Proposed Extension of Public Golf Course at Kau Sai Chau Island, Sai Kung

Monthly Environmental Monitoring & Audit (EM&A) Report for April 2007

(Report No. 382210/016)

Report Authorized For Issue By:	For and on Behalf of Black & Veatch Hong Kong Limited

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Table of Content

List of Figure

List of Table

List of Annex

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Proposed Extension of Public Golf Course at Kau Sai Chau Island, Sai Kung
(Independent Environmental Checker)

CHECK CERTIFICATE

1. We certify that professional skill and care have been used in the checking of the Environmental Team's (ET) No.16 Monthly EM&A Report for April 2007 for the construction of Proposed Extension of Public Golf Course at Kau Sai Chau Island, Sai Kung.

2. We certify that the ET's EM&A programme for the reporting period has been satisfactorily executed and the No.16 Monthly EM&A report for April 2007 has been verified.

3. We would comment that our evaluation of the ET's EM&A is based on a random audit process which cannot be guaranteed to have all non-conformities identified.

Signed 

_____
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Date 30th April 2007

Executive Summary

This is the sixteen Monthly Environmental Monitoring and Audit (EM&A) Report prepared by Black & Veatch, the designated Environmental Team (ET), for the Project "Proposed Extension of Public Golf Course at Kau Sai Chau Island, Sai Kung". The construction works of golf course was commenced on 16th January 2006. This report presents the results of the EM&A works conducted in the month of April 2007 (25th March to 24th April 2007).

Summary of construction works undertaken during this report period

No dredging of the permanent intake and outfall pipelines for the desalination plant has been carried out. Hong Kong Jockey Club (HKJC) is still gathering supplementary information to EPD. Construction work of Irrigation Lake 1D and associated pipelines for the desalination plant were mostly completed (storage of the product water from the desalination plant for East Course irrigation in future). As there is no discharge licence for the desalination plant, the plant will not be operated until successful application from EPD.

Site formation work at the scaring areas within the East Course boundary was completed in previous reporting month. Some hydroseeding areas were not fully covered with hydroseed and re-hydroseeding was required. The shrub planting was commenced in late April 2007 at the hydroseeded slopes. According to the latest construction programme prepared by the Contractor, most of the northern portion of East Course will be planted with turf in the dry season of 2007 (February to March 2007). For southern portion of the East Course, major construction works were site formation and construction of permanent drainage/irrigation systems. Central portion will be the last portion to be planted with turf and mainly in wet season of 2007. The actual site progress indicated that only Holes 5 & 8 were planted with turf (except green areas), turf planting at Hole 4 was in progress during the reporting month. Other construction areas were mostly exposed (permanent drainage/irrigation system installation) during the reporting month. Two applications of fertilizers at Holes 5 were recorded. No chemical/pesticide was applied to the all turfing areas at East Course.

Closed low flow drainage system includes lake formation, gravity drains, rising main, underground water tanks and pumping stations. The construction of gravity drains from Lake 1D to existing reservoir was completed and reinstatement work was in progress during the reporting month. The construction of the closed low flow drainage for the East Course is in progress (all underground tanks and related pumping stations were completed). The expected completion date for all lakes was in mid-April 2007. However, there will be some rectification work need to be carried out after the rainstorm occurred in 24 April 2007 and shrub planting at Lake 1D. It is expected to be completed in the coming reporting month.

The Contractor submitted the revised Temporary Drainage Management Plan (TDMP) to the Engineer for approval. ET and the Engineer repeatedly reminded the Contractor to prevent silty/nutrient/pesticides runoff to the streams and marine water. Regarding the water quality monitoring results, high limit level exceedances on suspended solids (ranged from 83 mg/L to 388 mg/L) and turbidity (ranged from 53.5 NTU to 451 NTU) was recorded on 26 March 2007. The rainfall record on 26 March 2007 was low. Additional water samples were taken on 27 March 2007. In addition, heavy rainstorm (amber and red signal) was hoisted on 24 April 2007. An *ad hoc* site audit was carried out and heavy silty runoff was observed at all streams, fresh water inland marsh and marine water. Water sampling was carried out 25 April 2007 also indicated that high limit level exceedances on suspended solids (ranged from 22 mg/L to 126 mg/L) and turbidity (ranged from 23 NTU to 63 NTU). The temporary drainage installed on site was considered insufficient and ineffective. The Contractor was reminded to critically review and revise the TDMP according to the actual site progress, install sufficient temporary drains and provide sufficient desilting facilities in order to prevent/divert/collect the silty runoff and discharge to marine/streams according to the discharge licence and Water Quality Objectives (WQO) of Port Shelter.

Long-term nutrient exceedances are recorded at the downstream of fresh water inland marsh since February 2007. As agreed with Jockey Club, a joint sampling with our sampling team (ET) and the Contractor (CHEC) was carried out on 16 April 2006 and water sample was collected at the effluent discharge outlet of the temporary sewage treatment plant near to the Contractor's site office. High level of ammonia nitrogen was recorded at 287 mg/L (exceeds the required standard of the discharge licence, 20 mg/L). Sight exceedance of suspended solids was recorded at 32 mg/L (exceeds the required standard of the discharge licence, 30 mg/L). The nitrate nitrogen and nitrite nitrogen were undetectable which indicated that there was neither nitrification nor de-nitrification process of the plant. The resident engineer (RE) immediately requested the Contractor to stop the plant to avoid any hazard to the public and environment (directly discharge to fresh water inland marsh) until the plant can perform according to the EPD's discharge licence.

During the site audit, improper berthing at the temporary barging point was observed which could lead to coral damage again (coral damage incident at the temporary barging point had been occurred in March 2006). EPD was informed regarding this incident occurred on 2 April 2007.

Regarding the reinstated Stream B2 buffer zone in late March 2007, some of the newly planted native shrub mix were dried up and died. The Contractor was reminded to water frequently at all permanent slope where nearly planted with shrub.

Construction of permanent bridges at Streams A, B, C and fresh water inland marsh were completed before wet season (March 2007). Remaining work is mainly finishing work and in progress.

Concrete batching plant has been in operation and is expected to be dismantled by the end of May 2007 after all cart tracks for the East Course was completed.

Environmental Monitoring and Audit Progress

A summary of monitoring activities in this reporting period is shown as follows:

24-hour Total Suspended Particulates (TSP) monitoring at GCA B1	6 times
Water quality monitoring (marine + freshwater)	11 times
Terrestrial Ecology	1 time
Marine Ecology	0 time*
Landscaping & Visual	2 times

* For marine ecology, it will be carried out on quarterly basis and the next coral monitoring will be in June 2007.

Air Quality

6 sets of 24-hour TSP monitoring were carried out on 27th March, 2nd, 4th, 13th, 17th and 19th April 2007 at Bungalow A (GCA B1) at Kau Sai Chau during this reporting month.

Water Quality

11 sets of water quality monitoring were carried out on 26th, 28th, 30th March , 2nd, 4th, 10th, 12th, 16th, 18th, 20th and 23rd April 2007 at 9 marine and 7 freshwater monitoring locations. Rainstorm signal was hoisted on 24th April 2007 during the reporting month.

Terrestrial Ecology

Terrestrial ecology was conducted on 19th and 23rd April 2007. The demarcation of the stream buffer zone had been established for Streams A, B and C. However, Stream A buffer zone was partially demarcated.

The permanent access bridge for Stream C had been constructed except decking within Stream C buffer zone demarcation. The downstream section of Stream A channel was accidentally filled up by boulders before and remedial work will be implemented by the Contractor to clear the rubbles manually and restore the downstream. The condition of the Stream B2 buffer zone (partially cleared) was reinstated. In general, Streams B, C and D and the riparian vegetation were in natural conditions similar to the condition during the Baseline Survey.

Marine Ecology

Marine ecology was conducted not required in April 2007. The next marine monitoring will be conducted in June 2007.

Landscaping & Visual

Landscape and visual monitoring and site audits were carried out on 4th and 18th April 2007. During the site audits, site formation, shaping, planting and building construction were carried out. Shrub seedlings were planted on slopes of Holes 2, 4, 5, 10 and 11. The newly planted shrubs are in fair conditions. The coverage of newly hydroseeded area is not in good condition especially at Holes 12 and 13. The Contractor shall irrigate all the plants and hydroseeded area more frequently.

Damaged trees next to the administration building were still unprotected after being damaged by the adjacent construction activities. Wooden boards and garbage were put adjacent to the retained trees. Most of the labels of the retained trees were disappeared.

All transplanted trees were in fair condition except for T848. Mal-pruning of transplanted trees has not been rectified. Construction material was stockpiled within tree protection zones. A statement on the cause of death of tree T925 recorded in the last report is still outstanding.

The following works have been outstanding since July 2006: (i) Carry out surgery to damaged trees, (ii) Report the cause of death of tree T925, (iii) Re-fix the label of retained tree for easy identification, (iv) Maintain the tree protection zone required and remove all construction material / debris from the tree protection zone, (v) More frequent watering for transplanted trees, planted vegetation and hydroseeded grass and (vi) Rectify the mal-pruning practice of the transplanted trees.

Environmental Site Auditing

Five weekly joint environmental site audits were carried out on 27th March, 2nd, 10th, 17th and 24th April 2007, with the Engineer and Contractor's representatives. A monthly joint environmental site audit was carried out on 17th April by the Contractor's Representative, ET's representative and Independent Environmental Checker (IEC).

Environmental Non-conformance

Air Quality

One action and one limit level exceedances of 24-hour TSP were recorded at GCA B1 on 2nd and 13th April 2007. The record levels were at 262 μg/m³ and 246.7 μg/m³ respectively. Additional samples were taken on 17th April 2007 and 2nd May 2007 respectively (next reporting month). All exceedances were considered project-related.

Marine Water Quality

Thirteen exceedances of ammonia nitrogen and chlorophyll were recorded at Tai Tau Chau, M_Marsh and M_BP. Two exceedances of suspended solids were recorded at TTC and KS. All exceedances were considered not project-related.

Freshwater Quality

Twenty exceedances of turbidity and twenty-seven exceedances of suspended solids were recorded at Streams A, B, C and fresh water inland marsh.

Seven exceedances of ammonia nitrogen, eleven exceedances of nitrate nitrogen, four exceedance of nitrite nitrogen, eleven exceedances of total inorganic nitrogen and nine exceedances of chlorophyll a were recorded at downstream of fresh water inland marsh. Main reason is due to the continuous wastewater discharge of high concentrations of ammonia nitrogen and reactive phosphorus from temporary sewage treatment plant at the contractor's site office (confirmed after water sample collected at the discharge outlet of the sewage treatment plant). In addition, the change of physical condition of fresh water inland marsh which may decrease the secondary treatment removal capacity and reinstatement work (upstream desilting work) at the upstream of fresh water inland marsh could also lead to the deterioration of water quality. Further review of action and limit levels of ammonia nitrogen, nitrate nitrogen, nitrite nitrogen, total inorganic nitrogen and chlorophyll is recommended. All exceedances were considered project-related.

As the upstream monitoring locations at Streams B & C (F_UB and F_UC) are located within the construction work area since September 2006, they represent and become impact monitoring stations instead of control stations.

All notifications of exceedances and the subsequent exceedance incident reports have been forwarded to the relevant parties.

For those considered project-related exceedances at all streams and freshwater and marine water, the Contractor was required to critically review the temporary drainage management plan and implement necessary improvement to prevent runoff from the construction site to the marine water and stream courses. The Contractor was also requested to rectify the situation as soon as possible. The water quality monitoring results revealed that the temporary drainage installed on site was insufficient and should be improved especially at those concern areas.

No environmental complaint was received in this reporting month.

Implementation Status of Environmental Mitigation Measures

The Contractor was reminded the following issues and to take actions if necessary:

Air Quality

- Increase frequency of watering at main haul roads and rock breaking areas;
- Pave major haul roads with gravels/concrete to minimize the dust emission due to the heavy traffic;
- Cover all soil/sand/aggregates stockpiles with tarpaulin or other measures to reduce the dust emission; and
- Install hoarding at the main exit/entrance of the construction site;

Waste Management

- Properly dispose of the vegetation stockpiles, general refuse and construction waste off-site;
- Provide construction waste sorting area;
- Provide sufficient mobile toilets at remote site areas; and
- Properly maintain the temporary sewage treatment plant

Ecology

- Remove remaining rubbles at downstream of Stream A after temporary bridge dismantling;
- Maintain the reinstated conditions (planting shrub) at Stream B2 buffer zone since March 2007; and
- Rectify and remediate the silt deposit at Streams A, B and C after rainstorm events.

Water Quality

- Implement temporary drains according to Temporary Drainage Management Plan (TDMP) to avoid silty/nutrient/pesticide runoff;
- Provide sufficient preventing and/or mitigation measure at all open cut areas to avoid silty runoff;
- Minimize the water quality impact when undertaking cut-and-fill works and turfing. It is important to provide sufficient temporary drainage system at critical areas to confine, collect and provide proper treatment before discharging to marine water and stream courses to ensure that the water quality is complied with WQO requirements;
- Provide sufficient treatment facilities before water discharges from construction site;
- Maintain the integrity of silt curtains and remove settled silt within the silt curtain which have been installed outside the fresh water inland marsh, near Hole 2, near Hole 4, inactive culture zone and Stream A;
- Strengthen the preventive/interim measures for avoiding silty runoff from the exposed areas to the low lying areas. More frequent maintenance of the silt fence is necessary; and
- Provide sufficient temporary drainage system at all temporary bridges.

Landscape & Visual

- Protect the retain trees with sufficient watering mainly located at the administration building;
- Provide sufficient water to the retain trees, transplanted trees, hydroseeding areas;
- Provide tree protection zone for all retain tree at the administration building; and
- Provide incident report for the death of the retain trees.

Future Key Issues

General issues to be considered in the coming month include:

- Potential dust generation from activities on-site : permanent drainage/irrigation system construction, concrete batching plant operation and soil/sand/aggregates stockpiles;
- Turf establishment at northern East Course (Holes 4-8);
- Implement sufficient and improve the temporary drainage system (and make use of the permanent drainage system) on site to prevent silty/nutrients/pesticides runoff discharging to marine and stream courses before the coming wet season 2007;
- Apply the discharge licence for the desalination plant near to the existing KSC pier before operation;
- Dispose of construction wastes, vegetation and general refuse off-site; and
- Hydroseed the bare ground/temporary/permanent slopes according to the golf course design.

Key issues at particular areas:

- Review and revise the Temporary Drainage Master Plan (TDMP) for the silty runoff and turf establishment period prepared by the Contractor for Engineer and Jockey Club's approval;
- Carry out water quality monitoring for nutrients/pesticides due to turf establishment;
- Carry out coral monitoring for the transplanted corals on quarterly basis;
- Carry out coral monitoring when desalination plant operates in dry season and
- Monitoring ADS filter system installation at Hole 6 (5 units) while ADS filter system had already been implemented at Hole 5.

1. Introduction

1.1 Background of the Project

1.1.1 Black & Veatch (hereinafter called the "ET") was appointed by Hong Kong Jockey Club (hereinafter called the "Project Proponent") to undertake Environmental Monitoring and Audit (EM&A) for "Proposed Extension of Public Golf Course at Kau Sai Chau Island, Sai Kung" (hereinafter called the "Project"). Under the requirements of Section 4 of Environmental Permit EP-224/2005, EM&A programme as set out in the EM&A Manual is required to be implemented. In accordance with the EM&A Manual, environmental monitoring of air quality, water quality, terrestrial and marine ecology, landscape and visual, archaeology (watching brief) and land contamination are required for the Project.

1.1.2 This report summarises the environmental monitoring and audit works for the Project in April 2007 (from 25th March to 24th April 2007).

1.2 Purpose of the Report

1.2.1 This is the fifteen EM&A report which summarizes the impact monitoring results and audit findings for the EM&A programme during the reporting period from **25th March** to **24th April 2007.**

1.3 Structure of the Report

1.3.1 The structure of the report is shown in Table 1.1.

Table 1.1 Structure of the Report

Section		Description
1	Introduction	Details the scope and structure of the report
2	Project Information	Summarizes background and scope of the project, site description, project organization and contact details, construction programme, the construction works undertaken and the status of environmental permits/licenses during the reporting period.
3	Environmental Monitoring Requirement	Summarizes the monitoring parameters, programmes, methodology, frequency, location, action and limit levels, event action plans, environmental mitigation measures as recommended in the EIA report and relevant environmental requirements.
4	Implementation Status on Environmental Mitigation Measures	Summarizes the implementation of environmental protection measures during the reporting period.
5	Monitoring Results	Summarizes the monitoring results obtained in the reporting period.
6	Environmental Site Auditing	Summarizes the audit findings of the weekly site inspections undertaken within the reporting period.
7	Environmental Non-conformance	Summarizes any monitoring exceedance, environmental complaints and environmental summons within the reporting period.
8	Future Key Issues	Summarizes the impact forecast and monitoring schedule for the next three month (25 May 2007 – 24 July 2007).
9	Recommendations and Conclusions	Lists out any recommendations and provides an overall conclusion of the results and findings of the EM&A programme for the reporting period.

2. Project Information

2.1 Background

2.1.1 The Project comprises the following major components:

- Construction of the third 18-hole public golf course on the east side of the island, south of the existing golfing area;
- A new irrigation lake to collect surface runoff from the new 18-hole golf course. Water stored at the new irrigation lake can also be diverted to existing reservoir for tertiary treatment and recycling;
- A new desalination plant adjacent to the existing pier to serve as an additional irrigation water supply for the new golf course during dry season; and
- Expansion of existing administration and maintenance buildings.

2.1.2 The potential environmental impacts of the Project have been studied in the Environmental Impact Assessment (EIA) report (EIAO Register No. AEIAR- 091/2005). The EIA was approved on 14 November 2005 under the EIAO. An Environmental Permit (EP-224/2005) was granted on 28 November 2005.

2.2 Site Description

2.2.1 A layout plan of the Project is provided in **Figure 1.1**.

2.3 Project Organization

2.3.1 Project organization and lines of communication are shown in **Figure 1.2**.

2.4 Construction Programme

2.4.1 The tentative construction programme for the Project is presented in **Annex A**. The construction works were commenced on 16 January 2006 and are scheduled to be completed by end of July 2007.

2.5 Status of Environmental Submission

2.5.1 A summary of the reporting requirement for compliance with EP conditions of the Project is listed in Table 2.1.

Table 2.1 Summary of Compliance with EP Conditions

EP-224/2005	Environmental Permit Submission	Status	Remarks
2.3	Management organization of the main construction companies and/or any form of joint ventures associated with the construction of the Project.	Submitted	At least one week before the commencement of construction of the Project.
2.4	Contamination Assessment Plan (CAP) submission. If land contamination is confirmed by the site investigation, submission of a Remediation Assessment	Submitted	The Final Site Remediation Report (FSRR) was approved by EPD in this reporting month.

EP-224/2005	Environmental Permit Submission	Status	Remarks
	Plan (RAP) including a Contamination Assessment Report (CAR) is required.		
3.6	Detailed methodology for Coral Transplantation submission to the Director for approval.	Approved	Approved on 16th November 2006. Coral transplantation at Site D2 was completed in early December 2006. No dredging work for the desalination plant's intake and outfall pipelines was carried out. AFCD has no comment for the coral donor site survey, coral mapping survey and coral transplantation reports.
4.1	EM&A Manual (revised)	Submitted	At least two weeks before commencement of construction of the Project.
4.3	Baseline Monitoring Report	Submitted	At least two weeks before commencement of construction of the Project
4.5	Monthly EM&A Report	Submitted	within 10 working days after the end of the reporting month
5.1	Set up a dedicated web site and notify the Director in writing the Internet address.	Completed	Within 6 weeks after the commencement of construction of the Project (http://www.kscgolf.com/ema/index.asp)
3.4	Variation of Environmental Permit for the construction of the temporary crossings at Stream B during wet season.	Completed	Variation of Environmental Permit was approved on 18th August 2006. The revised registered EP was EP-224/2005/A.

2.6 Summary of EM&A Requirements

2.6.1 The EM&A programme requires environmental monitoring for air quality, water quality, terrestrial and marine ecology, landscape and visual, archaeology (watching brief) and land contamination. The EM&A requirements for each parameter are described in subsequent sections, including:

- All monitoring parameters;
- Action and Limit Levels for all environmental parameters;
- Event and Action Plans; and
- Environmental mitigation measures, as recommended in the project EIA final report.

2.6.2 A summary of impact EM&A requirements is presented in Table 2.2.

Table 2.2 Summary of Impact EM&A Requirements

Impacts	Parameters/descriptions	Locations	Frequencies	Duration
Air Quality	24-Hour TSP	1 Location	Once every 6 days	During Construction
	1-Hour TSP	1 Location	Three times in every 6 days	During Construction (As required when complaint received)
Water Quality	Dissolved Oxygen, Temperature, Turbidity, pH, Salinity and SS	9 marine and 7 freshwater locations	**First 3 months** 3 times a week, mid-ebb and mid-flood tides. If there is no exceedance occurs for the first 3 months, reduce to once per week.	During Construction
	Dissolved Oxygen, Temperature, Turbidity, pH, Salinity, SS, NO3-N, NO2-N, NH3-N, TP and selected pesticides.	9 marine and 7 freshwater locations	Once per week. If there is no exceedance occurs, monitoring frequency is subjected to change and shall be agreed with EPD.	During Construction: turf establishment period (permanent low flow drainage is not completed)
	Dissolved Oxygen, Temperature, Turbidity, pH, Salinity, SS, NO3-N, NO2-N, NH3-N, TP, Chl-a and selected pesticides.	9 marine and 6 freshwater locations	A 2-year of monitoring period for the operation phase is proposed. Monitoring should be carried out on bi-weekly basis for the first 12 months, after when the frequency will be reviewed by EPD.	During Operation
	Dissolved Oxygen, Temperature, Turbidity, pH, Salinity, SS, NO3-N, NO2-N, NH3-N, TP, Chl-a and selected pesticides	8 marine locations	Additional water quality monitoring shall be carried out after heavy rain storm or when there is an overflow event from the reservoir, irrigation buffer lake or detention ponds/tanks.	During Construction and Operation
Terrestrial Ecology	Monitoring aquatic fauna	Streams B, C & D	Once a month	During Construction
	Environmental Site Inspection mainly on intact of buffer zones	Streams A, B and C	Once a week	During Construction

Impacts	Parameters/descriptions	Locations	Frequencies	Duration
Marine Ecology	Transplanted corals	Site D2	Quarterly for one year after transplantation	During construction
	Natural corals	Site C, Site B2, Site D2, and the Control Site.	**<u>For Site D2 and the Control Site:</u>** Weekly at the first two weeks of dredging works for the desalination plant pipelines. If no exceedance was recorded, the monitoring schedule would be changed to biweekly till the pipeline construction works are finished. **<u>For Site C, B2 and the Control Site:</u>** Monthly for the first three months of the construction phase. If no exceedance was recorded, the monitoring schedule would be changed to quarterly during the rest of the construction phase.	During Construction
		Site C, Site D2 and the Control Site.	First three months would be monthly conducted during the first two years of the operation phase. If no exceedance was recorded, the monitoring schedule would be changed to semi-annually, i.e. once in dry season and once in wet season.	During Operation
	Seagrass bed	Site D3, and at Site D2 if seagrasses were found during the baseline monitoring.	Weekly during the first two weeks of dredging works, and then biweekly till the pipeline construction works are finished.	During Construction
		Site D3, and at Site D2 if seagrasses were found during the baseline monitoring.	During the first two years of the operation phase. The monitoring schedule during the first three months would be monthly. After that, the monitoring schedule would be changed to semi-annually, i.e. once in dry season and once in wet season.	During Operation
Landscape and Visual	Audits to ensure effective implementation of mitigation measures	Project area and at visual sensitive receivers	Auditing inspections and reporting shall be undertaken once every two weeks of the construction phase and once every two months of the operation phase.	During Construction and Operation
Archaeology (Watching Brief)	Monitor archaeological potential sites at major cut areas	Hole 2, Hole 11, Hole 12, Hole 14, Hole 15 and Hole 16.	The archaeologist should keep the AMO informed of the progress of watching brief. The archaeologist should submit progress reports every 3 months during the programme of the watching brief.	During Construction
Land Contamination	Total Sulphur and Total Lead	Locations 2, 3, 6, 7 & 8	One month before commencement of work at the identified 5 hotspots	During Construction
General Site Conditions	Environmental Site Inspection	Works areas and areas affected by works	Periodically (weekly basis)	During Construction

3. Environmental Monitoring Requirements

3.1 Air Quality

Monitoring Requirement

3.1.1 24-hour TSP monitoring was carried out at GCA B1 to monitor the construction dust impact level in this reporting period.

3.1.2 The established Action/Limit Levels (AL levels) for the 1-hour and 24-hour TSP monitoring works are summarized in Table 3.1 and Table 3.2.

Table 3.1 Action and Limit Levels for 1-hour TSP

Location	Description	Action Level	Limit Level
GCA B1	**Bungalow A** adjacent to Kau Sai Chau Public Golf Course Administration Building	277.2 μg m^{-3}	500 μg m^{-3}

Note: The action levels for GCA B1 are developed based on baseline monitoring result.

Table 3.2 Action and Limit Levels for 24-hour TSP

Location		Action Level	Limit Level
GCA B1	**Bungalow A** adjacent to Kau Sai Chau Public Golf Course Administration Building	187.4 μg m^{-3}	260 μg m^{-3}

Note: The action levels for GCA B1 are developed based on baseline monitoring result.

Monitoring Parameters, Frequency and Programme

3.1.3 The monitoring parameters and frequency are summarized in Table 3.3. The monitoring programme for the reporting period is shown in **Annex B**.

Table 3.3 TSP Monitoring Parameter and Frequency

Parameter	Frequency
24-hour TSP	Once every 6 days
1-hour TSP	3 times every 6 days (as required in case of complaints)

Monitoring Locations

3.1.4 In accordance with the EM&A Manual, one monitoring station (GCA B1) was selected and shown in **Figure 3.1**.

Monitoring Equipment

3.1.5 24-hour and 1-hour TSP (in case of complaints received) were performed using High Volume Samplers (HVS) and measured in-situ respectively. 24-hour TSP level of samples were collected using filters and High Volume Sampler and the collected samples were determined by a local HOKLAS accredited laboratory upon receipt of the samples and 1-hour TSP level will be performed in-situ.

3.1.6 High volume samplers (HVS - Model GS-2310 Accu-vol) complete with the appropriate sampling inlets were installed for 24-hour TSP sampling. The HVS is composed of a motor, a filter holder, a flow controller and a sampling inlet and its performance specification complies with USEPA Standard Title 40, Code of Federation Regulations Chapter 1 (Part 50 Appendix B). A portable dust meter was used for the 1-hour TSP monitoring. Table 3.4 summarises the equipment used.

Table 3.4 Air Quality Monitoring Equipment

Equipment	Model
HVS Sampler	GS 2310 Accu-vol system
Calibrator	GMW 25
1-hour TSP Dust Meter	Laser Dust Monitor – Model LD-1 (L)

Monitoring Methodology and Calibration Details

24-hour TSP Monitoring

(i) Field Monitoring, Operation & Analytical Procedures

3.1.7 Operating/analytical procedures for the operation of HVS are as follows. The sampler was placed on a horizontal platform with appropriate supporting structure such that:

- the filter was at least 1.3 meters above ground;
- no two samplers were placed less than 2 metres apart;
- the distance between the sampler and an obstacle, such as buildings, were at least twice the height that the obstacle protrudes above the sampler;
- a minimum of 2 metres separation from walls, parapets and penthouses were required for the rooftop samplers;
- a minimum of 2 metres separation from any supporting structure, measured horizontally was provided;
- airflow around the sampler was unrestricted;
- no furnaces or incineration flues were operating near the sampler;
- the sampler was more than 20 metres from the dripline; and
- any wire fence and gate to protect the sampler, did not cause any obstruction during monitoring.

3.1.8 Prior to the commencement of the dust sampling, the flow rate of the high volume sampler was properly set (between 1.1 m3/min. and 1.4 m3/min.) in accordance with the manufacturer's instruction to within the range recommended in USEPA Standard Title 40, CFR Part 50.

3.1.9 For TSP sampling, fibreglass filters (G810) were used [Note: these filters have a collection efficiency of > 99% for particles of 0.3 mm diameter].

3.1.10 The power supply was checked to ensure the sampler worked properly.

3.1.11 On sampling, the sampler was operated for 5 minutes to establish thermal equilibrium before placing any filter media at the designated air monitoring station.

3.1.12 The filter holding frame was then removed by loosening the four nuts and carefully a weighted and conditioned filter was centered with the stamped number upwards, on a supporting screen.

3.1.13 The filter was aligned on the screen so that the gasket formed an air-tight seal on the outer edges of the filter. Then the filter holding frame was tightened to the filter holder with swing bolts. The applied pressure should be sufficient to avoid air leakage at the edges.

3.1.14 The shelter lid was closed and secured with the aluminum strip.

3.1.15 The timer was then programmed. Information was recorded on the record sheeting, which included the starting time, the weather condition, and the filter number (the initial weight of the filter paper can be found out by using the filter number).

3.1.16 After sampling, the filter was transferred from the filter holder of the HVS to a sealable plastic bag and sent to the laboratory for weighing. The elapsed time was also recorded.

3.1.17 Before weighing, all filters were conditioned for 24 hours before weighing under temperature of 25°C ±3°C and the relative humidity (RH) < 50% ±5%, preferably 40%. The HOKLAS laboratory (ALS Technichem (HK) Pty Ltd) has comprehensive quality assurance and quality control programmes.

(ii) Maintenance

3.1.18 Proper maintenance would be provided for the HVS as described below:

3.1.19 The HVS motors and their accessories have been properly maintained. Appropriate maintenance such as routine motor brushes replacement (time interval for replacement is about 500 hours) and electrical wiring checking have been conducted to ensure that the equipment and necessary power supply were in good working condition.

3.1.20 Initial calibration of HVS was conducted upon installation of equipment. The subsequent calibration would be provided at 2-month intervals using GMW-25 Calibration Kit.

1-hour TSP Monitoring

(i) Measuring Procedures

3.1.21 The measuring procedures of the 1-hour dust meter have been in accordance with the Manufacturer's Instruction Manual as follows:

- Set POWER to "ON", push BATTERY button, make sure that the meter's indicator is in the range with a red line and allow the instrument to stand for about 3 minutes (Then, the air sampling inlet has been capped).
- Push the knob at MEASURE position.
- Push "O-ADJ" button. (Then meter's indication is 0).
- Push the knob at SENSI ADJ position and set the meter's indication to S value described on the Test Report using the trimmer for SENSI ADJ.
- Pull out the knob and return it to MEASURE position.
- Push "START" button.
- All measurement procedures in section 2.3 of the approved EM&A Manual are followed during the reporting period.

(ii) Maintenance

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

Event and Action Plans

3.1.23 The Event and Action Plan (EAP) for air quality monitoring is presented in **Annex C**.

3.2 Water Quality

Monitoring Requirement

3.2.1 Water quality monitoring was conducted in accordance with the EM&A Manual. Tables 3.5 & 3.6 show the established Action/Limit Levels for the water environmental monitoring parameters.

Table 3.5 Derived Summaries of Action and Limit Levels for Marine Water Quality

Parameters	Location	Action	Location	Limit
DO (Surface & Middle)	FCZ	6.0 mg/L	FCZ	5.3 mg/L
	All except FCZ	4.9 mg/L	All except FCZ	4.6 mg/L
DO (Bottom)	All	3.7 mg/L	All	3.4 mg/L
pH (depth-averaged)		N/A	All	6.5 - 8.5
SS (Depth-averaged)☆	FCZ	4.5 mg/L	FCZ	5.6 mg/L
	All except FCZ	6.1 mg/L	All except FCZ	10.6 mg/L
SS (Depth-averaged) Dredging for submarine pipelines⊕	M_RO1	6.1 mg/L	M_RO1	10.6 mg/L
Turbidity (Tby) (depth-averaged) ☆	FCZ	2.9 NTU☼	FCZ	3.9 NTU☼
	All except FCZ	3.3 NTU☼	All except FCZ	6.2 NTU☼
Ammonia Nitrogen (depth-averaged)	FCZ	0.02 mg/L	FCZ	0.03 mg/L
	All except FCZ	0.05 mg/L Δ	All except FCZ	0.05 mg/L Δ
Nitrate Nitrogen (depth-averaged)	FCZ	0.08 mg/L	FCZ	0.09 mg/L
	All except FCZ	0.09mg/L Δ	All except FCZ	0.09 mg/L Δ
Nitrite Nitrogen (depth-averaged)	FCZ	0.02 mg/L θ	FCZ	0.02 mg/L θ
	All except FCZ	0.02 mg/L	All except FCZ	0.04 mg/L
TIN (depth-averaged)	FCZ	0.12 mg/L	FCZ	0.14 mg/L
	All except FCZ	0.16 mg/L	All except FCZ	0.18 mg/L
Total Phosphorus (depth-averaged)	All	0.09 mg/L Δ	All	0.09 mg/L Δ

Remarks:
☆ : Action and limit levels are subjected to review especially for wet season throughout the construction phase of the project.
⊕ : Action and limit levels are subjected to review before the dredging works.
☼ : All are based on EM&A baseline monitoring data due to marked difference between EPD turbidity data and those from the baseline survey.
Δ : For nutrient monitoring (except NO_2-N) at non-FCZ stations, the trigger level has made reference to the existing golf course guideline values. The guideline value of NO_2-N is below the current detection limit of 0.01mg/L and thus not used.

θ : The same action and limit level of 0.02 mg/L is determined from the EM&A baseline data as 78% of the NO_2-N data are <= 0.01 mg/L and all remaining 22% equal to 0.02 mg/L.
FCZ including fish culture zones of Kai Lung Wan, Tai Tau Chau and Kau Sai
All except FCZ including remaining impact monitoring station of M_RO1, M_Marsh, M_BP and M_Coral.
Control monitoring locations: M_A & M_B

Table 3.6 Derived Summaries of Action and Limit Levels for Freshwater Water Quality

Parameters	Location	Action	Location	Limit
DO (mid-depth)		6.3 mg/L	All	4 mg/L ξ
pH (mid-depth)		N/A	All	6.0 - 9.0
SS (mid-depth) ☆	All	3.8 mg/L or 120% of upstream control station's SS at the same tide of the same day	All	8 mg/L or 130% of upstream control station's SS at the same tide of the same day
Turbidity (Tby) (mid-depth) ☆	All	3.1 NTU or 120% of upstream control station's Tby at the same tide of the same day	All	4 NTU or 130% of upstream control station's Tby at the same tide of the same day
Ammonia Nitrogen (mid-depth)		N/A	All	0.01 mg/L
Nitrate Nitrogen (mid-depth)	All	0.10 mg/L	All	0.11 mg/L
Nitrite Nitrogen (mid-depth)		N/A	All	0.01 mg/L
TIN (mid-depth)	All	0.12 mg/L	All	0.13 mg/L
Total Phosphorus (mid-depth)		N/A	All	0.02 mg/L

Remarks:
☆ : Action and limit levels are subjected to review especially for wet season.
Freshwater monitoring locations: F_UA, F_DA, F_UB, F_DB, F_UC, F_DC and F_Inland Marsh
As most of the freshwater samples were reported of NH_3-N, NO_2-N levels below the detection limit of 0.01 mg/L, limit level is set at 0.01 mg/L. Similarly for TP, a limit level of 0.02 mg/L (the detection limit of TP) is imposed.
ξ : Water Quality Objectives of the Port Shelter

Monitoring Parameters, Frequency and Programme

3.2.2 For marine water quality, measurements shall be taken at both mid-flood and mid-ebb tides and at three water depths (1 m below water surface, mid-depth and 1 m above sea bed, except where the water depth is less than 6 m, in which case the mid-depth station may be omitted). Should the water depth be less than 3 m, only the mid-depth station will be monitored.

3.2.3 For the stream course, measurements shall be taken at mid-water depth.

3.2.4 The water quality parameters which need to be monitored are as follows:

- Marine water quality - dissolved oxygen (DO), temperature, turbidity, suspended solids (SS), pH and salinity
- Freshwater water quality - dissolved oxygen (DO), temperature, turbidity, suspended solids (SS) , pH and salinity

3.2.5 Additional marine and freshwater water quality monitoring parameters for the impact monitoring during construction include nitrate nitrogen (NO_3-N), nitrite nitrogen (NO_2-N), ammonia nitrogen (NH_3-N), total phosphate (TP) and selected pesticides.

3.2.6 The ET Leader shall propose the additional monitoring parameters for approval by IC(E), Engineer, EPD and AFCD, and shall submit such information for approval at least 2 weeks before the turf establishment period.

3.2.7 Additional water quality monitoring at Tai Tau Chau FCZ (TTC), Kai Lung Wan FCZ (KLW), Kau Sai FCZ (KS), downstream of the existing marsh (M_Marsh), marine water of Port Shelter (M_Coral), existing reservoir (F_Inland M) and Control stations (M_A and M_B) shall be carried out after heavy rain storm or when there is an overflow event from the reservoir, irrigation buffer lake or detention ponds/tanks. The heavy rain storm shall be defined when there is an amber/red/black rainstorm warning signal issued by the Hong Kong Observatory. The water sample shall be taken within 24 hours after the black/red/amber rainstorm warning signal is cancelled. Please refer to revised EM&A manual for the sampling condition requirement after a heavy rain storm event occurs. The monitoring parameters shall include dissolved oxygen, temperature, turbidity, suspended solids, pH and salinity. Additional parameters shall be the same as stated in paragraphs 3.2.5-3.2.6.

Monitoring Frequency

3.2.8 The monitoring parameters and frequency are summarized in Table 3.7. The monitoring programme for the reporting period is shown in **Annex B**.

Table 3.7 Water Quality Monitoring Parameter, Frequency and Locations

Parameters	Frequency	Location
Dissolved Oxygen (mg/L)	**3 days per week** Marine water : 2 times per day – 1 for mid-flood and 1 for mid-ebb Freshwater : once per day	**Marine Water** Fish culture zone stations: TTC, KLW, KS Control stations: M_A, M_B Impact stations: M_BP, M_RO1, M_Marsh, M_Coral **Freshwater Water** Stream A (F_UA, F_DA) Stream B (F_UB, F_DB) Stream C (F_UC, F_DC) Inland Marsh (F_lnland_M)
Temperature (ºC)		
Turbidity (NTU)		
pH		
Salinity (ppt)		
Suspended Solids (mg/L)		

Monitoring Locations

3.2.9 The water quality monitoring locations for marine and freshwater (**Figure 3.2**) are summarized in Table 3.8.

Table 3.8 Water Quality Monitoring Locations during Construction Phase

Identification Number	Location	Co-ordinates		Approx. Water Depth	No. of Depth
Marine Water (9 stations)		**latitude**	**longitude**		
TTC	Tai Tau Chau Fish Culture Zone	22° 22' 03.7"	114° 19' 19.6"	9.5 m	3
KLW	Kai Lung Wan Fish Culture Zone	22° 22' 10.6"	114° 18' 01.4"	13 m	3
KS	Kau Sai Fish Culture Zone	22° 20' 26.5"	114° 18' 59.9"	11 m	3
M_BP	Temporary barging point	22° 21' 50.6"	114° 19' 16.7"	9.6 m	3
M_RO1	Desalination plant south of the existing pier	22° 21' 51.8"	114° 18' 17.7"	5 m	2
M _ Marsh	Discharge point at the existing marsh	22° 22' 19.8"	114° 19' 05.4"	7.7 m	3
M _ Coral	Marine water of Port Shelter	22° 21' 21.3"	114° 19' 42.7"	10.2m	3
M _ A	Water Control Station of Port Shelter	22° 22' 51.3"	114° 18' 34.5"	7.5 m	3
M _ B	Water Control Station of Port Shelter	22° 20' 26.4"	114° 20' 11.8"	16.5 m	3
Fresh Water (7 stations)					
F_UA	Upstream and downstream of stream A	22° 21' 32.3"	114° 19' 06.5"	-	1
F_DA		22° 21' 33.5"	114° 19' 06.8"		1
F_UB	Upstream and downstream of stream B	22° 21' 23.9"	114° 19' 16.1"	-	1
F_DB		22° 21' 27.2"	114° 19' 16.0"		1
F_UC	Upstream and downstream of stream C	22° 21' 14.8"	114° 19' 26.4"	-	1
F_DC		22° 21' 03.5"	114° 19' 32.0"		1
F _ Inland M	Downstream of the existing marsh (Inland)	22° 22' 17.9"	114° 18' 59.1"	-	1

Monitoring Equipment

3.2.10 The equipment listed below shall be supplied by the ET and approved by the IC(E) and the Engineer for water quality monitoring.

Dissolved Oxygen and Temperature Measuring Equipment

3.2.11 The instrument shall be a portable and weatherproof DO measuring instrument complete with cable and sensor, and use a DC power source. The equipment shall be capable of measuring:

- dissolved oxygen levels in the range of 0 - 20 mg L^{-1} and 0 - 200% saturation; and
- a temperature of 0 - 45 degrees Celsius.

3.2.12 It shall have a membrane electrode with automatic temperature compensation complete with a cable. Sufficient stocks of spare electrodes and cables shall be available for replacement where

necessary. (For example, YSI model 59 meter, YSI 5739 probe, YSI 5795A submersible stirrer with reel and cable or an approved similar instrument).

3.2.13 Should salinity compensation not be built-in in the DO equipment, in-situ salinity shall be measured to calibrate the DO equipment prior to each DO measurement.

Turbidity Measurement Instrument

3.2.14 Turbidity shall be measured in situ by the nephelometric method. The instrument shall be portable and weatherproof turbidity measuring instrument using a DC power source complete with cable, sensor and comprehensive operation manuals. It shall have a photoelectric sensor capable of measuring turbidity between 0 - 1000 NTU (for example, Hach model 2100P or an approved similar instrument). The cable shall not be less than 25m in length. The meter shall be calibrated in order to establish the relationship between NTU units and the levels of suspended solids.

Suspended Solids

3.2.15 A water sample at least 2.5L in capacity with messenger and using a 10m line should be collected. Samples should be submitted to HOKLAS accredited laboratory as soon as possible for gravimetric analysis for suspended.

Sampler

3.2.16 A water sampler is required. It shall comprise a transparent PVC cylinder, with a capacity of not less than 2 litres, which can be effectively sealed with latex cups at both ends. The sampler shall have a positive latching system to keep it open and prevent premature closure until released by a messenger when the sampler is at the selected water depth (for example, Kahlsico Water Sampler or an approved similar instrument).

Water Depth Detector

3.2.17 A portable, battery-operated echo sounder shall be used for the determination of water depth at each designated monitoring station. This unit can either be hand held or affixed to the bottom of the work boat, if the same vessel is to be used throughout the monitoring programme.

Salinity

3.2.18 A portable salinometer capable of measuring salinity in the range of 0 - 40 parts per thousand (ppt) shall be provided for measuring salinity of the water at each monitoring location.

pH

3.2.19 The instrument shall consist of a potentiometer, a glass electrode, a reference electrode and a temperature-compensating device. It shall be readable to 0.1pH in a range of 0 to 14. Standard buffer solutions of at least pH 7 and pH 10 shall be used for calibration of the instrument before and after use. Details of the method shall comply with APHA, 19th ed. 4500-HTB.

Flow Rate Meter

3.2.20 A portable, battery-operated flow meter should be used for the determination of water depth at each designated monitoring location and record in m^3/s. A hand held or meter fixed to the underside of the survey boat may be used.

Sample Containers and Storage

3.2.21 Water samples for laboratory analysis shall be stored in high density polythene bottles with no preservative added, packed in ice (cooled to 4°C without being frozen) and delivered to the laboratory and analysed as soon as possible after collection. Sufficient volume of samples shall be collected to achieve the required detection limit.

Monitoring Position Equipment

3.2.22 A hand-held or boat-fixed type digital Differential Global Positioning System (DGPS) with way point bearing indication or other equipment instrument of similar accuracy, shall be provided and used during marine water monitoring to ensure the monitoring vessel is at the correct location before taking measurements.

Monitoring Methodology and Calibration Details

3.2.23 Dissolved oxygen (DO), temperature, turbidity, pH and salinity were measured in situ at the designated water quality monitoring stations. General observation, weather conditions, with the sampling time, date and location were marked on the field record sheet.

3.2.24 Water samples were taken from each monitoring station for laboratory analysis. The sample identification number, sampling location, date, time, project name and analyses were required.

3.2.25 The samples were placed in a cooler with ice (to 4°C without being frozen) and kept away from sunlight. Samples were submitted to a Hong Kong Laboratory Accreditation Scheme (HOKLAS) or other international accredited laboratory for analysis within 24 hours of sampling.

Calibration of In-Situ Instruments

3.2.26 All in situ monitoring instruments were checked, calibrated and certified by a laboratory accredited under HOKLAS or any other international accreditation scheme before use and subsequently re-calibrated at three monthly intervals throughout all stages of the water quality monitoring programme. Responses of sensors and electrodes were checked with certified standard solutions before each use. Wet bulb calibration for a DO meter were carried out before measurement at each monitoring location.

Laboratory Analysis

3.2.27 All laboratory work were carried out by ALS Technichem Pty Ltd (HOKLAS accredited laboratory). Water samples were collected at the monitoring and control stations for carrying out the laboratory determinations. The determination work will start within 24 hours after collection of the water samples. The analysis shall follow the standard methods according to APHA Standard Methods for the Examination of Water and Wastewater, 19th Edition, or an equivalent method approved by EPD.

Table 3.9 Analytical Methods to be applied to Water Quality Samples

Determinant	Standard Method	Reporting Limit
Suspended Solids	APHA 2540 D	2 mg/L
Nitrate Nitrogen	APHA 4500-NO_3^-	0.01 mg/L
Nitrite Nitrogen	APHA 4500-NO_2^-	0.01 mg/L
Ammonia Nitrogen	APHA 4500-NH_3(D)	0.01 mg/L
Total phosphorus	ASTM D515-88B	0.02 mg/L*
Chlorophyll a	APHA 10200 H2 &3	0.5 µg/L

Remarks: *After review baseline data, the detection limit report will be revised to 0.02 mg/L.

QA/QC Procedure

3.2.28 ALS Technichem Pty Ltd. has comprehensive quality assurance and quality control programmes. For QA/QC procedures of parameters, one duplicate sample was analysed for every batch of 20 samples as required by HOKLAS.

Event and Action Plans

3.2.29 The Event and Action Plan (EAP) for water quality monitoring is presented in **Annex C**.

3.3 Ecology

Introduction

3.3.1 The marine and terrestrial ecological monitoring surveys for the ecological EM&A were conducted in accordance with the EM&A manual.

3.3.2 As stipulated in the EM&A Manual, the ecological monitoring surveys for terrestrial ecology would be conducted monthly during the construction phase. Monitoring survey would consist of aquatic fauna survey. While the majority of the Project Area would be subject to site formation, natural streams would be partially or fully preserved and protected by buffer zones, and therefore would constitute the primary target of the terrestrial ecological monitoring. Special attention should thus be paid to ecologically sensitive streams to ensure minimum damage to existing vegetation and streams. The purpose of the monitoring survey was to check the conditions of the stream habitat and the associated aquatic fauna communities.

3.3.3 While the ecological monitoring surveys for marine ecology included coral monitoring at both the eastern and western coasts of Kau Sai Chau Island. The coral monitoring at the western coast would be conducted concurrently with the dredging works which has yet to conduct, and therefore had not been commenced. The coral monitoring at the eastern Kau Sau Chau would be monthly for the first three months of the construction phase, and if no exceedance was recorded, the monitoring schedule would be changed to quarterly during the rest of the construction phase. As a coral damage incident was recorded in March 2006, the monthly monitoring was extended for another three months from April 2006 to June 2006. If no exceedance was recorded during these three months, the monitoring schedule would be changed to quarterly after that till the end of the construction phase. Monitoring survey would consist of checking tagged corals at both impact sites and control site. The purpose of the monitoring survey was to check the conditions of the tagged corals and the impact sites. Although the commencement date for the dredging works has yet to be confirmed, the transplantation works were conducted in November 2006. The transplanted corals were also monitored quarterly for one year from December 2006. The second monitoring was conducted in March 2007. No monitoring is required in this month.

Ecological Mitigation Measures and Implementations

3.3.4 Ecological mitigation measures to be implemented during the construction phase include the following:

- Establishment of buffer zones for the natural stream courses during both construction phase.
- Provision of temporary bypass channels or pipes during construction phase for stream courses subject to pipe culverting.
- Protection of water quality of the natural stream courses and temporary bypass channels or pipes.

- Transplantation of coral colonies within the dredging area for the desalination plant prior to the dredging works.
- Avoidance of corals when the anchoring points are deployed, and to shift the floating temporary barging point to the location with least corals within the mapping area.
- Regular site audit of ecological mitigation measures and good site practice.

Monitoring Frequency and Schedule

Terrestrial Ecology

3.3.5 As reported in the EIA Report, there were four perennial natural streams (Streams A-D) within the Assessment Area for the EIA Study. Streams A, B & C were located within the Project Area, while Stream D was outside the Project Areas and acted as the main stream draining the western part of the Assessment Area. Buffer Zone would be established for the three streams within the Project Area along their partial length (Stream A) or full length (Streams B & C) (**Figure 3.3**). Moreover, Streams B, C & D would be monitored for aquatic fauna monthly during the construction phase. Monitoring on the implementation of the mitigation measures for stream protection, the effectiveness of stream buffer zones, and the aquatic fauna in streams would be conducted during the entire construction phase.

3.3.6 The objectives of the monitoring survey are to check the status of *Caridina trifasciata* and *Nanhaipotamon hongkongensis*. The surveys covered natural stream courses within the assessment area (Streams A to D), and aquatic fauna were studied by various sampling methods depending upon site conditions. Methods included direct observation, active searching, and sample collection using hand-nets. Hand nets were used to collect swimming organisms such as shrimps and fish. Where necessary boulders on the stream beds were overturned to locate aquatic organisms such as crabs. Aquatic species encountered was recorded, with special attention to rare or protected species.

Marine Ecology

3.3.7 As required in the EM&A Manual, prior to the commencement of all construction works, a baseline survey of natural corals were conducted in December 2005. At each of the Site C, Site B2, Site D2 and a Control Site near the AFCD's Coral Buoy at Sharp Island (**Figure 3.4**), 20 natural coral colonies in good conditions (i.e. generally intact and no sign of bleaching) and significant sizes (preferably over 20 cm in diameter) were selected and tagged. Each of the tagged coral colonies was identified to species level and their conditions, in terms of percentages of survival, sedimentation and bleaching, were recorded. Each coral was attached with a plastic label with assigned number and then photographed. The species and the size of each tagged corals were also recorded. The species of corals to have been tagged included the following 15 species: *Cyphastrea serailia, Favia speciosa, Favites abdita, Favites pentagona, Goniastrea aspera, Goniopora columna, Hydnophora exesa, Leptastrea pruinosa, Lithophyllon undulatum, Pavona decussata, Platygyra acuta, Platygyra carnosus, Plesiastrea versipora, Psammocora superficialis, and Turbinaria peltata.* All tagged corals were in good conditions during the baseline survey, without significant sign of bleaching or being covered by sediments, and therefore were all recommended as the monitored coral colonies (all 80 tagged corals, 20 from each site). The seagrass beds in Site D3 were also surveyed for their extent, coverage percentage and health conditions during the baseline survey. The results of the baseline survey were presented in the Baseline Report. The original 20 tagged corals at Site B2 were re-organised in April 2006, with B-11 to B-20 retained, but 40 new tagged corals (B-21 to B-60) were established. The number of tagged corals at Site B2 was therefore increased from 20 nos. to 50 nos. The baseline conditions of these newly tagged corals (40 nos.) were presented in the monitoring Report for April 2006.

3.3.8 As the dredging works for the desalination plant had not been commenced, the impact sites to be monitored in this monitoring programme were Site B2 and Site C (impact sites on the eastern Kau Sai Chau Island for the new golf course) only, while Site D2 and Site D3 (impact sites on the western Kau Sai Chau Island for desalination plant) were not required yet.

3.3.9 Transplantation for the natural corals at Site D2 was originally planned to be conducted one month before dredging works. Although the commencement date for the dredging works has yet to be confirmed, the transplantation works were conducted in November 2006. The transplanted corals were also monitored quarterly for one year from December 2006. The baseline conditions of the transplanted corals had been recorded during the transplantation and would be checked during the follow-up monitoring. The third quarterly coral monitoring will be scheduled in June 2007.

3.3.10 The schedule for the impact sites on the eastern Kau Sai Chau Island during construction would be monthly in the first three months of the construction programme, and if no exceedance was recorded then quarterly till the end of the construction. As coral damage incident was reported in Month Three of the construction programme, AFCD requested the monthly monitoring should be extended to cover another three months (April, May and June 2006). No exceedence was recorded during the extended three-month period and the schedule was changed to quarterly until the end of the construction phase.

3.3.11 During the weekly site inspection, ET also monitored and audited the implementation of the recommended mitigation measures for terrestrial and marine ecology. Monitoring locations for ecology are shown in **Figures 3.3 – 3.5**. The monitoring programme for the reporting period is shown in **Annex B**.

Event and Action Plans

3.3.12 The Event and Action Plan (EAP) for ecology monitoring is presented in **Annex C**.

3.4 Landscape and Visual

3.4.1 The EIA concluded that the landscape and visual impacts associated with the construction of the third golf course are anticipated to be acceptable with mitigation. In order to ensure that the effective management and implementation of landscape mitigation measures developed and defined in the EIA, the ET conducted regular site inspections of the construction work sites.

3.4.2 Auditing inspections and reporting are undertaken once every two weeks of the construction phase. The effectiveness of the mitigation works has been audited in order to ensure impact reduction levels are achieved as described in the EIA report for this monitoring month. The monitoring programme for the reporting period is shown in **Annex B.**

3.5 Archaeology (Watching Brief)

Introduction

3.5.1 The archeological impact assessment conducted in the EIA concluded that some potential for archaeological material remains at the Wan Chai Archaeological Site and a watching brief is recommended during the construction phase.

3.5.2 A watching brief is a process whereby a qualified and licensed archaeologist monitors the excavation works during the construction phase in areas identified (and agreed with the Antiquities and Monuments Office (AMO)) to be of archaeological potential.

3.5.3 The archaeologist conducting the watching brief should obtain a licence prior to commencement of works as stipulated in Section 12 of the Antiquities and Monuments Ordinance (Cap. 53). The licence was granted on 22nd December 2005.

Monitoring Location

3.5.4 The monitoring locations include Hole 2, Hole 11, Hole 12, Hole 14, Hole 15 & Hole 16. The monitoring locations are present in **Figure 3.6**.

Monitoring Frequency

3.5.5 A total of 18 days of monitoring is considered as minimum, and additional arrangement for watching brief should be made in consultation with AMO in case significant archaeological findings are unearthed in the course of excavation work.

Progress Report

3.5.6 Archaeologist should submit progress reports every 3 months during the programme of the watching brief.

3.5.7 A summary table for categories of archaeological find and recommended action is presented in **Annex C**.

3.6 Land Contamination

Potential Areas Recommended for Further Investigation

3.6.1 Contamination Assessment Plan (CAP) shall be submitted to EPD for approval before site investigation. If land contamination is confirmed by the site investigation, submission of a Remediation Assessment Plan (RAP) including a Contamination Assessment Report (CAR) is required. Potential 5 land contamination hotspots are presented in **Figure 3.7**.

4. Implementation Status on Environmental Protection Requirements

4.1.1 Major construction work of the third golf course were (i) permanent drainage/irrigation system installation work at southern part (Holes 11-16) and filling work central part (Holes 1, 2 and 17) of East Course, (ii) permanent closed low flow drainage system installation, (iii) irrigation system installation, (iv) sub-soil drains installation, (v) hydroseeding at the permanent slope/bare grounds, (vi) finishing work at permanent bridges, (vii) lakes construction and (viii) partial turfing at Hole 4.

4.1.2 No dust suppression mitigation measure was provided for all rock breaking areas. Dust suppression measures for loading/unloading activities, rough shaping and haul road (truck traffic) were insufficient. The water source for dust suppression was mainly pumped from the downstream of the fresh water inland marsh, underground water generated near Lake 1D and downstream of stream A (during wet season).

4.1.3 Implementation of temporary drains on site according to the TDMP. However, the water quality results at streams and fresh water inland marsh revealed that improvement and strengthen of temporary drainage system installed on site is required.

4.1.4 Hydroseeding at scar areas within the East Course was completed before March 2007. However, some areas were required re-hydroseeding and will follow up with shrub planting. Vegetation stockpiles, general refuse and construction waste stockpiles were temporary stored at Hole 2 and not disposed off-site after accumulation during this reporting month. The Contractor was reminded to dispose all other remaining construction wastes gradually off-site and submitted the trip tickets record (construction/general waste, disposal record for chemical toilets and chemical waste) for our reference.

4.1.5 Reinstated Stream B2 buffer zone was carried out in March 2007 by planting native shrub. According to the site observation, some of the newly planted shrubs were dried up and dead. More frequent watering and fertilizer may be required.

4.1.6 Insufficient mobile toilets were available on site at remote areas, only few units were located at the southern portion of construction site.

4.1.7 No dredging work has been carried out near to the existing pier for the desalination plant pipelines. Summary of implementation status is provided in **Annex D**.

5. Monitoring Results

5.1 Air Quality

5.1.1 Dust monitoring was conducted as scheduled in the reporting month. Monitoring of air quality was conducted on 6 occasions in March to April 2007. All monitoring data are provided in **Annex E**. Monitoring of 24-hour TSP was conducted at GCA B1 on 27th March, 2nd, 4th, 13th, 17th and 19th April 2007. The QA/QC results for laboratory testing in the reporting month were acceptable. The QA/QC results are summarised in **Annex F**.

5.1.2 One action and one limit level exceedances of 24-hour TSP were recorded at GCA B1 on 2nd and 13th April 2007. The record levels were at 262 μg/m³ and 246.7 μg/m³ respectively. Additional samples were taken on 17th April 2007 and 2nd May 2007 respectively (next reporting month). All exceedances were considered project-related.

5.2 Water Quality

5.2.1 Marine and freshwater water quality monitoring were conducted at the 9 and 7 designated monitoring stations respectively. All monitoring data are provided in **Annex E**.

5.2.2 Monitoring of marine and freshwater locations was conducted on 11 occasions in March to April 2007 (26th, 28th, 30th March , 2nd, 4th, 10th, 12th, 16th, 18th, 20th and 23rd April 2007). The QA/QC results for laboratory testing in the reporting month were acceptable. The QA/QC results are summarised in **Annex F**. Rainstorm signal was hoisted on 24th April 2007 and the total rainfall was 64.4 mm during the reporting month.

5.2.3 Turf establishment progress is shown as follows:

- Hole 8 – February 2007 (except green);
- Hole 5 – March 2007 (except green); and
- Hole 4 – April 2007 (partially)

5.2.4 Additional water quality parameters include NH_3-N, NO_3-N, NO_2-N, TIN, TP and Chlorophyll a. Monitoring locations for the additional parameters include F_Inland M, M_Marsh, M_BP, TTC and M_A.

Marine water

- M_Marsh: two limit level exceedances of ammonia nitrogen;
- TTC: (i) one action level exceedance of suspended solids, (ii) three limit level exceedances of ammonia nitrogen and (iii) two limit and four action level exceedances of chlorophyll.
- M_BP: one limit level exceedances of ammonia nitrogen; and
- KS: one action level exceedance of suspended solids.

5.2.5 The marine water exceedances were summarised in **Table 5.2-1.**

Table 5.2-1 Marine water Exceedance Summary March to April 2007

Monitoring Station	Exceedance Level	Date	Parameters	Project-related
M_Marsh	Limit Level	28th Mar 07	NH_3-N	No
	Limit Level	4th Apr 07	NH_3-N	No
TTC	Action Level	26th Mar 07	Chl a	No
	Limit Level	28th Mar 07	NH_3-N	No
	Action Level	2nd Apr 07	Chl a	No
	Limit Level	4th Apr 07	NH_3-N	No
	Limit Level	10th Apr 07	Chl a	No
	Limit Level	12th Apr 07	Chl a	No
	Action Level	18th Apr 07	Chl a	No
	Limit Level	18th Apr 07	NH_3-N	No
	Limit Level	20th Apr 07	NH_3-N	No
	Action Level	23rd Apr 07	Chl a, SS	No
KS	Action Level	2nd Apr 07	SS	No

Remarks: All exceedances were mainly due to natural variation of the marine water.

5.2.6 The range of the suspended solids, ammonia nitrogen and chlorophyll measured at the Control Station (M_A) was in the same order of magnitude at TTC. There is no significant difference of the measured concentrations between control station and impact stations. Therefore, the all exceedances were considered not project-related. Further review of the action and limit levels of chlorophyll and ammonia nitrogen is recommended.

Freshwater

- Stream A: (i) two limit level exceedances of turbidity and (ii) three limit level and one action exceedances of suspended solids.
- Stream B: (i) eight limit level exceedances of turbidity and (ii) eight limit and three action level exceedances of suspended solids.
- Stream C: (i) six limit and one action level exceedances of turbidity and (ii) six limit and two action level exceedances of suspended solid.
- F_Inland Marsh: three limit level of turbidity; three limit and one action level of suspended solids; seven limit level exceedances of ammonia nitrogen, eleven limit level exceedances of nitrate nitrogen; four limit level of nitrite nitrogen; eleven exceedances of total inorganic nitrogen and one action and eight limit level exceedances of chlorophyll a.

5.2.7 The freshwater water exceedances were summarised in **Table 5.2-2.**

Table 5.2-2 Freshwater Exceedance Summary March to April 2007

Monitoring Station	Exceedance Level	Date	Parameters	Project-related
F_DA	Limit Level	26th Mar 07	SS, Turbidity	Yes
	Limit Level	27th Mar 07	SS, Turbidity	Yes
	Limit Level	2nd Apr 07	SS	Yes
	Action Level	23rd Apr 07	SS	Yes
F_UB	Limit Level	26th Mar 07	SS, Turbidity	Yes
	Limit Level	27th Mar 07	SS, Turbidity	Yes
	Action Level	2nd Apr 07	SS	Yes
	Action Level	10th Apr 07	SS	Yes
	Limit Level	23rd Apr 07	SS, Turbidity	Yes
F_DB	Limit Level	26th Mar 07	SS, Turbidity	Yes
	Limit Level	27th Mar 07	SS, Turbidity	Yes
	Limit Level	2nd Apr 07	SS, Turbidity	Yes
	Action Level	10th Apr 07	SS	Yes

Monitoring Station	Exceedance Level	Date	Parameters	Project-related
	Limit Level	16th Apr 07	SS, Turbidity	Yes
	Limit Level	23rd Apr 07	SS, Turbidity	Yes
F_UC	Limit Level	26th Mar 07	SS, Turbidity	Yes
	Limit Level	27th Mar 07	SS, Turbidity	Yes
	Action Level	10th Apr 07	SS, Turbidity	Yes
	Limit Level	23rd Apr 07	SS, Turbidity	Yes
F_DC	Limit Level	26th Mar 07	SS, Turbidity	Yes
	Limit Level	27th Mar 07	SS, Turbidity	Yes
	Action Level	2nd Apr 07	SS	Yes
	Limit Level	23rd Apr 07	SS, Turbidity	Yes
F_Inland M	Limit Level	26th Mar 07	NH_3-N, NO_3-N, TIN, Chl a, SS, Turbidity	Yes
	Limit Level	27th Mar 07	SS, Turbidity	Yes
	Limit Level	28th Mar 07	NH_3-N, NO_3-N, NO_2-N, TIN, Chl a	Yes
	Limit Level	30th Mar 07	NH_3-N, NO_3-N, NO_2-N, TIN, Chl a	Yes
	Limit Level	2nd Apr 07	NH_3-N, NO_3-N, TIN, Chl a	Yes
	Limit Level	4th Apr 07	NH_3-N, NO_3-N, TIN, Chl a	Yes
	Action Level	10th Apr 07	SS	Yes
	Limit Level	10th Apr 07	NH_3-N, NO_3-N, TIN, Chl a	Yes
	Limit Level	12th Apr 07	NH_3-N, NO_3-N, NO_2-N, TIN, Chl a	Yes
	Limit Level	16th Apr 07	NO_3-N, TIN	Yes
	Action Level	16th Apr 07	Chl a	Yes
	Limit Level	18th Apr 07	NO_3-N, TIN	Yes
	Limit Level	20th Apr 07	NO_3-N, TIN	Yes
	Limit Level	23rd Apr 07	NO_3-N, NO_2-N, TIN, Chl a, SS, Turbidity	Yes

Remarks: Exceedances recorded at Streams A, B & C were mainly due to insufficient temporary drainage provided on site, in particular during and after rain. Exceedances recorded at F_Inland Marsh could be due to discharge from temporary sewage treatment plant and decrease of removal effectiveness within fresh water inland marsh and insufficient temporary drainage provided on site.

5.2.8 Exceedances of ammonia nitrogen, nitrate nitrogen, nitrite nitrogen, total inorganic nitrogen and chlorophyll a were recorded at downstream of fresh water inland marsh. Possible reasons could be due to (i) continuous wastewater discharge from temporary sewage treatment plant at the contractor's site office (confirmed after water sample at the discharge outlet of sewage treatment plant was taken on 16 April 2007), (ii) the change of physical condition of fresh water inland marsh which may decrease the secondary treatment removal capacity and (iii) reinstatement work at upstream of fresh water inland marsh (desilting). Further review of action and limit levels of ammonia nitrogen, nitrate nitrogen, nitrite nitrogen, total inorganic nitrogen and chlorophyll is recommended. All exceedances were considered project-related but not due to the turf establishment (two application of fertilizer was recorded in April at Hole 5).

5.2.9 For the upstream monitoring location (F_UB), it is located downstream to the construction area near Hole 10 and the monitoring location cannot be relocated further upstream (temporary bridges located at Streams B1 and B2) as no water was observed and available for sampling. For Stream C, exceedances were recorded at both upstream and downstream monitoring locations. For the upstream monitoring location (F_UC), it is located downstream to the construction area near Hole 16 and the monitoring location cannot be relocated further upstream as no water was observed and available for sampling. Therefore, the F_UC is considered the most upstream location of Stream C. Same as Stream B, it is considered that F_UC is also the impact monitoring location and F_UA was used as the representative control monitoring station.

Water Quality at Discharge Outlet of Sewage Treatment Plant (Temporary)

5.2.10 Long-term nutrient exceedances are recorded at the downstream of fresh water inland marsh since February 2007. As agreed with Jockey Club, a joint sampling with our sampling team (ET) and the Contractor (CHEC) was carried out on 16 April 2006 and water sample was collected at the effluent discharge outlet of the temporary sewage treatment plant near to the Contractor's site office. The results were summarized as below:

- SS = 32 mg/L;
- NH3-N = 287 mg/L;
- NO3-N = < 0.01 mg/L;
- NO2-N = < 0.01 mg/L;
- Reactive Phosphorus as P = 30 mg/L; and
- Chlorophyll a = 0.6 μg/m³

5.2.11 The water quality parameters for laboratory testing are selected according to the EM&A requirement, which have long-term nutrient exceedances at the downstream of freshwater inland marsh since February 2007. Therefore, the full list of the EPD discharge licence parameters was not carried out for laboratory testing, such as Biochemical Oxygen Demand (BOD), *E. coli* and Total Residual Chlorine (TRC).

5.2.12 Ammonia nitrogen concentration exceeded (287 mg/L) 13.5 times the EPD's discharge licence limit (20mg/L). Suspended solids concentration (2 mg/L) marginally exceeded the EPD' discharge licence limit (30 mg/L).

5.2.13 Typical major pollutant characteristics of domestic wastewater and relative strength of domestic wastewater comparison are shown as Tables 5.2-3 and 5.2-4 respectively. The water quality at the discharge outlet of sewage treatment plant is comparable to strong domestic wastewater.

Table 5.2-3 Typical Characteristic of Domestic Wastewater

Type	**Pollutants**		**Concentration (mg/L)**
Physical	Total Suspended Solids (TSS)		300
	Total Dissolved Solids (TDS)		440
	Temperature		10 - 25 ^{o}C
Chemical	BOD_5		250
	COD		500
	TOC		160
	Nitrogen	Total N	40
		Organic N	15
		Free ammonia N	20
		Nitrite N	0
		Nitrates N	0
	Phosphorus	Total P	9
		Organic P	4
		Inorganic P	5
		Total N	100
	Fats, oil and grease (FOGs)		100
Micro-biological	Total coliforms		10^8 - 10^9 MPN/L
	Fecal coliforms		10^7 - 10^8 MPN/L
	Non-fecal coliforms		$9x10^7$ - $9x10^8$ MPN/L
	Total viruses		1,000-10,0000 infectious units/L

Table 5.2-4 Relative Range of Typical Domestic Wastewater

Constituent	Unit	Strong	Medium	Weak
Total solids	mg/L	1200	700	350
Dissolved solids (TDS)[1]	mg/L	850	500	250
Suspended solids	mg/L	350	200	100
Nitrogen (as N)	mg/L	85	40	20
Phosphorus (as P)	mg/L	20	10	6
Chloride[1]	mg/L	100	50	30
Alkalinity (as $CaCO_3$)	mg/L	200	100	50
Grease	mg/L	150	100	50
BOD_5[2]	mg/L	300	200	100

[1] The amounts of TDS and chloride should be increased by the concentrations of these constituents in the carriage water.
[2] BOD_5 is the biochemical oxygen demand at 20°C over 5 days and is a measure of the biodegradable organic matter in the wastewater.
Source: UN Department of Technical Cooperation for Development (1985)

Nutrient Baseline Data (Wet season in 2007)

5.2.14 A set of nutrient baseline data was taken in December 2005 and used for setting up action and limit levels at streams and marine water. Only Holes 4, 5 & 8 was planted with turf in April 2007. No turf establishment was recorded at the southern part of the East Course. Therefore, additional set of nutrient baseline data were taken in April 2007 (wet season) at M_A, M_B, M_Coral, KS, F_UA, F_DA, F_UB, F_DB, F_UC and F_DC to check whether there is any difference of water quality regarding the nutrient between the wet and dry season at all streams and marine water. Water quality results for April 2007 (wet season) are summarized as follows:

Table 5.2-5a Marine Water Quality – Average, minimum and maximum values for Ammonia Nitrogen

Depth-averaged value in April 2007		M_A	M_B	M_Coral	KS
NH_3-N (mg/L)	Average	0.02	0.04	0.01	0.02
	Min	< 0.01	< 0.01	< 0.01	< 0.01
	Max	0.05	0.12	0.03	0.04

Table 5.2-5b Marine Water Quality – Average, minimum and maximum values for Total Phosphorus

Depth-averaged value in April 2007		M_A	M_B	M_Coral	KS
TP (mg/L)	Average	< 0.01	< 0.01	< 0.01	< 0.01
	Min	< 0.01	< 0.01	< 0.01	< 0.01
	Max	< 0.01	< 0.01	< 0.01	< 0.01

Table 5.2-5c Marine Water Quality – Average, minimum and maximum values for Nitrate Nitrogen

Depth-averaged value in April 2007		M_A	M_B	M_Coral	KS
NO_3-N (mg/L)	Average	0.01	0.02	0.01	0.01
	Min	< 0.01	< 0.01	< 0.01	< 0.01
	Max	0.01	0.04	0.01	0.02

Table 5.2-5d Marine Water Quality – Average, minimum and maximum values for Nitrite Nitrogen

Depth-averaged value in April 2007		M_A	M_B	M_Coral	KS
NO_2-N (mg/L)	Average	< 0.01	< 0.01	< 0.01	< 0.01
	Min	< 0.01	< 0.01	< 0.01	< 0.01
	Max	< 0.01	< 0.01	< 0.01	< 0.01

Table 5.2-5e Marine Water Quality – Average, minimum and maximum values for Chlorophyll

Depth-averaged value in April 2007		M_A	M_B	M_Coral	KS
Chl a (μg/m³)	Average	2.1	1.8	2.8	2.4
	Min	0.6	0.5	1.2	0.5
	Max	6.8	2.9	5.5	4.5

Table 5.2-6a River Water Quality – Average, minimum and maximum values for Ammonia Nitrogen

Average value in 2007		F_UA	F_DA	F_UB	F_DB	F_UC	F_DC
NH_3-N (mg/L)	Average	< 0.01	0.02	< 0.01	< 0.01	< 0.01	< 0.01
	Min	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
	Max	< 0.01	0.03	< 0.01	< 0.01	< 0.01	< 0.01

Table 5.2-5b River Water Quality – Average, minimum and maximum values for Total Phosphorus

Average value in 2007		F_UA	F_DA	F_UB	F_DB	F_UC	F_DC
TP (mg/L)	Average	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
	Min	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
	Max	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

Table 5.2-5c River Water Quality – Average, minimum and maximum values for Nitrate Nitrogen

Average value in 2007		F_UA	F_DA	F_UB	F_DB	F_UC	F_DC
NO3-N (mg/L)	Average	0.08	0.15	0.15	0.12	0.11	0.14
	Min	0.04	0.03	0.08	0.08	0.04	0.05
	Max	0.14	0.28	0.21	0.16	0.18	0.25

Table 5.2-5d River Water Quality – Average, minimum and maximum values for Nitrite Nitrogen

Average value in 2007		F_UA	F_DA	F_UB	F_DB	F_UC	F_DC
NO2-N (mg/L)	Average	< 0.01	< 0.01	0.01	0.02	0.01	0.01
	Min	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
	Max	< 0.01	< 0.01	0.02	0.02	0.02	0.01

Table 5.2-6e River Water Quality – Average, minimum and maximum values for Chlorophyll

Average value in 2007		F_UA	F_DA	F_UB	F_DB	F_UC	F_DC
Chl a (μg/m³)	Average	0.6	1.1	0.8	0.6	0.6	1.9
	Min	< 0.5	0.8	< 0.5	< 0.5	< 0.5	< 0.5
	Max	0.7	1.6	1.7	0.7	0.6	5.8

5.2.15 For the marine water quality results, no significant differences of ammonia nitrogen, nitrate nitrogen and nitrite nitrogen concentrations between the dry season 2005 and wet season 2007. A much lower concentrations of nitrite nitrogen and total phosphorus were recorded all marine stations. Average chlorophyll concentrations measured in wet season 2007 were slightly higher than the dry season 2005.

5.2.16 For the fresh water quality results, no significant differences of ammonia nitrogen and nitrite nitrogen concentrations between the dry season 2005 and wet season 2007. A much lower concentration total phosphorus was recorded all fresh water stations. Average nitrate nitrogen and chlorophyll concentrations measured in wet season 2007 were slightly higher than the dry season 2005.

5.2.17 The set of water quality measured in wet season 2007 will be used as reference levels for comparison when turf establishment at southern part of East Course commence in coming months.

5.3 Ecology

5.3.1 Terrestrial and marine ecology monitoring photos are provided in **Annex E**.

5.3.2 The Monitoring Survey for the reporting month was conducted on 19th and 23rd April 2007. The project site has been fully cleared and under construction works.

5.3.3 Although the surveyed streams have not been previously affected by developments or pollution sources, they are relatively small. Water depth was less than 0.3m in most of the stream reaches even during wet season. Currently (still within dry season) these streams had very small surface flow or even had no surface flow for most of the length.

5.3.4 Stream A is located within the Project Area. Its main stream section (downstream to the confluence of two tributaries) would be protected by stream buffer zone (**Figure 3.3**). Stream A was heavily silted with sediments from eroded hillsides all year round, particularly at the main stream section. The stream had low flow.

5.3.5 In the present monitoring survey, the main stream course of Stream A (the section downstream to the confluence of tributaries A1 and A2) was found still to be filled up by rubbles which was first report in June 2006 (see **Photo Plate 5.3-1**). The rubbles were reported to be washed down from the upper Tributary A2 which had been under pipe culvert construction. Although the riparian vegetation were not affected by the rubbles, this section of stream channel was temporarily lost. Tributary A2 was converted to underground pipeline as proposed in the EIA report. Stream A was of the lowest ecological value among the four natural streams as it was heavily silted with sediments from eroded hillsides all year round. No stream fish and only very limited aquatic fauna were recorded in Stream A before. The impact from this temporary loss of stream channel would not be severe. But remedial works should be implemented to clear the rubbles and restore the channel, and improve the water quality, as the conditions of this stream is expected to improve after the construction of the golf course extension (in which the eroded hill slopes would be replaced by turf).

5.3.6 Stream B is located within the Project Area. It had clear flow (with little sediment in the stream beds) of moderate volume during the wet season. This stream also has two main tributaries, B1 and B2. The full length of Stream B (two tributaries and the main stream) would all be protected by buffer zone (**Figure 3.3**). Stream B also contains a long estuarine section of muddy sandy substrate.

5.3.7 In the present survey, it was found that the flow in Stream B were similar with the previous months, being restored from the minor turbidity reported in dry season. The stream bed and banks had no sign of severe sedimentation, probably due to the protection of the vegetation inside the buffer zone. Aquatic fauna including *Caridina trifasciata* were still sighted in the stream. An area of the buffer zone of Tributary B2 was however accidentally cleared (see **Figure 5.3.1**) and reinstated during this reporting month.

5.3.8 Stream C is located within the Project Area. This stream also has two main tributaries. It has had low but clear flow. In contrast to Stream B, Stream C drains to a sandy beach at Kau Chung Wan, and therefore lacks a clear estuarine zone. The full length of Stream C (two tributaries and the main stream) were protected by buffer zone (**Figure 3.3**).

