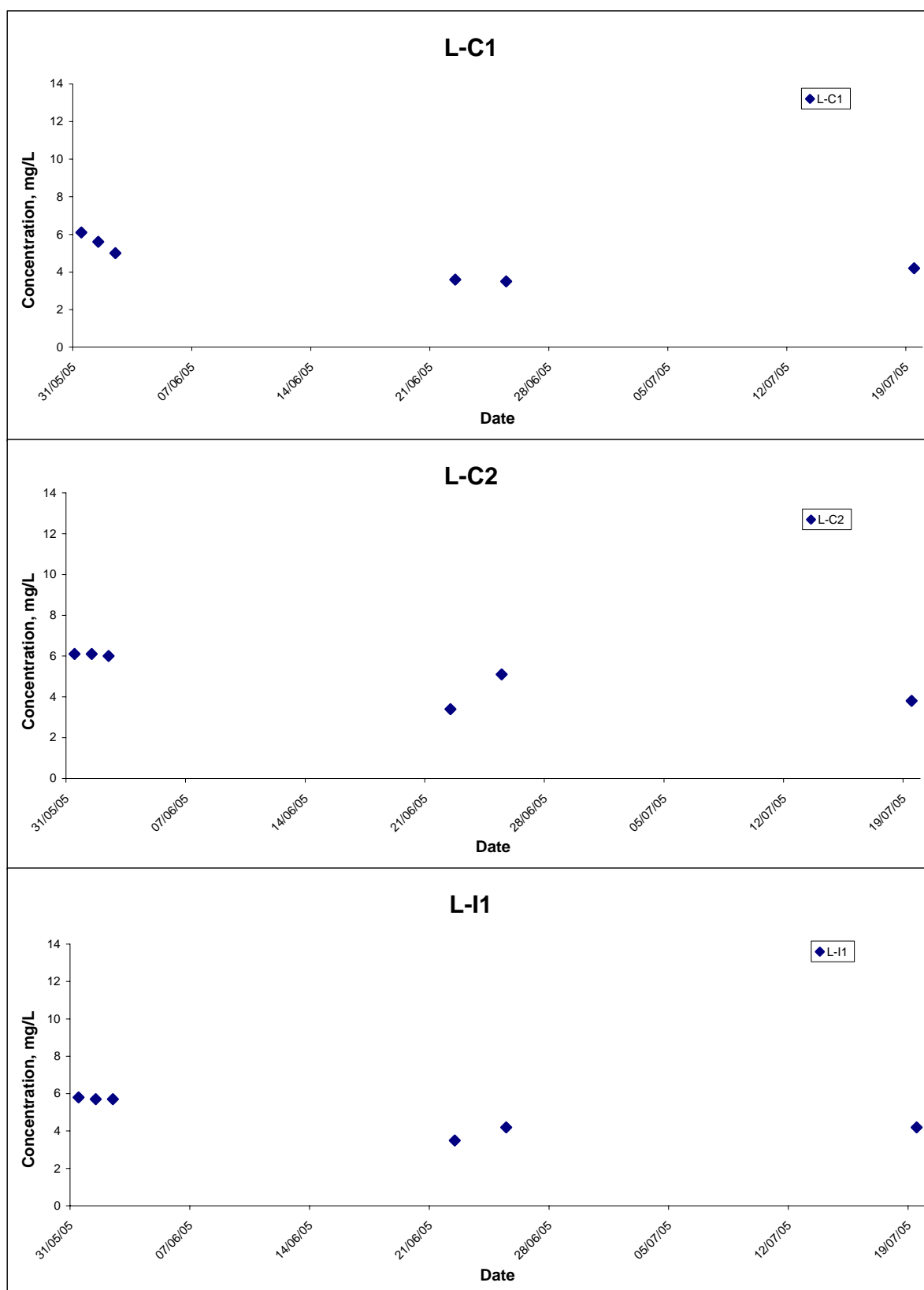
Title Lamma Power Station Extension – Supply and Installation of Submarine Gas Pipeline Graphical Presentation of Water Quality Monitoring Results	Scale N.T.S	Project No. MA4017	CINOTECH
	Date Jul 05	Appendix C	

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



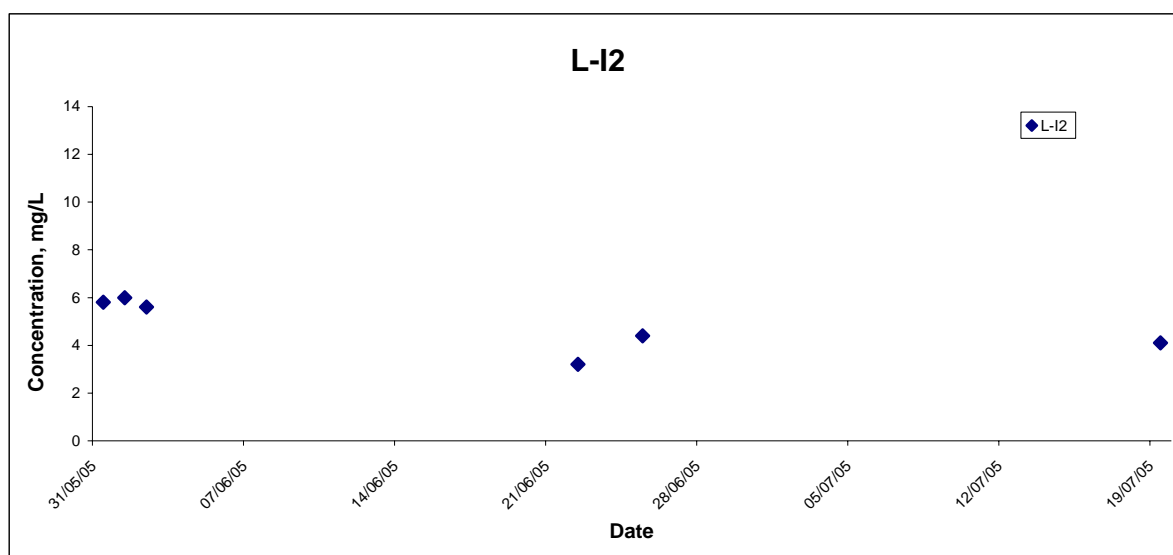
Title Lamma Power Station Extension – Supply and Installation of Submarine Gas Pipeline Graphical Presentation of Water Quality Monitoring Results	Scale N.T.S	Project No. MA4017	CINOTECH
	Date Jul 05	Appendix C	

Dissolved Oxygen (Bottom) at Mid-Ebb Tide



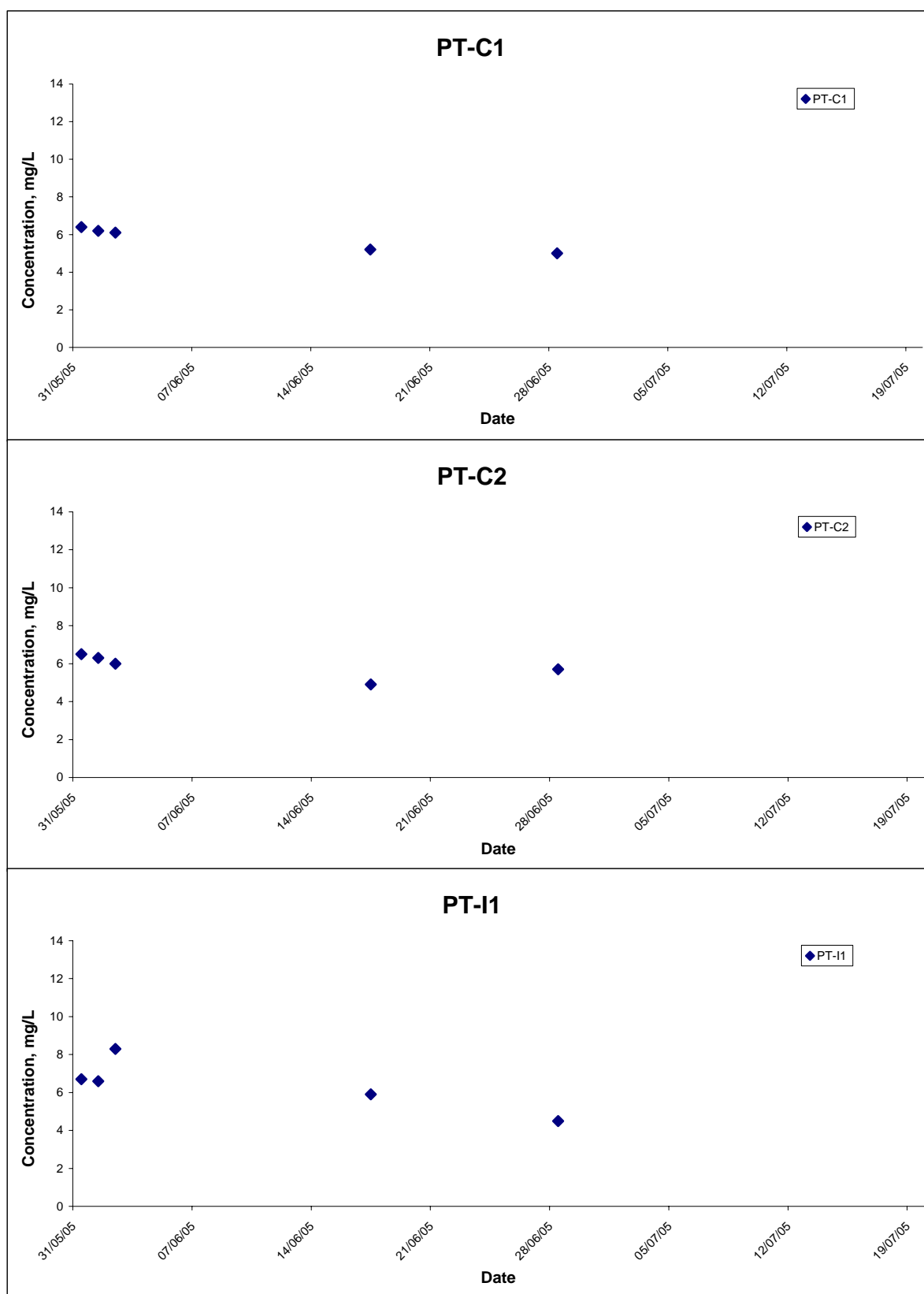
Title	Lamma Power Station Extension – Supply and Installation of Submarine Gas Pipeline Graphical Presentation of Water Quality Monitoring Results	Scale	N.T.S	Project No.	MA4017	CINOTECH
		Date	Jul 05	Appendix	C	

Dissolved Oxygen (Bottom) at Mid-Ebb Tide



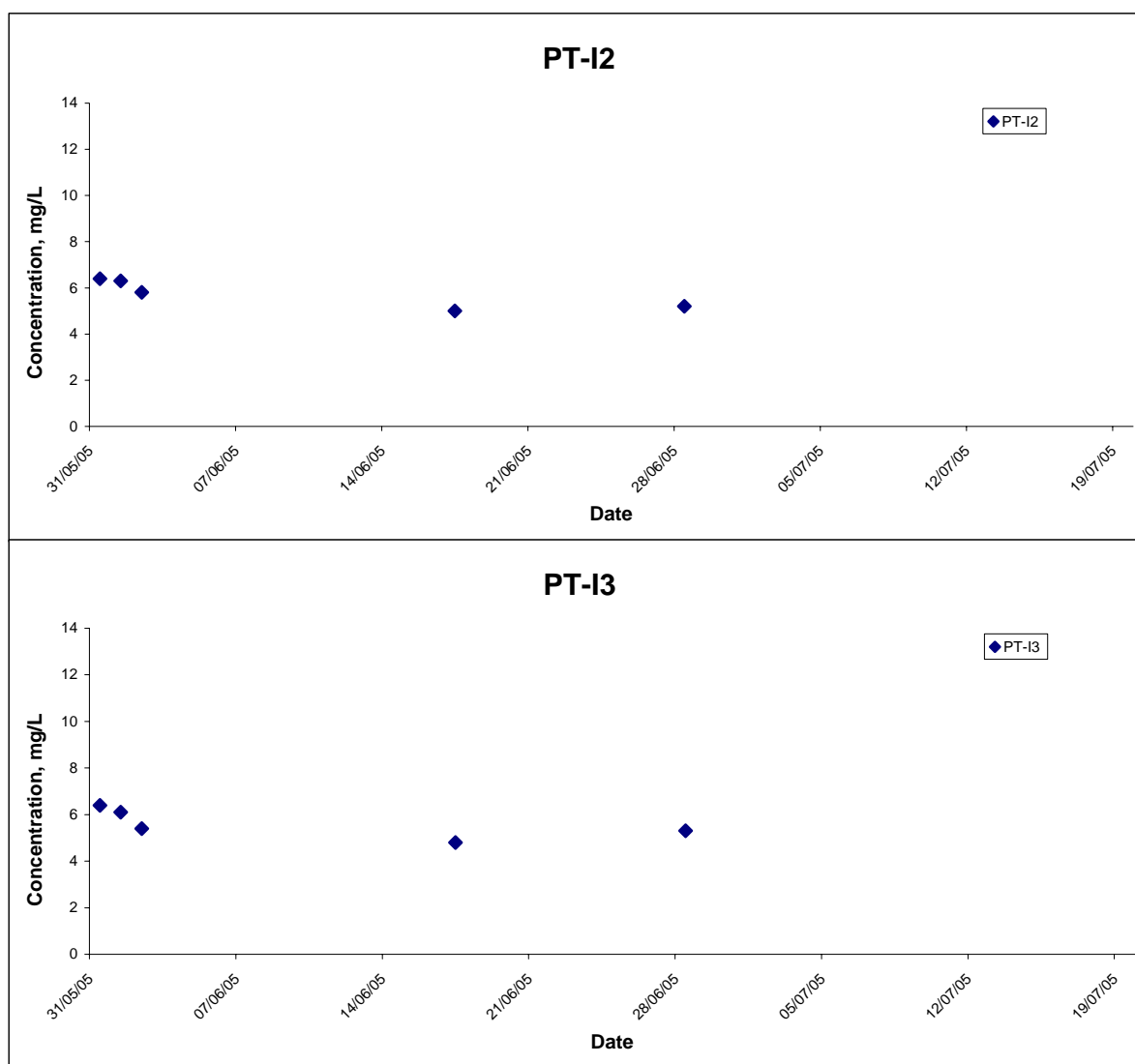
Title Lamma Power Station Extension – Supply and Installation of Submarine Gas Pipeline Graphical Presentation of Water Quality Monitoring Results	Scale N.T.S	Project No. MA4017	CINOTECH
	Date Jul 05	Appendix C	

Dissolved Oxygen (Bottom) at Mid-Ebb Tide



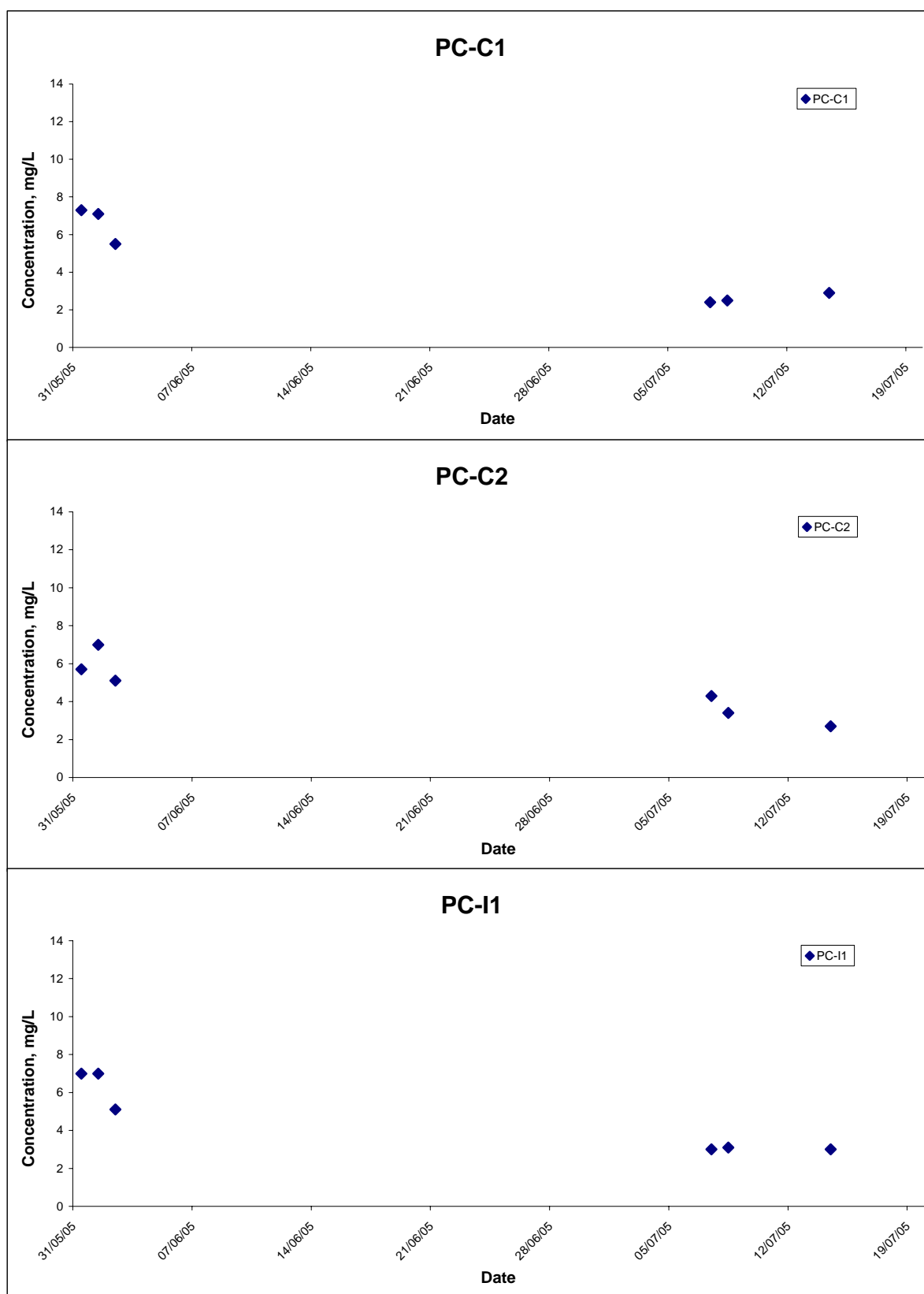
Title Lamma Power Station Extension – Supply and Installation of Submarine Gas Pipeline Graphical Presentation of Water Quality Monitoring Results	Scale N.T.S	Project No. MA4017	CINOTECH
	Date Jul 05	Appendix C	

