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TEST REPORT

PENTA-OCEAN CONSTRUCTION CO. LTD.

**OPERATION OF FILL BANK AT TSEUNG KWAN
O AREA 137 AND BARGING FACILITIES AT
HONG KONG ISLAND AND MUI WO
(CONTRACT NO.: CV/2005/05)**

TSEUNG KWAN O AREA 137

QUARTERLY EM&A SUMMARY REPORT NO.1

(FOR JULY - SEPTEMBER 2005)

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Environmental Officer

Checked by:

C. L. Lau
Environmental Team Leader

Approved by:

Tony Wong
Operations Manager

Report No.: ENA50595



BMT Asia Pacific Limited

25 October 2005
Our Ref: 8116/2156

By Post

Penta-Ocean Construction Co., Ltd.
30 Floor
248 Queen's Road East
Wanchai
Hong Kong

For the attention of Mr. Stephen Choi

Dear Sir

Contract No. CV/2005/05
Fill Bank at Tseung Kwan O Area 137
Quarterly EM&A Report

Following review of the Quarterly EM&A Report No. 1 for the reporting period July - September 2005, the IEC has verified the information presented.

Should you have any queries regarding the above, please do not hesitate to contact the undersigned.

Yours sincerely
BMT Asia Pacific Limited

Ben Ridley
IEC

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EXECUTIVE SUMMARY

This is the first Quarterly Environmental Monitoring and Audit (EM&A) Summary Report prepared by ETS-Testconsult Ltd (ET) for the "Contract No. CV/2005/05 Operation of Fill Bank at Tseung Kwan O Area 137 and Barging Facilities at Hong Kong Island and Mui Woo" (The Project).

This report documents the findings of EM&A Works conducted during the operation phase of Fill Bank at Tseung Kwan O Area 137 between July and September 2005.

Construction Progress

As informed by the Contractor, the construction activities in this reporting quarterly were as below:

- *Manage the incoming public fill dump trucks arriving through land access;*
- *Transport temporary stockpiled public fill from the Barge Handling Area (BHA) to Stockpile Areas or the Sorting Facility for Penny's Bay Reclamation Stage 2 (PBR2);*
- *Transport stockpile public fill from Stockpile Areas to the Sorting Facility for Penny's Bay Reclamation Stage 2 (PBR2);*
- *Direct some incoming public fill dump trucks to the Sorting Facility for Penny's Bay Reclamation Stage 2 (PBR2) for unloading;*
- *Routine site cleaning and maintenance of internal haul roads and access roads; and*
- *Routine implementation of environmental mitigation measures such as dust suppression by water spraying, cleaning of nearby public roads by using road sweeper and collection of floating debris inside a berthing basin within the site boundary.*

Dump truck traffic and hauling activities at Barge Handling Area (BHA) were the major dust sources. Barge delivery of fill material was also undertaken in the reporting quarter.

The desilting facilities were in proper operation to avoid silty discharge and the silt curtains were properly installed. There was no sediment plume observed during the monitoring events.

The major noise sources during the reporting quarter were the dump truck traffic and construction activities near the site egress. Noise impact on the sensitive receivers was insignificant in the reporting quarter according to the results of noise monitoring and site inspections.

Environmental Monitoring Works

Noise Monitoring

No exceedances of Action and Limit levels for noise monitoring were recorded in the reporting quarter.

Air Monitoring

During the reporting quarter, no exceedances of Action and Limit levels were recorded for 24-hr and 1-hr TSP monitoring. The air quality during the operation hours of the Fill Bank was considered acceptable.

Marine Water Quality Monitoring

Marine water quality monitoring was conducted in accordance with the EM&A Manual. There were five exceedance events recorded in the reporting quarter. During the monitoring events, there was no observation regarding silty discharge from the Fill Bank. Generally, sufficient mitigation measures were implemented to minimize marine water quality impact from the Fill Bank operation. Therefore, all water quality exceedances were considered not related to Fill Bank operation.

Landscape and Visual

Erection of hoarding and chain link fencing was provided at the Fill Bank site boundary. The germination rate on the panel at Portion A, B, G and H was satisfactory in this reporting quarter. Water spraying was provided regularly on all the hydroseeding slopes. However, the vegetation growth on the last hydroseeded panel in Portion I appeared to be poor and therefore the Contractor should properly maintain the panel properly.

Environmental Complaints, Notification of summons and successful prosecutions

No environmental complaints, notification of summons and prosecutions with respect to environmental issues were received in this monitoring quarter.



1.0 INTRODUCTION

Penta-Ocean Construction Co Ltd (POC) appointed Environmental Team (ET) of ETS-Testconsult Limited (ETL) to undertake the Environmental Monitoring and Audit (EM&A) for the "Fill Bank at Tseung Kwan O Area 137 and Barging Facilities at Hong Kong Island and Mui Woo" (Contract No.: CV/2005/05) (The Project).

In accordance with the Amended Environmental Permit (No.: EP-134/2002/E) (the EP), an EM&A programme should be implemented in accordance with the procedures and requirements in the EM&A Manual of the approved EIA report (Registration No. AEIAR-060/2002). The EM&A programme for this study as stated in Section 2.3.1 of the EM&A Manual covers the following environmental aspects during the establishment, operation and removal phases of the Fill Bank at Tseung Kwan O Area 137:

- Fugitive Dust;
- Noise generation from onsite activities;
- Water Quality; and
- Landscape and Visual.

Baseline monitoring was completed in August and September 2002 by Materialab. Action and Limit Levels were established for air and water quality parameters based on the baseline monitoring results.

This is the first quarterly EM&A Report of the Project. This report summarizes the findings of EM&A Works conducted during the operation phase of Fill Bank at Tseung Kwan O Area 137 for the period from July to September 2005.

2.0 PROJECT INFORMATION

2.1 Construction Progress in this reporting quarter

As informed by the Contractor, the activities in the reporting quarter include:

- Manage the incoming public fill dump trucks arriving through land access;
- Transport temporary stockpiled public fill from the Barge Handling Area (BHA) to Stockpile Areas or the Sorting Facility for Penny's Bay Reclamation Stage 2 (PBR2);
- Transport stockpile public fill from Stockpile Areas to the Sorting Facility for Penny's Bay Reclamation Stage 2 (PBR2);
- Direct some incoming public fill dump trucks to the Sorting Facility for Penny's Bay Reclamation Stage 2 (PBR2) for unloading;
- Routine site cleaning and maintenance of internal haul roads and access roads; and
- Routine implementation of environmental mitigation measures such as dust suppression by water spraying, cleaning of nearby public roads by using road sweeper and collection of floating debris inside a berthing basin within the site boundary.