5.3.9 Sedimentation in Stream C was reported previously in November 2006 because silt fences were found collapsed after the heavy rainfalls. In the present survey, it was found that the majority of the main stream course of Stream C was covered by a thin layer of fine sediment as found in

November monitoring. The flow was clear during the survey, and aquatic fauna including *Caridina trifasciata* were found hiding among the aquatic plants, the sediments covered the bottoms of rock pools and reduced the habitat sizes available for the aquatic fauna. This might limit the aquatic communities in Stream C. Measures should be taken to prevent any further sedimentation incident in the future.

5.3.10 Stream D is located outside the Project Area but within the Assessment Area and is the main stream draining the west side of the Assessment Area. It had clear water and moderate flow levels. Stream D is the only stream with deeper water depth among the four streams (water depth over 0.3 m in some of the stream reaches). As Stream D is outside the construction area, buffer zone would not be needed for this stream. In the present survey, the flow was found clear in Stream D, and Atyid shrimp *Caridina trifasciata* was still recorded.

5.3.11 Photos of Streams A to C were shown in **Photo Plate 5.3-1 (Annex E)**. The habitats and vegetation generally remained intact within a large potion of the project site (beyond the works fronts), and within the majority of the stream buffer zone (except and area for Tributary B2 which was accidentally cleared before) and outside the project area. No earthwork, human disturbance or fire disturbance was observed beyond the project site boundary other than the historical erosion of hillsides.

5.3.12 Aquatic fauna communities were checked during the monitoring survey. Atyid shrimp *Caridina trifasciata* were found in Stream B, Stream C & Stream D during the present monitoring survey (**Annex E - Photo Plate 5.3-1**). Although the low water levels and flow volume, Atyid shrimp *Caridina trifasciata* was still recorded in the streams, especially among the emergent plants, in the present survey. The sedimentation incident in November 2006 made a large portion of the stream bed in Stream C covered by sediment and this limit the habitat size for the shrimps. Measures should be taken to prevent any similar incidents in the future.

5.3.13 Another species of Atyid shrimp, *Caridina cantonensis*, which is common and widespread in Hong Kong was found in Stream B, C and D. Other aquatic fauna and flora encountered during the monitoring included Freshwater snail *Brotia hainanensis*, which is usually found in streams with good water quality, found at B2 tributary of Stream B.

5.3.14 The demarcation of the stream buffer zone had been partially established at Stream A main stream, fully establishment at two tributaries of Stream B and Stream C at the time of the monitoring survey. Except at the temporary access bridges crossing Stream A, Stream B and Stream C, and the reinstated newly planting shrub area due to the accidentally vegetation cleared at Stream B2 buffer zone (November 2006), riparian vegetation within the buffer zone was not disturbed by construction works.

Marine Ecology

5.3.15 The reporting month (April 2007) was the Month Sixteen of the construction programme, the monitoring on corals therefore was not required. The next marine ecological monitoring is scheduled in June 2007.

5.4 Archaeology (Watching Brief)

5.4.1 Excavation was carried out at Holes 11, 12, 14 & 16 during this monitoring month and watching brief monitoring was resumed since September 2006. According to the latest construction programme, part of the Hole 2 will be completed in February 2007. Approximate 40% of the Hole 2 area was being excavated and the watching brief at Hole 2 will have to further extend. The first (January to March 2006) and second (April to September 2006) quarterly progress reports had been sent to AMO for comments on 31st March 2006 and 15th October 2006

respectively. The third (October to December 2006) and fourth (January to March 2007) quarterly progress report had also been submitted to AMO in January and March 2007 respectively.

5.4.2 The Archaeological Watching Brief (AWB) will consist of 18 days of on-site monitoring of the construction work. An initial site visit was made on 20th January 2006 to inspect preliminary vegetation clearance at Hole 2. The second site visit was undertaken on 3rd February 2006. The first day of the monitoring was agreed on 14th February 2006 after the confirmation with the Contractor that the bulk excavation was being carried out at Hole 2. The site visit at Holes 11, 12, 14, 15 & 16 were started from September 2006 once vegetation clearance commence and in progress.

5.4.3 Monitoring results were shown as follows:

Hole 2

5.4.4 Clearance of surface soil was monitored in Areas 1 and 2 (mainly the concrete batching plant and underground water tank location) which is around 60% of the actual bulk earthwork. All monitoring areas were investigated after vegetation clearance and no archaeological material was identified in the first quarterly report. A thirty minute video of the works was recorded. No works have been undertaken outside the Areas 1 and 2 up the reporting period (January to March 2006).

5.4.5 Excavation at Hole 2 was completed during this reporting month. The fourth quarterly report is under preparation. No archaeological material was identified. The archaeological watching brief at Hole 2 was completed in February 2007.

Holes 11, 12, 14, 15 & 16

5.4.6 For the excavation at watching brief concern areas (Holes 11, 12, 14, 15 & 16), the excavation programme was commended in early September 2006 after the completion of temporary bridges construction at Streams B1 and B2. Vegetation clearance was started in early September 2006 and completed in the reporting month at Holes 11, 12, 14, 15 & 16. Bulk earthwork at concerned watching brief area was concentrated Holes 11, 12, 14 and 16. No archaeological material was identified in the second quarterly report (April to September 2006) and third quarterly report (October to December 2006). The archaeological watching brief at Holes 11, 12, 14, 15 and 16 was completed in January 2007.

Final Archaeology Watching Brief Report

5.4.7 A draft final report was submitted to AMO for comments during the reporting month.

5.5 Land Contamination

5.5.1 The Contamination Assessment Plan (CAP) was approved by EPD 17th February 2006. Site investigation was carried out on 14th and 15th February 2006. Site audit was carried out with IEC on 14th February 2006 with the Contractor's representatives. The CAP was approved on 17th February 2006. The Contamination Assessment Report (CAR) and Remediation Action Plan (RAP) were approved on 18th August 2006.

5.5.2 Remedial work for the contaminated soil located at the Hotspot L3 (Hole 18) is required to be implemented properly according to the RAP. A confirmation pilot trial on the ratio of cement and contaminated soil was carried out during the reporting month. According to the Contractor's submitted methodology, the contaminated soil will be transferred from Hole 18 to

Hole 17 for remediation. It is because that Hole 17 is the major fill area and the remediation soil to cement mixture can be used as general fill material. The full scale remediation work was carried in the reporting month on 4th October 2006. A Final Site Remediation Report (FSRR) was submitted to EPD on December 2006 and approved by EPD on January 2007. No further remediation work is required.

6. Environmental Site Auditing

6.1.1 The weekly site inspections were conducted by the ET with Contractor's representative and/or Jockey Club's representative on 27th March, 2nd, 10th, 17th and 24th April 2007, and the monthly joined site inspection with IEC and the Contractor's representative undertaken on 17th April 2007. The following observations and recommendations were made.

Dust Mitigation Measures

6.1.2 Major site formation was carried at southern part of East Course during the reporting month. No dust suppression measure was provided during rock breaking activities. Dust generation from the haul road, during earth moving operation and excavation were observed at sunny and windy weather, insufficient dust mitigation measures was provided on site.

6.1.3 Huge temporary soil stockpiles were mainly located at Holes 1 and 16. There were many sand/aggregates located at Holes 1 and 9, these stockpiles are more vulnerable to silty runoff and dust generation due to their particular size are more fine in nature and not suitable for compaction and watering. Soil stockpiles were planted with hydroseed to reduce the dust nuisance to the environment under the APCO requirement.

6.1.4 The Contractor was reminded to minimize the dust generated by the site vehicles moving along the haul road by paving the heavy traffic haul road and haul road near to the existing golf course. The Contractor was repeatedly reminded to provide sufficient dust suppression measure at all other excavation / earth moving areas.

6.1.5 As permanent cart path, turfing and hydroseeding areas (permanent areas and eroded slope) will gradually completed, therefore, dust generation will gradually decrease from the construction site is expected.

6.1.6 Concrete batching plant was operating during this reporting month. No major dust generation was observed from the concrete batching plant during operation. As the construction of the administration buildings and maintenance buildings and cart paths will complete soon, the concrete batching plant is expected to be dismantled by the end of May 2007.

6.1.7 The Contractor was reminded to install the hoarding near to the main exit/entrance near S7 according to the Air Pollution Control Ordinance and its subsidiary regulations. It was outstanding for at least few months.

Water Quality

Temporary Drainage Master Plan

6.1.8 Our initial comments on the TDMP are shown as follows:

- Regarding to the TDMP, some of the proposed temporary and permanent drainage were not observed on site or installed temporary drains layout were different from the proposed layout plans. The TDMP layout plans, therefore, did not totally match with the existing site progress of the temporary/permanent drainage system. In addition, some of the catch basins cannot function because they were not located at the relative low points within the golf hole to collect the surface runoff. The Contractor was urged to revise the TDMP layout plans and present the actual (temporary and permanent drainage system) installation/construction completion date of each golf hole. Interim reports regarding the TDMP progress should be submitted and revised from time to time. If the permanent drainage system is not available

at some particular areas, temporary drainage system should be sufficiently installed to prevent runoff entering to nearby water quality sensitive receivers directly.

- Whole schematic of the TDMP is to divert the surface runoff and discharge to marine water and streams through silt fence / lakes / underground water tanks. However, the TDMP did not indicate their respective locations and availability which claimed to be used as the temporary storage location.

- There is no proposed emergency plan when the temporary/permanent drainage system installed on site when the installed drainage system was failed to function properly and any rectification plan/action to strengthen at those vulnerable areas once found after heavy rain in this submission.

- The site progress of each golf hole will change from time to time. According to the latest site programme, the whole closed low flow drainage system is not available (connected and properly function) at this stage. The permanent drainage system was completed only and mainly on hole by hole basis.

- According to the submitted TDMP, it indicates that silty runoff is not expected in the wet season. According to the proposed temporary drainage system design, the basins located at Holes 1 and 17 were sufficient to collect the site runoff (70 mm/hr) about 4 hours. All permanent cut-off drains are completed and can separate from the construction site to prevent mixing of clear upper catchment water with constriction site. Silt fences installed along the site boundary and surround the catch basins can prevent the silty material discharge offsite. However, silty runoff was observed from numerous construction site areas and directly discharge to marine water and streams during and after rainstorm occurred on 24 April 2007. We considered that the temporary drainage system provided on site is insufficient and not match with the predicted results.

- Direct silty discharge from construction site to Streams A, B and C through silt fences were observed during and after rain. The Contractor should review the effectiveness of the silt fence, strengthen at vulnerable areas, provide sufficient desilting facilities, rectify the collapsed silt fences and is recommended to propose other effective means to confine the silty runoff and properly treated before discharge.

- When the whole golf hole has already sand cap such as Hole 4, no significant silty runoff was observed during the site inspection on 24 April 2007 after rain. If the constructed catch basins were barely covered with sand layer and localized within sub-soil drains areas within a golf hole, the catch basins were not located at the low levels of the permanent drainage system and they could not function to collect and/or divert the water to underground water tank / lake / temporary storage area. Silty runoff was observed and discharged through the low points of golf hole such as Holes 6, 7 & 18 to either marine water or streams.

6.1.9 Silt fence installation is the major temporary drainage system component in addition to the use of permanent drainage system on site during the wet season. According to the site observation, the silt fence was either not observed, poorly maintenance or in slow progress. The Contractor was repeatedly reminded to improve the effectiveness of the mitigation measures and provide sufficient temporary drainage system on site.

6.1.10 Permanent drainage system should be installed properly before turfing at each of the golf hole. As the installation of the closed low flow drainage system is in progress (runoff cannot pumping back to the existing reservoir directly), runoff could be concentrated and directly discharge through underground water tanks and/or lakes overflow or catch basins to the sea / streams. However, it is not observed on site.

6.1.11 No dredging work for the permanent intake and outfall pipelines was carried out during the reporting month.

6.1.12 Construction of permanent bridges was completed before the wet season 2007. Remaining furnishing work was in progress during the reporting month.

6.1.13 The Contractor was reminded to maintain the silt curtain and desilt the settled solids within the silt curtain in a routine basis and ensure the effectiveness of its intended use.

6.1.14 The Contractor was reminded to provide temporary drainage system to collect and divert the runoff to the existing reservoir when the permanent closed low flow drainage system is not completed yet.

6.1.15 ADS filter system had been installed at Hole 5. Five ADS filter system is expected to be installed at Hole 6 in the next reporting month before turfing.

Ecology

6.1.16 Buffer zone at Streams B1, B2 and C had been fully established. However, Stream A buffer zone was only partially established. The whole buffer zone aims to protect the streams and avoid any works/equipment intrusion into the buffer zone.

6.1.17 The main stream course of Stream A was found to be filled up by rubbles to the level of the weir at its downstream end since mid-June 2006. Remedial works were implemented to clear the rubbles and restore the channel manually in early November 2006. However, the rocks were filled up the downstream A again after the rainstorm on 21st November 2006. Most of the rubbles from Hole 17 covering the downstream of Stream A were removed in the December 2006. The temporary bridge at Stream A had been dismantled before wet season. There were still some remaining rocks sitting on the stream bed of the downstream of Stream A.

6.1.18 Floating pontoon was berthed at EP location at the temporary barging point. However, illegal berthing was observed during the site audit. The Contractor was strongly reminded to properly berth at the designated location during material delivery according to the EP. Increase of loading of the sand/aggregates/drainage pipes/irrigation pipes delivery was observed during the reporting month.

Stream B2 Buffer Zone

6.1.19 The reinstated shrub planting area at Stream B2 buffer zone was not healthy growth, some of them were dried up and dead. The Contractor was reminded to keep the buffer zone areas in good condition.

Silt Deposit at Streams

6.1.20 Significant silty runoff and silt deposited were recorded not only on 22nd November 2006 but also on 24th April 2007 after rainstorms at all streams. The Contractor was reminded to enhance the temporary drainage system to prevent the same incident happened in wet season 2007.

Waste / Chemical Management

6.1.21 According to the site observation, vegetation stockpiles, construction wastes stockpiles and general refuse were accumulated at Hole 2 and not disposed off-site during the reporting month.

6.1.22 The Contractor was reminded to provide trip-ticket records and disposal records on monthly basis for our reference.

6.1.23 Insufficient mobile/chemical toilets were provided at the construction site. The Contractor was repeatedly reminded to provide sufficient in particular distant from the Contractor's office.

6.1.24 Due to the high exceedances of ammonia nitrogen and reactive phosphorus from the effluent discharge of the temporary sewage treatment plant located near to the contractor's site office, the Contractor has to further investigate and stop the plant immediately (instructed by RE) until the performance of the plant improve and satisfy with the EPD's discharge licence requirement.

Landscape and Visual

6.1.25 Slope adjacent to Hole 12 and 13 were newly hydroseeded. The Contractor shall provide adequate water to the hydroseeded grass to ensure germination and quick coverage. The visual impact from the eroded slope is expected to be greatly mitigated after the hydroseeded grass germinated. For Hole 5, some hydroseeded areas were damaged by erosion.

6.1.26 During the site audits, site formation, shaping, planting and building construction were carried out. Shrub seedlings were planted on slopes of Holes 2, 4, 5, 10 and 11. The newly planted shrubs are fair in health. The coverage of newly hydroseeded area is not in good condition especially for Hole 12 and 13. The Contractor shall irrigate all the plants and hydroseeded area more frequently.

6.1.27 Retained trees, such as but not limited to T957 and T956, next to administration building were severely damaged by construction. Damaged trees next to the administration building were still unprotected after being damaged by the adjacent construction activities. Wooden boards and garbage were put adjacent to the retained trees. Most of the labels of the retained trees were disappeared. The Contractor was reminded to prevent further damage to those trees and carry out tree surgery works immediately.

6.1.28 All transplanted trees were in fair condition except for T848. Mal-pruning of transplanted trees has not been rectified. Construction material was stockpiled within tree protection zones. A statement on the cause of death of tree T925 recorded in the last report is still outstanding since February 2007.

Status of Environmental Licensing and Permitting

6.1.29 Permits / licences submission and approval status are summarised in Table 6.1.

Table 6.1 Summary of Environmental Licensing and Permit Status

Permit/licence/notification form title	Submission date	Status	Registration No./ Remarks
Application for a construction noise permit for the use of powered mechanical equipment for the purpose of carrying out construction work other than percussive pilling and/or the carrying out of prescribed construction work.	21st Jan 2006	Approved on 16th February 2006	GW-RE0012-06 (valid until 3rd July 2006)
Application for a construction noise permit for the use of powered mechanical equipment for the purpose of carrying out construction work other than percussive pilling and/or the carrying out of prescribed construction work.	6th Apr 2006	Approved on 9th Jun 06 (supersede the GW-RE0012-06)	GW-RE0157-06 (valid until 28th Nov 2006)
Application for a construction noise permit for the use of powered mechanical equipment for the purpose of carrying out construction work other than percussive pilling and/or the carrying out of prescribed construction work.	Nov 2006	Approved on 22nd Nov 06 (supersede the GW-RE0157-06)	GW-RE0384-06 (valid until 26th May 2007)
Notification of the air pollution control (construction dust) regulation	21st Jan 2006	Acknowledge receipt from EPD on 27th February 2006	Ref. no.: 001006902
Registration as a chemical waste producer	10th Jan 2006	Register on 7th February 2006	WPN-5213-813-C1186-04
Application for a permit to dump material at sea under the Dumping at Sea Ordinance	10th Jan 2006	Deferred by CHEC on 17th March 2006 (CHEC/KSC3.9.1/0459)	No dredging work will be carried out between May to December 2006.
Application of exemption account for the construction waste charging scheme	12th Jan 2006	Approved on 16th January 2006	A/C no. 5005322 (valid until 2nd August 2007)
Application for a licence for production pursuant to Section 14 of Air pollution Control Ordinance	2nd Mar 2006	The total silo capacity for the cement works was 45 tonnes which is lower than 50 tonnes. It is not a specified process, application is not required.	EPD letter refer. no.: EP640/EA/SK/015
Application for a licence under Water Pollution Ordinance – Construction Site	18th Mar 2006	Approved on 12th Sept 2006 (CHEC/KSC3/9.1/0414)	EPD letter refer. No: EP640/W4/J1003

7. Environmental Non-Conformance

7.1 Summary of Environmental Non-Compliance

Air Quality

7.1.1 Two exceedances of 24-hour TSP were recorded at GCA B1 during the reporting month.

Marine Water Quality

7.1.2 Thirteen exceedances of ammonia nitrogen and chlorophyll were recorded at Tai Tau Chau, M_Marsh and M_BP. Two exceedances of suspended solids were recorded at TTC and KS. All exceedances were considered not project-related.

Freshwater Quality

7.1.3 Twenty exceedances of turbidity and twenty-seven exceedances of suspended solids were recorded at Streams A, B, C and fresh water inland marsh. Seven exceedances of ammonia nitrogen, eleven exceedances of nitrate nitrogen, four exceedance of nitrite nitrogen, eleven exceedances of total inorganic nitrogen and nine exceedances of chlorophyll a were recorded at downstream of fresh water inland marsh. All exceedances were considered project-related.

Terrestrial Ecology

7.1.4 No non-compliance was recorded during the monthly site audit.

Marine Ecology

7.1.5 Quarterly coral monitoring survey at Site B2, Site C and Control site was not required in this reporting month. Coral transplantation was carried out in the December 2006 at Site D2, quarterly monitoring for the transplanted coral was not required in this reporting month. No dredging work was carried out at Site D2 for the desalination plant's intake and outfall construction.

7.2 Summary of Environmental Complaint

7.2.1 No environmental complaint was received in this reporting month.

7.3 Summary of Environmental Summons

7.3.1 No summon was received in this reporting month.

8. Future Key Issues

8.1 Key Issues for coming month

8.1.1 Major works to be taken for the coming monitoring period are summarized as follows.

- Operation of temporary barging point
- Operation of sewage treatment plant
- Operation of concrete batching plant
- Drainage and irrigation systems installation at Golf Holes
- Sand capping and turf establishment at Golf Holes
- Implementation of temporary drainage master plan
- Operation of desalination plant if required

8.2 Monitoring Schedule for the coming month

8.2.1 The tentative schedule of air, water, ecology and landscape & visual monitoring for the next three months is presented in **Annex F**. The environmental monitoring will be conducted at the same monitoring locations in this reporting month. The monitoring programme has been reviewed and was considered as adequate to cater the nature of works to be undertaken.

8.3 Construction programme for the next three month

8.3.1 The construction programme for the next three months is presented in **Annex G.**

9. Recommendations and Conclusions

9.1.1 The Environmental Monitoring and Audit (EM&A) Report presents the EM&A works undertaken during the period from 25th March to 24th April 2007 in accordance with EM&A Manual and the requirement under EP-224-2005/A.

9.1.2 The Contractor was repeatedly reminded to improve and provide sufficient temporary drainage system on site to prevent silty runoff to marine and stream courses. The Contractor was reminded to provide sufficient dust suppression mitigation measures especially during rock breaking activity, earth movement (loading and unloading), at haul road (vehicle movement) and large soils stockpiles. In addition, the Contractor was reminded to provide sufficient temporary drainage at the turfing areas.

9.1.3 Same as the last reporting month, no rectification work was done by the Contractor. Regarding the retained trees, the Contractor shall take the following measures:

- Carry out surgery to damaged trees;
- Report the cause of death of tree T925;
- Re-fix the label of retained tree for easy identification;
- Maintain the tree protection zone required and remove all construction material / debris from the tree protection zone;
- More frequent watering for transplanted trees, planted vegetation and hydroseeded grass; and
- Rectify the mal-pruning practice of the transplanted trees.

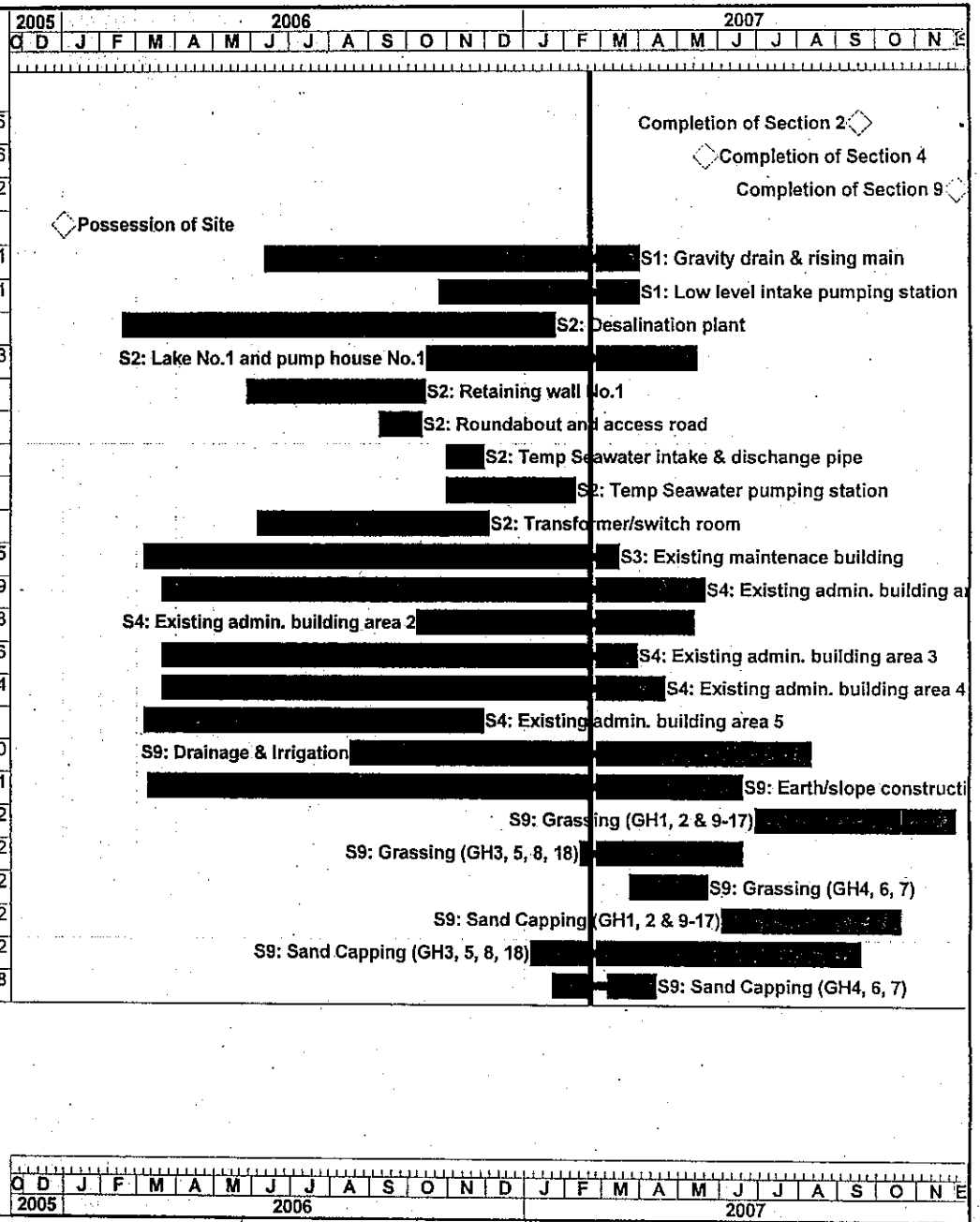
9.1.4 No environmental complaint / summon was received during the reporting month.

9.1.5 The ET will keep track of the EM&A programme with respect to compliance of environmental requirements and the proper implementation of all necessary mitigation measures.

Annex A
Tentative Construction Programme

SUMMARY PROGRAMME

Activity ID	Activity Description	Orig Dur	Early Start	Early Finish	Total Float
SU00120	Completion of Section 2	0		17/09/07	105
SU00140	Completion of Section 4	0		21/05/07	-76
SU00150	Completion of Section 9	0		01/12/07	-122
SU00100	Possession of Site	0	03/01/06A		
SU00170	S1: Gravity drain & rising main	238*	10/06/06A	30/03/07	-141
SU00160	S1: Low level intake pumping station	124*	25/10/06A	30/03/07	-141
SU00190	S2: Desalination plant	278*	18/02/06A	24/01/07A	
SU00240	S2: Lake No.1 and pump house No.1	164*	16/10/06A	14/05/07	-173
SU00230	S2: Retaining wall No.1	117*	27/05/06A	14/10/06A	
SU00250	S2: Roundabout and access road	28*	08/09/06A	12/10/06A	
SU00220	S2: Temp Seawater intake & dischange pipe	26*	31/10/06A	29/11/06A	
SU00210	S2: Temp Seawater pumping station	85*	31/10/06A	09/02/07A	
SU00200	S2: Transformer/switch room	153*	05/06/06A	04/12/06A	
SU00260	S3: Existing maintenace building	300*	07/03/06A	15/03/07	-75
SU00270	S4: Existing admin. building area 1	339*	21/03/06A	21/05/07	-59
SU00280	S4: Existing admin. building area 2	169*	08/10/06A	12/05/07	-58
SU00290	S4: Existing admin. building area 3	300*	21/03/06A	29/03/07	-26
SU00300	S4: Existing admin. building area 4	314*	21/03/06A	19/04/07	-34
SU00310	S4: Existing admin. building area 5	219*	07/03/06A	29/11/06A	
SU00350	S9: Drainage & Irrigation	288*	16/08/06A	10/08/07	-80
SU00330	S9: Earth/slope construction works	372*	10/03/06A	19/06/07	-81
SU00410	S9: Grassing (GH1, 2 & 9-17)	131*	28/06/07	01/12/07	-102
SU00390	S9: Grassing (GH3, 5, 8, 18)	96*	12/02/07A	19/06/07	-82
SU00400	S9: Grassing (GH4, 6, 7)	47*	23/03/07	23/05/07	-82
SU00380	S9: Sand Capping (GH1, 2 & 9-17)	117*	02/06/07	19/10/07	-102
SU00360	S9: Sand Capping (GH3, 5, 8, 18)	205*	05/01/07A	18/09/07	-102
SU00370	S9: Sand Capping (GH4, 6, 7)	63*	22/01/07A	13/04/07	-78



Start Date	28/12/05
Finish Date	23/02/08
Data Date	21/02/07
Run Date	07/03/07 14:08

?Primavera Systems, Inc.

Summary Bar
Progress Bar

KS14

Sheet 1 of 1

China Harbour Engineering Co.
Updated programme from KS13
Summary of Programme

Date	Revision	Checked	Approved
28/12/05	4th Final for Submission	Tim	
01/03/06	Ver 5th (KST5)	Tim	

Annex B
Monitoring Programme for the reporting month

Mar 2007						
Sun	**Mon**	**Tue**	**Wed**	**Thu**	**Fri**	**Sat**
25	26 WQ	27 AQ	28 WQ	29	30 WQ	31

April 2007						
Sun	**Mon**	**Tue**	**Wed**	**Thu**	**Fri**	**Sat**
1	2 AQ WQ	3	4 LV AQ WQ	5	6	7
8	9	10 WQ	11	12 WQ	13 AQ	14
15	16 WQ	17 AQ	18 WQ LV	19 AQ TE	20 WQ	21
22	23 WQ TE	24	25	26	27	28
29	30					

Remarks: AQ = TSP, WQ = Freshwater and Marine water quality, TE = Terrestrial Ecology, ME = Marine Ecology; LV = Landscape & Visual

Annex C
Event Action Plan

Event / Action Plan for Air Quality

EVENT	ACTION			
	ET	IC(E)	Engineer	CONTRACTOR
ACTION LEVEL				
1. Exceedance for one sample	1. Identify source, investigate the causes of complaint and propose remedial measures; 2. Inform IC(E) and Engineer; 3. Repeat measurement to confirm finding; 4. Increase to daily monitoring.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method.	1. Notify Contractor.	1. Rectify any unacceptable practice; 2. Amend working methods if appropriate.
2. Exceedance for two or more consecutive samples	1. Identify source; 2. Inform IC(E) and Engineer; 3. Advise Engineer on effectiveness of proposed remedial measures; 4. Repeat measurements to confirm findings; 5. Increase to daily monitoring; 6. Discuss with IC(E) and Contractor remedial actions required; 7. If exceedance continues, arrange meeting with IC(E) and Engineer; 8. If exceedance stops, cease additional monitoring.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss with ET and Contractor possible remedial measures; 4. Advise ET on the effectiveness of proposed remedial measures; 5. Supervise implementation of remedial measures.	1. Confirm in writing receipt of notification of exceedance; 2. Notify Contractor; 3. Supervise proper implementation of remedial measures.	1. Submit proposals for remedial measures to Engineer within three working days of notification; 2. Implement agreed proposals; 3. Amend proposal if appropriate.
LIMIT LEVEL				
1. Exceedance for one sample	1. Identify source, investigate causes of exceedance and propose remedial measures; 2. Inform IC(E), Engineer, Contractor and EPD; 3. Repeat measurement to confirm finding; 4. Increase to daily monitoring; 5. Assess effectiveness of Contractor's remedial actions	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss with ET and Contractor possible remedial measures; 4. Advise Engineer on effectiveness of proposed remedial measures; 5. Supervise implementation of remedial measures.	1. Confirm in writing receipt of notification of exceedance; 2. Notify Contractor; 3. Supervise proper implementation of remedial measures.	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IC(E) within three working days of notification; 3. Implement the agreed proposals; 4. Amend proposals if appropriate.

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

Event and Action Plan for Water Quality

Event	ET Leader	IC(E)	Engineer	Contractor
ACTION LEVEL				
Action level being exceeded by one sampling day	Repeat *in situ* measurement to confirm findings; Identify reasons for non-compliance and source(s) of impact; Inform IC(E) and Contractor; Check monitoring data, all plant, equipment and Contractor's working methods; Discuss mitigation measures with IC(E) and Contractor; Repeat measurement on next day of exceedance.	Discuss mitigation measures with ET and Contractor ; Review proposals on mitigation measures submitted by Contractor and advise the Engineer accordingly; Assess effectiveness of implemented mitigation measures.	Discuss proposed mitigation measures with IC(E); Make agreement on mitigation measures to be implemented. Assess effectiveness of the implemented mitigation measures.	Inform the Engineer and confirm in writing notification of the non-compliance; Rectify unacceptable practice; Check all plant and equipment; Consider changes in working methods; Discuss with ET and IC(E) and propose mitigation measures to IC(E) and Engineer; Implement agreed mitigation measures.
Action level being exceeded by more than two consecutive sampling days	Repeat *in situ* measurement to confirm findings; Identify reasons for non-compliance and source(s) of impact; Inform IC(E) and Contractor; Check monitoring data, all plant, equipment and Contractor's working methods; Discuss mitigation measures with IC(E) and Contractor; Ensure mitigation measures are implemented; Prepare to increase to daily monitoring; Repeat measurement on next day of exceedance.	Discuss mitigation measures with ET and Contractor ; Review proposals on mitigation measures submitted by Contractor and advise the Engineer accordingly; Assess effectiveness of implemented mitigation measures.	Discuss the proposed mitigation measures with IC(E); Make agreement on mitigation measures to be implemented; Assess effectiveness of implemented mitigation measures.	Inform Engineer and confirm in writing notification of the non-compliance; Rectify unacceptable practice; Check all plant and equipment; Consider changes in working methods; Discuss with ET and IC(E) and propose mitigation measures to IC(E) and Engineer within three working days; Implement agreed mitigation measures.
LIMIT LEVEL				
Limit level being exceeded by one sampling day	Repeat *in situ* measurement to confirm findings; Identify reasons for non-compliance and source(s) of impact; Inform IC(E) Contractor and EPD; Check monitoring data, all plant, equipment	Discuss mitigation measures with ET and Contractor; Review proposals on mitigation measures submitted by Contractor and advise the Engineer accordingly; Assess effectiveness of implemented	Discuss proposed mitigation measures with IC(E), ET and Contractor; Request Contractor to critically review the working methods; Make agreement on mitigation measures to be implemented;	Inform Engineer and confirm in writing notification of the non-compliance; Rectify unacceptable practice; Check all plant and equipment; Consider changes in working methods;

Event	ET Leader	IC(E)	Engineer	Contractor
	and Contractor's working methods; Discuss mitigation measures with IC(E), Engineer and Contractor; Ensure mitigation measures are implemented; Increase to daily monitoring until no exceedance of Limit level.	mitigation measures.	Assess effectiveness of implemented mitigation measures.	Discuss with ET, IC(E) and Engineer and propose mitigation measures to IC(E) and Engineer within three working days; Implement agreed mitigation measures.
Limit level being exceeded by more than two consecutive sampling days	Repeat *in situ* measurement to confirm findings; Identify reasons for non-compliance and source(s) of impact; Inform IC(E), Contractor and EPD; Check monitoring data, all plant, equipment and Contractor's working methods; Discuss mitigation measures with IC(E), Engineer and Contractor; Ensure mitigation measures are implemented; Increase to daily monitoring until no exceedance of Limit level for two consecutive days.	Discuss mitigation measures with ET and Contractor; Review proposals on mitigation measures submitted by Contractor and advise Engineer accordingly; Assess effectiveness of implemented mitigation measures.	Discuss proposed mitigation measures with IC(E), ET and Contractor; Request Contractor to critically review working methods; Make agreement on mitigation measures to be implemented; Assess effectiveness of implemented mitigation measures; Consider and if necessary instruct Contractor to slow down or to stop all or part of the construction activities until no exceedance of Limit level.	Inform Engineer and confirm in writing notification of the non-compliance; Rectify unacceptable practice; Check all plant and equipment; Consider changes of working methods; Discuss with ET, IC(E) and Engineer and propose mitigation measures to IC(E) and Engineer within three working days; Implement agreed mitigation measures; As directed by the Engineer, slow down or stop all or part of the construction activities until no exceedance of Limit level.

Action and Limit level and Event Action Plan for natural corals monitoring

Parameters	Action Level	Limit Level
Sedimentation	a 15% increase in the percentage of sedimentation on the hard corals occurs at more than 20% of the tagged coral colonies at one or more monitoring sites	a 25% increase in the percentage of sedimentation on the hard corals occurs at more than 20% of the tagged coral colonies at one or more monitoring sites
Bleaching	a 15% increase in the percentage of bleaching of hard corals occurs at more than 20% of the tagged coral colonies at one or more monitoring sites	a 25% increase in the percentage of bleaching of hard corals occurs at more than 20% of the tagged coral colonies at one or more monitoring sites
Mortality	a 15% increase in the percentage of partial mortality of corals occurs at more than 20% of the tagged coral colonies at one or more monitoring sites	a 25% increase in the percentage of partial mortality of corals occurs at more than 20% of the tagged coral colonies at one or more monitoring sites

Action	Action Level	Limit Level
Construction phase	If the Action Level is exceeded the ET Leader should inform all parties (Contractor, Project Proponent, EPD, AFCD and IEC). The data from the water quality monitoring should also be reviewed. If the water quality monitoring shows no attributable effects of the installation works, then the Action Level is not triggered. If the water quality data indicate exceedances (for SS and/or turbidity) the ET Leader should discuss with the Contractor the most appropriate method of reducing suspended solids during dredging (e.g. reduce the rate of dredging), and/or control sedimentation during earth works (e.g. check the intactness and effectiveness of the temporary drainage system and stream buffer zone). This mitigated method should then be enacted on the next working day.	If the Limit Level is exceeded the ET Leader should inform all parties (Contractor, Project Proponent, EPD, AFCD and IEC) immediately. Should the Limit Level be exceeded, the contractor should stop dredging and/or earth works immediately and work out the solution according to the requirements of EPD and AFCD. The ET Leader should inform the Contractor to suspend dredging and/or earth works until an effective solution is identified. Once the solution has been identified and agreed with all parties dredging and/or earth works may commence
Operation phase	If the Action Level is exceeded the ET Leader should inform Golf Course Operator, EPD, and AFCD. The data from the water quality monitoring should also be reviewed. If the water quality monitoring shows no attributable effects of the installation works, then the Action Level is not triggered. If the water quality data indicate exceedances (salinity and/or pesticides) the ET Leader should discuss with the Golf Course Operator the most appropriate method of reducing salinity (e.g. reduce the daily operation time of the desalination plant), and/or control chemicals from runoff (e.g. reduce the frequency and quantity of chemical applied, check the intactness and effectiveness of the closed drainage system and stream buffer zone). This mitigated method should then be enacted on the next working day.	If the Limit Level is exceeded the ET Leader should inform all parties Golf Course Operator, EPD, and AFCD immediately. Should the Limit Level be exceeded, the Golf Course Operator should stop the operation of the desalination plant and/or the application of chemicals immediately and work out the solution according to the requirements of EPD and AFCD. The operation of the desalination plant and/or the application of chemicals would be suspended until an effective solution is identified.

Categories of Archaeological Finds and Recommended Action

Categories of Archaeological Material	Retrieval Procedure
Human burial • Skeleton remains • Items associated with human burial, i.e. grave goods	Full recording and recovering of human remains and associated features • Complete recoding by photography, drawing, written description • Full measurement of burial and surrounding matrix • Retrieval of human remains and associated materials • Retrieval of surrounding soil for further analysis
Intact features • Structural/architectural remains • Undisturbed context, such as hearth, midden, habitation area, assemblages of artefacts and/or environmental material	Limited recording and recovery of archaeological features • Recording and measurement of salient features by photography, drawing and written description • Retrieval of all archaeological material • Retrieval of samples from the surrounding matrix
Intact artefacts • Complete objects such as pottery, metal objects, stone and bone tools. The objects are complete but isolated and are no part of assemblages or feature.	Recovery of artefacts • Recovery of objects • Sampling of the surrounding matrix • Proper treatment with cleaning, marking and packing under international acceptable standards
Isolated material • Sherds, non-human bone, artefact fragments (metal, pottery, glass). There are no complete objects, the material is isolated and fragmentary in nature.	Recovery of artefact fragments/archaeological material • Recovery of material, such as artefact fragments, environmental material and sampling of surrounding matrix
Deposits with archaeological potential • Soil deposits which exhibit characteristics associated with archaeological remains in Hong Kong	Sampling of the deposit • Collection of soil samples from deposits displaying archaeological potential

Annex D
Implementation status on Environmental Protection Requirements

IMPLEMENTATION SCHEDULE OF THE PROPOSED MITIGATION MEASURES

Table 1 Implementation Schedule of Air Quality Measures

EIA Ref	EM&A Ref	Environmental Protection Measures*	Location / Timing	Implementation Agent	Implementation Stages**			Relevant Legislation and Guidelines	Implementation Status
					D	C	O		
Air Quality - Construction Phase									
4.7.1		In order that nuisance to air sensitive receivers is minimized, it is important to minimize dust emissions from construction activities including cut and fill operations and trucks movements on haul road. Dust control techniques should be considered to control dust to a level not exceeding the AQOs as well as the 1-hour TSP guideline level. These measures include: • Adoption of good site practices; • Avoid practices likely to raise dust level; • Frequent cleaning and damping down of stockpiles, dusty areas of the Site and the haul roads; • Reduce the speed of the vehicles (say 10 kph) on the haul road; • Reducing drop height during material handling; • Provision of wheel-washing facilities for Site vehicles leaving the Site; • Regular plant maintenance to minimize exhaust emission; • If concrete batching plant or rock crushing plant is planned to used, a license from EPD may be required depending on the total silo capacity since they are specified processes under the APCO. Modern plant should be designed to limit emissions	Work site / during construction	All contractors		√		EIAO-TM, APCO, Air Pollution Control (Construction Dust) Regulation	 Insufficient Insufficient Insufficient √ √ √ √ As confirmed by Contractor, the concrete batching plant is not a specific process.
4.7.2		Providing watering four times a day for dust suppression.							Insufficient

* All recommendations and requirements resulted during the course of EIA Process, including ACE and/or accepted public comment to the proposed project.
** D=Design, C=Construction, O=Operation; N/A = Not applicable

Table 2 Implementation Schedule of Water Quality Control Measures

EIA Ref	EM&A Ref	Environmental Protection Measures*	Location	Implementation Agent	Implementation Stages**			Relevant Legislation and Guidelines	Implementation Status
					D	C	O		
Water Quality – Construction phase									
6.11.4 6.11.5		Proposed 18 holes Golf Course Layout Design 20m buffer zones on both sides of the streams will be demarcated as a preventative mitigation measure to reduce the disturbance during construction phase of the golf course except for the portions of Streams A which is of low ecological value and an old tributary of Stream B. On one side of part of the Stream B, the buffer zone would be reduced to 5m. For the construction activity which is unavoidable near natural streams (within the buffer zone), mainly the construction of crossings, preventative mitigation measures during the construction stage should be follow by the Contractor, they are shown as follows: • The proposed works site inside or in the proximity of natural streams should be temporarily isolated, through by placement of sandbags or silt curtains and properly supported by props, to prevent adverse impacts on the stream water qualities; • The natural bottom and existing flow in the stream should be preserved to avoid disturbance to the stream habitats; • No direct and indirect discharge into the natural stream is allowed from any construction work activities; • Stockpiling of construction material, if any, should be properly covered and located away from any natural stream; • Monitor rain forecast closely and cover any exposed spoil when rainstorms are forecasted. Debris should be properly disposed of before rainstorm to avoid any inadvertent wash away into the stream; and • removal of existing vegetation alongside the stream should be avoided. When disturbance to vegetation is unavoidable, all disturbed areas should be hydroseeded or planted with suitable vegetation to blend in with the natural environmental upon completion of works.	Work site / During the construction period	All contractors		√		ProPECC PN 1/94; WPCO; TM-Effluent Standards for Effluents Discharged into Drainage and Sewerage Systems, Inland and Coastal Water	Only streams B1, B2 and C buffer zones fencing were provided. Stream A was not fully installed buffer zone fencing. Permanent drainage located at upstream of Stream B1 (within the buffer zone) was completed and hyroseeded in March 2007. Permanent bridges construction within buffer zone was completed in March 2007. All temporary bridges were dismantled before wet season (end of March 2007). Direct silty water pumping from the construction site to Stream B was observed during the site audit. In addition, heavy silty runoff was observed to all streams during and after the rain occurred on 24 Apr 2007. The temporary drainage system provided on site was considered insufficient and ineffective.
6.11.13		Runoff and Drainage Management ◆ **Diversion of upstream flows around the works areas for stream crossings and underground pipes**: To minimize the impact of upstream runoff on the Works area by preventing storm flows reaching the work areas. This will be done through provision of upstream cut-off drains to intercept the flows and divert them around the Works area. It would convey flows to downstream stream courses, or other elements of temporary drainage systems (such as storage facilities). ◆ **Temporary covering the works areas during severe storm events**: Significant rainstorm events can be reasonably well forecast and when heavy rain is predicted, mitigation measures should be provided for the vulnerable areas by using tarpaulins, plastic sheets or other temporary covering to protect works area and minimize damage and erosion. It is recommended not to cover the newly establishment grass areas, and if unavoidable, this should only to be done on a short term basis (less than 24 hours). ◆ **Silt traps and sedimentation tanks for main discharge routes form works area**: Sufficient and suitably sized silt traps and/or sedimentation tanks should be provided at the downstream ends of the systems to remove suspended solids prior to discharge. The discharge water quality shall be compliant with the *TM on Standards for Effluents Discharged into Drainage and Sewerage Systems, Inland and Coastal Waters* under the WPCO. The required volume of the sedimentation tanks will depend on the catchment area served. Multiple tanks in series may also be required where runoff might be expected to be silty. ◆ The design details of the temporary drainage system at turf establishment area follow the same principles of the permanent drainage system. However the component pipes, tanks, lakes and/or pumps may differ in size, shape, location, etc. from that of the permanent system, dependent upon the temporary runoff areas as compared with those of the permanent system. Additionally or alternatively, the temporary drainage system may consist of other methods to control soil erosion and/or to facilitate the collection of surface water runoff. The temporary drainage system will function during the period of time in which the permanent system is not yet completed. This circumstance will arise from the fact that the golf holes, inclusive of the permanent drainage system, will be constructed individually. As a result, the permanent drainage system may not be completed in its entirety until connection is made from each respective golf hole	Work site / During the construction period	All contractors		√		ProPECC PN 1/94; WPCO; TM-Effluent Standards for Effluents Discharged into Drainage and Sewerage Systems, Inland and Coastal Water	The Contractor submitted the revised TDMP to RE for approval during this reporting month. The latest submitted drainage plan is the mitigation measures for the silty runoff which has not included the recycling the runoff during the turf establishment. Two treatment facilities were provides at those major discharge points (de-silting) before discharging to marine water. However, heavy silty runoff from the construction site to the marine water and stream was observed during and after rain and no operation of treatment facilities were recorded. Mostly complete turfing area was at Holes 5 & 8 (except green). Hole 4 was in progress during the reporting month. The expected next turfing areas were Holes 6 & 7 according to the CHEC's latest submission. Four ADS filter systems were installed at Hole 5 and inspected by EPD on 12 February 2007. Five ADS filter systems at Hole 6 will be installed during next reporting month (only the hardware of ADS filter system was installed except the "tea bag").

EIA Ref	EM&A Ref	Environmental Protection Measures*	Location	Implementation Agent	Implementation Stages**			Relevant Legislation and Guidelines	Implementation Status
					D	C	O		
		area to the lake/reservoir. As the permanent drainage system is completed for each hole, the corresponding temporary system will be decommissioned and reused elsewhere. The temporary drainage system will be in use until the permanent system is functional in a given area. Once the permanent system is functional in a given area, the temporary system will be decommissioned and, wherever possible, the components re-used in another temporary drainage system installed elsewhere. It is anticipated that the maximum duration of use for the temporary drainage system in any given area will be one-year. The storage tanks and/or lakes will be designed to segregate suspended solids (or pollutants as may be the case in plant/equipment storage and refueling areas) as may be necessary by contract requirements and reuse. ◆ No irrigation, fertilizer and pesticide applications to the turf would be permitted during rainstorm events or when heavy rainstorm is predicted 24 hours before the application. • Runoff from materials storage areas, particularly fuel and chemicals storage area should be separated from the main drainage systems (bunded, if necessary) and provided with dedicated facilities throughout the construction period, such as petrol interceptors.							
6.11.14		The Contractor shall follow good site practices and be responsible for the design, construction, operation, and maintenance of all the mitigation measures as specified in *ProPECC PN1/94* on construction site drainage through the construction period. These practices include: • Temporary ditches should be provided to facilitate run-off discharge into appropriate watercourses, via a silt retention pond. • All drainage facilities and erosion and sediment control structures should be inspected monthly and maintained to ensure proper and efficient operation at all times. • Excavation of soil that cannot be avoided during the wet season, and exposed surface or open stockpiles should be covered with tarpaulin or other means. Other measures that need to be implemented before, during and after rainstorms are summarized in *ProPECC PN1/94*. • Exposed soil areas should be minimized to reduce potential for increase siltation and contamination of runoff. • Earthwork final surfaces should be well compacted and subsequent permanent work (turf establishment) should be immediately performed. • The Contractor shall contain within the site all surface runoff generated from the construction works, concreting works, dust control and vehicle washing, etc. • The Contractor shall arrange other measures, such as provision of sand bags or temporary diversion systems to prevent washing away of soil, silt or debris into any nearby natural streams. Any runoff shall be diverted into appropriate sediment traps before discharging to the nearby drainage system. The discharge water quality shall be compliant with the *TM on Standards for Effluents Discharged into Drainage and Sewerage Systems, Inland and Coastal Waters* under the WPCO. • The Contractor shall observe and comply with the Water Pollution Control Ordinance (WPCO) and its subsidiary regulations by implementing environmental protection measures (such as the use of silt traps) and preventing any point or non-point source of pollution.	Work site / During the construction period	All Contractor		√		ProPECC PN 1/94; WPCO; TM-Effluent Standards for Effluents Discharged into Drainage and Sewerage Systems, Inland and Coastal Water	Same as above

EIA Ref	EM&A Ref	Environmental Protection Measures*	Location	Implementation Agent	Implementation Stages**			Relevant Legislation and Guidelines	Implementation Status
					D	C	O		
6.11.15 6.11.16		<u>Concrete bridge construction</u> No work is allowed to come into contact with the underlying stream bed during the concrete bridge construction. During the construction of precast concrete bridge, if necessary, precaution measures should be taken to ensure no potentially polluting liquid or solid wastes fall into the stream. This is essential to avoid water quality impacts within ecologically sensitive streams. The Contractor shall good site follow practices, including, but no limited to:: • Construction work area for the precast concrete should be outside the designated stream buffer zone area; • The designated work area for precast concrete work should be covered to minimize the potential water runoff during rain from the construction area; • All water used within the concrete work area should be collected, stored and recycled to reduce resource consumption. Stormwater runoff from the works areas fro precast concreting works should drain under gravity towards a sedimentation basin. The overlying water from the sedimentation basin should be recycled for reuse within the plant. The deposited sediment should be dewatered and the dry matter should require disposal off-site. No water should be discharged outside the boundary of the precast concrete works area; • The use of tarpaulin sheet or other means (water impermeable texture) should be placed beneath precast concrete beam level (must be above the stream bed level) to capture any falling object during installation of precast concrete bridge on the footings or abutments; • Prohibition of any direct and indirect discharge into the streams; • The concrete bridge and footings of abutments must be completely above the high water mark; • All equipment and machinery must be free of leaks or excess oil and grease; • Equipment refueling or servicing or storage of fuel must be undertaken at a minimum of 30 meters from the stream; • Prevent soil and trash from getting into stream during construction by use of silt fence, fiber rolls, gravel bags and other effective means; • All bare soil (abutment slope or temporary stockpile) must be covered with tarpaulin or other means before forecast rain; and • Wash out concrete trucks or pumps only into designated washout pits.	Work site / During the construction period	All contractors		√		ProPECC PN 1/94; WPCO; TM-Effluent Standards for Effluents Discharged into Drainage and Sewerage Systems, Inland and Coastal Water	Construction of all permanent bridges was completed before March 2007. They are bridge culvert at Hole 10 (Stream B2), permanent precast bridge no. 5 at the freshwater inland marsh, permanent in-situ bridge at Stream B1, precast bridge no. 15 at Stream C and precast bridge at Stream A during the previous reporting month. Decking/finishing work of all bridges was on-going during the reporting month.
6.11.19 6.11.20 6.11.21 6.11.22		<u>Dredging during Construction of Desalination Plant's intake and outfall</u> The intake and outfall pipelines will be constructed by dredging the seabed to form a trench and backfilled with a layer of bedding material (quarry run stone) before putting the pipelines in place. Once in place, the pipelines are covered with layers of rock armour on top of the pipelines to protect the pipelines against damage by wave action. The alternative backfilling material is from rock excavated during site formation if suitable. The materials used for the backfilling at the intake and outfall pipelines are stone and rock armour only. Transfer of backfilling materials onto the seabed from barge should be conducted by careful grabbing and unloading to seabed (to minimize sediment migration), thereby minimize impacts on water quality to nearby water sensitive receivers. As a preventative measures, silt curtain will also be required during the backfilling activities. The expected backfilling duration is approximate 2 months. The Contractor shall use backhoe for dredging works at a water depth of less than 2m and use close grab dredger for works with water depth of more than 2m. The estimated dredging works is about 50m long (where backhoe should be used for water less than 2m deep) and 70m long (where close grab dredger should be used for water more than 2m deep). Only one dredging method should be used at any one time. In order to avoid pollution during dredging, transporting and dumping of marine mud. Pollution avoidance measures shall include but not be limited to the following: • The maximum daily dredging rate for closed grab dredger should be $45m^3$/day; • The maximum daily dredging rate for backhoe should be $20m^3$/day; • Silt curtain should be installed for any dredging methods to protect the WSRs; • Closed grabs or sealed grabs should only be used for locations with water depths $\geq$ 2m; • Backhoe should only be used for locations with water depths $\leq$ 2m; • All equipment should be designed and maintained to minimise the risk of silt and other contaminants being released into the water column or deposited in locations other than designated location;	Work site / During the construction period	All contractors		√		ProPECC PN 1/94; WPCO; TM-Effluent Standards for Effluents Discharged into Drainage and Sewerage Systems, Inland and Coastal Water	No dredging work for the desalination plant pipelines was carried out. All desalination plant land formation work and temporary pipelines were completed and installed at the existing KSC pier during the reporting month. Application of the discharge licence of the desalination plant was on-going.

EIA Ref	EM&A Ref	Environmental Protection Measures*	Location	Implementation Agent	Implementation Stages**			Relevant Legislation and Guidelines	Implementation Status
					D	C	O		
		• Mechanical grabs should be designed and maintained to avoid spillage and should seal tightly while being lifted; • No trailing suction hopper dredgers would be deployed for the dredging of marine mud; • All vessels should be sized such that adequate clearance is maintained between vessels and the sea bed at all states of the tide to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller wash; • All pipe leakages should be repaired promptly and plant shall not be operated with leaking pipes; • Before moving the vessels which are used for transporting dredged materials excess material should be cleaned from the decks and exposed fittings of vessels and the excess materials should never be dumped into the sea except at the approved locations; • Adequate freeboard should be maintained on barges to ensure that decks are not washed by wave action; • The Contractor should monitor all vessels transporting material to ensure that no dumping outside the approved location takes place. The contractor should keep and produce logs and other records to demonstrate compliance and that journey times are consistent with designated locations and copies of such records should be submitted to the engineer; • All bottom dumping vessels should be fitted with tight fitting seals to their bottom openings to prevent leakage of material; • Loading of barges and hoppers should be controlled to prevent splashing of dredged material to the surrounding water, and vessels should not be filled to a level which will cause overflowing of material or polluted water during loading or transportation; and • The engineer may monitor any or all vessels transporting material to check that no dumping outside the approved location nor loss of material during transportation takes place. The contractor should provide all reasonable assistance to the engineer for this purpose.							
6.11.23		In addition, baseline water quality monitoring before commencement of the marine works shall be carried out in the nearby waters to obtain baseline information for subsequence monitoring. Regular and frequent water quality monitoring shall be carried out throughout the whole construction period to ensure the water quality during construction is well within the established environmental guidelines and standards.							
6.11.24		Silt Curtain In order to minimize impacts during the whole construction period of desalination plant's intake and discharge outfall, silt curtains should be utilized to minimize sediment migration. The Contractor shall be responsible for the design, installation and maintenance of the silt curtains to minimize the impacts on the water quality and the protection of water sensitive receivers. The design and specification of the silt curtains shall be submitted by the Contractor to the Engineer for approval. Area of the silt curtain to enclose the works area should be minimized in order to reduce the disturbance of ecological sensitive areas nearby.							
6.11.25		A typical suspended solids reduction of 75% can be achieved with the incorporation of silt curtain. Two-layer silt curtains have generally been used for dredging projects of larger scale to further ensure this reduction. However, as the scale of proposed project is considered small, it is recommended to use single layer silt curtain which can achieve a minimum 75% suspended solids reduction.							
6.11.26		Silt curtains shall be formed from tough, abrasion resistant, permeable membranes, suitable for the purpose, supported on floating booms in such a way as to ensure that the sediment plume shall be restricted to within the limit of the works area.							
6.11.27		The silt curtain shall be formed and installed in such a way that tidal rise and fall are accommodated, with the silt curtains always extending from the surface to the bottom of the water column. The removal and reinstallation of such curtains during typhoon conditions shall be as agreed with the Director of Marine Department.							
6.11.28		The Contractor shall regularly inspect the silt curtains and check that they are moored and marked to avoid danger to marine traffic. Any damage to the silt curtain shall be repaired by the Contractor promptly and the works shall be stopped until the repair is effected to the satisfaction of the Engineer.							

EIA Ref	EM&A Ref	Environmental Protection Measures*	Location	Implementation Agent	Implementation Stages**			Relevant Legislation and Guidelines	Implementation Status
					D	C	O		
		<u>General Construction Activities</u>							
6.11.29		Debris and refuse generated on-site should be collected, handled and disposed of properly to avoid entering adjacent watercourse. Stockpiles of construction materials should be kept covered when not being used.	Work site / During the construction period	All contractors		√		ProPECC PN 1/94; WPCO; TM-Effluent Standards for Effluents Discharged into Drainage and Sewerage Systems, Inland and Coastal Water	Disposal records for the general refuse and construction waste was submitted by the Contractor for this reporting month. Disposal was not observed during the reporting month. The major disposal waste were vegetation and construction wastes.
6.11.30		Oils and fuels should only be stored/handled in designated areas with pollution prevention facilities. Oil interceptors need to be regularly inspected and cleaned to avoid wash-out of oil during storm conditions.							Not observed
6.11.32		All fuel tanks should be provided with locks and be sited on sealed areas within bunds of capacity equal to 110% of the storage capacity of the largest tank.							✓
6.11.33		Good housekeeping practices and staff training are required to minimize careless spillage and keep the work space in a tidy and clean conditions at all times. Accidental spillage of chemicals in the works area would directly affect the aquatic environment. It is recommended that the Contractor should develop management procedures for chemical and implement an emergency plan to deal with chemical spillage in case of an accident.	Work site / During the construction period	All contractors		√		ProPECC PN 1/94; WPCO; TM-Effluent Standards for Effluents Discharged into Drainage and Sewerage Systems, Inland and Coastal Water	No observed
6.11.34		Disposal of chemical wastes should be carried out in compliance with the Waste Disposal Ordinance. The chemical waste should be transported to a facility licensed to receive chemical waste, such as the Chemical Waste Treatment Facility at Tsing Yi. The Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes details the requirements to deal with chemical wastes.							No chemical waste disposal recorded was submitted by the Contractor. The chemical waste storage area was located at Hole 2 (concrete batching plant). The chemical storage area was located at Hole 18.
		<u>On-Site Sewage Effluents</u>							
6.11.35		In order to prevent sewage effluents affecting water courses, the following mitigation measures should be provided by the Contractor:- • Temporary sanitary facilities, such as portable chemical toilets, should be employed on-site to handle sewage from the workforce; • The toilet facilities should be more than 30 m from any watercourse; • Temporary storage tank should be provided to collect wastewater from kitchens or canteen, if any; • A licensed waste collector should be deployed to clean the chemical toilets on a regular basis which will be and disposed of at government sewage treatment facilities • Regular environmental audit on the construction site can provide an effective control of any malpractices and can achieve continual improvement of environmental performance on site. It is anticipated that sewage generation during the construction phase of the project would not cause water pollution problem after undertaking all required measures; and • Notices should be posted at conspicuous locations to remind the workers not to discharge any sewage or wastewater into the nearby environment during the construction phase of the project.							√. A sewage treatment plant was provided at the site office. Two to three mobile toilets were available on site at southern portion of the construction site. High exceedance on ammonia nitrogen from the plant was recorded during the reporting month. No canteen was available. √ √ No observed
6.11.36		<u>Concrete batching plant</u> All water used within the concrete batching plant will be collected, stored and recycled to reduce resource consumption. This includes water used in the concrete batching process, truck cleaning, yard washing and dust suppression spraying. All spent dust suppression effluent will be collected and recycled. To minimize the potential water quality impacts that may generate from the concrete batching plant, a drainage system should be provided in this site. The batching plant area should be channelled to collect concrete washings for further treatment before reuse on-site and prevent concrete washings from directly entering the any stream or seawater. Site runoff should also be collected through the drainage system. To minimize the generation of contaminated site runoff from concrete production area, the concrete batching plant should be sheltered.	Work site / During the construction period	All contractors		√		ProPECC PN 1/94; WPCO; TM-Effluent Standards for Effluents Discharged into Drainage and Sewerage Systems, Inland and Coastal Water	The concrete batching plant is operating during the reporting month. Temporary drains to cut-off the water from haul road was not observed. Concrete bund was provided at the downstream periphery end of the site to confine the wastewater. There was a sedimentation pit within the concrete batching plant area to collect the wastewater and used as a wheel waste facilities. The collected water will pump to sedimentation columns for recycle use. No discharge was expected from the plant. The site condition of the concrete batching plant was satisfactory.
6.11.37		Concrete washings and site runoff should be pumped to a wastewater treatment system with a sedimentation unit for removal of suspended solids such as waste concrete particles, silt and grit in order to achieve the discharge standards. pH adjustment should also be applied if the pH value of the collected concrete washings and site runoff is higher than the pH range specified in the discharge licence. This can be achieved by adding neutralizing regents, i.e. acidic additive. A discharge licence should be applied from EPD for discharge of effluent from the site. Analysis of effluent quality may be required as one of the licensing conditions of the discharge licence. The Contractor should collect effluent samples at the final discharge point in accordance with the required sampling frequency to test the specified water quality parameters. The quality of the discharged effluent should comply with the discharge licence requirements.							The concrete batching plant is expected to be demolished by the end of May 2007.

EIA Ref	EM&A Ref	Environmental Protection Measures*	Location	Implementation Agent	Implementation Stages**			Relevant Legislation and Guidelines	Implementation Status
					D	C	O		
		It is recommended to reuse the treated effluent for dust suppression and general cleaning on site, wherever possible.							
6.11.38		The drainage system should be maintained on a regular basis to remove the deposits on the channels. The sedimentation and pH adjustment systems should also be checked and maintained by competent persons to ensure that the systems are functioning properly at all times.							
6.11.39		The deposited sediment will be dewatered and the dry matter will require disposal off-site. The estimated maximum concentrate batching operation period during construction is 20 months.							
6.11.40		Sand, gravel and other bulk materials will be delivered from the production area by conveyor boats or derrick barges to the temporary barging point, and the material will then be loaded onto dump trucks by loaders and delivered to the on-site storage areas.							
6.11.41		Regular environmental inspections should be conducted to check the environmental performance of daily operation. These inspections will ensure proper installation and maintenance of pollution control measures, such as checking of sedimentation basin, wastewater recycling facility and enclosure of stockpiles, and the implementation of other mitigation measures.							

* All recommendations and requirements resulted during the course of EIA/EA Process, including ACE and/or accepted public comment to the proposed project.
** Des - Design, C = Construction, O = Operation
N/A Not applicable

Table 3 Implementation Schedule of Waste Management Measures

EIA Ref	EM&A Ref	Environmental Protection Measures*	Location / Timing	Implementation Agent	Implementation Stages **			Relevant Legislation & Guidelines	Implementation Status
					D	C	O		
Waste Management - Construction Phase									
7.7.2		Good site practice to minimize solid waste generation, including: ◆ nomination of approved personnel, such as a site manager, to be responsible for good site practices, and making arrangements for collection of all wastes generated at the site and effective disposal to an appropriate facility; ◆ training of site personnel in proper waste management and chemical waste handling procedures; ◆ provision of sufficient waste disposal points and regular collection for disposal; ◆ appropriate measures to minimise windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers; ◆ regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors; ◆ a Waste Management Plan should be prepared and should be submitted to the Engineer for approval. One may make reference to ETWB TCW No. 15/2003 for details; and ◆ a recording system for the amount of wastes generated, recycled and disposed (including the disposal sites) should be proposed.	Work site / During the construction period	All Contractors		√		WDO; Public Health and Municipal Services Ordinance; The Land (Miscellaneous Provisions) Ordinance; ETWB TCW NO. 15/2003.	Construction waste disposal record (for March 2007) was submitted by the Contractor during this reporting month.
7.7.4		Good management and control can prevent the generation of significant amounts of waste. Waste reduction is best achieved at the planning and design stage, as well as by ensuring the implementation of good site practices. Recommendations to achieve waste reduction include: ◆ segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal; ◆ separate labelled bins shall be provided to segregate aluminium cans from other general refuse generated by the work force, and to encourage collection of by individual collectors; ◆ any unused chemicals or those with remaining functional capacity shall be recycled; ◆ maximising the use of reusable steel formwork to reduce the amount of C&D material; ◆ prior to disposal of C&D waste, it is recommended that wood, steel and other metals shall be separated for re-use and / or recycling to minimise the quantity of waste to be disposed of to landfill; ◆ proper storage and site practices to minimise the potential for damage or contamination of construction materials; ◆ plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste; ◆ minimize over ordering of concrete, mortars and cement grout by doing careful check before ordering.	Work site / During the construction period	All Contractors		√		WDO; Public Health and Municipal Services Ordinance; The Land (Miscellaneous Provisions) Ordinance; ETWB TCW NO. 15/2003.	 Not observed Not observed √ Not observed Not observed √ √
7.7.6 7.7.7		Site Clearance Waste Scrub and other vegetation will be stripped for the tees, fairways, greens and access roads. The normal route for disposal for such material is landfill but in this case it is proposed that vegetation is passed through a "chipper" to break down the material into a medium that can be used as mulch / compost and provide a seed-bank for natural hydroseeding of exposed areas. Non-inert materials should be kept separate and reused on-site as fill in preference to disposal at public filling areas which are operated by CEDD or disposal at landfill.	Work site / During the construction period	All Contractors		√		WDO; Public Health and Municipal Services Ordinance ; The Land (Miscellaneous Provisions) Ordinance; ETWB TCW NO. 15/2003.	Construction waste stockpiles were disposed offsite regularly on monthly basis. √
7.7.8		Excavated Materials Material generated during open cut works, and access route formation will comprise rock and soil and all this material will be reused in the site shaping process. It is anticipated that there will be no material requiring disposal off-	Work site / During the construction period	All Contractors		√		WDO; Public Health and Municipal Services Ordinance; The Land (Miscellaneous Provisions) Ordinance;	√

EIA Ref	EM& A Ref	Environmental Protection Measures*	Location / Timing	Implementation Agent	Implementation Stages **			Relevant Legislation & Guidelines	Implementation Status
					D	C	O		
		site in public filling areas.						ETWB TCW NO. 15/2003.	
7.7.9		Construction and Demolition (C&D) Material The C&D material generated from the site formation and demolition works should be sorted on-site into inert C&D material and C&D waste. In order to minimise the impact resulting from collection and transportation of C&D material for off-site disposal, the excavated material comprising fill material should be reused on-site as backfilling material. C&D waste, such as wood, plastic, steel and other metals should be reused or recycled and, as a last resort, disposed of to landfill. A suitable area(s) should be designated within the site for temporary stockpiling of C&D material and to facilitate the sorting process. The stockpiling/sorting area should be located far away from the identified sensitive receivers.	Work site / During the construction period	All Contractors		√		WDO; Public Health and Municipal Services Ordinance; The Land (Miscellaneous Provisions) Ordinance; ETWB TCW NO. 15/2003.	One large soil stockpiles was located at the upstream of Stream C.
7.7.10		Site fencing Some site fencing may be required. Attention should be paid to WBTC No. 19/2001 which introduce a new policy requiring the use of metallic site hoardings and signboards in order to reduce the amount of timber used on construction sites.	Work site / During the construction period	All Contractors		√		WBTC No. 19/2001	Only some of the area was installed fencing (geotextle/metallic hoarding) was provided on site.
7.7.12 7.7.14 7.7.15 7.7.16 7.7.17 7.7.18		Chemical Waste Where the construction processes produce chemical waste, the Contractor must register with EPD as a Chemical Waste Producer. Wastes classified as chemical wastes are listed in the *Waste Disposal (Chemical Waste) (General) Regulation*. These wastes are subject to stringent disposal routes. EPD requires information on the particulars of the waste generation processes including the types of waste produced, their location, quantities and generation rates. A nominated contact person must be provided. Hard standing surfaces draining via oil interceptors shall be provided in works area compounds. Interceptors will be regularly emptied to prevent release of oils and grease into the surface water drainage system after accidental spillages. The interceptor should have a bypass to prevent flushing during periods of heavy rain. Oil and fuel bunkers should be bunded to prevent discharge due to accidental spillages or breaches of tanks. Waste collected from any grease traps should be collected and disposed of by a licensed contractor. Any construction plant which is likely to leak oil, should have absorbent inert material e.g. sand, placed beneath it. This material should be replaced on a regular basis and the contaminated material should be stored in a designated, secure place. Any sand used for soaking oil waste is classified as chemical waste and should be disposed of in accordance with the *Waste Disposal (Chemical Waste) (General) Regulations*. Lubricants and waste oils are likely to be generated during the maintenance of vehicles and mechanical equipment. Used lubricants will be collected and stored in individual containers which are fully labelled. The containers should be stored in a designated secure place. If possible such waste should be sent to oil recycling companies; there are also companies which collect empty oil drums for reuse or refill. Oil and lubricant wastes are classified as chemical wastes, and if not recycled, should be collected by licensed collector and should be treated at the Chemical Waste Treatment Centre, Tsing Yi, or other sites licensed for disposal of waste oil. A trip ticket system operates to control the movement of such chemical waste and tickets have to be produced upon the request of EPD. Some paints and solvents are classified as chemical waste and, if used on site, will be subject to the stringent requirements of the *Waste Disposal (Chemical Waste) (General) Regulation.* Empty paint cans should be	Work site / During the construction period	All Contractors		√		Waste Disposal (Chemical Waste) (General) Regulation	No submission on the chemical waste disposal record / domestic waste were received since the commencement of this project.

EIA Ref	EM& A Ref	Environmental Protection Measures*	Location / Timing	Implementation Agent	Implementation Stages **			Relevant Legislation & Guidelines	Implementation Status
					D	C	O		
7.7.19		recycled or collected as waste. Any dry paint waste should be swept up and collected in containers for disposal. No lubricants, oils, solvents or paint products should be allowed to discharge into water courses, either by direct discharge, or as contaminants carried in surface water runoff from the construction site.							
7.7.20		Sewage An adequate number of portable toilets should be provided for the on-site construction workforce. The portable toilets shall be maintained in a state that will not deter the workers from using them.	Work site / During the construction period	All Contractors		√		WDO; Public Health and Municipal Services Ordinance; The Land (Miscellaneous Provisions) Ordinance; ETWB TCW NO. 15/2003.	Few portable toilets were not available at remote area to the site office. Site office with provision of flushing toilets for workers and staffs.
7.7.21 7.7.22		General Refuse General refuse should be stored in enclosed bins or compaction units separate from C&D material. A reputable waste collector should be employed by the contractor to remove general refuse from the site, separately from C&D material. An enclosed and covered area is preferred to reduce the occurrence of 'wind blown' light material. Solid and liquid wastes will be generated by the construction workers during the clearance/construction period. The refuse (mainly non-recyclable materials) will be collected regularly in black refuse bags and delivered to the existing solid waste disposal system and transferred to landfill for disposal.	Work site / During the construction period	All Contractors		√		WDO; Public Health and Municipal Services Ordinance; The Land (Miscellaneous Provisions) Ordinance; ETWB TCW NO. 15/2003.	The disposal should be on weekly basis (confirmed by CHEC). However, no submission record was received from the Contractor.
7.7.23 7.7.25		Marine Sediments The basic requirements and procedures for dredged mud disposal are specified under the ETWB TCW No. 34/2002. The management of the dredging, use and disposal of marine mud is monitored by the Marine Fill Committee (MFC), while the licensing of marine dumping is the responsibility of the Director of Environmental Protection (DEP). The dredged marine sediments will be loaded onto barges and transported to the designated disposal site. During transportation and disposal of the dredged marine sediments, the following measures should be taken to minimise potential impacts on water quality: ◆ Bottom opening of barges shall be fitted with tight fitting seals to prevent leakage of material. Excess material shall be cleaned from the decks and exposed fittings of barges and hopper dredgers before the vessel is moved. ◆ Monitoring of the barge loading shall be conducted to ensure that loss of material does not take place during transportation. Transport barges or vessels shall be equipped with automatic self-monitoring devices as specified by the DEP.	Marine Dredging area / During the construction period	All Contractors		√		ETWB TCW NO. 34/2002.	No dredging works was carried out during the reporting month. No dumping licence was applied by the Contractor.

* All recommendations and requirements resulted during the course of EIA Process, including ACE and/or accepted public comment to the proposed project.
** D=Design, C=Construction, O=Operation; N/A = Not applicable

Table 4 Implementation Schedule of Ecological Impact Measures

EIA Ref	EM&A Ref	Environmental Protection Measures*	Location / Timing	Implementation Agent	Implementation Stages			Relevant Legislation & Guidelines	Implementation Status
					D	C	O		
Construction Phase									
8.7.1		Terrestrial Ecology Haul roads would be located on future fairway and cart paths alignments to minimise temporary disturbance of habitats.	Work site / During the construction period	All Contractor		√		-	√
8.6.39		Avoid disturbance of stream bed during the construction of the permanent bridges by using precast unit of the bridge segments transported from other locations and installed to the proposed locations.	Stream crossing/ During the construction period	All Contractor		√		-	Remediation work was carried out at Stream B2 buffer zone during the previous reporting month. The Contractor was required to maintain the reinstated buffer zone area.
8.7.4		Good site practice. Construction materials must be stored at locations away the stream courses. Site runoff would be desilted in settling ponds to reduce the potential for suspended sediments, organics and other contaminants to enter stream and marine environment.	Work site / During the construction period	All Contractor		√		-	Heavy silt deposit was observed at Streams A, B, C after rain. Temporary drainage system provided on site was considered insufficient.
8.9	Table 4.1	Streams B, C, and D will be monitored monthly during the construction phase to determine the status of *Caridina trifasciata* (shrimp) and *Nanhaipotamon hongkongensis* (freshwater crab). Stream condition will be recorded with reference to the protective buffer zone. Encroachment onto the buffer zone will be reported to the ER/ET. Sheet piling will be installed at the buffer zone perimeter as needed to prevent further encroachment. Stream sedimentation will be reported to the ER/ET, the agent causing sedimentation will be discovered, and sedimentation will be stopped.	Stream B, C & D/ During the construction phase	All Contractor		√			Monitoring has been carried out during this reporting month. There were small amount of artificial rocks filling sitting on the stream bed of downstream A during this reporting month. Heavy silt deposit was observed at Streams A, B, C after rain.
9.7.22		Marine Ecology The temporary drainage system, which would receive flows from all areas subject to earth works, would collect all site runoff. The collected runoff would be retained for turf grass irrigation.	Work site / During the construction period	All Contractor		√			On-going
9.8.5		Dredging for the two pipelines for the desalination plant would be require 50 days and would be scheduled to the extent possible from January to April 2006. This would avoid the flowering season for the seagrass *Halophila ovalis*, i.e. November and December (Fong et al. 2005) and the spawning season for corals, i.e. July to October (Lam 2000; Storlazzi, C. D. 2004).	Dredging area/ during dredging period	All Contractor		√			N/A
9.8.2	4.2.12	Coral colonies within the silt curtain, in particular the 79 colonies identified during the coral mapping survey, (see Appendix A9.2) would be transplanted. Prior to commencement of any marine construction works for the proposed project, the affected coral colonies would be tagged using plastic labels and a number would be assigned to each. The tagged corals in the dredging area at D2 site will be transplanted to the bedrock area about 80 m south of the ferry pier. All these transplantation works should be conducted by experienced marine ecologist(s) and should be completed before the commencement of marine construction works.	Dredging area/Prior to dredging	All Contractor		√			Coral transplantation at Site D2 was completed in Dec 2006. One year of transplanted corals monitoring on quarterly basis was commenced in Dec 2007 and will be completed in Dec 2007.
9.8.5		Silt curtains will be deployed during dredging for the desalination plant. With the deployment of silt curtains around the dredging area for the desalination plant, adverse water quality impacts associated with the dredging and backfilling would be controlled to acceptable levels.	Dredging area/Prior to dredging	All Contractor		√			N/A
		All anchoring points/structures of the floating pier would be located on the shore and/or at least 40m seaward to avoid the coral colonies at Site B2 which are concentrated within the first 15m seaward from the coastline and none recorded over 35m seaward.	Temporary barging point/ during construction of the barging point	All Contractor		√			Floating pontoon was located at designated location according to EP during the reporting month.
		The location of the floating pier would also be shifted from the original location for barging point at Zone 2 and Zone 3 of the mapping area in Site B2 (see Figure 2 in Appendix A9.2), to Zone 5 to further protect corals. Impacts to corals are not expected.	Temporary barging point/ during the entire construction phase	All Contractor		√			√

* All recommendations and requirements resulted during the course of EIA Process, including ACE and/or accepted public comment to the proposed project.
** D=Design, C=Construction, O=Operation
N/A Not applicable

Table 5 Implementation Schedule of Fisheries Impact Measures

EIA Ref	EM&A Ref	Environmental Protection Measures*	Location / Timing	Implementation Agent	Implementation Stages**			Relevant Legislation & Guidelines	Implementation Status
					D	C	O		
10.8.2		Construction phase In addition to the temporary drainage system which would collect site runoff for re-use for irrigation, site runoff would also be controlled by general site practices during the construction period.	Work site / During the construction period	All Contractor		√		N/A	Not observed
10.8.3		Silt curtains will be deployed during dredging for the desalination plant. With the deployment of silt curtains around the construction area, adverse water quality impacts associated with the dredging and back-filling would be controlled.	Work site / During the construction period	All Contractor		√		N/A	No dredging work for the desalination plant was carried out during the reporting month.
10.7.12		The majority of the heavy construction works, in particular, the cut and fill earth works, would be conducted within the 2005-2006 dry season.	Work site / During the construction period	All Contractor		√		N/A	Master Programme (not approved by Jockey Club) indicated that excavation will carried out throughout the year 2006 to late 2007.