Dissolved Oxygen (Bottom) at Mid-Ebb Tide



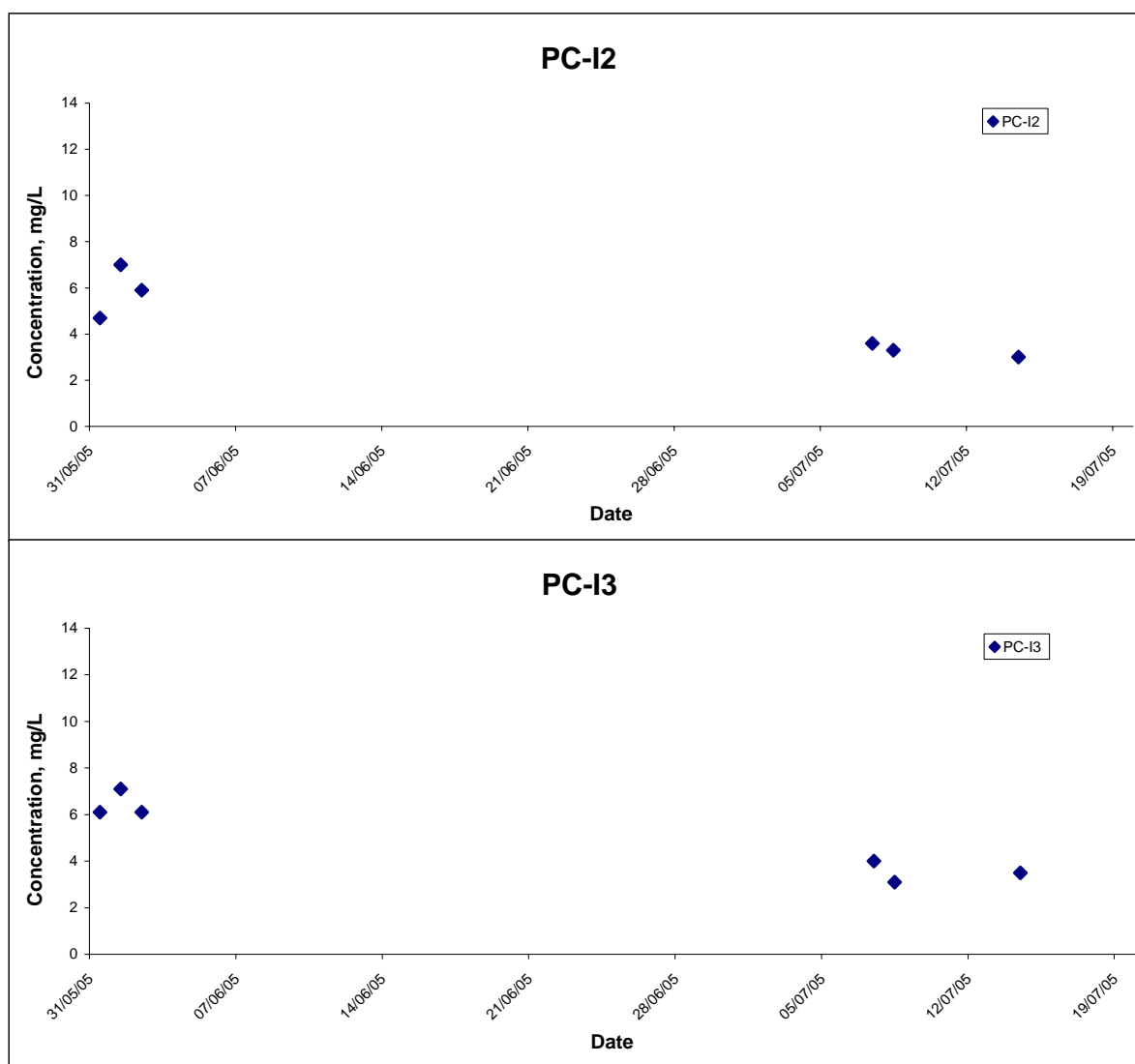
Title Lamma Power Station Extension – Supply and Installation of Submarine Gas Pipeline Graphical Presentation of Water Quality Monitoring Results	Scale N.T.S	Project No. MA4017	CINOTECH
	Date Jul 05	Appendix C	

Dissolved Oxygen (Bottom) at Mid-Ebb Tide



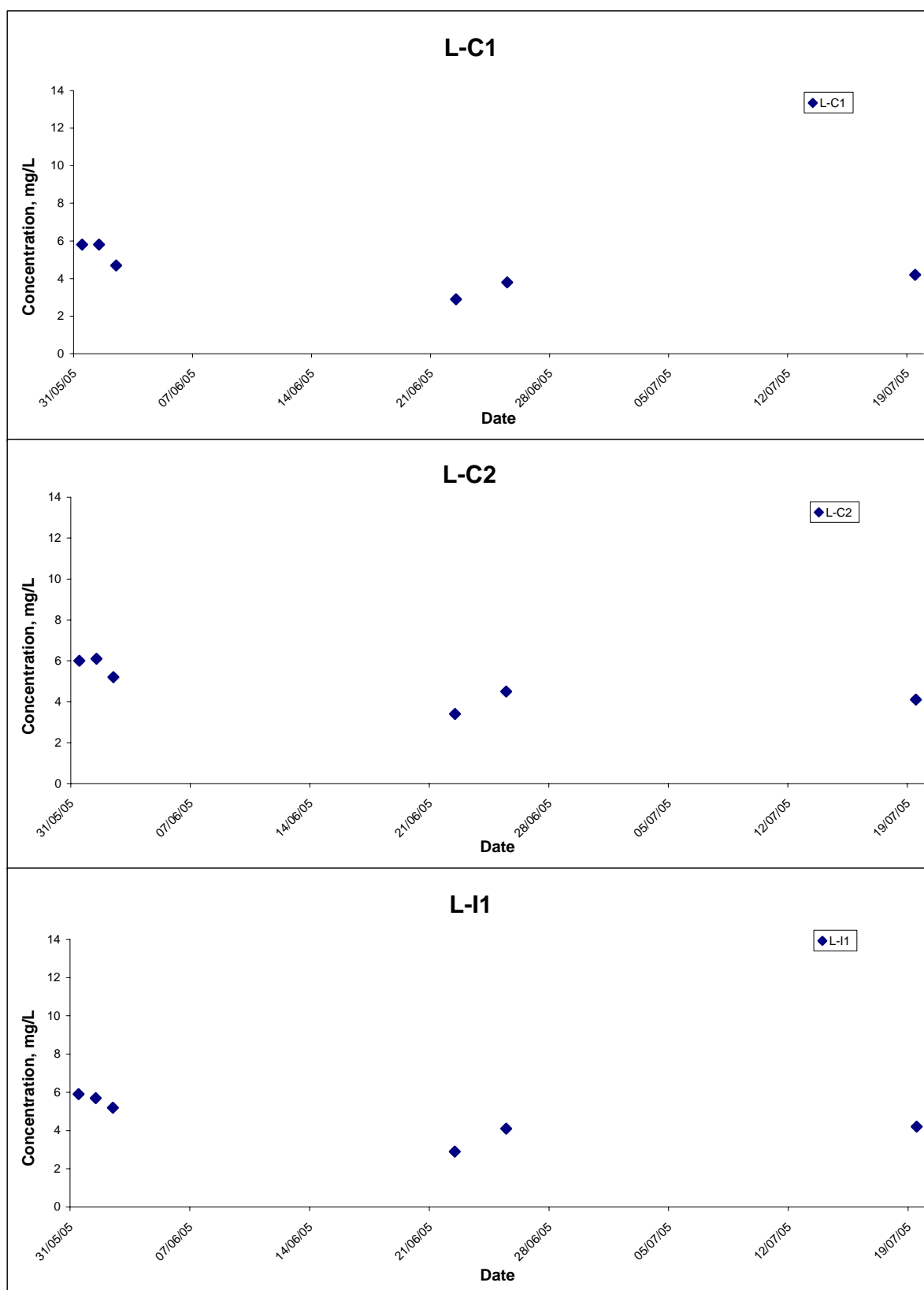
Title Lamma Power Station Extension – Supply and Installation of Submarine Gas Pipeline Graphical Presentation of Water Quality Monitoring Results	Scale N.T.S	Project No. MA4017	
	Date Jul 05	Appendix C	

Dissolved Oxygen (Bottom) at Mid-Ebb Tide



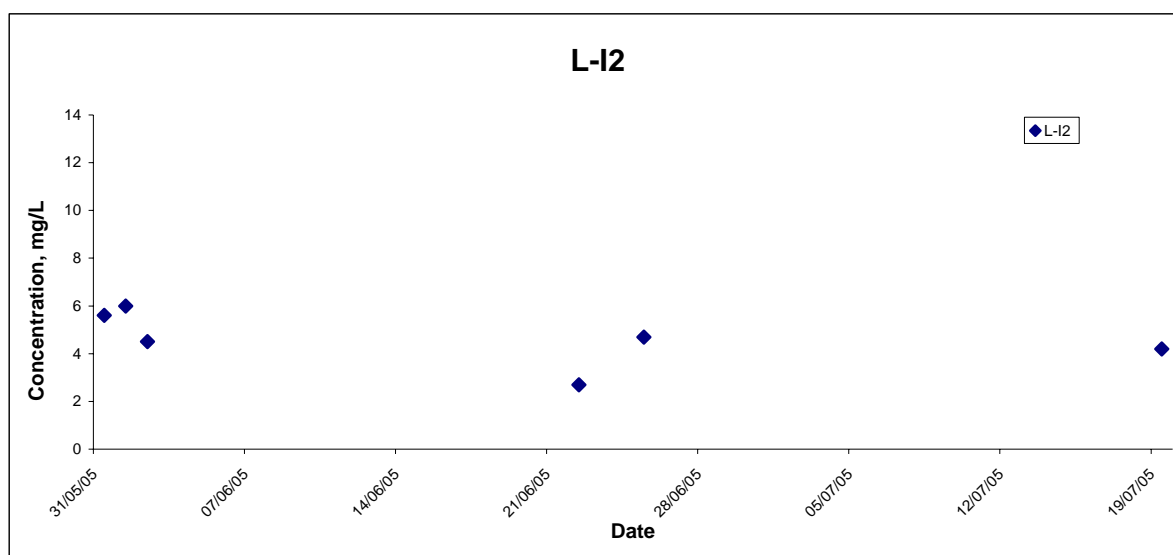
Title Lamma Power Station Extension – Supply and Installation of Submarine Gas Pipeline Graphical Presentation of Water Quality Monitoring Results	Scale N.T.S	Project No. MA4017	CINOTECH
	Date Jul 05	Appendix C	

Dissolved Oxygen (Bottom) at Mid-Flood Tide



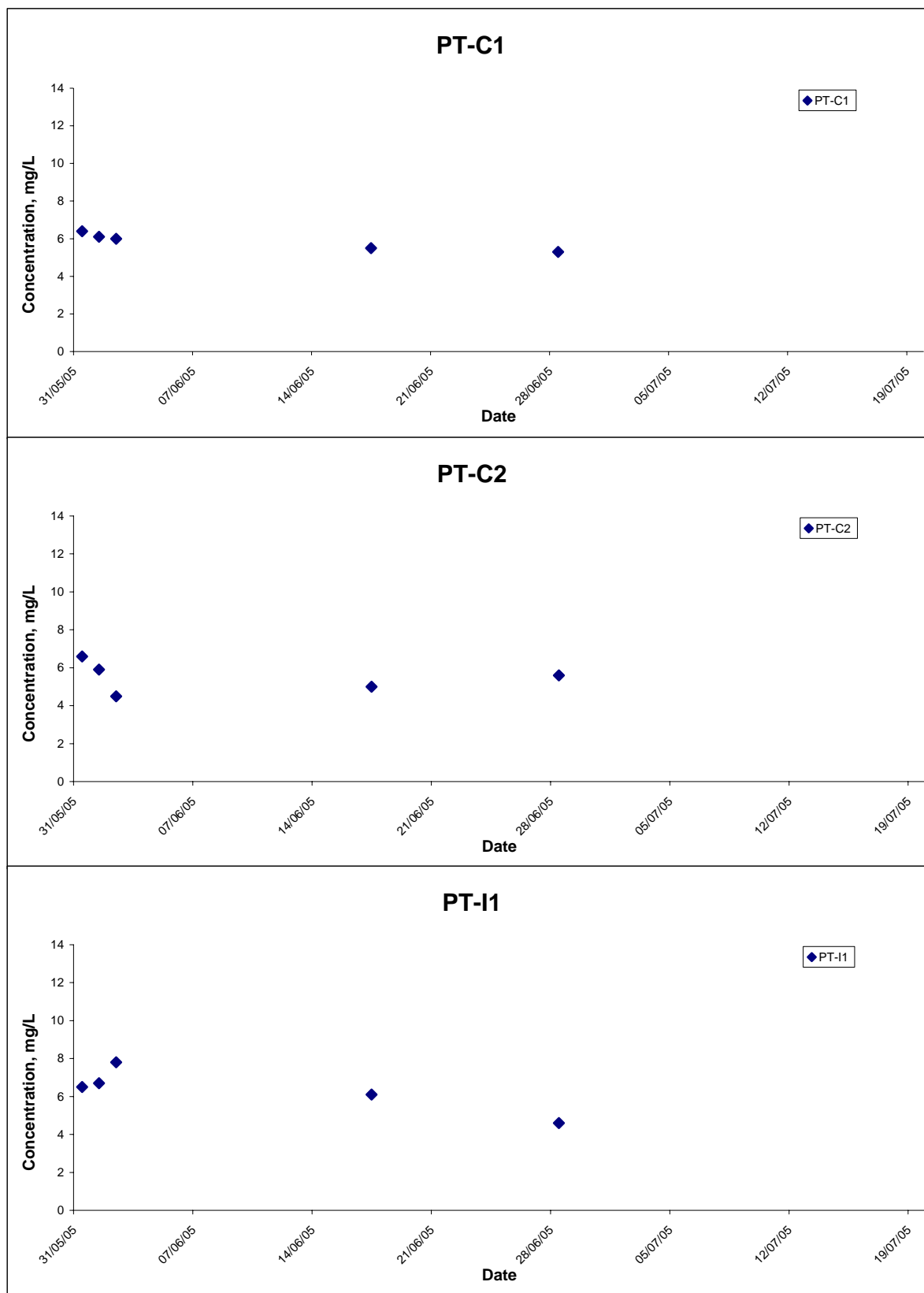
Title	Lamma Power Station Extension – Supply and Installation of Submarine Gas Pipeline		Scale	N.T.S	Project No.	MA4017	CINOTECH
	Graphical Presentation of Water Quality Monitoring Results		Date	Jul 05	Appendix	C	

Dissolved Oxygen (Bottom) at Mid-Flood Tide



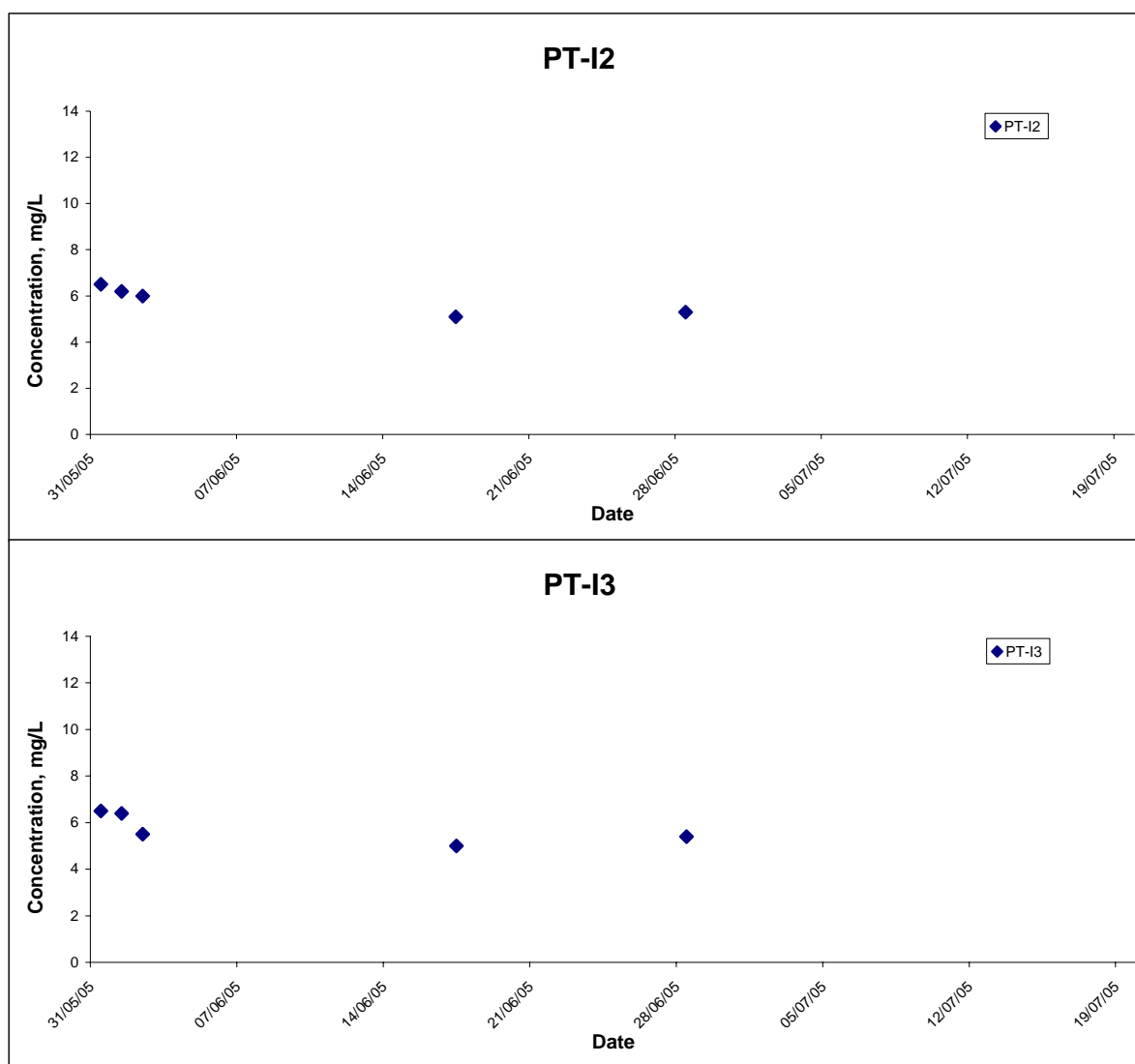
Title Lamma Power Station Extension – Supply and Installation of Submarine Gas Pipeline Graphical Presentation of Water Quality Monitoring Results	Scale N.T.S	Project No. MA4017	CINOTECH
	Date Jul 05	Appendix C	