2.2 Site Description

Tseung Kwan O Area 137 is located at the southern end of Wan Po Road. In the vicinity of the site are other industrial uses such as SENT landfill, TKO Industrial Estate, etc. Both Island Resort and Fullview Garden are also situated at more than 1.8km from the site. Other existing ASRs and NSRs, including resident developments and schools, are located at a further distance away from TKO Area 137.

2.3 Construction Programme

Details of construction programme are shown in Appendix G.

2.4 Project Organization and Management Structure

The organization chart and lines of communication with respect to the on-site environmental management and monitoring program are shown in Appendix A.

2.5 Contact Details of Key Personnel

The key personnel contact names and telephone numbers are shown in Table 2.1.

Table 2.1 Contact Details of Key Personnel

Organization	Name of Key Staff	Project Role	Tel. No.	Fax No.
CEDD	Mr. Lawrence Ng	Engineer	2762 5582	2714 0113
IEC (BMT)	Mr Ben Ridley	IEC	2815 2221	2815 3377
Contractor (POC)	Mr. Stephen Choi	Site Agent	9400 7690	2623 9128
ET (ETL)	Mr C. L. Lau	ET Leader	2946 7791	2695 3944



3.0 SUMMARY OF EM&A REQUIREMENTS

3.1 EM&A Programme

The EM&A programme required environmental monitoring for air quality, noise and marine water quality and environmental site inspections for air quality, noise, marine water quality, landscape and visual, and waste management. The EM&A requirements for each parameter described in the following sections include:

- All monitoring parameters;
- Monitoring schedules for the reporting month and forthcoming months;
- Action and Limit levels for all environmental parameters;
- Event/Action Plans;
- Environmental mitigation measures, as recommended in the Project EIA study final report; and
- Environmental requirements in contract documents.

The advice on implementation status of environmental protection and pollution control/mitigation measures is summarized in Section 4 of the Report.

3.2 Monitoring Stations and Parameters

The EM&A Manual designates several locations to monitor environmental impacts in terms of air quality, noise and water quality due to the Project. The description and detailed locations of monitoring stations for air quality, noise and marine water quality are shown in Figures 1, 2 and 3 and relevant sections of this Report.

3.3 Monitoring Methodology and Calibration Details

All monitoring works were conducted and monitoring equipment was calibrated in according with the EM&A Manual. Copies of calibration certificates of monitoring equipments are attached in Appendix B1, C1 and D1.

3.4 Environmental Quality Performance Limits (Action/Limit Levels)

The environmental quality performance limits, i.e. Action/Limit Levels (AL Levels) were derived from the baseline monitoring results. If the measured environmental quality parameters exceed the AL Levels, the respective action plan will be implemented. The AL Levels for each monitoring parameter are given in Appendix E. The event action plan is given in Appendix F.

3.5 Environmental Mitigation Measures

Relevant mitigation measures were recommended in the EM&A Manual for the Contractor to implement. A list of mitigation measures is given in Appendix H.



4.0 MONITORING RESULTS

4.1 Air Quality

In accordance with the EM&A Manual, air quality monitoring, including 1-hr and 24-hr TSP, is to be conducted once every six days. In the reporting quarter, all the 1-hr and 24-hr TSP monitoring results complied with the AL Levels. The monitoring data and trend of air quality during the reporting quarter are given in Appendix B2 and B3.

Major dust sources in the Fill Bank were dump truck traffic and hauling activities at BHA.

Table 4.1 presents the number of exceedances recorded in each month of the reporting quarter. The number of monitoring event included regular monitoring events and additional ones.

Table 4.1 Summary of Number of Exceedances for 1-hr and 24-hr TSP Monitoring

Monitoring Parameter	Level of Exceedance	July 2005	August 2005	September 2005
24-hr TSP	No of monitoring events	3 *	6	6
	Action Level	0	0	0
	Limit Level	0	0	0
	Total	0	0	0
1-hr TSP	No of monitoring events	9 **	18	18
	Action Level	0	0	0
	Limit Level	0	0	0
	Total	0	0	0

Remark : (*) included 1 occasion of 24-hr TSP Monitoring carried out under the previous contract (CV/2002/08) by Maunsell.
(**) included 3 occasions of 1-hr TSP Monitoring carried out under the previous contract (CV/2002/08) by Maunsell.

Table 4.2 presents the 1-hr and 24-hr TSP averages in the baseline period and for each month in the reporting quarter. It was found that the 1-hr and 24-hr TSP averages at both stations in the reporting quarter were higher than the baseline levels but they were within the AL Levels. As a result, the Contractor should provide more mitigation measures to avoid dust generation.

Table 4.2 Comparison of Baseline and Various Period of Averaged 1-hr and 24-hr TSP Impact monitoring Results

Period	1-hr TSP ($\mu\text{g}/\text{m}^3$)		24-hr TSP ($\mu\text{g}/\text{m}^3$)	
	AA1	AA2	AA1	AA2
Baseline (29/08 – 13/09)	195		123	
July 2005	327	308	163	152
August 2005	331	324	186	180
September 2005	284	286	171	160

4.2 Noise

Noise monitoring was required to be conducted at least once per month. Only daytime noise was monitored in the reporting quarter. All recorded noise levels complied with the AL Levels. The registered noise levels in the past three months are tabulated and plotted in Appendix C2 and C3.

Table 4.3 presents the limited level and average impact noise monitoring results during the reporting quarter.

Table 4.3 Summary of Impact Monitoring results of Noise Daytime Monitoring

Monitoring Location	Limit Level	July 2005	August 2005	September 2005
	Leq, dB(A)			
N1	75	71.8	62.9	64.5

The major noise sources in the reporting quarter were dump truck traffic and construction activities near the site egress. The noise impact was insignificant as the Fill Bank was remote from nearby sensitive receivers.

4.3 Marine Water Quality

In accordance with the EM&A Manual, the marine water quality monitoring was conducted at the monitoring station (M4) and the control station (C1) in the reporting quarter.

Impact marine water quality monitoring was conducted three days per week. Measurements were taken at both mid-ebb and mid-flood tides at three depths (i.e. 1m below surface, mid depth and 1m above seabed). The AL Levels are included in Appendix E.