* All recommendations and requirements resulted during the course of EIA Process, including ACE and/or accepted public comment to the proposed project.
** D=Design, C=Construction, O=Operation
N/A Not applicable

Table 6 Implementation Schedule of Landscape and Visual Impact Measures

EIA Ref	EM&A Ref	Environmental Protection Measures*	Location / Timing	Implementation Agent	Implementation Stages **			Relevant Legislation & Guidelines	Implementation Status
					D	C	O		
Landscape and Visual Impact - Construction Phase									
Table 12.13	MC1	Site offices and construction yards: • Site offices and the construction yard shall be decommissioned after construction. • Haul roads shall be decommissioned and restored with hydroseeding works after construction.	All site offices	All contractors		√		EIAO Guidance Note No. 8/2002	To commence
Table 12.13	MC2	Height of site offices: • The height of site offices shall be controlled in order to avoid visual impacts.	All site offices	All contractors		√		EIAO Guidance Note No. 8/2002	Complied. A two-storey high site office painted in green color has been constructed.
Table 12.13	MC3	Hoarding and screening: • Where practical the site offices areas, construction yards and storage areas shall be screened using olive green coated hoarding or vegetation around the peripheries of the works area until the completion of relevant construction phases.	All site office and construction yard areas.	All contractors		√		EIAO Guidance Note No. 8/2002	Complied. Green hoarding erected.
Table 12.13	MC4	Construction plant and building material: • Shall be orderly and carefully stored in order to appear neat and avoid visibility from outside where practical; • Excess materials shall be removed from site as soon as practical; • All construction plant shall be removed from site upon completion of construction works.	In all construction yards.	All contractors		√		EIAO Guidance Note No. 8/2002	Complied.
Table 12.13	MC5	Construction light: • To be oriented away from the viewing location of VSRs; and • All lighting shall have frosted diffusers and reflective covers. • While construction at night might be required from time to time, this should be controlled and minimised.	All construction lights.	All contractors		√		EIAO Guidance Note No. 8/2002	No construction lights at present.
Table 12.13	MC6	Vegetation: • Temporary construction sites shall be restored to standards as good as, or better than, the original condition. In this respect, areas that are not covered by golf course grassing works shall be hydro seeded; • The potential for soil erosion shall be reduced at the construction stage by minimizing the extent of vegetation disturbance on site and providing a protective cover over exposed ground; and • No plant or building materials shall be stored under the dripline of retained trees and no vehicle movement or other construction activities like washing, concrete mixing etc shall be carried out under the dripline of trees.	All temporary construction sites.	All contractors		√		EIAO Guidance Note No. 8/2002	Complied. Hydroseeding has been carried out for erosion control. NOT complied. Building material has been stored under dripline of trees.
Table 12.13	MT1	Compensation for losses: • The tree compensation to tree loss ratio shall be between 1:2 and 1:3; • At least 700 new trees shall have be of light standard or larger size.	As shown on mitigation measures plans.	All contractors	√	√		EIAO Guidance Note No. 8/2002	Design Stage: Complied Construction Stage: To commence.
Table 12.13	MT2	The majority of compensation species shall comprise species that already occurs within the LIA boundaries;	General.	All contractors	√	√		EIAO Guidance Note No. 8/2002	Design Stage: Complied Construction Stage: To commence.
Table 12.13	MT3	Where practical, trees that require removal shall be transplanted on Site;	General.	All contractors	√	√		EIAO Guidance Note No. 8/2002	Design Stage: Complied Construction Stage: Partial completed of transplantation works on site.
Table 12.13	MT4	New trees shall be planted in groups in order to screen visual impacts and to provide additional shade at the administration building, rain shelters and halfway houses.	As shown on mitigation measure plans.	All contractors	√	√		EIAO Guidance Note No. 8/2002	Design Stage: Complied Construction Stage: To commence.

EIA Ref	EM&A Ref	Environmental Protection Measures*	Location / Timing	Implementation Agent	Implementation Stages **			Relevant Legislation & Guidelines	Implementation Status
					D	C	O		
Table 12.13	MT5	Tree Planting on Slopes: • New slopes with a gradient larger than 30^{o} shall have whip tree planting. • Such whip trees shall comprise tree species with shrub-like characteristics, such as *Gordonia axillaries* (大頭茶) and *Raphiolepis indica* (車輪梅).	General.	All contractors	√	√		EIAO Guidance Note No. 8/2002	Design Stage: Complied Construction Stage: Shrubs planting are being carried out on slopes.
Table 12.13	MT6	Tree planting works at the hill where the desalination plant will be located shall be carefully positioned in order to represent its original profile.	At the desalination plant.	All contractors	√	√		EIAO Guidance Note No. 8/2002	Design Stage: complied Construction Stage : Commence
Table 12.13	MT7	Tree Preservation: • No tree shall be transplanted or felled without prior approval by relevant Government departments in accordance with WBTC 24/94, WBTC 14/2002 and ETWB 2/2004; • All trees that are marked for retention shall be fenced off with a 1.2m high fence around the dripline of trees or larger area; • Transplant preparation works shall be carried as soon as possible after commencement of construction. Rootball and crown pruning shall be carried out over at least 1 month.	All areas with existing trees	All contractors	√	√		WBTC 24/94, WBTC 14/2002, ETWB 2/2004	Design Stage: Tree felling approved. Construction Stage : Some trees were found damaged or dead. Tree transplantation commenced.
Table 12.13	MT8	Buffer Areas • For streams the width of the buffer zones will be 20m from the stream bank. The only exception would be the buffer zone in the reach of upper tributary of stream B lying between the two parts of Hole 10, where the buffer will zone will be 5m, the dry tributary of stream B that will be converted to an underground culvert and the secondary tributary of stream A that will also be converted to an underground culvert. • No construction activities will be allowed in the buffer zones, except for site formation works, which are required for the construction of bridge footings.	At streams	All contractors	√	√		EIAO Guidance Note No. 8/2002	Design Stage: complied Construction Stage: Commenced. Permanent bridges constructed within the buffer zone areas of Streams A, B & C was completed.
Table 12.13	MS1	Bulk hydroseeding: • Bulk site formation works shall be followed with bulk hydroseeding as soon as practical.	General.	All contractors		√		EIAO Guidance Note No. 8/2002	Design Stage: Complied Construction Stage: Permanent slope hydroseeding commenced.
Table 12.13	MS2	Grassing: • In the case of golf course areas, grassing shall be carried out as soon as practical after sanding and shaping; and • Sanding, shaping and grassing works shall be phased in sections.	At proposed grassing areas.	All contractors		√		EIAO Guidance Note No. 8/2002	Design Stage: Complied Construction Stage: In progress.
	MS3	Restoration: • In the case of residual areas that were disturbed during construction, which will not be part of the golf course areas, detailed site formation works and shaping shall be followed by hydroseeding and shrub planting as soon as practical; and • The hydroseeding mix shall be composed of the following grass species*: Erograstic curvula Lolium Perenne Neyraudia reynaudiana Pennisetum purpureum*; and the following shrub / small tree species: *Gordonia axillaries, Rhaphiolepis indica* and *Rhodomyrtus tomentosa.*	At all residual areas.	All contractors		√		EIAO Guidance Note No. 8/2002	Design Stage: Complied Construction Stage: In progress.
Table 12.13	ME1	Screening: • Bridges and pumping stations shall be screened by tree and shrub planting; and • Retaining wall shall be covered with climber plants.	All bridges and pumping stations.	All contractors	√	√		EIAO Guidance Note No. 8/2002	Design Stage: Complied Construction Stage: To commence.
Table 12.13	ME2	Abutments of bridges shall be surfaced with stone of volcanic origin with a colour and texture similar to that of rock in the surrounding landscape;	All bridges.	All contractors	√	√		EIAO Guidance Note No. 8/2002	Design Stage: Complied Construction Stage: To commence.

EIA Ref	EM&A Ref	Environmental Protection Measures*	Location / Timing	Implementation Agent	Implementation Stages **			Relevant Legislation & Guidelines	Implementation Status
					D	C	O		
Table 12.13	ME3	Above-ground walls and foundations of pumping stations shall be surfaced with stone of volcanic origin with a colour and texture similar to that of rock in the surrounding landscape.	All pumping stations.	All contractors	√	√		EIAO Guidance Note No. 8/2002	Design Stage: Complied Construction Stage: To commence.
Table 12.13	ME4	Above-ground covers of pumping stations shall have an olive green coating.	All pumping stations.	All contractors	√	√		EIAO Guidance Note No. 8/2002	Design Stage: Complied Construction Stage: To commence.
Table 12.13	ME5	The desalination plant shall be located within the hill behind the pier. Slope cutting of this hill shall have a natural appearance with hydroseeding cover.	As shown on the mitigation measure plans.	All contractors	√	√		EIAO Guidance Note No. 8/2002	Design Stage: Complied Construction Stage: Desalination plant construction completed.
Table 12.13	ME6	Water tanks shall be located below surface level. Above-ground components shall be coated in olive green.	All water tanks.	All contractors	√	√		EIAO Guidance Note No. 8/2002	Design Stage: Complied Construction Stage: To commence.
Table 12.13	MB1	Extensions of the clubhouse shall have a surface cover that is in visual harmony with the clubhouse itself.	All new extensions of the clubhouse.	All contractors	√	√		EIAO Guidance Note No. 8/2002	Design Stage: Complied Construction Stage: To commence.
Table 12.13	MB2	Shrub planting shall be implemented in front of the new golf cart parking area in order to screen low-level views.	The new golf cart parking area.	All contractors	√	√		EIAO Guidance Note No. 8/2002	Design Stage: Complied Construction Stage: To commence.
Table 12.13	MB3	Tree and shrub planting shall be implemented on the peripheries of the maintenance building and its extensions.	At the maintenance building.	All contractors	√	√		EIAO Guidance Note No. 8/2002	Design Stage: Complied Construction Stage: To commence.
Table 12.13	MB4	Halfway houses and rain shelters shall be surfaced with either stone or beige and olive green paint.	At all halfway houses and rain shelters.	All contractors		√		EIAO Guidance Note No. 8/2002	Design Stage: Complied Construction Stage: To commence.

* All recommendations and requirements resulted during the course of EIA Process, including ACE and/or accepted public comment to the proposed project.
** D=Design, C=Construction, O=Operation
N/A Not applicable

Table 7 Implementation Schedule of Cultural Heritage Mitigation Measures

EIA Ref	EM&A Ref	Environmental Protection Measures*	Location / Timing	Implementation Agent	Implementation Stages **			Relevant Legislation & Guidelines	Implementation Status
					D	C	O		
Construction Phase									
Table 13.4		Wan Chai Archaeological Site - Archaeological Watching Brief	Site formation and construction works	All Contractors		√		EIAO	√ Watching brief at Hole 2 was completed in February 2007. Whole watching brief programme was completed at Holes 2, 11, 12, 14, 15 & 16 and no archaeological finding was recorded in February 2007.
Table 13.4		Grave #1 – Preservation in-situ - Fenced off three metre buffer zone around the grave	Site formation and construction works	All Contractors		√		EIAO	Buffer zone fencing was provided around at Grave 1.
Table 13.4		Grave #5 - Preservation by record; and recovery of structural elements (if required by AMO)	Construction phase (prior to commencement of works)	All Contractors		√		EIAO	The revised golf course design will not disturb the Grave 5 and will keep in-situ. No preservation record for this grave is required.
Table 13.4		Grave #20 - Preservation by record; and recovery of structural elements (if required by AMO)	Construction phase (prior to commencement of works)	All Contractors		√		EIAO	The preservation by record was completed in 23rd October 2006 and submitted to AMO for record.
Table 13.4		Any, as of yet unidentified graves at Kap Lo Kok. If a grave is found works will stop in the immediate vicinity of the grave until it can be inspected by AMO staff.	Site formation and construction works	All Contractors		√		EIAO	√

* All recommendations and requirements resulted during the course of EIA Process, including ACE and/or accepted public comment to the proposed project.
** D=Design, C=Construction, O=Operation
N/A Not applicable

Table 8 Implementation Schedule of Land Contamination Mitigation Measures

EIA Ref	EM&A Ref	Environmental Protection Measures*	Location / Timing	Implementation Agent	Implementation Stages **			Relevant Legislation & Guidelines	Implementation status
					D	C	O		
Land Contamination - Construction Phase									
11.9.2		Since the exact cut areas on site during construction by the Contractor have not been determined at this stage, the Contractor should implement the suitable precautions and preventive measures for the discovery of buried or abandoned ordnance during the construction. Moreover, it is recommended that standard good practice should be implemented during the construction phase in order to minimize any potential exposure to contaminated soils or groundwater. These measures include: • The Contractor should sweep the area of intended excavation with a metal detector to check any ordnance underneath the ground prior to any excavation. • For any detection of metals under the ground, the Contractor should cease work immediately before confirming the identity of the cause. For any suspect of artillery ordnance, Hong Kong Police Force should be informed. • The use of bulk earth-moving excavator equipment would minimise construction workers' potential contact with the contaminated materials; • Exposure to any contaminated materials can be minimised by the wearing of appropriate clothing and personal protective equipment such as gloves (when interacting directly with suspected contaminated material), providing adequate hygiene and washing facilities and preventing smoking and eating during such activities; • Stockpiling of contaminated soil should be avoided. If this cannot be avoided, the stockpile of contaminated materials should be segregated from the uncontaminated ones. Moreover, the contaminated materials should be properly covered with waterproof material (e.g. tarpaulin sheet) to avoid leaching of contaminants, especially during rainy season. • Vehicles containing any excavated materials should be suitably covered to limit potential dust emissions or contaminated wastewater run-off, and truck bodies and tailgates should be sealed to prevent any leakage during transport or during wet conditions; • Only licensed waste haulers should be used to collect and transport any contaminated material to an appropriate disposal site and procedures should be developed to ensure that illegal disposal of waste does not occur; • Necessary waste disposal permits should be obtained, as required, from the appropriate authorities, in accordance with the *Waste Disposal Ordinance (Cap 354)*, *Waste Disposal (Chemical Waste) (General) Regulation (Cap 35)*, as required; • Records of the quantities of wastes generated and disposed of should be maintained; • Adequate washing facilities should be provided on site; and • In accordance with good construction practice, silt traps should be used to reduce the impact to drainage caused by suspended solids arising from disturbed ground, or any construction materials such as cement and gravel. Groundwater should be disposed of in accordance with the *Water Pollution Control Ordinance (Cap 358)*.	Work site / During the construction period	All Contractors		√		Waste Disposal Ordinance (Cap 354), Waste Disposal (Chemical Waste) (General) Regulation (Cap 35); Water Pollution Control Ordinance (Cap 358).	CAR and RAP was approved on 18th August 2006. The pilot trial of the remedial work was started during the reporting month. The full scale remediation work was carried out during this reporting month. A final site remediation report (FSRR) prepared by the Contractor and submitted to EPD for comments and no comment was received from EPD.
11.11.1		Based on preliminary site investigation, the site is considered as a potentially land contaminated site as hotspots of contamination of lead and sulphur were identified. Further investigation for land contamination at this site is therefore required and is detailed in the Contamination Assessment Plan (CAP) of this section to be undertaken prior to commencement of excavation works. A Contamination Assessment Report (CAR) should be prepared and if the results of the site investigation reveal contamination at the subject site, a Remediation Action Plan (RAP) should also be prepared and submitted together with the CAR to EPD for approval.	Work site / During the construction period	All Contractors		√		Waste Disposal Ordinance (Cap 354), Waste Disposal (Chemical Waste) (General) Regulation (Cap 35); Water Pollution Control Ordinance (Cap 358).	Same as above.

* All recommendations and requirements resulted during the course of EIA Process, including ACE and/or accepted public comment to the proposed project.
** D=Design, C=Construction, O=Operation; N/A Not applicable

Annex E
Monitoring results

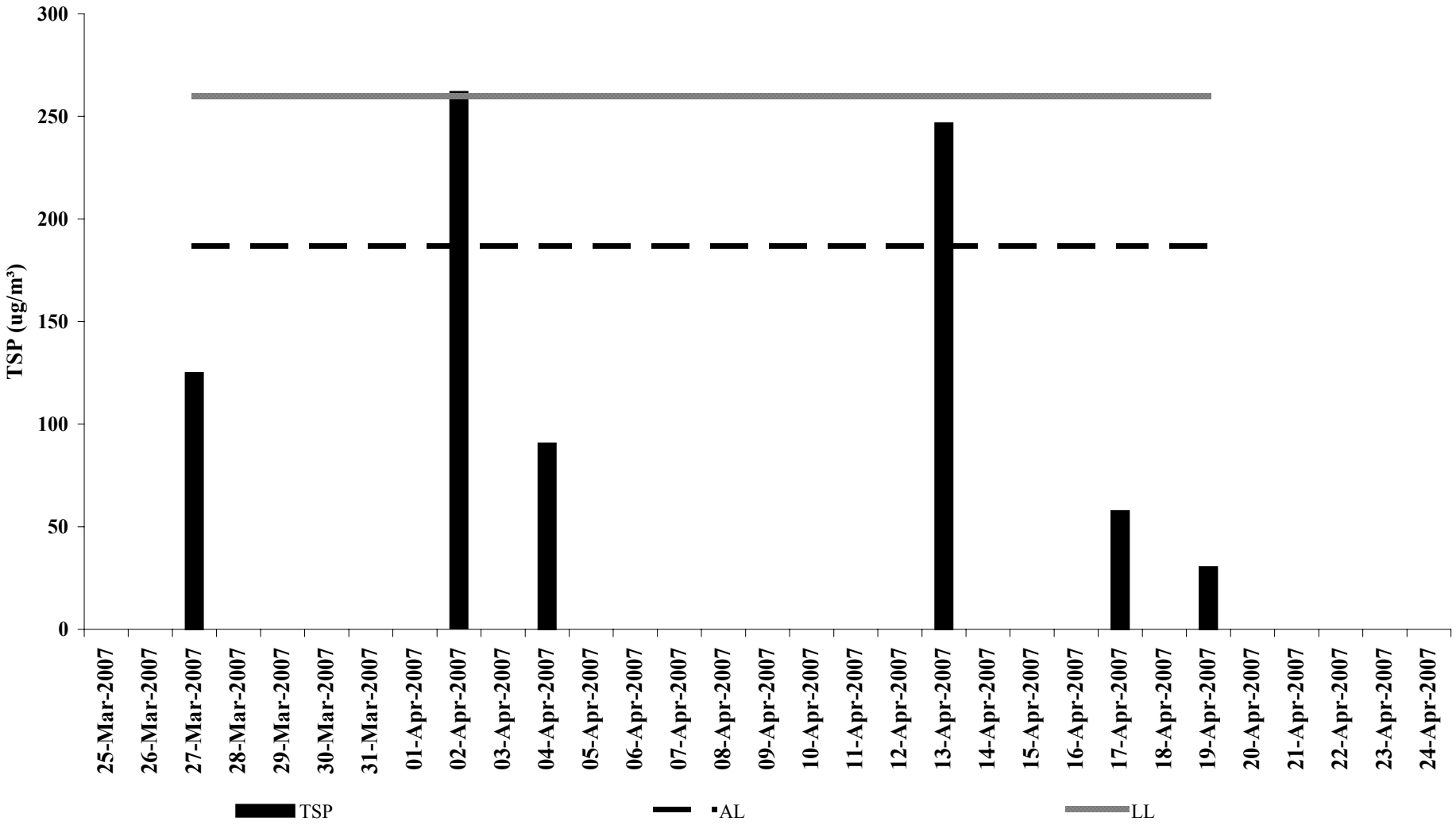
Air Quality

Proposed Extension of Public Golf Course at Kau Sai Chau Island, Sai Kung
24-hour TSP Monitoring Results at Station GCA B1

Date	Filter Weight (g)		Flow Rate (m^3/min.)		Elapse Time		Sampling Time(hrs.)	Conc. (μg/m^3)	Weather Condition	Particulate weight(g)	Av. flow (m^3/min)	Total vol. (m^3)	
	Initial	Final	Initial	Final	Initial	Final							
27-Mar-07	3.5629	3.7978	1.31	1.31	11326.4	11350.4	24.0	125.0	Sunny	0.23	1.31	1879.2	
02-Apr-07	3.5750	4.0398	1.23	1.23	11350.4	11374.4	24.0	***262.0***	Sunny	0.46	1.23	1774.1	
04-Apr-07	3.5613	3.7316	1.31	1.31	11374.4	11398.4	24.0	90.6	Sunny	0.17	1.31	1879.2	
13-Apr-07	3.5393	3.9870	1.26	1.26	11398.4	11422.4	24.0	**246.7**	Sunny	0.45	1.26	1814.4	
17-Apr-07	3.5026	3.6101	1.29	1.29	11422.4	11446.4	24.0	57.7	Sunny	0.11	1.29	1863.4	Ad-hoc
19-Apr-07	3.4977	3.5485	1.16	1.16	11446.4	11470.4	24.0	30.4	Sunny	0.05	1.16	1670.4	
							Min	30.4					
							Max	***262.0***					
							Average	135.4					

Remark: Bold value indicated an Action level exceedance
Bold & Italic value indicated an Limit level exceedance

24-hour TSP Monitoring Results at Station GCA B1



Date		Weather description	Temp (°C)	Relative Humidity (%)	Mean amount of cloud (%)	Total Rainfall (mm)	Wind direction
25-Mar-07	Sun	Cloudy with a few rain patches.	23.8	86	81	Trace	E to NE
26-Mar-07	Mon	Misty with a few rain patches.	23	93	92	2	E
27-Mar-07	Tue	Mainly cloudy and foggy with a few rain patches.	24.9	87	89	3.9	S
28-Mar-07	Wed	Mainly cloudy and foggy with a few rain patches.	22.2	79	87	Trace	E to SE
29-Mar-07	Thu	Mainly cloudy and foggy with a few rain patches.	24.1	82	74	Trace	S to SE
30-Mar-07	Fri	Mainly cloudy and foggy with a few rain patches.	25.1	84	84	-	S
31-Mar-07	Sat	Sunny periods	25.6	78	77	Trace	S
1-Apr-07	Sun	Sunny periods	25.9	79	82	-	S to SE
2-Apr-07	Mon	Occasional rain with mist with few squally thunderstorms later	23.2	89	88	24.2	S
3-Apr-07	Tue	Cloudy and cool with a few rain patches.	15.5	80	88	1.6	N
4-Apr-07	Wed	Cloudy and cool.	14	88	93	8.9	E to NE
5-Apr-07	Thu	Mainly cloudy.	16	84	88	Trace	E
6-Apr-07	Fri	Sunny intervals.	18.3	84	91	1.7	E
7-Apr-07	Sat	Sunny periods.	18.4	86	91	0.6	E
8-Apr-07	Sun	Sunny intervals and a few rain patches.	19	82	89	0.3	E
9-Apr-07	Mon	Sunny intervals and a few rain patches.	20.4	68	78	Trace	E
10-Apr-07	Tue	Cloudy with occasional rain.	18.5	85	91	6.6	E
11-Apr-07	Wed	Cloudy with a few rain patches.	20.3	73	53	-	E to NE
12-Apr-07	Thu	Mainly cloudy with a few rain patches.	20.8	65	27	-	E
13-Apr-07	Fri	Mainly cloudy. Misty in the morning.	22.3	71	77	-	E
14-Apr-07	Sat	Sunny intervals. Misty in the morning.	23.1	72	82	Trace	E
15-Apr-07	Sun	Sunny intervals. Misty in the morning.	24.6	77	69	-	S
16-Apr-07	Mon	Sunny intervals with a few showers.	25.8	80	83	-	S

Date		Weather description	Temp (°C)	Relative Humidity (%)	Mean amount of cloud (%)	Total Rainfall (mm)	Wind direction
17-Apr-07	Tue	Sunny intervals with a few showers.	25.1	83	88	6.6	S
18-Apr-07	Wed	Heavy showers with thurderstorm	22.1	53	35	-	N to NE
19-Apr-07	Thu	Fine	21.8	75	51	-	E to NE
20-Apr-07	Fri	Mainly fine	23	84	79	-	E
21-Apr-07	Sat	Sunny periods with few showers.	24.2	89	86	Trace	S to SE
22-Apr-07	Sun	Sunny periods with few showers.	26	85	86	Trace	S
23-Apr-07	Mon	Cloudy with occasional rain	25.2	83	88	7.8	S
24-Apr-07	Tue	Cloudy few squally thunderstorms	23.3	93	89	**64.4**	SW

Water Quality

M_RO1	Surface								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Ebb	26-Mar-07	10:16	5.6	1.0	20.1	28.3	7.4	8.1	1.6
Mid-Ebb	27-Mar-07								
Mid-Ebb	02-Apr-07	08:01	5.3	1.0	18.9	28.1	7.3	8.1	1.1
Mid-Ebb	10-Apr-07	14:01	5.3	1.0	19.8	27.9	7.4	8.0	1.7
Mid-Ebb	16-Apr-07	09:01	5.5	1.0	18.7	28.3	6.8	8.0	1.3
Mid-Ebb	23-Apr-07	14:01	5.6	1.0	20.3	28.0	6.7	8.1	1.9

M_RO1	Surface								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Flood	26-Mar-07	08:01	5.8	1.0	20.0	29.7	7.5	8.3	2.3
Mid-Flood	27-Mar-07								
Mid-Flood	02-Apr-07	10:01	5.7	1.0	19.2	30.1	7.4	8.4	1.6
Mid-Flood	10-Apr-07	08:31	5.6	1.0	20.2	29.1	7.5	8.3	1.4
Mid-Flood	16-Apr-07	14:01	5.7	1.0	19.1	29.3	6.9	8.3	2.1
Mid-Flood	23-Apr-07	08:01	5.7	1.0	22.0	29.5	6.7	8.3	2.0

Remarks:

Action level	***Bold & Italic***
Limit level	**Bold**
< detection limit	~~Grey~~

M_RO1	Middle								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
	26-Mar-07								
	27-Mar-07								
	02-Apr-07								
	10-Apr-07								
	16-Apr-07								
	23-Apr-07								

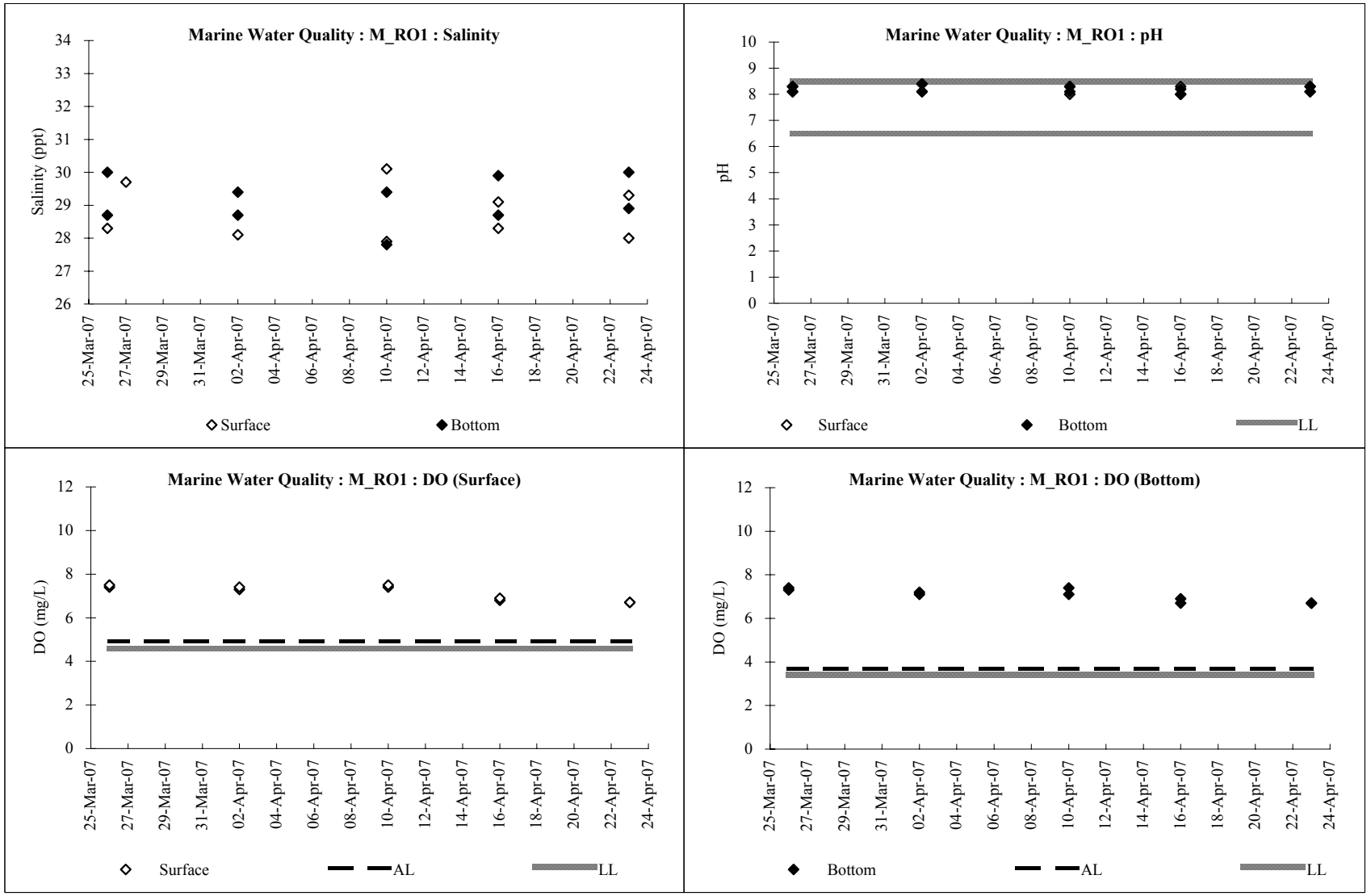
NOT USED

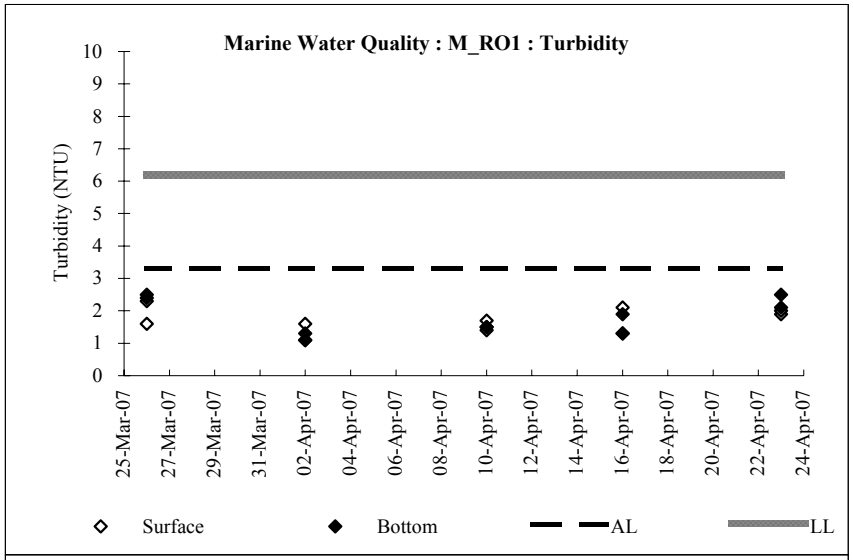
M_RO1	Middle								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
	26-Mar-07								
	27-Mar-07								
	02-Apr-07								
	10-Apr-07								
	16-Apr-07								
	23-Apr-07								

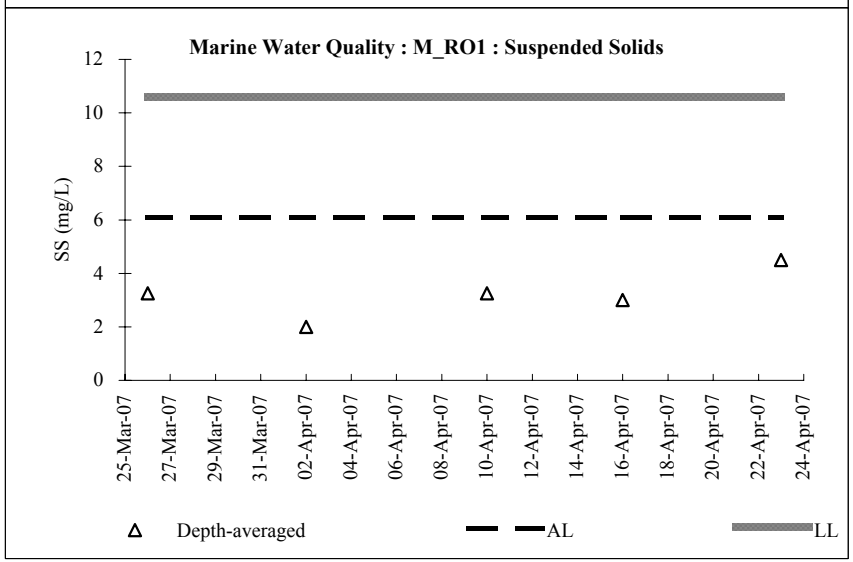
M_RO1	Bottom								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Ebb	26-Mar-07	10:15	5.6	4.6	20.0	28.7	7.3	8.1	2.4
Mid-Ebb	27-Mar-07								
Mid-Ebb	02-Apr-07	8:00	5.3	4.3	18.4	28.7	7.2	8.1	1.3
Mid-Ebb	10-Apr-07	14:00	5.3	4.3	19.5	27.8	7.4	8.1	1.5
Mid-Ebb	16-Apr-07	9:00	5.5	4.5	18.9	28.7	6.7	8.0	1.9
Mid-Ebb	23-Apr-07	14:00	5.6	4.6	20.2	28.9	6.7	8.1	2.1

M_RO1	Bottom								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Flood	26-Mar-07	8:00	5.8	4.8	20.1	30.0	7.4	8.3	2.5
Mid-Flood	27-Mar-07								
Mid-Flood	02-Apr-07	10:00	5.7	4.7	19.4	29.4	7.1	8.4	1.1
Mid-Flood	10-Apr-07	8:30	5.6	4.6	20.3	29.4	7.1	8.3	1.5
Mid-Flood	16-Apr-07	14:00	5.7	4.7	19.9	29.9	6.9	8.2	1.3
Mid-Flood	23-Apr-07	8:00	5.7	4.7	21.9	30.0	6.7	8.3	2.5

	Mid-Ebb			Mid-Flood			Depth-averaged
M_RO1	Surface	Midlle	Bottom	Surface	Midlle	Bottom	SS (mg/L)
26-Mar-07	5.0	-	2.0	3.0	-	3.0	3.3
27-Mar-07							
02-Apr-07	~~2.0~~	-	~~2.0~~	2.0	-	~~2.0~~	2.0
10-Apr-07	3.0	-	2.0	3.0	-	5.0	3.3
16-Apr-07	4.0	-	3.0	2.0	-	3.0	3.0
23-Apr-07	6.0	-	4.0	4.0	-	4.0	4.5


Marine Water Quality : M_RO1 : Salinity
Salinity (ppt)
Surface
Bottom
Marine Water Quality : M_RO1 : pH
pH
Surface
Bottom
LL
Marine Water Quality : M_RO1 : DO (Surface)
DO (mg/L)
Surface
AL
LL
Marine Water Quality : M_RO1 : DO (Bottom)
DO (mg/L)
Bottom
AL
LL


Marine Water Quality : M_RO1 : Turbidity
Turbidity (NTU)
0
1
2
3
4
5
6
7
8
9
10
25-Mar-07
27-Mar-07
29-Mar-07
31-Mar-07
02-Apr-07
04-Apr-07
06-Apr-07
08-Apr-07
10-Apr-07
12-Apr-07
14-Apr-07
16-Apr-07
18-Apr-07
20-Apr-07
22-Apr-07
24-Apr-07
Surface
Bottom
AL
LL


Marine Water Quality : M_RO1 : Suspended Solids
SS (mg/L)
0
2
4
6
8
10
12
25-Mar-07
27-Mar-07
29-Mar-07
31-Mar-07
02-Apr-07
04-Apr-07
06-Apr-07
08-Apr-07
10-Apr-07
12-Apr-07
14-Apr-07
16-Apr-07
18-Apr-07
20-Apr-07
22-Apr-07
24-Apr-07
Depth-averaged
AL
LL

KLW	Surface								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Ebb	26-Mar-07	10:27	13.3	1.0	20.2	28.9	7.4	8.2	2.7
Mid-Ebb	27-Mar-07								
Mid-Ebb	02-Apr-07	08:12	13.1	1.0	18.7	28.7	7.3	8.1	2.2
Mid-Ebb	10-Apr-07	14:12	13.2	1.0	19.5	27.8	7.4	8.1	2.0
Mid-Ebb	16-Apr-07	09:12	13.0	1.0	18.7	28.1	7.0	8.0	1.8
Mid-Ebb	23-Apr-07	14:12	13.1	1.0	20.3	28.0	6.8	8.1	1.5

KLW	Surface								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Flood	26-Mar-07	08:12	14.1	1.0	20.3	30.1	7.3	8.4	2.2
Mid-Flood	27-Mar-07								
Mid-Flood	02-Apr-07	10:12	14.3	1.0	19.1	30.3	7.4	8.3	2.5
Mid-Flood	10-Apr-07	08:11	14.1	1.0	20.2	29.9	7.3	8.3	1.7
Mid-Flood	16-Apr-07	14:12	14.3	1.0	19.9	29.8	6.8	8.3	1.5
Mid-Flood	23-Apr-07	08:12	14.1	1.0	21.9	29.7	6.7	8.4	1.3

Remarks:

Action level	***Bold & Italic***
Limit level	**Bold**
< detection limit	~~Grey~~

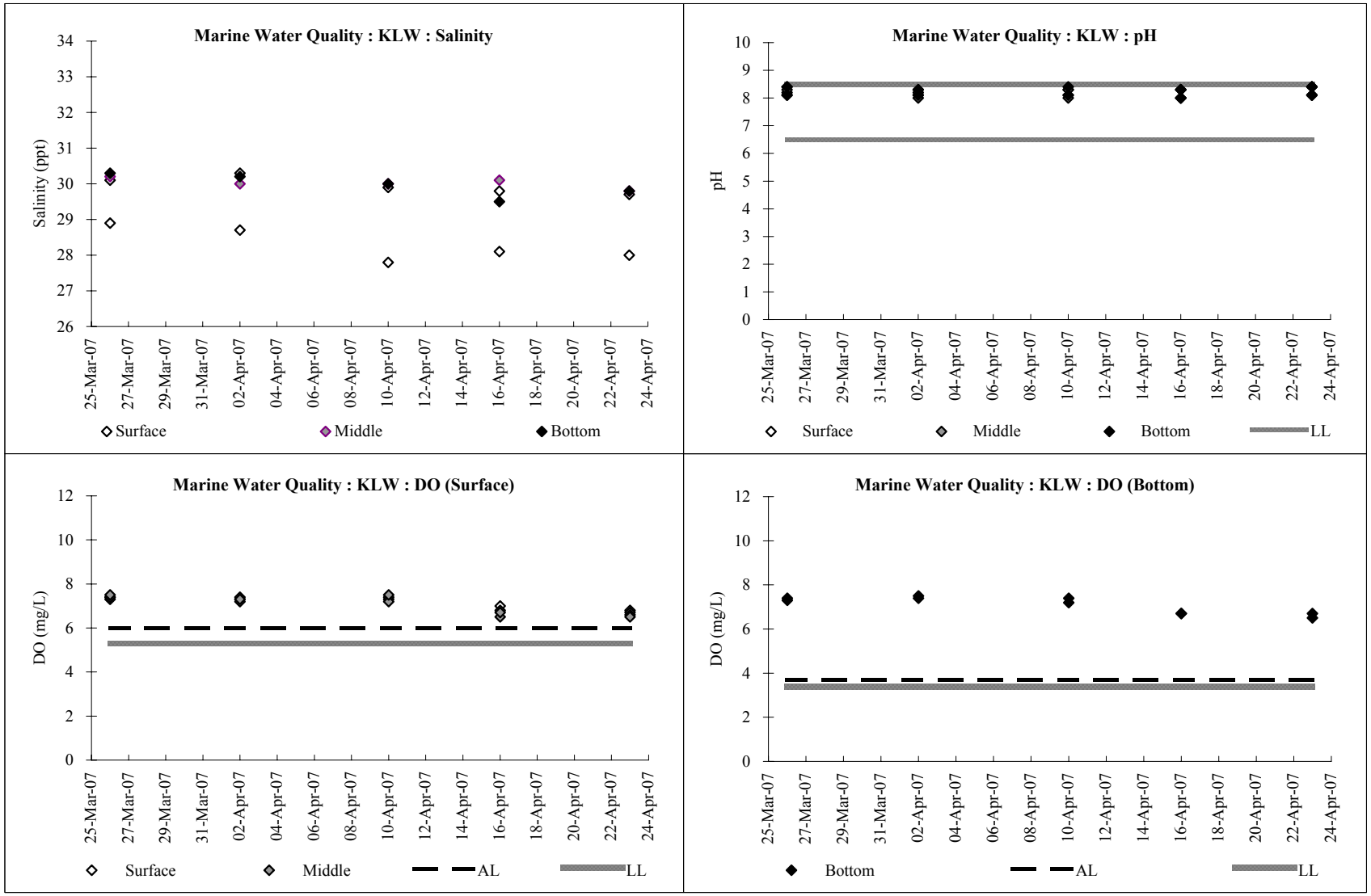
KLW	Middle								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Ebb	26-Mar-07	10:26	13.3	6.7	20.1	29.1	7.4	8.1	1.5
Mid-Ebb	27-Mar-07								
Mid-Ebb	02-Apr-07	08:11	13.1	6.6	18.7	28.8	7.2	8.0	1.9
Mid-Ebb	10-Apr-07	14:11	13.2	6.6	19.5	27.9	7.2	8.0	1.3
Mid-Ebb	16-Apr-07	09:11	13.0	6.5	18.9	28.7	6.5	8.0	1.6
Mid-Ebb	23-Apr-07	14:11	13.1	6.6	20.3	28.9	6.6	8.1	1.8

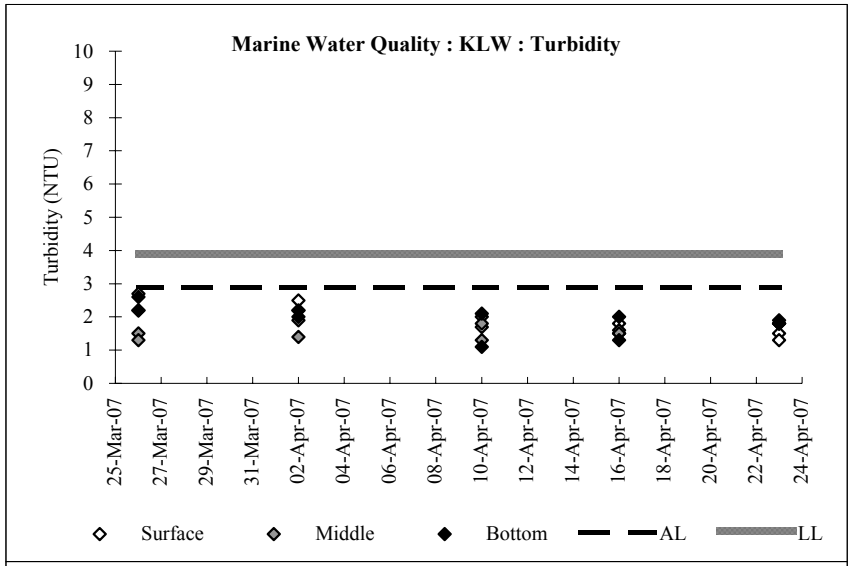
KLW	Middle								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Flood	26-Mar-07	08:11	14.1	7.1	19.9	30.2	7.5	8.3	1.3
Mid-Flood	27-Mar-07								
Mid-Flood	02-Apr-07	10:11	14.3	7.2	19.8	30.0	7.3	8.2	1.4
Mid-Flood	10-Apr-07	08:41	14.1	7.1	20.3	30.0	7.5	8.3	1.8
Mid-Flood	16-Apr-07	14:11	14.3	7.2	20.0	30.1	6.7	8.3	1.5
Mid-Flood	23-Apr-07	08:11	14.1	7.1	22.0	29.8	6.5	8.4	1.8

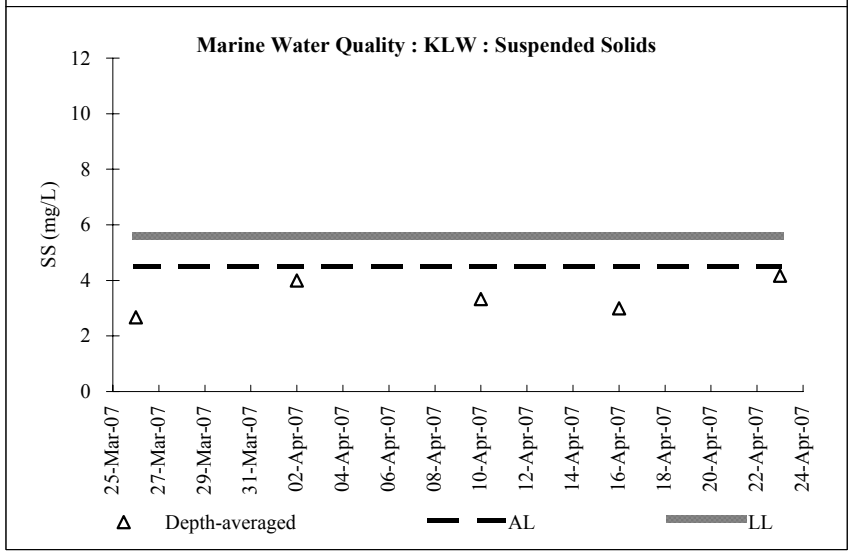
KLW	Bottom								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Ebb	26-Mar-07	10:25	13.3	12.3	20.3	29.0	7.3	8.1	2.2
Mid-Ebb	27-Mar-07	~~0:10~~							
Mid-Ebb	02-Apr-07	8:10	13.1	12.1	18.8	28.8	7.4	8.1	2.0
Mid-Ebb	10-Apr-07	14:10	13.2	12.2	19.5	28.0	7.2	8.1	1.1
Mid-Ebb	16-Apr-07	9:10	13.0	12.0	18.7	28.3	6.7	8.0	1.3
Mid-Ebb	23-Apr-07	14:10	13.1	12.1	20.4	28.5	6.5	8.1	1.9

KLW	Bottom								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Flood	26-Mar-07	8:10	14.1	13.1	20.1	30.3	7.4	8.4	2.6
Mid-Flood	27-Mar-07	~~0:10~~							
Mid-Flood	02-Apr-07	10:10	14.3	13.3	19.9	30.2	7.5	8.3	2.2
Mid-Flood	10-Apr-07	8:40	14.1	13.1	20.3	30.0	7.4	8.4	2.1
Mid-Flood	16-Apr-07	14:10	14.3	13.3	19.9	29.5	6.7	8.3	2.0
Mid-Flood	23-Apr-07	8:10	14.1	13.1	22.0	29.8	6.7	8.4	1.8

	Mid-Ebb			Mid-Flood			Depth-averaged
KLW	Surface	Midlle	Bottom	Surface	Midlle	Bottom	SS (mg/L)
26-Mar-07	~~2.0~~	2.0	3.0	5.0	2.0	~~2.0~~	2.7
27-Mar-07							
02-Apr-07	4.0	4.0	3.0	5.0	3.0	5.0	4.0
10-Apr-07	3.0	2.0	2.0	7.0	2.0	4.0	3.3
16-Apr-07	3.0	~~2.0~~	3.0	4.0	2.0	3.0	3.0
23-Apr-07	3.0	3.0	5.0	4.0	6.0	4.0	4.2


Marine Water Quality : KLW : Salinity
Salinity (ppt)
Surface
Middle
Bottom
Marine Water Quality : KLW : pH
pH
Surface
Middle
Bottom
LL
Marine Water Quality : KLW : DO (Surface)
DO (mg/L)
Surface
Middle
AL
LL
Marine Water Quality : KLW : DO (Bottom)
DO (mg/L)
Bottom
AL
LL


Marine Water Quality : KLW : Turbidity
Turbidity (NTU)
0
1
2
3
4
5
6
7
8
9
10
25-Mar-07
27-Mar-07
29-Mar-07
31-Mar-07
02-Apr-07
04-Apr-07
06-Apr-07
08-Apr-07
10-Apr-07
12-Apr-07
14-Apr-07
16-Apr-07
18-Apr-07
20-Apr-07
22-Apr-07
24-Apr-07
Surface
Middle
Bottom
AL
LL


Marine Water Quality : KLW : Suspended Solids
SS (mg/L)
0
2
4
6
8
10
12
25-Mar-07
27-Mar-07
29-Mar-07
31-Mar-07
02-Apr-07
04-Apr-07
06-Apr-07
08-Apr-07
10-Apr-07
12-Apr-07
14-Apr-07
16-Apr-07
18-Apr-07
20-Apr-07
22-Apr-07
24-Apr-07
Depth-averaged
AL
LL

M_A	Surface								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Ebb	26-Mar-07	10:47	8.2	1.0	20.5	27.9	7.6	8.1	2.5
Mid-Ebb	27-Mar-07								
Mid-Ebb	02-Apr-07	08:32	8.1	1.0	18.9	27.3	7.5	8.0	2.7
Mid-Ebb	10-Apr-07	14:32	8.0	1.0	19.5	27.0	7.3	8.0	1.4
Mid-Ebb	16-Apr-07	09:32	8.0	1.0	18.7	28.0	6.5	8.0	1.8
Mid-Ebb	23-Apr-07	14:32	8.3	1.0	20.2	28.1	6.5	8.1	2.1

M_A	Surface								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Flood	26-Mar-07	08:32	8.6	1.0	20.3	29.1	7.5	8.3	2.9
Mid-Flood	27-Mar-07								
Mid-Flood	02-Apr-07	10:32	8.4	1.0	19.3	28.9	7.2	8.3	2.9
Mid-Flood	10-Apr-07	09:02	8.5	1.0	20.2	28.9	7.3	8.3	1.8
Mid-Flood	16-Apr-07	14:32	8.5	1.0	19.3	29.1	6.6	8.3	1.9
Mid-Flood	23-Apr-07	08:32	8.7	1.0	22.1	29.5	6.7	8.4	2.1

Remarks:

Action level	***Bold & Italic***
Limit level	**Bold**
< detection limit	~~Grey~~

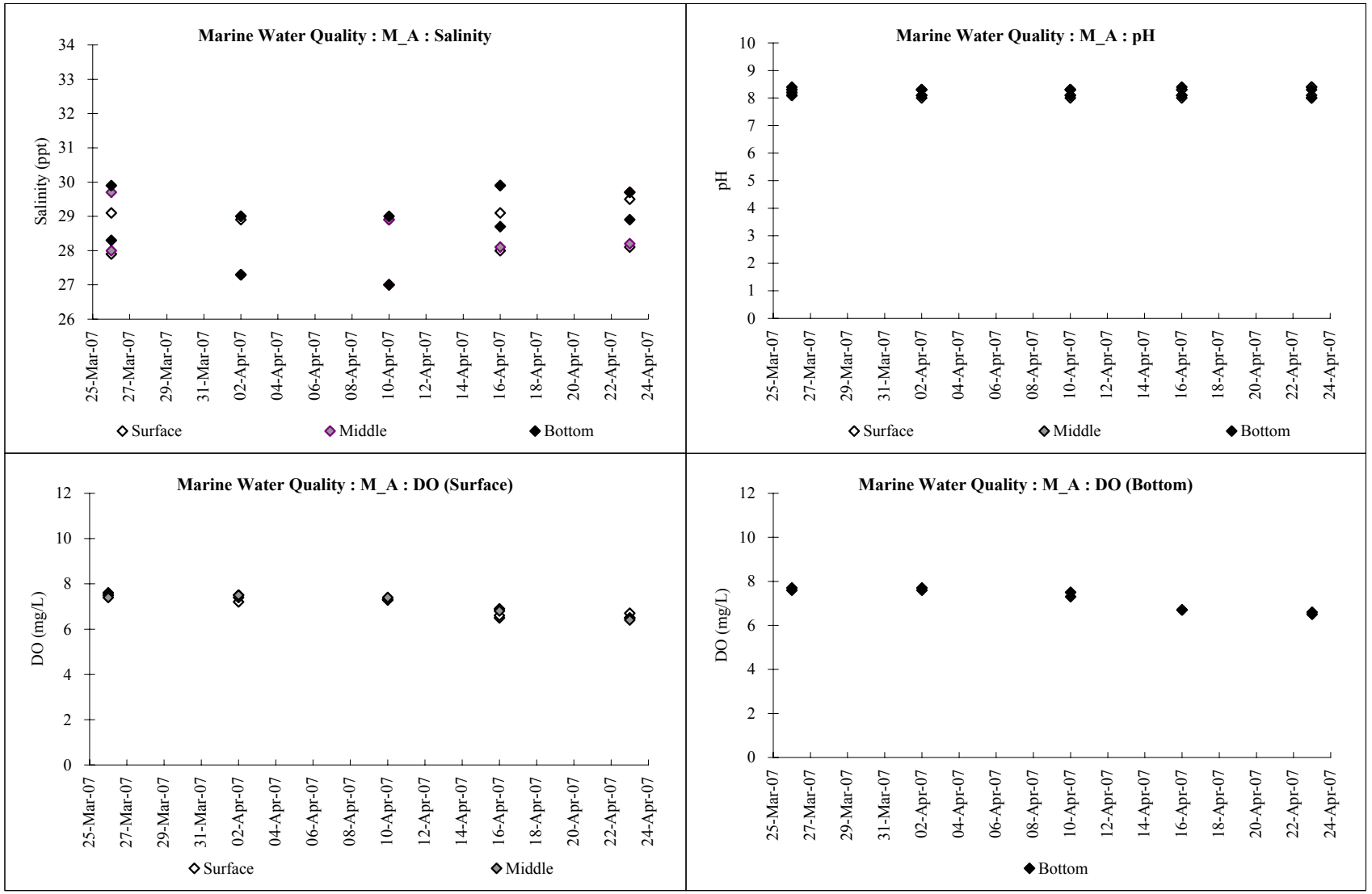
M_A	Middle								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Ebb	26-Mar-07	10:46	8.2	4.1	20.4	28.0	7.5	8.2	1.9
Mid-Ebb	27-Mar-07								
Mid-Ebb	02-Apr-07	08:31	8.1	4.1	18.7	27.3	7.4	8.1	2.2
Mid-Ebb	10-Apr-07	14:31	8.0	4.0	19.5	27.0	7.3	8.1	1.8
Mid-Ebb	16-Apr-07	09:31	8.0	4.0	18.7	28.1	6.9	8.1	1.3
Mid-Ebb	23-Apr-07	14:31	8.3	4.2	20.3	28.2	6.5	8.0	1.8

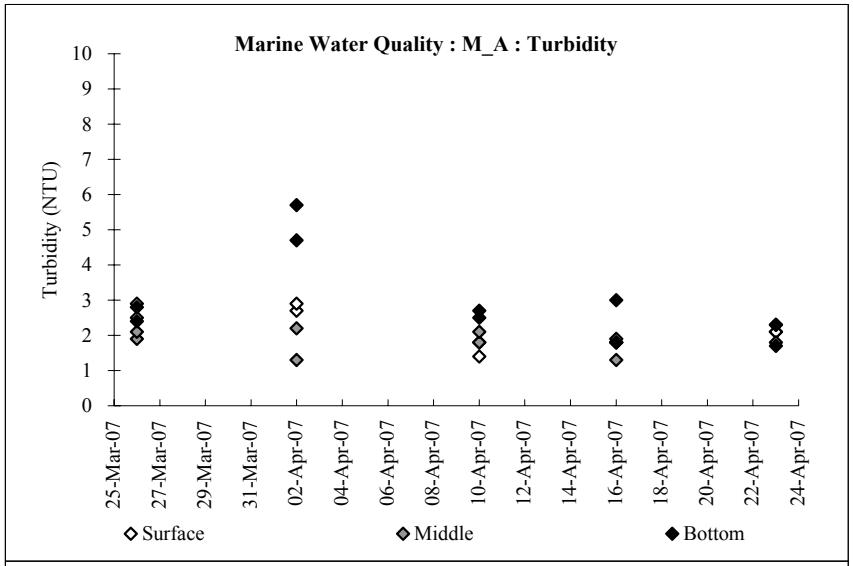
M_A	Middle								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Flood	26-Mar-07	08:31	8.6	4.3	20.3	29.7	7.4	8.3	2.1
Mid-Flood	27-Mar-07								
Mid-Flood	02-Apr-07	10:31	8.4	4.2	19.5	29.0	7.5	8.3	1.3
Mid-Flood	10-Apr-07	09:01	8.5	4.3	20.3	28.9	7.4	8.3	2.1
Mid-Flood	16-Apr-07	14:31	8.5	4.3	19.9	29.9	6.8	8.3	1.8
Mid-Flood	23-Apr-07	08:31	8.7	4.4	22.1	29.7	6.4	8.4	2.3

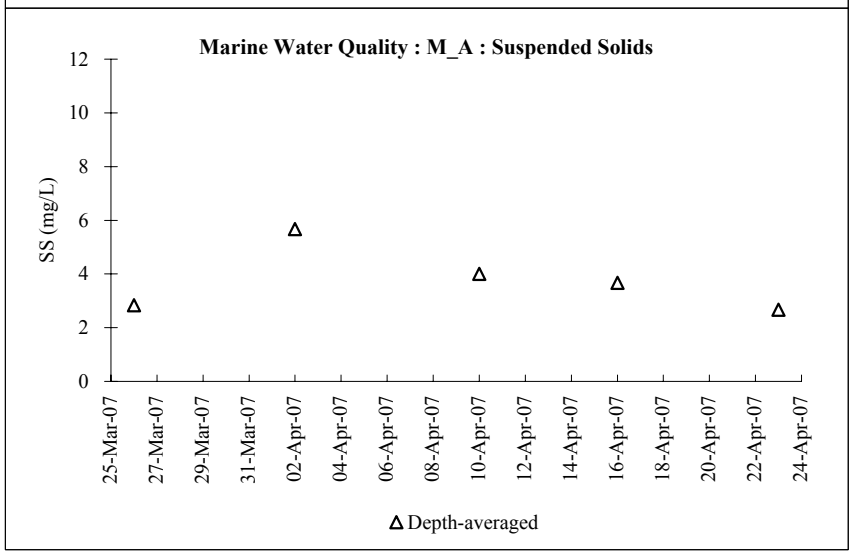
M_A	Bottom								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Ebb	26-Mar-07	10:45	8.2	7.2	20.2	28.3	7.6	8.1	2.4
Mid-Ebb	27-Mar-07	~~0:30~~							
Mid-Ebb	02-Apr-07	8:30	8.1	7.1	18.7	27.3	7.6	8.1	***5.7***
Mid-Ebb	10-Apr-07	14:30	8.0	7.0	19.5	27.0	7.3	8.1	2.5
Mid-Ebb	16-Apr-07	9:30	8.0	7.0	18.9	28.7	6.7	8.1	1.8
Mid-Ebb	23-Apr-07	14:30	8.3	7.3	20.3	28.9	6.6	8.0	2.3

M_A	Bottom								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Flood	26-Mar-07	8:30	8.6	7.6	20.3	29.9	7.7	8.4	2.8
Mid-Flood	27-Mar-07	~~0:30~~							
Mid-Flood	02-Apr-07	10:30	8.4	7.4	19.7	29.0	7.7	8.3	***4.7***
Mid-Flood	10-Apr-07	9:00	8.5	7.5	20.3	29.0	7.5	8.3	2.7
Mid-Flood	16-Apr-07	14:30	8.5	7.5	19.9	29.9	6.7	8.4	3.0
Mid-Flood	23-Apr-07	8:30	8.7	7.7	22.1	29.7	6.5	8.3	1.7

	Mid-Ebb			Mid-Flood			Depth-averaged
M_A	Surface	Midlle	Bottom	Surface	Midlle	Bottom	SS (mg/L)
26-Mar-07	3.0	2.0	4.0	3.0	2.0	3.0	2.8
27-Mar-07							
02-Apr-07	4.0	4.0	11.0	4.0	2.0	9.0	5.7
10-Apr-07	4.0	4.0	3.0	6.0	3.0	4.0	4.0
16-Apr-07	4.0	5.0	4.0	3.0	4.0	2.0	3.7
23-Apr-07	4.0	~~2.0~~	~~2.0~~	~~2.0~~	2.0	4.0	2.7


Marine Water Quality : M_A : Salinity
Salinity (ppt)
34
33
32
31
30
29
28
27
26
25-Mar-07
27-Mar-07
29-Mar-07
31-Mar-07
02-Apr-07
04-Apr-07
06-Apr-07
08-Apr-07
10-Apr-07
12-Apr-07
14-Apr-07
16-Apr-07
18-Apr-07
20-Apr-07
22-Apr-07
24-Apr-07
Surface
Middle
Bottom
Marine Water Quality : M_A : pH
pH
10
9
8
7
6
5
4
3
2
1
0
Surface
Middle
Bottom
Marine Water Quality : M_A : DO (Surface)
DO (mg/L)
12
10
8
6
4
2
0
Surface
Middle
Marine Water Quality : M_A : DO (Bottom)
DO (mg/L)
Bottom


Marine Water Quality : M_A : Turbidity
Turbidity (NTU)
0
1
2
3
4
5
6
7
8
9
10
25-Mar-07
27-Mar-07
29-Mar-07
31-Mar-07
02-Apr-07
04-Apr-07
06-Apr-07
08-Apr-07
10-Apr-07
12-Apr-07
14-Apr-07
16-Apr-07
18-Apr-07
20-Apr-07
22-Apr-07
24-Apr-07
Surface
Middle
Bottom


Marine Water Quality : M_A : Suspended Solids
SS (mg/L)
0
2
4
6
8
10
12
25-Mar-07
27-Mar-07
29-Mar-07
31-Mar-07
02-Apr-07
04-Apr-07
06-Apr-07
08-Apr-07
10-Apr-07
12-Apr-07
14-Apr-07
16-Apr-07
18-Apr-07
20-Apr-07
22-Apr-07
24-Apr-07
Depth-averaged

M_Marsh	Surface								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Ebb	26-Mar-07	11:02	8.4	1.0	20.3	28.3	7.3	8.1	2.7
Mid-Ebb	27-Mar-07								
Mid-Ebb	02-Apr-07	08:47	8.0	1.0	18.9	27.9	7.4	8.1	2.8
Mid-Ebb	10-Apr-07	14:47	8.1	1.0	19.3	27.8	7.2	8.1	1.6
Mid-Ebb	16-Apr-07	09:47	7.9	1.0	18.9	28.1	6.7	8.1	1.8
Mid-Ebb	23-Apr-07	14:47	8.1	1.0	20.3	28.3	6.8	8.0	1.9

M_Marsh	Surface								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Flood	26-Mar-07	08:47	8.7	1.0	20.0	29.7	7.5	8.2	2.4
Mid-Flood	27-Mar-07								
Mid-Flood	02-Apr-07	10:47	8.4	1.0	19.7	29.1	7.5	8.3	2.6
Mid-Flood	10-Apr-07	09:17	8.6	1.0	20.6	29.7	7.4	8.3	2.1
Mid-Flood	16-Apr-07	14:47	8.3	1.0	19.8	29.7	6.5	8.3	2.2
Mid-Flood	23-Apr-07	08:47	8.4	1.0	22.1	29.8	6.7	8.3	2.0

Remarks:

Action level	***Bold & Italic***
Limit level	**Bold**
< detection limit	~~Grey~~

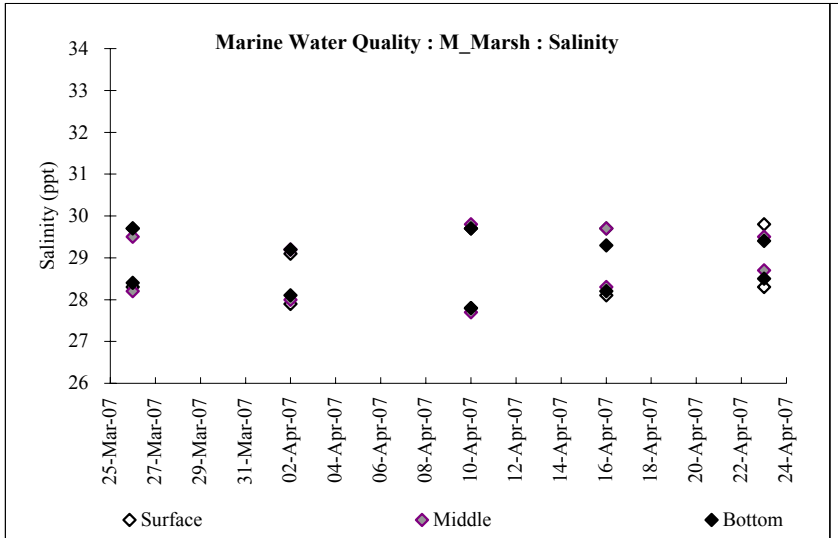
M_Marsh	Middle								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Ebb	26-Mar-07	11:01	8.4	4.2	20.4	28.2	7.4	8.0	2.0
Mid-Ebb	27-Mar-07								
Mid-Ebb	02-Apr-07	08:46	8.0	4.0	19.0	28.0	7.4	8.1	2.2
Mid-Ebb	10-Apr-07	14:46	8.1	4.1	19.3	27.7	7.5	8.1	2.1
Mid-Ebb	16-Apr-07	09:46	7.9	4.0	18.5	28.3	6.8	8.1	1.5
Mid-Ebb	23-Apr-07	14:46	8.1	4.1	20.5	28.7	6.7	8.0	1.9

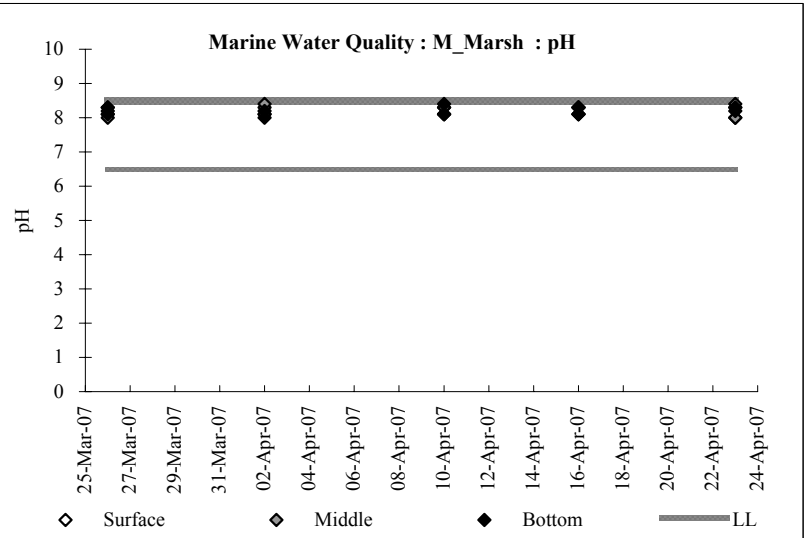
M_Marsh	Middle								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Flood	26-Mar-07	08:46	8.7	4.4	20.1	29.5	7.5	8.3	1.5
Mid-Flood	27-Mar-07								
Mid-Flood	02-Apr-07	10:46	8.4	4.2	19.8	29.2	7.4	8.4	2.1
Mid-Flood	10-Apr-07	09:16	8.6	4.3	20.5	29.8	7.5	8.3	1.4
Mid-Flood	16-Apr-07	14:46	8.3	4.2	19.9	29.7	6.8	8.3	1.7
Mid-Flood	23-Apr-07	08:46	8.4	4.2	22.1	29.5	6.4	8.4	1.4

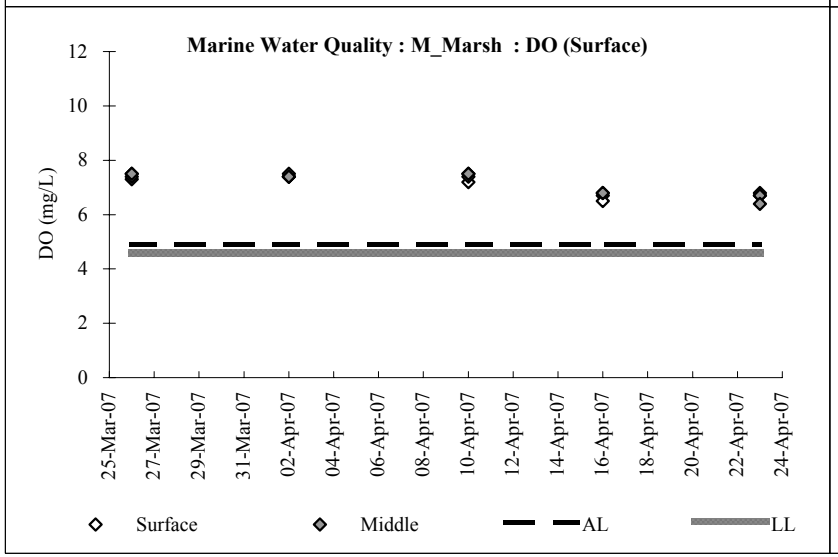
M_Marsh	Bottom								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Ebb	26-Mar-07	11:00	8.4	7.4	20.3	28.4	7.5	8.1	2.6
Mid-Ebb	27-Mar-07	0:45							
Mid-Ebb	02-Apr-07	8:45	8.0	7.0	19.1	28.1	7.6	8.0	2.5
Mid-Ebb	10-Apr-07	14:45	8.1	7.1	19.3	27.8	7.6	8.1	2.2
Mid-Ebb	16-Apr-07	9:45	7.9	6.9	18.9	28.2	7.0	8.1	2.3
Mid-Ebb	23-Apr-07	14:45	8.1	7.1	20.4	28.5	6.4	8.2	1.9

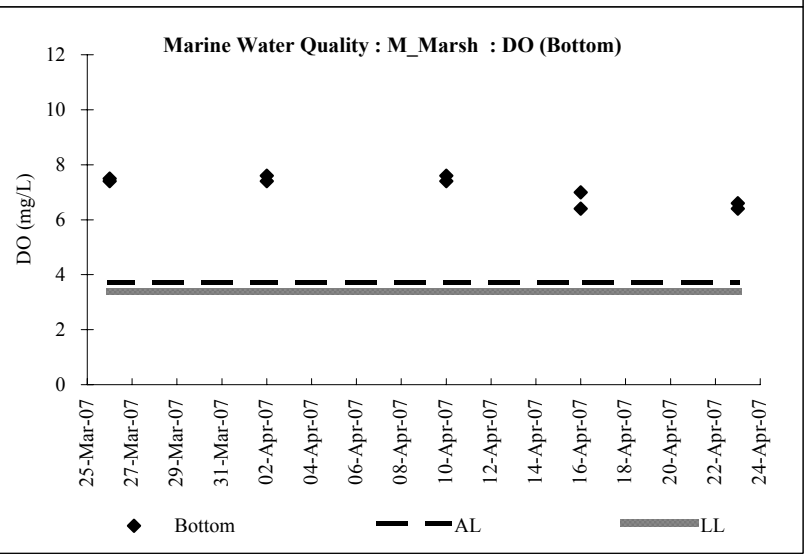
M_Marsh	Bottom								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Flood	26-Mar-07	8:45	8.7	7.7	20.4	29.7	7.4	8.3	2.2
Mid-Flood	27-Mar-07	0:45							
Mid-Flood	02-Apr-07	10:45	8.4	7.4	19.9	29.2	7.4	8.2	2.1
Mid-Flood	10-Apr-07	9:15	8.6	7.6	20.4	29.7	7.4	8.4	2.3
Mid-Flood	16-Apr-07	14:45	8.3	7.3	20.1	29.3	6.4	8.3	2.1
Mid-Flood	23-Apr-07	8:45	8.4	7.4	22.4	29.4	6.6	8.3	2.6

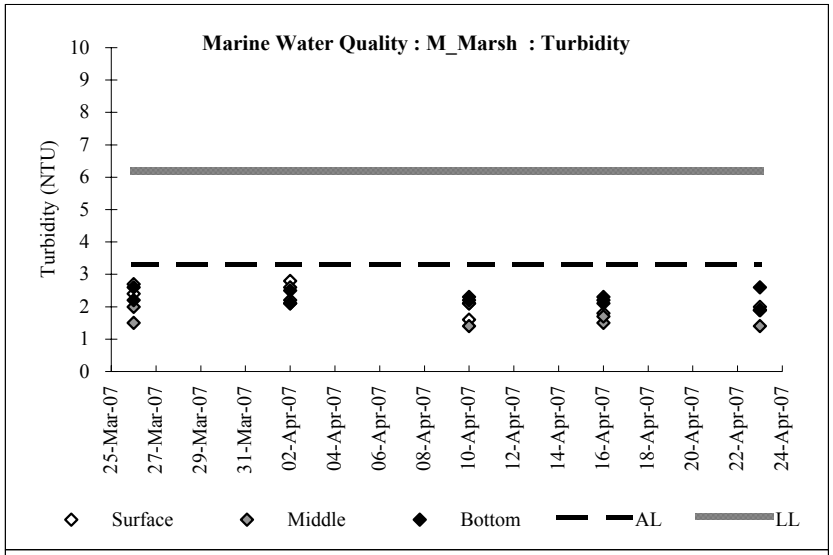
	Mid-Ebb			Mid-Flood			Depth-averaged
M_Marsh	Surface	Midlle	Bottom	Surface	Midlle	Bottom	SS (mg/L)
26-Mar-07	3.0	4.0	5.0	10.0	4.0	4.0	5.0
27-Mar-07							
02-Apr-07	7.0	3.0	6.0	4.0	5.0	5.0	5.0
10-Apr-07	3.0	7.0	6.0	3.0	3.0	4.0	4.3
16-Apr-07	3.0	3.0	3.0	5.0	3.0	3.0	3.3
23-Apr-07	4.0	5.0	9.0	2.0	3.0	~~2.0~~	4.2

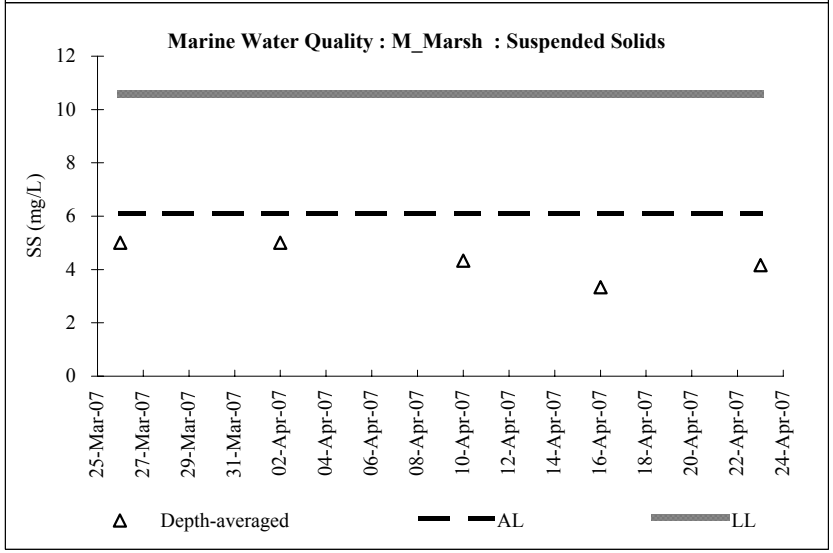

Marine Water Quality : M_Marsh : Salinity
Salinity (ppt)
34
33
32
31
30
29
28
27
26
25-Mar-07
27-Mar-07
29-Mar-07
31-Mar-07
02-Apr-07
04-Apr-07
06-Apr-07
08-Apr-07
10-Apr-07
12-Apr-07
14-Apr-07
16-Apr-07
18-Apr-07
20-Apr-07
22-Apr-07
24-Apr-07
Surface
Middle
Bottom


Marine Water Quality : M_Marsh : pH
pH
10
9
8
7
6
5
4
3
2
1
0
25-Mar-07
27-Mar-07
29-Mar-07
31-Mar-07
02-Apr-07
04-Apr-07
06-Apr-07
08-Apr-07
10-Apr-07
12-Apr-07
14-Apr-07
16-Apr-07
18-Apr-07
20-Apr-07
22-Apr-07
24-Apr-07
Surface
Middle
Bottom
LL