Dissolved Oxygen (Bottom) at Mid-Flood Tide



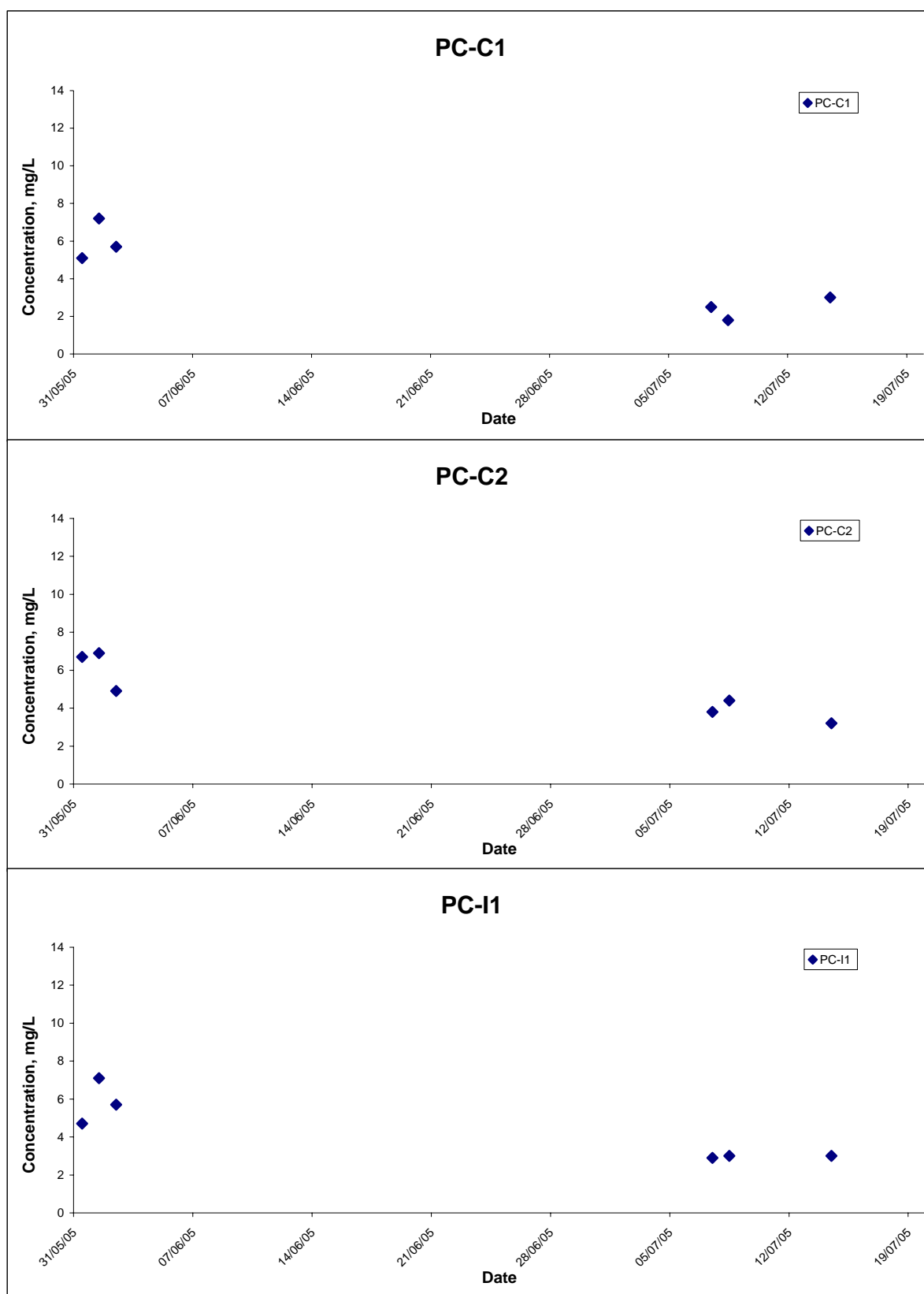
Title Lamma Power Station Extension – Supply and Installation of Submarine Gas Pipeline Graphical Presentation of Water Quality Monitoring Results	Scale N.T.S	Project No. MA4017	CINOTECH
	Date Jul 05	Appendix C	

Dissolved Oxygen (Bottom) at Mid-Flood Tide



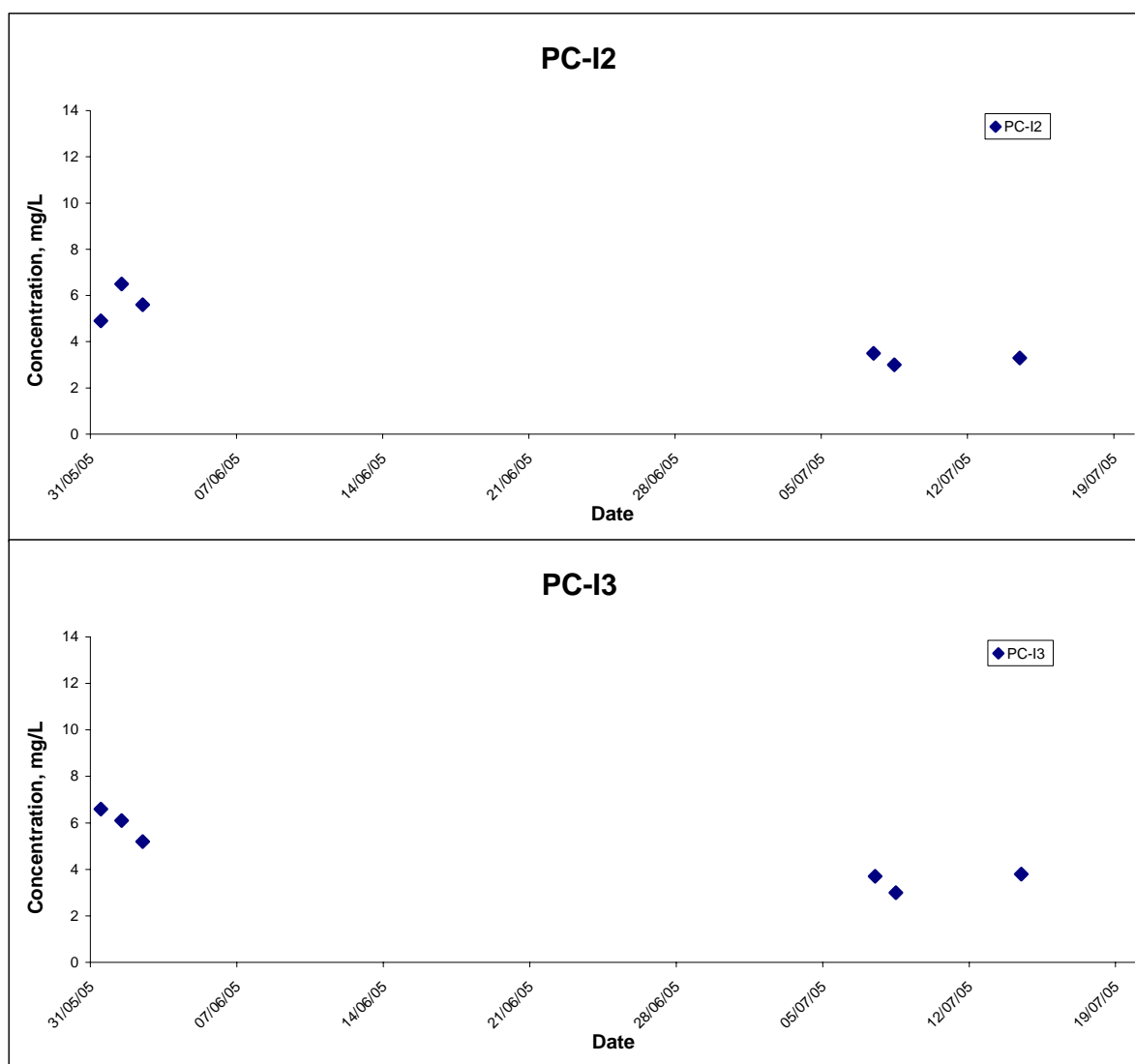
Title Lamma Power Station Extension – Supply and Installation of Submarine Gas Pipeline Graphical Presentation of Water Quality Monitoring Results	Scale N.T.S	Project No. MA4017	CINOTECH
	Date Jul 05	Appendix C	

Dissolved Oxygen (Bottom) at Mid-Flood Tide



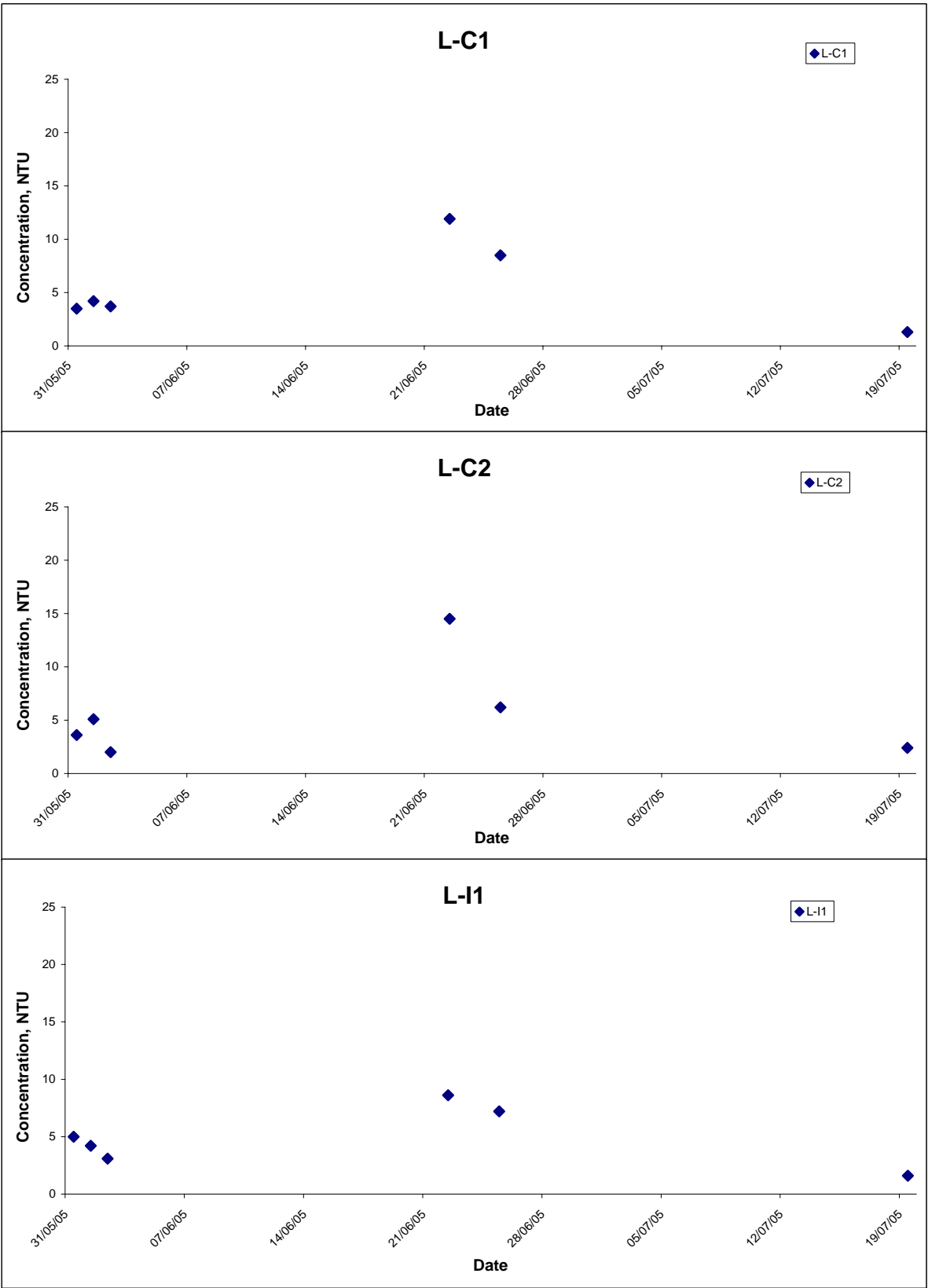
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	Date Jul 05	Appendix C	

Dissolved Oxygen (Bottom) at Mid-Flood Tide



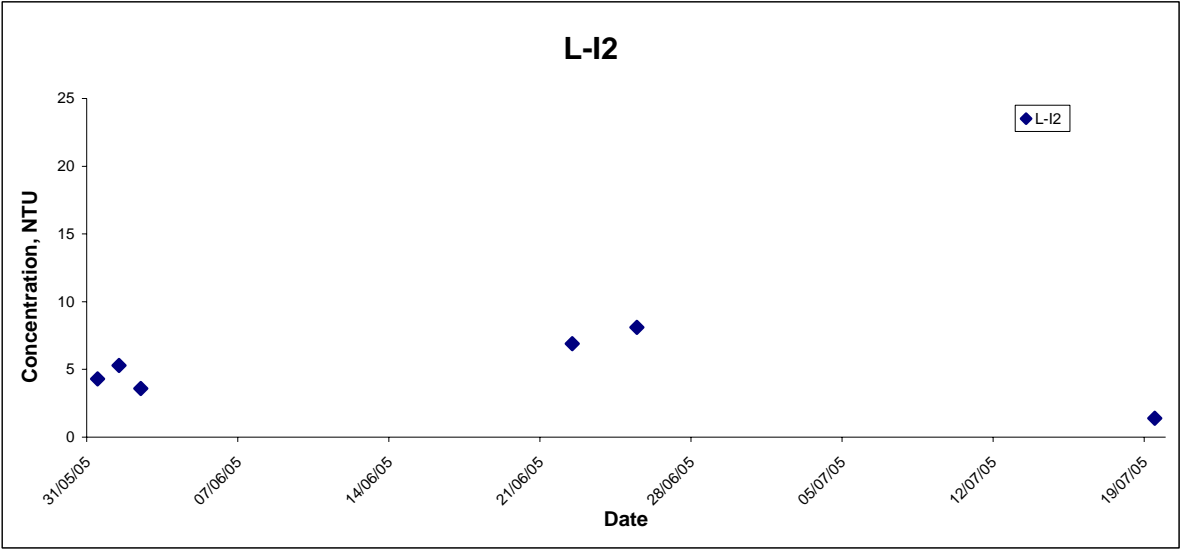
Title Lamma Power Station Extension – Supply and Installation of Submarine Gas Pipeline Graphical Presentation of Water Quality Monitoring Results	Scale N.T.S	Project No. MA4017	CINOTECH
	Date Jul 05	Appendix C	

Turbidity at Mid-Ebb Tide



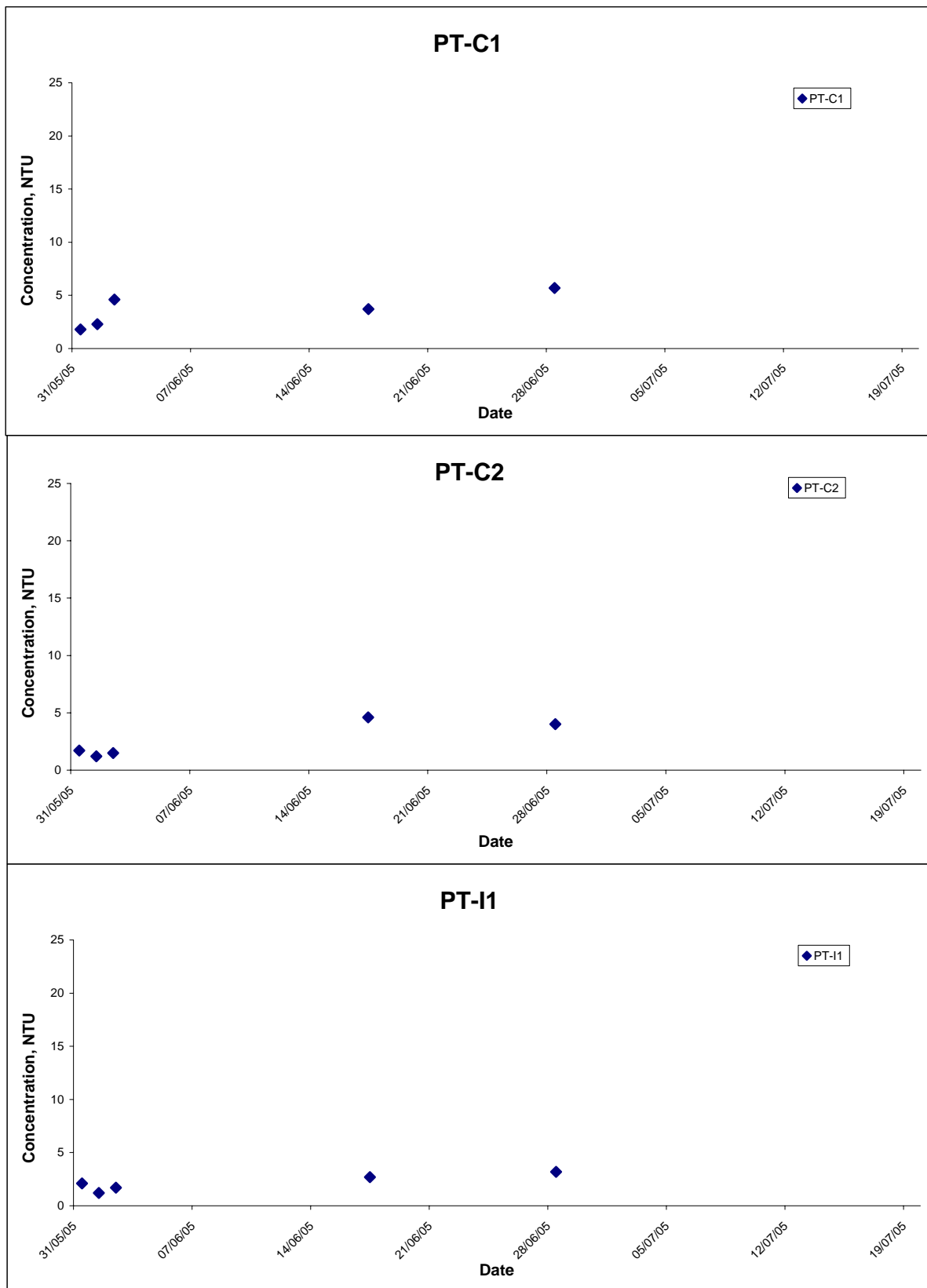
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		Date	Jul 05	Appendix	C	