A total of five exceedances were recorded in the reporting quarter. Four exceedances were recorded in July 2005 and one exceedance was recorded in August 2005.

During the monitoring events, there was no observation regarding silty discharge from the Fill Bank. Generally, sufficient mitigation measures were implemented to minimize marine water quality impact from the Fill Bank operation. Therefore, all marine water quality exceedances were considered not to be related to Fill Bank operation and might be due to natural fluctuation in the water body around the area.

Table 4.4 presents the total number of marine water quality exceedances in the reporting quarter. The trend of marine water quality in the past three months is depicted in Appendix D3.

Table 4.4 Total Number of Marine Water Quality Exceedances in the Quarter

Parameter	Exceedance Level	July 2005	August 2005	September 2005
Number of monitoring days		9 *	14	12
Dissolved Oxygen, DO (S&M)	Action	0	1	0
	Limit	0	0	0
	Total	0	1	0
Dissolved Oxygen, DO (B)	Action	0	0	0
	Limit	0	0	0
	Total	0	0	0
Turbidity	Action	1	0	0
	Limit	0	0	0
	Total	1	0	0
Suspended Solids, SS	Action	0	0	0
	Limit	3	0	0
	Total	3	0	0
Total Number of DO, Turbidity and SS Exceedances	Action	1	1	0
	Limit	3	0	0
	Total	4	1	0

Remark : (*) included 3 occasion of Marine Quality Monitoring carried out under the previous contract (CV/2002/08) by Maunsell.

A comparison between the quarterly mean/median of SS and the 1.3 times of the baseline mean was made for each tide at each station. The statistical analysis results are given in Appendix I and it shows that a generally better marine quality was resulted in the reporting quarter in respect to 130% of the baseline mean. Monitoring stations with significant difference ($p < 0.05$) is summarized in Table 4.5.

Table 4.5 Summary of Statistically Significant Results of SS

Monitoring Station	Significant difference?	
	Mid-ebb	Mid-flood
C1	√	√
M4	√	√



5.0 INSPECTION RESULTS

5.1 Implementation Status of Environmental Mitigation Measures

ET conducted weekly site inspections to monitor the Contractor's implementation of environmental mitigation measures. After each site inspection, the Contractor was notified of ET's observations and recommendations. A corrective action plan detailing the environmental observations was prepared by ET and the Contractor then completed this plan to propose/report their remedial works.

Air quality was the major environmental issue in the reporting quarter. The Contractor generally implemented most of the environmental mitigation measures in the reporting quarter. Dump truck traffic was the major dust source in the Fill Bank. Generally, the Contractor implemented adequate dust mitigation measures in the reporting quarter including dampening of haul roads, water spraying on the truckloads, operation of automatic wheel washing facilities and mist spraying systems, dampening of fill material prior to handling or stockpiling, etc.

Dump truck traffic and construction activities near the site egress were the major noise sources. As the Fill Bank was remote from the nearby NSRs, the noise impact was minimal. The powered mechanical equipment were generally operated and maintained properly.

The silt curtains were in place at the mouth of the TKO Basin and no obvious sediment plume was observed discharged out of the TKO Basin. The amount of runoff discharge was minimal in the reporting quarter. The Contractor regularly maintained the drainage system. Pesticide was applied in all the permanent desilting chambers as long as there was stagnant water. Regarding the observations about the accumulation of fill materials on the concrete pavement at the BHA in the reporting quarter, the Contractor was reminded to clean up the fill materials as soon as each unloading activity completed to avoid the fill materials from being washed into the sea. Furthermore, the Contractor should also regularly inspect and maintain the oil interceptor at the car park to ensure its proper function.

The site toilet and shower room had been in use since October 2003. They were properly operated in the reporting quarter.

Based on the observations made during the site inspections in September 2005, a number of chemical containers were found without trip tray at the Water Truck Filling Station. Besides, no labels were noticed on the containers. The Contractor was reminded to provide correct labels for all containers and store them properly. Although there were a few observations regarding improper handling of oil drums and chemical containers, such as lack of drip tray and accumulated of stagnant water in the drip tray, the Contractor rectified most of these problems. Since there were still some patches of oil stain in the Fill Bank, in particular at the workshop area, the Contractor should carry on their cleaning activities.

The Contractor watered the slopes at Portions A, B, G, H and I two to three times daily. The germination rate on the panel at Portion A, B, G and H was satisfactory except Portion I in this reporting quarter. The Contractor was reminded to maintain the panel properly.

5.2 Status of Environmental Licensing and Permitting

An Amended Environmental Permit (No.: EP-134/2002/E) (the EP) was granted to the Project by EPD on 02 February 2005. Effluent discharge licence (Ref. No.: TE/D1152/839/1) for the site toilet and shower room issued on 06 June 2003 obtained from the previous contract was valid in this Project. Construction Noise Permit (GW-RE0226-05) was valid from 15 August 2005 to 31 December 2005 to the Project and Chemical Waste Producer Licence (WPN No.: 5213-839-P2800-23) was also valid from 04 August 2005. The status of licences and permits is summarized in Table 5.1.



Table 5.1 Summary of environmental licensing and permit status

Description	Permit No.	Valid Period		Section
		From	To	
Amended Environmental Permit	EP-134/2002/E	02/02/05	---	(Valid) <ul style="list-style-type: none"> ▪ Site clearance ▪ Construction of a temporary storm water system ▪ Stockpiling of 6 million m³ of public fill ▪ Setting up two barging points for transporting the stockpiled public fill by barges ▪ Setting up a temporary barging point at the existing Explosive Off-loading Barging Point for the period of May 2004 to December 2004 for transporting the stockpiled public fill by barge ▪ Construction of operation of a construction and Demolition Material Sorting Facility (C&DMSF) ▪ Setting up a Construction and Demolition Material Crushing Facility at the TKO Basin ▪ Remove the temporary fill bank
Effluent Discharge License	TE/D1152/839/1	06/06/03	30/06/08	<ul style="list-style-type: none"> ▪ For effluent from site toilet and shower room ▪ For aerobic wastewater treatment plant
Construction Noise Permit	GW-RE0226-05	15/08/05	31/12/05	<u>Group A:</u> <ul style="list-style-type: none"> • 1 Compactor, vibratory (CNP 050) • 2 Dump truck, 5.5 tonne<gross vehicle weight ≤ 38 tonne (CNP 068) • 2 Excavator, tracked (CNP 081) • 1 Roller, vibratory (CNP 186) • 1 Saw, circular, wood (CNP 201) <u>Group B:</u> <ul style="list-style-type: none"> • 1 Breaker, excavator mounted (hydraulic) (CNP 028) • 2 Concrete lorry mixer (CNP 044) • 2 Poker, vibratory, hand-held (CNP 170)
Chemical Waste Producer	5213-839-P2800-23	13/07/05	---	<ul style="list-style-type: none"> ▪ Spent Lubricating Oil ▪ Solvent & Battery ▪ Surplus Paint Bank & Fuel ▪ Contaminated Soil ▪ Empty Chemical Containers

5.3 Advice on Solids and Liquid Waste Management Status

The Contractor usually disposed of non-inert waste, including general refuse and materials segregated from the existing stockpiles, to SENT landfill. There was no disposal of metal scraps in the reporting quarter. Table 5.2 summarizes data on offsite waste disposal in the quarter.