Marine Water Quality : M_Marsh : DO (Surface)
DO (mg/L)
12
10
8
6
4
2
0
25-Mar-07
27-Mar-07
29-Mar-07
31-Mar-07
02-Apr-07
04-Apr-07
06-Apr-07
08-Apr-07
10-Apr-07
12-Apr-07
14-Apr-07
16-Apr-07
18-Apr-07
20-Apr-07
22-Apr-07
24-Apr-07
Surface
Middle
AL
LL


Marine Water Quality : M_Marsh : DO (Bottom)
DO (mg/L)
12
10
8
6
4
2
0
25-Mar-07
27-Mar-07
29-Mar-07
31-Mar-07
02-Apr-07
04-Apr-07
06-Apr-07
08-Apr-07
10-Apr-07
12-Apr-07
14-Apr-07
16-Apr-07
18-Apr-07
20-Apr-07
22-Apr-07
24-Apr-07
Bottom
AL
LL


Marine Water Quality : M_Marsh : Turbidity
Turbidity (NTU)
0
1
2
3
4
5
6
7
8
9
10
25-Mar-07
27-Mar-07
29-Mar-07
31-Mar-07
02-Apr-07
04-Apr-07
06-Apr-07
08-Apr-07
10-Apr-07
12-Apr-07
14-Apr-07
16-Apr-07
18-Apr-07
20-Apr-07
22-Apr-07
24-Apr-07
Surface
Middle
Bottom
AL
LL


Marine Water Quality : M_Marsh : Suspended Solids
SS (mg/L)
0
2
4
6
8
10
12
25-Mar-07
27-Mar-07
29-Mar-07
31-Mar-07
02-Apr-07
04-Apr-07
06-Apr-07
08-Apr-07
10-Apr-07
12-Apr-07
14-Apr-07
16-Apr-07
18-Apr-07
20-Apr-07
22-Apr-07
24-Apr-07
Depth-averaged
AL
LL

TTC	Surface								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Ebb	26-Mar-07	13:07	9.8	1.0	20.7	28.7	7.3	8.1	1.7
Mid-Ebb	27-Mar-07								
Mid-Ebb	02-Apr-07	09:07	9.7	1.0	19.0	27.9	7.2	8.1	2.1
Mid-Ebb	10-Apr-07	15:07	9.7	1.0	19.7	27.8	7.3	8.0	1.6
Mid-Ebb	16-Apr-07	10:07	9.6	1.0	19.0	28.3	6.7	8.0	1.9
Mid-Ebb	23-Apr-07	15:07	9.8	1.0	20.3	28.7	6.6	8.1	1.7

TTC	Surface								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Flood	26-Mar-07	08:57	10.3	1.0	20.5	30.2	7.2	8.2	1.9
Mid-Flood	27-Mar-07								
Mid-Flood	02-Apr-07	10:57	10.2	1.0	20.0	30.1	7.4	8.3	1.9
Mid-Flood	10-Apr-07	09:27	10.1	1.0	20.8	29.5	7.1	8.3	1.8
Mid-Flood	16-Apr-07	14:57	10.0	1.0	20.5	30.0	6.4	8.3	1.7
Mid-Flood	23-Apr-07	08:57	9.9	1.0	22.4	29.7	6.4	8.2	2.3

Remarks:

Action level	***Bold & Italic***
Limit level	**Bold**
< detection limit	~~Grey~~

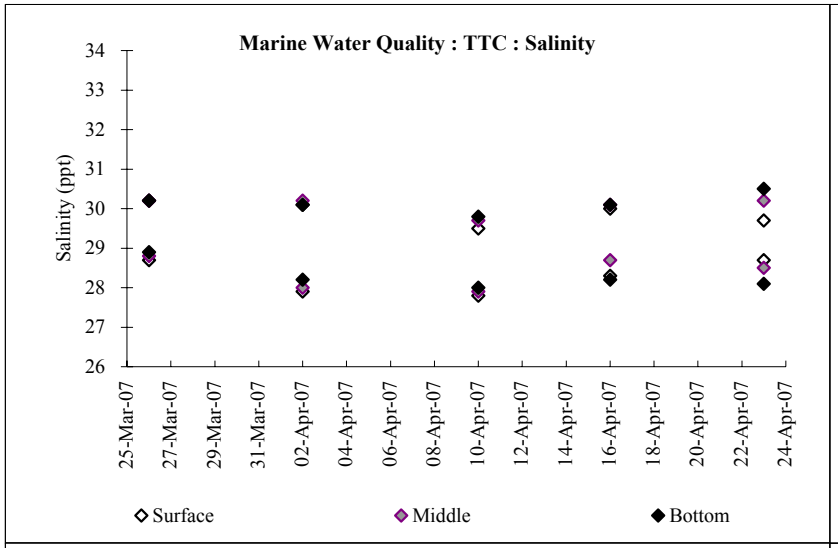
TTC	Middle								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Ebb	26-Mar-07	13:06	9.8	4.9	20.4	28.8	7.1	8.2	2.3
Mid-Ebb	27-Mar-07								
Mid-Ebb	02-Apr-07	09:06	9.7	4.9	19.1	28.0	7.4	8.1	1.6
Mid-Ebb	10-Apr-07	15:06	9.7	4.9	19.7	27.9	7.2	8.0	1.8
Mid-Ebb	16-Apr-07	10:06	9.6	4.8	18.3	28.7	6.6	8.0	1.3
Mid-Ebb	23-Apr-07	15:06	9.8	4.9	20.3	28.5	6.6	8.1	2.8

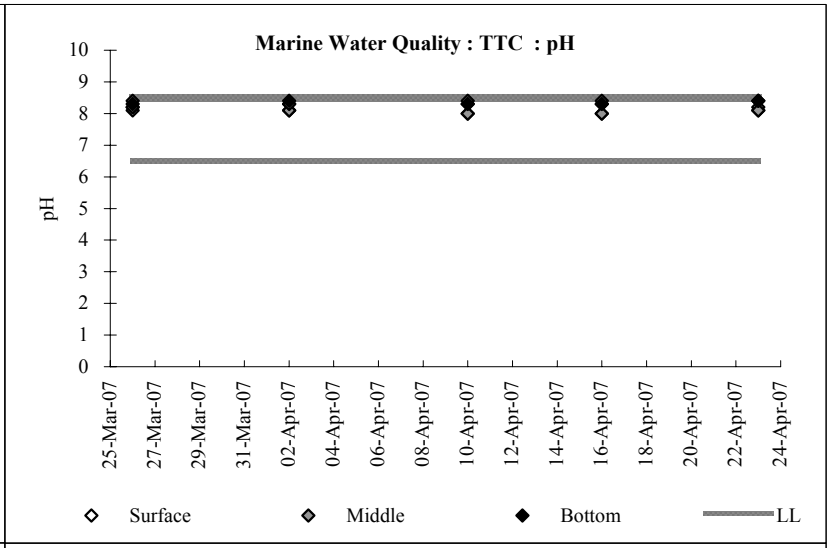
TTC	Middle								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Flood	26-Mar-07	08:56	10.3	5.2	20.5	30.2	7.3	8.4	1.8
Mid-Flood	27-Mar-07								
Mid-Flood	02-Apr-07	10:56	10.2	5.1	20.1	30.2	7.5	8.3	2.2
Mid-Flood	10-Apr-07	09:26	10.1	5.1	20.6	29.7	7.1	8.4	2.1
Mid-Flood	16-Apr-07	14:56	10.0	5.0	20.4	30.1	6.7	8.4	1.8
Mid-Flood	23-Apr-07	08:56	9.9	5.0	22.5	30.2	6.8	8.4	1.7

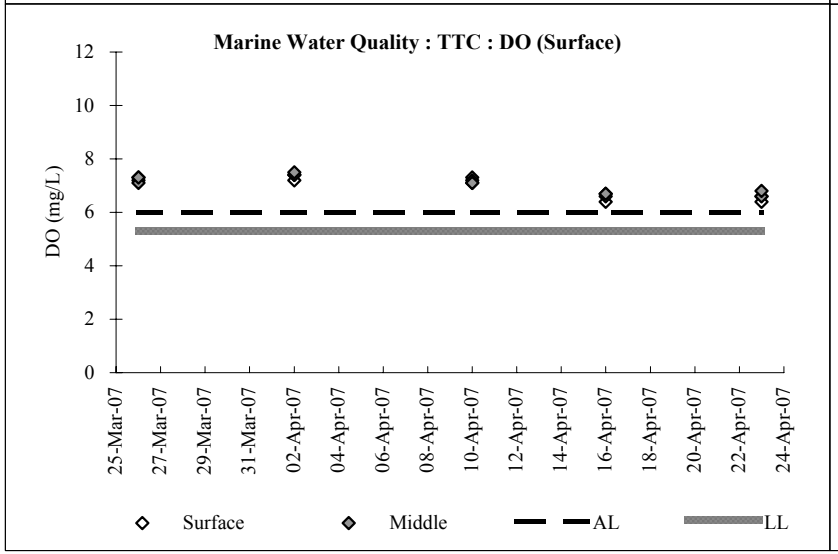
TTC	Bottom								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Ebb	26-Mar-07	13:05	9.8	8.8	20.3	28.9	7.2	8.1	1.6
Mid-Ebb	27-Mar-07	1:05							
Mid-Ebb	02-Apr-07	9:05	9.7	8.7	19.1	28.2	7.4	8.0	1.7
Mid-Ebb	10-Apr-07	15:05	9.7	8.7	19.7	28.0	7.3	8.2	2.4
Mid-Ebb	16-Apr-07	10:05	9.6	8.6	19.1	28.2	6.6	8.1	1.8
Mid-Ebb	23-Apr-07	15:05	9.8	8.8	20.5	28.1	6.8	8.2	1.6

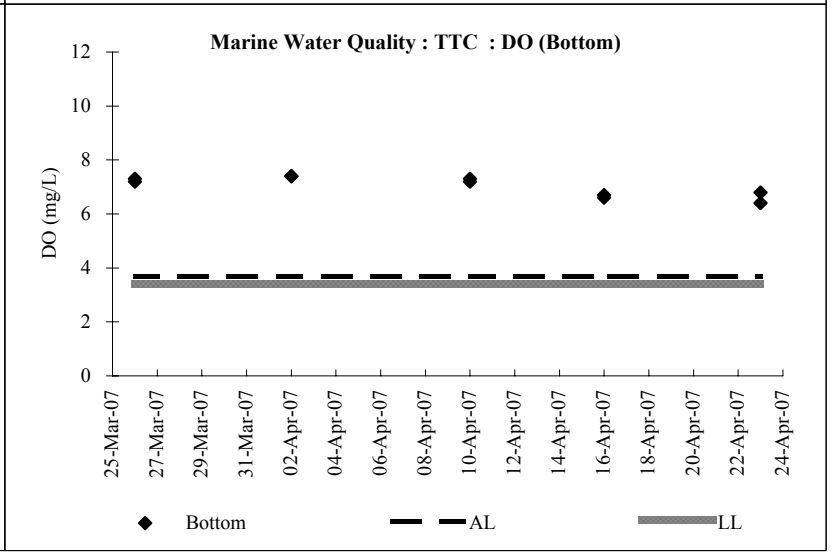
TTC	Bottom								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Flood	26-Mar-07	8:55	10.3	9.3	20.5	30.2	7.3	8.3	2.1
Mid-Flood	27-Mar-07	0:10							
Mid-Flood	02-Apr-07	10:55	10.2	9.2	20.1	30.1	7.4	8.4	1.8
Mid-Flood	10-Apr-07	9:25	10.1	9.1	20.6	29.8	7.2	8.3	2.0
Mid-Flood	16-Apr-07	14:55	10.0	9.0	21.0	30.1	6.7	8.3	2.1
Mid-Flood	23-Apr-07	8:55	9.9	8.9	22.6	30.5	6.4	8.4	1.8

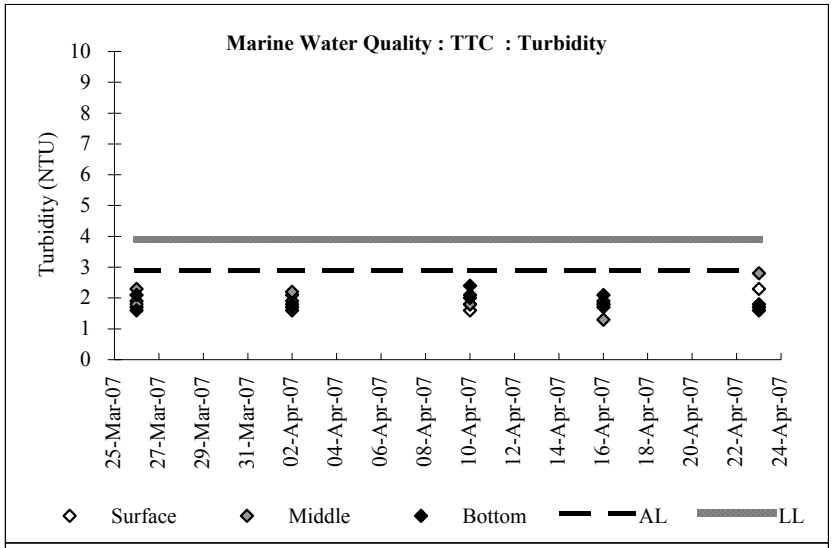
	Mid-Ebb			Mid-Flood			Depth-averaged
TTC	Surface	Midlle	Bottom	Surface	Midlle	Bottom	SS (mg/L)
26-Mar-07	3.0	2.0	5.0	2.0	2.0	4.0	3.0
27-Mar-07							
02-Apr-07	3.0	5.0	5.0	3.0	3.0	3.0	3.7
10-Apr-07	4.0	3.0	4.0	3.0	3.0	3.0	3.3
16-Apr-07	2.0	2.0	2.0	3.0	4.0	~~2.0~~	2.5
23-Apr-07	4.0	4.0	4.0	7.0	4.0	4.0	***4.5***

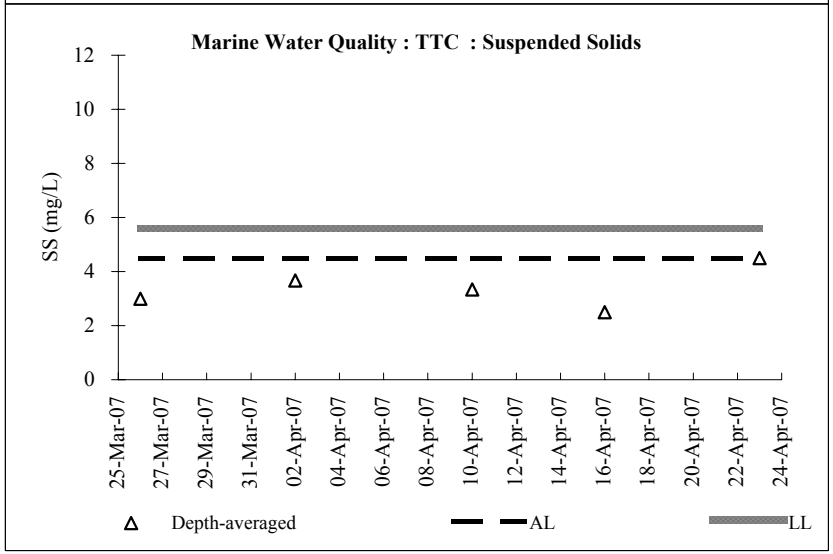

Marine Water Quality : TTC : Salinity
Salinity (ppt)
34
33
32
31
30
29
28
27
26
25-Mar-07
27-Mar-07
29-Mar-07
31-Mar-07
02-Apr-07
04-Apr-07
06-Apr-07
08-Apr-07
10-Apr-07
12-Apr-07
14-Apr-07
16-Apr-07
18-Apr-07
20-Apr-07
22-Apr-07
24-Apr-07
Surface
Middle
Bottom


Marine Water Quality : TTC : pH
pH
10
9
8
7
6
5
4
3
2
1
0
25-Mar-07
27-Mar-07
29-Mar-07
31-Mar-07
02-Apr-07
04-Apr-07
06-Apr-07
08-Apr-07
10-Apr-07
12-Apr-07
14-Apr-07
16-Apr-07
18-Apr-07
20-Apr-07
22-Apr-07
24-Apr-07
Surface
Middle
Bottom
LL


Marine Water Quality : TTC : DO (Surface)
DO (mg/L)
12
10
8
6
4
2
0
25-Mar-07
27-Mar-07
29-Mar-07
31-Mar-07
02-Apr-07
04-Apr-07
06-Apr-07
08-Apr-07
10-Apr-07
12-Apr-07
14-Apr-07
16-Apr-07
18-Apr-07
20-Apr-07
22-Apr-07
24-Apr-07
Surface
Middle
AL
LL


Marine Water Quality : TTC : DO (Bottom)
DO (mg/L)
12
10
8
6
4
2
0
25-Mar-07
27-Mar-07
29-Mar-07
31-Mar-07
02-Apr-07
04-Apr-07
06-Apr-07
08-Apr-07
10-Apr-07
12-Apr-07
14-Apr-07
16-Apr-07
18-Apr-07
20-Apr-07
22-Apr-07
24-Apr-07
Bottom
AL
LL


Marine Water Quality : TTC : Turbidity
Turbidity (NTU)
10
9
8
7
6
5
4
3
2
1
0
25-Mar-07
27-Mar-07
29-Mar-07
31-Mar-07
02-Apr-07
04-Apr-07
06-Apr-07
08-Apr-07
10-Apr-07
12-Apr-07
14-Apr-07
16-Apr-07
18-Apr-07
20-Apr-07
22-Apr-07
24-Apr-07
Surface
Middle
Bottom
AL
LL


Marine Water Quality : TTC : Suspended Solids
SS (mg/L)
12
10
8
6
4
2
0
25-Mar-07
27-Mar-07
29-Mar-07
31-Mar-07
02-Apr-07
04-Apr-07
06-Apr-07
08-Apr-07
10-Apr-07
12-Apr-07
14-Apr-07
16-Apr-07
18-Apr-07
20-Apr-07
22-Apr-07
24-Apr-07
Depth-averaged
AL
LL

M_BP	Surface								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Ebb	26-Mar-07	13:17	8.3	1.0	20.1	28.7	7.1	8.1	2.3
Mid-Ebb	27-Mar-07								
Mid-Ebb	02-Apr-07	09:17	8.2	1.0	19.1	27.9	7.2	8.1	1.7
Mid-Ebb	10-Apr-07	15:17	8.1	1.0	19.4	27.6	7.1	8.3	2.2
Mid-Ebb	16-Apr-07	10:17	8.2	1.0	18.9	28.3	6.7	8.0	2.3
Mid-Ebb	23-Apr-07	15:17	8.2	1.0	20.3	28.5	6.8	8.1	1.6

M_BP	Surface								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Flood	26-Mar-07	09:07	8.7	1.0	20.3	29.3	7.3	8.3	2.2
Mid-Flood	27-Mar-07								
Mid-Flood	02-Apr-07	11:07	8.6	1.0	20.0	29.9	7.3	8.3	2.1
Mid-Flood	10-Apr-07	09:37	8.8	1.0	20.4	29.7	7.4	8.3	2.1
Mid-Flood	16-Apr-07	15:07	8.7	1.0	20.3	30.1	7.0	8.4	1.6
Mid-Flood	23-Apr-07	09:07	8.8	1.0	22.5	30.2	6.5	8.4	1.9

Remarks:

Action level	***Bold & Italic***
Limit level	**Bold**
< detection limit	~~Grey~~

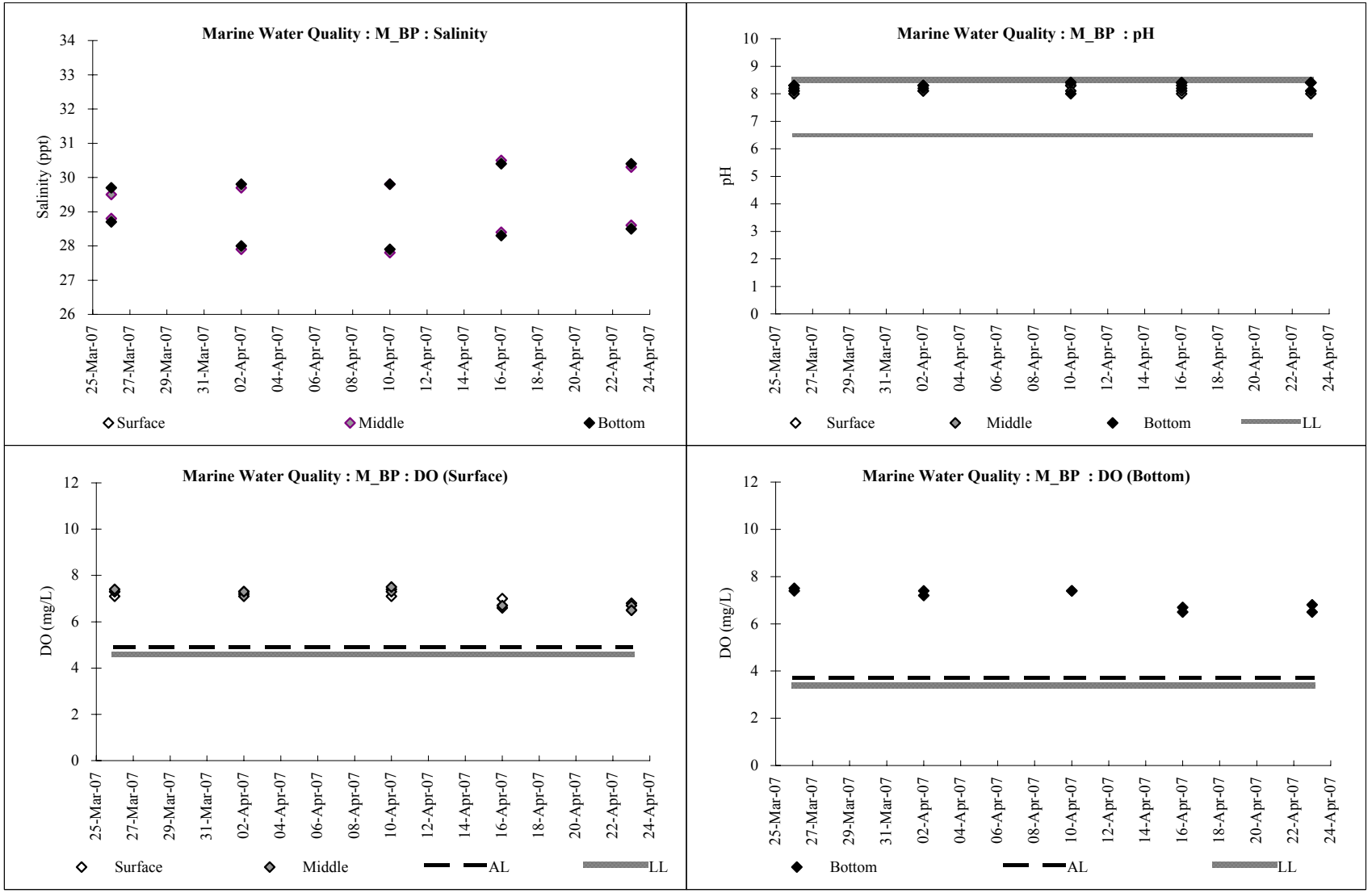
M_BP	Middle								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Ebb	26-Mar-07	13:16	8.3	4.2	20.1	28.8	7.3	8.0	1.8
Mid-Ebb	27-Mar-07								
Mid-Ebb	02-Apr-07	09:16	8.2	4.1	19.3	27.9	7.1	8.1	1.6
Mid-Ebb	10-Apr-07	15:16	8.1	4.1	19.4	27.8	7.3	8.1	1.4
Mid-Ebb	16-Apr-07	10:16	8.2	4.1	19.3	28.4	6.6	8.1	2.2
Mid-Ebb	23-Apr-07	15:16	8.2	4.1	20.6	28.6	6.7	8.0	1.3

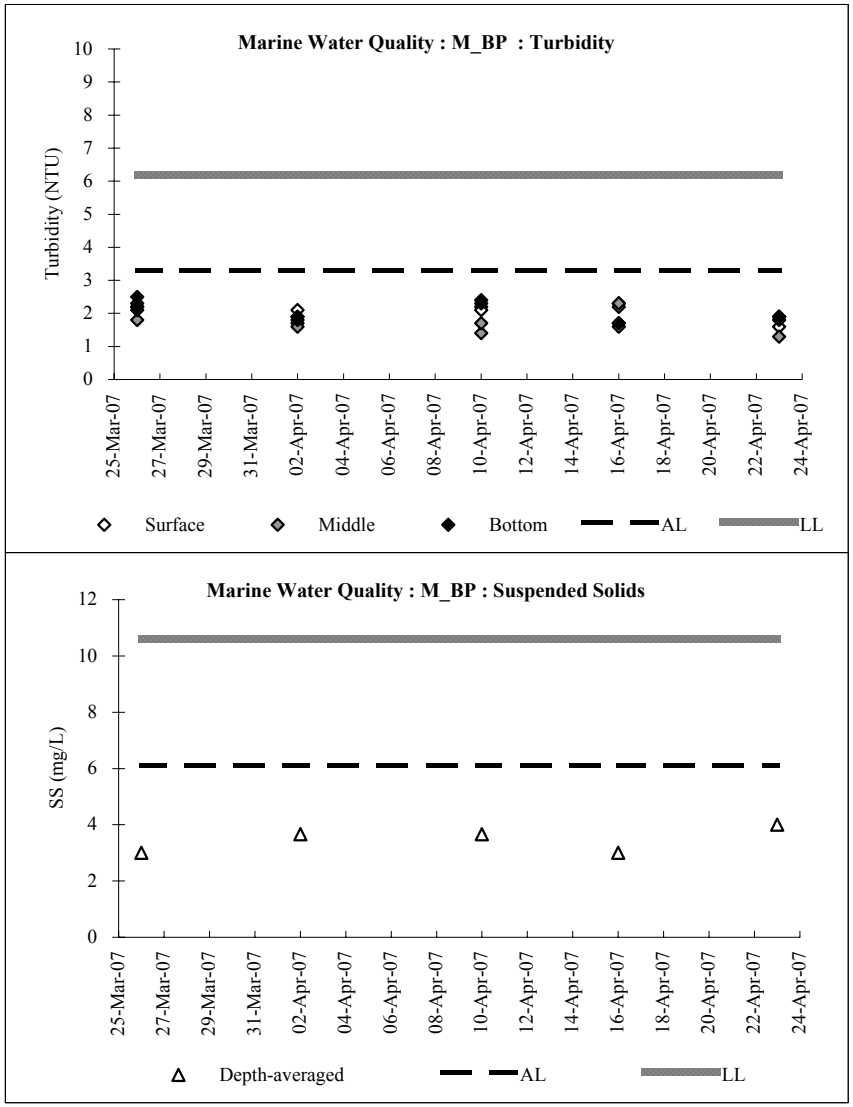
M_BP	Middle								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Flood	26-Mar-07	09:06	8.7	4.4	20.5	29.5	7.4	8.2	2.1
Mid-Flood	27-Mar-07								
Mid-Flood	02-Apr-07	11:06	8.6	4.3	20.2	29.7	7.3	8.3	1.9
Mid-Flood	10-Apr-07	09:36	8.8	4.4	20.5	29.8	7.5	8.4	1.7
Mid-Flood	16-Apr-07	15:06	8.7	4.4	20.3	30.5	6.7	8.3	2.3
Mid-Flood	23-Apr-07	09:06	8.8	4.4	22.4	30.3	6.5	8.4	1.8

M_BP	Bottom								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Ebb	26-Mar-07	13:15	8.3	7.3	20.1	28.7	7.4	8.1	2.5
Mid-Ebb	27-Mar-07	~~1:15~~							
Mid-Ebb	02-Apr-07	9:15	8.2	7.2	19.8	28.0	7.2	8.2	1.9
Mid-Ebb	10-Apr-07	15:15	8.1	7.1	19.5	27.9	7.4	8.0	2.3
Mid-Ebb	16-Apr-07	10:15	8.2	7.2	19.2	28.3	6.7	8.2	1.7
Mid-Ebb	23-Apr-07	15:15	8.2	7.2	20.3	28.5	6.5	8.1	1.9

M_BP	Bottom								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Flood	26-Mar-07	9:05	8.7	7.7	20.4	29.7	7.5	8.3	2.2
Mid-Flood	27-Mar-07	~~0:20~~							
Mid-Flood	02-Apr-07	11:05	8.6	7.6	20.3	29.8	7.4	8.3	1.8
Mid-Flood	10-Apr-07	9:35	8.8	7.8	20.5	29.8	7.4	8.4	2.4
Mid-Flood	16-Apr-07	15:05	8.7	7.7	20.3	30.4	6.5	8.4	1.7
Mid-Flood	23-Apr-07	9:05	8.8	7.8	22.5	30.4	6.8	8.4	1.9

	Mid-Ebb			Mid-Flood			Depth-averaged
M_BP	Surface	Midlle	Bottom	Surface	Midlle	Bottom	SS (mg/L)
26-Mar-07	3.0	3.0	3.0	3.0	3.0	3.0	3.0
27-Mar-07							
02-Apr-07	~~2.0~~	3.0	4.0	8.0	~~2.0~~	3.0	3.7
10-Apr-07	2.0	3.0	6.0	3.0	3.0	5.0	3.7
16-Apr-07	3.0	4.0	4.0	~~2.0~~	~~2.0~~	3.0	3.0
23-Apr-07	5.0	3.0	4.0	4.0	3.0	5.0	4.0


Marine Water Quality : M_BP : Salinity
Salinity (ppt)
Surface
Middle
Bottom
Marine Water Quality : M_BP : pH
pH
Surface
Middle
Bottom
LL
Marine Water Quality : M_BP : DO (Surface)
DO (mg/L)
Surface
Middle
AL
LL
Marine Water Quality : M_BP : DO (Bottom)
DO (mg/L)
Bottom
AL
LL


Marine Water Quality : M_BP : Turbidity
Turbidity (NTU)
0
1
2
3
4
5
6
7
8
9
10
25-Mar-07
27-Mar-07
29-Mar-07
31-Mar-07
02-Apr-07
04-Apr-07
06-Apr-07
08-Apr-07
10-Apr-07
12-Apr-07
14-Apr-07
16-Apr-07
18-Apr-07
20-Apr-07
22-Apr-07
24-Apr-07
Surface
Middle
Bottom
AL
LL
Marine Water Quality : M_BP : Suspended Solids
SS (mg/L)
0
2
4
6
8
10
12
25-Mar-07
27-Mar-07
29-Mar-07
31-Mar-07
02-Apr-07
04-Apr-07
06-Apr-07
08-Apr-07
10-Apr-07
12-Apr-07
14-Apr-07
16-Apr-07
18-Apr-07
20-Apr-07
22-Apr-07
24-Apr-07
Depth-averaged
AL
LL

M_Coral	Surface								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Ebb	26-Mar-07	14:22	8.5	1.0	20.4	28.6	7.3	8.1	1.6
Mid-Ebb	27-Mar-07								
Mid-Ebb	02-Apr-07	10:22	8.6	1.0	19.7	28.8	7.4	8.2	1.9
Mid-Ebb	10-Apr-07	16:22	8.4	1.0	20.0	27.9	7.2	8.0	2.2
Mid-Ebb	16-Apr-07	11:22	8.3	1.0	19.0	28.7	6.7	8.1	1.9
Mid-Ebb	23-Apr-07	16:22	8.4	1.0	20.3	28.5	6.8	8.1	2.3

M_Coral	Surface								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Flood	26-Mar-07	09:17	9.2	1.0	20.7	30.3	7.4	8.3	2.3
Mid-Flood	27-Mar-07								
Mid-Flood	02-Apr-07	11:17	9.0	1.0	20.5	30.2	7.5	8.3	2.4
Mid-Flood	10-Apr-07	09:47	8.8	1.0	21.0	29.9	7.3	8.2	2.0
Mid-Flood	16-Apr-07	15:17	8.7	1.0	20.5	30.3	6.7	8.3	2.2
Mid-Flood	23-Apr-07	09:17	8.9	1.0	22.6	30.5	6.5	8.4	1.7

Remarks:

Action level	***Bold & Italic***
Limit level	**Bold**
< detection limit	~~Grey~~

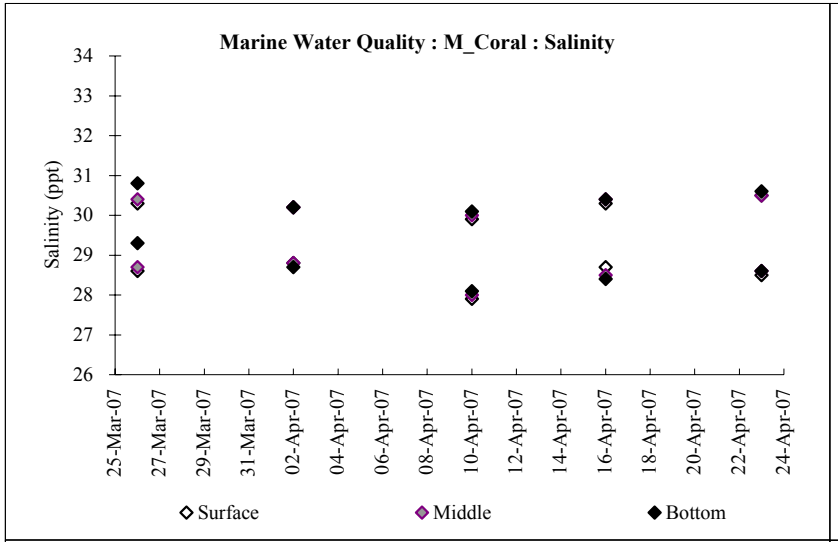
M_Coral	Middle								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Ebb	26-Mar-07	14:21	8.5	4.3	20.7	28.7	7.4	8.1	1.9
Mid-Ebb	27-Mar-07								
Mid-Ebb	02-Apr-07	10:21	8.6	4.3	19.7	28.8	7.5	8.0	2.3
Mid-Ebb	10-Apr-07	16:21	8.4	4.2	20.1	28.0	7.3	8.0	1.5
Mid-Ebb	16-Apr-07	11:21	8.3	4.2	19.1	28.5	6.7	8.0	1.7
Mid-Ebb	23-Apr-07	16:21	8.4	4.2	20.3	28.6	6.5	8.1	2.1

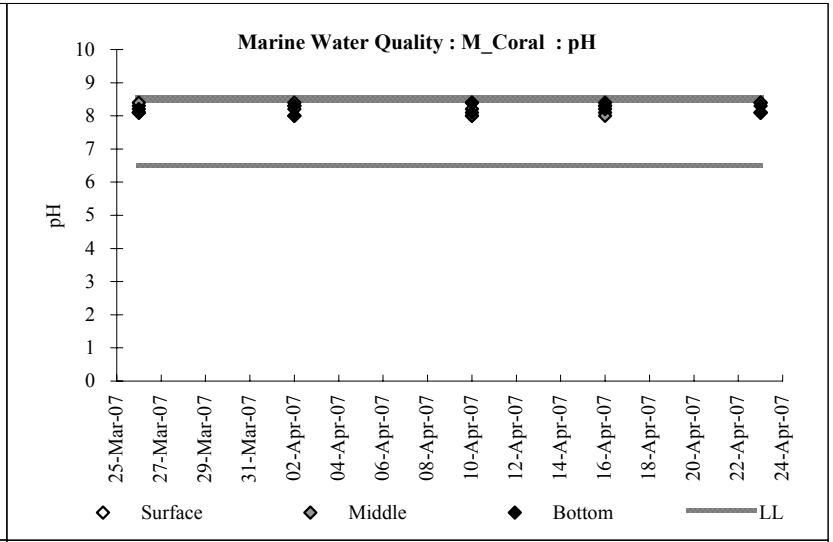
M_Coral	Middle								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Flood	26-Mar-07	09:16	9.2	4.6	20.6	30.4	7.3	8.4	2.7
Mid-Flood	27-Mar-07								
Mid-Flood	02-Apr-07	11:16	9.0	4.5	20.5	30.2	7.4	8.4	2.1
Mid-Flood	10-Apr-07	09:46	8.8	4.4	21.1	30.0	7.4	8.4	1.3
Mid-Flood	16-Apr-07	15:16	8.7	4.4	20.5	30.4	6.6	8.3	2.1
Mid-Flood	23-Apr-07	09:16	8.9	4.5	22.6	30.5	6.3	8.4	1.9

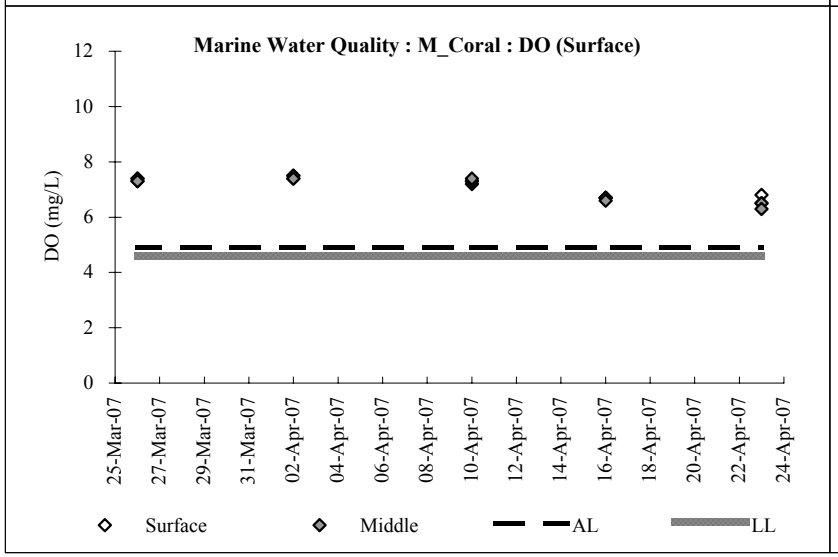
M_Coral	Bottom								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Ebb	26-Mar-07	14:20	8.5	7.5	20.3	29.3	7.0	8.1	1.7
Mid-Ebb	27-Mar-07	~~2:20~~							
Mid-Ebb	02-Apr-07	10:20	8.6	7.6	19.7	28.7	7.2	8.0	2.3
Mid-Ebb	10-Apr-07	16:20	8.4	7.4	20.2	28.1	7.1	8.1	1.6
Mid-Ebb	16-Apr-07	11:20	8.3	7.3	19.1	28.4	6.6	8.2	1.6
Mid-Ebb	23-Apr-07	16:20	8.4	7.4	20.3	28.6	6.7	8.1	2.1

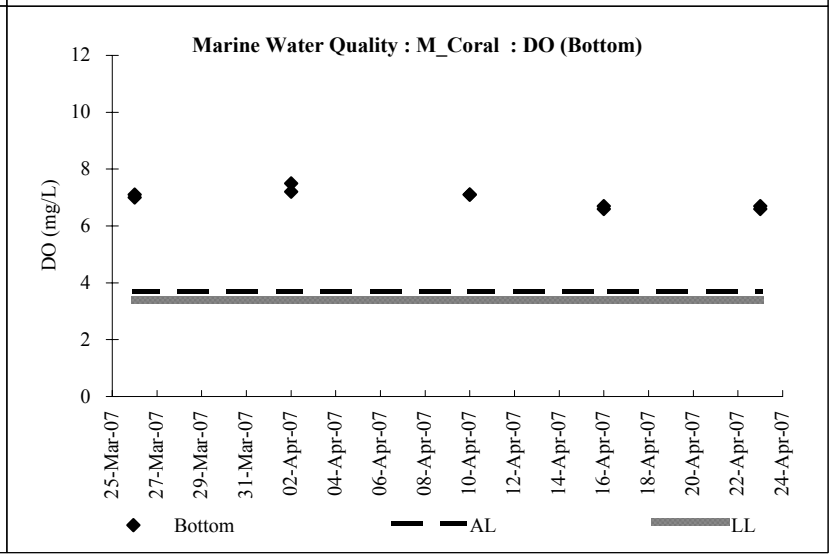
M_Coral	Bottom								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Flood	26-Mar-07	9:15	9.2	8.2	20.8	30.8	7.1	8.2	2.7
Mid-Flood	27-Mar-07	~~2:30~~							
Mid-Flood	02-Apr-07	11:15	9.0	8.0	20.5	30.2	7.5	8.3	2.5
Mid-Flood	10-Apr-07	9:45	8.8	7.8	21.2	30.1	7.1	8.4	1.8
Mid-Flood	16-Apr-07	15:15	8.7	7.7	20.3	30.4	6.7	8.4	1.3
Mid-Flood	23-Apr-07	9:15	8.9	7.9	22.6	30.6	6.6	8.3	1.8

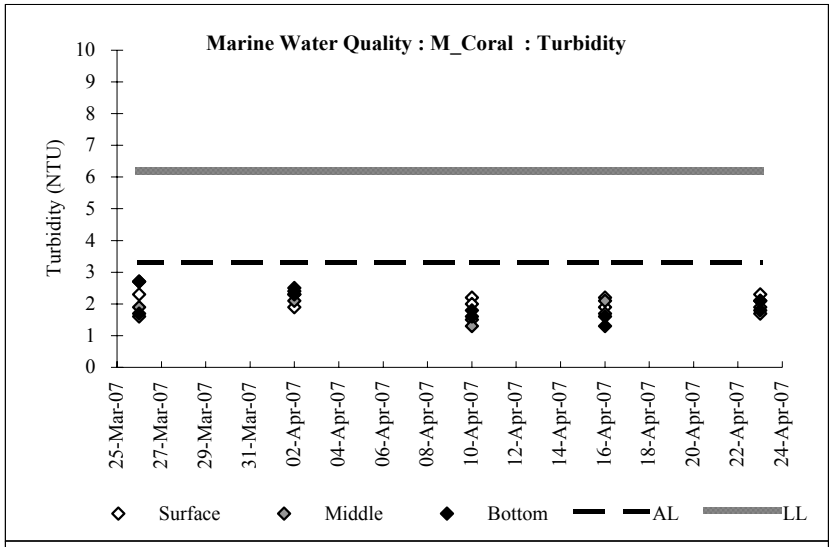
	Mid-Ebb			Mid-Flood			Depth-averaged
M_Coral	Surface	Midlle	Bottom	Surface	Midlle	Bottom	SS (mg/L)
26-Mar-07	2.0	3.0	3.0	2.0	3.0	2.0	2.5
27-Mar-07							
02-Apr-07	3.0	3.0	4.0	~~2.0~~	4.0	3.0	3.2
10-Apr-07	3.0	3.0	2.0	3.0	4.0	4.0	3.2
16-Apr-07	4.0	2.0	4.0	2.0	4.0	2.0	3.0
23-Apr-07	2.0	3.0	5.0	6.0	3.0	4.0	3.8

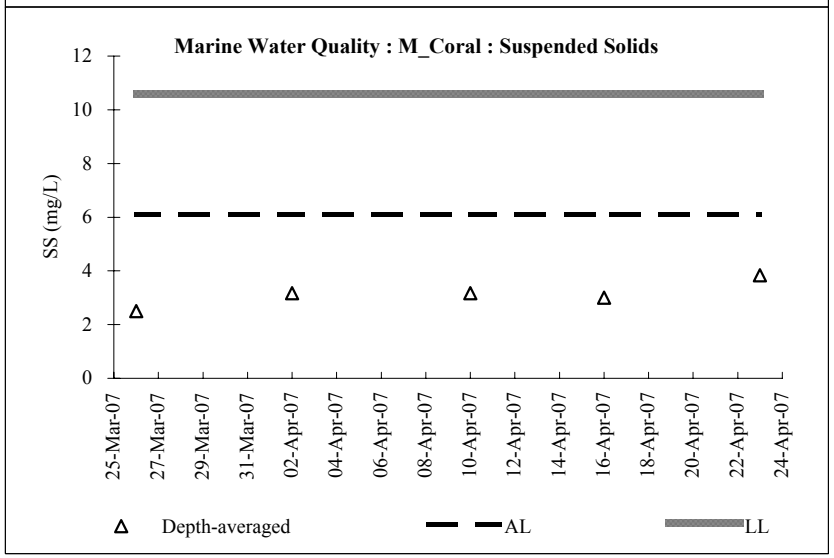

Marine Water Quality : M_Coral : Salinity
Salinity (ppt)
34
33
32
31
30
29
28
27
26
25-Mar-07
27-Mar-07
29-Mar-07
31-Mar-07
02-Apr-07
04-Apr-07
06-Apr-07
08-Apr-07
10-Apr-07
12-Apr-07
14-Apr-07
16-Apr-07
18-Apr-07
20-Apr-07
22-Apr-07
24-Apr-07
Surface
Middle
Bottom


Marine Water Quality : M_Coral : pH
pH
10
9
8
7
6
5
4
3
2
1
0
25-Mar-07
27-Mar-07
29-Mar-07
31-Mar-07
02-Apr-07
04-Apr-07
06-Apr-07
08-Apr-07
10-Apr-07
12-Apr-07
14-Apr-07
16-Apr-07
18-Apr-07
20-Apr-07
22-Apr-07
24-Apr-07
Surface
Middle
Bottom
LL


Marine Water Quality : M_Coral : DO (Surface)
DO (mg/L)
12
10
8
6
4
2
0
25-Mar-07
27-Mar-07
29-Mar-07
31-Mar-07
02-Apr-07
04-Apr-07
06-Apr-07
08-Apr-07
10-Apr-07
12-Apr-07
14-Apr-07
16-Apr-07
18-Apr-07
20-Apr-07
22-Apr-07
24-Apr-07
Surface
Middle
AL
LL


Marine Water Quality : M_Coral : DO (Bottom)
DO (mg/L)
12
10
8
6
4
2
0
25-Mar-07
27-Mar-07
29-Mar-07
31-Mar-07
02-Apr-07
04-Apr-07
06-Apr-07
08-Apr-07
10-Apr-07
12-Apr-07
14-Apr-07
16-Apr-07
18-Apr-07
20-Apr-07
22-Apr-07
24-Apr-07
Bottom
AL
LL


Marine Water Quality : M_Coral : Turbidity
Turbidity (NTU)
0
1
2
3
4
5
6
7
8
9
10
25-Mar-07
27-Mar-07
29-Mar-07
31-Mar-07
02-Apr-07
04-Apr-07
06-Apr-07
08-Apr-07
10-Apr-07
12-Apr-07
14-Apr-07
16-Apr-07
18-Apr-07
20-Apr-07
22-Apr-07
24-Apr-07
Surface
Middle
Bottom
AL
LL


Marine Water Quality : M_Coral : Suspended Solids
SS (mg/L)
0
2
4
6
8
10
12
25-Mar-07
27-Mar-07
29-Mar-07
31-Mar-07
02-Apr-07
04-Apr-07
06-Apr-07
08-Apr-07
10-Apr-07
12-Apr-07
14-Apr-07
16-Apr-07
18-Apr-07
20-Apr-07
22-Apr-07
24-Apr-07
Depth-averaged
AL
LL

M_B	Surface								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Ebb	26-Mar-07	14:32	16.8	1.0	20.1	29.3	7.3	8.1	1.1
Mid-Ebb	27-Mar-07								
Mid-Ebb	02-Apr-07	10:32	16.7	1.0	19.8	28.5	7.4	8.0	1.3
Mid-Ebb	10-Apr-07	16:32	16.5	1.0	20.1	29.4	7.2	8.1	1.1
Mid-Ebb	16-Apr-07	11:32	16.8	1.0	19.1	28.9	6..7	8.1	1.3
Mid-Ebb	23-Apr-07	16:32	16.7	1.0	20.5	29.0	6.5	8.1	1.6

M_B	Surface								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Flood	26-Mar-07	09:27	17.5	1.0	20.0	30.8	7.4	8.4	1.0
Mid-Flood	27-Mar-07								
Mid-Flood	02-Apr-07	11:27	17.0	1.0	20.4	30.2	7.3	8.3	1.5
Mid-Flood	10-Apr-07	09:57	17.3	1.0	21.3	31.2	7.1	8.4	1.3
Mid-Flood	16-Apr-07	15:27	17.1	1.0	21.4	30.3	6.9	8.3	2.1
Mid-Flood	23-Apr-07	09:27	17.4	1.0	22.9	30.8	6.8	8.3	1.3

Remarks:

Action level	***Bold & Italic***
Limit level	**Bold**
< detection limit	~~Grey~~

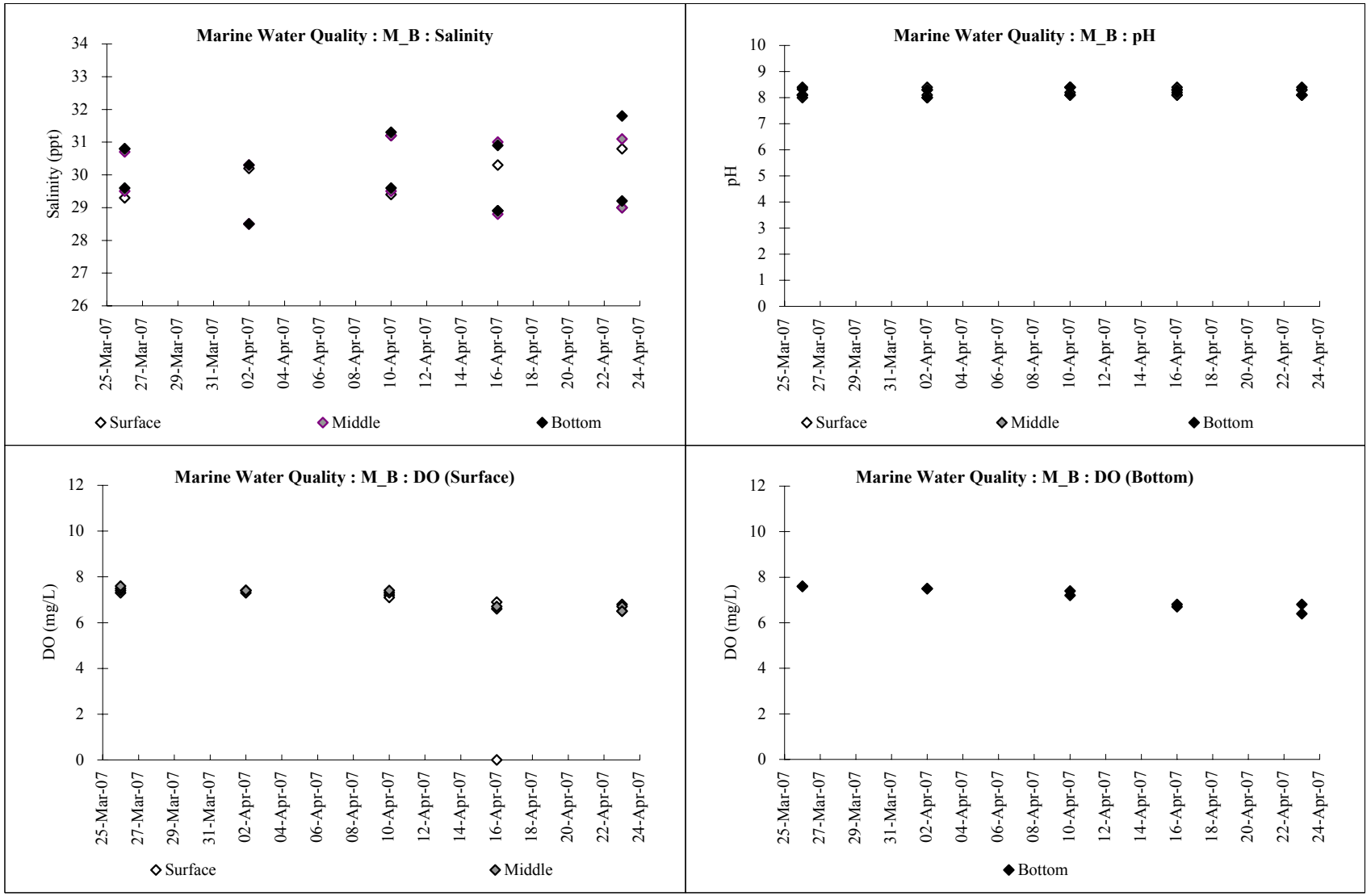
M_B	Middle								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Ebb	26-Mar-07	14:31	16.8	8.4	20.3	29.5	7.5	8.0	1.3
Mid-Ebb	27-Mar-07								
Mid-Ebb	02-Apr-07	10:31	16.7	8.4	19.8	28.5	7.4	8.1	1.5
Mid-Ebb	10-Apr-07	16:31	16.5	8.3	20.2	29.5	7.3	8.2	1.3
Mid-Ebb	16-Apr-07	11:31	16.8	8.4	19.1	28.8	6.6	8.1	1.4
Mid-Ebb	23-Apr-07	16:31	16.7	8.4	20.5	29.0	6.7	8.1	1.6

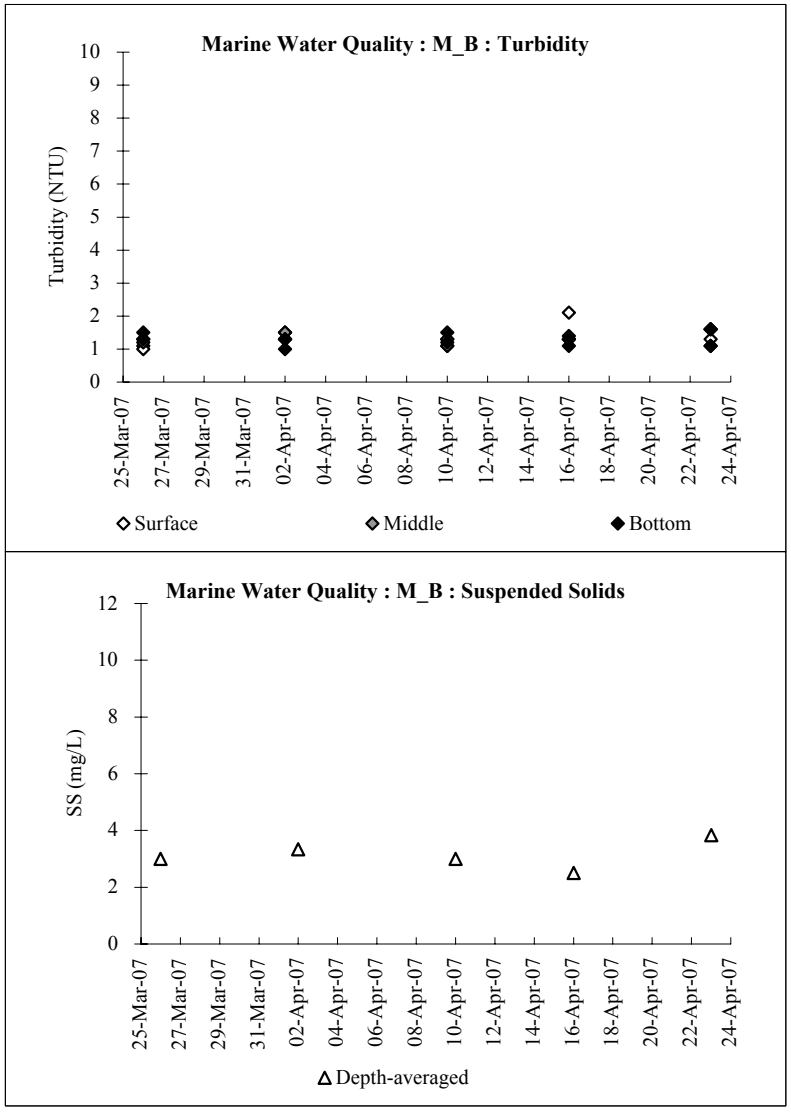
M_B	Middle								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Flood	26-Mar-07	09:26	17.5	8.8	20.2	30.7	7.6	8.1	1.2
Mid-Flood	27-Mar-07								
Mid-Flood	02-Apr-07	11:26	17.0	8.5	20.5	30.3	7.4	8.4	1.3
Mid-Flood	10-Apr-07	09:56	17.3	8.7	21.4	31.2	7.4	8.4	1.1
Mid-Flood	16-Apr-07	15:26	17.1	8.6	21.3	31.0	6.7	8.4	1.3
Mid-Flood	23-Apr-07	09:26	17.4	8.7	22.9	31.1	6.5	8.3	1.1

M_B	Bottom								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Ebb	26-Mar-07	14:30	16.8	15.8	20.7	29.6	7.6	8.1	1.5
Mid-Ebb	27-Mar-07	2:30							
Mid-Ebb	02-Apr-07	10:30	16.7	15.7	19.8	28.5	7.5	8.0	1.3
Mid-Ebb	10-Apr-07	16:30	16.5	15.5	20.3	29.6	7.4	8.1	1.2
Mid-Ebb	16-Apr-07	11:30	16.8	15.8	19.0	28.9	6.7	8.2	1.1
Mid-Ebb	23-Apr-07	16:30	16.7	15.7	20.3	29.2	6.8	8.1	1.6

M_B	Bottom								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Flood	26-Mar-07	9:25	17.5	16.5	20.5	30.8	7.6	8.3	1.3
Mid-Flood	27-Mar-07	2:40							
Mid-Flood	02-Apr-07	11:25	17.0	16.0	20.5	30.3	7.5	8.3	1.0
Mid-Flood	10-Apr-07	9:55	17.3	16.3	21.5	31.3	7.2	8.4	1.5
Mid-Flood	16-Apr-07	15:25	17.1	16.1	21.3	30.9	6.8	8.3	1.3
Mid-Flood	23-Apr-07	9:25	17.4	16.4	22.8	31.8	6.4	8.4	1.1

	Mid-Ebb			Mid-Flood			Depth-averaged
M_B	Surface	Midlle	Bottom	Surface	Midlle	Bottom	SS (mg/L)
26-Mar-07	4.0	3.0	4.0	2.0	3.0	~~2.0~~	3.0
27-Mar-07							
02-Apr-07	5.0	3.0	3.0	3.0	3.0	3.0	3.3
10-Apr-07	2.0	2.0	4.0	4.0	4.0	2.0	3.0
16-Apr-07	3.0	4.0	~~2.0~~	~~2.0~~	2.0	2.0	2.5
23-Apr-07	4.0	4.0	3.0	4.0	4.0	4.0	3.8


Marine Water Quality : M_B : Salinity
Salinity (ppt)
34
33
32
31
30
29
28
27
26
25-Mar-07
27-Mar-07
29-Mar-07
31-Mar-07
02-Apr-07
04-Apr-07
06-Apr-07
08-Apr-07
10-Apr-07
12-Apr-07
14-Apr-07
16-Apr-07
18-Apr-07
20-Apr-07
22-Apr-07
24-Apr-07
Surface
Middle
Bottom
Marine Water Quality : M_B : pH
pH
10
9
8
7
6
5
4
3
2
1
0
25-Mar-07
27-Mar-07
29-Mar-07
31-Mar-07
02-Apr-07
04-Apr-07
06-Apr-07
08-Apr-07
10-Apr-07
12-Apr-07
14-Apr-07
16-Apr-07
18-Apr-07
20-Apr-07
22-Apr-07
24-Apr-07
Surface
Middle
Bottom
Marine Water Quality : M_B : DO (Surface)
DO (mg/L)
12
10
8
6
4
2
0
25-Mar-07
27-Mar-07
29-Mar-07
31-Mar-07
02-Apr-07
04-Apr-07
06-Apr-07
08-Apr-07
10-Apr-07
12-Apr-07
14-Apr-07
16-Apr-07
18-Apr-07
20-Apr-07
22-Apr-07
24-Apr-07
Surface
Middle
Marine Water Quality : M_B : DO (Bottom)
DO (mg/L)
12
10
8
6
4
2
0
25-Mar-07
27-Mar-07
29-Mar-07
31-Mar-07
02-Apr-07
04-Apr-07
06-Apr-07
08-Apr-07
10-Apr-07
12-Apr-07
14-Apr-07
16-Apr-07
18-Apr-07
20-Apr-07
22-Apr-07
24-Apr-07
Bottom


Marine Water Quality : M_B : Turbidity
Turbidity (NTU)
0
1
2
3
4
5
6
7
8
9
10
25-Mar-07
27-Mar-07
29-Mar-07
31-Mar-07
02-Apr-07
04-Apr-07
06-Apr-07
08-Apr-07
10-Apr-07
12-Apr-07
14-Apr-07
16-Apr-07
18-Apr-07
20-Apr-07
22-Apr-07
24-Apr-07
Surface
Middle
Bottom
Marine Water Quality : M_B : Suspended Solids
SS (mg/L)
0
2
4
6
8
10
12
Depth-averaged

KS	Surface								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Ebb	26-Mar-07	14:52	12.2	1.0	20.3	28.8	7.3	8.1	1.5
Mid-Ebb	27-Mar-07								
Mid-Ebb	02-Apr-07	10:52	12.3	1.0	20.1	28.7	7.4	8.1	1.1
Mid-Ebb	10-Apr-07	16:52	12.5	1.0	21.0	28.5	7.3	8.1	1.6
Mid-Ebb	16-Apr-07	11:52	12.4	1.0	19.1	29.0	6.9	8.1	1.3
Mid-Ebb	23-Apr-07	16:52	12.6	1.0	19.3	29.3	6.7	8.0	1.4

KS	Surface								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Flood	26-Mar-07	09:57	13.1	1.0	20.8	30.2	7.4	8.4	2.2
Mid-Flood	27-Mar-07								
Mid-Flood	02-Apr-07	11:57	13.6	1.0	21.3	28.7	7.4	8.2	1.8
Mid-Flood	10-Apr-07	10:27	13.5	1.0	21.3	28.6	7.4	8.3	2.1
Mid-Flood	16-Apr-07	15:57	13.4	1.0	21.6	30.5	6.5	8.2	1.6
Mid-Flood	23-Apr-07	09:57	13.6	1.0	22.9	32.3	6.7	8.3	2.1

Remarks:

Action level	***Bold & Italic***
Limit level	**Bold**
< detection limit	~~Grey~~

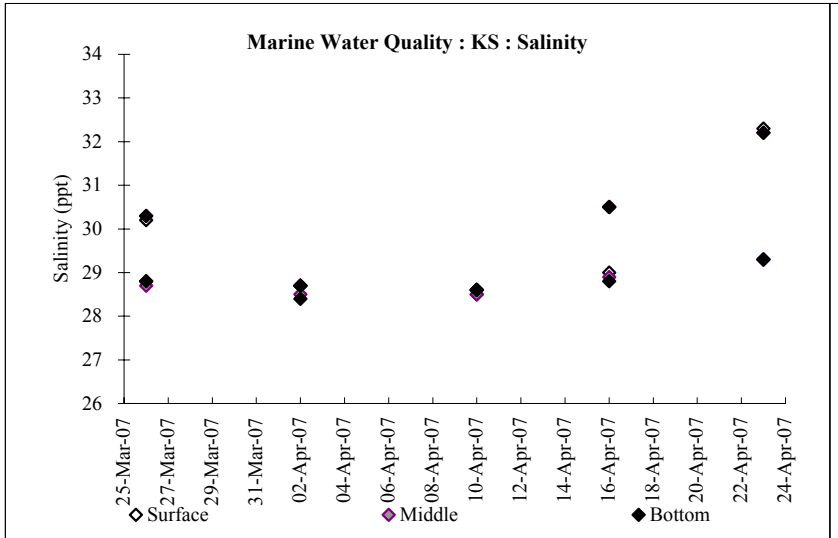
KS	Middle								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Ebb	26-Mar-07	14:51	12.2	6.1	20.7	28.7	7.4	8.0	1.7
Mid-Ebb	27-Mar-07								
Mid-Ebb	02-Apr-07	10:51	12.3	6.2	20.1	28.7	7.5	8.0	1.8
Mid-Ebb	10-Apr-07	16:51	12.5	6.3	20.7	28.5	7.3	8.1	1.3
Mid-Ebb	16-Apr-07	11:51	12.4	6.2	19.1	28.9	6.7	8.1	2.5
Mid-Ebb	23-Apr-07	16:51	12.6	6.3	19.3	29.3	6.6	8.1	1.6

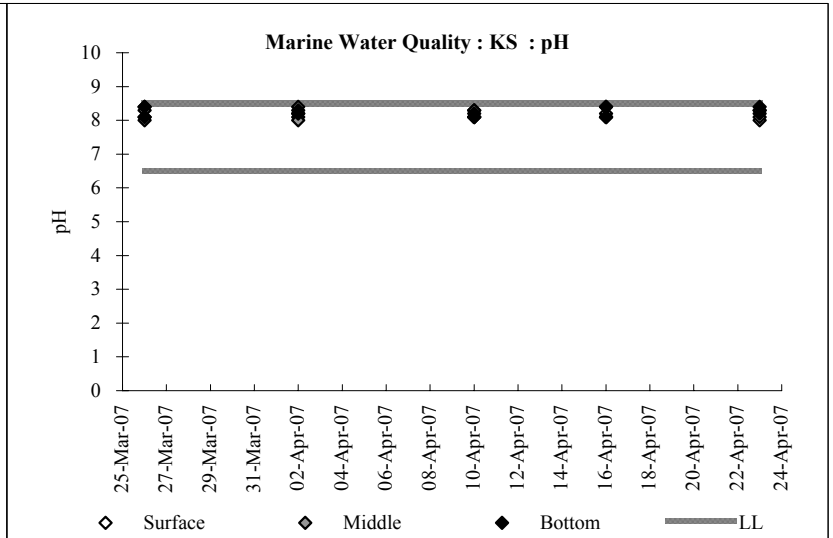
KS	Middle								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Flood	26-Mar-07	09:56	13.1	6.6	20.5	30.3	7.3	8.3	1.9
Mid-Flood	27-Mar-07								
Mid-Flood	02-Apr-07	11:56	13.6	6.8	21.3	28.5	7.3	8.4	2.0
Mid-Flood	10-Apr-07	10:26	13.5	6.8	21.5	28.6	7.4	8.3	1.7
Mid-Flood	16-Apr-07	15:56	13.4	6.7	21.5	30.5	6.7	8.4	1.6
Mid-Flood	23-Apr-07	09:56	13.6	6.8	22.8	32.2	6.8	8.3	1.5

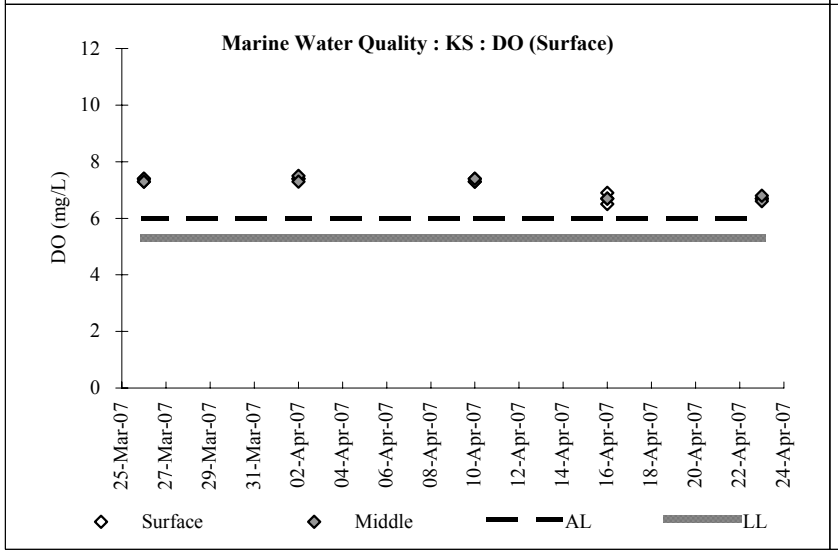
KS	Bottom								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Ebb	26-Mar-07	14:50	12.2	11.2	20.5	28.8	7.5	8.1	2.1
Mid-Ebb	27-Mar-07	~~2:50~~							
Mid-Ebb	02-Apr-07	10:50	12.3	11.3	20.1	28.7	7.3	8.2	1.6
Mid-Ebb	10-Apr-07	16:50	12.5	11.5	20.8	28.6	7.4	8.1	2.1
Mid-Ebb	16-Apr-07	11:50	12.4	11.4	19.1	28.8	6.6	8.1	2.1
Mid-Ebb	23-Apr-07	16:50	12.6	11.6	19.2	29.3	6.7	8.2	1.5

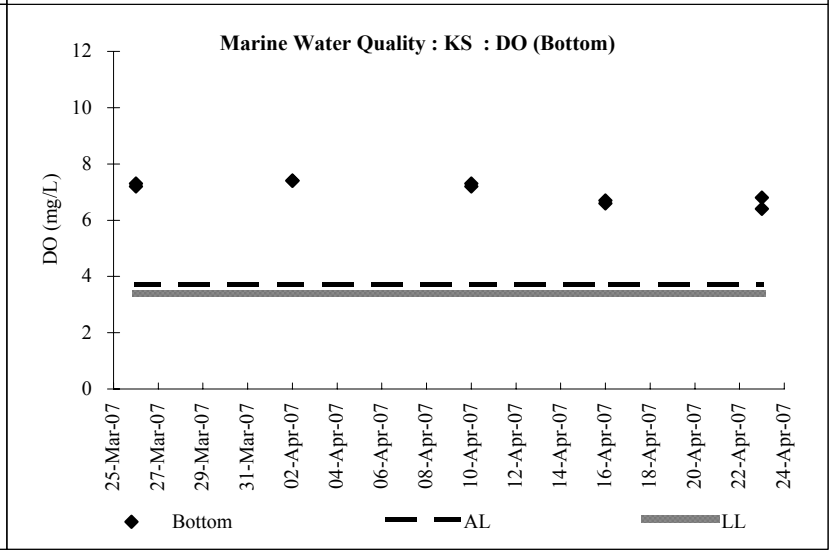
KS	Bottom								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Flood	26-Mar-07	9:55	13.1	12.1	20.7	30.3	7.4	8.4	1.7
Mid-Flood	27-Mar-07	~~3:00~~							
Mid-Flood	02-Apr-07	11:55	13.6	12.6	21.2	28.4	7.5	8.3	1.5
Mid-Flood	10-Apr-07	10:25	13.5	12.5	21.6	28.6	7.2	8.2	1.3
Mid-Flood	16-Apr-07	15:55	13.4	12.4	21.5	30.5	6.5	8.4	1.1
Mid-Flood	23-Apr-07	9:55	13.6	12.6	22.8	32.2	6.7	8.4	1.6

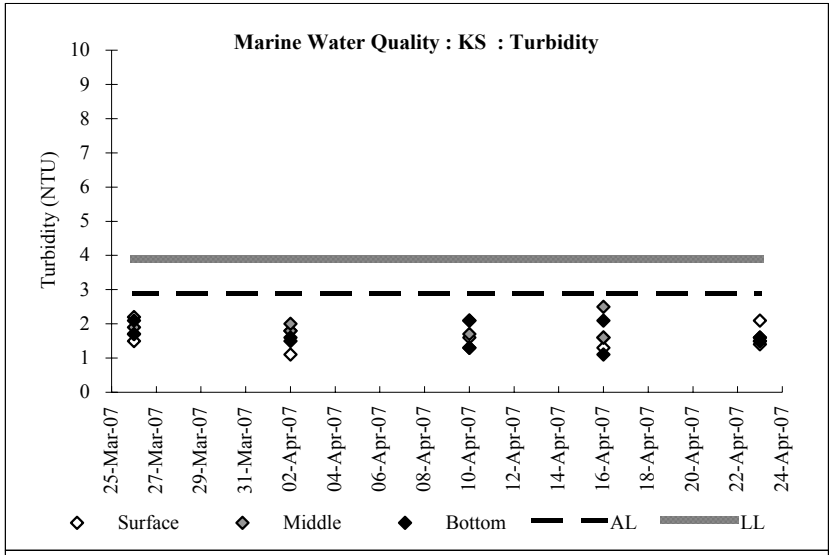
	Mid-Ebb			Mid-Flood			Depth-averaged
KS	Surface	Midlle	Bottom	Surface	Midlle	Bottom	SS (mg/L)
26-Mar-07	9.0	4.0	4.0	4.0	~~2.0~~	3.0	4.3
27-Mar-07							
02-Apr-07	6.0	3.0	4.0	6.0	3.0	6.0	***4.7***
10-Apr-07	2.0	3.0	6.0	4.0	3.0	4.0	3.7
16-Apr-07	~~2.0~~	2.0	3.0	5.0	~~2.0~~	3.0	2.8
23-Apr-07	3.0	4.0	2.0	7.0	4.0	4.0	4.0

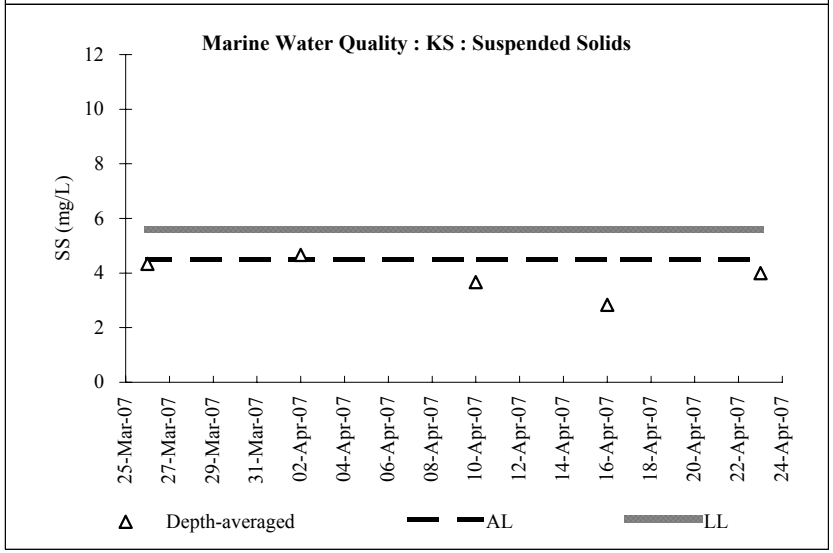

Marine Water Quality : KS : Salinity
Salinity (ppt)
34
33
32
31
30
29
28
27
26
25-Mar-07
27-Mar-07
29-Mar-07
31-Mar-07
02-Apr-07
04-Apr-07
06-Apr-07
08-Apr-07
10-Apr-07
12-Apr-07
14-Apr-07
16-Apr-07
18-Apr-07
20-Apr-07
22-Apr-07
24-Apr-07
Surface
Middle
Bottom


Marine Water Quality : KS : pH
pH
10
9
8
7
6
5
4
3
2
1
0
25-Mar-07
27-Mar-07
29-Mar-07
31-Mar-07
02-Apr-07
04-Apr-07
06-Apr-07
08-Apr-07
10-Apr-07
12-Apr-07
14-Apr-07
16-Apr-07
18-Apr-07
20-Apr-07
22-Apr-07
24-Apr-07
Surface
Middle
Bottom
LL


Marine Water Quality : KS : DO (Surface)
DO (mg/L)
12
10
8
6
4
2
0
25-Mar-07
27-Mar-07
29-Mar-07
31-Mar-07
02-Apr-07
04-Apr-07
06-Apr-07
08-Apr-07
10-Apr-07
12-Apr-07
14-Apr-07
16-Apr-07
18-Apr-07
20-Apr-07
22-Apr-07
24-Apr-07
Surface
Middle
AL
LL


Marine Water Quality : KS : DO (Bottom)
DO (mg/L)
12
10
8
6
4
2
0
25-Mar-07
27-Mar-07
29-Mar-07
31-Mar-07
02-Apr-07
04-Apr-07
06-Apr-07
08-Apr-07
10-Apr-07
12-Apr-07
14-Apr-07
16-Apr-07
18-Apr-07
20-Apr-07
22-Apr-07
24-Apr-07
Bottom
AL
LL


Marine Water Quality : KS : Turbidity
Turbidity (NTU)
0
1
2
3
4
5
6
7
8
9
10
25-Mar-07
27-Mar-07
29-Mar-07
31-Mar-07
02-Apr-07
04-Apr-07
06-Apr-07
08-Apr-07
10-Apr-07
12-Apr-07
14-Apr-07
16-Apr-07
18-Apr-07
20-Apr-07
22-Apr-07
24-Apr-07
Surface
Middle
Bottom
AL
LL

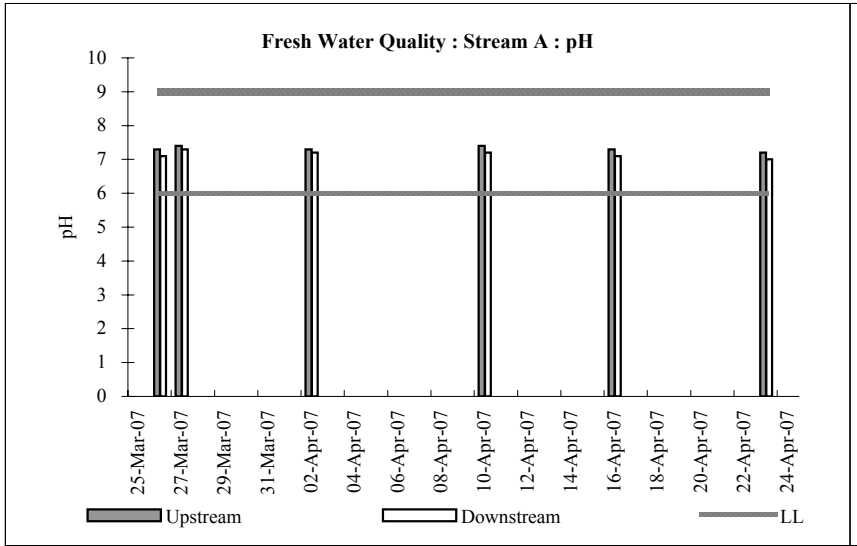

Marine Water Quality : KS : Suspended Solids
SS (mg/L)
0
2
4
6
8
10
12
25-Mar-07
27-Mar-07
29-Mar-07
31-Mar-07
02-Apr-07
04-Apr-07
06-Apr-07
08-Apr-07
10-Apr-07
12-Apr-07
14-Apr-07
16-Apr-07
18-Apr-07
20-Apr-07
22-Apr-07
24-Apr-07
Depth-averaged
AL
LL