Turbidity at Mid-Ebb Tide



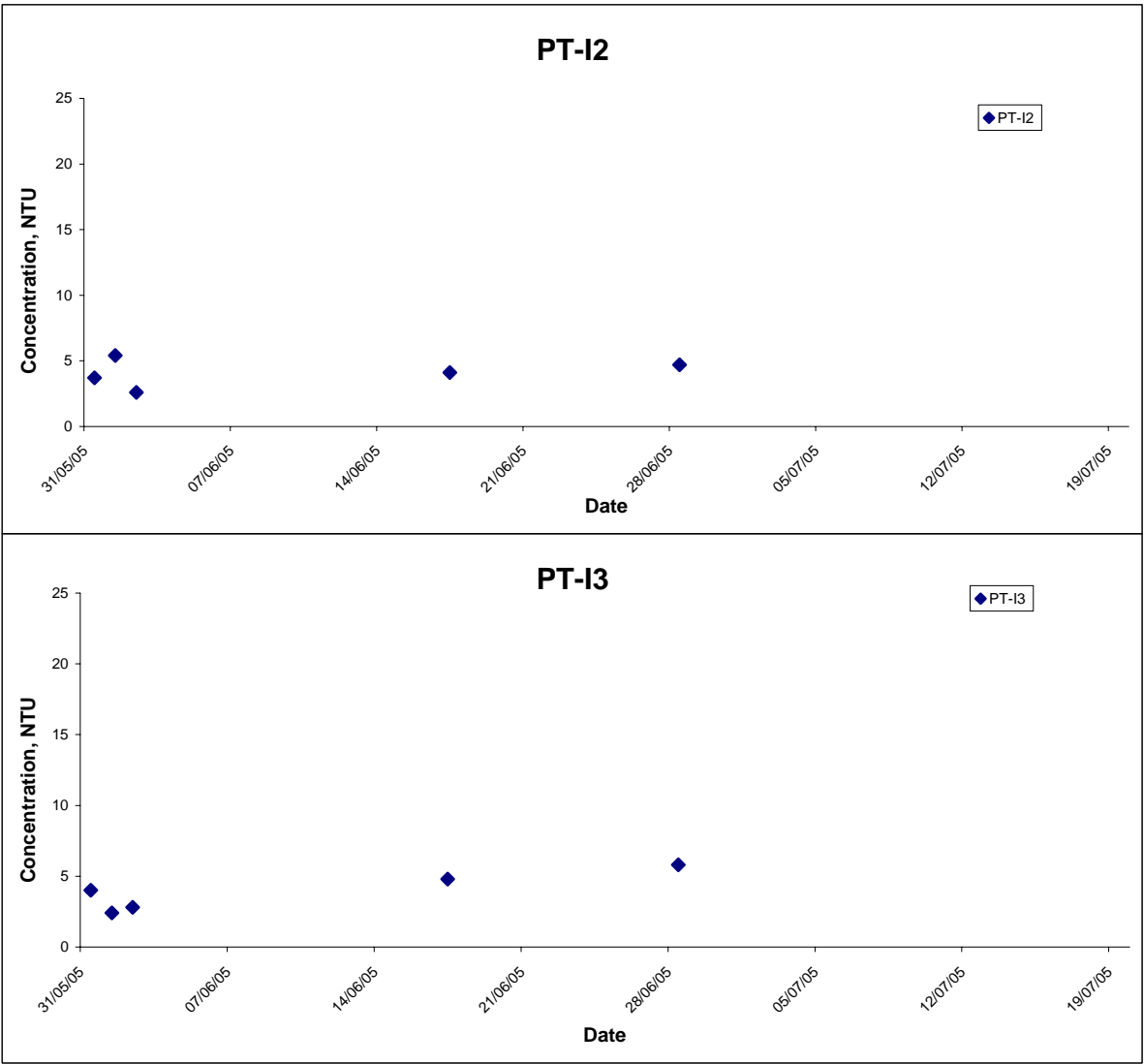
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		Date	Jul 05	Appendix	C	

Turbidity at Mid-Ebb Tide



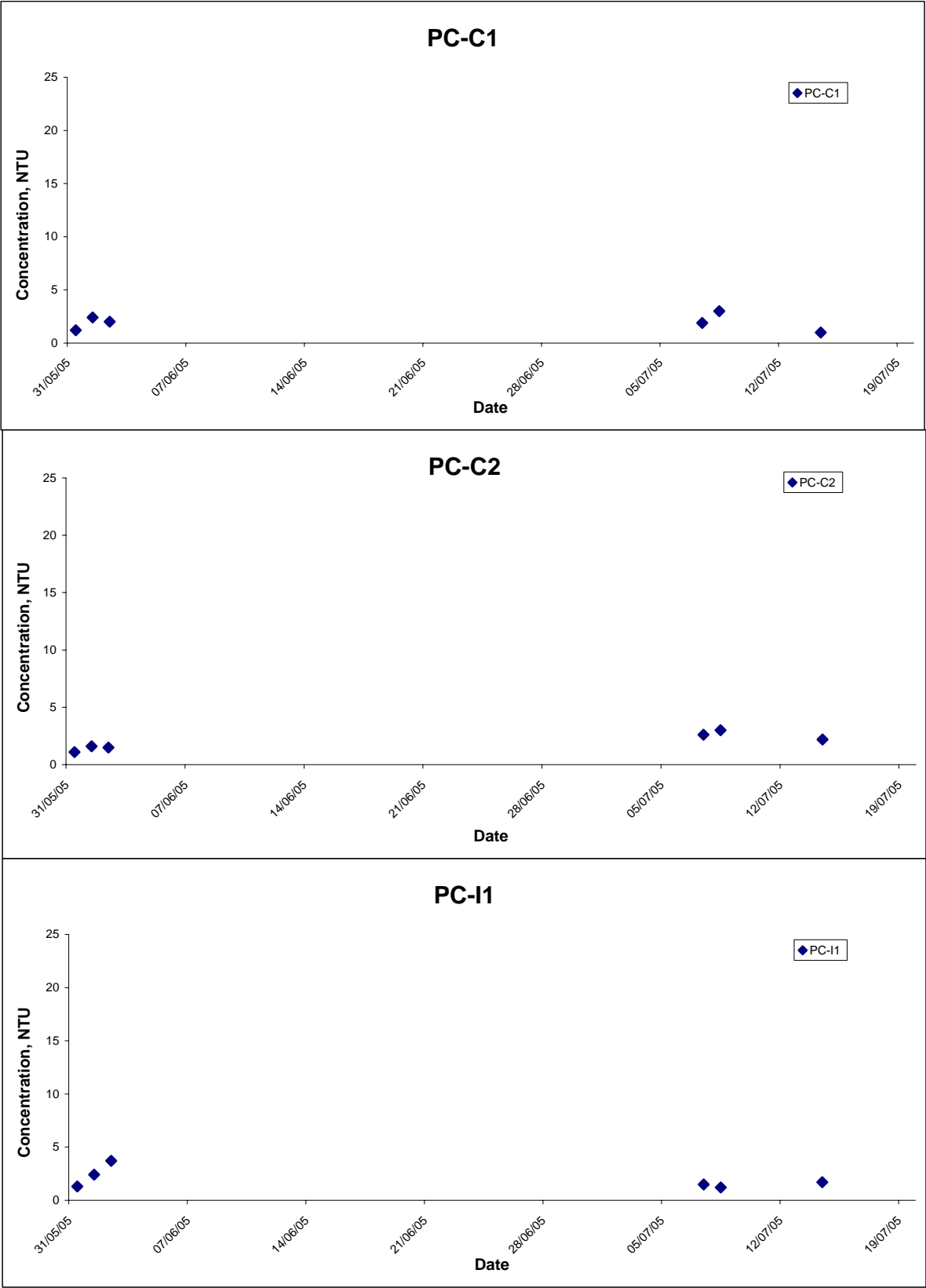
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	Graphical Presentation of Water Quality Monitoring Results		Date	Jul 05	Appendix	C	

Turbidity at Mid-Ebb Tide



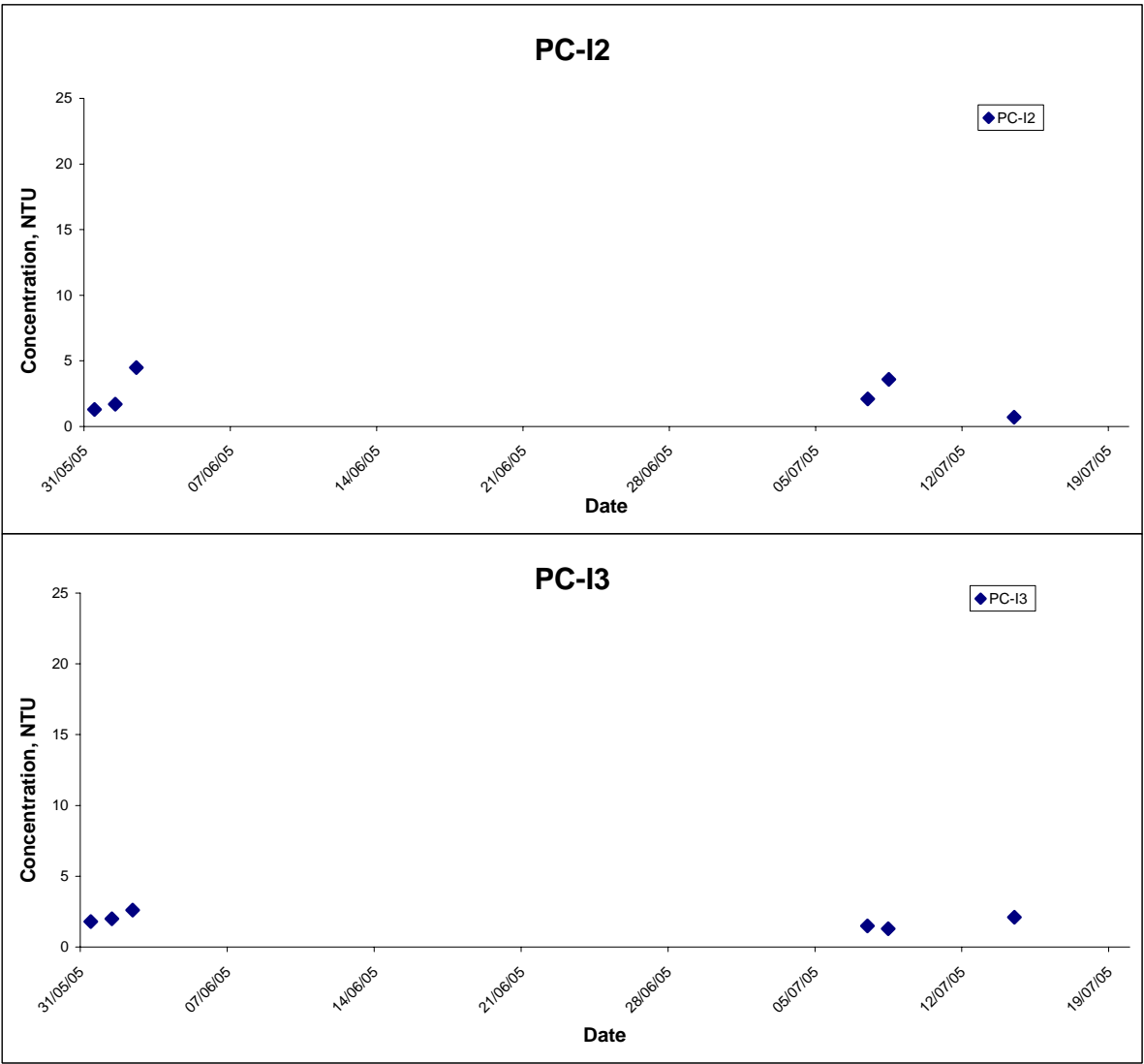
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		Date	Jul 05	Appendix	C	

Turbidity at Mid-Ebb Tide



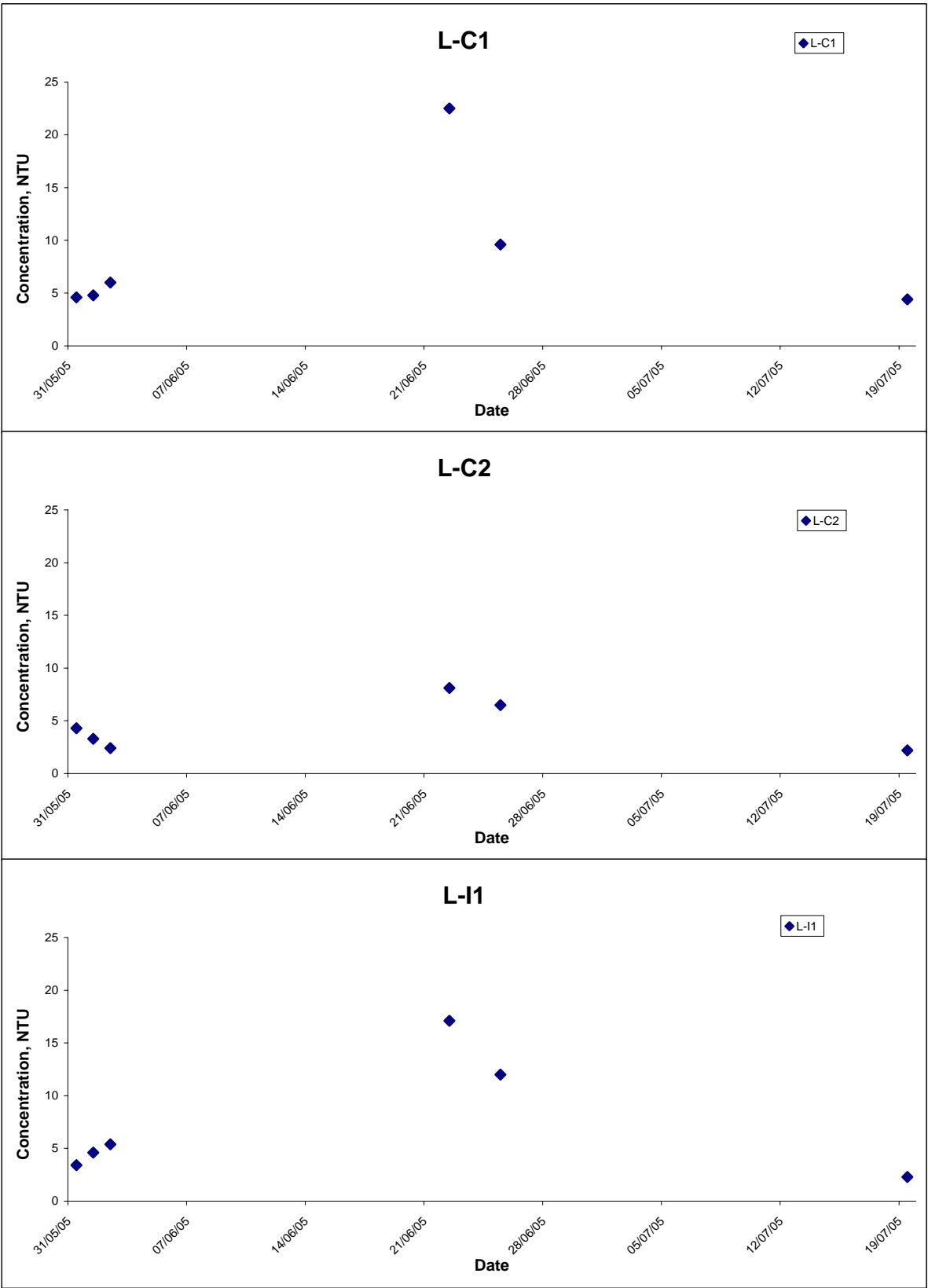
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		Date	Jul 05	Appendix	C	

Turbidity at Mid-Ebb Tide

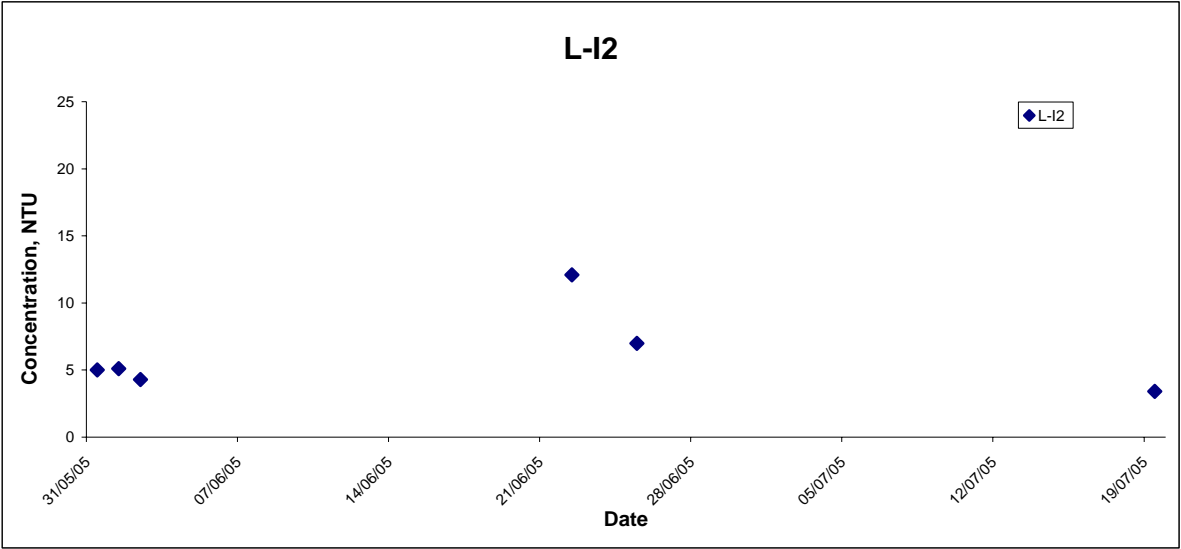


Title	Lamma Power Station Extension – Supply and Installation of Submarine Gas Pipeline Graphical Presentation of Water Quality Monitoring Results	Scale	N.T.S	Project No.	MA4017	CINOTECH
		Date	Jul 05	Appendix	C	