Table 5.2 Estimated Offsite Waste Disposal In the Reporting Quarter

Waste Type	Examples	July 2005	August 2005	September 2005
C&D Waste (tons)	Domestic waste (site) collected in garbage bins and general refuse	7.51	7.24	9.70
Chemical Waste (L)	Waste oil	0	600	600
Recycle Material (kg)	Metal scraps	0	0	0

The site toilet and shower room and several chemical toilets were in use throughout the reporting quarter. Discharge from the site toilet and shower room was made to the additional drainage DP4 after passing through the sewage treatment system. A licensed collector also regularly collected waste from the chemical toilets.



6.0 NON-COMPLIANCE OF THE ENVIRONMENTAL QUALITY PERFORMANCE LIMITS

6.1 Summary of Non-compliance

No exceedances of Action and Limit Level of 24-hr and 1-hr TSP monitoring results were recorded during the reporting quarter.

No day-time noise level measured at all monitoring stations exceeded the Action and Limit Level in the reporting quarter.

According to the summary of marine water monitoring results in this reporting quarter, five exceedances (1 DO, 1 Turbidity and 3 SS exceedances) were recorded, in which four were recorded in July and 1 in August 2005.

6.2 Review of the Reasons for and the Implications of Non-compliance

In accordance with the observations by ET during the site inspections and water quality monitoring events, there was no obvious silty discharge from the Fill Bank. Generally, sufficient mitigation measures were implemented to minimize marine water quality impact from the Fill Bank operation. Therefore, all marine water quality exceedances were considered not related to Fill Bank operation and might be due to natural fluctuation in the water body around the area.

6.3 Summary of Actions Taken

Upon the notification of the exceedance events in this reporting quarter, no further action was required since all exceedances recorded in this reporting quarter were not related to the Fill Bank operation.

6.4 Summary of Environmental Complaint, Notifications of Summons and Successful Prosecutions Handling

No complaints, notifications of summons and successful prosecutions were received in this reporting quarter. A summary of environmental complaints and prosecutions was given in Table 6.1.

Table 6.1 Summary of Environmental Complaints and Prosecutions

Month (2005)	Complaints logged	Summon served	Successful Prosecution
July	0	0	0
August	0	0	0
September	0	0	0
Cumulative	0	0	0

7.0 COMMENTS, CONCLUSIONS AND RECOMMENDATION

This report presents the first quarter of the Fill Bank operation. Major activity in the Fill Bank was the import and dumping of fill material. Air quality was the major environmental issue in the Fill Bank. Generally, the Contractor implemented most of the mitigation measures to minimize the dust impact.

There were five marine water quality exceedances recorded in the reporting quarter. No air quality and noise exceedance was recorded in this quarter. With respect to the marine water quality exceedances, interim notifications of exceedance (NOEs) were issued to EPD, ER, IEC and the Contractor to inform them of the incidents. As all exceedances were considered invalid to the Project, no follow-up action was required.

No environmental complaints, notification of summons and prosecutions with respect to environmental issues were received in this quarter.



According to the ET weekly site inspection and IEC site audits carried out in this quarter, it indicated that site practices of the Contractor were generally undertaken in an environmentally acceptable manner and the overall site environmental performance was satisfactory. The Contractor generally implemented sufficient dust mitigation measures, including operation of the mist spraying systems and automatic wheel washing facilities, dampening of haul roads and stockpiling areas.

According to the environmental site inspections performed in the reporting quarter, the following recommendations were provided:

Air Quality

- Ensure the frequency of water spraying on haul roads, unloading areas and stockpiles to be sufficient to suppress the dust sources;
- Conduct road sweeping on the public road and the main haul roads outside and near the site egress by the road sweeper. Undertake water spraying on stockpiling area;
- Provide proper maintenance for the powered mechanical equipment and barges to avoid emission of dark smoke;
- Provide water spraying onto the truckloads during inspection of fill material;
- Erect adequate speed limit signs to advise the truck drivers of the speed limit;
- Operate mist spraying systems and automatic water sprinklers in the Fill Bank;
- Implement the dust mitigation measures for the construction activities; and
- Ensure all vehicles to be washed before leaving the site egress through the provision, operation and maintenance of automatic wheel washing facilities.

Noise

- Conduct noisy activities at a farther location from the NSRs.

Water Quality

- Maintain the drainage system, including the trapezoidal channels, permanent desilting chambers, DP3 & DP4 regularly;
- Operate and maintain the silt curtains regularly;
- Check and maintain the silt curtain regularly;
- Operate the cleaning vessel within the TKO Basin regularly;
- Provide proper treatment for the oil discharge from the area near air monitoring station AA1;
- Clean up the fill material on the concrete pavement at BHA frequently; and
- Remove the stagnant water or provide pesticide for the stagnant water in the permanent desilting chambers, if any.

Chemical and Waste Management

- Remove waste materials from the site to avoid accumulation regularly;
- Handle and store chemical wastes properly;
- Remove unwanted material in the existing stockpiles and avoid further dumping of such material;
- Provide and maintain sufficient drip trays for diesel drums, chemical containers, chemical waste storage drums and diesel operated generator set;
- Maintain mesh screen on top of the additional drainage, DP3 to avoid improper dumping of rubbish;
- Maintain good housekeeping at the workshop area;
- Ensure sufficient tarpaulin sheets are provided to cover drip trays; and
- Avoid soil being polluted during oil filling and equipment maintenance; hence, properly remove and store the contaminated soil, if any.