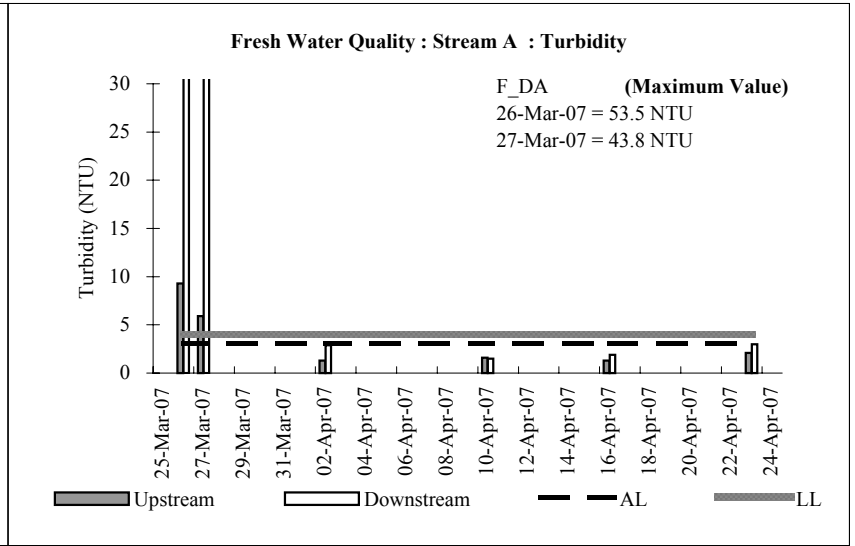
F_UA	Mid depth						
Date	time	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)	SS (mg/L)
26-Mar-07	13:35	21.3	<0.1	8.5	7.3	9.3	7.0
27-Mar-07	1:35	25.8	<0.1	7.5	7.4	5.9	2.0
02-Apr-07	9:35	23.2	<0.1	7.9	7.3	1.3	2.0
10-Apr-07	15:35	24.4	<0.1	7.5	7.4	1.6	2.0
16-Apr-07	10:35	24.9	<0.1	7.3	7.3	1.3	2.0
23-Apr-07	15:35	25.2	<0.1	7.2	7.2	2.1	5.0

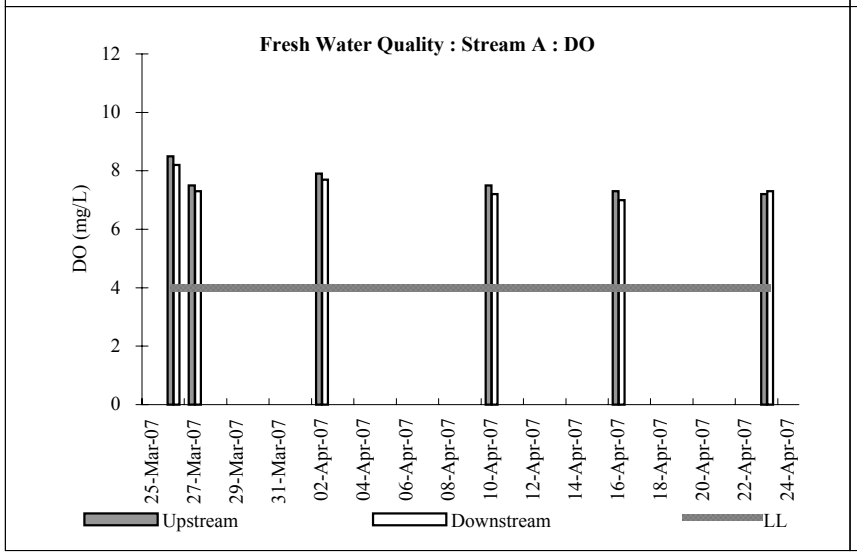
F_DA	Mid depth						
Date	time	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)	SS (mg/L)
26-Mar-07	13:40	21.6	<0.1	8.2	7.1	**53.5**	**83.0**
27-Mar-07	1:40	26.1	<0.1	7.3	7.3	**43.8**	**33.0**
02-Apr-07	9:40	23.6	<0.1	7.7	7.2	2.9	**9.0**
10-Apr-07	15:40	24.9	<0.1	7.2	7.2	1.5	2.0
16-Apr-07	10:40	25.1	<0.1	7.0	7.1	1.9	3.0
23-Apr-07	15:40	25.3	<0.1	7.3	7.0	3.0	***8.0***

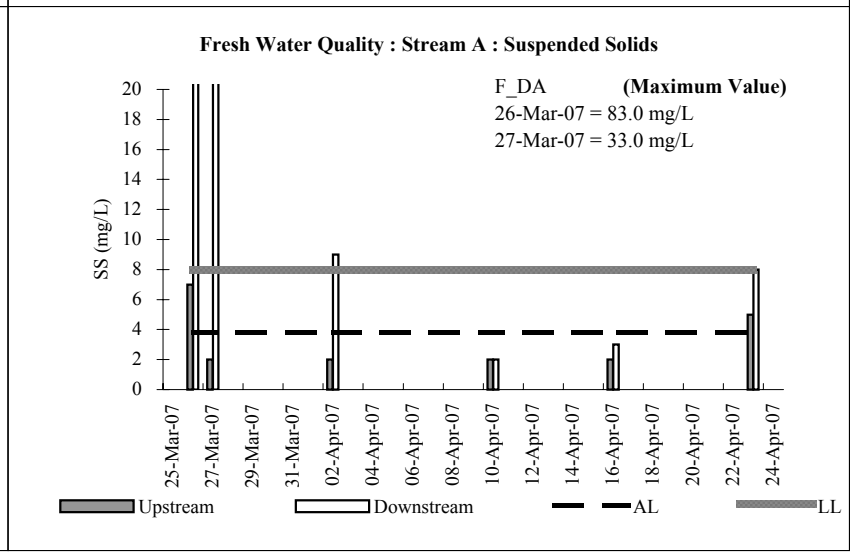
Remarks:

Action level	***Bold & Italic***
Limit level	**Bold**
< detection limit	~~Grey~~


Fresh Water Quality : Stream A : pH
pH
Upstream
Downstream
LL


Fresh Water Quality : Stream A : Turbidity
F_DA (Maximum Value)
26-Mar-07 = 53.5 NTU
27-Mar-07 = 43.8 NTU
Turbidity (NTU)
Upstream
Downstream
AL
LL


Fresh Water Quality : Stream A : DO
DO (mg/L)
Upstream
Downstream
LL

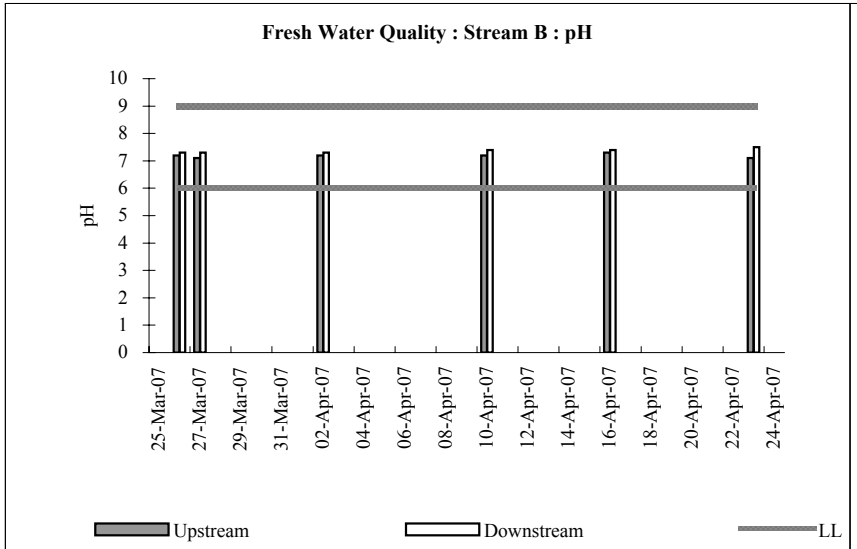

Fresh Water Quality : Stream A : Suspended Solids
F_DA (Maximum Value)
26-Mar-07 = 83.0 mg/L
27-Mar-07 = 33.0 mg/L
SS (mg/L)
Upstream
Downstream
AL
LL

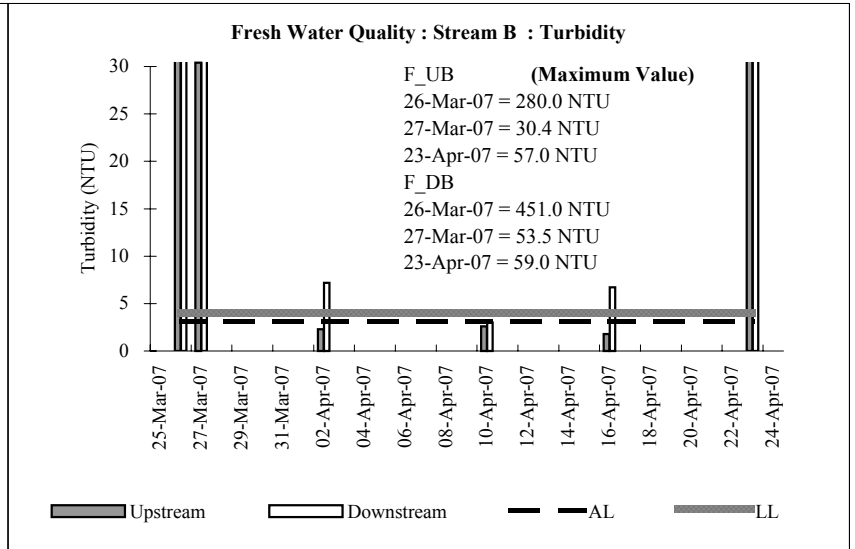
F_UB	Mid depth						
Date	time	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)	SS (mg/L)
26-Mar-07	13:50	21.3	<0.1	8.2	7.2	280.0	141.0
27-Mar-07	1:50	23.6	<0.1	7.2	7.1	30.4	12.0
02-Apr-07	9:50	22.8	<0.1	7.5	7.2	2.3	4.0
10-Apr-07	15:50	23.8	<0.1	7.6	7.2	2.6	5.0
16-Apr-07	10:50	24.7	<0.1	7.3	7.3	1.8	3.0
23-Apr-07	15:50	25.3	<0.1	7.0	7.1	57.0	66.0

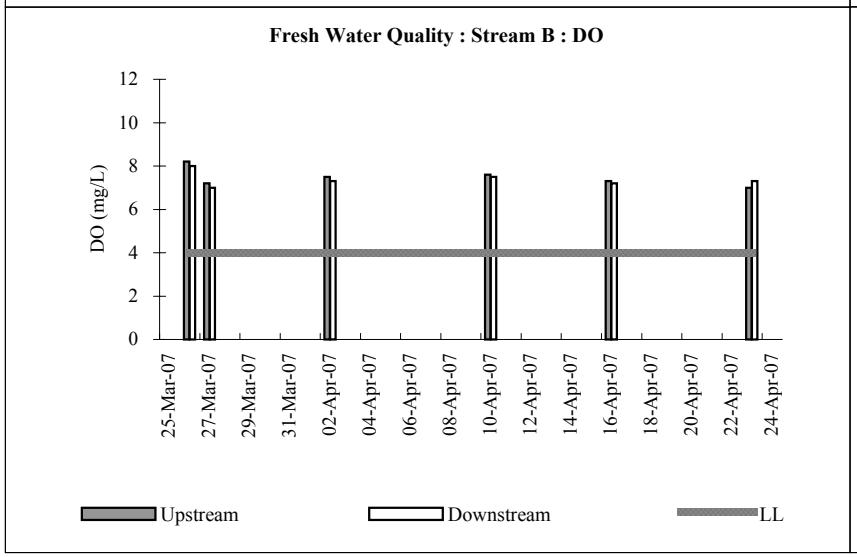
F_DB	Mid depth						
Date	time	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)	SS (mg/L)
26-Mar-07	14:00	21.5	<0.1	8.0	7.3	**451.0**	**388.0**
27-Mar-07	2:00	24.7	<0.1	7.0	7.3	**53.5**	**126.0**
02-Apr-07	10:00	23.1	<0.1	7.3	7.3	**7.2**	**12.0**
10-Apr-07	16:00	24.0	<0.1	7.5	7.4	3.0	***4.0***
16-Apr-07	11:00	24.9	<0.1	7.2	7.4	**6.7**	**119.0**
23-Apr-07	16:00	25.0	<0.1	7.3	7.5	**59.0**	**74.0**

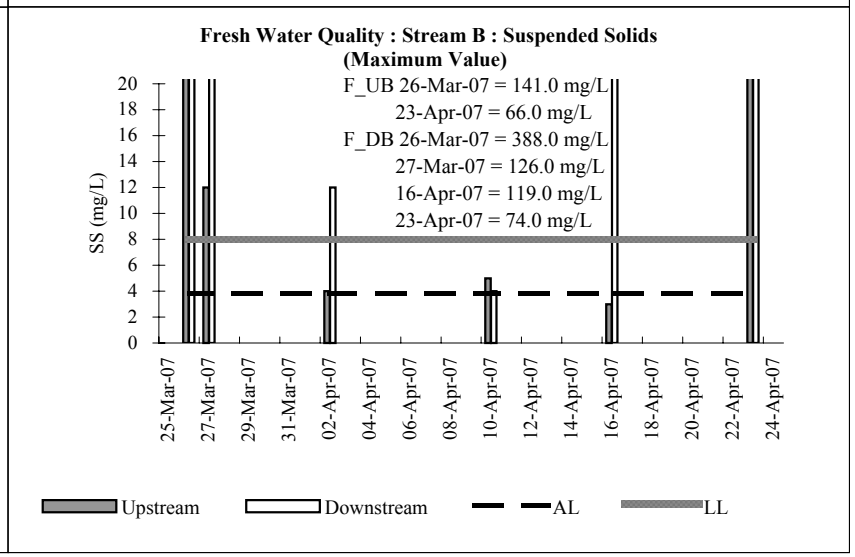
Remarks:

Action level	***Bold & Italic***
Limit level	**Bold**
< detection limit	~~Grey~~


Fresh Water Quality : Stream B : pH
pH
Upstream
Downstream
LL


Fresh Water Quality : Stream B : Turbidity
Turbidity (NTU)
F_UB (Maximum Value)
26-Mar-07 = 280.0 NTU
27-Mar-07 = 30.4 NTU
23-Apr-07 = 57.0 NTU
F_DB
26-Mar-07 = 451.0 NTU
27-Mar-07 = 53.5 NTU
23-Apr-07 = 59.0 NTU
Upstream
Downstream
AL
LL


Fresh Water Quality : Stream B : DO
DO (mg/L)
Upstream
Downstream
LL

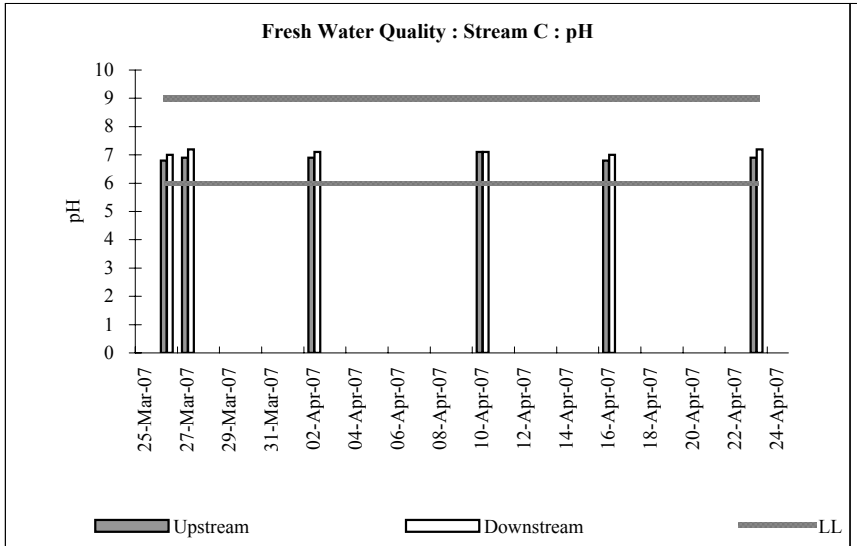

Fresh Water Quality : Stream B : Suspended Solids
(Maximum Value)
SS (mg/L)
F_UB 26-Mar-07 = 141.0 mg/L
23-Apr-07 = 66.0 mg/L
F_DB 26-Mar-07 = 388.0 mg/L
27-Mar-07 = 126.0 mg/L
16-Apr-07 = 119.0 mg/L
23-Apr-07 = 74.0 mg/L
Upstream
Downstream
AL
LL

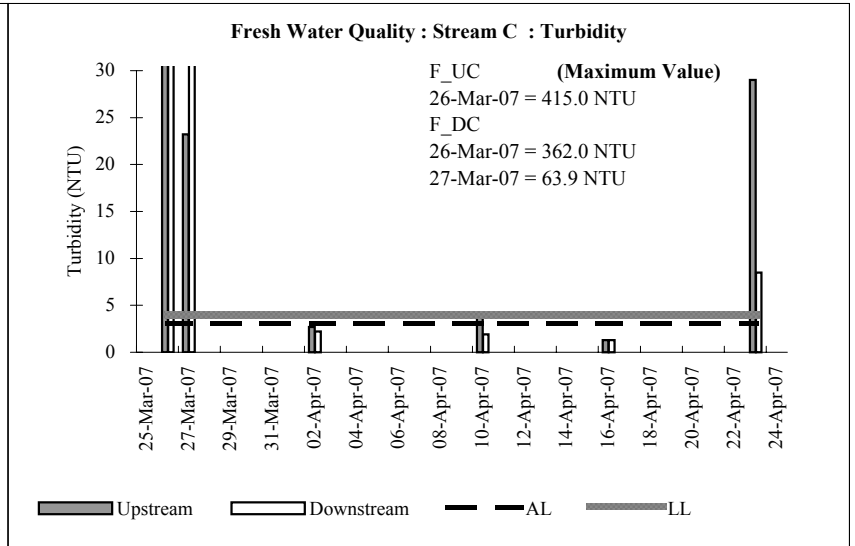
F_UC	Mid depth						
Date	time	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)	SS (mg/L)
26-Mar-07	14:05	22.0	<0.1	8.0	6.8	415.0	245.0
27-Mar-07	2:05	25.3	<0.1	7.2	6.9	23.2	48.0
02-Apr-07	10:05	23.2	<0.1	7.6	6.9	2.7	3.0
10-Apr-07	16:05	24.1	<0.1	7.3	7.1	3.9	6.0
16-Apr-07	11:05	24.7	<0.1	7.3	6.8	1.3	2.0
23-Apr-07	16:05	25.3	<0.1	7.3	6.9	29.0	40.0

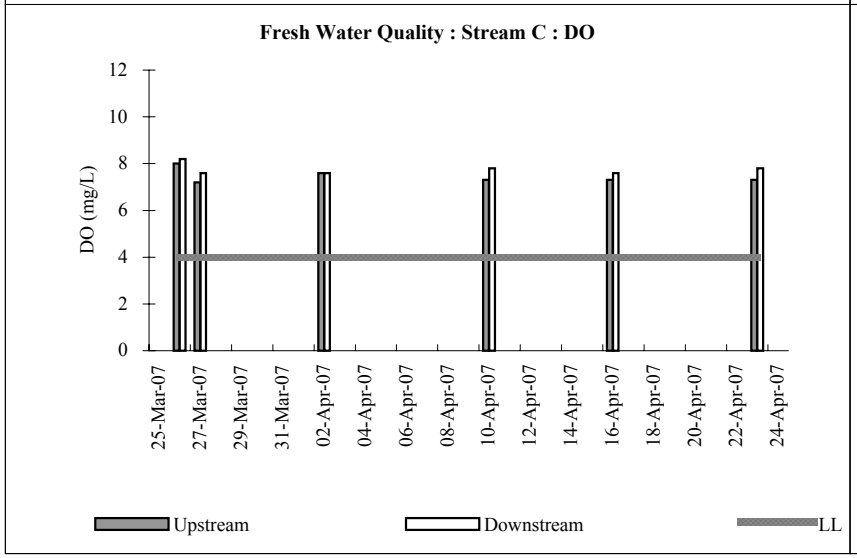
F_DC	Mid depth						
Date	time	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)	SS (mg/L)
26-Mar-07	14:15	21.5	<0.1	8.2	7.0	**362.0**	**192.0**
27-Mar-07	2:15	25.6	<0.1	7.6	7.2	**63.9**	**22.0**
02-Apr-07	10:15	23.6	<0.1	7.6	7.1	2.2	***4.0***
10-Apr-07	16:15	24.8	<0.1	7.8	7.1	1.9	3.0
16-Apr-07	11:15	24.3	<0.1	7.6	7.0	1.3	2.0
23-Apr-07	16:15	24.8	<0.1	7.8	7.2	**8.5**	**18.0**

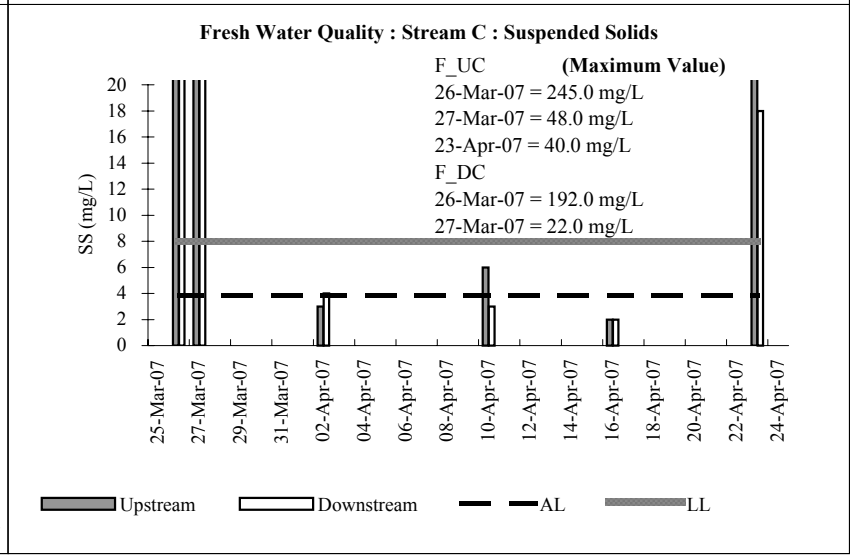
Remarks:

Action level	***Bold & Italic***
Limit level	**Bold**
< detection limit	~~Grey~~


Fresh Water Quality : Stream C : pH
pH
Upstream
Downstream
LL


Fresh Water Quality : Stream C : Turbidity
F_UC (Maximum Value)
26-Mar-07 = 415.0 NTU
F_DC
26-Mar-07 = 362.0 NTU
27-Mar-07 = 63.9 NTU
Turbidity (NTU)
Upstream
Downstream
AL
LL

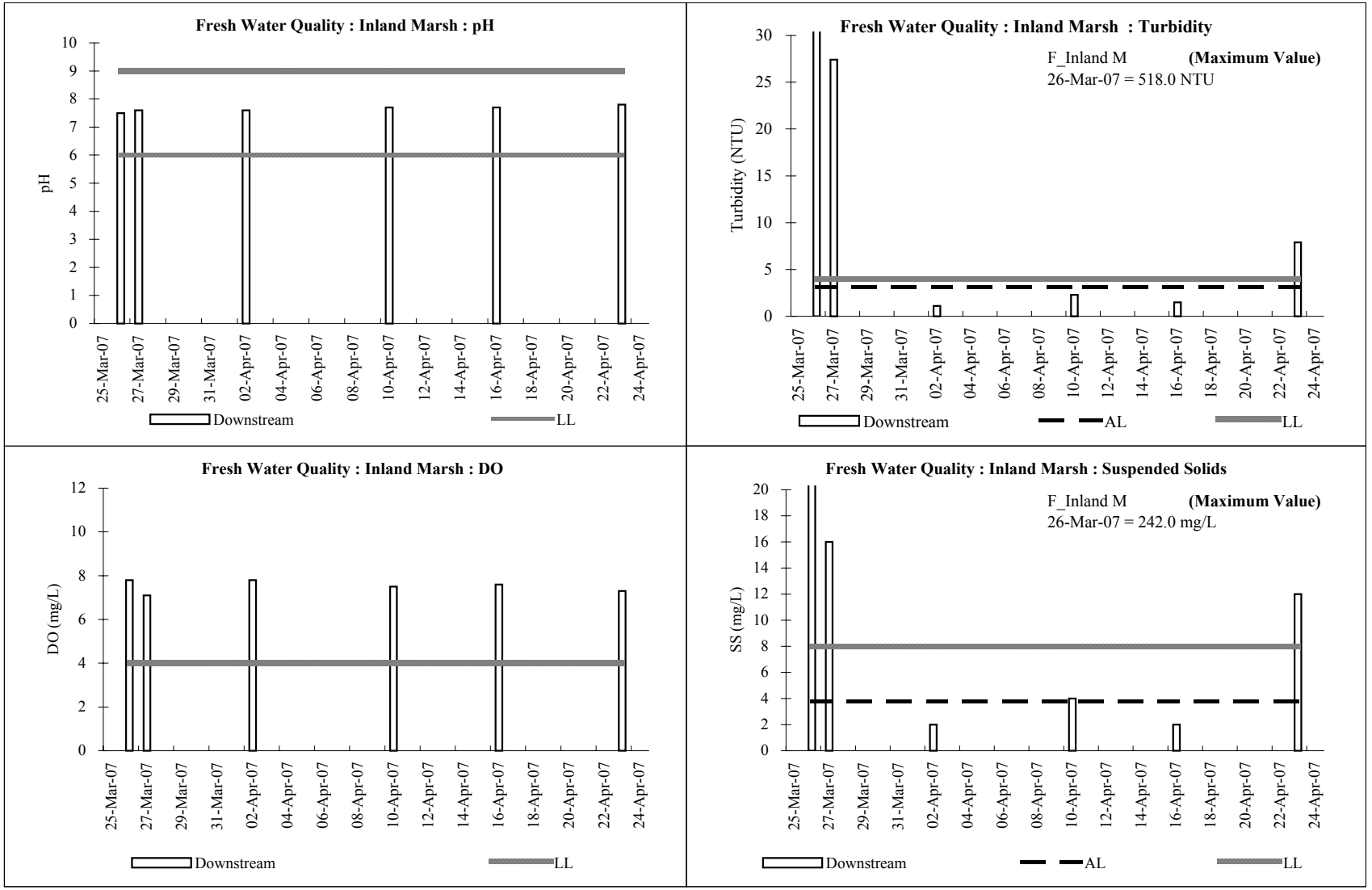

Fresh Water Quality : Stream C : DO
DO (mg/L)
Upstream
Downstream
LL


Fresh Water Quality : Stream C : Suspended Solids
F_UC (Maximum Value)
26-Mar-07 = 245.0 mg/L
27-Mar-07 = 48.0 mg/L
23-Apr-07 = 40.0 mg/L
F_DC
26-Mar-07 = 192.0 mg/L
27-Mar-07 = 22.0 mg/L
SS (mg/L)
Upstream
Downstream
AL
LL

F Inland M	Mid depth						
Date	time	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)	SS (mg/L)
26-Mar-07	12:55	24.1	<0.1	7.8	7.5	**518.0**	**242.0**
27-Mar-07	0:55	26.7	<0.1	7.1	7.6	**27.4**	**16.0**
02-Apr-07	8:55	25.2	<0.1	7.8	7.6	1.1	2.0
10-Apr-07	14:55	26.8	<0.1	7.5	7.7	2.3	***4.0***
16-Apr-07	9:55	25.3	<0.1	7.6	7.7	1.5	2.0
23-Apr-07	14:55	26.7	<0.1	7.3	7.8	**7.9**	**12.0**

Remarks:

Action level	***Bold & Italic***
Limit level	**Bold**
< detection limit	~~Grey~~


Fresh Water Quality : Inland Marsh : pH
pH
Downstream
LL
Fresh Water Quality : Inland Marsh : Turbidity
F_Inland M (Maximum Value)
26-Mar-07 = 518.0 NTU
Turbidity (NTU)
Downstream
AL
LL
Fresh Water Quality : Inland Marsh : DO
DO (mg/L)
Downstream
LL
Fresh Water Quality : Inland Marsh : Suspended Solids
F_Inland M (Maximum Value)
26-Mar-07 = 242.0 mg/L
SS (mg/L)
Downstream
AL
LL

M_A	Surface									
tide condition	Date	time	SS (mg/L)	NH_3-N (mg/L)	NO_3-N (mg/L)	NO_2-N (mg/L)	TIN (mg/L)	TP (mg/L)	Chlorophyll a (ug/L)	Pesticides (ug/L)
Mid-Ebb	26-Mar-07	08:27	3.0	~~0.01~~	0.02	~~0.01~~	0.04	~~0.01~~	2.2	
Mid-Ebb	28-Mar-07	09:02	-	0.06	0.01	~~0.01~~	0.08	~~0.01~~	0.5	
Mid-Ebb	30-Mar-07	09:02	-	0.06	~~0.01~~	~~0.01~~	0.08	~~0.01~~	0.5	
Mid-Ebb	02-Apr-07	08:27	4.0	0.04	~~0.01~~	~~0.01~~	0.06	~~0.01~~	1.4	
Mid-Ebb	04-Apr-07	13:02	-	0.05	~~0.01~~	~~0.01~~	0.07	~~0.01~~	1.1	
Mid-Ebb	10-Apr-07	14:27	4.0	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	6.8	
Mid-Ebb	12-Apr-07	08:32	-	~~0.01~~	0.01	~~0.01~~	~~0.01~~	~~0.01~~	6.4	
Mid-Ebb	16-Apr-07	09:27	4.0	0.04	0.01	~~0.01~~	0.06	~~0.01~~	1.4	
Mid-Ebb	18-Apr-07	10:02	-	0.12	~~0.01~~	~~0.01~~	0.14	~~0.01~~	1.2	
Mid-Ebb	20-Apr-07	08:02	-	0.05	~~0.01~~	~~0.01~~	0.07	~~0.01~~	0.8	
Mid-Ebb	23-Apr-07	14:27	4.0	0.05	0.01	~~0.01~~	0.07	~~0.01~~	1.1	

M_A	Surface									
tide condition	Date	time	SS (mg/L)	NH_3-N (mg/L)	NO_3-N (mg/L)	NO_2-N (mg/L)	TIN (mg/L)	TP (mg/L)	Chlorophyll a (ug/L)	Pesticides (ug/L)
Mid-Flood	26-Mar-07	10:42	3.0	0.01	0.02	~~0.01~~	0.04	~~0.01~~	1.6	
Mid-Flood	28-Mar-07	13:02	-	0.04	0.01	~~0.01~~	0.06	~~0.01~~	0.6	
Mid-Flood	30-Mar-07	13:02	-	0.04	~~0.01~~	~~0.01~~	0.06	~~0.01~~	0.5	
Mid-Flood	02-Apr-07	10:27	4.0	0.03	~~0.01~~	~~0.01~~	0.05	~~0.01~~	1.4	
Mid-Flood	04-Apr-07	09:02	-	0.02	~~0.01~~	~~0.01~~	0.04	~~0.01~~	0.8	
Mid-Flood	10-Apr-07	08:57	6.0	0.01	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	5.8	
Mid-Flood	12-Apr-07	13:02	-	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	5.6	
Mid-Flood	16-Apr-07	14:27	3.0	0.04	0.01	~~0.01~~	0.06	~~0.01~~	1.2	
Mid-Flood	18-Apr-07	15:32	-	0.10	~~0.01~~	~~0.01~~	0.12	~~0.01~~	1.1	
Mid-Flood	20-Apr-07	10:02	-	0.03	~~0.01~~	~~0.01~~	0.05	~~0.01~~	0.7	
Mid-Flood	23-Apr-07	08:27	~~2.0~~	0.03	0.01	~~0.01~~	0.05	~~0.01~~	1.2	

Remarks:

Action level	***Bold & Italic***
Limit level	**Bold**
< detection limit	~~Grey~~

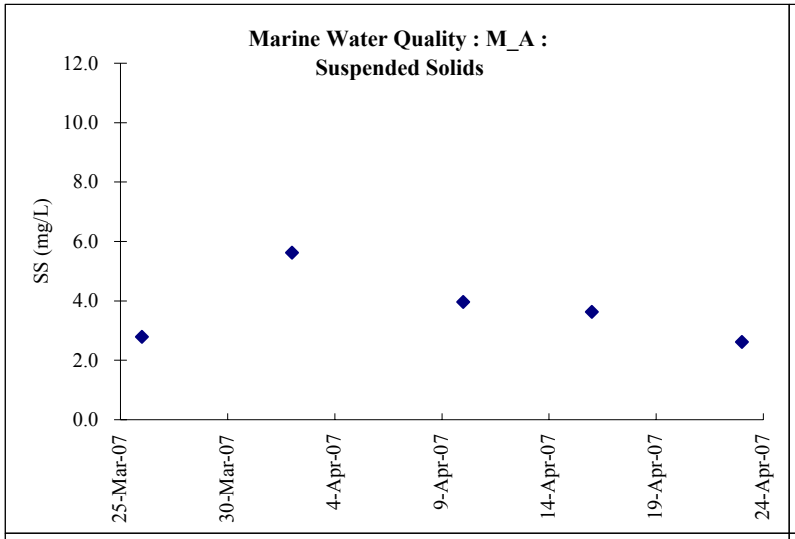
M_A	Middle									
tide condition	Date	time	SS (mg/L)	NH_3-N (mg/L)	NO_3-N (mg/L)	NO_2-N (mg/L)	TIN (mg/L)	TP (mg/L)	Chlorophyll a (ug/L)	Pesticides (ug/L)
Mid-Ebb	26-Mar-07	08:26	2.0	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	1.8	
Mid-Ebb	28-Mar-07	09:01	-	0.06	0.01	~~0.01~~	0.08	~~0.01~~	0.8	
Mid-Ebb	30-Mar-07	09:01	-	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	0.6	
Mid-Ebb	02-Apr-07	08:26	4.0	0.01	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	1.3	
Mid-Ebb	04-Apr-07	13:01	-	0.05	~~0.01~~	~~0.01~~	0.07	~~0.01~~	1.2	
Mid-Ebb	10-Apr-07	14:26	4.0	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	5.7	
Mid-Ebb	12-Apr-07	08:31	-	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	5.5	
Mid-Ebb	16-Apr-07	09:26	5.0	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	1.3	
Mid-Ebb	18-Apr-07	10:01	-	0.11	~~0.01~~	~~0.01~~	0.13	~~0.01~~	0.8	
Mid-Ebb	20-Apr-07	08:01	-	0.02	~~0.01~~	~~0.01~~	0.04	~~0.01~~	0.6	
Mid-Ebb	23-Apr-07	14:26	~~2.0~~	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	1.3	

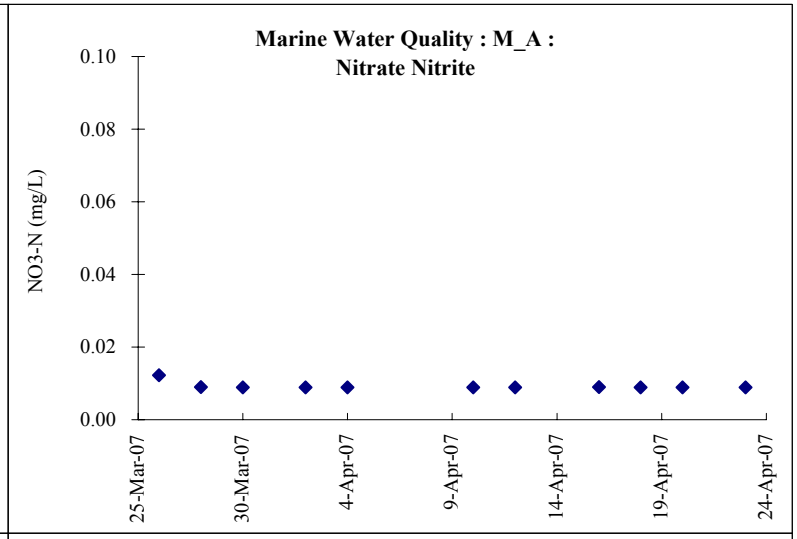
M_A	Middle									
tide condition	Date	time	SS (mg/L)	NH_3-N (mg/L)	NO_3-N (mg/L)	NO_2-N (mg/L)	TIN (mg/L)	TP (mg/L)	Chlorophyll a (ug/L)	Pesticides (ug/L)
Mid-Flood	26-Mar-07	10:41	2.0	0.01	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	1.4	
Mid-Flood	28-Mar-07	13:01	-	0.04	~~0.01~~	~~0.01~~	0.06	~~0.01~~	1.1	
Mid-Flood	30-Mar-07	13:01	-	0.02	~~0.01~~	~~0.01~~	0.04	~~0.01~~	0.5	
Mid-Flood	02-Apr-07	10:26	2.0	0.02	~~0.01~~	~~0.01~~	0.04	~~0.01~~	1.2	
Mid-Flood	04-Apr-07	09:01	-	0.04	~~0.01~~	~~0.01~~	0.06	~~0.01~~	0.9	
Mid-Flood	10-Apr-07	08:56	3.0	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	5.2	
Mid-Flood	12-Apr-07	13:01	-	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	5.2	
Mid-Flood	16-Apr-07	14:26	4.0	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	1.1	
Mid-Flood	18-Apr-07	15:31	-	0.07	~~0.01~~	~~0.01~~	0.09	~~0.01~~	0.9	
Mid-Flood	20-Apr-07	10:01	-	0.03	~~0.01~~	~~0.01~~	0.05	~~0.01~~	0.6	
Mid-Flood	23-Apr-07	08:26	2.0	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	1.0	

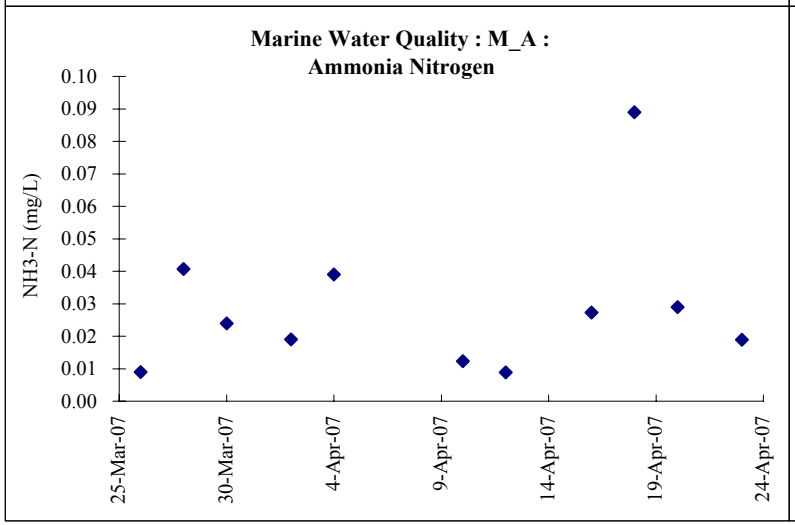
M_A	Bottom									
tide condition	Date	time	SS (mg/L)	NH_3-N (mg/L)	NO_3-N (mg/L)	NO_2-N (mg/L)	TIN (mg/L)	TP (mg/L)	Chlorophyll a (ug/L)	Pesticides (ug/L)
Mid-Ebb	26-Mar-07	08:25	4.0	0.01	0.01	0.01	0.01	0.01	1.9	
Mid-Ebb	28-Mar-07	09:00	-	0.04	0.01	0.01	0.06	0.01	0.9	
Mid-Ebb	30-Mar-07	09:00	-	0.01	0.01	0.01	0.01	0.01	0.5	
Mid-Ebb	02-Apr-07	08:25	11.0	0.01	0.01	0.01	0.01	0.01	2.3	
Mid-Ebb	04-Apr-07	13:00	-	0.04	0.01	0.01	0.06	0.01	1.4	
Mid-Ebb	10-Apr-07	14:25	3.0	0.01	0.01	0.01	0.01	0.01	3.7	
Mid-Ebb	12-Apr-07	08:30	-	0.01	0.01	0.01	0.01	0.01	7.4	
Mid-Ebb	16-Apr-07	09:25	4.0	0.04	0.01	0.01	0.06	0.01	1.0	
Mid-Ebb	18-Apr-07	10:00	-	0.08	0.01	0.01	0.10	0.01	1.1	
Mid-Ebb	20-Apr-07	08:00	-	0.03	0.01	0.01	0.05	0.01	0.7	
Mid-Ebb	23-Apr-07	14:25	2.0	0.01	0.01	0.01	0.01	0.01	1.1	

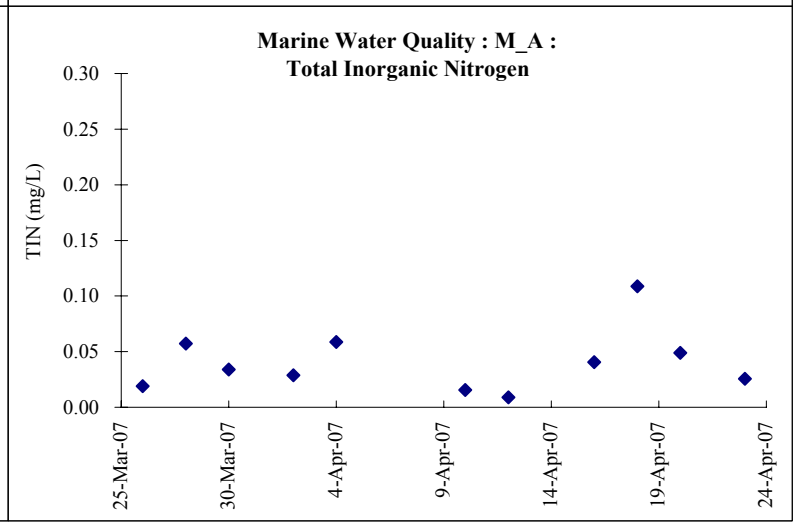
M_A	Bottom									
tide condition	Date	time	SS (mg/L)	NH_3-N (mg/L)	NO_3-N (mg/L)	NO_2-N (mg/L)	TIN (mg/L)	TP (mg/L)	Chlorophyll a (ug/L)	Pesticides (ug/L)
Mid-Flood	26-Mar-07	10:40	3.0	0.01	0.01	0.01	0.01	0.01	1.4	
Mid-Flood	28-Mar-07	13:00	-	0.01	0.01	0.01	0.01	0.01	0.9	
Mid-Flood	30-Mar-07	13:00	-	0.01	0.01	0.01	0.01	0.01	0.5	
Mid-Flood	02-Apr-07	10:25	9.0	0.01	0.01	0.01	0.01	0.01	2.2	
Mid-Flood	04-Apr-07	09:00	-	0.04	0.01	0.01	0.06	0.01	0.9	
Mid-Flood	10-Apr-07	08:55	4.0	0.03	0.01	0.01	0.05	0.01	3.4	
Mid-Flood	12-Apr-07	13:00	-	0.01	0.01	0.01	0.01	0.01	5.8	
Mid-Flood	16-Apr-07	14:25	2.0	0.03	0.01	0.01	0.05	0.01	1.0	
Mid-Flood	18-Apr-07	15:30	-	0.06	0.01	0.01	0.08	0.01	1.0	
Mid-Flood	20-Apr-07	10:00	-	0.02	0.01	0.01	0.04	0.01	0.6	
Mid-Flood	23-Apr-07	08:25	4.0	0.01	0.01	0.01	0.01	0.01	1.2	

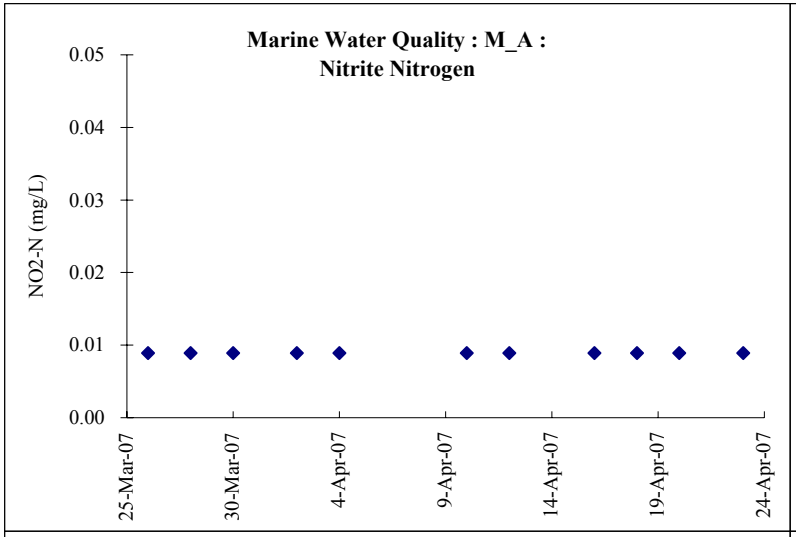
	Depth-averaged							
M_A	SS (mg/L)	NH_3-N (mg/L)	NO_3-N (mg/L)	NO_2-N (mg/L)	TIN (mg/L)	TP (mg/L)	Chlorophyll a (ug/L)	Pesticides (ug/L)
26-Mar-07	3	0.01	0.01	~~0.01~~	0.02	~~0.01~~	1.7	
28-Mar-07	-	0.04	0.01	~~0.01~~	0.06	~~0.01~~	0.8	
30-Mar-07	-	0.02	~~0.01~~	~~0.01~~	0.03	~~0.01~~	0.5	
02-Apr-07	6	0.02	~~0.01~~	~~0.01~~	0.03	~~0.01~~	1.6	
04-Apr-07	-	0.04	~~0.01~~	~~0.01~~	0.06	~~0.01~~	1.1	
10-Apr-07	4	0.01	~~0.01~~	~~0.01~~	0.02	~~0.01~~	5.1	
12-Apr-07	-	~~0.01~~	0.01	~~0.01~~	~~0.01~~	~~0.01~~	6.0	
16-Apr-07	4	0.03	0.01	~~0.01~~	0.04	~~0.01~~	1.2	
18-Apr-07	-	0.09	~~0.01~~	~~0.01~~	0.11	~~0.01~~	1.0	
20-Apr-07	-	0.03	~~0.01~~	~~0.01~~	0.05	~~0.01~~	0.7	
23-Apr-07	3	0.02	0.01	~~0.01~~	0.03	~~0.01~~	1.2	

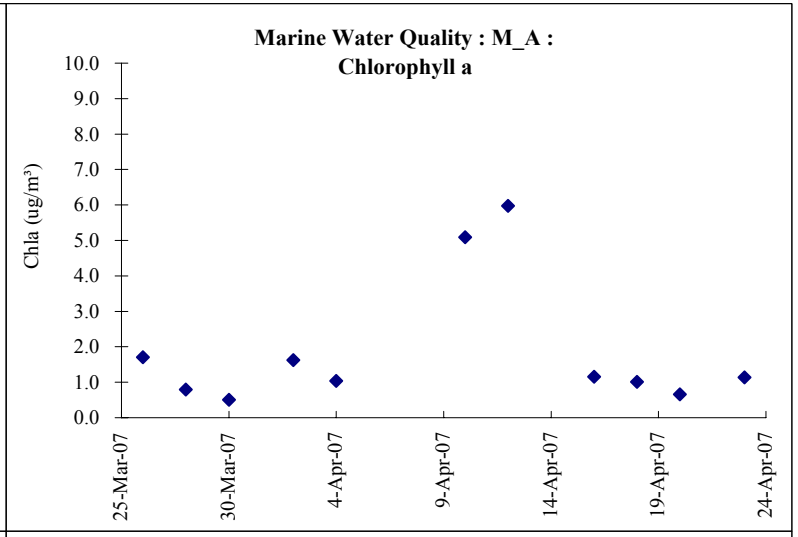

Marine Water Quality : M_A :
Suspended Solids
SS (mg/L)
12.0
10.0
8.0
6.0
4.0
2.0
0.0
25-Mar-07
30-Mar-07
4-Apr-07
9-Apr-07
14-Apr-07
19-Apr-07
24-Apr-07

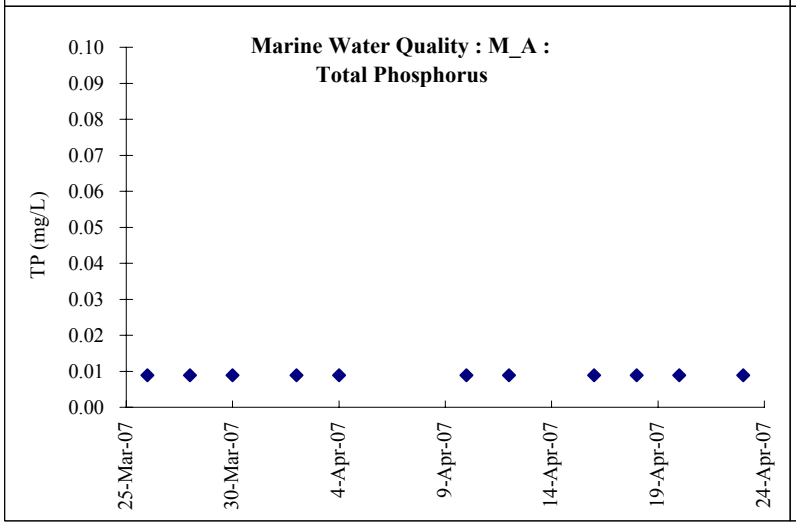

Marine Water Quality : M_A :
Nitrate Nitrite
NO3-N (mg/L)
0.10
0.08
0.06
0.04
0.02
0.00
25-Mar-07
30-Mar-07
4-Apr-07
9-Apr-07
14-Apr-07
19-Apr-07
24-Apr-07

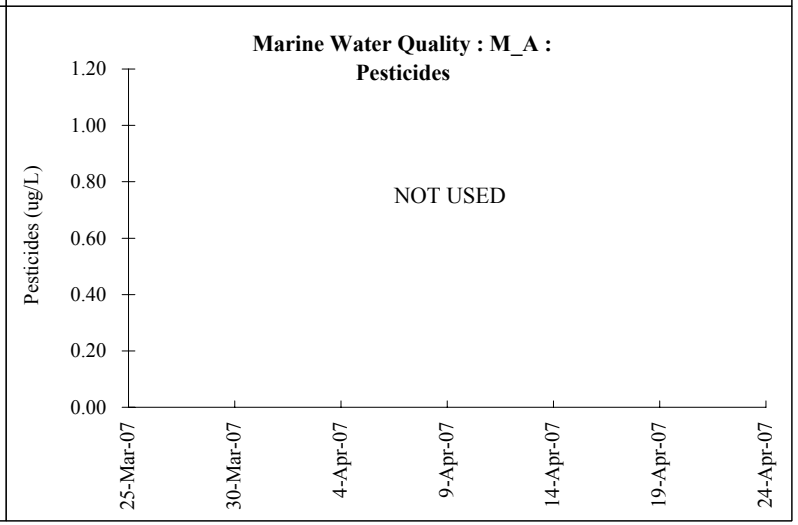

Marine Water Quality : M_A :
Ammonia Nitrogen
NH3-N (mg/L)
0.10
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0.00
25-Mar-07
30-Mar-07
4-Apr-07
9-Apr-07
14-Apr-07
19-Apr-07
24-Apr-07


Marine Water Quality : M_A :
Total Inorganic Nitrogen
TIN (mg/L)
0.30
0.25
0.20
0.15
0.10
0.05
0.00
25-Mar-07
30-Mar-07
4-Apr-07
9-Apr-07
14-Apr-07
19-Apr-07
24-Apr-07


Marine Water Quality : M_A :
Nitrite Nitrogen
NO2-N (mg/L)
0.05
0.04
0.03
0.02
0.01
0.00
25-Mar-07
30-Mar-07
4-Apr-07
9-Apr-07
14-Apr-07
19-Apr-07
24-Apr-07


Marine Water Quality : M_A :
Chlorophyll a
Chla (ug/m³)
10.0
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
25-Mar-07
30-Mar-07
4-Apr-07
9-Apr-07
14-Apr-07
19-Apr-07
24-Apr-07


Marine Water Quality : M_A :
Total Phosphorus
TP (mg/L)
0.10
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0.00
25-Mar-07
30-Mar-07
4-Apr-07
9-Apr-07
14-Apr-07
19-Apr-07
24-Apr-07


Marine Water Quality : M_A :
Pesticides
Pesticides (ug/L)
1.20
1.00
0.80
0.60
0.40
0.20
0.00
NOT USED
25-Mar-07
30-Mar-07
4-Apr-07
9-Apr-07
14-Apr-07
19-Apr-07
24-Apr-07

M_Marsh	Surface									
tide condition	Date	time	SS (mg/L)	NH_3-N (mg/L)	NO_3-N (mg/L)	NO_2-N (mg/L)	TIN (mg/L)	TP (mg/L)	Chlorophyll a (ug/L)	Pesticides (ug/L)
Mid-Ebb	26-Mar-07	08:37	3	0.01	0.04	~~0.01~~	0.06	~~0.01~~	2.9	
Mid-Ebb	28-Mar-07	09:12	-	**0.07**	0.03	~~0.01~~	0.11	~~0.01~~	0.5	
Mid-Ebb	30-Mar-07	09:12	-	~~0.01~~	0.03	~~0.01~~	0.05	~~0.01~~	~~0.5~~	
Mid-Ebb	02-Apr-07	08:37	***7***	0.01	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	2.5	
Mid-Ebb	04-Apr-07	13:12	-	**0.10**	~~0.01~~	~~0.01~~	0.12	0.01	1.5	
Mid-Ebb	10-Apr-07	14:37	3	0.02	0.01	~~0.01~~	0.04	~~0.01~~	2.1	
Mid-Ebb	12-Apr-07	08:42	-	0.01	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	3.3	
Mid-Ebb	16-Apr-07	09:37	3	0.03	0.02	~~0.01~~	0.06	~~0.01~~	1.2	
Mid-Ebb	18-Apr-07	10:12	-	0.02	~~0.01~~	~~0.01~~	0.04	~~0.01~~	1.3	
Mid-Ebb	20-Apr-07	08:12	-	0.02	~~0.01~~	~~0.01~~	0.04	~~0.01~~	1.2	
Mid-Ebb	23-Apr-07	14:37	4	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	1.8	

M_Marsh	Surface									
tide condition	Date	time	SS (mg/L)	NH_3-N (mg/L)	NO_3-N (mg/L)	NO_2-N (mg/L)	TIN (mg/L)	TP (mg/L)	Chlorophyll a (ug/L)	Pesticides (ug/L)
Mid-Flood	26-Mar-07	10:52	***10***	0.02	0.04	~~0.01~~	0.07	~~0.01~~	2.7	
Mid-Flood	28-Mar-07	13:12	-	**0.09**	0.03	~~0.01~~	0.13	~~0.01~~	0.8	
Mid-Flood	30-Mar-07	13:12	-	0.03	0.02	~~0.01~~	0.06	~~0.01~~	~~0.5~~	
Mid-Flood	02-Apr-07	10:37	4	0.01	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	2.4	
Mid-Flood	04-Apr-07	09:12	-	**0.10**	~~0.01~~	~~0.01~~	0.12	0.01	1.5	
Mid-Flood	10-Apr-07	09:07	3	0.02	~~0.01~~	~~0.01~~	0.04	~~0.01~~	2.0	
Mid-Flood	12-Apr-07	13:12	-	0.01	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	2.4	
Mid-Flood	16-Apr-07	14:37	5	0.03	0.02	~~0.01~~	0.06	~~0.01~~	1.0	
Mid-Flood	18-Apr-07	15:42	-	0.02	~~0.01~~	~~0.01~~	0.04	~~0.01~~	0.8	
Mid-Flood	20-Apr-07	10:12	-	0.04	~~0.01~~	~~0.01~~	0.06	~~0.01~~	1.0	
Mid-Flood	23-Apr-07	08:37	2	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	1.8	

Remarks:

Action level	***Bold & Italic***
Limit level	**Bold**
< detection limit	~~Grey~~

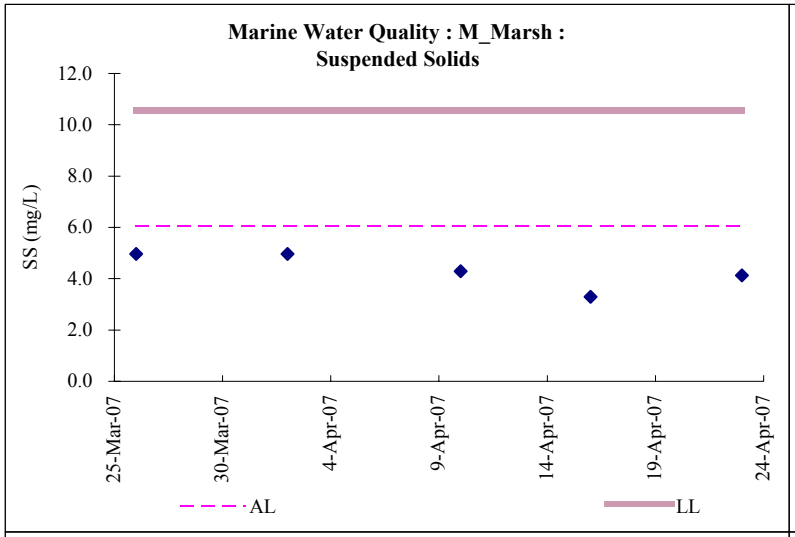
M_Marsh	Middle									
tide condition	Date	time	SS (mg/L)	NH_3-N (mg/L)	NO_3-N (mg/L)	NO_2-N (mg/L)	TIN (mg/L)	TP (mg/L)	Chlorophyll a (ug/L)	Pesticides (ug/L)
Mid-Ebb	26-Mar-07	08:36	4	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	1.9	
Mid-Ebb	28-Mar-07	09:11	-	***0.05***	~~0.01~~	~~0.01~~	0.07	~~0.01~~	1.0	
Mid-Ebb	30-Mar-07	09:11	-	0.02	~~0.01~~	~~0.01~~	0.04	~~0.01~~	~~0.5~~	
Mid-Ebb	02-Apr-07	08:36	3	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	2.3	
Mid-Ebb	04-Apr-07	13:11	-	**0.07**	~~0.01~~	~~0.01~~	0.09	0.01	1.4	
Mid-Ebb	10-Apr-07	14:36	*7*	0.02	~~0.01~~	~~0.01~~	0.04	~~0.01~~	2.0	
Mid-Ebb	12-Apr-07	08:41	-	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	2.4	
Mid-Ebb	16-Apr-07	09:36	3	0.04	0.02	~~0.01~~	0.07	~~0.01~~	1.1	
Mid-Ebb	18-Apr-07	10:11	-	0.02	~~0.01~~	~~0.01~~	0.04	~~0.01~~	1.2	
Mid-Ebb	20-Apr-07	08:11	-	0.04	~~0.01~~	~~0.01~~	0.06	~~0.01~~	1.3	
Mid-Ebb	23-Apr-07	14:36	5	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	1.6	

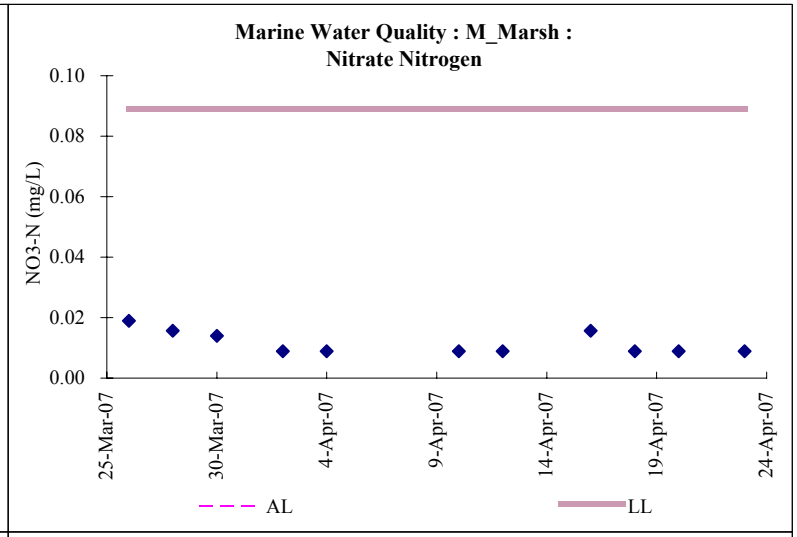
M_Marsh	Middle									
tide condition	Date	time	SS (mg/L)	NH_3-N (mg/L)	NO_3-N (mg/L)	NO_2-N (mg/L)	TIN (mg/L)	TP (mg/L)	Chlorophyll a (ug/L)	Pesticides (ug/L)
Mid-Flood	26-Mar-07	10:51	4	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	1.7	
Mid-Flood	28-Mar-07	13:11	-	**0.06**	0.01	~~0.01~~	0.08	~~0.01~~	0.5	
Mid-Flood	30-Mar-07	13:11	-	0.02	~~0.01~~	~~0.01~~	0.04	~~0.01~~	~~0.5~~	
Mid-Flood	02-Apr-07	10:36	5	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	1.8	
Mid-Flood	04-Apr-07	09:11	-	***0.05***	~~0.01~~	~~0.01~~	0.07	~~0.01~~	1.0	
Mid-Flood	10-Apr-07	09:06	3	0.02	~~0.01~~	~~0.01~~	0.04	~~0.01~~	1.9	
Mid-Flood	12-Apr-07	13:11	-	0.01	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	2.3	
Mid-Flood	16-Apr-07	14:36	3	0.03	0.02	~~0.01~~	0.06	~~0.01~~	1.1	
Mid-Flood	18-Apr-07	15:41	-	0.02	~~0.01~~	~~0.01~~	0.04	~~0.01~~	1.1	
Mid-Flood	20-Apr-07	10:11	-	0.02	~~0.01~~	~~0.01~~	0.04	~~0.01~~	0.9	
Mid-Flood	23-Apr-07	08:36	3	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	1.6	

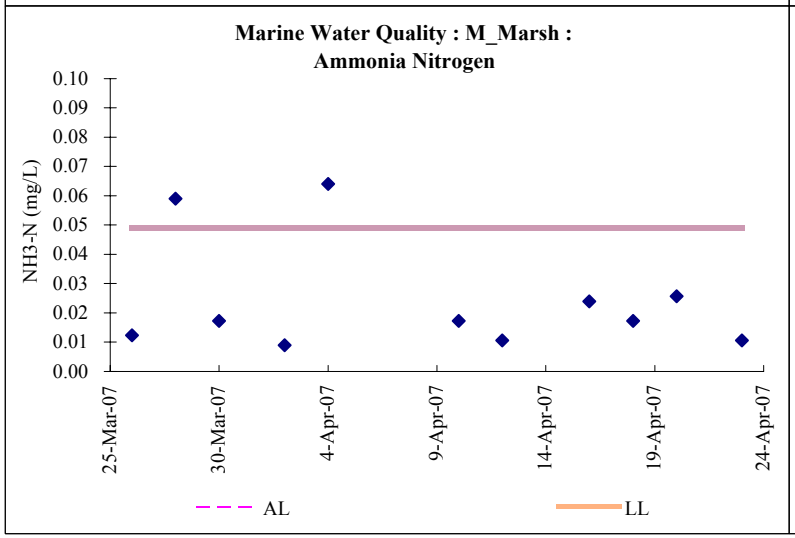
M_Marsh	Bottom									
tide condition	Date	time	SS (mg/L)	NH_3-N (mg/L)	NO_3-N (mg/L)	NO_2-N (mg/L)	TIN (mg/L)	TP (mg/L)	Chlorophyll a (ug/L)	Pesticides (ug/L)
Mid-Ebb	26-Mar-07	08:35	5	0.01	0.01	~~0.01~~	~~0.01~~	~~0.01~~	1.0	
Mid-Ebb	28-Mar-07	09:10	-	0.03	0.01	~~0.01~~	0.05	~~0.01~~	0.7	
Mid-Ebb	30-Mar-07	09:10	-	~~0.01~~	0.01	~~0.01~~	~~0.01~~	~~0.01~~	~~0.5~~	
Mid-Ebb	02-Apr-07	08:35	6	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	1.9	
Mid-Ebb	04-Apr-07	13:10	-	0.04	~~0.01~~	~~0.01~~	0.06	~~0.01~~	1.0	
Mid-Ebb	10-Apr-07	14:35	6	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	1.8	
Mid-Ebb	12-Apr-07	08:40	-	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	2.5	
Mid-Ebb	16-Apr-07	09:35	3	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	1.2	
Mid-Ebb	18-Apr-07	10:10	-	0.02	~~0.01~~	~~0.01~~	0.04	~~0.01~~	1.1	
Mid-Ebb	20-Apr-07	08:10	-	0.02	~~0.01~~	~~0.01~~	0.04	~~0.01~~	1.2	
Mid-Ebb	23-Apr-07	14:35	***9***	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	2.0	

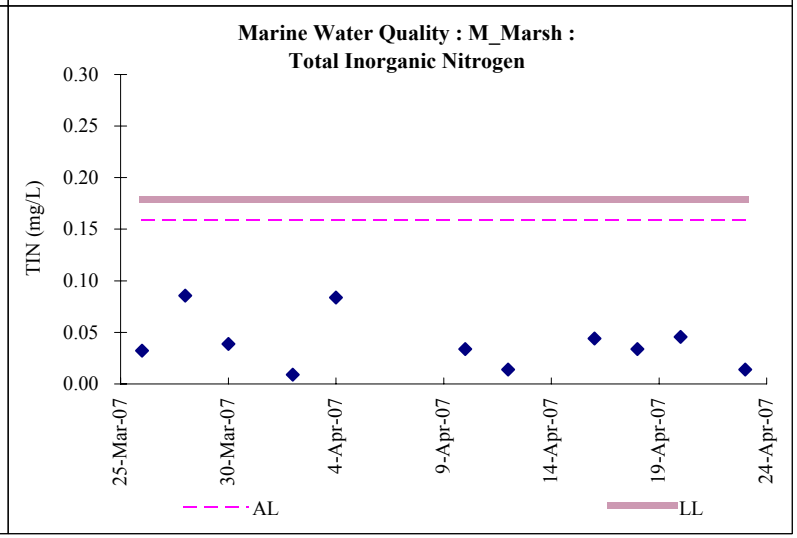
M_Marsh	Bottom									
tide condition	Date	time	SS (mg/L)	NH_3-N (mg/L)	NO_3-N (mg/L)	NO_2-N (mg/L)	TIN (mg/L)	TP (mg/L)	Chlorophyll a (ug/L)	Pesticides (ug/L)
Mid-Flood	26-Mar-07	10:50	4	0.02	~~0.01~~	~~0.01~~	0.04	~~0.01~~	0.9	
Mid-Flood	28-Mar-07	13:10	-	**0.06**	~~0.01~~	~~0.01~~	0.08	~~0.01~~	0.5	
Mid-Flood	30-Mar-07	13:10	-	0.02	~~0.01~~	~~0.01~~	0.04	~~0.01~~	~~0.5~~	
Mid-Flood	02-Apr-07	10:35	5	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	1.9	
Mid-Flood	04-Apr-07	09:10	-	0.03	~~0.01~~	~~0.01~~	0.05	~~0.01~~	1.0	
Mid-Flood	10-Apr-07	09:05	4	0.02	0.01	~~0.01~~	0.04	~~0.01~~	2.0	
Mid-Flood	12-Apr-07	13:10	-	0.02	~~0.01~~	~~0.01~~	0.04	~~0.01~~	2.2	
Mid-Flood	16-Apr-07	14:35	3	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	1.1	
Mid-Flood	18-Apr-07	15:40	-	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	1.1	
Mid-Flood	20-Apr-07	10:10	-	0.02	~~0.01~~	~~0.01~~	0.04	~~0.01~~	0.9	
Mid-Flood	23-Apr-07	08:35	~~2~~	0.02	~~0.01~~	~~0.01~~	0.04	~~0.01~~	1.7	

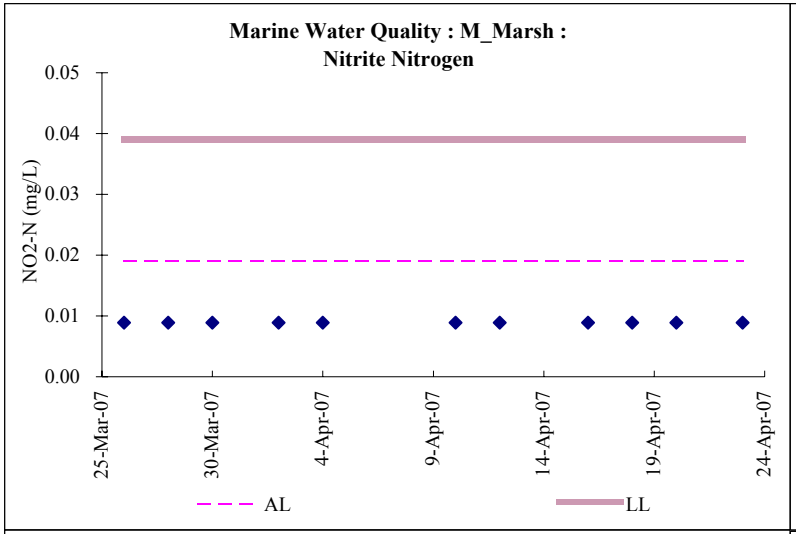
	Depth-averaged							
M_Marsh	SS (mg/L)	NH_3-N (mg/L)	NO_3-N (mg/L)	NO_2-N (mg/L)	TIN (mg/L)	TP (mg/L)	Chlorophyll a (ug/L)	Pesticides (ug/L)
26-Mar-07	5	0.01	0.02	~~0.01~~	0.03	~~0.01~~	1.9	
28-Mar-07	-	**0.06**	0.02	~~0.01~~	0.09	~~0.01~~	0.7	
30-Mar-07	-	0.02	0.01	~~0.01~~	0.04	~~0.01~~	~~0.5~~	
02-Apr-07	5	0.01	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	2.1	
04-Apr-07	-	**0.07**	~~0.01~~	~~0.01~~	0.08	0.01	1.2	
10-Apr-07	4	0.02	0.01	~~0.01~~	0.03	~~0.01~~	2.0	
12-Apr-07	-	0.01	~~0.01~~	~~0.01~~	0.01	~~0.01~~	2.5	
16-Apr-07	3	0.02	0.02	~~0.01~~	0.04	~~0.01~~	1.1	
18-Apr-07	-	0.02	~~0.01~~	~~0.01~~	0.03	~~0.01~~	1.1	
20-Apr-07	-	0.03	~~0.01~~	~~0.01~~	0.05	~~0.01~~	1.1	
23-Apr-07	4	0.01	~~0.01~~	~~0.01~~	0.01	~~0.01~~	1.8	

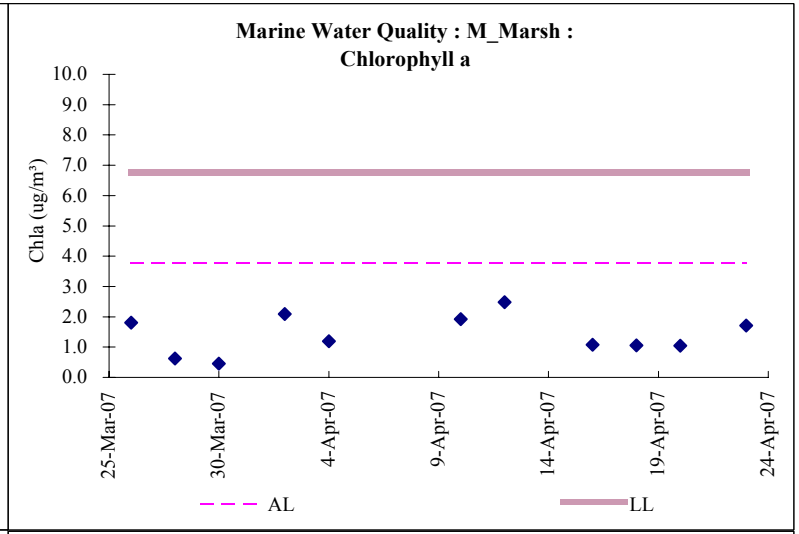

Marine Water Quality : M_Marsh :
Suspended Solids
SS (mg/L)
12.0
10.0
8.0
6.0
4.0
2.0
0.0
25-Mar-07
30-Mar-07
4-Apr-07
9-Apr-07
14-Apr-07
19-Apr-07
24-Apr-07
AL
LL

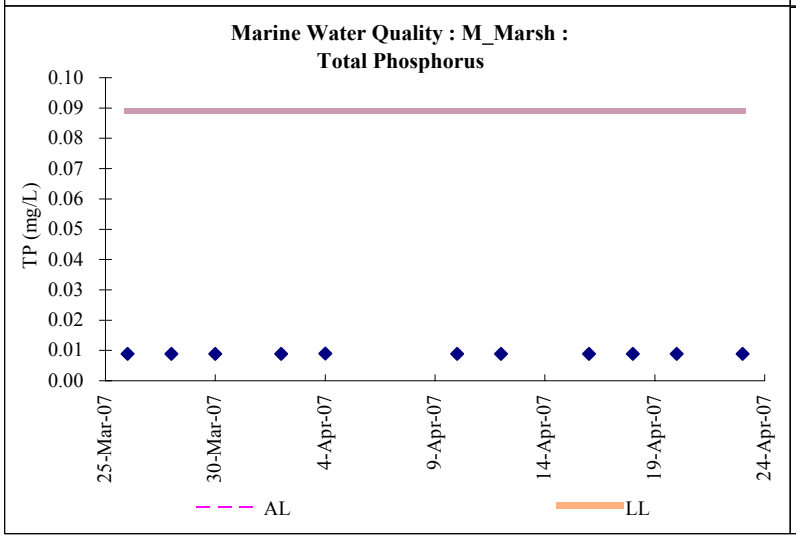

Marine Water Quality : M_Marsh :
Nitrate Nitrogen
NO3-N (mg/L)
0.10
0.08
0.06
0.04
0.02
0.00
25-Mar-07
30-Mar-07
4-Apr-07
9-Apr-07
14-Apr-07
19-Apr-07
24-Apr-07
AL
LL

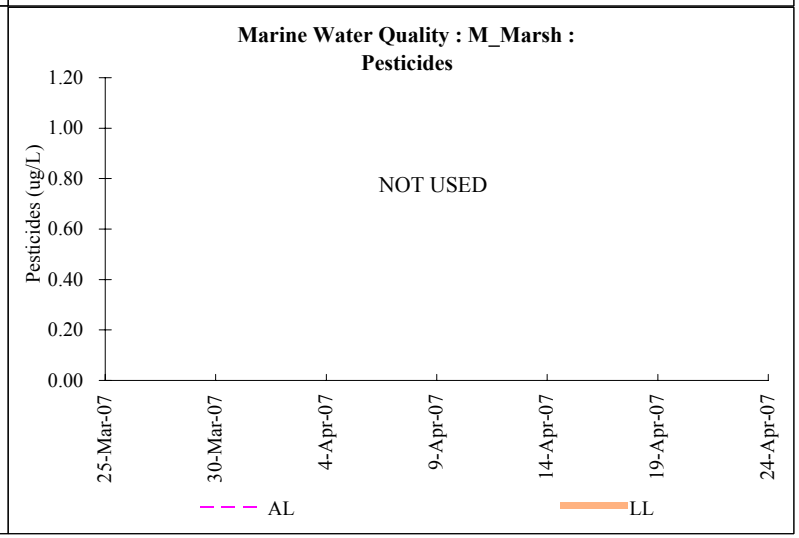

Marine Water Quality : M_Marsh :
Ammonia Nitrogen
NH3-N (mg/L)
0.10
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0.00
25-Mar-07
30-Mar-07
4-Apr-07
9-Apr-07
14-Apr-07
19-Apr-07
24-Apr-07
AL
LL


Marine Water Quality : M_Marsh :
Total Inorganic Nitrogen
TIN (mg/L)
0.30
0.25
0.20
0.15
0.10
0.05
0.00
25-Mar-07
30-Mar-07
4-Apr-07
9-Apr-07
14-Apr-07
19-Apr-07
24-Apr-07
AL
LL


Marine Water Quality : M_Marsh :
Nitrite Nitrogen
NO2-N (mg/L)
0.05
0.04
0.03
0.02
0.01
0.00
25-Mar-07
30-Mar-07
4-Apr-07
9-Apr-07
14-Apr-07
19-Apr-07
24-Apr-07
AL
LL


Marine Water Quality : M_Marsh :
Chlorophyll a
Chla (ug/m³)
10.0
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
25-Mar-07
30-Mar-07
4-Apr-07
9-Apr-07
14-Apr-07
19-Apr-07
24-Apr-07
AL
LL


Marine Water Quality : M_Marsh :
Total Phosphorus
TP (mg/L)
0.10
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0.00
25-Mar-07
30-Mar-07
4-Apr-07
9-Apr-07
14-Apr-07
19-Apr-07
24-Apr-07
AL
LL


Marine Water Quality : M_Marsh :
Pesticides
Pesticides (ug/L)
1.20
1.00
0.80
0.60
0.40
0.20
0.00
NOT USED
25-Mar-07
30-Mar-07
4-Apr-07
9-Apr-07
14-Apr-07
19-Apr-07
24-Apr-07
AL
LL