Turbidity at Mid-Flood Tide

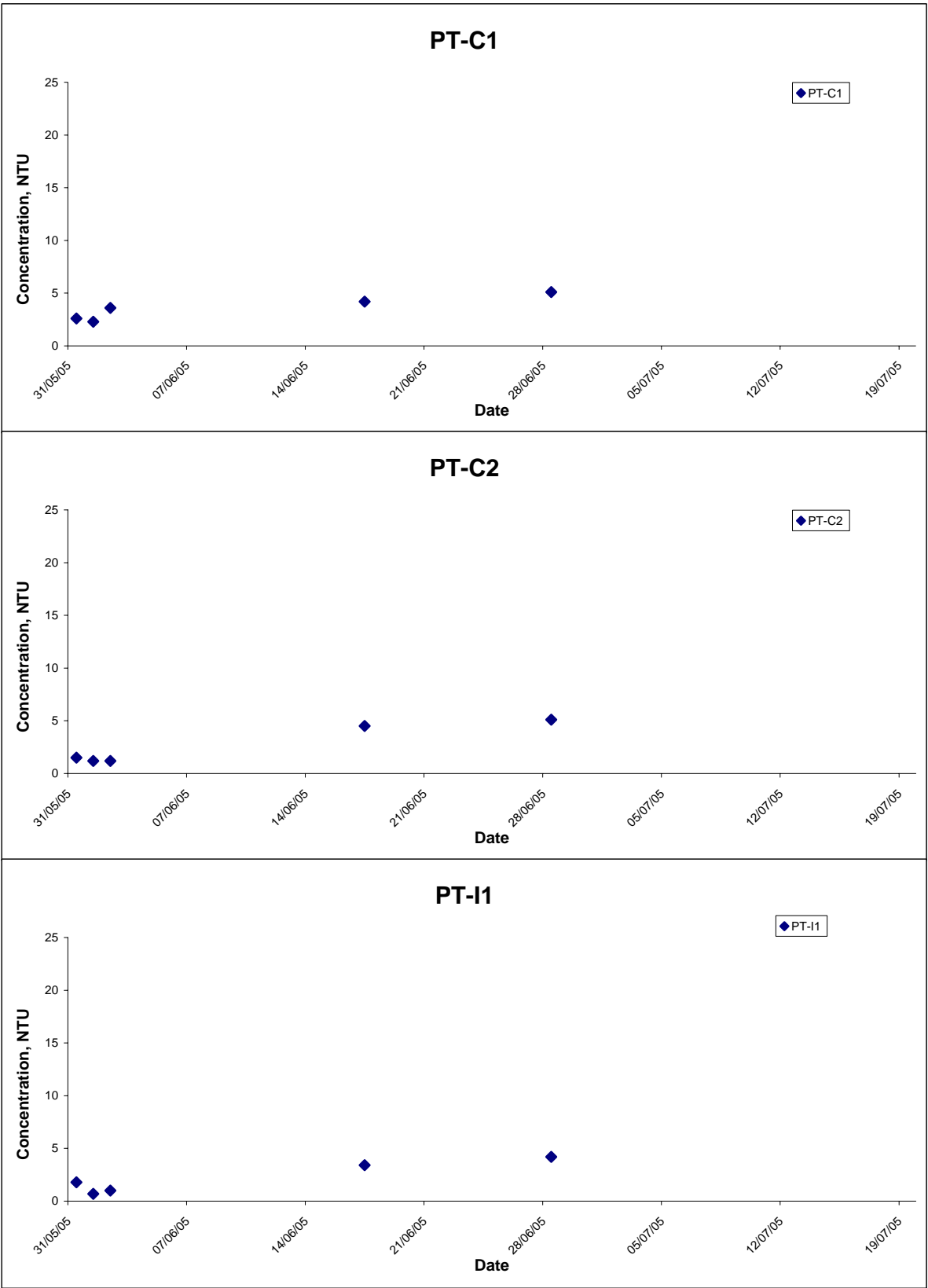


Turbidity at Mid-Flood Tide



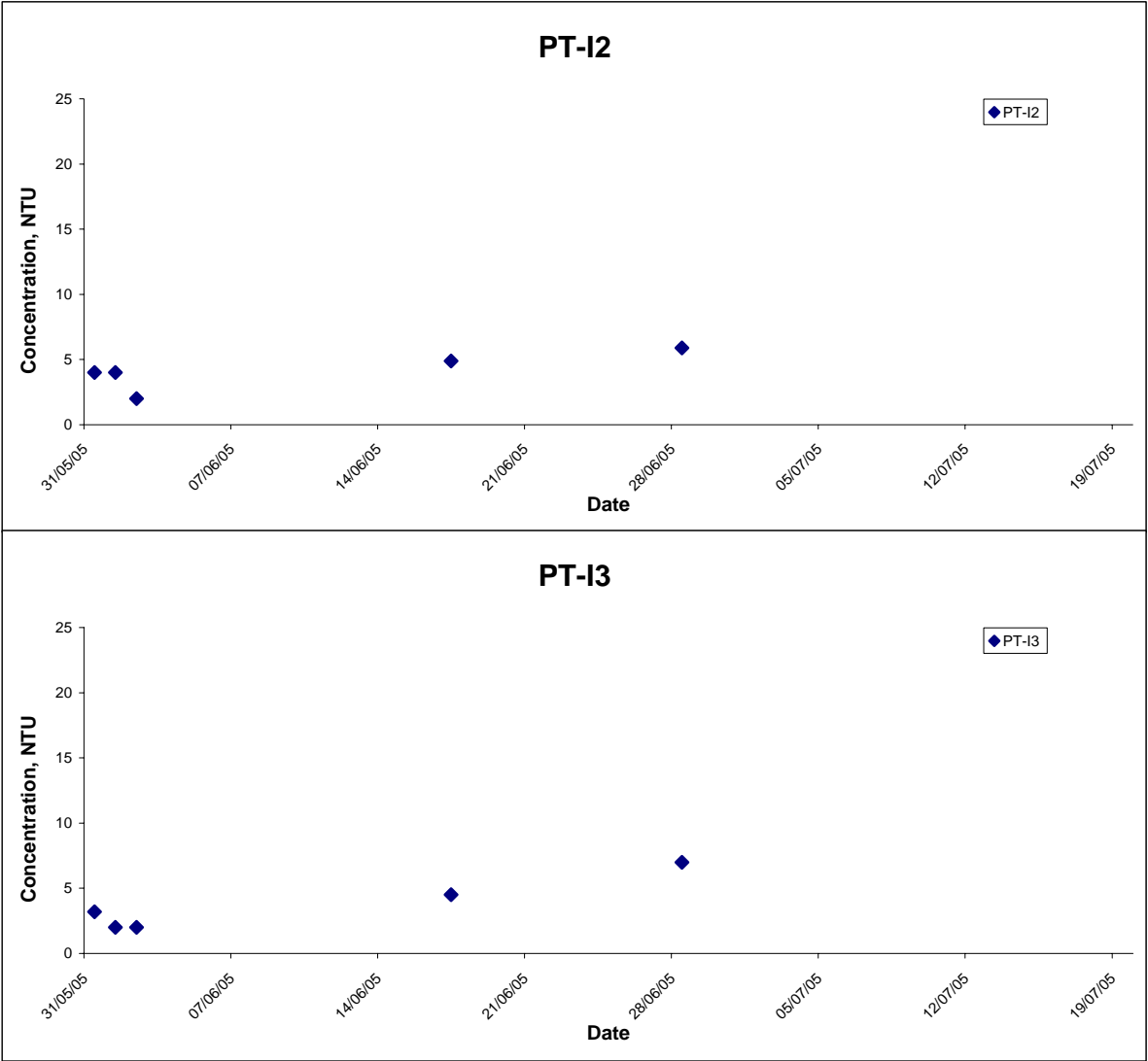
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		Date	Jul 05	Appendix	C	

Turbidity at Mid-Flood Tide



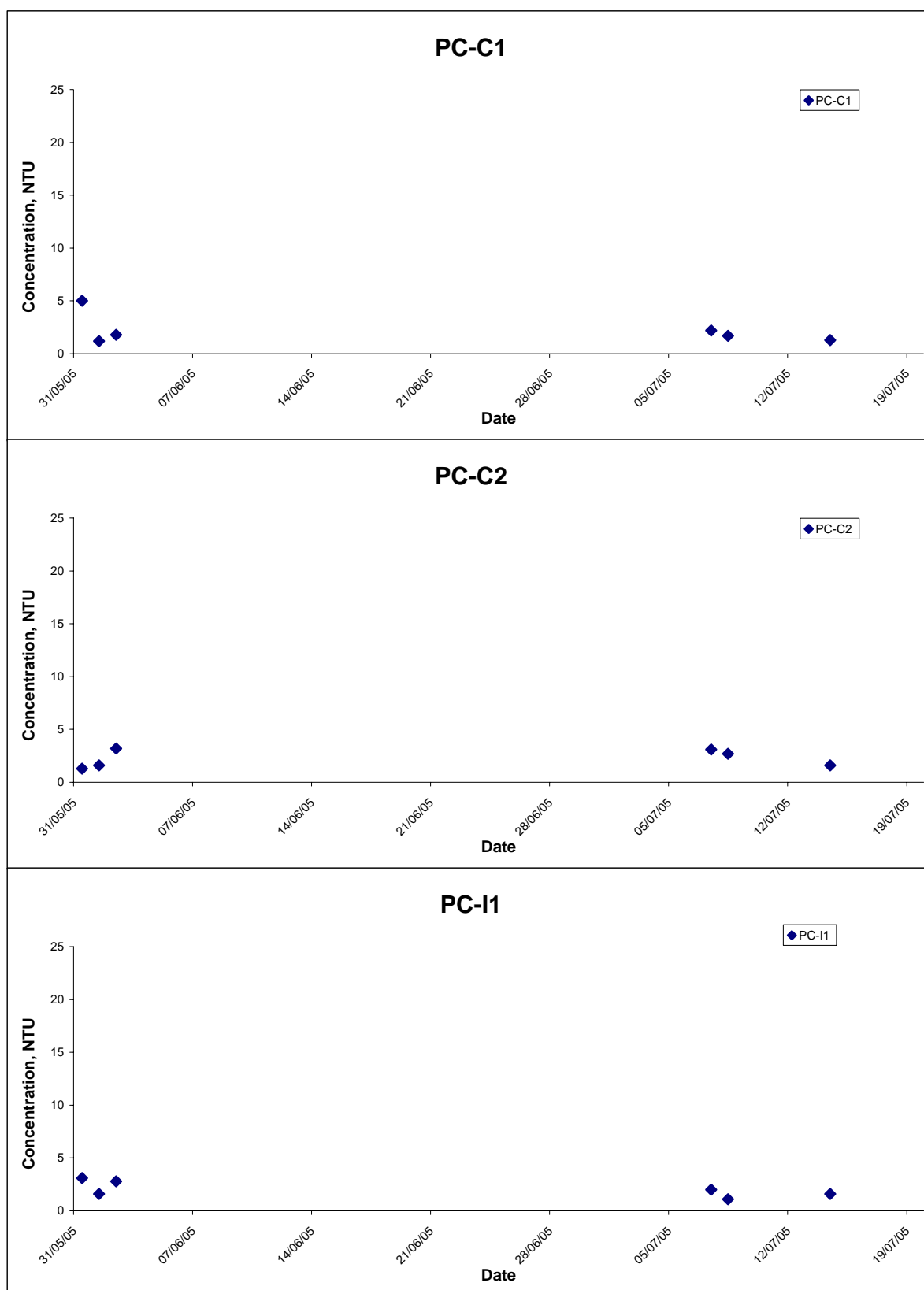
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		Date	Jul 05	Appendix	C	

Turbidity at Mid-Flood Tide



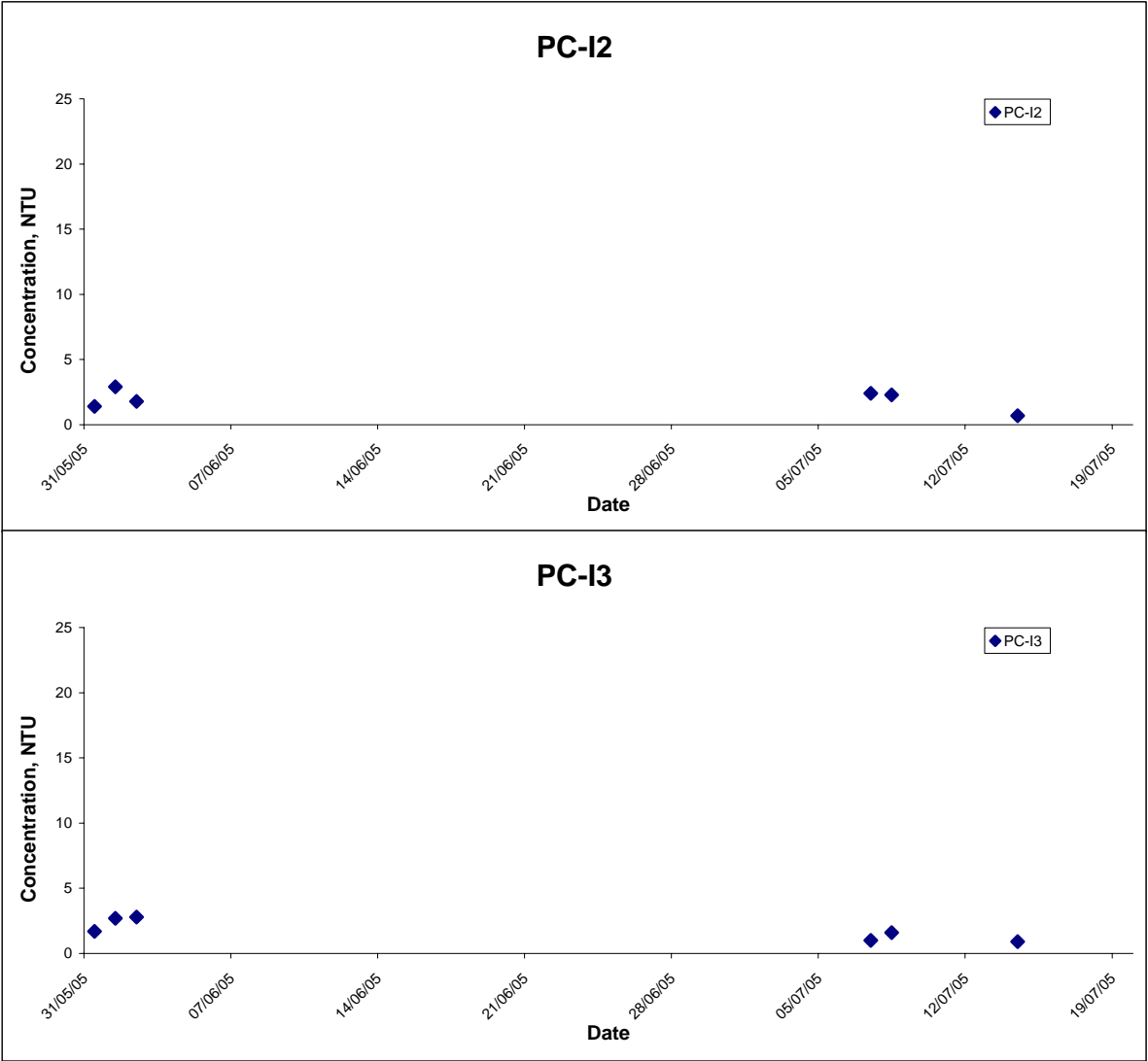
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		Date	Jul 05	Appendix	C	

Turbidity at Mid-Flood Tide



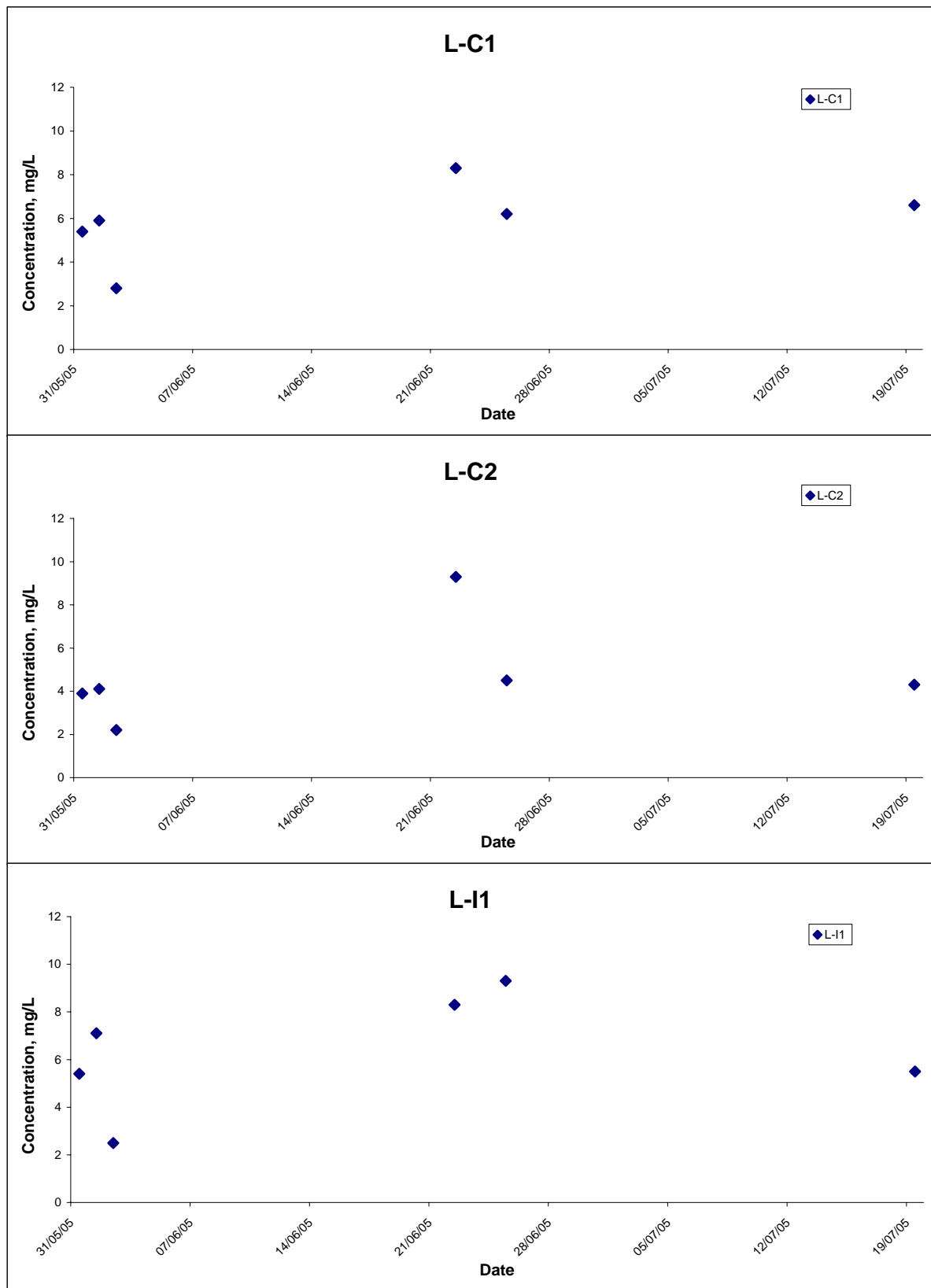
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	Graphical Presentation of Water Quality Monitoring Results		Date	Jul 05	Appendix	C	