Landscape and Visual

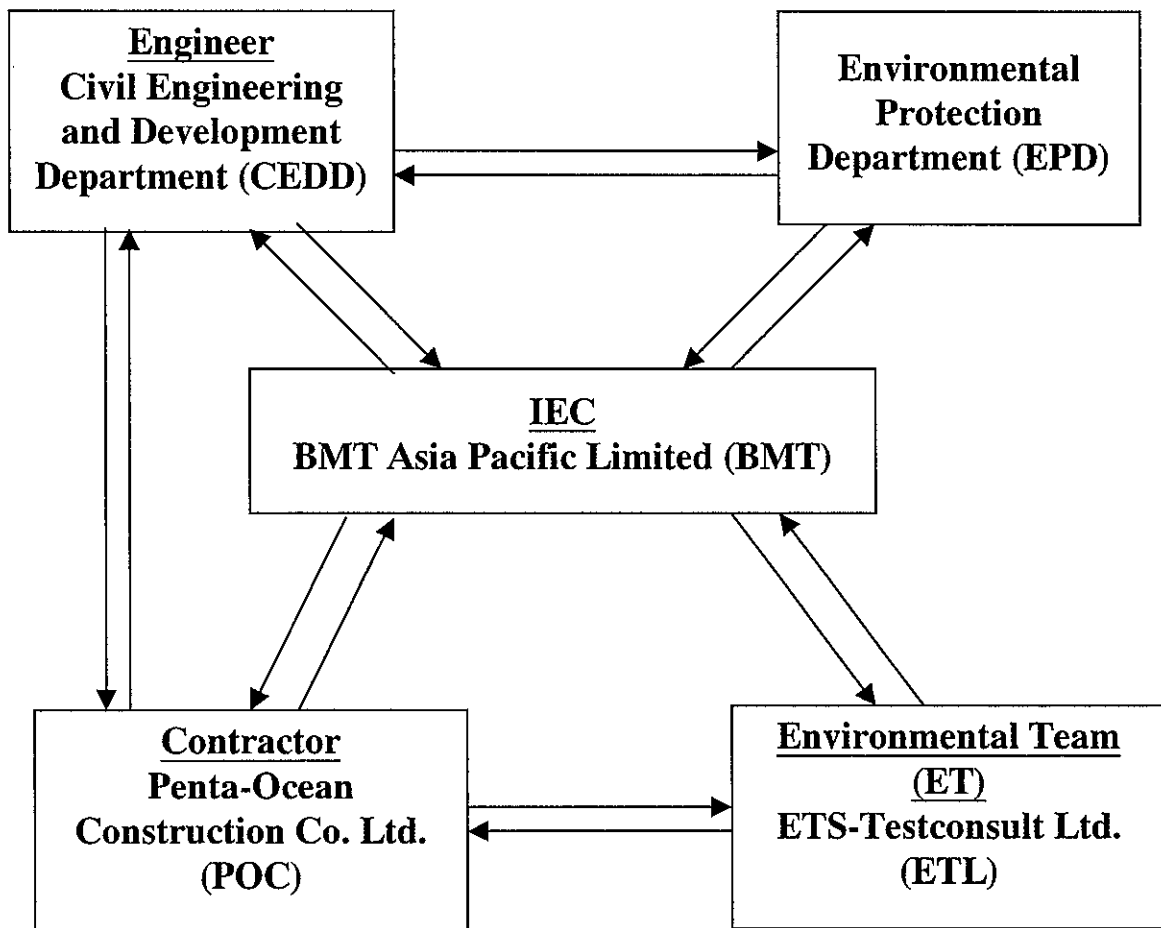
- Provide hydroseeding on the exposed slopes, on which the final profile has been formed;
- Erect all the site hoarding / chaining fences in accordance with agreed design at proper location; and
- Maintain the hydroseeding slopes in accordance with the Landscape Plan.



Appendix A

Organization Chart and Lines of Communication

Lines of Communication





Appendix B1

Calibration Certificates for Air Quality Monitoring Equipments



東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

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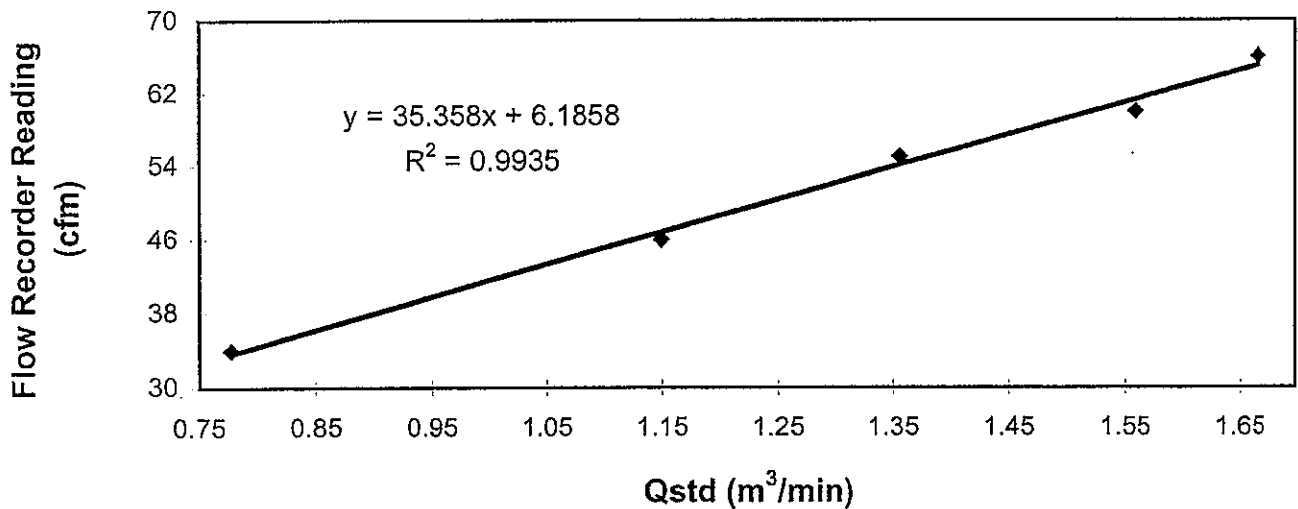
TEST REPORT

Calibration Report
of
High Volume Air Sampler

Manufacturer : Greasby GMW Date of Calibration : 16 July 2005
Serial No. : 10347 (EA/003/06) Calibration Due Date : 15 September 2005
Method : Based on Operations Manual for in series calibration method by TISCH
ENVIROMENTAL Model Te-5025A calibration kit