TTC	Surface									
tide condition	Date	time	SS (mg/L)	NH_3-N (mg/L)	NO_3-N (mg/L)	NO_2-N (mg/L)	TIN (mg/L)	TP (mg/L)	Chlorophyll a (ug/L)	Pesticides (ug/L)
Mid-Ebb	26-Mar-07	08:47	3.0	~~0.01~~	0.03	~~0.01~~	0.05	~~0.01~~	**2.6**	
Mid-Ebb	28-Mar-07	09:32	-	**0.06**	0.02	~~0.01~~	0.09	~~0.01~~	***1.8***	
Mid-Ebb	30-Mar-07	09:32	-	~~0.01~~	0.02	~~0.01~~	0.04	~~0.01~~	0.8	
Mid-Ebb	02-Apr-07	08:47	3.0	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	***2.1***	
Mid-Ebb	04-Apr-07	13:32	-	**0.04**	~~0.01~~	~~0.01~~	0.06	~~0.01~~	***1.8***	
Mid-Ebb	10-Apr-07	09:27	4.0	0.01	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	**2.7**	
Mid-Ebb	12-Apr-07	09:02	-	0.01	0.01	~~0.01~~	~~0.01~~	~~0.01~~	**3.2**	
Mid-Ebb	16-Apr-07	09:57	2.0	**0.03**	0.01	~~0.01~~	0.05	~~0.01~~	1.7	
Mid-Ebb	18-Apr-07	10:32	-	**0.10**	0.02	~~0.01~~	***0.13***	~~0.01~~	***2.1***	
Mid-Ebb	20-Apr-07	08:32	-	**0.11**	0.02	~~0.01~~	0.14	~~0.01~~	1.3	
Mid-Ebb	23-Apr-07	08:57	4.0	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	**2.4**	

TTC	Surface									
tide condition	Date	time	SS (mg/L)	NH_3-N (mg/L)	NO_3-N (mg/L)	NO_2-N (mg/L)	TIN (mg/L)	TP (mg/L)	Chlorophyll a (ug/L)	Pesticides (ug/L)
Mid-Flood	26-Mar-07	11:12	2.0	~~0.01~~	0.03	~~0.01~~	0.05	~~0.01~~	**2.6**	
Mid-Flood	28-Mar-07	13:22	-	**0.05**	0.02	~~0.01~~	0.08	~~0.01~~	***1.8***	
Mid-Flood	30-Mar-07	13:22	-	~~0.01~~	0.01	~~0.01~~	~~0.01~~	~~0.01~~	0.8	
Mid-Flood	02-Apr-07	10:57	3.0	0.01	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	**2.4**	
Mid-Flood	04-Apr-07	09:22	-	**0.04**	~~0.01~~	~~0.01~~	0.06	~~0.01~~	1.6	
Mid-Flood	10-Apr-07	14:47	3.0	0.01	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	**3.1**	
Mid-Flood	12-Apr-07	13:22	-	***0.02***	0.01	~~0.01~~	0.04	~~0.01~~	**2.6**	
Mid-Flood	16-Apr-07	14:47	3.0	***0.02***	0.01	~~0.01~~	0.04	~~0.01~~	1.7	
Mid-Flood	18-Apr-07	15:52	-	**0.08**	0.02	~~0.01~~	0.11	~~0.01~~	**2.3**	
Mid-Flood	20-Apr-07	10:22	-	**0.04**	0.01	~~0.01~~	0.06	~~0.01~~	1.0	
Mid-Flood	23-Apr-07	14:47	**7.0**	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	***2.0***	

Remarks:

Action level	***Bold & Italic***
Limit level	**Bold**
< detection limit	~~Grey~~

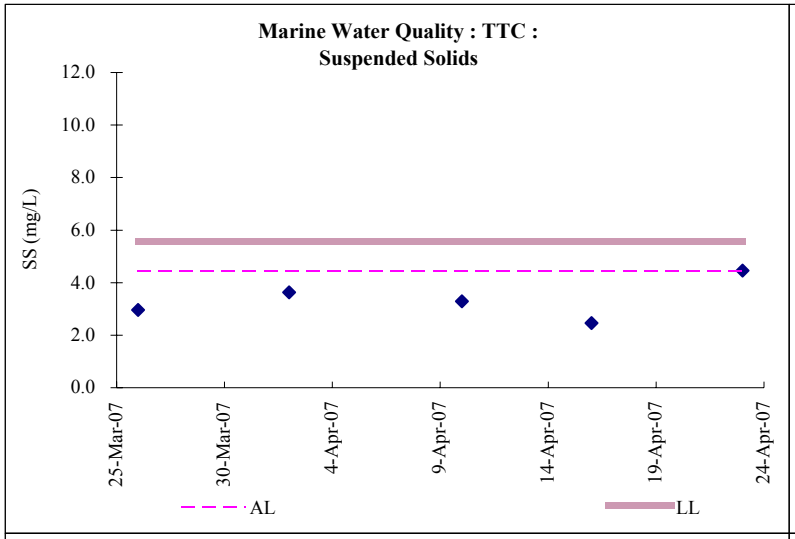
TTC	Middle									
tide condition	Date	time	SS (mg/L)	NH_3-N (mg/L)	NO_3-N (mg/L)	NO_2-N (mg/L)	TIN (mg/L)	TP (mg/L)	Chlorophyll a (ug/L)	Pesticides (ug/L)
Mid-Ebb	26-Mar-07	08:46	2.0	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	***2.0***	
Mid-Ebb	28-Mar-07	09:31	-	**0.05**	0.01	~~0.01~~	0.07	~~0.01~~	0.9	
Mid-Ebb	30-Mar-07	09:31	-	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	0.5	
Mid-Ebb	02-Apr-07	08:46	***5.0***	0.01	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	**2.3**	
Mid-Ebb	04-Apr-07	13:31	-	**0.03**	~~0.01~~	~~0.01~~	0.05	~~0.01~~	1.5	
Mid-Ebb	10-Apr-07	09:26	3.0	**0.03**	0.01	~~0.01~~	0.05	~~0.01~~	**2.9**	
Mid-Ebb	12-Apr-07	09:01	-	***0.02***	0.01	~~0.01~~	0.04	~~0.01~~	**2.4**	
Mid-Ebb	16-Apr-07	09:56	2.0	***0.02***	0.02	~~0.01~~	0.05	~~0.01~~	***1.8***	
Mid-Ebb	18-Apr-07	10:31	-	**0.04**	0.01	~~0.01~~	0.06	~~0.01~~	***1.9***	
Mid-Ebb	20-Apr-07	08:31	-	**0.05**	0.01	~~0.01~~	0.07	~~0.01~~	1.3	
Mid-Ebb	23-Apr-07	08:56	4.0	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	1.7	

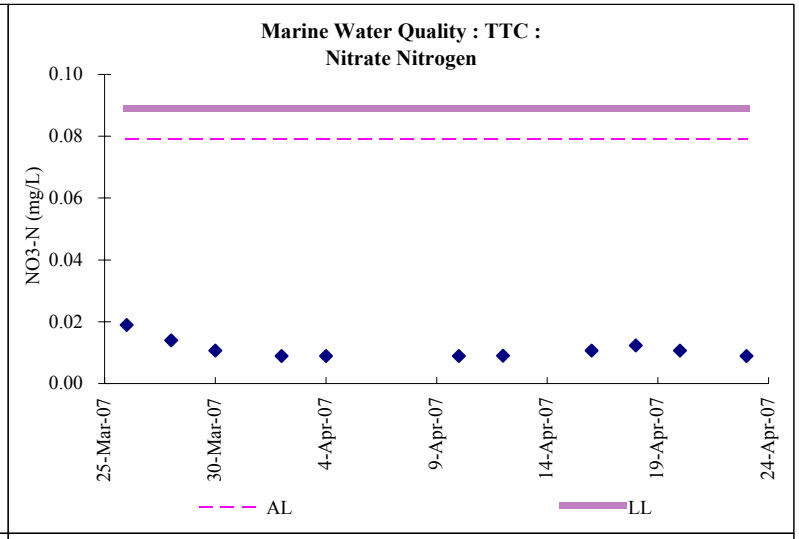
TTC	Middle									
tide condition	Date	time	SS (mg/L)	NH_3-N (mg/L)	NO_3-N (mg/L)	NO_2-N (mg/L)	TIN (mg/L)	TP (mg/L)	Chlorophyll a (ug/L)	Pesticides (ug/L)
Mid-Flood	26-Mar-07	11:11	2.0	~~0.01~~	0.01	~~0.01~~	~~0.01~~	~~0.01~~	***2.0***	
Mid-Flood	28-Mar-07	13:21	-	**0.06**	0.01	~~0.01~~	0.08	~~0.01~~	0.8	
Mid-Flood	30-Mar-07	13:21	-	0.01	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	0.5	
Mid-Flood	02-Apr-07	10:56	3.0	0.01	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	**2.4**	
Mid-Flood	04-Apr-07	09:21	-	**0.03**	~~0.01~~	~~0.01~~	0.05	~~0.01~~	***1.8***	
Mid-Flood	10-Apr-07	14:46	3.0	***0.02***	~~0.01~~	~~0.01~~	0.04	~~0.01~~	**3.0**	
Mid-Flood	12-Apr-07	13:21	-	***0.02***	0.01	~~0.01~~	0.04	~~0.01~~	**3.0**	
Mid-Flood	16-Apr-07	14:46	4.0	***0.02***	0.01	~~0.01~~	0.04	~~0.01~~	1.7	
Mid-Flood	18-Apr-07	15:51	-	**0.04**	~~0.01~~	~~0.01~~	0.06	~~0.01~~	***1.9***	
Mid-Flood	20-Apr-07	10:21	-	**0.03**	0.01	~~0.01~~	0.05	~~0.01~~	0.9	
Mid-Flood	23-Apr-07	14:46	4.0	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	***2.0***	

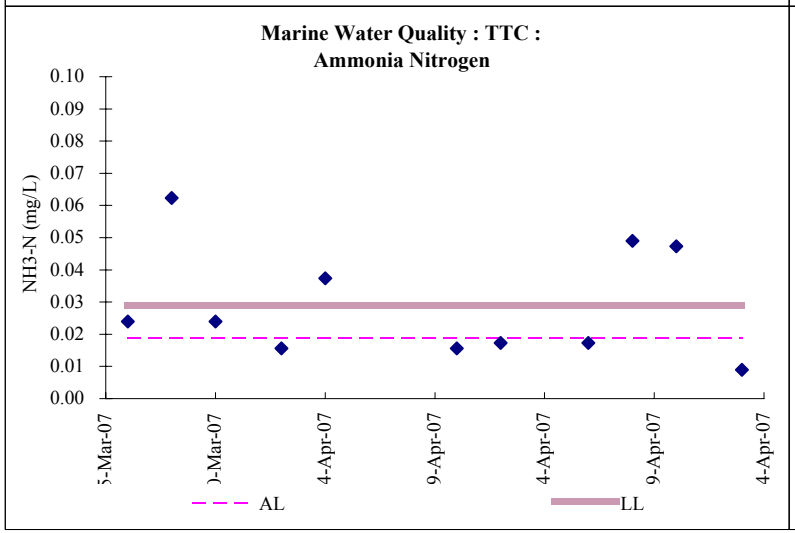
TTC	Bottom									
tide condition	Date	time	SS (mg/L)	NH_3-N (mg/L)	NO_3-N (mg/L)	NO_2-N (mg/L)	TIN (mg/L)	TP (mg/L)	Chlorophyll a (ug/L)	Pesticides (ug/L)
Mid-Ebb	26-Mar-07	08:45	***5.0***	**0.05**	0.02	~~0.01~~	0.08	0.02	1.4	
Mid-Ebb	28-Mar-07	09:30	-	**0.08**	0.01	~~0.01~~	0.10	0.02	0.8	
Mid-Ebb	30-Mar-07	09:30	-	**0.06**	0.01	~~0.01~~	0.08	0.02	~~0.5~~	
Mid-Ebb	02-Apr-07	08:45	***5.0***	**0.03**	~~0.01~~	~~0.01~~	0.05	~~0.01~~	1.4	
Mid-Ebb	04-Apr-07	13:30	-	**0.05**	~~0.01~~	~~0.01~~	0.07	0.01	0.9	
Mid-Ebb	10-Apr-07	09:25	4.0	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	**2.2**	
Mid-Ebb	12-Apr-07	09:00	-	***0.02***	0.01	~~0.01~~	0.04	~~0.01~~	**3.2**	
Mid-Ebb	16-Apr-07	09:55	2.0	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	1.2	
Mid-Ebb	18-Apr-07	10:30	-	***0.02***	~~0.01~~	~~0.01~~	0.04	~~0.01~~	**2.2**	
Mid-Ebb	20-Apr-07	08:30	-	**0.04**	0.01	~~0.01~~	0.06	~~0.01~~	1.4	
Mid-Ebb	23-Apr-07	08:55	4.0	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	***1.9***	

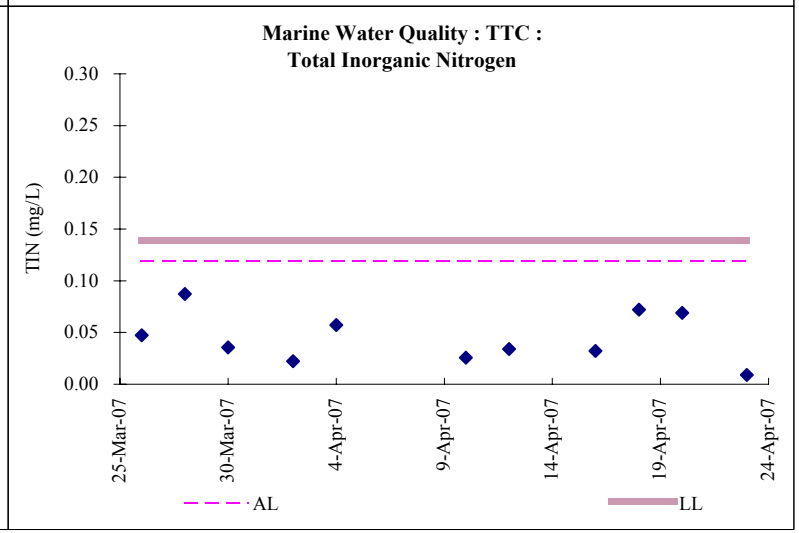
TTC	Bottom									
tide condition	Date	time	SS (mg/L)	NH_3-N (mg/L)	NO_3-N (mg/L)	NO_2-N (mg/L)	TIN (mg/L)	TP (mg/L)	Chlorophyll a (ug/L)	Pesticides (ug/L)
Mid-Flood	26-Mar-07	11:10	4.0	**0.06**	0.02	~~0.01~~	0.09	0.03	1.2	
Mid-Flood	28-Mar-07	13:20	-	**0.08**	0.02	~~0.01~~	0.11	0.02	0.7	
Mid-Flood	30-Mar-07	13:20	-	**0.05**	0.01	~~0.01~~	0.07	0.02	~~0.5~~	
Mid-Flood	02-Apr-07	10:55	3.0	**0.03**	~~0.01~~	~~0.01~~	0.05	0.01	1.5	
Mid-Flood	04-Apr-07	09:20	-	**0.04**	~~0.01~~	~~0.01~~	0.06	~~0.01~~	1.1	
Mid-Flood	10-Apr-07	14:45	3.0	***0.02***	~~0.01~~	~~0.01~~	0.04	~~0.01~~	**2.2**	
Mid-Flood	12-Apr-07	13:20	-	***0.02***	0.01	~~0.01~~	0.04	~~0.01~~	**2.7**	
Mid-Flood	16-Apr-07	14:45	~~2.0~~	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	1.3	
Mid-Flood	18-Apr-07	15:50	-	***0.02***	~~0.01~~	~~0.01~~	0.04	~~0.01~~	***1.8***	
Mid-Flood	20-Apr-07	10:20	-	***0.02***	0.01	~~0.01~~	0.04	~~0.01~~	1.2	
Mid-Flood	23-Apr-07	14:45	4.0	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	***2.1***	

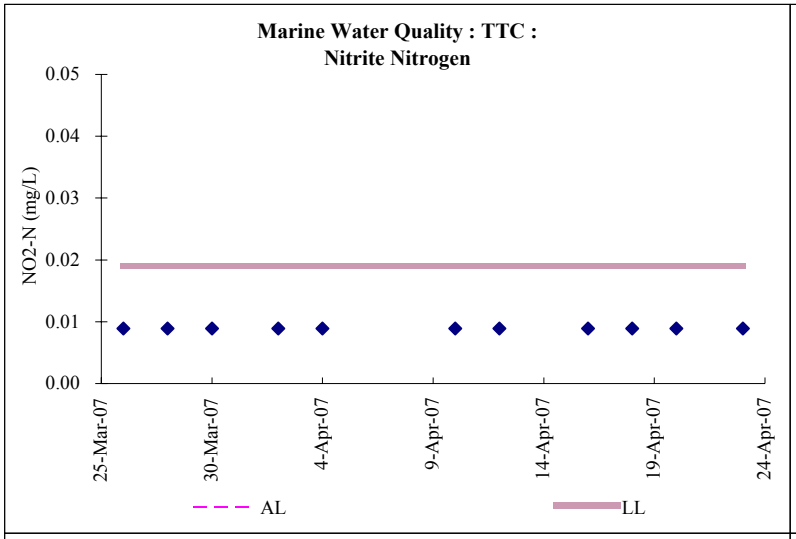
	Depth-averaged							
TTC	SS (mg/L)	NH_3-N (mg/L)	NO_3-N (mg/L)	NO_2-N (mg/L)	TIN (mg/L)	TP (mg/L)	Chlorophyll a (ug/L)	Pesticides (ug/L)
26-Mar-07	3	***0.02***	0.02	~~0.01~~	0.05	0.01	***2.0***	
28-Mar-07	-	**0.06**	0.02	~~0.01~~	0.09	0.01	1.1	
30-Mar-07	-	***0.02***	0.01	~~0.01~~	0.04	0.01	0.6	
02-Apr-07	4	0.02	~~0.01~~	~~0.01~~	0.02	0.01	***2.0***	
04-Apr-07	-	**0.04**	~~0.01~~	~~0.01~~	0.06	0.01	1.5	
10-Apr-07	3	0.02	0.01	~~0.01~~	0.03	~~0.01~~	**2.7**	
12-Apr-07	-	0.02	0.01	~~0.01~~	0.03	~~0.01~~	**2.9**	
16-Apr-07	2	0.02	0.01	~~0.01~~	0.03	~~0.01~~	1.6	
18-Apr-07	-	**0.05**	0.01	~~0.01~~	0.07	~~0.01~~	***2.0***	
20-Apr-07	-	**0.05**	0.01	~~0.01~~	0.07	~~0.01~~	1.2	
23-Apr-07	***5***	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	***2.0***	

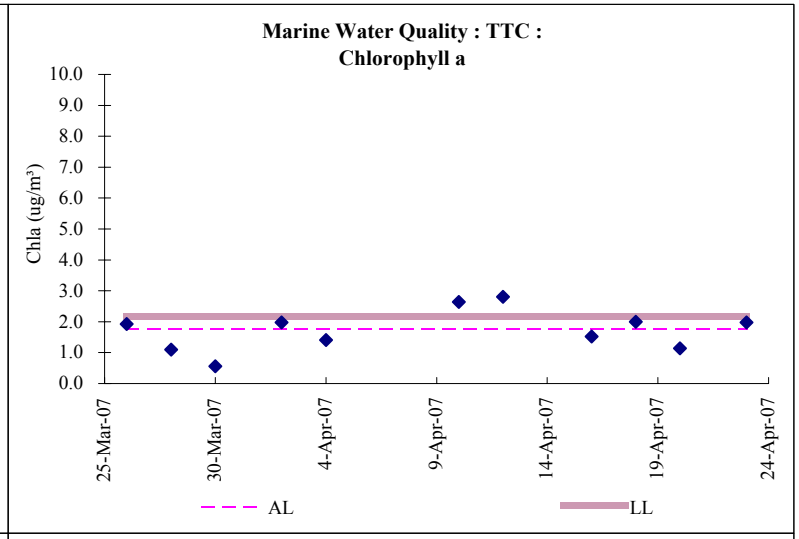

Marine Water Quality : TTC :
Suspended Solids
SS (mg/L)
12.0
10.0
8.0
6.0
4.0
2.0
0.0
25-Mar-07
30-Mar-07
4-Apr-07
9-Apr-07
14-Apr-07
19-Apr-07
24-Apr-07
AL
LL

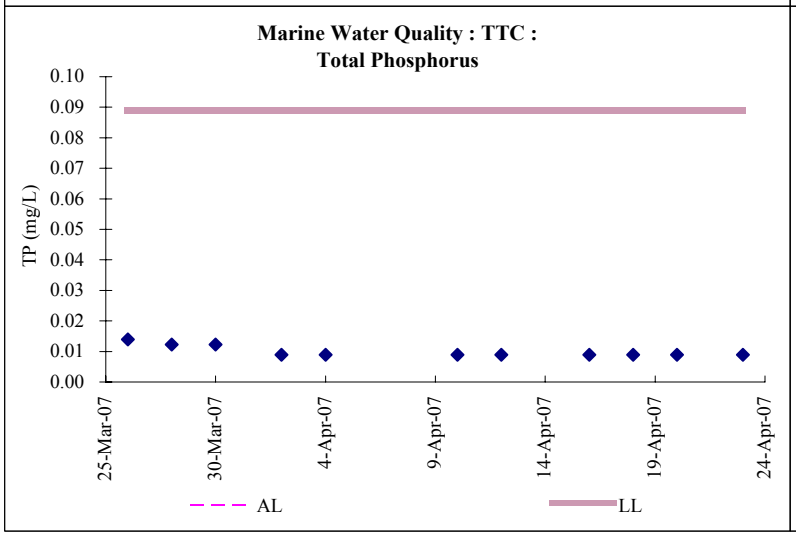

Marine Water Quality : TTC :
Nitrate Nitrogen
NO3-N (mg/L)
0.10
0.08
0.06
0.04
0.02
0.00
25-Mar-07
30-Mar-07
4-Apr-07
9-Apr-07
14-Apr-07
19-Apr-07
24-Apr-07
AL
LL

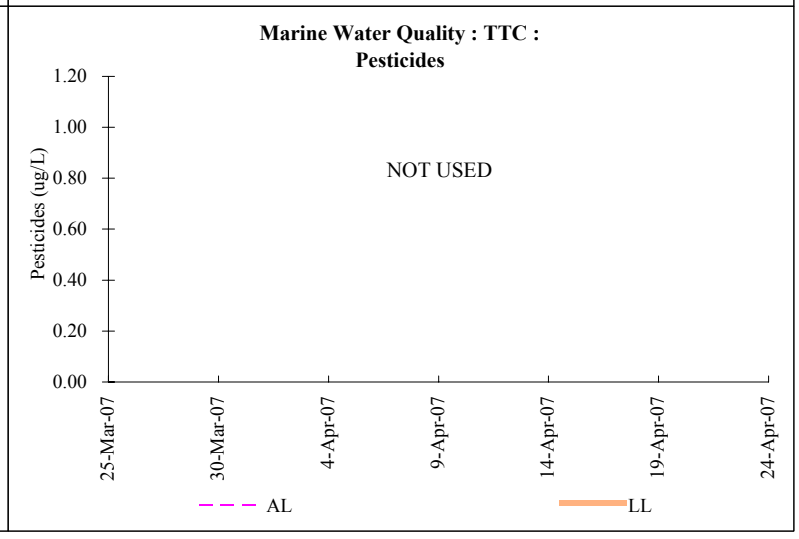

Marine Water Quality : TTC :
Ammonia Nitrogen
NH3-N (mg/L)
0.10
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0.00
4-Apr-07
9-Apr-07
4-Apr-07
9-Apr-07
4-Apr-07
AL
LL


Marine Water Quality : TTC :
Total Inorganic Nitrogen
TIN (mg/L)
0.30
0.25
0.20
0.15
0.10
0.05
0.00
25-Mar-07
30-Mar-07
4-Apr-07
9-Apr-07
14-Apr-07
19-Apr-07
24-Apr-07
AL
LL


Marine Water Quality : TTC :
Nitrite Nitrogen
NO2-N (mg/L)
0.05
0.04
0.03
0.02
0.01
0.00
25-Mar-07
30-Mar-07
4-Apr-07
9-Apr-07
14-Apr-07
19-Apr-07
24-Apr-07
AL
LL


Marine Water Quality : TTC :
Chlorophyll a
Chla (ug/m³)
10.0
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
25-Mar-07
30-Mar-07
4-Apr-07
9-Apr-07
14-Apr-07
19-Apr-07
24-Apr-07
AL
LL


Marine Water Quality : TTC :
Total Phosphorus
TP (mg/L)
0.10
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0.00
25-Mar-07
30-Mar-07
4-Apr-07
9-Apr-07
14-Apr-07
19-Apr-07
24-Apr-07
AL
LL


Marine Water Quality : TTC :
Pesticides
Pesticides (ug/L)
1.20
1.00
0.80
0.60
0.40
0.20
0.00
NOT USED
25-Mar-07
30-Mar-07
4-Apr-07
9-Apr-07
14-Apr-07
19-Apr-07
24-Apr-07
AL
LL

M_BP	Surface									
tide condition	Date	time	SS (mg/L)	NH_3-N (mg/L)	NO_3-N (mg/L)	NO_2-N (mg/L)	TIN (mg/L)	TP (mg/L)	Chlorophyll a (ug/L)	Pesticides (ug/L)
Mid-Ebb	26-Mar-07	08:57	3	0.01	0.02	~~0.01~~	0.04	~~0.01~~	2.7	
Mid-Ebb	28-Mar-07	09:42	-	**0.06**	0.03	~~0.01~~	0.10	~~0.01~~	1.3	
Mid-Ebb	30-Mar-07	09:42	-	~~0.01~~	0.03	~~0.01~~	0.05	~~0.01~~	0.5	
Mid-Ebb	02-Apr-07	08:57	~~2~~	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	1.8	
Mid-Ebb	04-Apr-07	13:42	-	0.02	~~0.01~~	~~0.01~~	0.04	~~0.01~~	1.4	
Mid-Ebb	10-Apr-07	09:37	2	***0.05***	0.03	~~0.01~~	0.09	0.01	3.0	
Mid-Ebb	12-Apr-07	09:12	-	0.03	0.02	~~0.01~~	0.06	~~0.01~~	3.6	
Mid-Ebb	16-Apr-07	10:07	3	0.01	0.01	~~0.01~~	~~0.01~~	~~0.01~~	2.1	
Mid-Ebb	18-Apr-07	10:42	-	***0.05***	~~0.01~~	~~0.01~~	0.07	~~0.01~~	1.4	
Mid-Ebb	20-Apr-07	08:42	-	0.03	~~0.01~~	~~0.01~~	0.05	~~0.01~~	1.7	
Mid-Ebb	23-Apr-07	09:07	5	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	2.0	

M_BP	Surface									
tide condition	Date	time	SS (mg/L)	NH_3-N (mg/L)	NO_3-N (mg/L)	NO_2-N (mg/L)	TIN (mg/L)	TP (mg/L)	Chlorophyll a (ug/L)	Pesticides (ug/L)
Mid-Flood	26-Mar-07	11:22	3	0.01	0.02	~~0.01~~	0.04	~~0.01~~	2.3	
Mid-Flood	28-Mar-07	13:32	-	**0.10**	0.02	~~0.01~~	0.13	~~0.01~~	1.5	
Mid-Flood	30-Mar-07	13:32	-	0.02	0.02	~~0.01~~	0.05	~~0.01~~	0.5	
Mid-Flood	02-Apr-07	11:07	***8***	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	1.4	
Mid-Flood	04-Apr-07	09:32	-	0.03	~~0.01~~	~~0.01~~	0.05	~~0.01~~	1.2	
Mid-Flood	10-Apr-07	14:57	3	***0.05***	0.03	~~0.01~~	0.09	0.01	2.9	
Mid-Flood	12-Apr-07	13:32	-	0.04	0.02	~~0.01~~	0.07	~~0.01~~	2.6	
Mid-Flood	16-Apr-07	14:57	~~2~~	0.01	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	1.6	
Mid-Flood	18-Apr-07	16:02	-	0.03	~~0.01~~	~~0.01~~	0.05	~~0.01~~	1.7	
Mid-Flood	20-Apr-07	10:32	-	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	1.4	
Mid-Flood	23-Apr-07	14:57	4	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	1.6	

Remarks:

Action level	***Bold & Italic***
Limit level	**Bold**
< detection limit	~~Grey~~

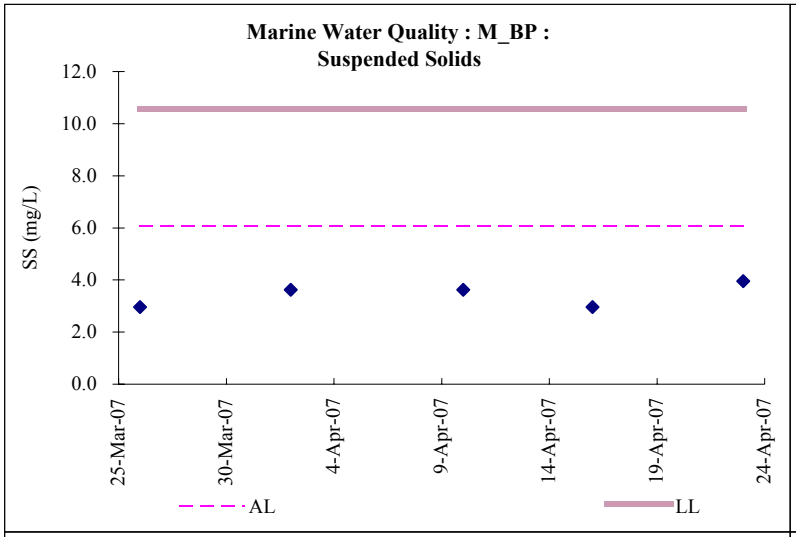
M_BP	Middle									
tide condition	Date	time	SS (mg/L)	NH_3-N (mg/L)	NO_3-N (mg/L)	NO_2-N (mg/L)	TIN (mg/L)	TP (mg/L)	Chlorophyll a (ug/L)	Pesticides (ug/L)
Mid-Ebb	26-Mar-07	08:56	3	~~0.01~~	0.01	~~0.01~~	~~0.01~~	~~0.01~~	1.8	
Mid-Ebb	28-Mar-07	09:41	-	***0.05***	0.02	~~0.01~~	0.08	~~0.01~~	0.6	
Mid-Ebb	30-Mar-07	09:41	-	~~0.01~~	0.01	~~0.01~~	~~0.01~~	~~0.01~~	~~0.5~~	
Mid-Ebb	02-Apr-07	08:56	3	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	1.5	
Mid-Ebb	04-Apr-07	13:41	-	0.04	~~0.01~~	~~0.01~~	0.06	~~0.01~~	1.5	
Mid-Ebb	10-Apr-07	09:36	3	***0.05***	0.03	~~0.01~~	0.09	0.01	3.0	
Mid-Ebb	12-Apr-07	09:11	-	0.03	0.01	~~0.01~~	0.05	~~0.01~~	3.6	
Mid-Ebb	16-Apr-07	10:06	4	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	1.2	
Mid-Ebb	18-Apr-07	10:41	-	0.03	~~0.01~~	~~0.01~~	0.05	~~0.01~~	1.5	
Mid-Ebb	20-Apr-07	08:41	-	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	1.8	
Mid-Ebb	23-Apr-07	09:06	3	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	1.9	

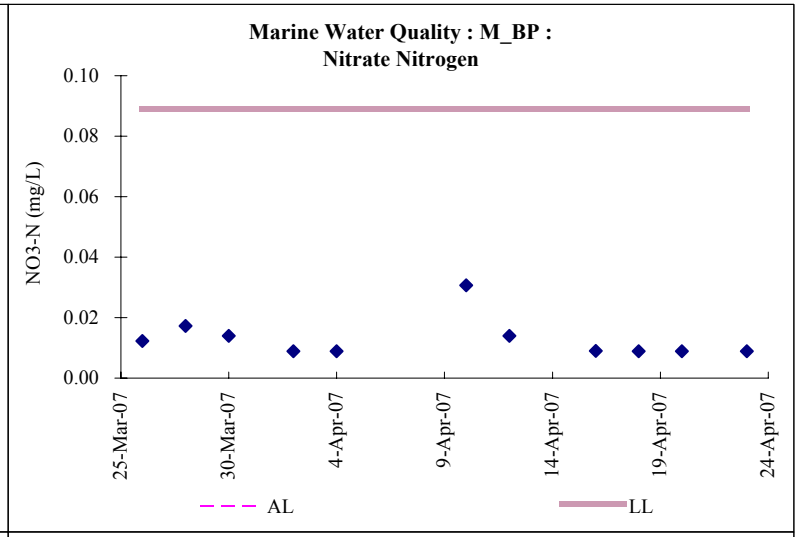
M_BP	Middle									
tide condition	Date	time	SS (mg/L)	NH_3-N (mg/L)	NO_3-N (mg/L)	NO_2-N (mg/L)	TIN (mg/L)	TP (mg/L)	Chlorophyll a (ug/L)	Pesticides (ug/L)
Mid-Flood	26-Mar-07	11:21	3	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	1.7	
Mid-Flood	28-Mar-07	13:31	-	**0.06**	0.02	~~0.01~~	0.09	~~0.01~~	0.8	
Mid-Flood	30-Mar-07	13:31	-	0.03	0.01	~~0.01~~	0.05	~~0.01~~	~~0.5~~	
Mid-Flood	02-Apr-07	11:06	~~2~~	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	1.3	
Mid-Flood	04-Apr-07	09:31	-	0.02	~~0.01~~	~~0.01~~	0.04	~~0.01~~	1.2	
Mid-Flood	10-Apr-07	14:56	3	***0.05***	0.03	~~0.01~~	0.09	0.01	3.2	
Mid-Flood	12-Apr-07	13:31	-	0.03	0.01	~~0.01~~	0.05	~~0.01~~	3.0	
Mid-Flood	16-Apr-07	14:56	~~2~~	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	1.2	
Mid-Flood	18-Apr-07	16:01	-	0.02	~~0.01~~	~~0.01~~	0.04	~~0.01~~	1.5	
Mid-Flood	20-Apr-07	10:31	-	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	1.7	
Mid-Flood	23-Apr-07	14:56	3	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	1.7	

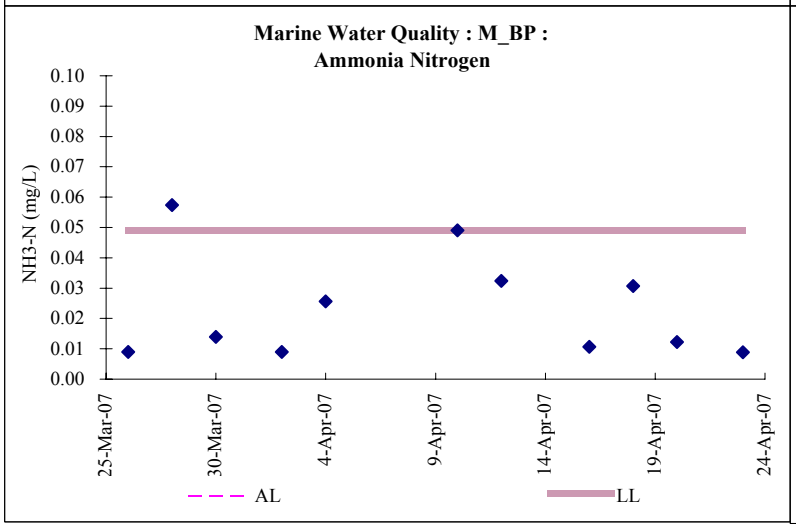
M_BP	Bottom									
tide condition	Date	time	SS (mg/L)	NH_3-N (mg/L)	NO_3-N (mg/L)	NO_2-N (mg/L)	TIN (mg/L)	TP (mg/L)	Chlorophyll a (ug/L)	Pesticides (ug/L)
Mid-Ebb	26-Mar-07	08:55	3	~~0.01~~	0.01	~~0.01~~	~~0.01~~	~~0.01~~	2.2	
Mid-Ebb	28-Mar-07	09:40	-	0.04	~~0.01~~	~~0.01~~	0.06	~~0.01~~	0.9	
Mid-Ebb	30-Mar-07	09:40	-	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	~~0.5~~	
Mid-Ebb	02-Apr-07	08:55	4	0.01	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	1.6	
Mid-Ebb	04-Apr-07	13:40	-	0.02	~~0.01~~	~~0.01~~	0.04	~~0.01~~	1.8	
Mid-Ebb	10-Apr-07	09:35	6	***0.05***	0.04	~~0.01~~	0.10	0.01	3.1	
Mid-Ebb	12-Apr-07	09:10	-	0.03	0.02	~~0.01~~	0.06	~~0.01~~	3.6	
Mid-Ebb	16-Apr-07	10:05	4	0.02	0.01	~~0.01~~	0.04	~~0.01~~	1.7	
Mid-Ebb	18-Apr-07	10:40	-	0.03	~~0.01~~	~~0.01~~	0.05	~~0.01~~	1.6	
Mid-Ebb	20-Apr-07	08:40	-	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	1.8	
Mid-Ebb	23-Apr-07	09:05	4	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	2.0	

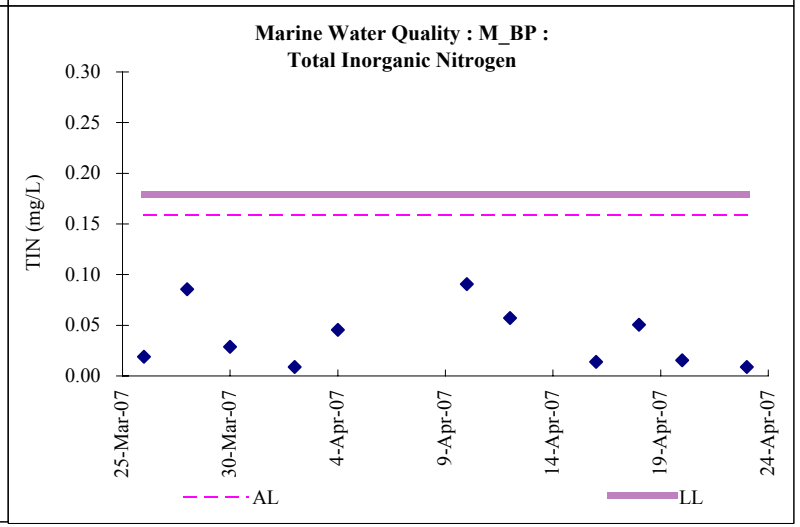
M_BP	Bottom									
tide condition	Date	time	SS (mg/L)	NH_3-N (mg/L)	NO_3-N (mg/L)	NO_2-N (mg/L)	TIN (mg/L)	TP (mg/L)	Chlorophyll a (ug/L)	Pesticides (ug/L)
Mid-Flood	26-Mar-07	11:20	3	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	1.9	
Mid-Flood	28-Mar-07	13:30	-	0.04	~~0.01~~	~~0.01~~	0.06	~~0.01~~	0.9	
Mid-Flood	30-Mar-07	13:30	-	0.01	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	~~0.5~~	
Mid-Flood	02-Apr-07	11:05	3	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	1.4	
Mid-Flood	04-Apr-07	09:30	-	0.03	~~0.01~~	~~0.01~~	0.05	~~0.01~~	1.0	
Mid-Flood	10-Apr-07	14:55	5	***0.05***	0.03	~~0.01~~	0.09	0.01	3.1	
Mid-Flood	12-Apr-07	13:30	-	0.04	0.01	~~0.01~~	0.06	~~0.01~~	2.9	
Mid-Flood	16-Apr-07	14:55	3	0.01	0.01	~~0.01~~	~~0.01~~	~~0.01~~	1.8	
Mid-Flood	18-Apr-07	16:00	-	0.03	~~0.01~~	~~0.01~~	0.05	~~0.01~~	1.6	
Mid-Flood	20-Apr-07	10:30	-	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	1.8	
Mid-Flood	23-Apr-07	14:55	5	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	1.4	

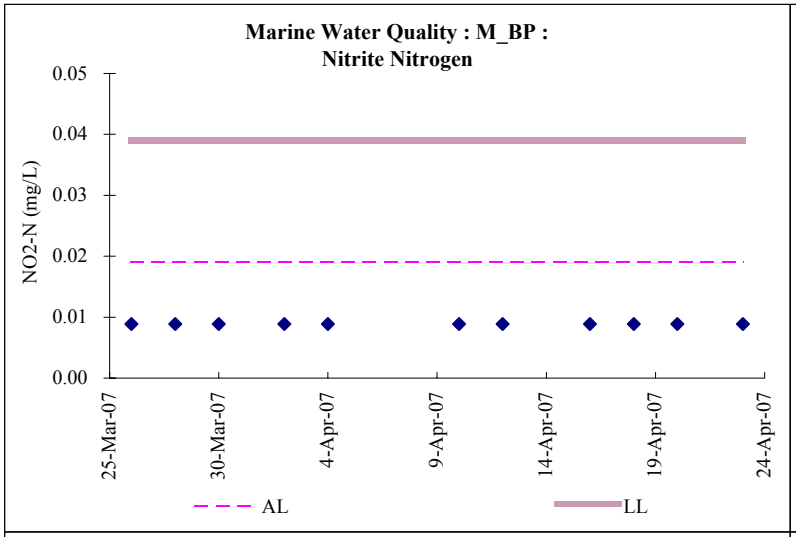
	Depth-averaged							
M_BP	SS (mg/L)	NH_3-N (mg/L)	NO_3-N (mg/L)	NO_2-N (mg/L)	TIN (mg/L)	TP (mg/L)	Chlorophyll a (ug/L)	Pesticides (ug/L)
26-Mar-07	3	0.01	0.01	~~0.01~~	0.02	~~0.01~~	2.1	
28-Mar-07	-	**0.06**	0.02	~~0.01~~	0.09	~~0.01~~	1.0	
30-Mar-07	-	0.01	0.01	~~0.01~~	0.03	~~0.01~~	0.5	
02-Apr-07	4	0.01	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	1.5	
04-Apr-07	-	0.03	~~0.01~~	~~0.01~~	0.05	~~0.01~~	1.4	
10-Apr-07	4	***0.05***	0.03	~~0.01~~	0.09	0.01	3.1	
12-Apr-07	-	0.03	0.02	~~0.01~~	0.06	~~0.01~~	3.2	
16-Apr-07	3	0.01	0.01	~~0.01~~	0.01	~~0.01~~	1.6	
18-Apr-07	-	0.03	~~0.01~~	~~0.01~~	0.05	~~0.01~~	1.6	
20-Apr-07	-	0.01	~~0.01~~	~~0.01~~	0.02	~~0.01~~	1.7	
23-Apr-07	4	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~	1.8	

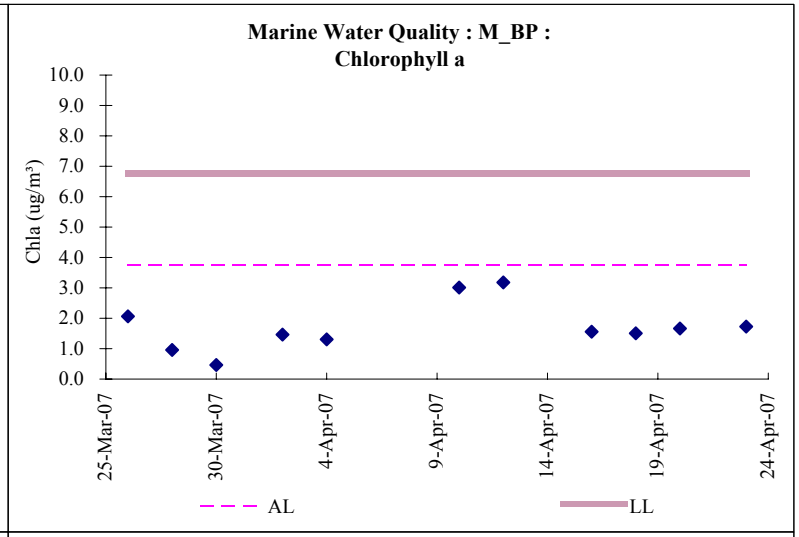

Marine Water Quality : M_BP :
Suspended Solids
SS (mg/L)
12.0
10.0
8.0
6.0
4.0
2.0
0.0
25-Mar-07
30-Mar-07
4-Apr-07
9-Apr-07
14-Apr-07
19-Apr-07
24-Apr-07
AL
LL

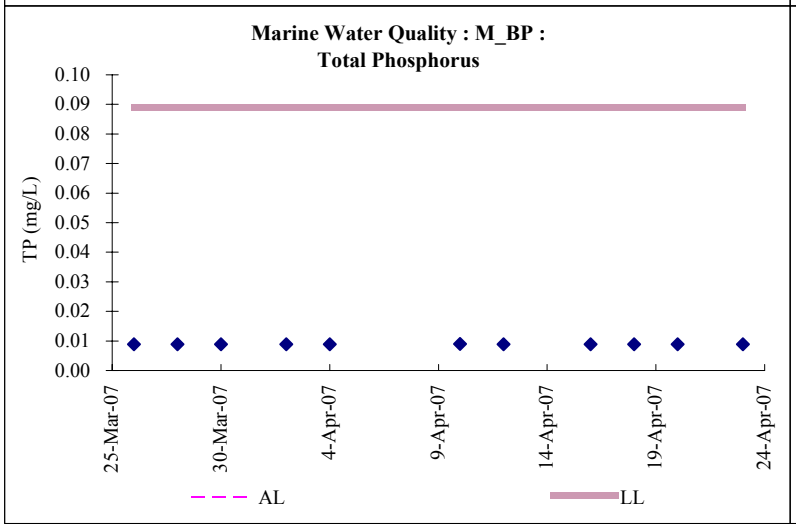

Marine Water Quality : M_BP :
Nitrate Nitrogen
NO3-N (mg/L)
0.10
0.08
0.06
0.04
0.02
0.00
25-Mar-07
30-Mar-07
4-Apr-07
9-Apr-07
14-Apr-07
19-Apr-07
24-Apr-07
AL
LL

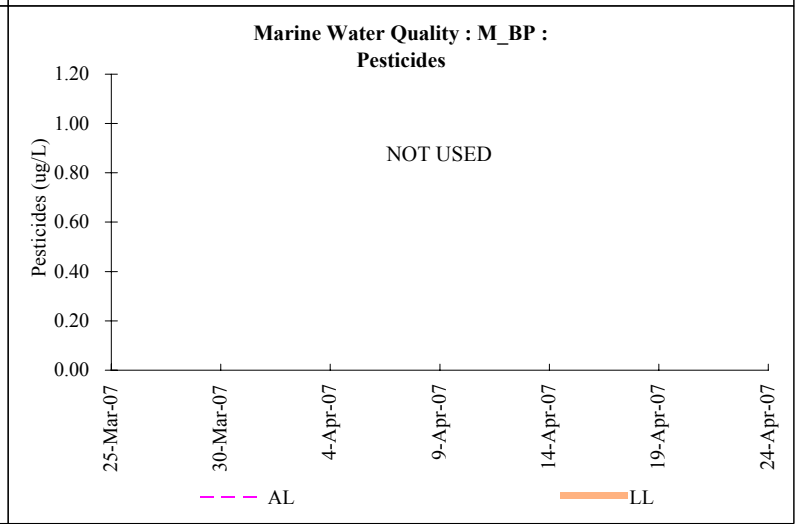

Marine Water Quality : M_BP :
Ammonia Nitrogen
NH3-N (mg/L)
0.10
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0.00
25-Mar-07
30-Mar-07
4-Apr-07
9-Apr-07
14-Apr-07
19-Apr-07
24-Apr-07
AL
LL


Marine Water Quality : M_BP :
Total Inorganic Nitrogen
TIN (mg/L)
0.30
0.25
0.20
0.15
0.10
0.05
0.00
25-Mar-07
30-Mar-07
4-Apr-07
9-Apr-07
14-Apr-07
19-Apr-07
24-Apr-07
AL
LL


Marine Water Quality : M_BP :
Nitrite Nitrogen
NO2-N (mg/L)
0.05
0.04
0.03
0.02
0.01
0.00
25-Mar-07
30-Mar-07
4-Apr-07
9-Apr-07
14-Apr-07
19-Apr-07
24-Apr-07
AL
LL

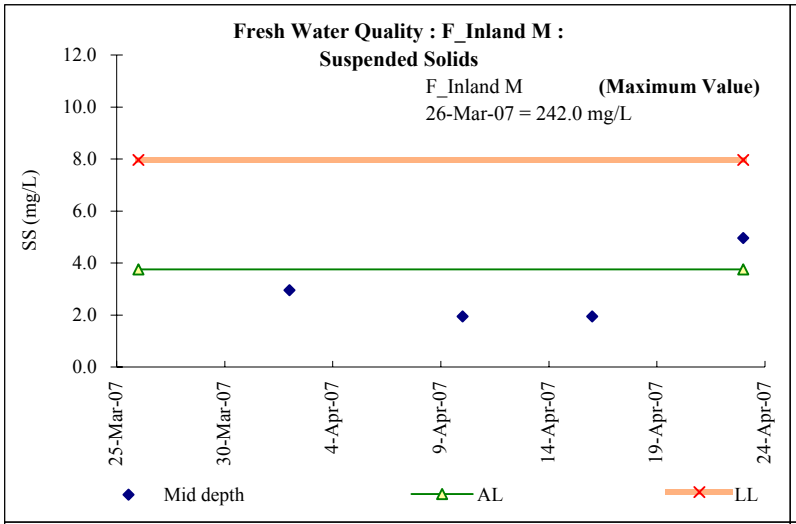

Marine Water Quality : M_BP :
Chlorophyll a
Chla (ug/m³)
10.0
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
25-Mar-07
30-Mar-07
4-Apr-07
9-Apr-07
14-Apr-07
19-Apr-07
24-Apr-07
AL
LL

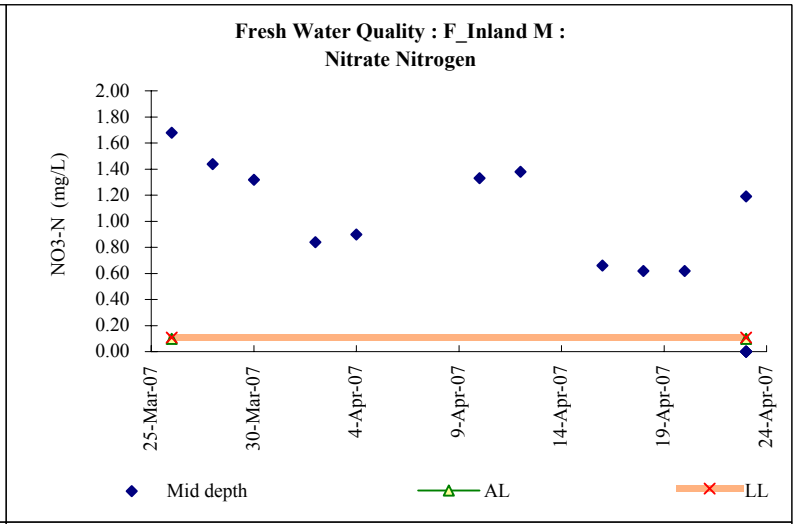

Marine Water Quality : M_BP :
Total Phosphorus
TP (mg/L)
0.10
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0.00
25-Mar-07
30-Mar-07
4-Apr-07
9-Apr-07
14-Apr-07
19-Apr-07
24-Apr-07
AL
LL

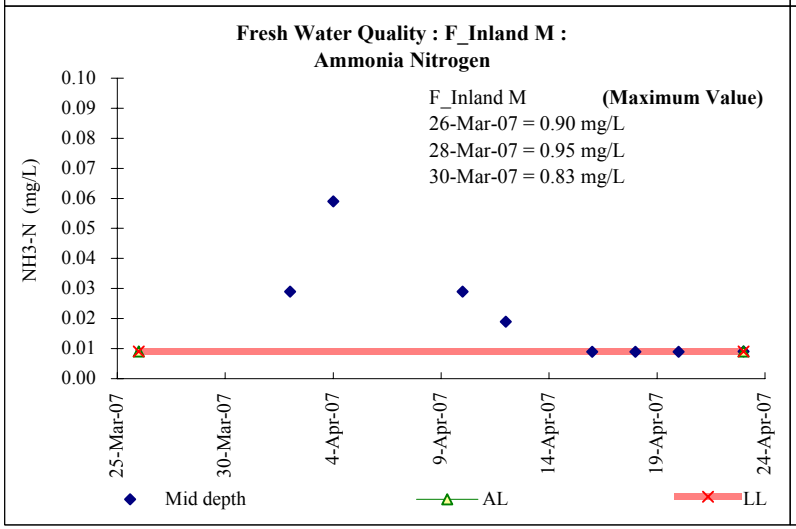

Marine Water Quality : M_BP :
Pesticides
NOT USED
Pesticides (ug/L)
1.20
1.00
0.80
0.60
0.40
0.20
0.00
25-Mar-07
30-Mar-07
4-Apr-07
9-Apr-07
14-Apr-07
19-Apr-07
24-Apr-07
AL
LL

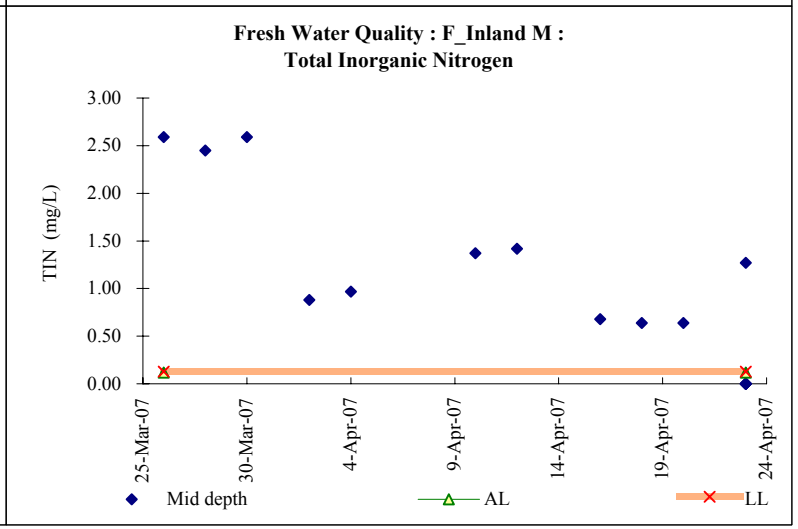
F Inland M	Mid depth								
Date	time	SS (mg/L)	NH_3-N (mg/L)	NO_3-N (mg/L)	NO_2-N (mg/L)	TIN (mg/L)	TP (mg/L)	Chlorophyll a (ug/L)	Pesticides (ug/L)
26-Mar-07	11:00	**242**	**0.90**	**1.68**	~~0.01~~	**2.59**	~~0.01~~	**2.6**	
28-Mar-07	09:20	-	**0.95**	**1.44**	**0.06**	**2.45**	~~0.01~~	**1.4**	
30-Mar-07	09:20	-	**0.83**	**1.32**	**0.44**	**2.59**	~~0.01~~	**0.8**	
02-Apr-07	10:45	3	**0.03**	**0.84**	***0.01***	**0.88**	~~0.01~~	**0.9**	
04-Apr-07	13:20	-	**0.06**	**0.90**	***0.01***	**0.97**	~~0.01~~	**1.0**	
10-Apr-07	09:15	~~2~~	**0.03**	**1.33**	***0.01***	**1.37**	~~0.01~~	**1.1**	
12-Apr-07	08:50	-	**0.02**	**1.38**	**0.02**	**1.42**	~~0.01~~	**0.8**	
16-Apr-07	09:45	~~2~~	~~0.01~~	**0.66**	~~0.01~~	**0.68**	~~0.01~~	**0.6**	
18-Apr-07	10:20	-	~~0.01~~	**0.62**	~~0.01~~	**0.64**	~~0.01~~	~~0.5~~	
20-Apr-07	08:20	-	~~0.01~~	**0.62**	~~0.01~~	**0.64**	~~0.01~~	~~0.5~~	
23-Apr-07	08:45	***5***	***0.01***	**1.19**	**0.07**	**1.27**	~~0.01~~	**1.8**	

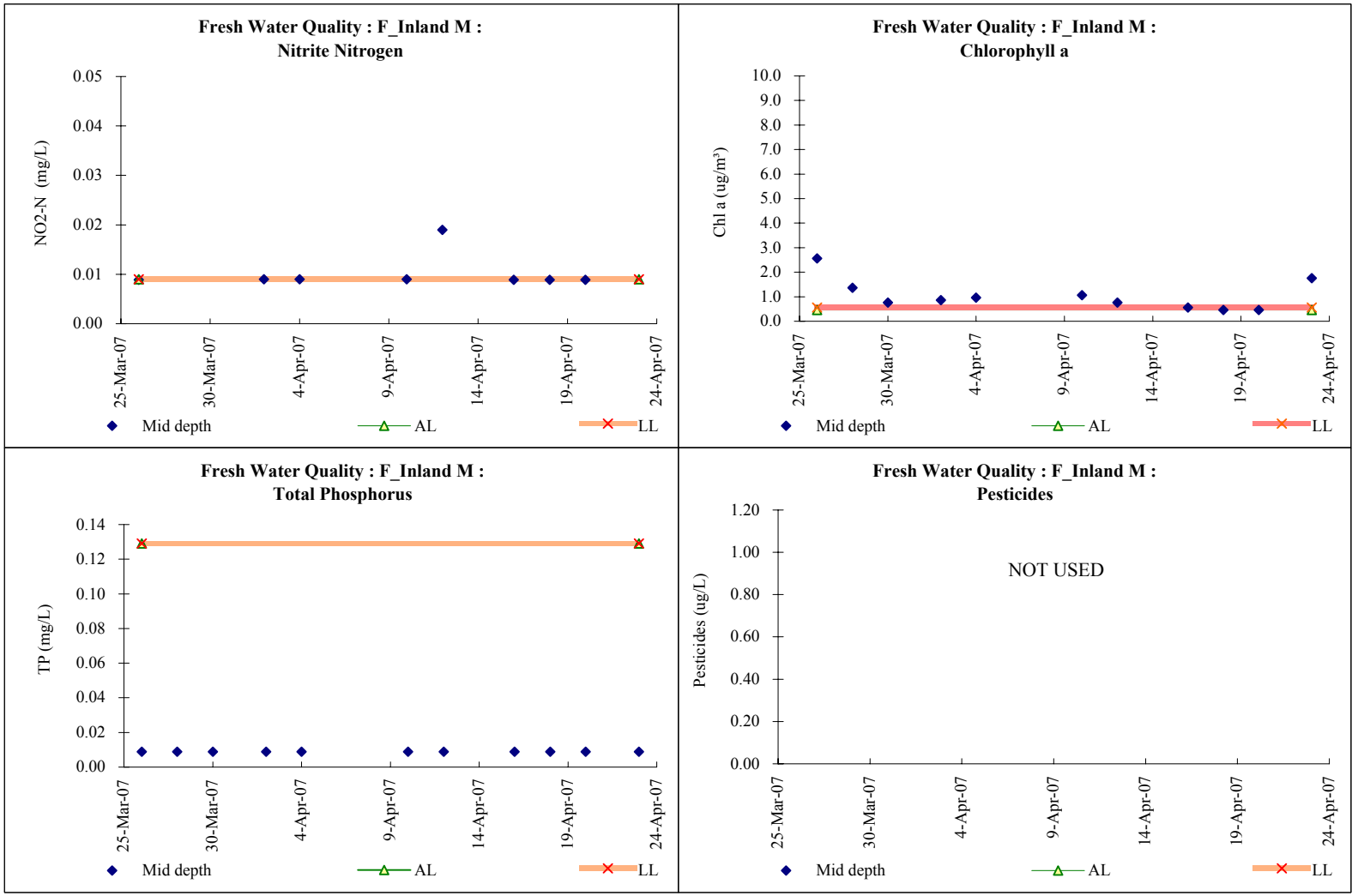
23-Apr-07	***Bold & Italic***
	Bold
< detection limit	~~Grey~~


Fresh Water Quality : F_Inland M :
Suspended Solids
F_Inland M (Maximum Value)
26-Mar-07 = 242.0 mg/L
SS (mg/L)
12.0
10.0
8.0
6.0
4.0
2.0
0.0
25-Mar-07
30-Mar-07
4-Apr-07
9-Apr-07
14-Apr-07
19-Apr-07
24-Apr-07
Mid depth
AL
LL


Fresh Water Quality : F_Inland M :
Nitrate Nitrogen
NO3-N (mg/L)
2.00
1.80
1.60
1.40
1.20
1.00
0.80
0.60
0.40
0.20
0.00
25-Mar-07
30-Mar-07
4-Apr-07
9-Apr-07
14-Apr-07
19-Apr-07
24-Apr-07
Mid depth
AL
LL


Fresh Water Quality : F_Inland M :
Ammonia Nitrogen
F_Inland M (Maximum Value)
26-Mar-07 = 0.90 mg/L
28-Mar-07 = 0.95 mg/L
30-Mar-07 = 0.83 mg/L
NH3-N (mg/L)
0.10
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0.00
25-Mar-07
30-Mar-07
4-Apr-07
9-Apr-07
14-Apr-07
19-Apr-07
24-Apr-07
Mid depth
AL
LL


Fresh Water Quality : F_Inland M :
Total Inorganic Nitrogen
TIN (mg/L)
3.00
2.50
2.00
1.50
1.00
0.50
0.00
25-Mar-07
30-Mar-07
4-Apr-07
9-Apr-07
14-Apr-07
19-Apr-07
24-Apr-07
Mid depth
AL
LL


Fresh Water Quality : F_Inland M :
Nitrite Nitrogen
NO2-N (mg/L)
0.05
0.04
0.03
0.02
0.01
0.00
25-Mar-07
30-Mar-07
4-Apr-07
9-Apr-07
14-Apr-07
19-Apr-07
24-Apr-07
Mid depth
AL
LL
Fresh Water Quality : F_Inland M :
Chlorophyll a
Chl a (ug/m³)
10.0
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
25-Mar-07
30-Mar-07
4-Apr-07
9-Apr-07
14-Apr-07
19-Apr-07
24-Apr-07
Mid depth
AL
LL
Fresh Water Quality : F_Inland M :
Total Phosphorus
TP (mg/L)
0.14
0.12
0.10
0.08
0.06
0.04
0.02
0.00
25-Mar-07
30-Mar-07
4-Apr-07
9-Apr-07
14-Apr-07
19-Apr-07
24-Apr-07
Mid depth
AL
LL
Fresh Water Quality : F_Inland M :
Pesticides
Pesticides (ug/L)
1.20
1.00
0.80
0.60
0.40
0.20
0.00
NOT USED
25-Mar-07
30-Mar-07
4-Apr-07
9-Apr-07
14-Apr-07
19-Apr-07
24-Apr-07
Mid depth
AL
LL

Ecology

Plate 5.3-1 Photos of Stream Habitat

Stream A and Buffer Zone

Stream Flow in upper Stream A

Snails in Stream B Tributary B2

Stream B close-up

Close-up of Stream C

Stream flow in Steam C

Riparian plants in Stream C

Permanent Bridge in Stream C

Shrimps in Stream D

Close-up of Stream D

Annex F
Calibration Certificates

Maunsell Environmental Management Consultants Ltd.
TSP High Volume Sampler
Field Calibration Report

Station	KSC Public Golf Course Bungalow A (GCA B1)	Operator:	Porky
Cal. Date:	27-Feb-07		27-Apr-07
Equipment No.:	A-001-47T	Serial No.	B/M200HX

Ambient Condition			
Temperature, Ta (K)	289	Pressure, Pa (mmHg)	769.6

Orifice Transfer Standard Information					
Serial No:	843	Slope, mc	2.00577	Intercept, bc	-0.00146
Last Calibration Date:	21-Dec-06	$mc \times Qstd + bc = [DH \times (Pa/760) \times (298/Ta)]^{1/2}$			
Next Calibration Date:	21-Dec-07	$Qstd = \{[DH \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			

Calibration of TSP Sampler

Resistance Plate No.	Orfice			HVS Flow Recorder	
	DH (orifice), in. of water	$[DH \times (Pa/760) \times (298/Ta)]^{1/2}$	Qstd (m^3/min) **X - axis**	Flow Recorder Reading (CFM)	Continuous Flow Recorder Reading IC (CFM) **Y-axis**
18	13.1	3.70	1.84	53.0	54.16
13	10.3	3.28	1.64	46.0	47.00
10	7.7	2.84	1.41	39.0	39.85
7	5.6	2.42	1.21	33.0	33.72
5	3.2	1.83	0.91	24.0	24.52

By Linear Regression of Y on X

Slope , mw = 31.5919 **Intercept, bw =** -4.4599

Correlation Coefficient* = 0.9994

*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation

From the TSP Field Calibration Curve, take Qstd = 1.30m^3/min

From the Regression Equation, the "Y" value according to

$$mw \times Qstd + bw = IC \times [(Pa/760) \times (298/Ta)]^{1/2}$$

Therefore, Set Point; $IC = (mw \times Qstd + bw) \times [(760 / Pa) \times (Ta / 298)]^{1/2}$ = **35.83**

Remarks:

QC Reviewer: Eddie Yang Signature: Eddy Date: 1/3/2007

P:/misc/General/HVS/S12705/2006/GCA B1_270207.xls

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

CERTIFICATE OF ANALYSIS

CONTACT:	MR WONG SIU HO	**Batch:**	HK70960
CLIENT:	ENOVATIVE ENV TECHNOLOGY CO	**Sub Batch:**	0
ADDRESS:	RM 3704 SIK MAN HOUSE HOMANTIN ESTATE KOWLOON	**LABORATORY:**	HONG KONG
		DATE RECEIVED:	25/01/2007
		DATE OF ISSUE:	31/01/2007
ORDER No.:		**SAMPLE TYPE:**	EQUIPMENT
PROJECT:		**No. of SAMPLES:**	1

COMMENTS

The calibration procedure used for the analysis has been applied for the calibration of the above instrument.

NOTES

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

ISSUING LABORATORY: HONG KONG

Address

ALS Technichem (HK) Pty Ltd

11/F
Chung Shun Knitting Centre
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pp

Ms Wong Wai Man, Alice
Laboratory Manager - Hong Kong

CERTIFICATE OF ANALYSIS

Batch: HK70960
Sub Batch : 0
Date of Issue: 31/01/2007
Client: ENOVATIVE ENV TECHNOLOGY CO
Client Reference:

Calibration of Tubidimeter

Item : YSI SONDE Environmental Monitoring System

Model No. : 6920

Serial No. : 000109DF

Calibration Method : This meter was calibrated in accordance with standard method APHA (19th Ed.) 2130B

Date of Calibration : 25 January, 2007

Testing Results :

Expected Reading	Recording Reading
0.00 NTU	0.2 NTU
4.00 NTU	3.90 NTU
16.0 NTU	16.1 NTU
80.0 NTU	80.0 NTU
160 NTU	159 NTU
Allowing Deviation	±10%

Ms Wong Wai Man, Alice
Laboratory Manager - Hong Kong

CERTIFICATE OF ANALYSIS

Batch: HK70960
Sub Batch : 0
Date of Issue: 31/01/2007
Client: ENOVATIVE ENV TECHNOLOGY CO
Client Reference:

Calibration of Conductivity System

Item : YSI SONDE Environmental Monitoring System

Model No. : 6920

Serial No. : 000109DF

Calibration Method : This meter was calibrated in accordance with standard method APHA (19th Ed.) 2510B

Date of Calibration : 25 January, 2007

Testing Results :

Expected Reading	Recording Reading
1412 uS/cm 6667 uS/cm 58670 uS/cm	1405 uS/cm 6732 uS/cm 57920 uS/cm
Allowing Deviation	±10%

pp

Ms Wong Wai Man, Alice
Laboratory Manager - Hong Kong

CERTIFICATE OF ANALYSIS

Batch: HK70960
Sub Batch : 0
Date of Issue: 31/01/2007
Client: ENOVATIVE ENV TECHNOLOGY CO
Client Reference:

Calibration of Salinity System

Item : YSI SONDE Environmental Monitoring System

Model No. : 6920

Serial No. : 000109DF

Calibration Method : This meter was calibrated in accordance with standard method APHA (19th Ed.) 2520 A and B

Date of Calibration : 25 January, 2007

Testing Results :

Expected Reading	Recording Reading
10.0 g/L 20.0 g/L 30.0 g/L	10.0 g/L 19.7 g/L 30.4 g/L
Allowing Deviation	±10%

Ms Wong Wai Man, Alice
Laboratory Manager - Hong Kong

CERTIFICATE OF ANALYSIS

Batch: HK70960
Sub Batch : 0
Date of Issue: 31/01/2007
Client: ENOVATIVE ENV TECHNOLOGY CO
Client Reference:

Calibration of Thermometer

Item : YSI SONDE Environmental Monitoring System

Model No. : 6920

Serial No. : 000109DF

Calibration Method : In-house Method

Date of Calibration : 25 January, 2007

Testing Results :

Reference Temperature (^{0}C)	Recorded Temperature (^{0}C)
3.5 ^{0}C 20.1 ^{0}C	3.5 ^{0}C 20.0 ^{0}C
Allowing Deviation	±2.0^{0}C

pp

Ms Wong Wai Man, Alice
Laboratory Manager - Hong Kong

CERTIFICATE OF ANALYSIS

Batch: HK70960
Sub Batch : 0
Date of Issue: 31/01/2007
Client: ENOVATIVE ENV TECHNOLOGY CO
Client Reference:

Calibration of DO System

Item : YSI SONDE Environmental Monitoring System

Model No. : 6920

Serial No. : 000109DF

Calibration Method : This meter was calibrated in accordance with standard method APHA (18th Ed.) 4500-0C & G

Date of Calibration : 25 January, 2007

Testing Results :

Expected Reading	Recording Reading
0.00 mg/L	0.10 mg/L
2.70 mg/L	2.90 mg/L
5.20 mg/L	5.00 mg/L
9.00 mg/L	8.80 mg/L
Allowing Deviation	±0.2 mg/L

Alice W M Wong
Laboratory Manager - Hong Kong

CERTIFICATE OF ANALYSIS

Batch: HK70960
Sub Batch : 0
Date of Issue: 31/01/2007
Client: ENOVATIVE ENV TECHNOLOGY CO
Client Reference:

Calibration of pH System

Item : YSI SONDE Environmental Monitoring System

Model No. : 6920

Serial No. : 000109DF

Calibration Method : This meter was calibrated in accordance with standard method APHA (19th Ed.) 4500 H:B

Date of Calibration : 25 January, 2007

Testing Results :

Expected Reading	Recording Reading
4.00	4.01
7.00	7.01
10.0	9.93
Allowing Deviation	±0.2 unit

Ms Wong Wai Man, Alice
Laboratory Manager - Hong Kong

ENOVATIVE
ENVIRONMENTAL TECHNOLOGY

Project: Proposed Extension of Public Golf Course at Kau Sai Chau Island

Instrument: Daily checking and calibration record
YSI 6920 (ENO 003)

Date	pH checking			DO wet bulb calibration	Turbidity checking		Staff	Remark
	4.0	7.0	10.0		5 NTU	20 NTU		
26/03	3.9	7.0	9.9	100%	4.8	19.3	[illegible]	
02/04	3.9	7.0	9.9	100%	4.9	19.7	[illegible]	
10/04	4.0	7.0	9.9	100%	4.8	20.3	[illegible]	
16/04	4.1	7.1	10.0	100%	5.1	20.5	[illegible]	
23/04	4.0	7.0	9.9	100%	5.2	21.0	[illegible]	

Annex G
Monitoring Programme for the next three months

May 2007						
Sun	**Mon**	**Tue**	**Wed**	**Thu**	**Fri**	**Sat**
		1 Public Holiday	2 WQ AQ	3	4 WQ	5
6	7 WQ	8 AQ	9 WQ LV	10	11 WQ	12
13	14 WQ AQ	15	16	17 TE	18 TE	19 AQ
20	21 WQ	22	23 LV	24 Public Holiday	25 AQ	26
27	28 WQ	29	30 AQ	31		

June 2007						
Sun	**Mon**	**Tue**	**Wed**	**Thu**	**Fri**	**Sat**
					1	2
3	4 WQ	5 AQ	6 LV	7	8	9
10	11 AQ WQ	12	13	14	15	16 AQ
17	18 WQ	19 Public Holiday	20 LV	21 TE	22 AQ TE	23
24	25 WQ	26 ME	27 ME	28 AQ	29	30

July 2007						
Sun	**Mon**	**Tue**	**Wed**	**Thu**	**Fri**	**Sat**
1	2 Public Holiday	3 WQ	4 AQ LV	5	6	7
8	9 WQ	10 AQ	11	12	13	14
15	16 AQ WQ	17	18 LV	19	20	21 AQ
22	23 WQ	24	25 TE	26 TE	27 AQ	28
29	30 WQ	31				

Remarks: AQ = TSP, WQ = Freshwater and Marine water quality, TE = Terrestrial Ecology, ME = Marine Ecology, LV = Landscape & Visual.

No exceedance was found during the three months of coral monitoring (Apr – Jun 06) at the temporary barging point after the coral incident (23rd Mar 06), the monitoring frequency will be changed on quarterly basis (start from Sept 2006) till the end of the construction phase (Dec 06, Mar 07 and Jun 07). According to the latest construction programme submitted by the Contractor, it will extend from July 07 to Nov 07. The monitoring will require to be extended to Sept 07 subject to the actual site progress.

No dredging was carried out for the desalination plant pipeline construction. However, corals at Site D2 were transplanted in the Dec 2006. Transplanted coral monitoring on quarterly basis for one year was commenced after the completion of coral transplanted in Dec 2006. The monitoring of the transplanted coral was carried out in Mar 07 and will be carried out in Jun 07 and Sept 07.

Planting turf is likely to be in mid-February 2007. Water quality monitoring and frequency will increase to three times a week for the first three months (mid-February to mid-May 2007), then decrease to weekly basis if no exceedance was recorded. The monitoring parameter will include nutrients and pesticides (only measured when actual application on site).