Turbidity at Mid-Flood Tide



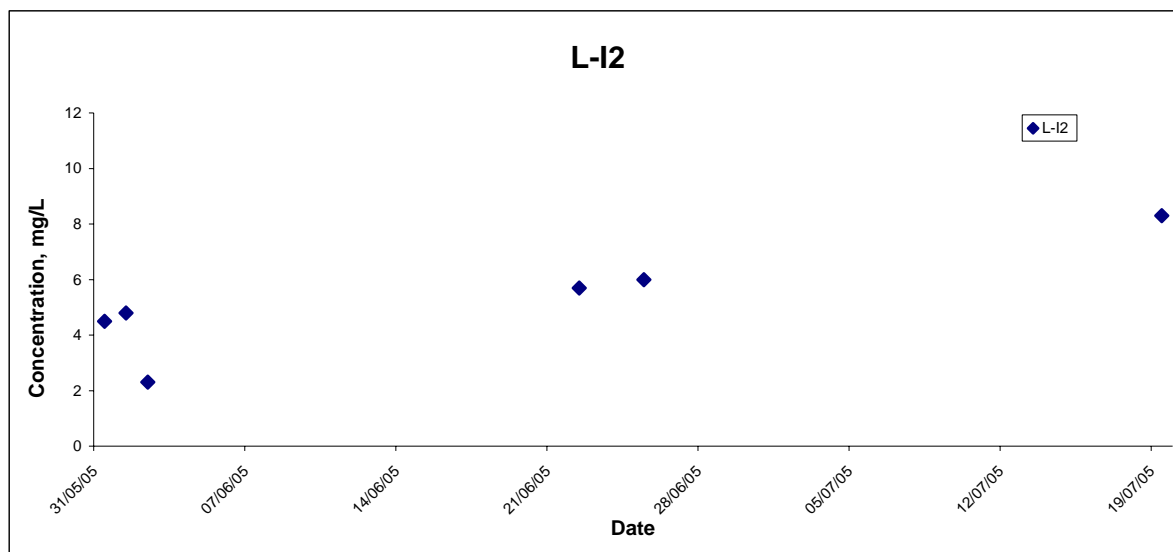
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		Date	Jul 05	Appendix	C	

Suspended Solids at Mid-Ebb Tide



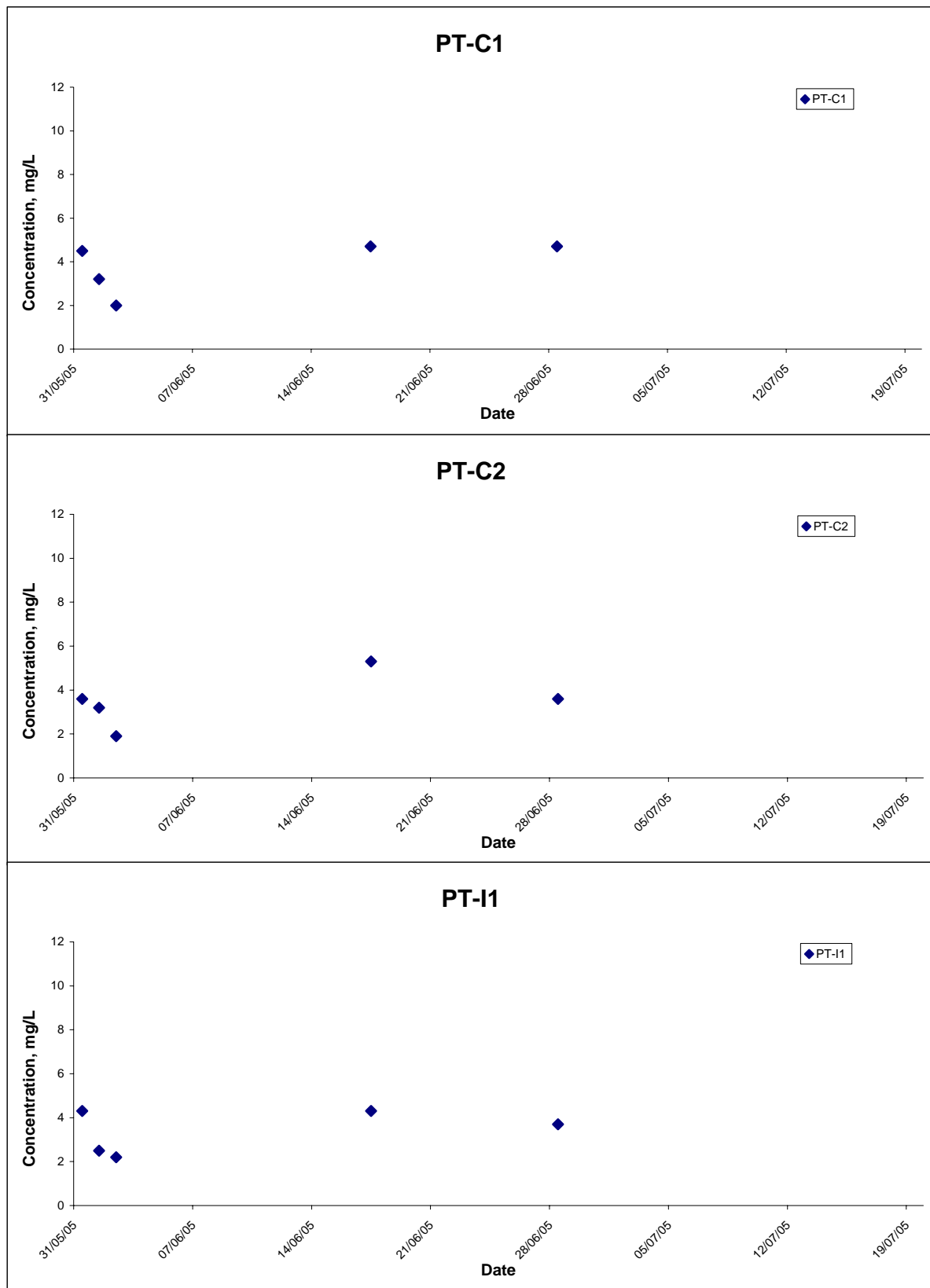
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	Graphical Presentation of Water Quality Monitoring Results	Date	Jul 05	Appendix	C	

Suspended Solids at Mid-Ebb Tide



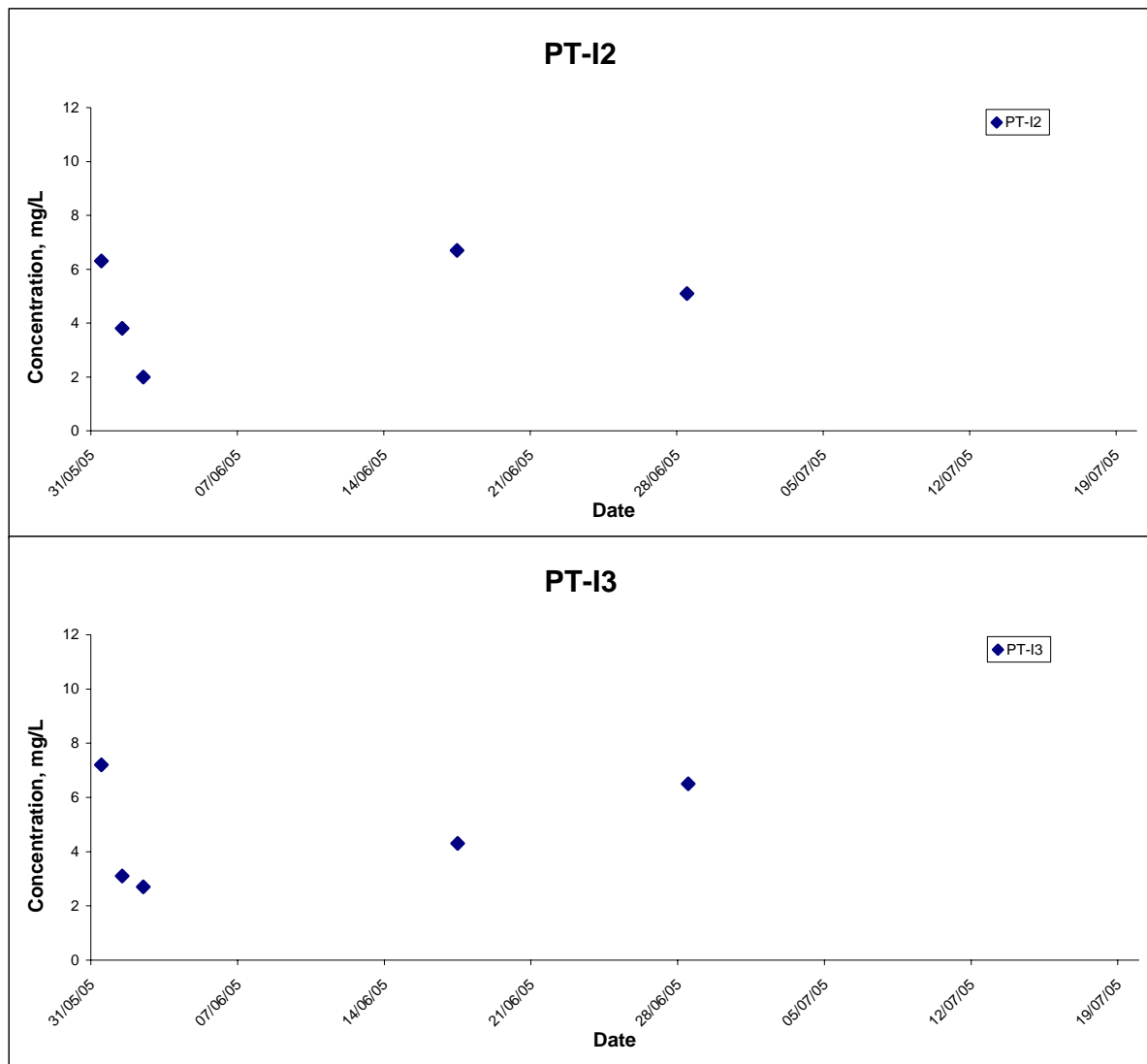
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		Date	Jul 05	Appendix	C	

Suspended Solids at Mid-Ebb Tide



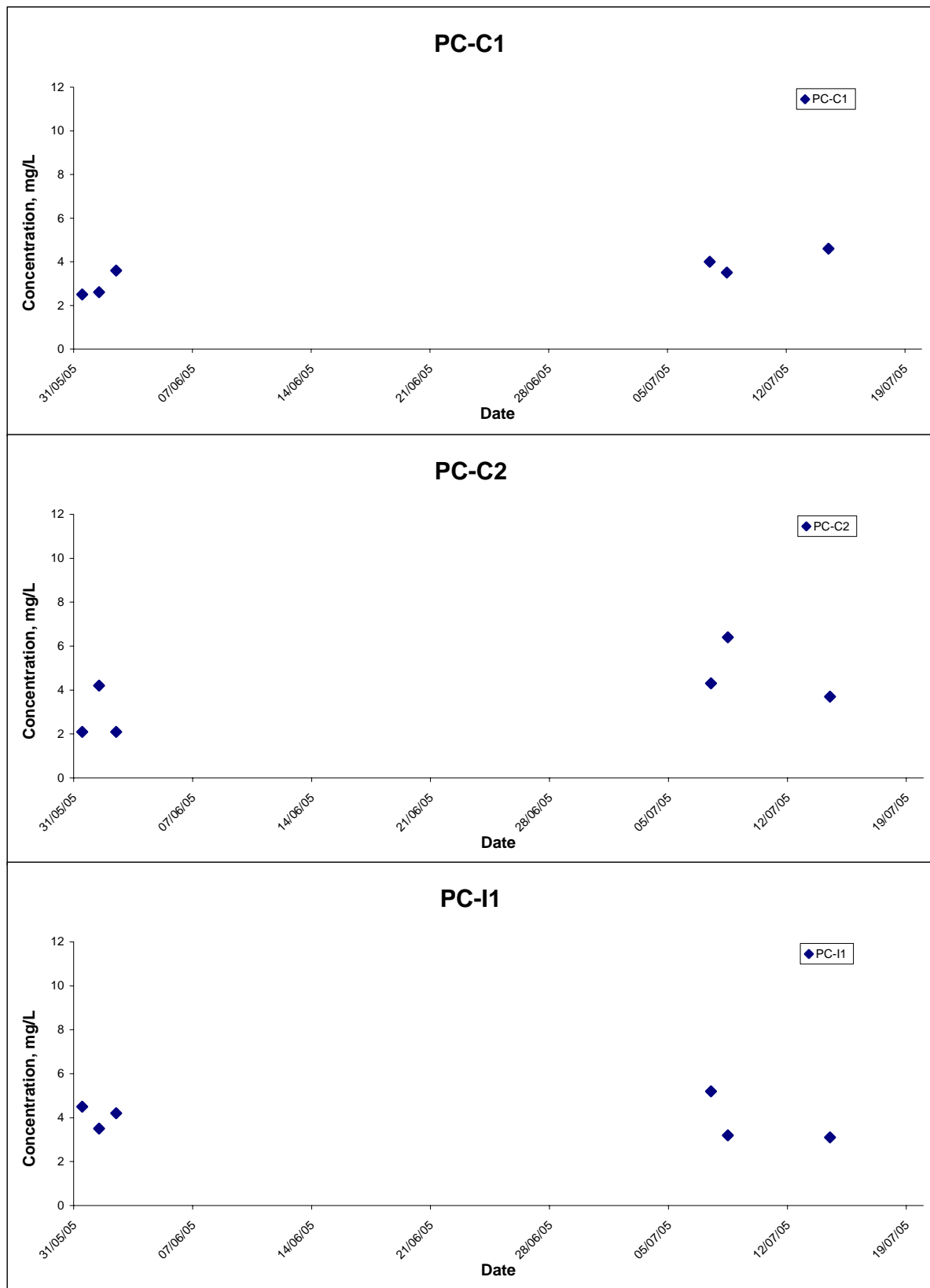
Title Lamma Power Station Extension – Supply and Installation of Submarine Gas Pipeline Graphical Presentation of Water Quality Monitoring Results	Scale N.T.S	Project No. MA4017	CINOTECH
	Date Jul 05	Appendix C	


Suspended Solids at Mid-Ebb Tide



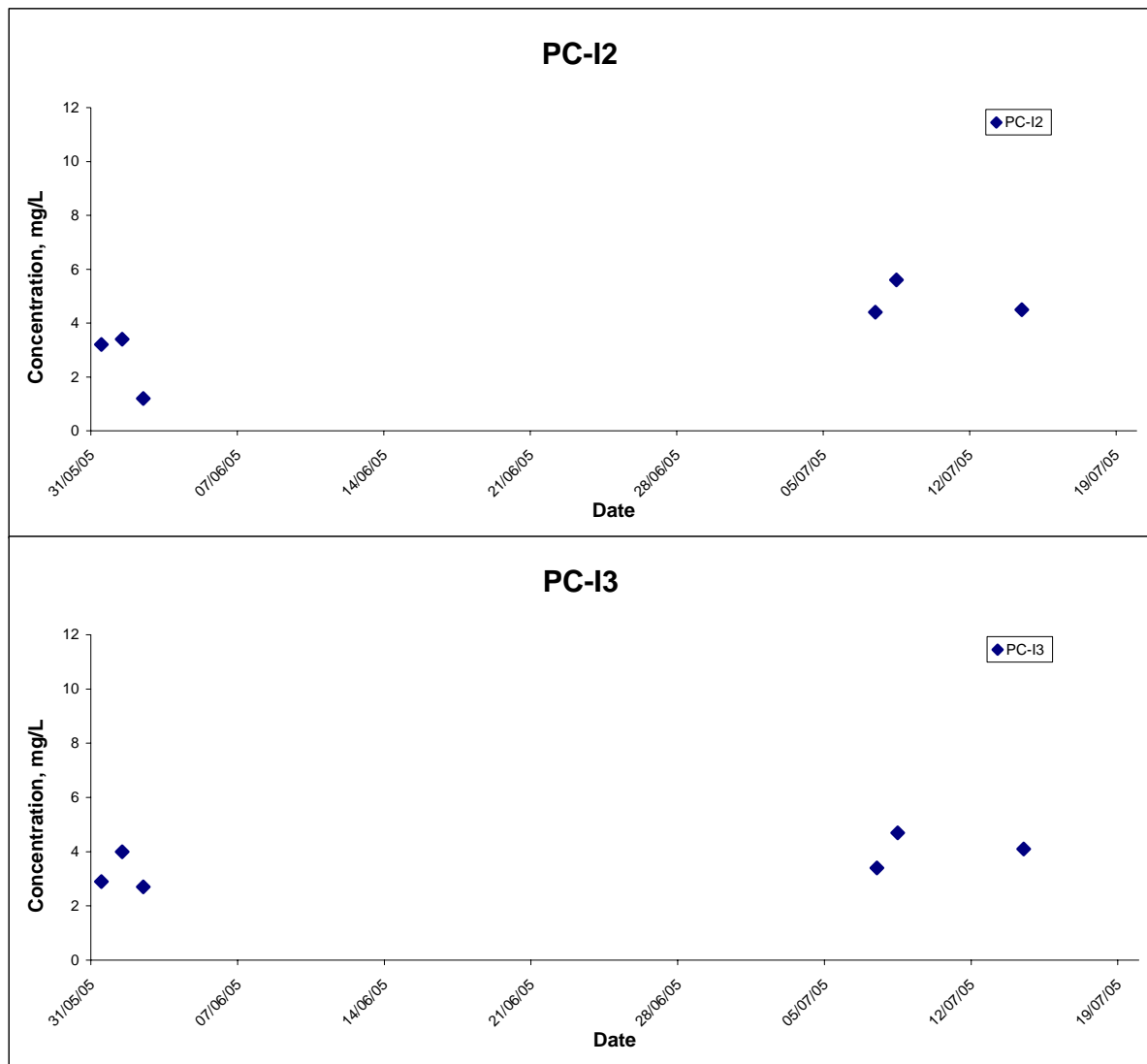
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	Date Jul 05	Appendix C	