Results	Flow recorder reading (cfm)	66	60	55	46	34
	Qstd (Actual flow rate, m ³ /min)	1.67	1.56	1.36	1.15	0.78
Pressure :		754.56 mm Hg		Temp. :		300 K

Air Sampler 10347 Calibration Curve
Site: Tseung Kwan O (AA1)
Date of Calibration: 16 July 2005



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

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

Calibrated by :
Felix Tin
(Technician)

Approved by :
H. T. Chow
(Asst. Environmental Officer)



東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

8/F., Block B, Veristrong Industrial Centre, 34-36 Au Pui Wan Street, Fotan, Hong Kong
Tel : 2695 8318 E-mail : etl@ets-testconsult.com
Fax : 2695 3944 Web site : www.ets-testconsult.com

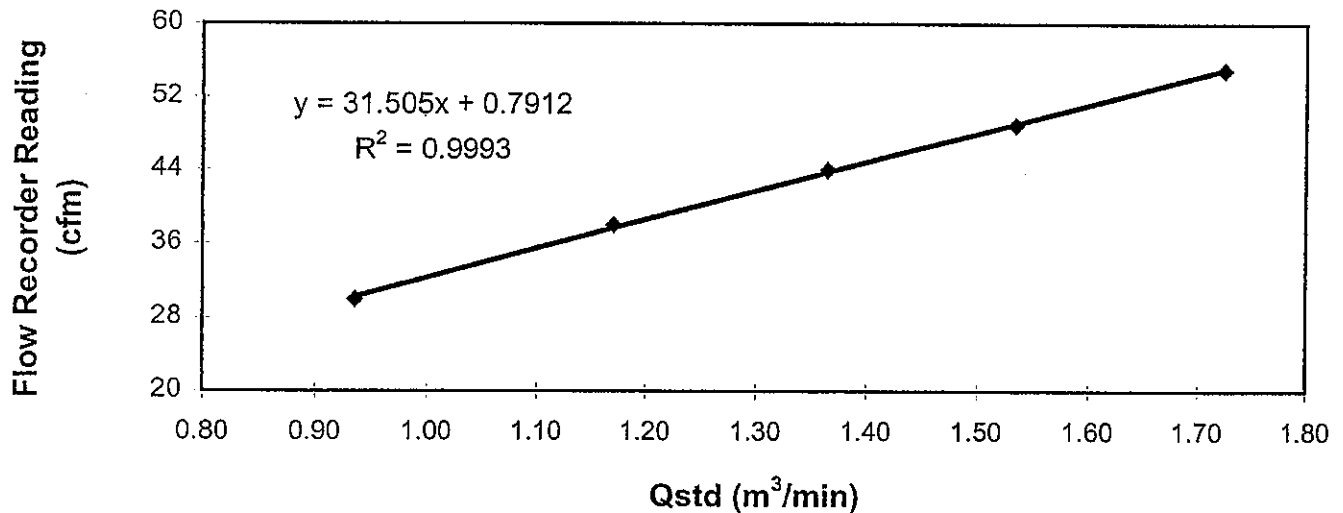
TEST REPORT

Calibration Report
of
High Volume Air Sampler

Manufacturer : Greasby GMW Date of Calibration : 16 July 2005
Serial No. : 1176 (EA/003/05) Calibration Due Date : 15 September 2005
Method : Based on Operations Manual for in series calibration method by TISCH
ENVIROMENTAL Model Te-5025A calibration kit


Results	Flow recorder reading (cfm)	55	49	44	38	30
	Qstd (Actual flow rate, m ³ /min)	1.72	1.53	1.37	1.17	0.94
	Pressure :	754.56 mm Hg			Temp. :	300 K

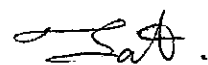
Air Sampler 1176 Calibration Curve
Site: Tseung Kwan O (AA2)
Date of Calibration: 16 July 2005



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

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

Calibrated by : 
Felix Tin
(Technician)

Approved by : 
H. T. Chow
(Asst. Environmental Officer)



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TEST REPORT

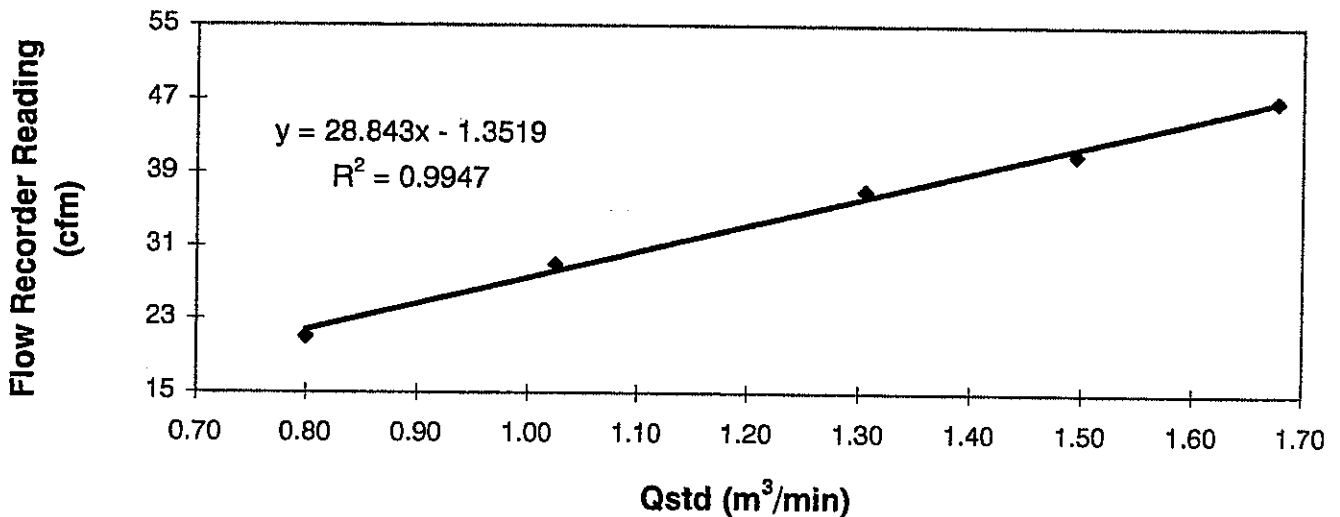
Calibration Report
of
High Volume Air Sampler