Annex H
Construction Programme for the next three months

Activity ID	Activity Description	Orig Dur	Rem Dur	%	Early Start	Early Finish	Total Float
General & Preliminaries							
Project Key Dates							
Possession of Site							
KSC00090	Letter of Acceptance	0	0	100	28-12-05A		
KSC00095	Project Commencement	0	0	100	03-01-06A		
KSC00100	Possession of Portion 1	0	0	100	03-01-06A		
KSC00110	Possession of Portion 2	0	0	100	03-01-06A		
KSC00120	Possession of Portion 3	0	0	100	03-01-06A		
KSC00130	Possession of Portion 4	0	0	100	03-01-06A		
KSC00140	Possession of Portion 5	0	0	100	03-01-06A		
Completion of Works							
KSC00145	Completion of Section 1	0	0	100		03-10-06A	
KSC00152	Completion of Section 1 (Forecast) Alternative	0	0	0		23-04-07	-202
KSC00155	Completion of Section 2	0	0	100		03-10-06A	
KSC00160	Completion of Section 2 (Forecast)	0	0	0		10-11-07	-403
KSC00162	Completion of Section 2 (Forecast) Desalination	0	0	100		29-01-07A	
KSC00164	Completion of Section 2 (Forecast) Lake No.1	0	0	0		14-05-07	-223
KSC00165	Completion of Section 3	0	0	100		06-12-06A	
KSC00170	Completion of Section 3 (Forecast)	0	0	0		22-10-07	-320
KSC00175	Completion of Section 4	0	0	0		20-04-07*	-45
KSC00180	Completion of Section 4 (Forecast)	0	0	0		18-06-07	-104
KSC00185	Completion of Section 9	0	0	0		01-08-07*	0
KSC00190	Completion of Section 9 (Forecast)	0	0	0		19-12-07	-140
Design and Submission							
Submision: Temporary Works							
KSC00659	Design reinforced fill slope approval by GEO	42	1	99	23-08-06A	21-04-07	-80
General Works							
Site Office, Barging Point and Site Haul Road							
KSC00698	Removal of concrete batching plant	6	6	0	18-07-07*	24-07-07	-116
KSC00798	Removal of Temp Site Office	24	24	0	03-07-07*	30-07-07	2

Start Date 28-12-05
Finish Date 12-03-08
Data Date 21-04-07

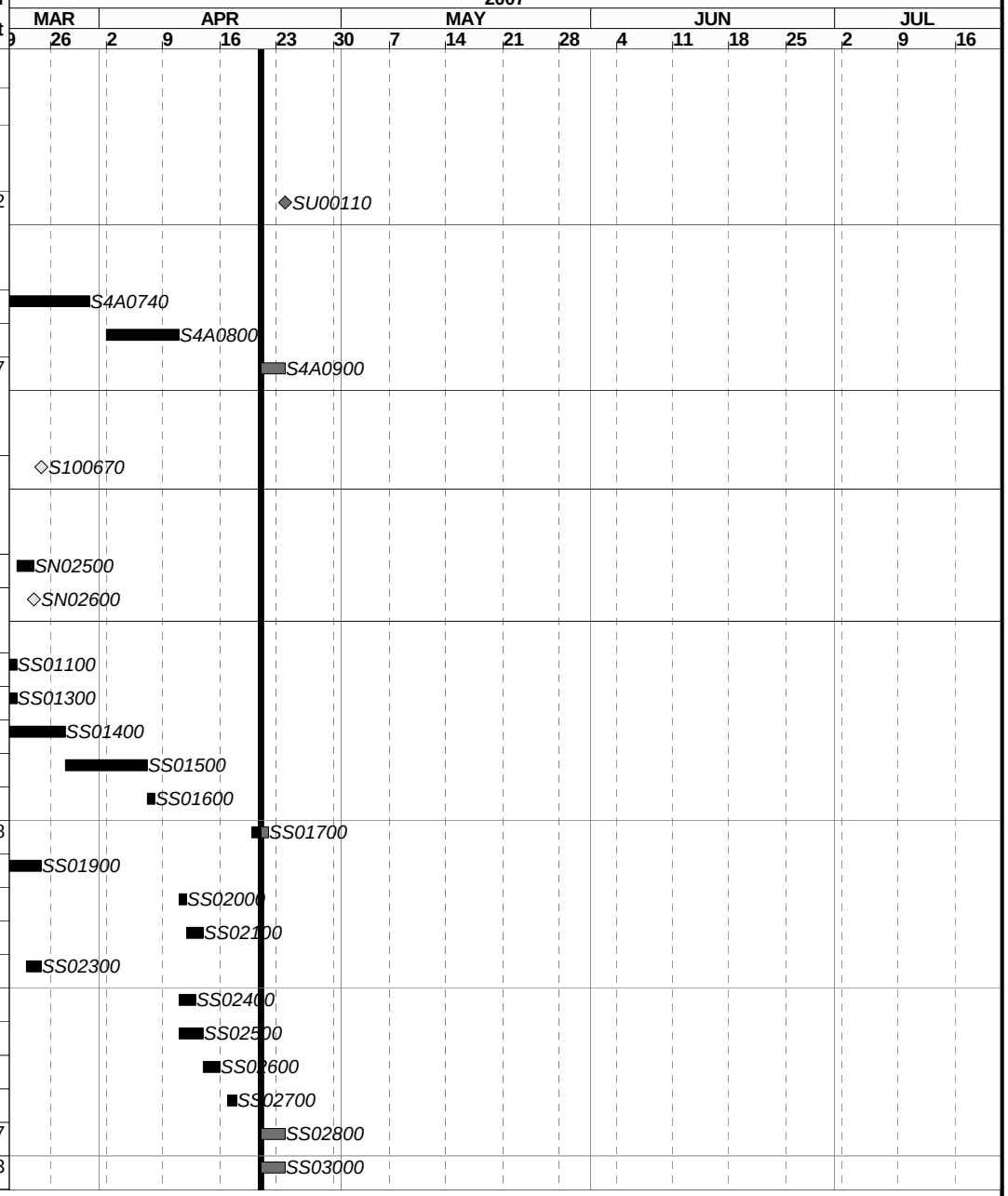
Early Bar
Progress Bar
Critical Activity

KS16 Sheet 1 of 18

China Harbour Engineering Company (Group)
The Jockey Club Kau Sai Chau Public Golf Course
3 month rolling programme
Upto Date : 21-04-07

Date	Revision	Checked	Approved
28-12-05	1st rolling	Tim	

Activity ID	Activity Description	Orig Dur	Rem Dur	%	Early Start	Early Finish	Total Float
Section 1 of the Works							
General Works							
Completion of Works							
SU00110	Completion of Section 1	0	0	0		23-04-07	-202
Construction of Low Level Intake Pumping Station							
Alternative Design for Pumping Station							
S4A0740	AD - Manufacture & Delivery of Electric Board	26	0	100	01-03-07A	30-03-07A	
S4A0800	AD - E&M Works	2	0	100	02-04-07A	10-04-07A	
S4A0900	AD - Testing & Commissioning	2	2	0	21-04-07	23-04-07	-157
Construction of Gravity Drain & Rising Main							
Rising Main No.2: Lay Pipe							
S100670	Completion of Rising Main No.2	0	0	100		24-03-07A	
Reinstatement of Golf Course Area							
Northern Existing Golf Courses							
SN02500	N15 Grassing	2	0	100	22-03-07A	23-03-07A	
SN02600	Completion of N12 & N15 - N17	0	0	100		23-03-07A	
Southern Existing Golf Courses							
SS01100	S2 Grassing	1	0	100	21-03-07A	21-03-07A	
SS01300	S9 Remove Haul Road Materals	9	0	100	12-03-07A	21-03-07A	
SS01400	S9 Shaping the Subgrade	6	0	100	21-03-07A	27-03-07A	
SS01500	S9 Installation Irrigation System	3	0	100	28-03-07A	06-04-07A	
SS01600	S9 Sanding	1	0	100	07-04-07A	07-04-07A	
SS01700	S9 Grassing	2	1	50	20-04-07A	21-04-07	208
SS01900	S8/S9 Remove Haul Road Materals	2	0	100	21-03-07A	24-03-07A	
SS02000	S8/S9 Shaping the Subgrade	1	0	100	11-04-07A	11-04-07A	
SS02100	S8/S9 Picking Rocks & Hydroseeding	2	0	100	12-04-07A	13-04-07A	
SS02300	S8 Remove Haul Road Materals	2	0	100	23-03-07A	24-03-07A	
SS02400	S8 Shaping the Subgrade	2	0	100	11-04-07A	12-04-07A	
SS02500	S8 Reconnect Subsoil Drain/Irrigation System	3	0	100	11-04-07A	13-04-07A	
SS02600	S8 Reinstate Cart Track	2	0	100	14-04-07A	15-04-07A	
SS02700	S8 Sanding	1	0	100	17-04-07A	17-04-07A	
SS02800	S8 Grassing	2	2	0	21-04-07	23-04-07	207
SS03000	S8 Remove Haul Road Materals & Fill the Slope	2	2	0	21-04-07	23-04-07	203



Start Date 28-12-05
Finish Date 12-03-08
Data Date 21-04-07

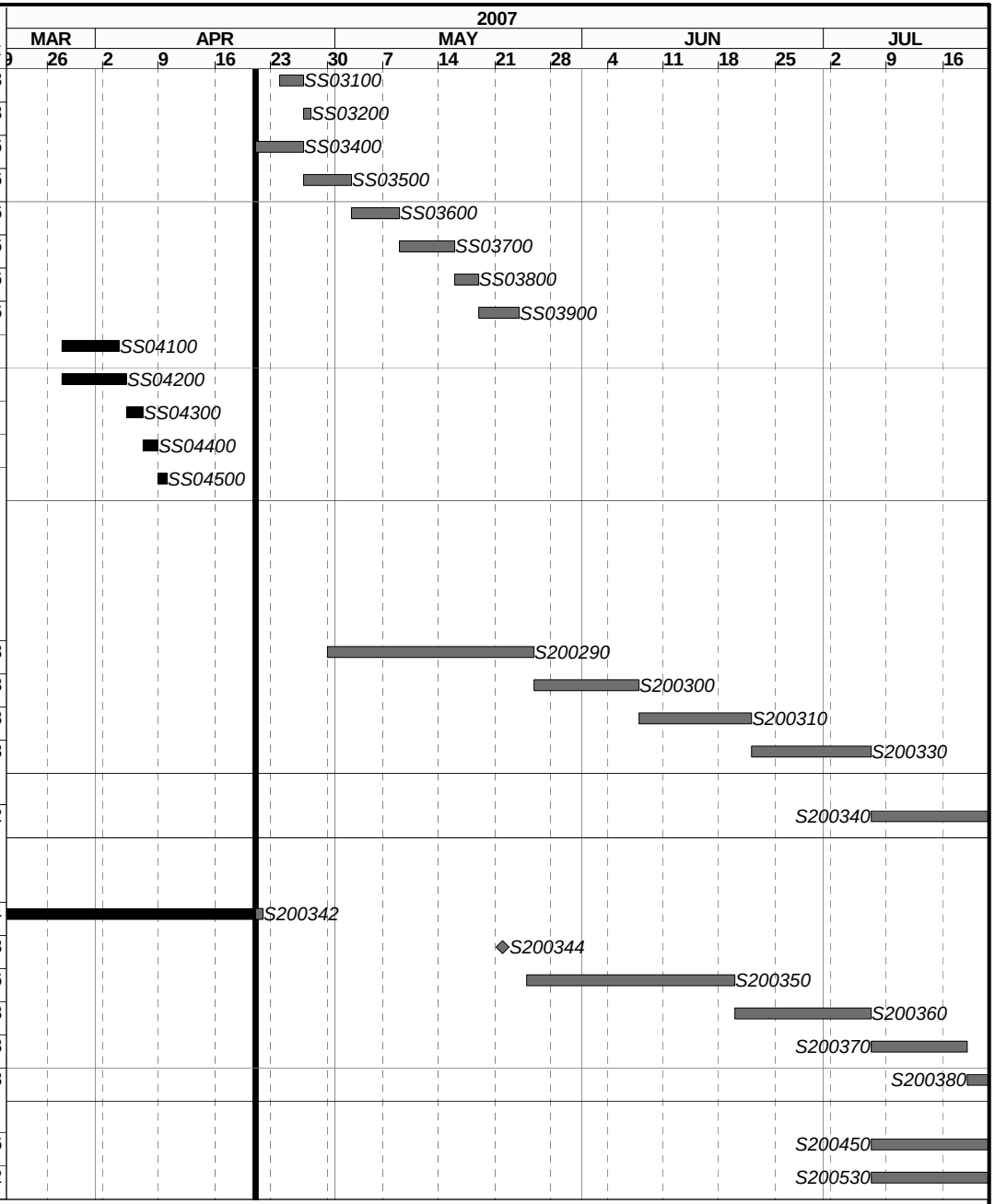
Early Bar
Progress Bar
Critical Activity

KS16 Sheet 2 of 18

China Harbour Engineering Company (Group)
The Jockey Club Kau Sai Chau Public Golf Course
3 month rolling programme
Upto Date : 21-04-07

Date	Revision	Checked	Approved
28-12-05	1st rolling	Tim	

Activity ID	Activity Description	Orig Dur	Rem Dur	%	Early Start	Early Finish	Total Float
SS03100	S8 Reconnection of Irrigation System	3	3	0	24-04-07	26-04-07	203
SS03200	S8 Picking Rocks & Hydroseeding	1	1	0	27-04-07	27-04-07	203
SS03400	S7/S3 Remove Haul Road Materials	5	5	0	21-04-07	26-04-07	-116
SS03500	S7/S3 Shaping the Subgrade	4	4	0	27-04-07	02-05-07	-116
SS03600	S7/S3 Formation of Original Sand Bunker	4	4	0	03-05-07	08-05-07	-116
SS03700	S7/S3 Reconnect Subsoil Drain/Irrigation System	6	6	0	09-05-07	15-05-07	-116
SS03800	S7/S3 Sanding	3	3	0	16-05-07	18-05-07	-116
SS03900	S7/S3 Grassing	4	4	0	19-05-07	23-05-07	-116
SS04100	S6 Shaping the Subgrade	6	0	100	28-03-07A	03-04-07A	
SS04200	S6 Reinstate & Construct Cart Track & U-Channel	6	0	100	28-03-07A	04-04-07A	
SS04300	S6 Reconnect/Provide Subsoil Drain/Irrigation	3	0	100	05-04-07A	06-04-07A	
SS04400	S6 Sanding	4	0	100	07-04-07A	08-04-07A	
SS04500	S6 Grassing	5	0	100	09-04-07A	09-04-07A	
Section 2 of the Works							
Construction of Seawater Pumping Station							
Sewater Pumping Station: Civil Works							
S200290	Excavation of SWP Station	21	21	0	30-04-07*	25-05-07	-273
S200300	Reinf. & cast base slab of SWP station	10	10	0	26-05-07	07-06-07	-273
S200310	Fmwk, reinf & cast 1st level wall	12	12	0	08-06-07	21-06-07	-273
S200330	Fmwk, reinf & cast 2nd level wall & top slab	12	12	0	22-06-07	06-07-07	-273
Sewater Pumping Station: E&M Works							
S200340	Pump unit & E&M works	30	30	0	07-07-07	10-08-07	-252
Seawater Intake & Discharge Pipe							
Seawater Intake Pipe							
S200342	Gazette for Dredging	60	1	99	24-02-06A	21-04-07	-444
S200344	Apply and Wait for Marine Notice	0	0	0		21-05-07	-353
S200350	Dredging for pipe	21	21	0	25-05-07	19-06-07	-156
S200360	Rockfill (quarry run)	14	14	0	20-06-07	06-07-07	-323
S200370	Rockfill for intake structural unit (filter)	10	10	0	07-07-07	18-07-07	-323
S200380	Installation of intake structural unit	4	4	0	19-07-07	23-07-07	-323
Water Discharge Pipe							
S200450	Rockfill (quarry run)	14	14	0	07-07-07	23-07-07	-316
S200530	Lay 300mm DI pipe to desalination plant	30	30	0	07-07-07	10-08-07	-252



Start Date 28-12-05
Finish Date 12-03-08
Data Date 21-04-07

Early Bar
Progress Bar
Critical Activity

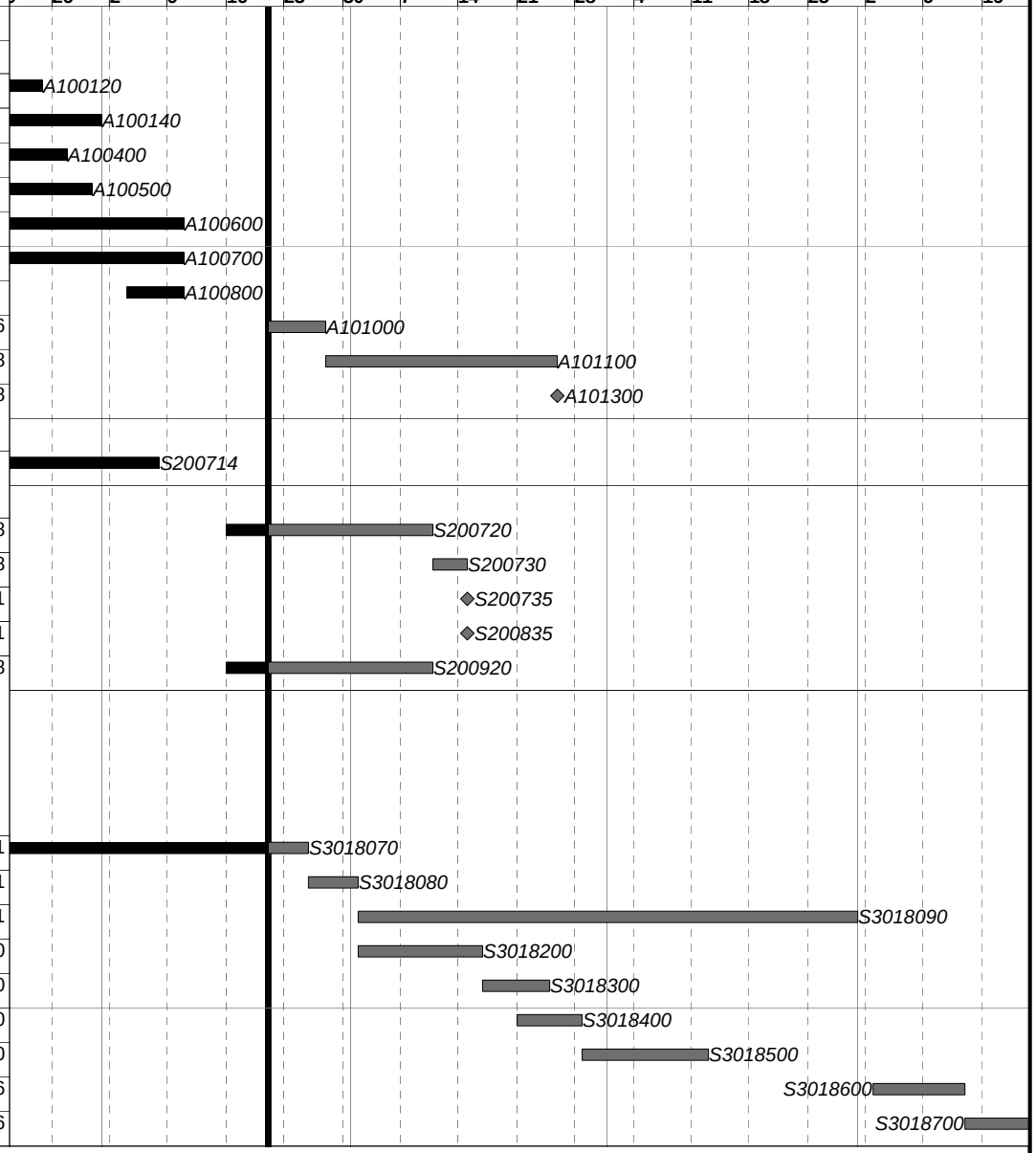
?Primavera Systems, Inc.

KS16 Sheet 3 of 18

China Harbour Engineering Company (Group)
The Jockey Club Kau Sai Chau Public Golf Course
3 month rolling programme
Upto Date : 21-04-07

Date	Revision	Checked	Approved
28-12-05	1st rolling	Tim	

Activity ID	Activity Description	Orig Dur	Rem Dur	%	Early Start	Early Finish	Total Float
Lake No.1 and Pump House No.1							
Construction Lake No.1							
A100120	Modification of Existing Catchpit	20	0	100	26-02-07A	24-03-07A	
A100140	Additional Catch Basin	20	0	100	26-02-07A	31-03-07A	
A100400	Granular Material (Type B) 1500mm(H)	10	0	100	10-03-07A	27-03-07A	
A100500	Grade 200 Rockfill Toe Bund	10	0	100	12-03-07A	30-03-07A	
A100600	Granular Material (Type B)	14	0	100	11-03-07A	10-04-07A	
A100700	Miracell MCL-150-30 150mm on side slope	14	0	100	19-03-07A	10-04-07A	
A100800	Miracell MCL-100-30 150mm on bottom	12	0	100	04-04-07A	10-04-07A	
A101000	Grass Laying	6	6	0	21-04-07	27-04-07	-96
A101100	Grass Establishment	28	28	0	28-04-07	25-05-07	-128
A101300	Lake No.1 Operation	0	0	0	26-05-07		-128
Pump House No.1: Civil Works							
S200714	Construct wall of Pump House PH1	16	0	100	08-02-07A	07-04-07A	
Pump House No.1: E&M Works							
S200720	E&M installation and testing for PH1	3	15	80	16-04-07A	10-05-07	-178
S200730	Electric Board installation by CLP	3	3	0	11-05-07	14-05-07	-178
S200735	Water supply from Irrigation Pump House	0	0	0	15-05-07		-131
S200835	CLP Energize for Irrigation Pump House	0	0	0	15-05-07		-131
S200920	Finishing for PH1	3	15	10	16-04-07A	10-05-07	-178
Section 3 of the Works							
General							
Existing Maintenace Building							
SI16 - Gasoline & Diesel Oil Tank							
S3018070	Await the approval from FSD	14	5	80	16-01-07A	25-04-07	-321
S3018080	Procurement after approval of FSD	6	6	0	26-04-07	01-05-07	-321
S3018090	Material Manufacture & delivery	60	60	0	02-05-07	30-06-07	-321
S3018200	Existing Utilities Diversion	12	12	0	02-05-07	16-05-07	-240
S3018300	Gasoline & Diesel Tank Shoring	7	7	0	17-05-07	24-05-07	-240
S3018400	Gasoline & Diesel Tank Excavation	7	7	0	21-05-07	28-05-07	-240
S3018500	Gasoline & Diesel Tank Concrete Structure	12	12	0	29-05-07	12-06-07	-240
S3018600	Gasoline & Diesel Tank Installation	10	10	0	03-07-07	13-07-07	-256
S3018700	Gasoline & Diesel Tank Pump & Pipe installation	10	10	0	14-07-07	25-07-07	-256



Start Date 28-12-05
Finish Date 12-03-08
Data Date 21-04-07

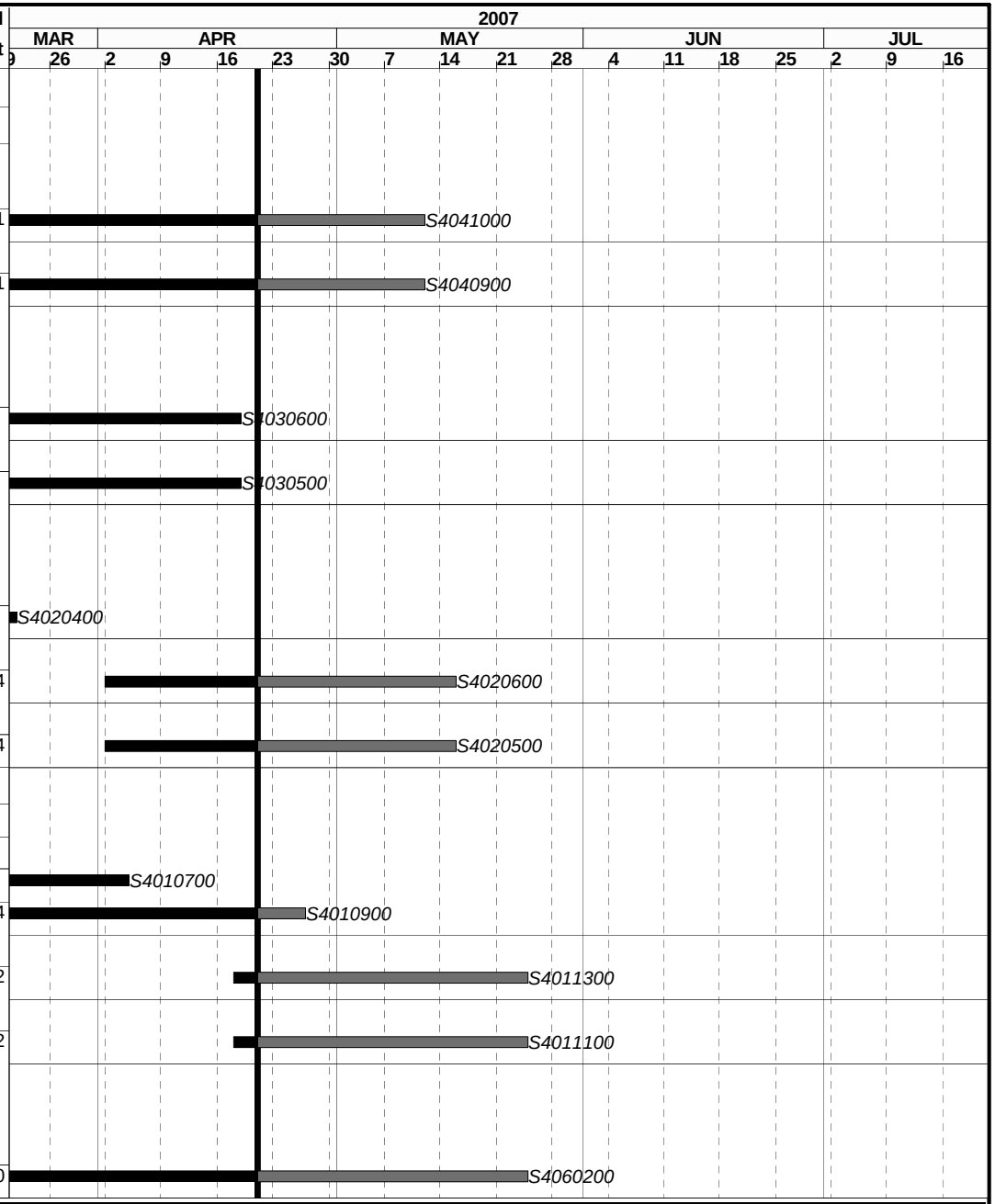
Early Bar
Progress Bar
Critical Activity

KS16 Sheet 4 of 18

China Harbour Engineering Company (Group)
The Jockey Club Kau Sai Chau Public Golf Course
3 month rolling programme
Upto Date : 21-04-07

Date	Revision	Checked	Approved
28-12-05	1st rolling	Tim	

Activity ID	Activity Description	Orig Dur	Rem Dur	%	Early Start	Early Finish	Total Float
Section 4 of the Works							
Area 4							
Existing Admin. Building							
Admin. Building: Fitting Out Works							
S4041000	Area 4 - Finishing Works	40	16	70	09-11-06A	11-05-07	-51
Admin. Building: E&M Works							
S4040900	Area 4 - E&M Works	40	16	70	09-11-06A	11-05-07	-51
Area 3							
Existing Admin. Building							
Admin. Building: Fitting Out Works							
S4030600	Area 3 - Finishing Works	30	0	100	26-12-06A	18-04-07A	
Admin. Building: E&M Works							
S4030500	Area 3 - E&M Works	30	0	100	26-12-06A	18-04-07A	
Area 2							
Existing Admin. Building							
Admin. Building: Structure Works							
S4020400	Area 2 - G/F Slab to Roof	40	0	100	12-02-07A	21-03-07A	
Admin. Building: Fitting Out Works							
S4020600	Area 2 - Finishing Works	40	19	30	02-04-07A	15-05-07	-54
Admin. Building: E&M Works							
S4020500	Area 2 - E&M Works	40	19	30	02-04-07A	15-05-07	-54
Area 1							
Existing Admin. Building							
Admin. Building: Structure Works							
S4010700	Area 1 - G/F Slab to 1/F Slab	24	0	100	23-02-07A	04-04-07A	
S4010900	Area 1 - 1/F Slab to Roof (Phase 2)	26	5	80	14-03-07A	26-04-07	-54
Admin. Building: Fitting Out Works							
S4011300	Area 1 - Finishing Works (Other Areas)	30	27	2	18-04-07A	24-05-07	-62
Admin. Building: E&M Works							
S4011100	Area 1 - E&M Works (Other Areas)	30	27	2	18-04-07A	24-05-07	-62
Existing Building							
Existing Admin. Building							
Admin. Building: Structure Works							
S4060200	Vacant the Existing Building	5	27	20	26-02-07A	24-05-07	-80



Start Date 28-12-05
Finish Date 12-03-08
Data Date 21-04-07

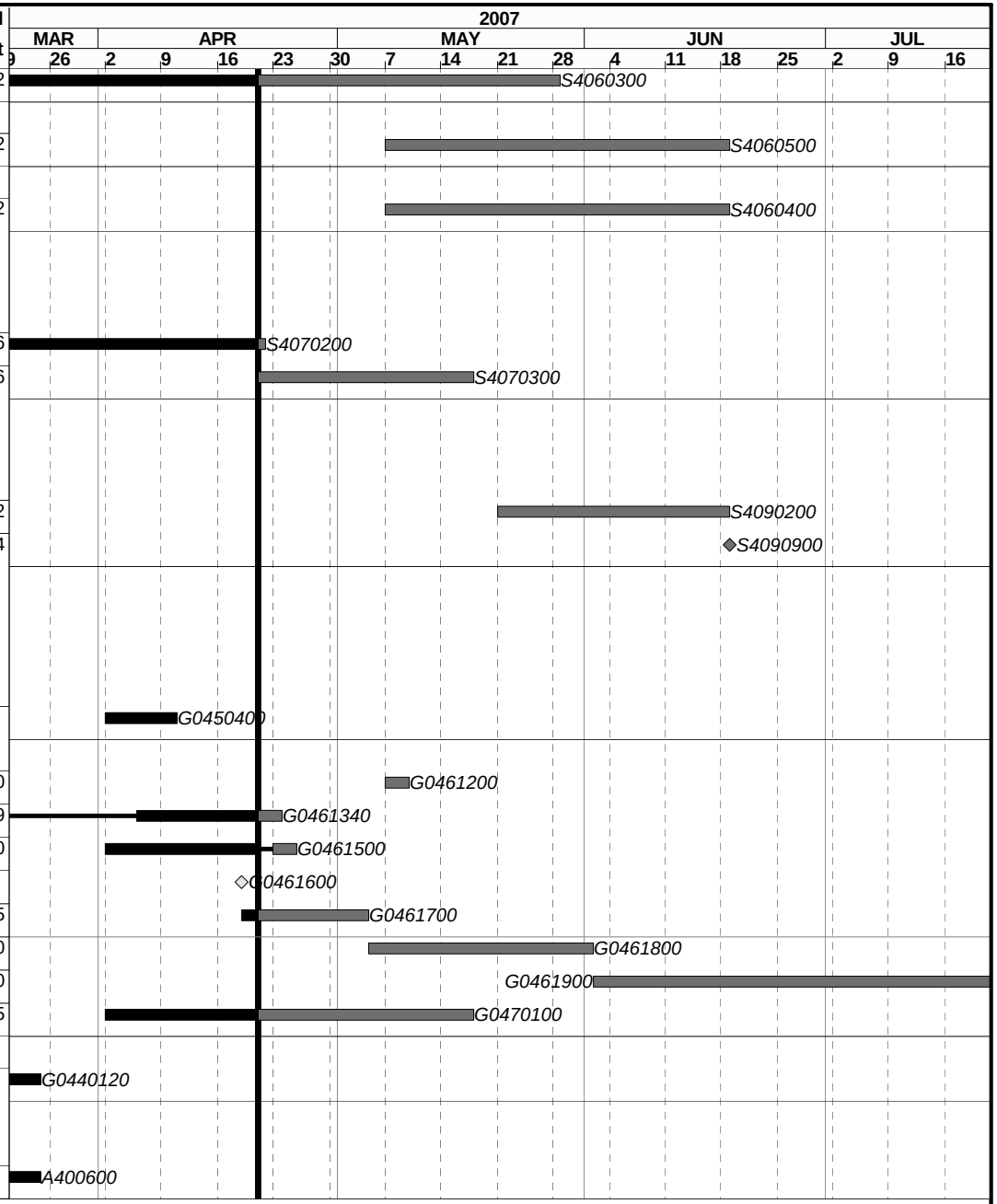
Early Bar
Progress Bar
Critical Activity

KS16 Sheet 5 of 18

China Harbour Engineering Company (Group)
The Jockey Club Kau Sai Chau Public Golf Course
3 month rolling programme
Upto Date : 21-04-07

Date	Revision	Checked	Approved
28-12-05	1st rolling	Tim	

Activity ID	Activity Description	Orig Dur	Rem Dur	%	Early Start	Early Finish	Total Float
S4060300	Building Alternation Works	36	30	20	03-03-07A	28-05-07	-82
Admin. Building: Fitting Out Works							
S4060500	Finishing Works	36	36	0	07-05-07	18-06-07	-82
Admin. Building: E&M Works							
S4060400	E&M Works	36	36	0	07-05-07	18-06-07	-82
Pedestrian Pavement Area							
Existing Admin. Building							
Admin. Building: Structure Works							
S4070200	Pavement Modification	36	1	90	05-03-07A	21-04-07	-56
S4070300	Carriageway Modifcation	21	21	0	21-04-07	17-05-07	-56
Completion of Works							
Existing Admin. Building							
Admin. Building: E&M Works							
S4090200	Test and commissioning	24	24	0	21-05-07	18-06-07	-82
S4090900	Completion of Section 4	0	0	0		18-06-07	-104
Section 9 of the Works							
Phase 1a							
Construction of Golf Course Hole No.4							
GH 04: Drainage & Duct							
G0450400	GH04 Installation of cable duct/pit	14	0	100	02-04-07A	10-04-07A	
GH 04: Construction of Golf Course							
G0461200	GH04 Bunkers Sand Installation	3	3	0	07-05-07	09-05-07	70
G0461340	GH04 Sand capping	12	2	80	26-02-07A	23-04-07	-89
G0461500	GH04 Fine Grading & Seedbed Preparation	10	3	0	02-04-07A	25-04-07	-80
G0461600	GH04 Ready for Grassing	0	0	100	19-04-07A		
G0461700	GH04 Grassing Fairway & Tee	10	11	0	19-04-07A	04-05-07	-85
G0461800	GH04 Grass Establishment	28	28	0	05-05-07	01-06-07	0
G0461900	GH04 Grass Grow In	56	56	0	02-06-07	27-07-07	0
G0470100	GH04 Construction of rain shelter	24	21	20	02-04-07A	17-05-07	-85
Cart Track							
G0440120	Cart path T0401 subbase & concrete 498m(Outside)	25	0	100	15-01-07A	24-03-07A	
Lake No.4 and Pump House No.4							
Lake No.4: Civil Works							
A400600	Lake No.4 RockFill Toe Bund Grade 300	4	0	100	21-03-07A	24-03-07A	



Start Date 28-12-05
Finish Date 12-03-08
Data Date 21-04-07

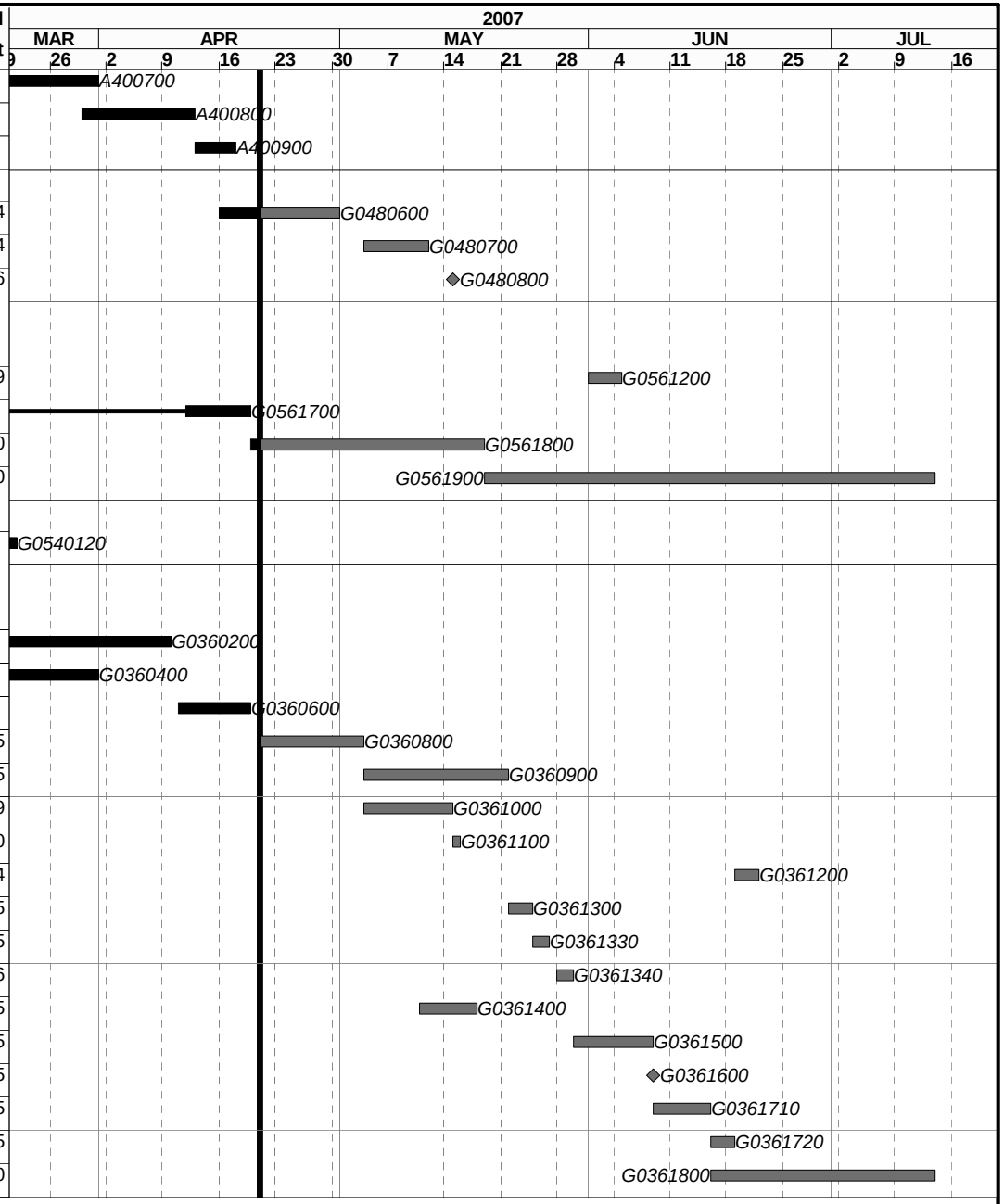
Early Bar
Progress Bar
Critical Activity

KS16 Sheet 6 of 18

China Harbour Engineering Company (Group)
The Jockey Club Kau Sai Chau Public Golf Course
3 month rolling programme
Upto Date : 21-04-07

Date	Revision	Checked	Approved
28-12-05	1st rolling	Tim	

Activity ID	Activity Description	Orig Dur	Rem Dur	%	Early Start	Early Finish	Total Float
A400700	Lake No.4 Granular Material Type B	10	0	100	16-03-07A	31-03-07A	
A400800	Lake No.4 Miracell MCL-150-30 150mm on side slop	6	0	100	30-03-07A	12-04-07A	
A400900	Lake No.4 Miracell MCL-100-30 on bottom	3	0	100	13-04-07A	17-04-07A	
PH 4: E&M Works							
G0480600	PH4 E&M installation and commissioning	12	8	50	16-04-07A	30-04-07	-64
G0480700	PH4 Energizing low flow pump house to GH04	6	6	0	04-05-07	11-05-07	-64
G0480800	PH04 Commencement of operation	0	0	0	15-05-07		-66
Construction of Golf Course Hole No.5							
GH 05: Construction of Golf Course							
G0561200	GH05 Bunkers Sand Installation	3	3	0	01-06-07*	04-06-07	49
G0561700	GH05 Grassing Fairway & Tee	8	0	100	05-03-07A	19-04-07A	
G0561800	GH05 Grass Establishment	28	28	0	20-04-07A	18-05-07	0
G0561900	GH05 Grass Grow In	56	56	0	19-05-07	13-07-07	0
Cart Track							
G0540120	Cart path T0501 subbase & concrete 552m	14	0	100	20-12-06A	21-03-07A	
Construction of Golf Course Hole No.3							
GH 03: Construction of Golf Course							
G0360200	GH03 Storm Drainage System	12	0	100	30-01-07A	09-04-07A	
G0360400	GH03 Irrigation Mainline system	10	0	100	11-02-07A	31-03-07A	
G0360600	GH03 Sub-soil Installment 300mm	3	0	100	11-04-07A	19-04-07A	
G0360800	GH03 Feature Shaping (Green, Tee & Bunkers)	10	10	0	21-04-07	03-05-07	-95
G0360900	GH03 Construction of Green, Tee & Bunkers	14	14	0	04-05-07	21-05-07	-95
G0361000	GH03 Irrigation Laterals	8	8	0	04-05-07	14-05-07	-89
G0361100	GH03 Shaping after Irrigation Laterals	1	1	0	15-05-07	15-05-07	190
G0361200	GH03 Bunkers Sand Installation	3	3	0	19-06-07	21-06-07	34
G0361300	GH03 Sub-soil Drain	3	3	0	22-05-07	24-05-07	-95
G0361330	GH03 Sand Laying	2	2	0	25-05-07	26-05-07	-95
G0361340	GH03 Sand Compaction	2	2	0	28-05-07	29-05-07	-126
G0361400	GH03 Cart path subbase & concrete	6	6	0	11-05-07	17-05-07	-85
G0361500	GH03 Fine Grading & Seedbed Preparation	8	8	0	30-05-07	08-06-07	-95
G0361600	GH03 Ready for Grassing	0	0	0	09-06-07		-95
G0361710	GH03 Grassing Fairway	6	6	0	09-06-07	15-06-07	-95
G0361720	GH03 Grassing Tee	2	2	0	16-06-07	18-06-07	-95
G0361800	GH03 Grass Establishment	28	28	0	16-06-07	13-07-07	0



Start Date 28-12-05
Finish Date 12-03-08
Data Date 21-04-07

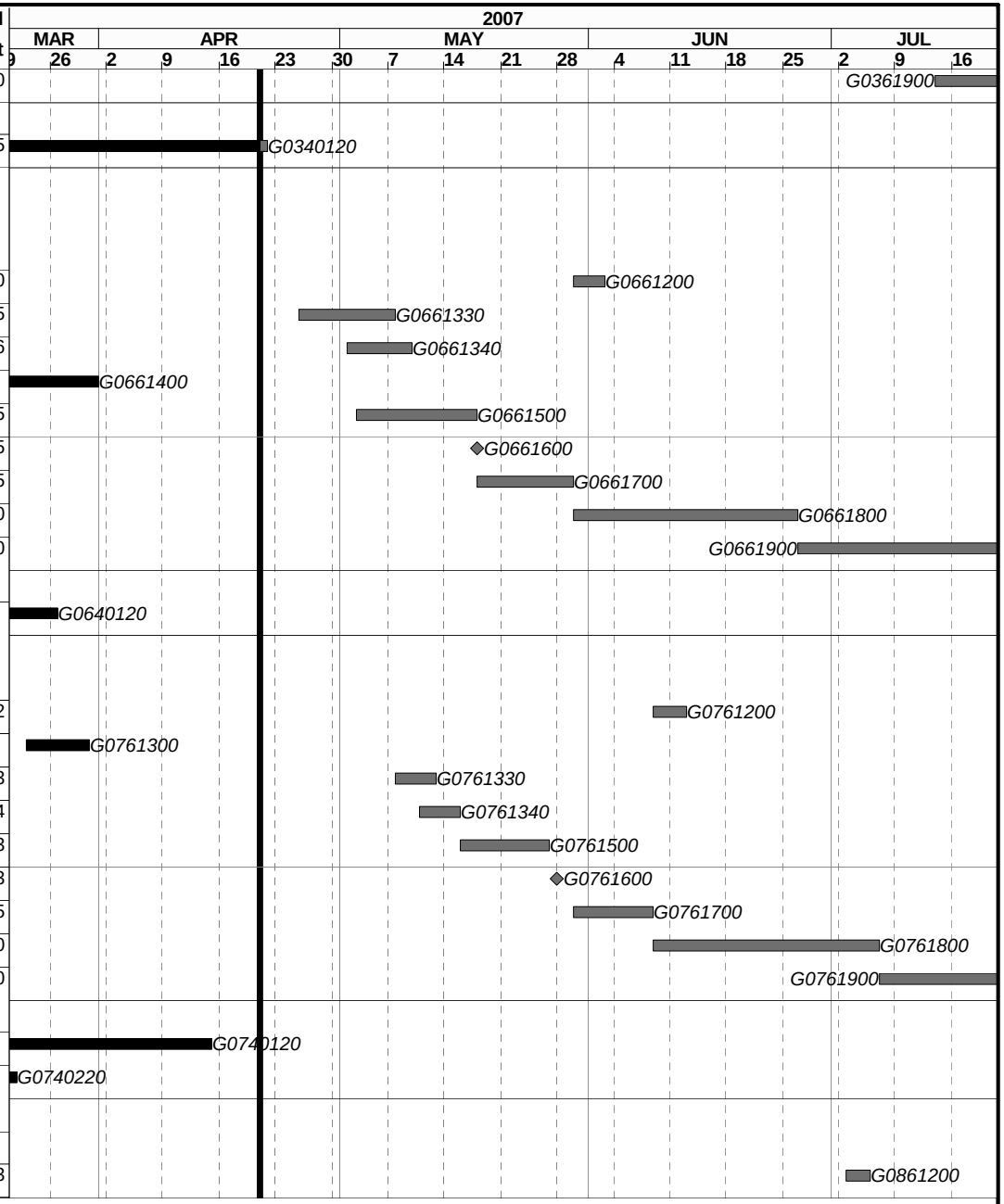
Early Bar
Progress Bar
Critical Activity

KS16 Sheet 7 of 18

China Harbour Engineering Company (Group)
The Jockey Club Kau Sai Chau Public Golf Course
3 month rolling programme
Upto Date : 21-04-07

Date	Revision	Checked	Approved
28-12-05	1st rolling	Tim	

Activity ID	Activity Description	Orig Dur	Rem Dur	%	Early Start	Early Finish	Total Float
G0361900	GH03 Grass Grow In	56	56	0	14-07-07	07-09-07	0
Cart Track							
G0340120	Cart path T0301 subbase & concrete 605m	31	1	80	19-03-07A	21-04-07	-65
Phase 1b							
Construction of Golf Course Hole No.6							
GH 06: Construction of Golf Course							
G0661200	GH06 Bunkers Sand Installation	3	3	0	30-05-07	02-06-07	50
G0661330	GH06 Sand Laying	8	8	0	26-04-07*	07-05-07	-95
G0661340	GH06 Sand Compaction	8	8	0	02-05-07	09-05-07	-126
G0661400	GH06 Cart path subbase & concrete	14	0	100	21-03-07A	31-03-07A	
G0661500	GH06 Fine Grading & Seedbed Preparation	12	12	0	03-05-07	17-05-07	-95
G0661600	GH06 Ready for Grassing	0	0	0	18-05-07		-95
G0661700	GH06 Grassing Fairway & Tee	10	10	0	18-05-07	29-05-07	-95
G0661800	GH06 Grass Establishment	28	28	0	30-05-07	26-06-07	0
G0661900	GH06 Grass Grow In	56	56	0	27-06-07	21-08-07	0
Cart Track							
G0640120	Cart path T0601 subbase & concrete 535m	28	0	100	07-03-07A	26-03-07A	
Construction of Golf Course Hole No.7							
GH 07: Construction of Golf Course							
G0761200	GH07 Bunkers Sand Installation	3	3	0	09-06-07	12-06-07	42
G0761300	GH07 Sub-soil Drain	7	0	100	23-03-07A	30-03-07A	
G0761330	GH07 Sand Laying	5	5	0	08-05-07*	12-05-07	-93
G0761340	GH07 Sand Compaction	5	5	0	11-05-07	15-05-07	-124
G0761500	GH07 Fine Grading & Seedbed Preparation	10	10	0	16-05-07	26-05-07	-93
G0761600	GH07 Ready for Grassing	0	0	0	28-05-07		-93
G0761700	GH07 Grassing Fairway & Tee	8	8	0	30-05-07	08-06-07	-95
G0761800	GH07 Grass Establishment	28	28	0	09-06-07	06-07-07	0
G0761900	GH07 Grass Grow In	56	56	0	07-07-07	31-08-07	0
Cart Track							
G0740120	Cart path T0701 subbase & concrete 516m	26	0	100	12-03-07A	14-04-07A	
G0740220	Cart path T0702 subbase & concrete 546m	28	0	100	12-03-07A	21-03-07A	
Construction of Golf Course Hole No.8							
GH 08: Construction of Golf Course							
G0861200	GH08 Bunkers Sand Installation	3	3	0	03-07-07*	05-07-07	23



Start Date 28-12-05
Finish Date 12-03-08
Data Date 21-04-07

Early Bar
Progress Bar
Critical Activity

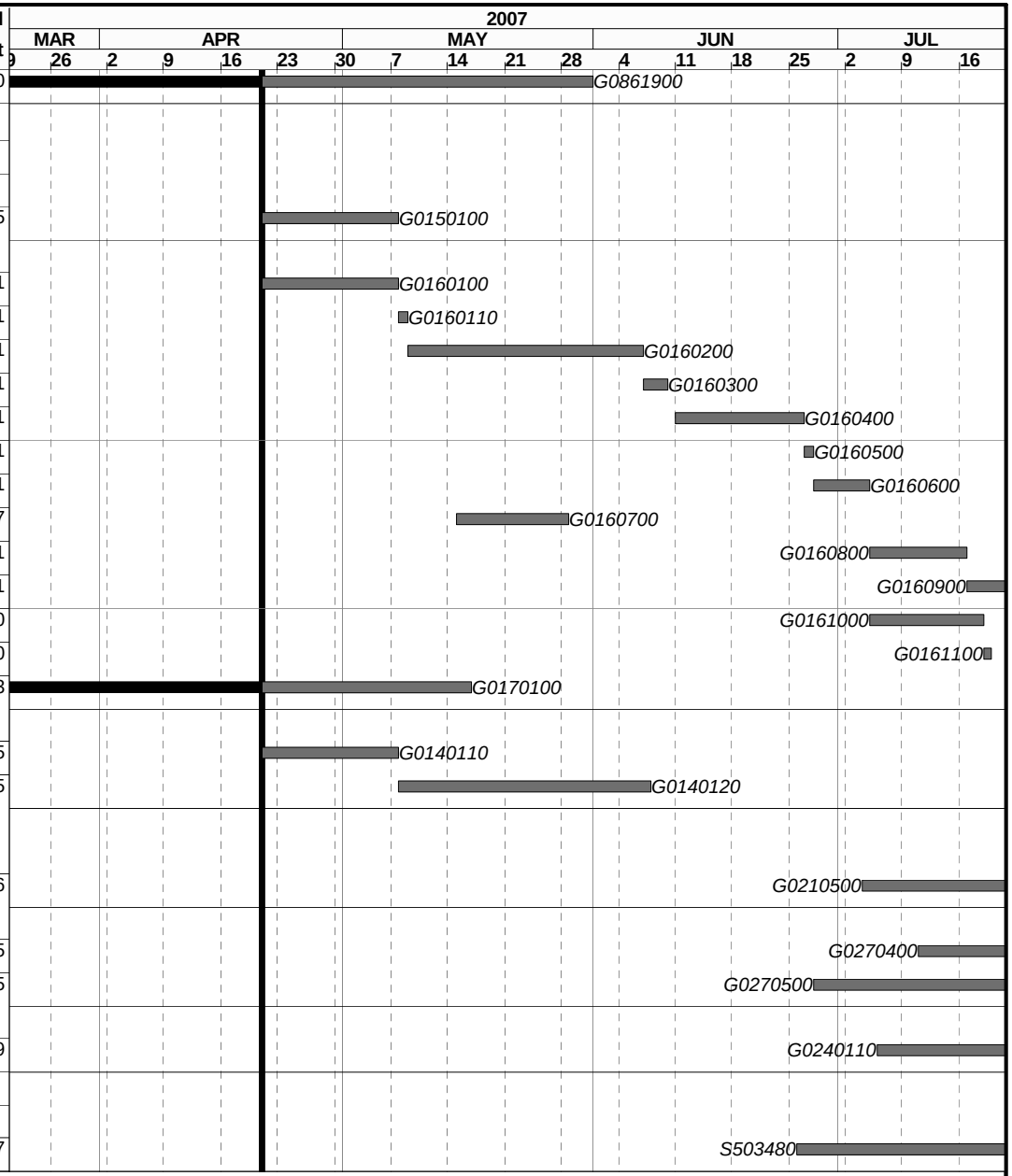
?Primavera Systems, Inc.

KS16 Sheet 8 of 18

China Harbour Engineering Company (Group)
The Jockey Club Kau Sai Chau Public Golf Course
3 month rolling programme
Upto Date : 21-04-07

Date	Revision	Checked	Approved
28-12-05	1st rolling	Tim	

Activity ID	Activity Description	Orig Dur	Rem Dur	%	Early Start	Early Finish	Total Float
G0861900	GH08 Grass Grow In	56	41	30	17-03-07A	31-05-07	0
Phase 2a							
Construction of Golf Course Hole No.1							
GH 01: Drainage & Duct							
G0150100	Irrigation pipe between GH01 & GH02	12	12	0	21-04-07*	07-05-07	-15
GH 01: Construction of Golf Course							
G0160100	GH01 Rough shaping	12	12	0	21-04-07*	07-05-07	-61
G0160110	GH01 Engineer Design for Strom Drainage	1	1	0	08-05-07	08-05-07	-61
G0160200	GH01 Storm Drainage System	24	24	0	09-05-07	06-06-07	-61
G0160300	GH01 Shaping after storm drainage	3	3	0	07-06-07	09-06-07	-61
G0160400	GH01 Irrigation Mainline system	14	14	0	11-06-07	26-06-07	-61
G0160500	GH01 Shaping after Irrigation Mainline	1	1	0	27-06-07	27-06-07	-61
G0160600	GH01 Sub-soil Installment 300mm	5	5	0	28-06-07	04-07-07	-61
G0160700	GH01 Landscaping & hydroseeding	12	12	0	15-05-07	28-05-07	-7
G0160800	GH01 Feature Shaping (Green, Tee & Bunkers)	10	10	0	05-07-07	16-07-07	-61
G0160900	GH01 Construction of Green, Tee & Bunkers	14	14	0	17-07-07	01-08-07	-61
G0161000	GH01 Irrigation Laterals	12	12	0	05-07-07	18-07-07	-50
G0161100	GH01 Shaping after Irrigation Laterals	1	1	0	19-07-07	19-07-07	-50
G0170100	Construction of halfway house at Hole 1	24	20	0	20-03-07A	16-05-07	3
Cart Track							
G0140110	Cart path T0101 formation 522m	12	12	0	21-04-07*	07-05-07	-15
G0140120	Cart path T0101 subbase & concrete 522m	26	26	0	08-05-07	07-06-07	-15
Construction of Golf Course Hole No.2							
GH 02: Cut & Fill Works							
G0210500	Earth/slope works (cut) at GH02 Stage 2	24	24	0	04-07-07*	31-07-07	-116
GH 02: Drainage & Duct							
G0270400	GH02 Installation of cable duct/pit	30	30	0	11-07-07	14-08-07	-55
G0270500	Low Flow Drainage Rising Main for GH02	40	40	0	28-06-07*	14-08-07	-55
Cart Track							
G0240110	Cart path T0201 formation 427m	22	22	0	06-07-07	31-07-07	-49
Tank No.2 and Pump House No.2							
T & PH 2: Structure Works							
S503480	Rising Main from Tank 2 to BP chamber 207.5m	30	30	0	26-06-07	31-07-07	-57



Start Date 28-12-05
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Data Date 21-04-07

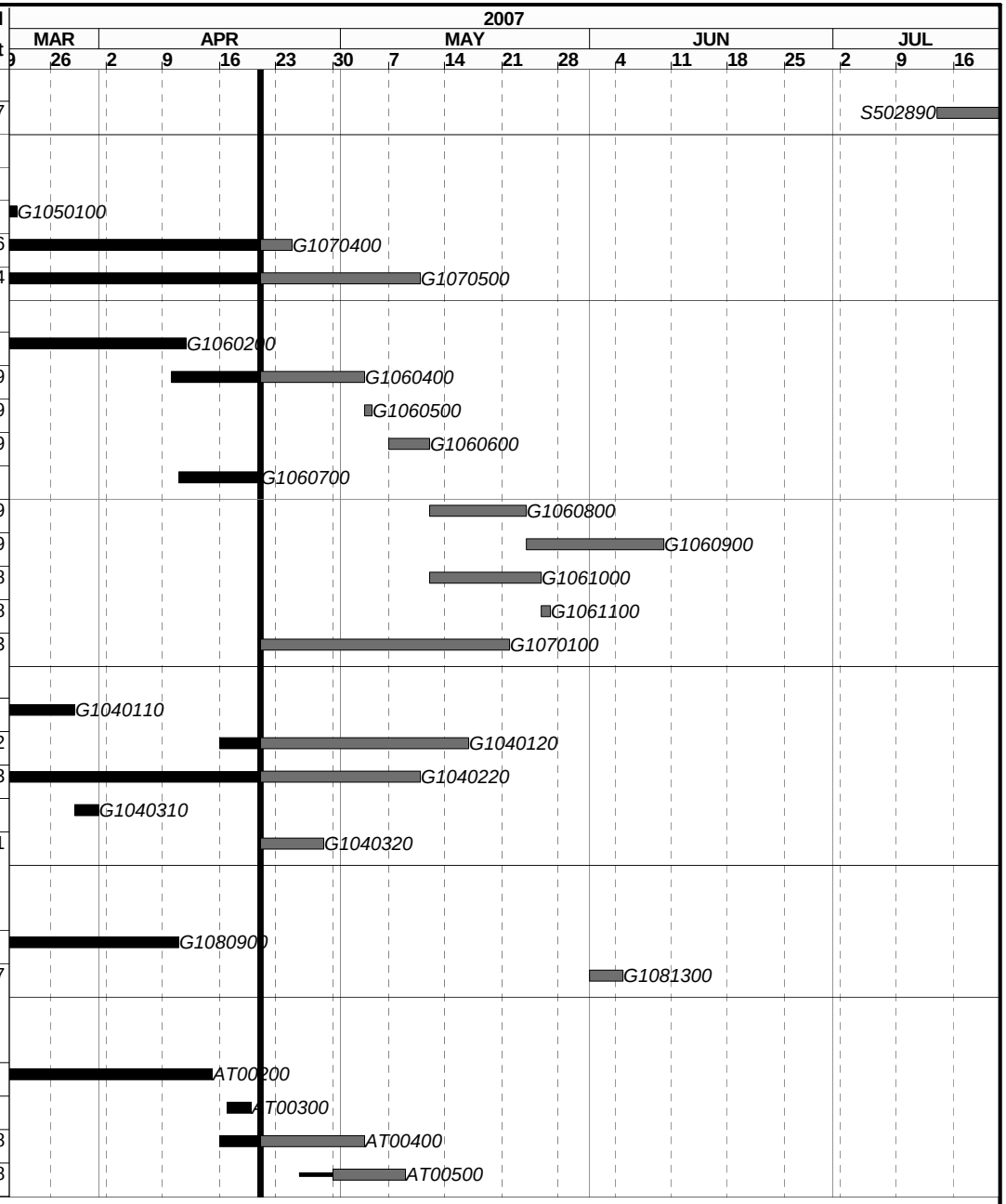
Early Bar
Progress Bar
Critical Activity

KS16 Sheet 9 of 18

China Harbour Engineering Company (Group)
The Jockey Club Kau Sai Chau Public Golf Course
3 month rolling programme
Upto Date : 21-04-07

Date	Revision	Checked	Approved
28-12-05	1st rolling	Tim	

Activity ID	Activity Description	Orig Dur	Rem Dur	%	Early Start	Early Finish	Total Float
T & PH 2: E&M Works							
S502890	E&M installation and commissioning	14	14	0	14-07-07	30-07-07	-57
Construction of Golf Course Hole No.10							
GH 10: Drainage & Duct							
G1050100	Irrigation pipe between GH10 & GH11	10	0	100	01-03-07A	21-03-07A	
G1070400	GH10 Installation of cable duct/pit	24	3	50	21-03-07A	24-04-07	-66
G1070500	Low Flow Drainage Rising Main for GH10 at GH10	24	15	0	21-03-07A	10-05-07	-84
GH 10: Construction of Golf Course							
G1060200	GH10 Storm Drainage System	24	0	100	07-03-07A	11-04-07A	
G1060400	GH10 Irrigation Mainline system	14	10	30	10-04-07A	03-05-07	-79
G1060500	GH10 Shaping after irrigation Mainline	1	1	0	04-05-07	04-05-07	-49
G1060600	GH10 Sub-soil Installment 300mm	5	5	0	07-05-07	11-05-07	-49
G1060700	GH10 Landscaping & hydroseeding	12	0	100	11-04-07A	20-04-07A	
G1060800	GH10 Feature Shaping (Green, Tee & Bunkers)	10	10	0	12-05-07	23-05-07	-49
G1060900	GH10 Construction of Green, Tee & Bunkers	14	14	0	24-05-07	09-06-07	-49
G1061000	GH10 Irrigation Laterals	12	12	0	12-05-07	25-05-07	-38
G1061100	GH10 Shaping after Irrigation Laterals	1	1	0	26-05-07	26-05-07	-38
G1070100	GH10 Construction of rain shelter	24	24	0	21-04-07*	21-05-07	-33
Cart Track							
G1040110	Cart path T1001 formation 509m	26	0	100	26-02-07A	28-03-07A	
G1040120	Cart path T1001 subbase & concrete 509m	26	20	10	16-04-07A	16-05-07	-2
G1040220	Cart path T1002 subbase & concrete 500m	25	15	30	01-03-07A	10-05-07	3
G1040310	Cart path T1003 formation 54m	7	0	100	29-03-07A	31-03-07A	
G1040320	Cart path T1003 subbase & concrete 54m	7	7	0	21-04-07	28-04-07	11
Consttruction of Bridge 10							
Bridge No.10: Bridge Deck							
G1080900	RC Slab - ducting installation	3	0	100	19-03-07A	10-04-07A	
G1081300	RC Post	3	3	0	01-06-07*	04-06-07	-17
Lake No.10 and Pump House No.10							
Lake No.10: Civil Works							
AT00200	Lake No.10 Granular Material Type B	20	0	100	26-02-07A	14-04-07A	
AT00300	Lake No.10 Geotextile Underlay	6	0	100	17-04-07A	19-04-07A	
AT00400	Lake No.10 Granular Material Type A	10	10	0	16-04-07A	03-05-07	178
AT00500	Lake No.10 Geotextile Overlay	6	6	0	26-04-07A	08-05-07	178



Start Date 28-12-05
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Early Bar
Progress Bar
Critical Activity

KS16 Sheet 10 of 18

China Harbour Engineering Company (Group)
The Jockey Club Kau Sai Chau Public Golf Course
3 month rolling programme
Upto Date : 21-04-07

Date	Revision	Checked	Approved
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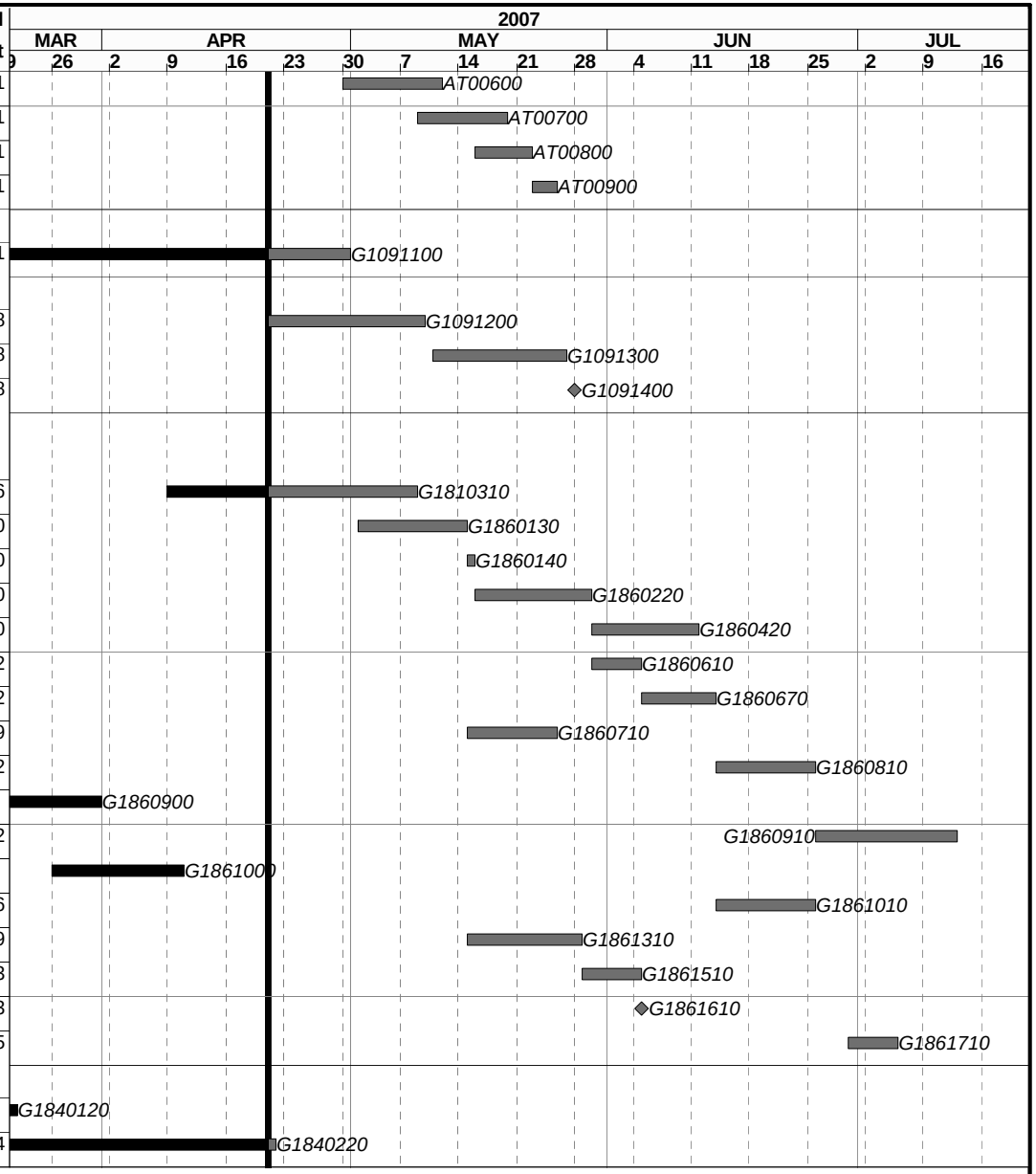
Activity ID	Activity Description	Orig Dur	Rem Dur	%	Early Start	Early Finish	Total Float
AT00600	Lake No.10 RockFill Toe Bund Grade 300	9	9	0	30-04-07	11-05-07	181
AT00700	Lake No.10 Granular Material Type B	10	10	0	09-05-07	19-05-07	181
AT00800	Lake No. Miracell MCL-150-30 150mm on side slop	6	6	0	16-05-07	22-05-07	181
AT00900	Lake No.10 Miracell MCL-100-30 on bottom	3	3	0	23-05-07	25-05-07	181
PH 10: Structure Works							
G1091100	Rising Main from Lake 10 to BP chamber 1 603.5m	30	8	70	02-01-07A	30-04-07	-31
PH 10: E&M Works							
G1091200	E&M installation and commissioning	14	14	0	21-04-07*	09-05-07	-38
G1091300	Energizing low flow pump house to GH10	14	14	0	11-05-07	26-05-07	-38
G1091400	PH10 Commencement of operation	0	0	0	28-05-07		-38
Construction of Golf Course Hole No.18							
GH 18: Construction of Golf Course							
G1810310	GH18 Site Formation stg2	18	13	50	09-04-07A	08-05-07	196
G1860130	GH18 Rough shaping stg2	4	10	10	02-05-07*	14-05-07	10
G1860140	GH18 Engineer Design for Strom Drainage stg2	1	1	0	15-05-07	15-05-07	10
G1860220	GH18 Storm Drainage System stg2	12	12	0	16-05-07	29-05-07	10
G1860420	GH18 Irrigation Mainline system stg2	10	10	0	30-05-07	11-06-07	10
G1860610	GH18 Sub-soil Installment 300mm stg2	4	4	0	30-05-07	04-06-07	142
G1860670	GH18 Shaping & Rock Picking stg2	8	8	0	05-06-07	13-06-07	142
G1860710	GH18 Landscaping & hydroseeding stg2	10	10	0	15-05-07	25-05-07	29
G1860810	GH18 Feature Shaping (Green & Bunkers) stg2	10	10	0	14-06-07	25-06-07	142
G1860900	GH18 Construction of Tees stg1	14	0	100	21-03-07A	31-03-07A	
G1860910	GH18 Construction of Green & Bunkers stg2	14	14	0	26-06-07	12-07-07	142
G1861000	GH18 Irrigation Laterals stg1	10	0	100	26-03-07A	10-04-07A	
G1861010	GH18 Irrigation Laterals stg2	10	10	0	14-06-07	25-06-07	156
G1861310	GH18 Sub-soil Drain & Sand capping 1st	12	12	0	15-05-07	28-05-07	-99
G1861510	GH18 Fine Grading & Seedbed Preparation 1st	5	5	0	29-05-07	04-06-07	-73
G1861610	GH18 Ready for Grassing 1st	0	0	0	05-06-07		-73
G1861710	GH18 Grassing Fairway 1st & Tee	4	4	0	30-06-07	05-07-07	-95
Cart Track							
G1840120	Cart path T1801 subbase & concrete 561m	28	0	100	25-12-06A	21-03-07A	
G1840220	Cart path T1802 subbase & concrete 538m	27	1	90	15-03-07A	21-04-07	-44



Start Date 28-12-05
Finish Date 12-03-08
Data Date 21-04-07

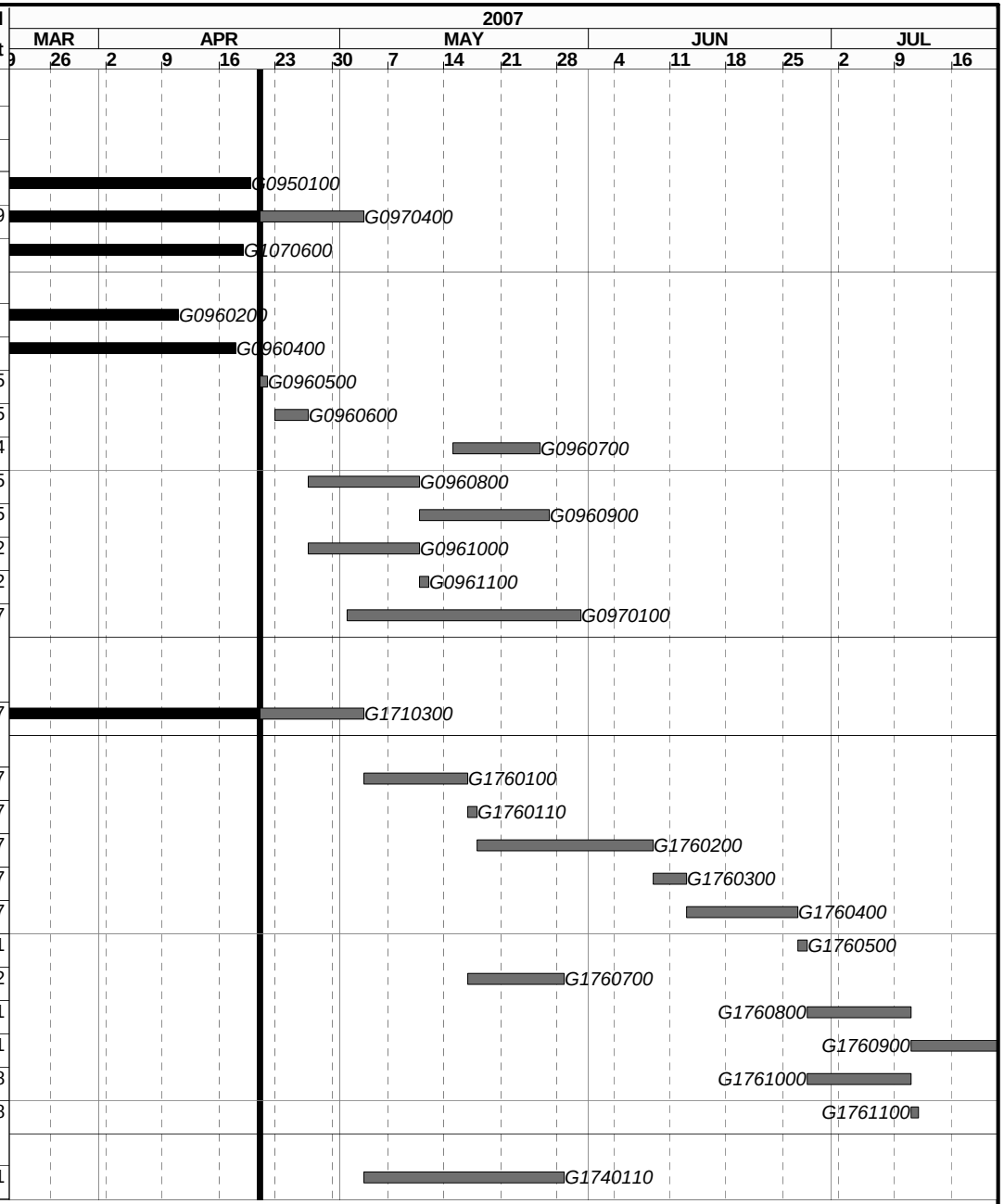
Early Bar
Progress Bar
Critical Activity

KS16 Sheet 11 of 18

China Harbour Engineering Company (Group)
The Jockey Club Kau Sai Chau Public Golf Course
3 month rolling programme
Upto Date : 21-04-07

Date	Revision	Checked	Approved
28-12-05	1st rolling	Tim	

Activity ID	Activity Description	Orig Dur	Rem Dur	%	Early Start	Early Finish	Total Float
Phase 2b							
Construction of Golf Course Hole No.9							
GH 09: Drainage & Duct							
G0950100	Irrigation pipe from GH09 to GH10	15	0	100	19-03-07A	19-04-07A	
G0970400	GH09 Installation of cable duct/pit	30	10	20	15-03-07A	03-05-07	-79
G1070600	Low Flow Drainage Rising Main for GH10 at GH09	30	0	100	15-12-06A	18-04-07A	
GH 09: Construction of Golf Course							
G0960200	GH09 Storm Drainage system	18	0	100	17-03-07A	10-04-07A	
G0960400	GH09 Irrigation Mainline system	12	0	100	19-03-07A	17-04-07A	
G0960500	GH09 Shaping after irrigation Mainline	1	1	0	21-04-07	21-04-07	-25
G0960600	GH09 Sub-soil Installment 300mm	4	4	0	23-04-07	26-04-07	-25
G0960700	GH09 Landscaping & hydroseeding	10	10	0	15-05-07	25-05-07	-24
G0960800	GH09 Feature Shaping (Green, Tee & Bunkers)	10	10	0	27-04-07	10-05-07	-25
G0960900	GH09 Construction of Green, Tee & Bunkers	14	14	0	11-05-07	26-05-07	-25
G0961000	GH09 Irrigation Laterals	10	10	0	27-04-07	10-05-07	-12
G0961100	GH09 Shaping after Irrigation Laterals	1	1	0	11-05-07	11-05-07	-12
G0970100	Construction of halfway house between GH09 & 02	24	24	0	02-05-07*	30-05-07	-77
Construction of Golf Course Hole No.17							
GH 17: Cut & Fill Works							
G1710300	Earth/slope works (cut) at GH17	250	10	90	06-03-06A	03-05-07	-117
GH 17: Construction of Golf Course							
G1760100	GH17 Rough shaping	10	10	0	04-05-07	16-05-07	-117
G1760110	GH17 Engineer Design for Strom Drainage	1	1	0	17-05-07	17-05-07	-117
G1760200	GH17 Storm Drainage System	18	18	0	18-05-07	08-06-07	-117
G1760300	GH17 Shaping after storm drainage	3	3	0	09-06-07	12-06-07	-117
G1760400	GH17 Irrigation Mainline system	12	12	0	13-06-07	26-06-07	-117
G1760500	GH17 Shaping after irrigation Mainline	1	1	0	27-06-07	27-06-07	-111
G1760700	GH17 Landscaping & hydroseeding	10	10	0	17-05-07	28-05-07	-62
G1760800	GH17 Feature Shaping (Green, Tee & Bunkers)	10	10	0	28-06-07	10-07-07	-111
G1760900	GH17 Construction of Green, Tee & Bunkers	14	14	0	11-07-07	26-07-07	-111
G1761000	GH17 Irrigation Laterals	10	10	0	28-06-07	10-07-07	-98
G1761100	GH17 Shaping after Irrigation Laterals	1	1	0	11-07-07	11-07-07	-98
Cart Track							
G1740110	Cart path T1701 formation 461m	20	20	0	04-05-07	28-05-07	-61



Start Date 28-12-05
Finish Date 12-03-08
Data Date 21-04-07

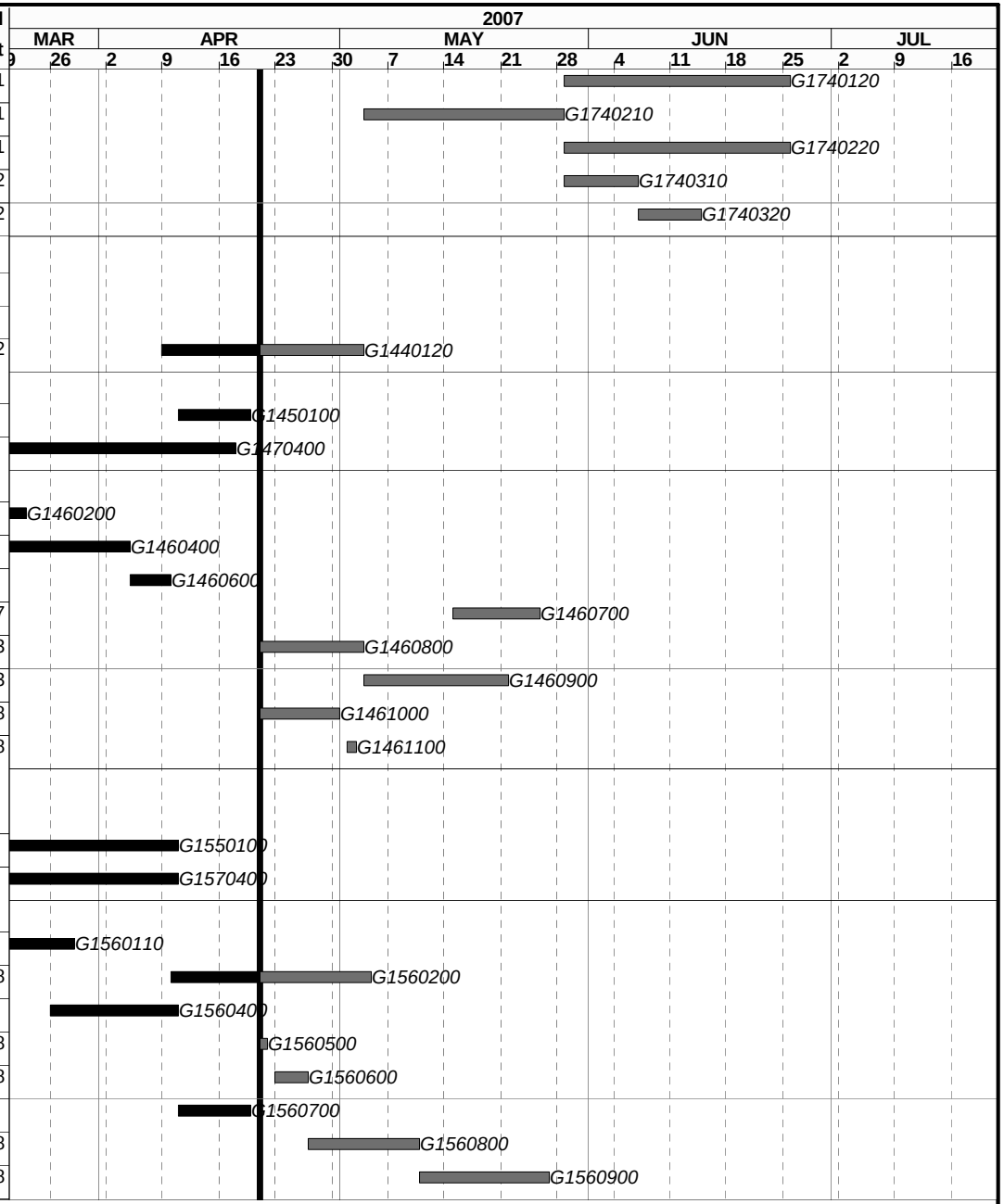
Early Bar
Progress Bar
Critical Activity

KS16 Sheet 12 of 18

China Harbour Engineering Company (Group)
The Jockey Club Kau Sai Chau Public Golf Course
3 month rolling programme
Upto Date : 21-04-07

Date	Revision	Checked	Approved
28-12-05	1st rolling	Tim	

Activity ID	Activity Description	Orig Dur	Rem Dur	%	Early Start	Early Finish	Total Float
G1740120	Cart path T1701 subbase & concrete 461m	23	23	0	29-05-07*	25-06-07	-61
G1740210	Cart path T1702 formation 464m	20	20	0	04-05-07	28-05-07	-61
G1740220	Cart path T1702 subbase & concrete 464m	23	23	0	29-05-07*	25-06-07	-61
G1740310	Cart path T1703 formation 62m	7	7	0	29-05-07	06-06-07	-52
G1740320	Cart path T1703 subbase & concrete 62m	7	7	0	07-06-07*	14-06-07	-52
Phase 3a							
Construction of Golf Course Hole No.14							
GH 14: Cut & Fill Works							
G1440120	Cart path T1401 subbase & concrete 586m	29	10	40	09-04-07A	03-05-07	-22
GH 14: Drainage & Duct							
G1450100	Irrigation pipe from GH16 to GH14	10	0	100	11-04-07A	19-04-07A	
G1470400	GH14 Installation of cable duct/pit	30	0	100	09-02-07A	17-04-07A	
GH 14: Construction of Golf Course							
G1460200	GH14 Storm Drainage System	24	0	100	02-02-07A	22-03-07A	
G1460400	GH14 Irrigation Mainline system	10	0	100	19-03-07A	04-04-07A	
G1460600	GH14 Sub-soil Installment 300mm	3	0	100	05-04-07A	09-04-07A	
G1460700	GH14 Landscaping & hydroseeding	10	10	0	15-05-07	25-05-07	-67
G1460800	GH14 Feature Shaping (Green, Tee & Bunkers)	10	10	0	21-04-07	03-05-07	-63
G1460900	GH14 Construction of Green, Tee & Bunkers	14	14	0	04-05-07	21-05-07	-63
G1461000	GH14 Irrigation Laterals	8	8	0	21-04-07	30-04-07	-48
G1461100	GH14 Shaping after Irrigation Laterals	1	1	0	02-05-07	02-05-07	-48
Construction of Golf Course Hole No.15							
GH 15: Drainage & Duct							
G1550100	Irrigation pipe from GH14 to GH15	10	0	100	20-03-07A	10-04-07A	
G1570400	GH15 Installation of cable duct/pit	30	0	100	21-03-07A	10-04-07A	
GH 15: Construction of Golf Course							
G1560110	GH15 Engineer Design for Strom Drainage	1	0	100	15-03-07A	28-03-07A	
G1560200	GH15 Storm Drainage System	18	11	30	10-04-07A	04-05-07	198
G1560400	GH15 Irrigation Mainline system	12	0	100	26-03-07A	10-04-07A	
G1560500	GH15 Shaping after irrigation Mainline	1	1	0	21-04-07	21-04-07	-98
G1560600	GH15 Sub-soil Installment 300mm	4	4	0	23-04-07	26-04-07	-98
G1560700	GH15 Landscaping & hydroseeding	8	0	100	11-04-07A	19-04-07A	
G1560800	GH15 Feature Shaping (Green, Tee & Bunkers)	10	10	0	27-04-07	10-05-07	-98
G1560900	GH15 Construction of Green, Tee & Bunkers	14	14	0	11-05-07	26-05-07	-98



Start Date 28-12-05
Finish Date 12-03-08
Data Date 21-04-07

Early Bar
Progress Bar
Critical Activity

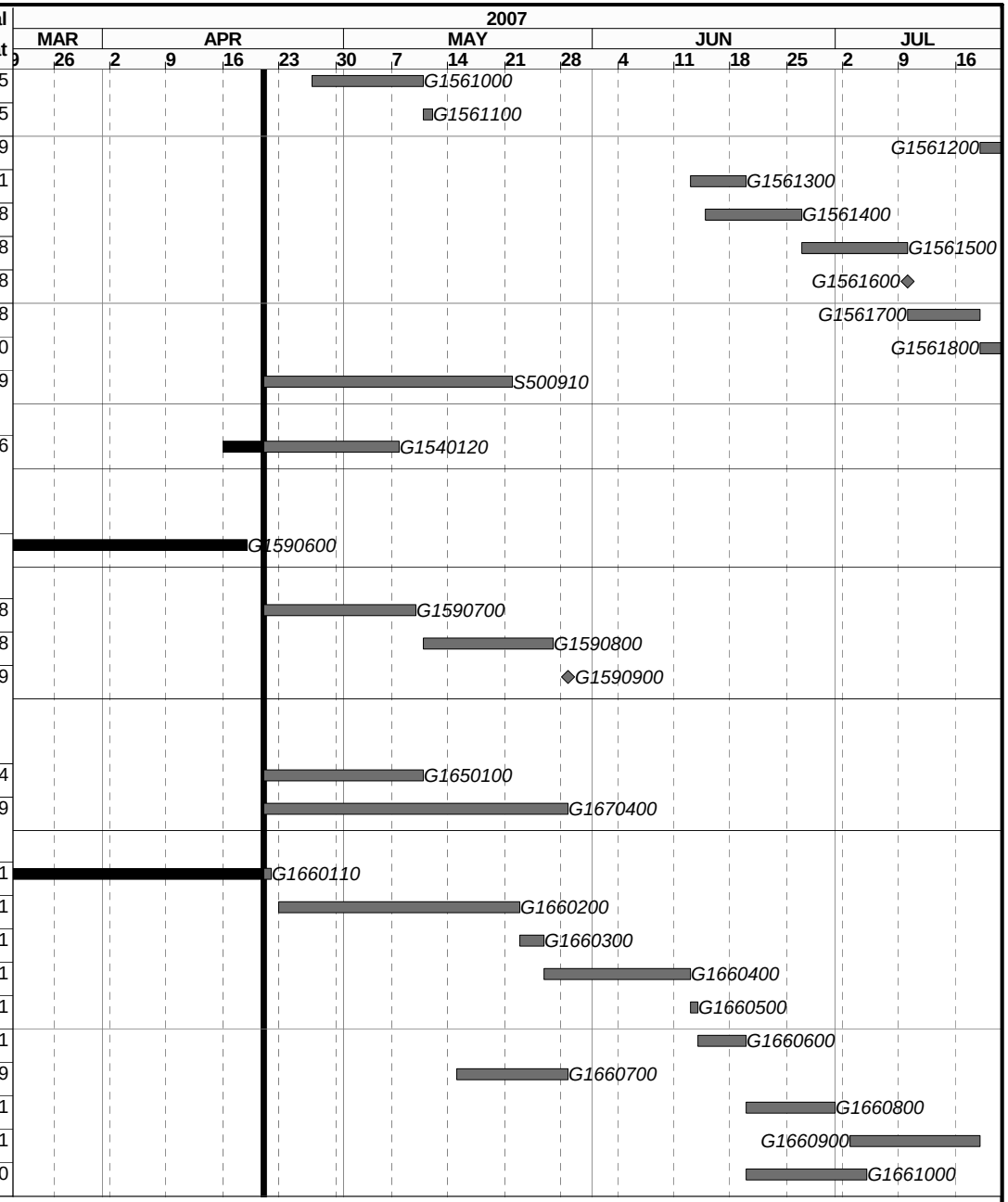
?Primavera Systems, Inc.