Suspended Solids at Mid-Ebb Tide



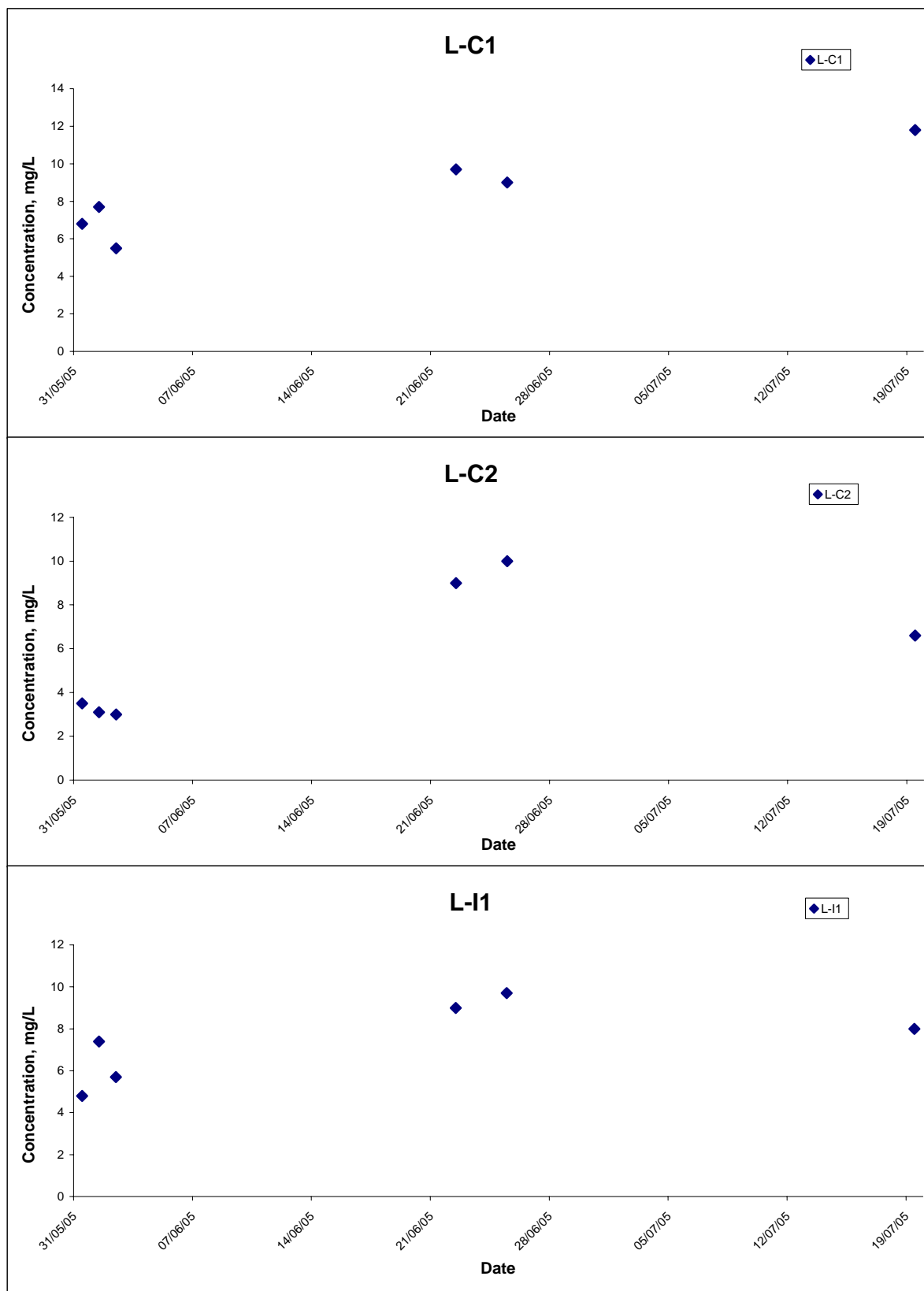
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	Date Jul 05	Appendix C	

Suspended Solids at Mid-Ebb Tide



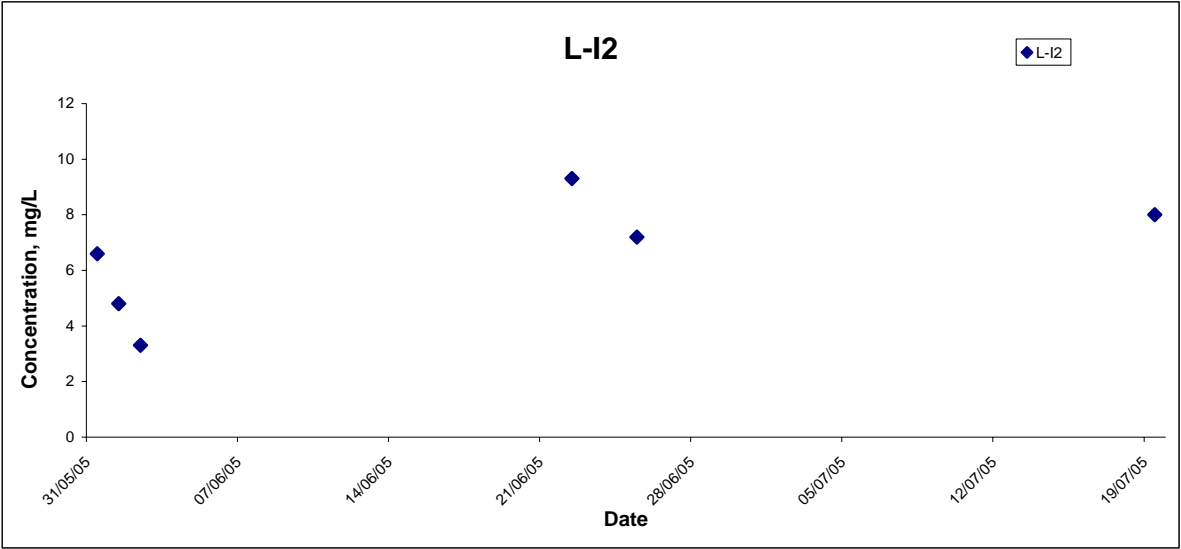
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	Date Jul 05	Appendix C	

Suspended Solids at Mid-Flood Tide



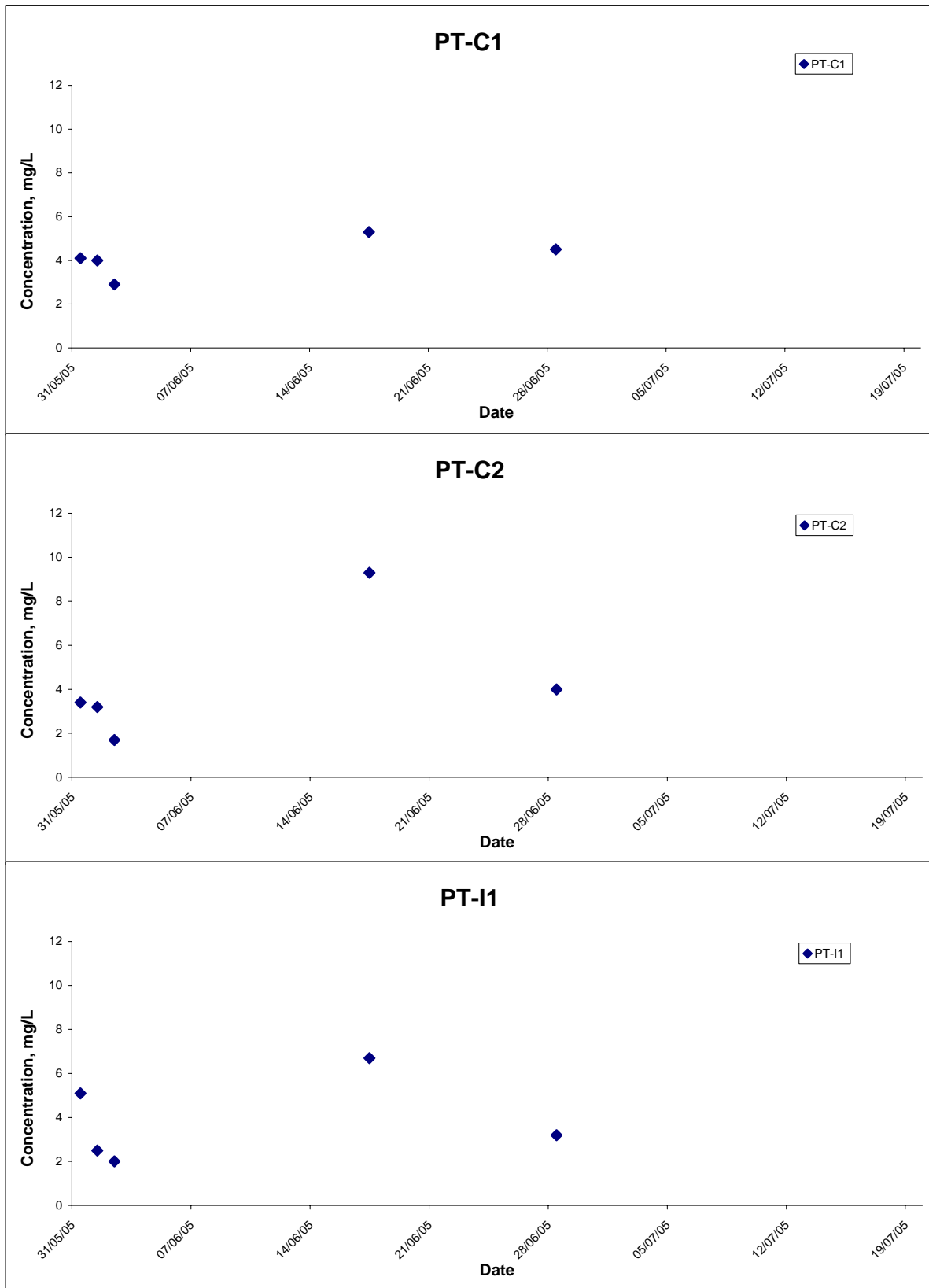
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	Graphical Presentation of Water Quality Monitoring Results		Date	Jul 05	Appendix	C	

Suspended Solids at Mid-Flood Tide



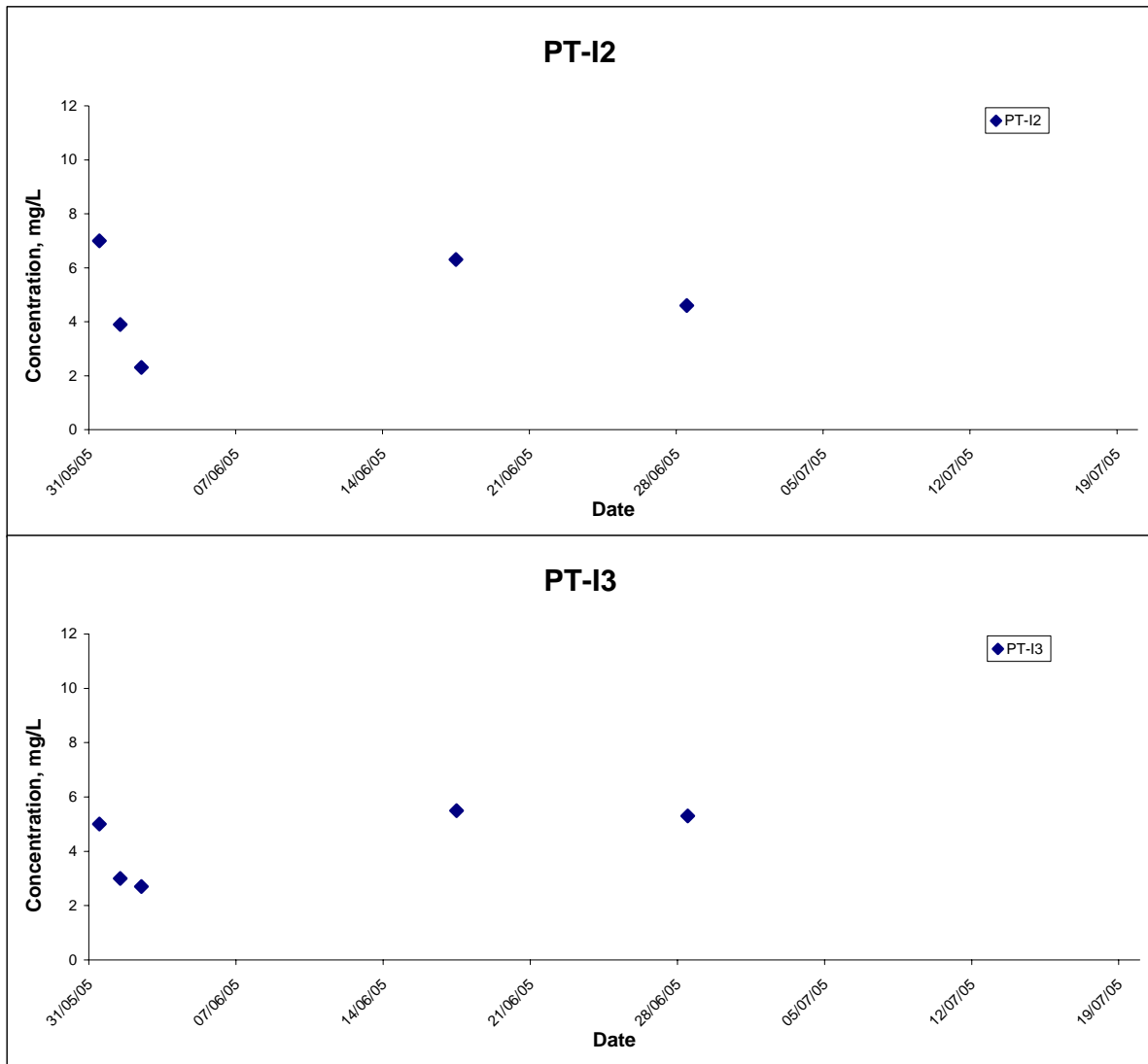
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Suspended Solids at Mid-Flood Tide



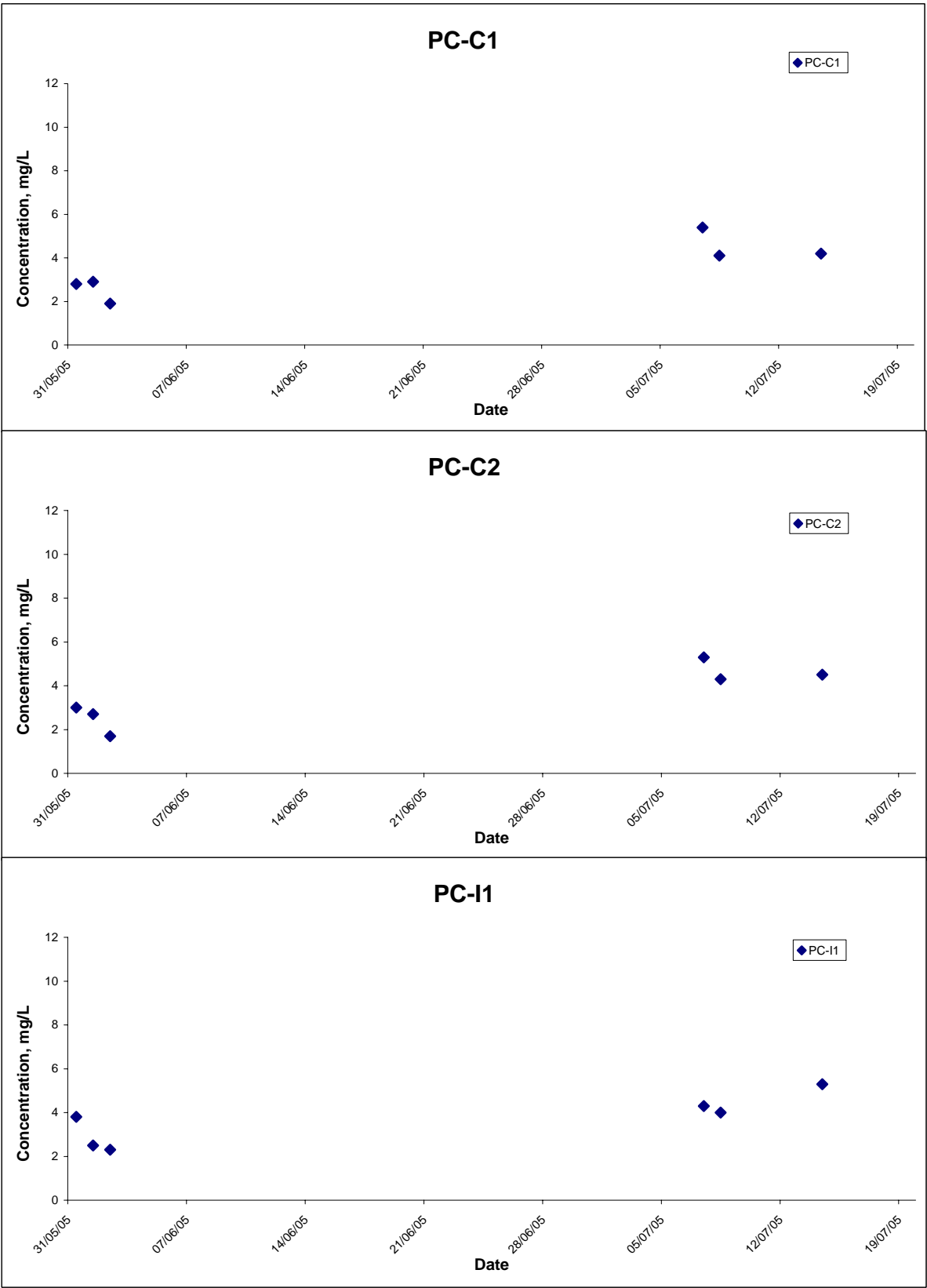
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	Date Jul 05	Appendix C	