Manufacturer : Greasby GMW **Date of Calibration** : 14 September 2005
Serial No. : 1176 (ET / EA / 003 / 05) **Calibration Due Date** : 13 November 2005
Method : Based on Operations Manual for in series calibration method by TISCH
 ENVIROMENTAL Model Te-5025A calibration kit

Results :

Flow recorder reading (cfm)	47	41	37	29	21
Qstd (Actual flow rate, m ³ /min)	1.68	1.49	1.31	1.03	0.80
Pressure :	760.56 mm Hg		Temp. :	309 K	

Air Sampler 1176 Calibration Curve
Site: Tseung Kwan O (AA2)
Date of Calibration: 14 September 2005



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

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

Calibrated by :
H. T. Chow
(Asst. Environmental Officer)

Approved by :
Linda Law
(Environmental Officer)



TISCH ENVIRONMENTAL, INC.
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 WWW.TISCH-ENV.COM

AIR POLLUTION MONITORING EQUIPMENT

ORIFICE TRANSFER STANDARD CERTIFICATION WORKSHEET TE-5025A

Date - Jun 24, 2005 Rootsmeter S/N 9833620 Ta (K) - 292
 Operator Tisch Orifice I.D. - 0873 Pa (mm) - 761.24

PLATE OR Run #	VOLUME START (m3)	VOLUME STOP (m3)	DIFF VOLUME (m3)	DIFF TIME (min)	METER	ORFICE
					DIFF Hg (mm)	DIFF H2O (in.)
1	NA	NA	1.00	1.4090	3.1	2.00
2	NA	NA	1.00	0.9980	6.2	4.00
3	NA	NA	1.00	0.8930	7.8	5.00
4	NA	NA	1.00	0.8510	8.6	5.50
5	NA	NA	1.00	0.7020	12.5	8.00

DATA TABULATION

Vstd	(x axis) Qstd	(y axis)	Va	(x axis) Qa	(y axis)
1.0180	0.7225	1.4298	0.9959	0.7068	0.8759
1.0139	1.0159	2.0221	0.9919	0.9938	1.2387
1.0118	1.1330	2.2608	0.9898	1.1084	1.3849
1.0106	1.1876	2.3711	0.9887	1.1618	1.4525
1.0054	1.4322	2.8597	0.9835	1.4010	1.7518
Qstd slope (m) = 2.01640			Qa slope (m) = 1.26264		
intercept (b) = -0.02588			intercept (b) = -0.01585		
coefficient (r) = 0.99998			coefficient (r) = 0.99998		
y axis = $\text{SQRT}[\text{H2O}(\text{Pa}/760)(298/\text{Ta})]$			y axis = $\text{SQRT}[\text{H2O}(\text{Ta}/\text{Pa})]$		

CALCULATIONS

$$\text{Vstd} = \text{Diff. Vol} [(\text{Pa} - \text{Diff. Hg}) / 760] (298 / \text{Ta})$$

$$\text{Qstd} = \text{Vstd} / \text{Time}$$

$$\text{Va} = \text{Diff Vol} [(\text{Pa} - \text{Diff Hg}) / \text{Pa}]$$

$$\text{Qa} = \text{Va} / \text{Time}$$

For subsequent flow rate calculations:

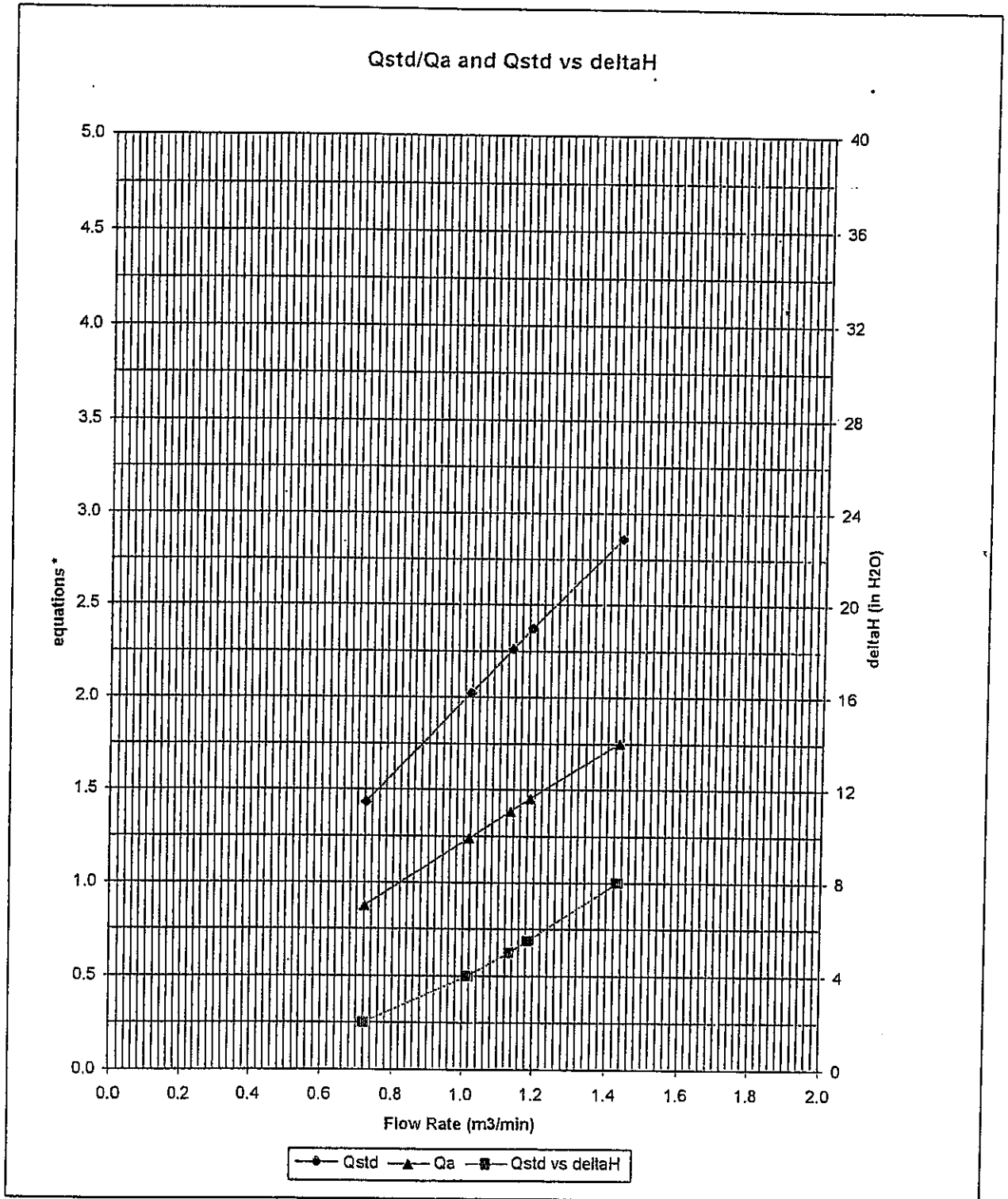
$$\text{Qstd} = 1/m \{ [\text{SQRT}(\text{H2O}(\text{Pa}/760)(298/\text{Ta}))] - b \}$$

$$\text{Qa} = 1/m \{ [\text{SQRT}(\text{H2O}(\text{Ta}/\text{Pa}))] - b \}$$



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AIR POLLUTION MONITORING EQUIPMENT