KS16 Sheet 13 of 18

China Harbour Engineering Company (Group)
The Jockey Club Kau Sai Chau Public Golf Course
3 month rolling programme
Upto Date : 21-04-07

Date	Revision	Checked	Approved
28-12-05	1st rolling	Tim	

Activity ID	Activity Description	Orig Dur	Rem Dur	%	Early Start	Early Finish	Total Float
G1561000	GH15 Irrigation Laterals	10	10	0	27-04-07	10-05-07	-85
G1561100	GH15 Shaping after Irrigation Laterals	1	1	0	11-05-07	11-05-07	-85
G1561200	GH15 Bunkers Sand Installation	3	3	0	19-07-07	21-07-07	9
G1561300	GH15 Sub-soil Drain & Sand capping	6	6	0	13-06-07	19-06-07	-111
G1561400	GH15 Cart path subbase & concrete	10	10	0	15-06-07	26-06-07	-98
G1561500	GH15 Fine Grading & Seedbed Preparation	10	10	0	27-06-07	09-07-07	-98
G1561600	GH15 Ready for Grassing	0	0	0	10-07-07		-98
G1561700	GH15 Grassing Fairway & Tee	8	8	0	10-07-07	18-07-07	-98
G1561800	GH15 Grass Establishment	28	28	0	19-07-07	15-08-07	0
S500910	GH15 Construction of halfway house	24	24	0	21-04-07*	21-05-07	-69
Cart Track							
G1540120	Cart path T1501 subbase & concrete 537m	27	12	20	16-04-07A	07-05-07	-56
Tank No.15 and Pump House No.15							
T & PH 15: Structure Works							
G1590600	Rising Main from Tank 15 to BP Chamber 4	6	0	100	01-03-07A	18-04-07A	
T & PH 15: E&M Works							
G1590700	E&M installation and commissioning	14	14	0	21-04-07*	09-05-07	-98
G1590800	Energizing low flow pump house to GH15	14	14	0	11-05-07	26-05-07	-98
G1590900	PH15 Commencement of Operation	0	0	0	29-05-07		-99
Construction of Golf Course Hole No.16							
GH 16: Drainage & Duct							
G1650100	Irrigation pipe from GH10 to GH16	15	15	0	21-04-07	10-05-07	-84
G1670400	GH16 Installation of cable duct/pit	30	30	0	21-04-07	28-05-07	-99
GH 16: Construction of Golf Course							
G1660110	GH16 Engineer Design for Strom Drainage	1	1	0	15-03-07A	21-04-07	-111
G1660200	GH16 Storm Drainage System	24	24	0	23-04-07	22-05-07	-111
G1660300	GH16 Shaping after storm drainage	3	3	0	23-05-07	25-05-07	-111
G1660400	GH16 Irrigation Mainline system	14	14	0	26-05-07	12-06-07	-111
G1660500	GH16 Shaping after irrigation Mainline	1	1	0	13-06-07	13-06-07	-91
G1660600	GH16 Sub-soil Installment 300mm	5	5	0	14-06-07	19-06-07	-91
G1660700	GH16 Landscaping & hydroseeding	12	12	0	15-05-07	28-05-07	-49
G1660800	GH16 Feature Shaping (Green, Tee & Bunkers)	10	10	0	20-06-07	30-06-07	-91
G1660900	GH16 Construction of Green, Tee & Bunkers	14	14	0	03-07-07	18-07-07	-91
G1661000	GH16 Irrigation Laterals	12	12	0	20-06-07	04-07-07	-80



Start Date 28-12-05
Finish Date 12-03-08
Data Date 21-04-07

Early Bar
Progress Bar
Critical Activity

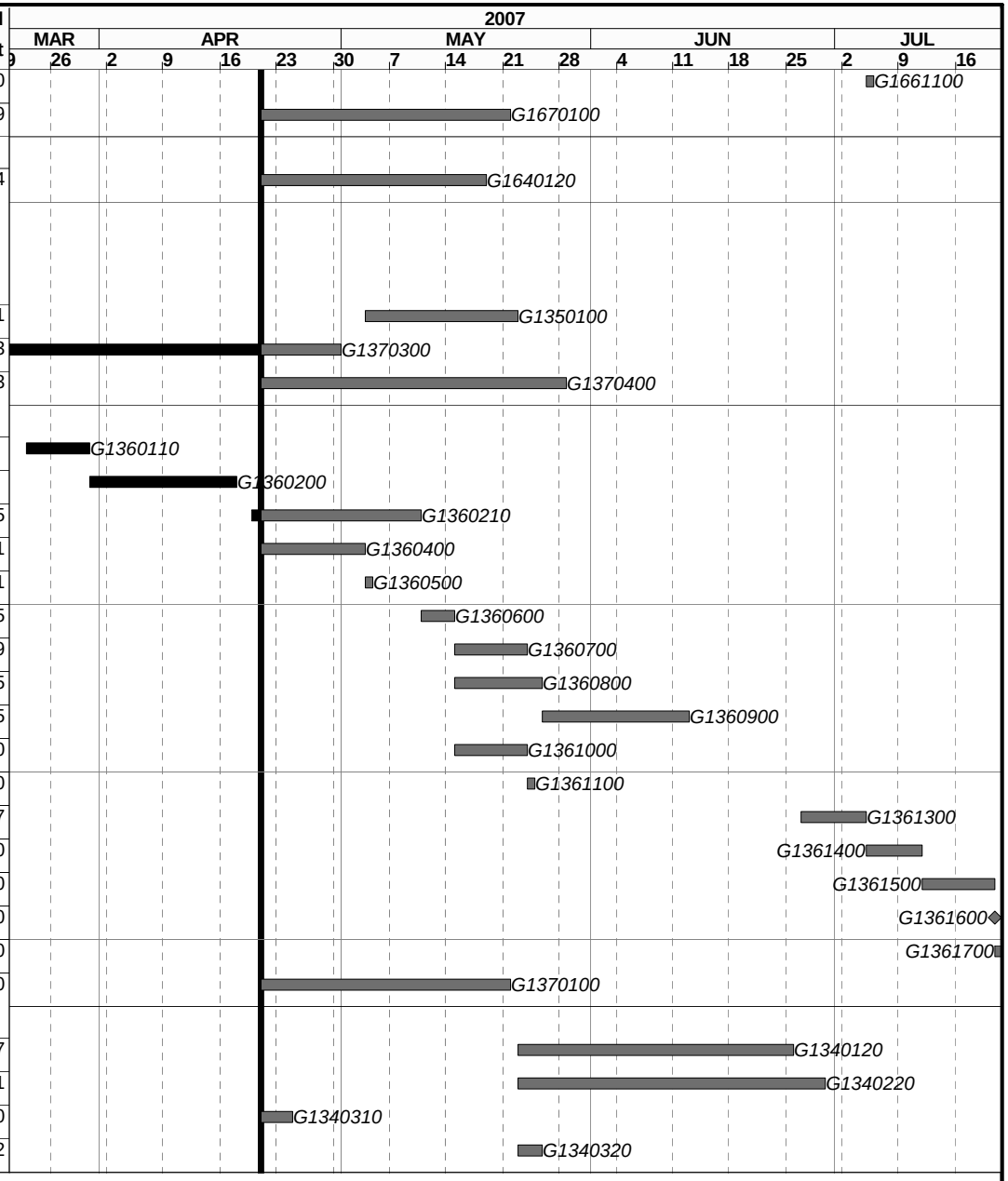
?Primavera Systems, Inc.

KS16 Sheet 14 of 18

China Harbour Engineering Company (Group)
The Jockey Club Kau Sai Chau Public Golf Course
3 month rolling programme
Upto Date : 21-04-07

Date	Revision	Checked	Approved
28-12-05	1st rolling	Tim	

Activity ID	Activity Description	Orig Dur	Rem Dur	%	Early Start	Early Finish	Total Float
G1661100	GH16 Shaping after Irrigation Laterals	1	1	0	05-07-07	05-07-07	-80
G1670100	GH16 Construction of rain shelter	24	24	0	21-04-07*	21-05-07	-69
Cart Track							
G1640120	Cart path T1601 subbase & concrete 410m	22	22	0	21-04-07	18-05-07	-14
Phase 3b							
Construction of Golf Course Hole No.13							
GH 13: Drainage & Duct							
G1350100	Irrigation pipe from GH10 to GH13	15	15	0	04-05-07	22-05-07	-91
G1370300	Low Flow Drainage Rising Main for GH13	30	8	30	01-03-07A	30-04-07	-93
G1370400	GH13 Installation of cable duct/pit	30	30	0	21-04-07	28-05-07	-93
GH 13: Construction of Golf Course							
G1360110	GH13 Engineer Design for Strom Drainage	1	0	100	23-03-07A	30-03-07A	
G1360200	GH13 Storm Drainage System	12	0	100	31-03-07A	17-04-07A	
G1360210	GH13 Additional Storm Drainage System	12	15	80	20-04-07A	10-05-07	-105
G1360400	GH13 Irrigation Mainline system	10	10	0	21-04-07	03-05-07	-101
G1360500	GH13 Shaping after irrigation Mainline	1	1	0	04-05-07	04-05-07	-101
G1360600	GH13 Sub-soil Installment 300mm	3	3	0	11-05-07	14-05-07	-105
G1360700	GH13 Landscaping & hydroseeding	8	8	0	15-05-07	23-05-07	-89
G1360800	GH13 Feature Shaping (Green, Tee & Bunkers)	10	10	0	15-05-07	25-05-07	-105
G1360900	GH13 Construction of Green, Tee & Bunkers	14	14	0	26-05-07	12-06-07	-105
G1361000	GH13 Irrigation Laterals	8	8	0	15-05-07	23-05-07	-90
G1361100	GH13 Shaping after Irrigation Laterals	1	1	0	24-05-07	24-05-07	-90
G1361300	GH13 Sub-soil Drain & Sand capping	6	6	0	27-06-07	04-07-07	-117
G1361400	GH13 Cart path subbase & concrete	6	6	0	05-07-07	11-07-07	-100
G1361500	GH13 Fine Grading & Seedbed Preparation	8	8	0	12-07-07	20-07-07	-100
G1361600	GH13 Ready for Grassing	0	0	0	21-07-07		-100
G1361700	GH13 Grassing Fairway & Tee	6	6	0	21-07-07	27-07-07	-100
G1370100	GH13 Construction of rain shelter	24	24	0	21-04-07	21-05-07	-90
Cart Track							
G1340120	Cart path T1301 subbase & concrete 541m	28	28	0	23-05-07	25-06-07	-87
G1340220	Cart path T1302 subbase & concrete 633m	32	32	0	23-05-07	29-06-07	-91
G1340310	Cart path T1303 formation 26m	3	3	0	21-04-07	24-04-07	-40
G1340320	Cart path T1303 subbase & concrete 26m	3	3	0	23-05-07	25-05-07	-62



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Finish Date 12-03-08
Data Date 21-04-07

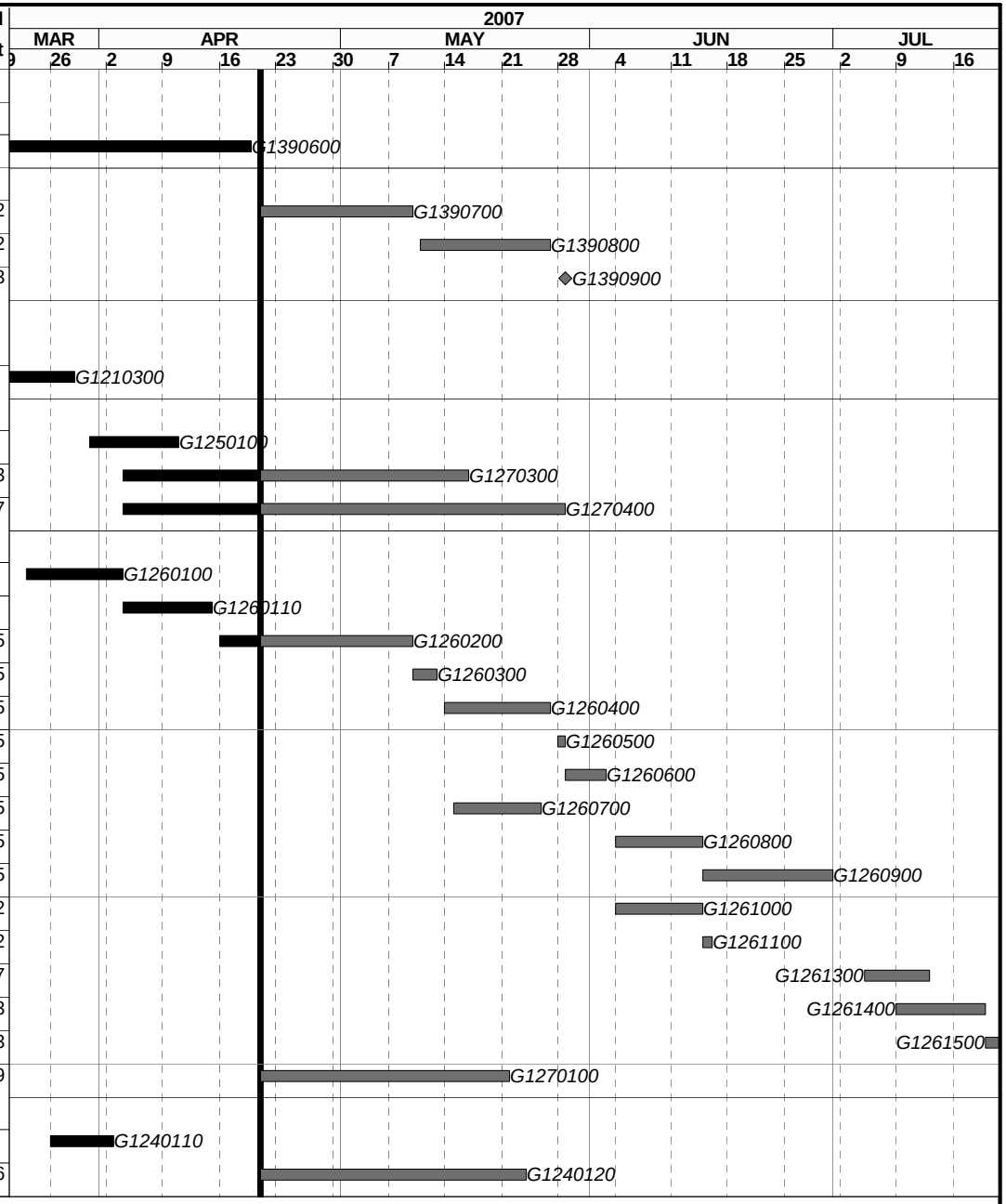
Early Bar
Progress Bar
Critical Activity

KS16 Sheet 15 of 18

China Harbour Engineering Company (Group)
The Jockey Club Kau Sai Chau Public Golf Course
3 month rolling programme
Upto Date : 21-04-07

Date	Revision	Checked	Approved
28-12-05	1st rolling	Tim	

Activity ID	Activity Description	Orig Dur	Rem Dur	%	Early Start	Early Finish	Total Float
Tank No.13 and Pump House No.13							
T & PH 13: Structure Works							
G1390600	Rising Main from Tank 13 to BP chamber	30	0	100	03-03-07A	19-04-07A	
T & PH 13: E&M Works							
G1390700	E&M installation and commissioning	14	14	0	21-04-07	09-05-07	-92
G1390800	Energizing low flow pump house to GH13	14	14	0	11-05-07	26-05-07	-92
G1390900	PH13 Commencement of operation	0	0	0	29-05-07		-93
Construction of Golf Course Hole No.12							
GH 12: Cut & Fill Works							
G1210300	Earth/slope works (cut) at GH12	56	0	100	23-12-06A	28-03-07A	
GH 12: Drainage & Duct							
G1250100	Irrigation pipe from GH11 to GH12	15	0	100	31-03-07A	10-04-07A	
G1270300	Low Flow Drainage Rising Main for GH12	30	20	0	04-04-07A	16-05-07	-83
G1270400	GH12 Installation of cable duct/pit	30	30	0	04-04-07A	28-05-07	-87
GH 12: Construction of Golf Course							
G1260100	GH12 Rough shaping	10	0	100	23-03-07A	03-04-07A	
G1260110	GH12 Engineer Design for Strom Drainage	1	0	100	04-04-07A	14-04-07A	
G1260200	GH12 Storm Drainage System	18	14	30	16-04-07A	09-05-07	-115
G1260300	GH12 Shaping after storm drainage	3	3	0	10-05-07	12-05-07	-115
G1260400	GH12 Irrigation Mainline system	12	12	0	14-05-07	26-05-07	-115
G1260500	GH12 Shaping after irrigation Mainline	1	1	0	28-05-07	28-05-07	-115
G1260600	GH12 Sub-soil Installment 300mm	4	4	0	29-05-07	02-06-07	-115
G1260700	GH12 Landscaping & hydroseeding	10	10	0	15-05-07	25-05-07	-85
G1260800	GH12 Feature Shaping (Green, Tee & Bunkers)	10	10	0	04-06-07	14-06-07	-115
G1260900	GH12 Construction of Green, Tee & Bunkers	14	14	0	15-06-07	30-06-07	-115
G1261000	GH12 Irrigation Laterals	10	10	0	04-06-07	14-06-07	-102
G1261100	GH12 Shaping after Irrigation Laterals	1	1	0	15-06-07	15-06-07	-102
G1261300	GH12 Sub-soil Drain & Sand capping	7	7	0	05-07-07	12-07-07	-117
G1261400	GH12 Cart path subbase & concrete	10	10	0	09-07-07	19-07-07	-103
G1261500	GH12 Fine Grading & Seedbed Preparation	10	10	0	20-07-07	31-07-07	-103
G1270100	GH12 Construction of rain shelter	24	24	0	21-04-07*	21-05-07	-69
Cart Track							
G1240110	Cart path T1201 formation 526m	26	0	100	26-03-07A	02-04-07A	
G1240120	Cart path T1201 subbase & concrete 526m	26	26	0	21-04-07	23-05-07	-56



Start Date 28-12-05
Finish Date 12-03-08
Data Date 21-04-07

Early Bar
Progress Bar
Critical Activity

?Primavera Systems, Inc.

KS16 Sheet 16 of 18

China Harbour Engineering Company (Group)
The Jockey Club Kau Sai Chau Public Golf Course
3 month rolling programme
Upto Date : 21-04-07

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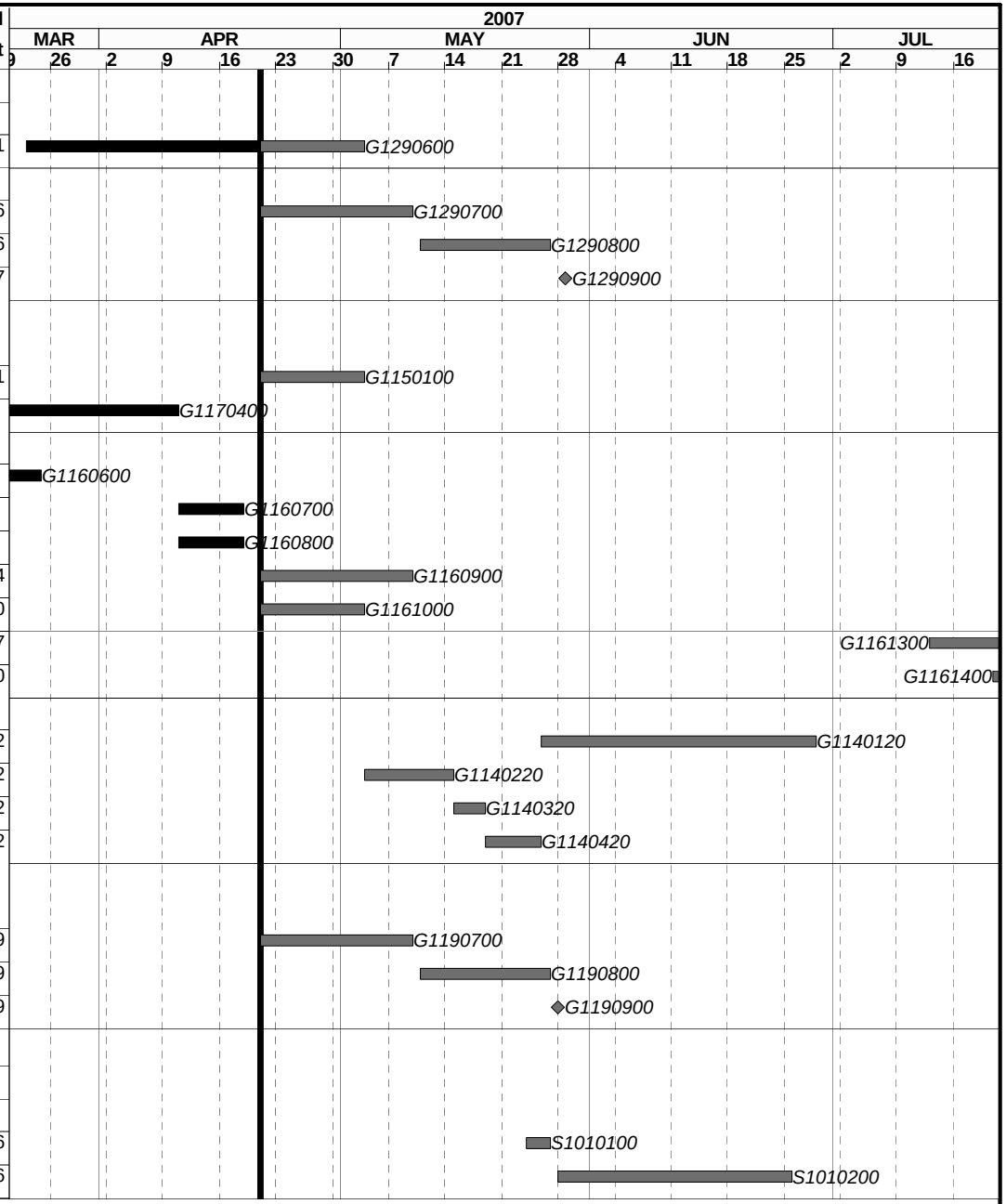
Activity ID	Activity Description	Orig Dur	Rem Dur	%	Early Start	Early Finish	Total Float
Tank No.12 and Pump House No.12							
T & PH 12: Structure Works							
G1290600	Rising Main from Tank 12 to BP Chamber 3 222.5m	22	10	50	23-03-07A	03-05-07	-81
T & PH 12: E&M Works							
G1290700	E&M installation and commissioning	14	14	0	21-04-07*	09-05-07	-86
G1290800	Energizing low flow pump house to GH12	14	14	0	11-05-07	26-05-07	-86
G1290900	PH12 Commencement of operation	0	0	0	29-05-07		-87
Construction of Golf Course Hole No.11							
GH 11: Drainage & Duct							
G1150100	Irrigation pipe from GH10 to GH11	10	10	0	21-04-07	03-05-07	-91
G1170400	GH11 Installation of cable duct/pit	30	0	100	26-02-07A	10-04-07A	
GH 11: Construction of Golf Course							
G1160600	GH11 Sub-soil Installment 300mm	4	0	100	21-03-07A	24-03-07A	
G1160700	GH11 Landscaping & hydroseeding	10	0	100	11-04-07A	18-04-07A	
G1160800	GH11 Feature Shaping (Green, Tee & Bunkers)	10	0	100	11-04-07A	18-04-07A	
G1160900	GH11 Construction of Green, Tee & Bunkers	14	14	0	21-04-07	09-05-07	-64
G1161000	GH11 Irrigation Laterals	10	10	0	21-04-07	03-05-07	-60
G1161300	GH11 Sub-soil Drain & Sand capping	11	11	0	13-07-07	25-07-07	-117
G1161400	GH11 Cart path subbase & concrete	10	10	0	21-07-07	01-08-07	-100
Cart Track							
G1140120	Cart path T1101 subbase & concrete 577m	28	28	0	26-05-07	28-06-07	-72
G1140220	Cart path T1102 subbase & concrete 149m	8	8	0	04-05-07	14-05-07	-72
G1140320	Cart path T1103 subbase & concrete 40m	4	4	0	15-05-07	18-05-07	-72
G1140420	Cart path T1104 subbase & concrete 61m	6	6	0	19-05-07	25-05-07	-72
Tank No.11 and Pump House No.11							
T & PH 11: E&M Works							
G1190700	E&M installation and commissioning	14	14	0	21-04-07*	09-05-07	-79
G1190800	Energizing low flow pump house to GH11	14	14	0	11-05-07	26-05-07	-79
G1190900	PH11 Commencement of operation	0	0	0	28-05-07		-79
S10 Golf Course Area							
Existing Admin. Building							
S10 Golf Course Area							
S1010100	S10 & GPA Site Clearance	3	3	0	24-05-07	26-05-07	-116
S1010200	S10 & Golf Practice Area Earthwork	24	24	0	28-05-07	25-06-07	-116



Start Date 28-12-05
Finish Date 12-03-08
Data Date 21-04-07

Early Bar
Progress Bar
Critical Activity

KS16 Sheet 17 of 18

China Harbour Engineering Company (Group)
The Jockey Club Kau Sai Chau Public Golf Course
3 month rolling programme
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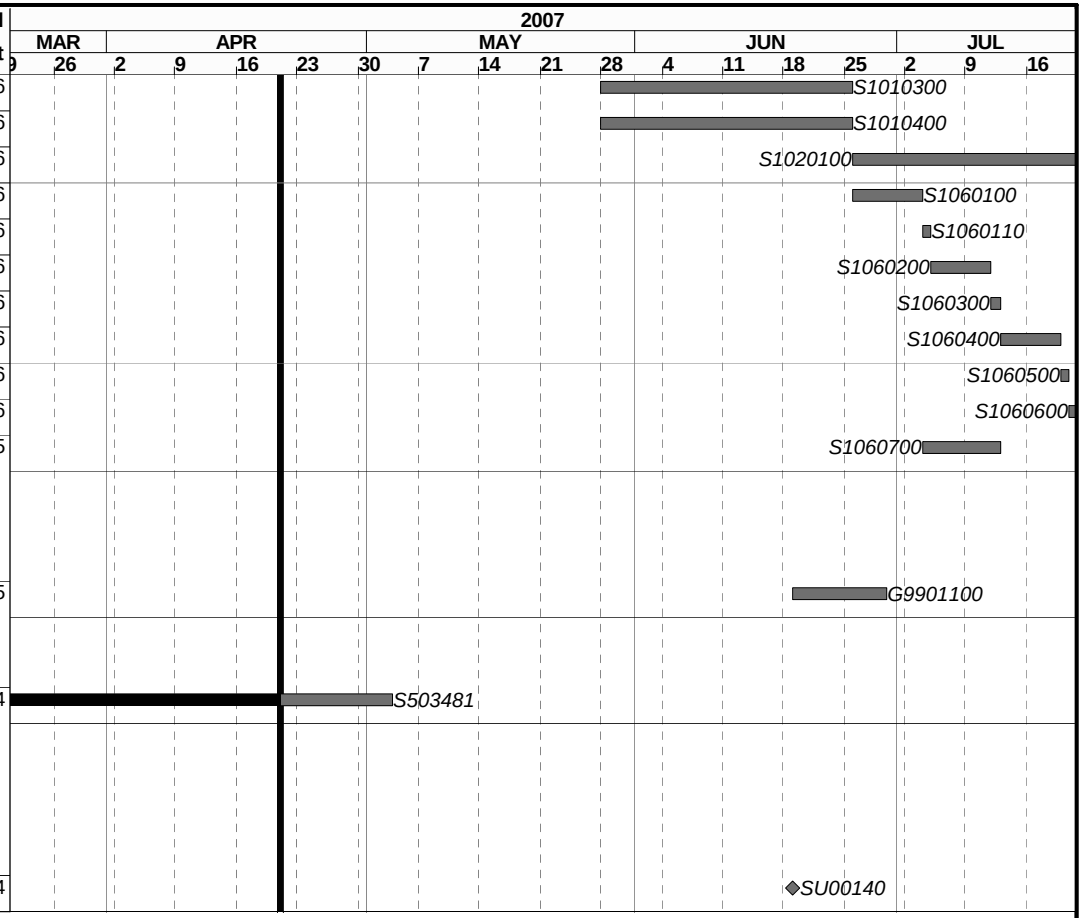
Date	Revision	Checked	Approved
28-12-05	1st rolling	Tim	

Activity ID	Activity Description	Orig Dur	Rem Dur	%	Early Start	Early Finish	Total Float
S1010300	S10 & GPA Utilities Diversion	24	24	0	28-05-07	25-06-07	-76
S1010400	S10 & GPA Drainage Diversion	24	24	0	28-05-07	25-06-07	-76
S1020100	S10 & GPA Construction of halfway house	24	24	0	26-06-07	24-07-07	-116
S1060100	S10 & GPA Rough shaping	6	6	0	26-06-07	03-07-07	-76
S1060110	S10 & GPA Engineer Design for Strom Drainage	1	1	0	04-07-07	04-07-07	-76
S1060200	S10 & GPA Storm Drainage System	6	6	0	05-07-07	11-07-07	-76
S1060300	S10 & GPA Shaping after storm drainage	1	1	0	12-07-07	12-07-07	-76
S1060400	S10 & GPA Irrigation Mainline system	6	6	0	13-07-07	19-07-07	-76
S1060500	S10 & GPA Shaping after irrigation Mainline	1	1	0	20-07-07	20-07-07	-76
S1060600	S10 & GPA Sub-soil Installment 300mm	2	2	0	21-07-07	23-07-07	-76
S1060700	S10 & GPA Landscaping & hydroseeding	8	8	0	04-07-07	12-07-07	-55
General Works							
G9901100	Grassing Green for GH08-05-04-03-06-07	10	10	0	19-06-07	29-06-07	-95
Slope Restoration/Bioengineering Works							
Slope Restoration/Bioengineering Works							
S503481	Hydroseeding and planting	90	10	80	01-02-07A	03-05-07	74
SUMMARY PROGRAMME							
SU00140	Completion of Section 4	0	0	0		18-06-07	-104



Start Date 28-12-05
Finish Date 12-03-08
Data Date 21-04-07

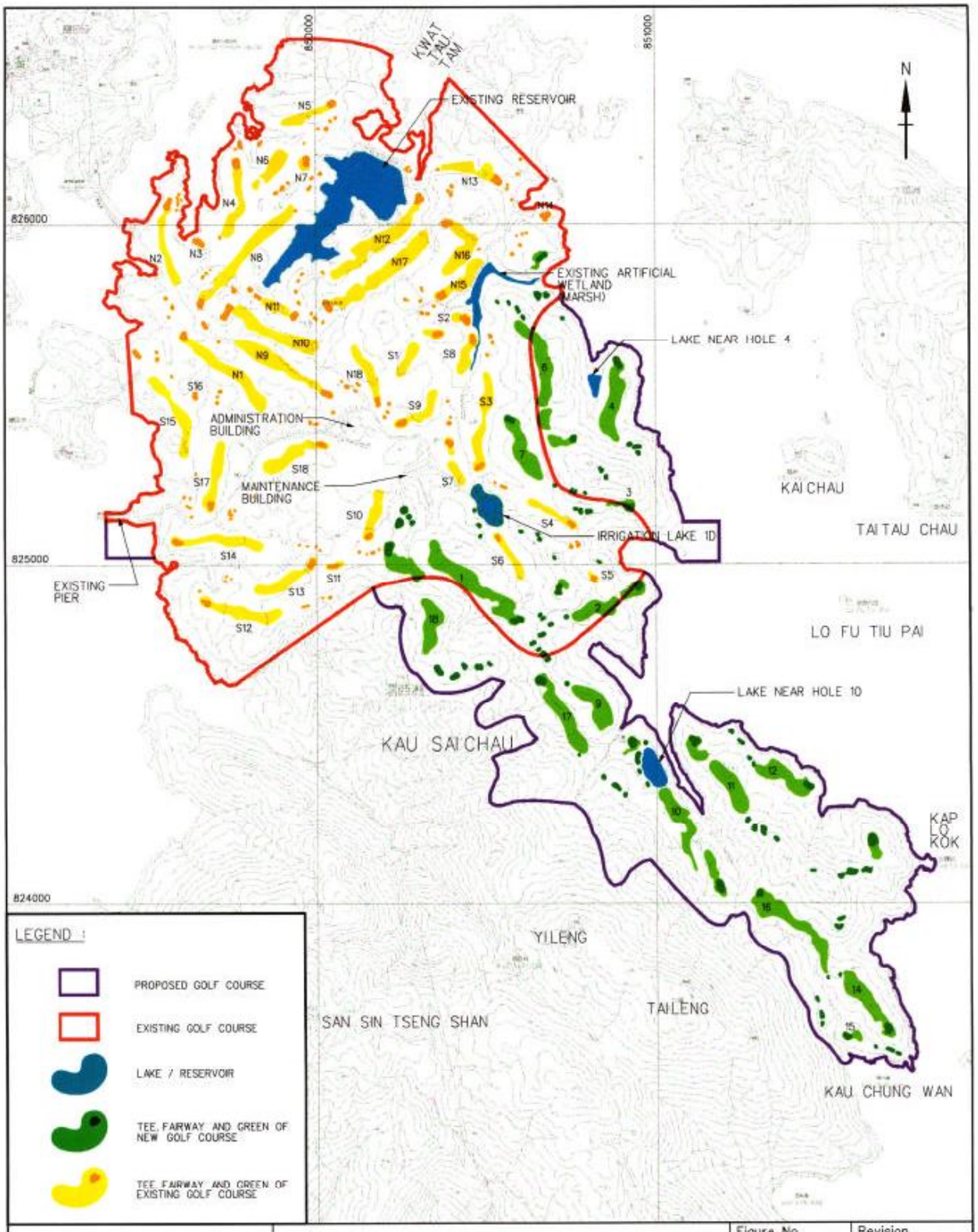
Early Bar
Progress Bar
Critical Activity

KS16 Sheet 18 of 18

China Harbour Engineering Company (Group)
The Jockey Club Kau Sai Chau Public Golf Course
3 month rolling programme
Upto Date : 21-04-07

Date	Revision	Checked	Approved
28-12-05	1st rolling	Tim	

FIGURES



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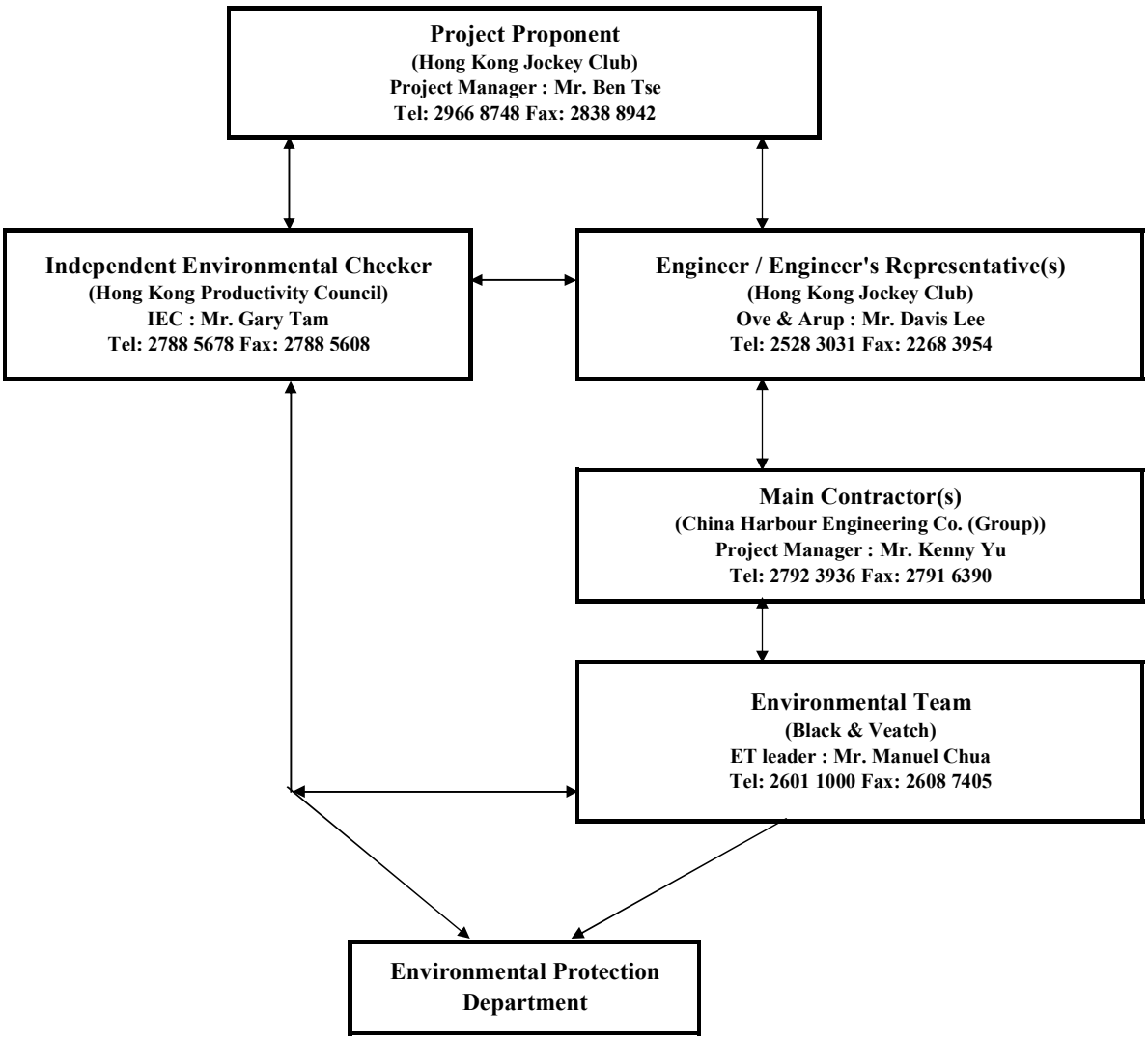
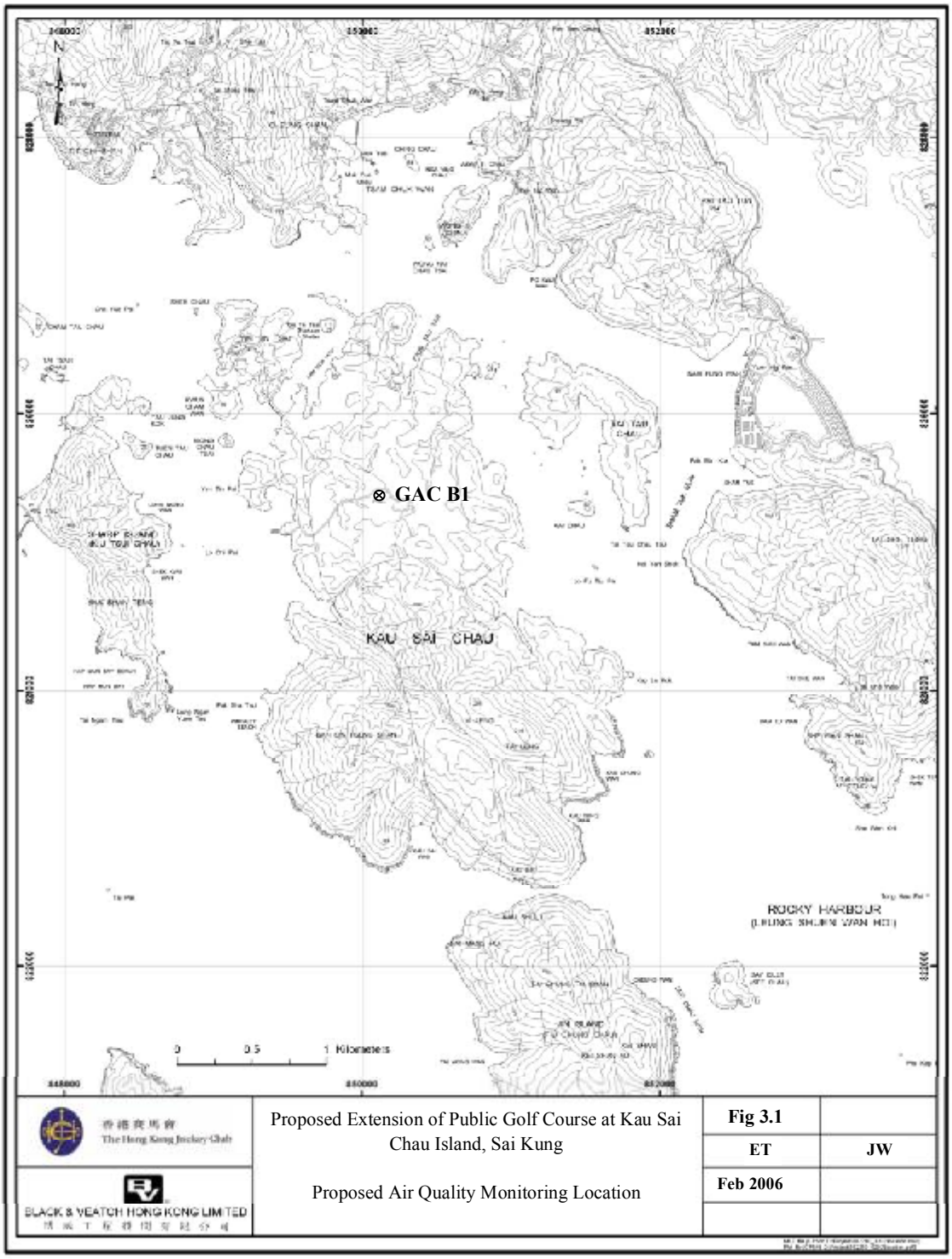
PROPOSED EXTENSION OF PUBLIC GOLF COURSE AT KAU SAI CHAU, SAI KUNG

PROPOSED 18-HOLE THIRD GOLF COURSE (MASTER LAYOUT PLAN)

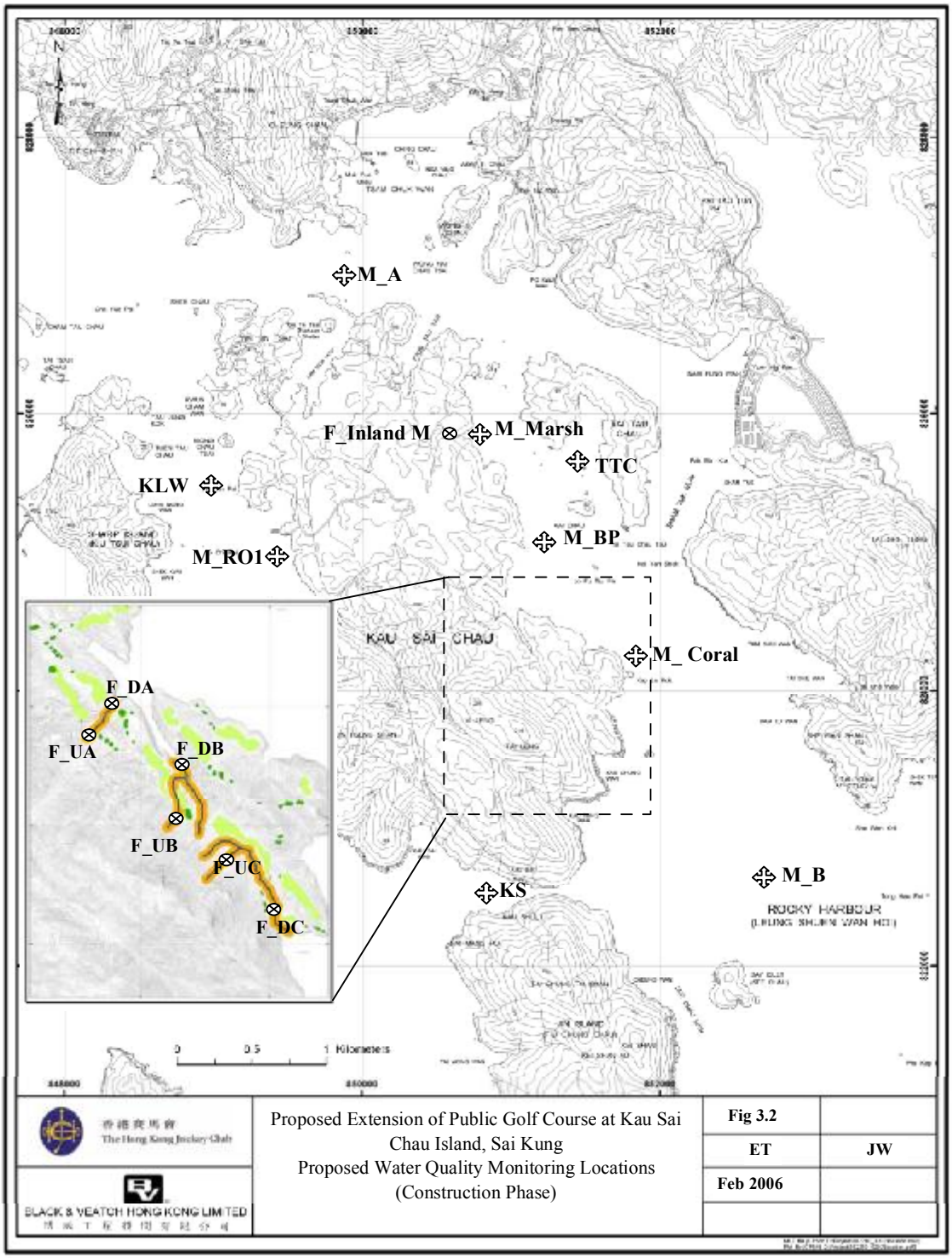
Figure No.	Revision
1.1	-
Reference	File Name
-	3822100201-2.1.DGN
Prepared	Checked
ET	JW
Date	Scale
MAY 2005	1 : 15000 (A4)

Figure 1.2
Project Organisation and Lines of Communication

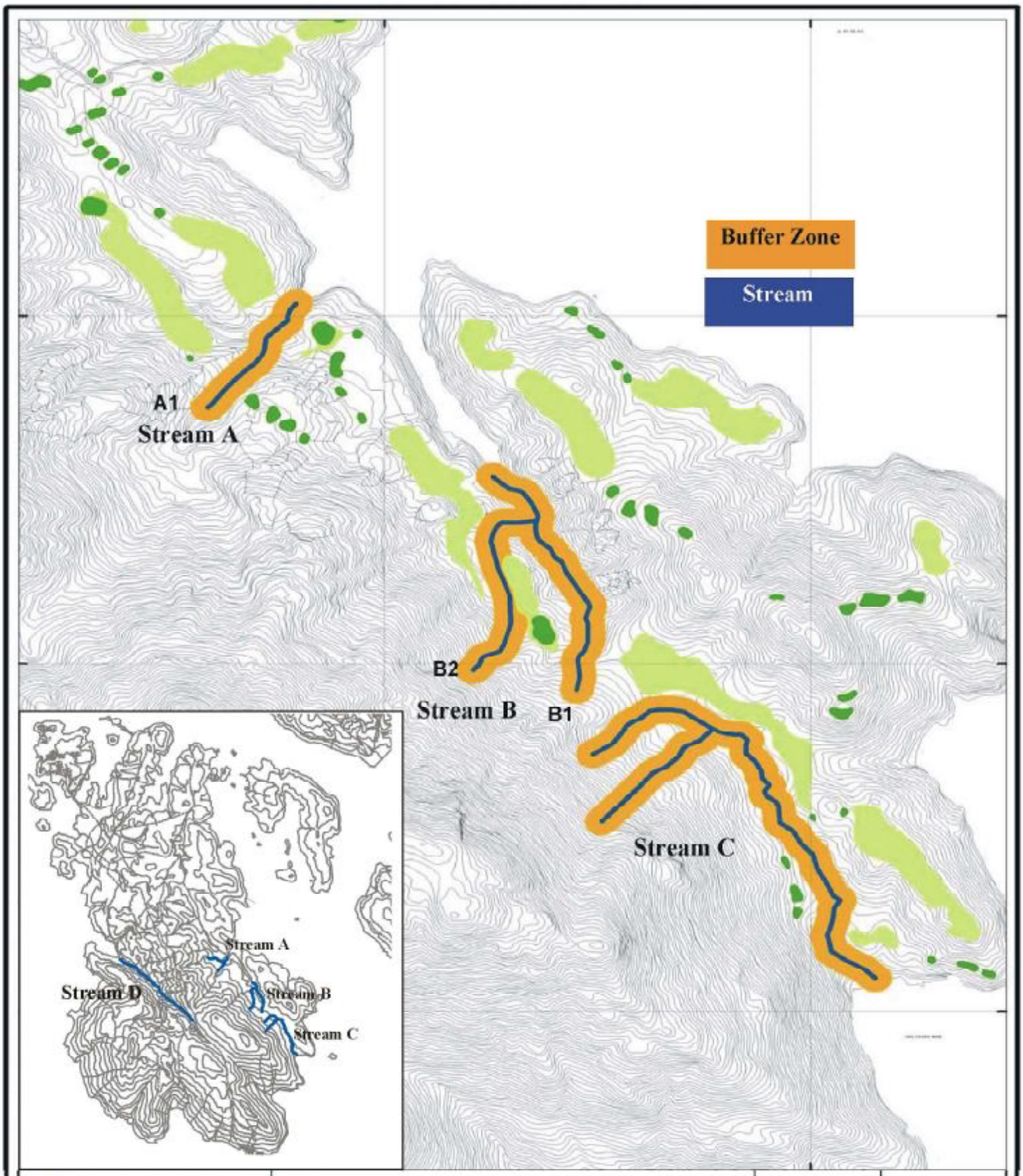




香港賽馬會 The Hong Kong Jockey Club	Proposed Extension of Public Golf Course at Kau Sai Chau Island, Sai Kung	**Fig 3.1**	
		ET	**JW**
BLACK & VEATCH HONG KONG LIMITED 博威工程顧問有限公司	Proposed Air Quality Monitoring Location	**Feb 2006**	



香港賽馬會 The Hong Kong Jockey Club	Proposed Extension of Public Golf Course at Kau Sai Chau Island, Sai Kung Proposed Water Quality Monitoring Locations (Construction Phase)	Fig 3.2
		ET JW
BLACK & VEATCH HONG KONG LIMITED		Feb 2006



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Proposed Extension of Public Golf Course at Kau Sai Chau Island, Sai Kung
Proposed Ecological Monitoring Location
(Streams Buffer Zone)

Fig 3.3	
ET	JW
July 2005	

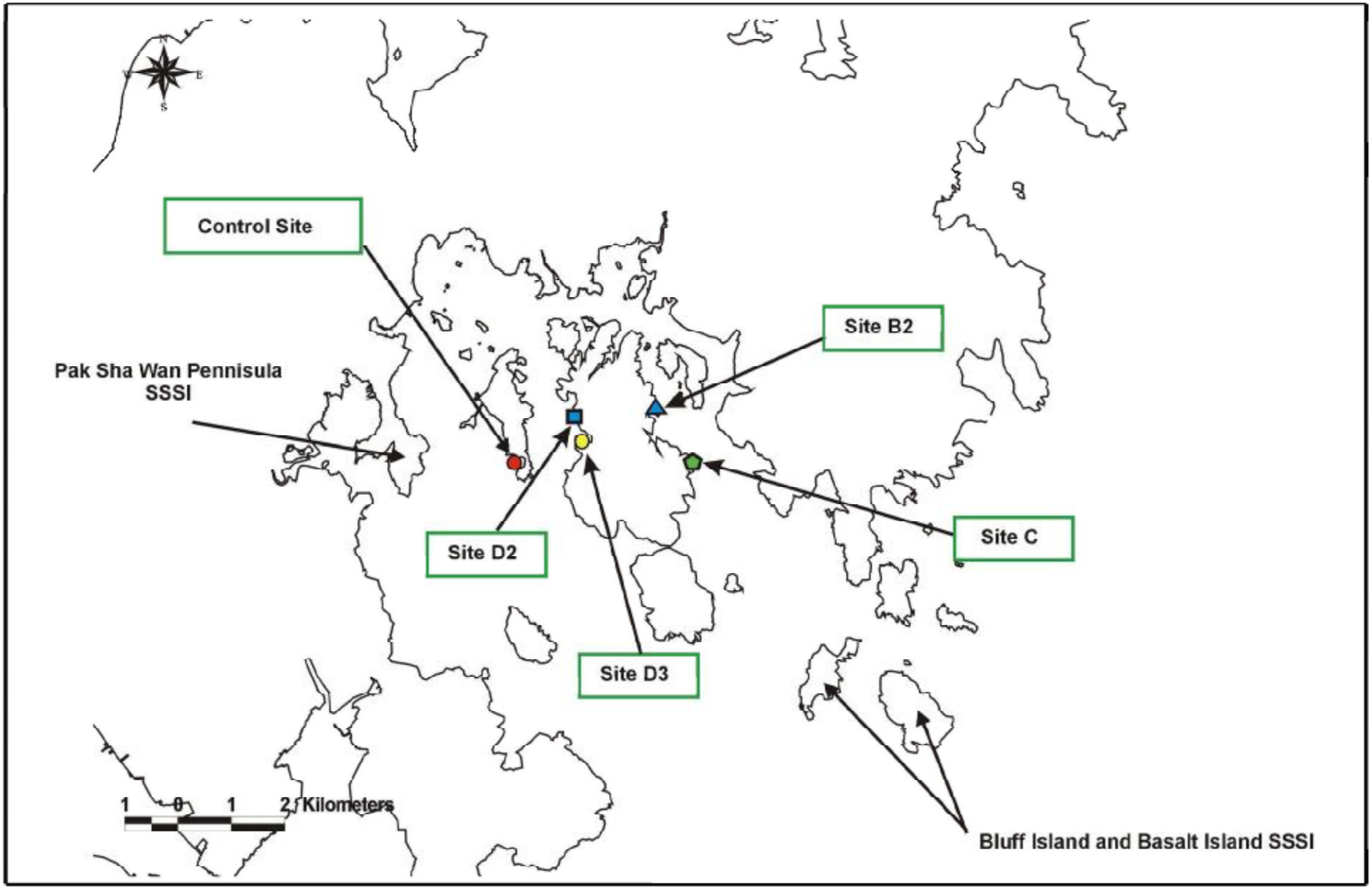


Figure 3.4a **Site C, Site B2, Site D2 and a Control Site near the AFCD's Coral Buoy at Sharp Island**

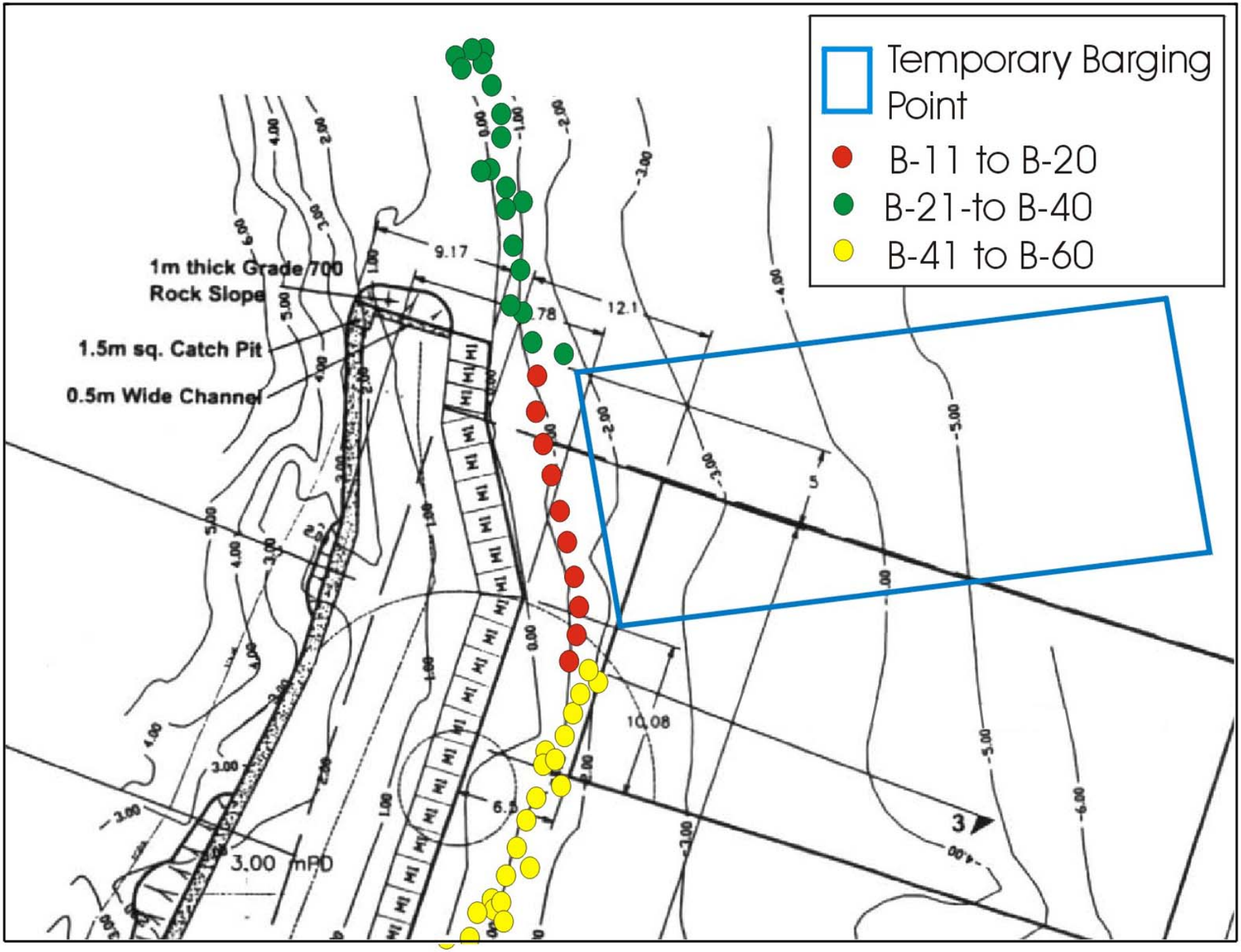
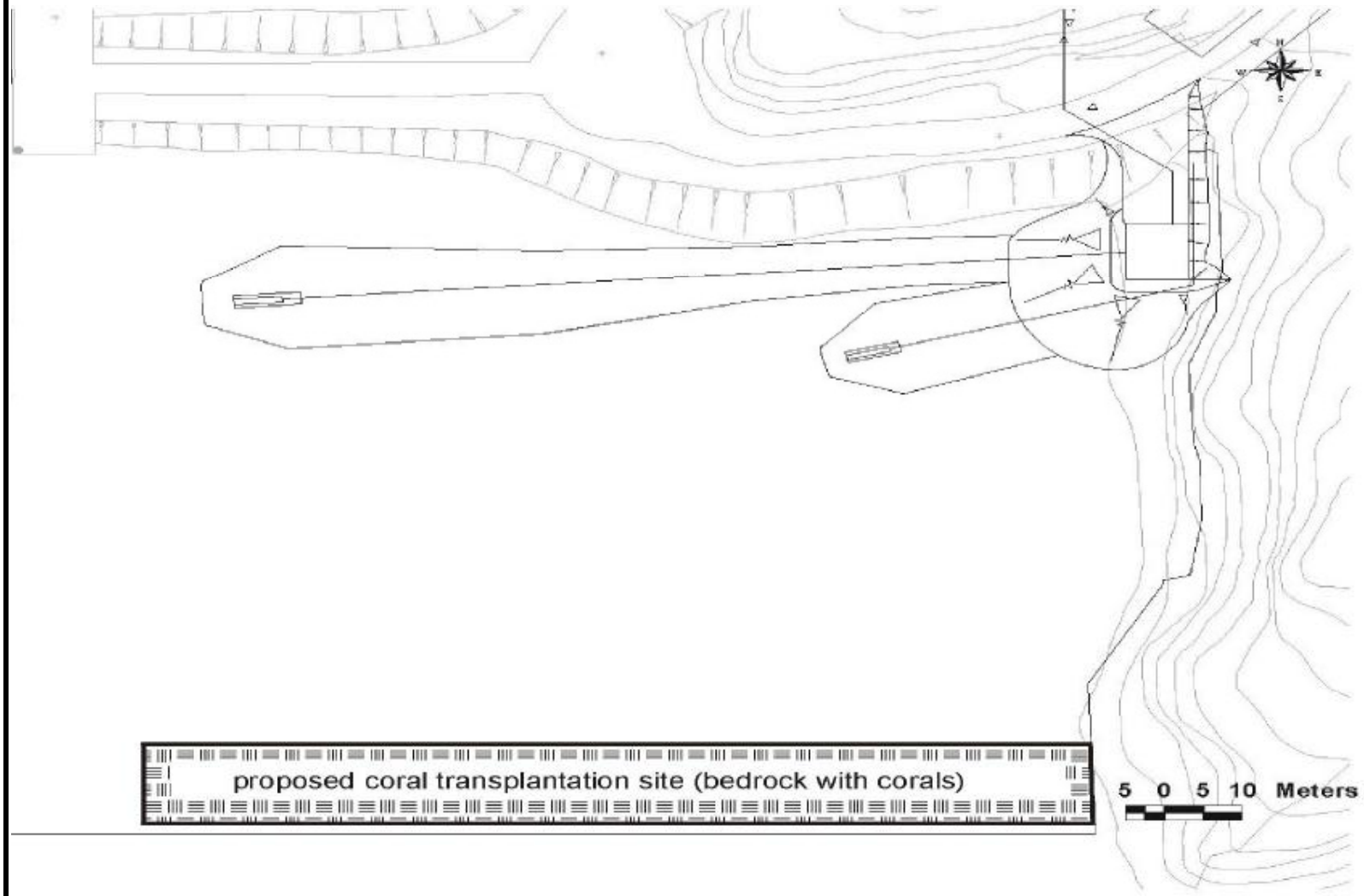


Figure 3.4b
Indicative map of additional tagged corals at Site B2



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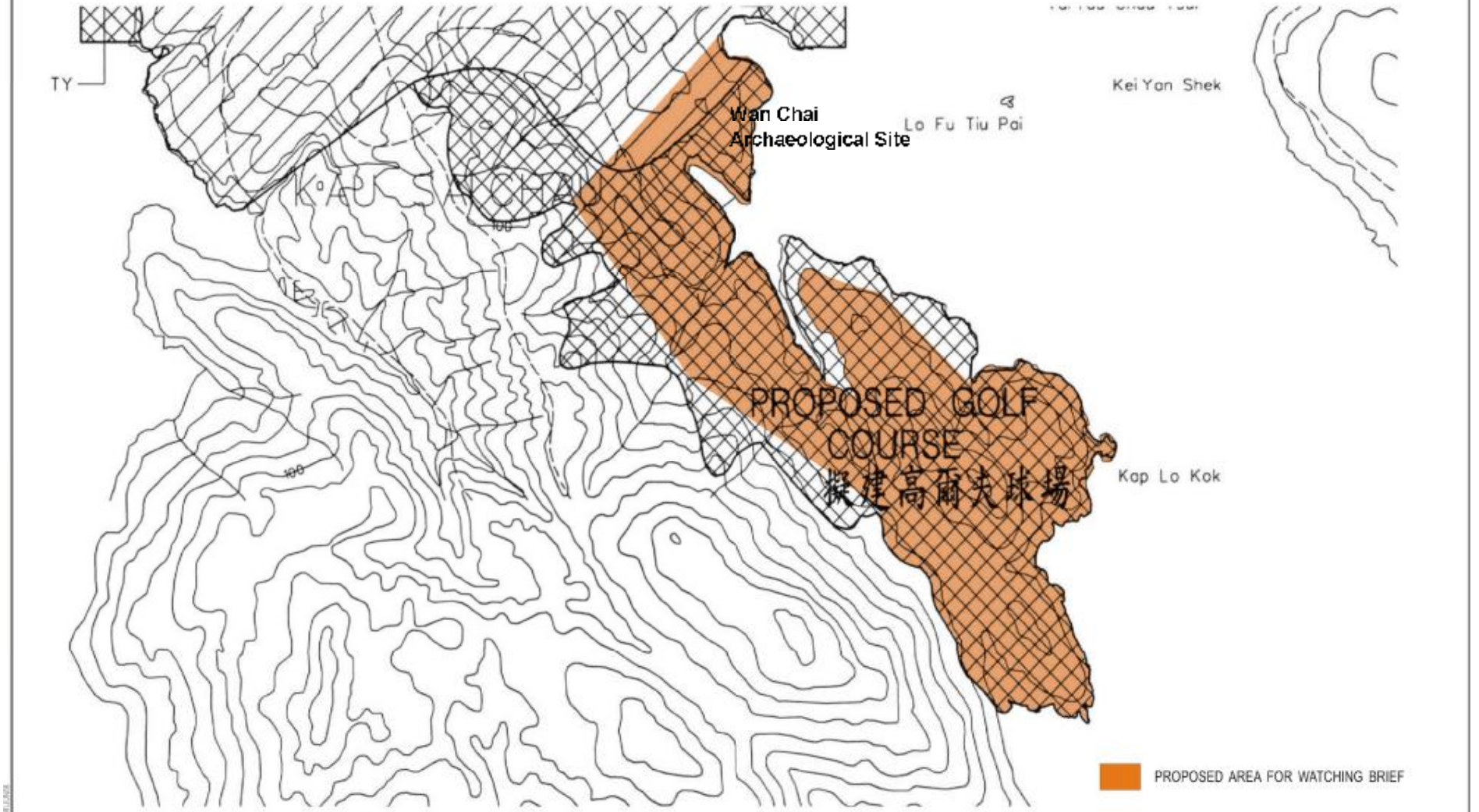
Proposed Extension of Public Golf Course at Kau Sai Chau Island, Sai Kung

Location of proposed coral transplantation site (Bedrock with corals)

Fig 3.5

Prepared	Checked
ET	JW

Date
Jun-05



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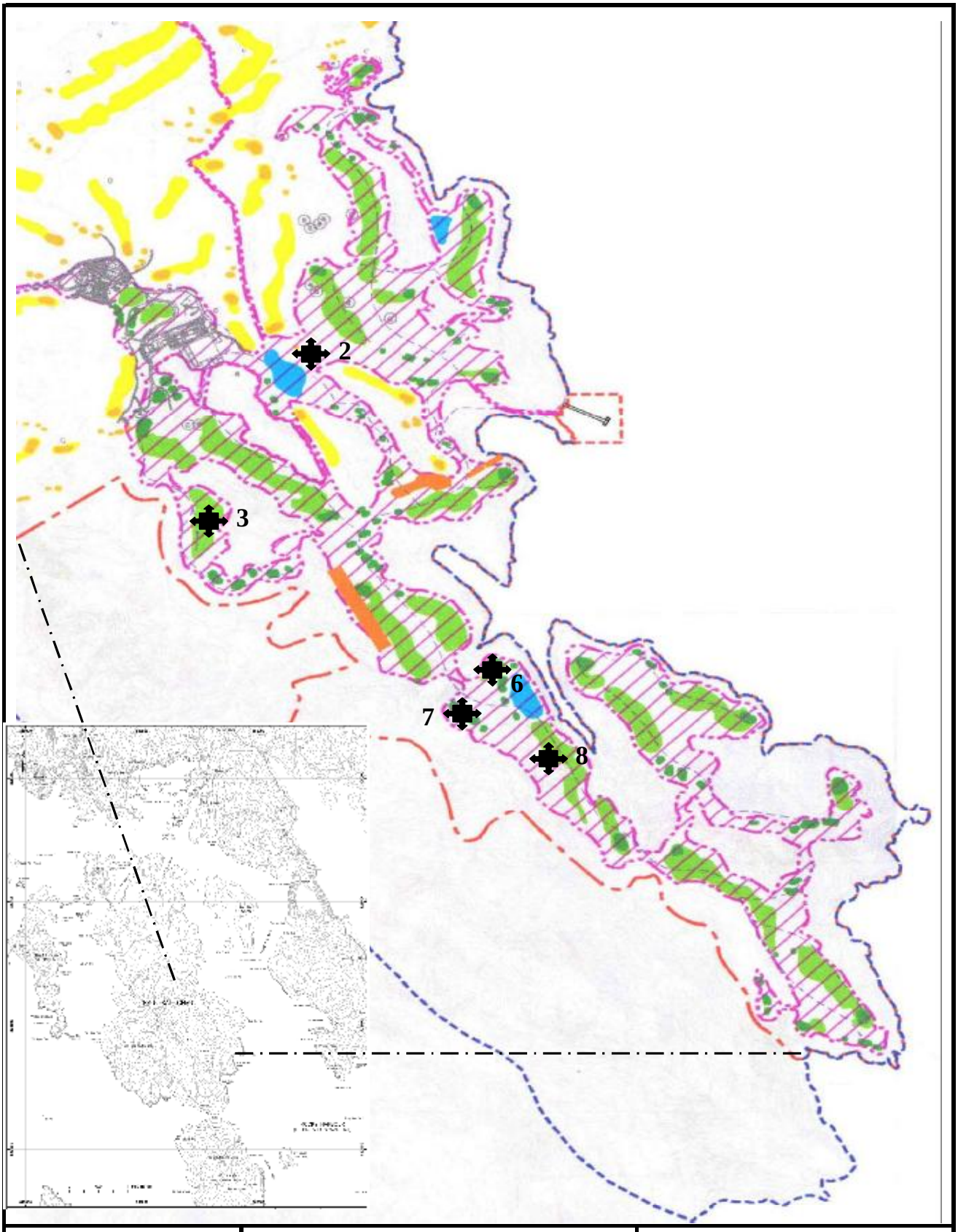
Archaeological Assessments
A2, 1/F, Po Shan Mansions, 14-16 Po Shan Rd., HK.
Tel: (852) 2521 4719

Hong Kong Jockey Club
Kau Sai Chau Public Golf Course New Development

Figure 3.6
Map Showing the Extent of the Area to monitored under the Watching Brief



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Proposed Extension of Public Golf Course at Kau Sai Chau Island, Sai Kung

Sampling location for land contamination

Fig 3.7

Prepared	Checked
ET	JW

Date
Jun-05