Suspended Solids at Mid-Flood Tide

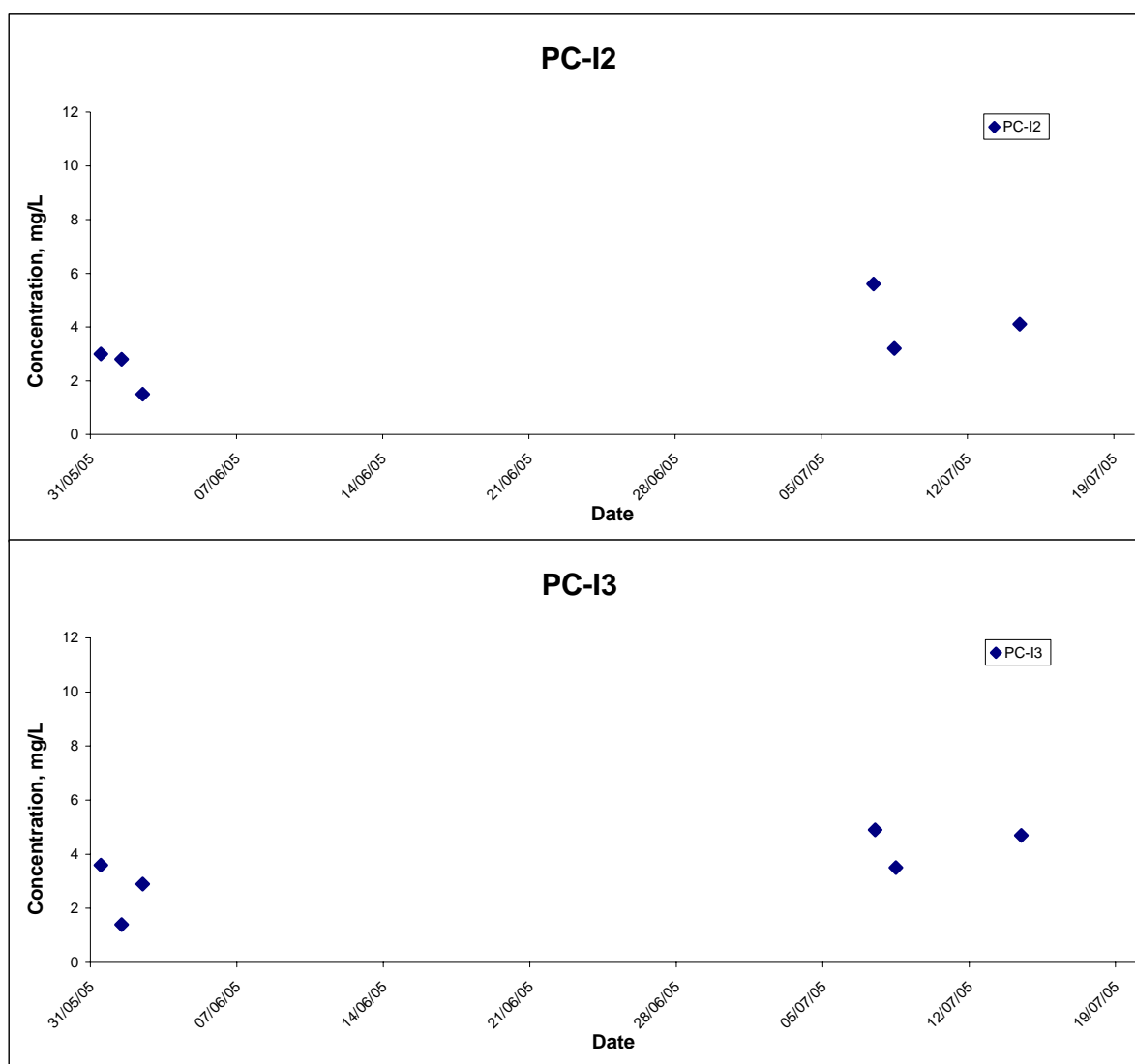


Title Lamma Power Station Extension – Supply and Installation of Submarine Gas Pipeline Graphical Presentation of Water Quality Monitoring Results	Scale N.T.S	Project No. MA4017	CINOTECH
	Date Jul 05	Appendix C	

Suspended Solids at Mid-Flood Tide



Suspended Solids at Mid-Flood Tide



Title Lamma Power Station Extension – Supply and Installation of Submarine Gas Pipeline Graphical Presentation of Water Quality Monitoring Results	Scale N.T.S	Project No. MA4017	CINOTECH
	Date Jul 05	Appendix C	

**APPENDIX D
QUALITY CONTROL REPORTS FOR
LABORATORY ANALYSIS**

WELLAB LTD.

Unit C, 1/F, Goldlion Holdings Center
13-15 Yuen Shun Circuit,
Shatin, Hong Kong.
Tel: (852) 2898 7388
Fax: (852) 2898 7076

QC REPORT

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

Laboratory No.:	01899
Date of Issue:	2005/07/08
Date Received:	2005/07/07
Date Tested:	2005/07/07
Date Completed:	2005/07/08

Page: 1 of 1

ATTN: Mr. Henry Leung

Sampling Site: Tung Ping Chau
Project No.: MA4017
Sampling Date: 2005/07/07
Number of Sample: 30
Custody No.: MA4017/50707-01

Total Suspended Solids	Duplicate Analysis			QC Recovery, %
Sampling Point	Trial 1, mg/L	Trial 2, mg/L	Difference, %	
PC-C1-Se	3.0	3.0	0	90
PC-C2-Bf	9.7	10.0	3	89

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

PREPARED AND CHECKED BY:

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

Patrick .

PATRICK TSE

Operation Manager

WELLAB LTD.

Unit C, 1/F, Goldlion Holdings Center
13-15 Yuen Shun Circuit,
Shatin, Hong Kong.
Tel: (852) 2898 7388
Fax: (852) 2898 7076

QC REPORT

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

Laboratory No.:	01906
Date of Issue:	2005/07/11
Date Received:	2005/07/08
Date Tested:	2005/07/11
Date Completed:	2005/07/11

Page: 1 of 1

ATTN: Mr. Henry Leung

Sampling Site: Tung Ping Chau
Project No.: MA4017
Sampling Date: 2005/07/08
Number of Sample: 30
Custody No.: MA4017/50708-01

Total Suspended Solids	Duplicate Analysis			QC Recovery, %
Sampling Point	Trial 1, mg/L	Trial 2, mg/L	Difference, %	
PC-C1-Se	4.0	3.3	20	91
PC-I2-Me	5.5	4.8	14	86

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

PREPARED AND CHECKED BY:

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

Patrick .

PATRICK TSE

Operation Manager

WELLAB LTD.

Unit C, 1/F, Goldlion Holdings Center
13-15 Yuen Shun Circuit,
Shatin, Hong Kong.
Tel: (852) 2898 7388
Fax: (852) 2898 7076

QC REPORT

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

Laboratory No.:	01926
Date of Issue:	2005/07/15
Date Received:	2005/07/14
Date Tested:	2005/07/15
Date Completed:	2005/07/15

Page: 1 of 1

ATTN: Mr. Henry Leung

Sampling Site: Tung Ping Chau
Project No.: MA4017
Sampling Date: 2005/07/14
Number of Sample: 30
Custody No.: MA4017/50714-01

Total Suspended Solids	Duplicate Analysis			QC Recovery, %
Sampling Point	Trial 1, mg/L	Trial 2, mg/L	Difference, %	
PC-C1-Mf	3.2	3.3	4	88
PC-I2-Bf	6.2	6.0	3	94

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

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

Patrick .

PATRICK TSE
Operation Manager

WELLAB LTD.

Unit C, 1/F, Goldlion Holdings Center
13-15 Yuen Shun Circuit,
Shatin, Hong Kong.
Tel: (852) 2898 7388
Fax: (852) 2898 7076

QC REPORT

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

Laboratory No.:	01946
Date of Issue:	2005/07/20
Date Received:	2005/07/19
Date Tested:	2005/07/20
Date Completed:	2005/07/20

Page: 1 of 1

ATTN: Mr. Henry Leung

Sampling Site: Lamma
Project No.: MA4017
Sampling Date: 2005/07/19
Number of Sample: 24
Custody No.: MA4017/50719-01

Total Suspended Solids	Duplicate Analysis			QC Recovery, %
Sampling Point	Trial 1, mg/L	Trial 2, mg/L	Difference, %	
L-C1-Se	6.8	6.3	2	91
L-I1-Bf	11.7	13.2	3	94

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

PREPARED AND CHECKED BY:

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

Patrick .

PATRICK TSE

Operation Manager

**APPENDIX E
EVENT ACTION PLAN FOR WATER
QUALITY**

APPENDIX E - EVENT AND ACTION PLAN FOR WATER QUALITY

EVENT	ACTION			
	ET-Cinotech	IEC	ENGINEER	CONTRACTOR
ACTION LEVEL				
Action level being exceeded by one sampling day	<ol style="list-style-type: none"> 1. Verbally inform the Contractor and IEC; 2. Repeat in situ measurement to confirm findings; 3. Identify source(s) of impact; 4. Check monitoring data, all plant, equipment and Contractor's working methods. 5. Discuss mitigation measures with Engineer and Contractor 6. Repeat measurement on next day of exceedance. 	<ol style="list-style-type: none"> 1. Provide feedback to the Engineer on the remedial actions proposed by the ET-Cinotech /Contractor 2. Advise Engineer on the effectiveness of the proposed remedial measures; and 3. Verify the implementation of the remedial measures. 	<ol style="list-style-type: none"> 1. Discuss with Contractor the proposed mitigation measures; and 2. Make agreement on the mitigation measures to be implemented. 3. Assess the effectiveness of the implemented mitigation measures. 	<ol style="list-style-type: none"> 1. Inform the Engineer and confirm notification of the non-compliance in writing; 2. Rectify unacceptable practice; 3. Check all plant and equipment; 4. Consider changes of working methods; 5. Propose and discuss mitigation measures with Engineer; 6. Implement the agreed mitigation measures.
Action level being exceeded by two or more consecutive sampling days	<ol style="list-style-type: none"> 1. Repeat in-situ measurement to confirm findings; 2. Identify source(s) of impact; 3. Inform IEC, contractor; 4. Check monitoring data, all plant, equipment and Contractor's working methods; 5. Discuss mitigation measures with Engineer and Contractor; 6. Ensure mitigation measures are implemented; 7. Prepare to increase the monitoring frequency to daily; 8. Repeat measurement on next day of exceedance. 	<ol style="list-style-type: none"> 1. Provide feedback to the Engineer on the remedial actions proposed by the ET-Cinotech / Contractor 2. Advise Engineer on the effectiveness of the proposed remedial measures 3. Verify the implementation of the remedial measures. 	<ol style="list-style-type: none"> 1. Discuss with ET-Cinotech and Contractor on the proposed mitigation measures; 2. Make agreement on the mitigation measures to be implemented. 3. Assess the effectiveness of the implemented mitigation measures. 	<ol style="list-style-type: none"> 1. Inform the Engineer and confirm notification of the non-compliance in writing; 2. Rectify unacceptable practice; 3. Check all plant and equipment and 4. Consider changes of working methods; 5. Propose mitigation measures to Engineer within 3 working days and discuss with ET-Cinotech and Engineer; 6. Implement the agreed mitigation measures.

EVENT	ACTION			
	ET-Cinotech	IEC	ENGINEER	CONTRACTOR
LIMIT LEVEL				
Limit level being exceeded by one sampling day	<ol style="list-style-type: none"> 1. Verbally inform the Contractor and IEC and the EPD of the exceedance; 2. Repeat measurement on next of exceedance to confirm findings; 3. Identify source(s) of impact; 4. Check monitoring data, all plant, equipment and Contractor's working methods; 5. Discuss mitigation measures with Engineer and Contractor; 6. Ensure mitigation measures are implemented; 7. Increase the monitoring frequency to daily until no exceedance of Limit level. 	<ol style="list-style-type: none"> 1. Provide feedback to the Engineer on the remedial actions proposed by the ET-Cinotech /Contractor 2. Advise Engineer on the effectiveness of the proposed remedial measures; and 3. Verify the implementation of the remedial measures. 	<ol style="list-style-type: none"> 1. Discuss with Contractor the proposed mitigation measures; 2. Request Contractor to critically review the working methods. 3. Make agreement on the mitigation measures to be implemented. 4. Assess the effectiveness of the implemented mitigation measures. 	<ol style="list-style-type: none"> 1. Inform the Engineer and confirm notification of the non-compliance in writing; 2. Rectify unacceptable practice; 3 Check all plant and equipment and consider changes of working methods; 4. Propose mitigation measures to Engineer and IEC within 3 working days and discuss with Engineer; 5. Implement the agreed mitigation measures.
Limit level being exceeded by two or more consecutive sampling days	<ol style="list-style-type: none"> 1. Repeat measurement on next of exceedance to confirm findings; 2. Identify source(s) of impact; 3. Inform IEC, contractor, ER and EPD; 4. Check monitoring data, all plant, equipment and Contractor's working methods; 5. Discuss mitigation measures with Engineer and Contractor; 6. Ensure mitigation measures are implemented; 7. Increase the monitoring frequency to daily until no exceedance of Limit level for two consecutive days; 	<ol style="list-style-type: none"> 1. Provide feedback to the Engineer on the remedial actions proposed by the ET-Cinotech /Contractor 2. Advise Engineer on the effectiveness of the proposed remedial measures; and 3. Verify the implementation of the remedial measures. 	<ol style="list-style-type: none"> 1. Discuss with Contractor on the proposed mitigation measures; 2. Request Contractor to critically review the working methods; 3. Make agreement on the mitigation measures to be implemented; 4. Assess the effectiveness of the implemented mitigation measures; 5. Consider and instruct, if necessary, the Contractor to adjust all or part of the construction activities until no exceedance of Limit level 	<ol style="list-style-type: none"> 1. Inform the Engineer and confirm notification of the non-compliance in writing; 2. Rectify unacceptable practice; 3 Check all plant and equipment and consider changes of working methods; 4. Propose mitigation measures to Engineer and IEC within 3 working days and discuss with Engineer; 5. Implement the agreed mitigation measures. 6. As directed by the Engineer, to adjust all or part of the marine work.

**APPENDIX F
WATER QUALITY MONITORING
SCHEDULE**

Lamma Power Station Extension - Supply and Installation of Submarine Gas Pipeline
Water Quality Monitoring Schedule for July 2005

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1-Jul	2-Jul
3-Jul	4-Jul	5-Jul	6-Jul	7-Jul	8-Jul	9-Jul
		Initial Monitoring (KP28.9-29.9)		Impact WQM at Ping Chau Mid-Flood 20:00 Mid-Ebb 13:18	Impact WQM at Ping Chau Mid-Flood 20:35 Mid-Ebb 13:54	
10-Jul	11-Jul	12-Jul	13-Jul	14-Jul	15-Jul	16-Jul
				Impact WQM at Ping Chau Mid-Flood 9:30 Mid-Ebb 17:30		
17-Jul	18-Jul	19-Jul	20-Jul	21-Jul	22-Jul	23-Jul
		Impact WQM at Lamma Mid-Flood 18:07 Mid-Ebb 10:22				
24-Jul	25-Jul	26-Jul	27-Jul	28-Jul	29-Jul	30-Jul
31-Jul						

**APPENDIX G
CONSTRUCTION PHASE MITIGATION
MEASURES AND THEIR
IMPLEMENTATION (GAS PIPELINE)**

Appendix G – Construction Phase Mitigation Measures and their Implementation (Gas Pipeline)

EP-071/2000/C	EM&A Log Ref.	Mitigation Measures	Implementation Status
		AIR QUALITY	
	Q1	For the fuel gas supply system, equipment shall be chosen and measures taken, so as to prevent CH ₄ leakage from the system. In accordance with this recommendation, HEC shall be implementing the following: <ul style="list-style-type: none"> corrosion-preventing coatings on the pipeline; welded pipe joints; and laying of pipeline below sea bed such that it is well protected from potential damages by marine activities. 	C C C
	Q2	HEC shall submit to EPD for review, a report of the above actions.	C
		WATER QUALITY	
3.8	R1	The following rates of dredging for the trenches at the Shenzhen and Lamma approaches and the rate of progress of the jetting shall be adopted: <ul style="list-style-type: none"> a single small grab dredger with a maximum daily rate of working of 2,400m³ maximum forward speed of the jetting machine shall be 7 m per minute 	NA C
	R2	No further mitigation measures were considered necessary, however if unacceptable impacts were to be found in the course of the EM&A programme for the pipeline jetting, then the following measures shall be implemented: <ul style="list-style-type: none"> reducing the speed of the water jetting machine; and temporary suspension of the works. 	NA NA
3.10		Pipeline jetting shall only be carried out in the open sea which is far away from sensitive receivers as recommended in the application document for variation of an environmental permit (the Application VEP-174/2005) and indicated in the Figure C1 at the Appendix C of the Permit during the initial jetting operation. Water quality monitoring shall be conducted during the pipeline jetting.	C
		MARINE ECOLOGICAL IMPACTS	
3.9	S1	To avoid disruption to the <i>Neophocaena phocaenoides</i> (finless porpoise) population in the southwestern coastal waters of Lamma Island, pipeline jetting works located off the coast of southwest Lamma shall not be carried out during spring time from March to May.	C
		HAZARDS	
	T1	Detail quantitative risk study shall be conducted in accordance with the requirements in the Gas Safety Ordinance (Cap.51) to satisfy EMSD's requirements which shall ensure adequate design of the pipeline to protect against third party damage and safe operation of the pipeline system.	C
	T2	HEC shall review their existing safety management system against current best practice.	C

Remarks:

- C - Compliance with mitigation measure
 NC - Non-compliance with mitigation measure
 N/A - Not Applicable

**APPENDIX H
COMPLAINT LOG**

Appendix H - Complaint Log

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