* y-axis equations:

Qstd series:
$$\sqrt{\Delta H \left(\frac{P_a}{P_{std}} \right) \left(\frac{T_{std}}{T_a} \right)}$$

Qa series:
$$\sqrt{(\Delta H (T_a / P_a))}$$

#0873



Appendix B2

Air Quality Monitoring Results

Summary of 24-hr TSP Monitoring Results

Monitoring Station : AA1
Location : Outside CEDD Site Office

Start Date	Start Time	Finish Date	Finish Time	Elapse Time		Sampling Time (hrs)	Flow Rate (m ³ /min.)		Average (m ³ /min.)	Filter Weight (g)		Conc. (µg/m ³)
				Initial	Final		Initial	Final		Initial	Final	
05/07/05	09:00	06/07/05	09:00	7379.56	7403.56	24.00	1.52	1.52	1.52	2.8998	3.3428	80.2
20/07/05	15:28	21/07/05	15:28	7406.63	7430.83	24.20	1.66	1.66	1.66	2.8926	3.3891	202
26/07/05	14:15	27/07/05	14:24	7458.09	7485.58	24.26	1.18	1.18	1.18	2.9195	3.2577	206
01/08/05	13:02	02/08/05	13:45	7461.09	7485.58	24.49	0.93	0.93	0.93	2.9047	3.1602	197
05/08/05	13:05	06/08/05	13:34	7488.58	7512.99	24.41	0.73	0.73	0.73	2.8858	3.0793	181
11/08/05	14:02	12/08/05	14:27	7515.99	7539.95	23.96	1.01	1.01	1.01	2.8804	3.0982	150
17/08/05	16:30	18/08/05	16:28	7542.95	7566.83	23.88	1.18	1.18	1.18	2.8750	3.2081	197
23/08/05	15:10	24/08/05	15:03	7569.83	7593.54	23.71	1.18	1.18	1.18	2.9222	3.2647	204
29/08/05	13:00	30/08/05	12:43	7596.54	7620.40	23.86	0.76	0.76	0.76	2.9059	3.1170	194
02/09/05	13:15	03/09/05	13:07	The monitoring was cancelled due to equipment failure.								
08/09/05				The monitoring was cancelled due to equipment failure.								
12/09/05 *	10:15	13/09/05	20:09	7632.71	7642.61	9.90 **	1.24	1.24	1.24	2.8592	3.0088	203
14/09/05	16:30	14/09/05	16:42	7645.61	7669.81	24.20	1.05	1.05	1.05	2.8692	3.0634	139
20/09/05	14:05	20/09/05	13:42	7672.81	7696.42	23.61	0.83	0.83	0.83	2.8764	3.0634	159
26/09/05	14:02	26/09/05	14:04	7699.42	7723.46	24.04	0.83	0.83	0.83	2.8666	3.0392	144
30/09/05	18:16	01/10/05	18:18	7726.46	7750.49	24.03	0.85	0.85	0.85	2.8921	3.1200	186

Remark (*): The monitoring was carried out from the previous contract CV/2002/08 by Maunsell.

(*) : Additional monitoring was conducted since the monitoring at 08/09/05 was cancelled due to equipment failure.

(**) : The monitoring was only carried out for 10 hours due to failure in power supply.

Monitoring Station : AA2
Location : Site Egress

Start Date	Start Time	Finish Date	Finish Time	Elapse Time		Sampling Time (hrs)	Flow Rate (m ³ /min.)		Average (m ³ /min.)	Filter Weight (g)		Conc. (µg/m ³)
				Initial	Final		Initial	Final		Initial	Final	
05/07/05 *	09:00	06/07/05	09:00	10677.69	10701.69	24.00	1.09	1.09	1.09	2.9012	3.2303	50.9
20/07/05	15:39	21/07/05	15:39	10704.67	10728.67	24.00	1.09	1.09	1.09	2.9150	3.2195	210
26/07/05	14:15	27/07/05	14:15	10731.67	10755.85	24.18	1.09	1.09	1.09	2.9099	3.2014	194
01/08/05	14:36	02/08/05	14:47	10758.85	10782.87	24.02	1.09	1.09	1.09	2.9016	3.1765	184
05/08/05	13:10	06/08/05	13:11	10785.87	10809.80	23.97	1.09	1.09	1.09	2.8800	3.1445	175
11/08/05	14:06	12/08/05	14:02	10812.80	10836.81	24.01	1.21	1.21	1.21	2.9051	3.1526	169
17/08/05	16:30	18/08/05	16:31	10839.81	10863.97	24.16	1.12	1.12	1.12	2.9119	3.2399	142
23/08/05	15:05	24/08/05	15:15	10866.97	10890.97	24.00	1.12	1.12	1.12	2.9076	3.2431	202
29/08/05	13:00	30/08/05	13:00	10893.97	10917.55	23.58	1.28	1.28	1.28	2.8887	3.1966	208
02/09/05	13:10	03/09/05	12:45	The monitoring was cancelled due to equipment failure.								
08/09/05				The monitoring was cancelled due to equipment failure.								
12/09/05 *	09:55	13/09/05	19:45	10922.57	10932.40	9.83 **	1.21	1.21	1.21	2.8804	3.0030	170
14/09/05	16:30	14/09/05	16:31	10935.40	10959.42	24.02	1.40	1.40	1.40	2.8800	3.1181	172
20/09/05	14:10	20/09/05	13:50	10962.42	10986.09	23.67	1.40	1.40	1.40	2.8620	3.1289	118
26/09/05	14:06	26/09/05	13:56	10989.09	11012.93	23.84	1.43	1.43	1.43	2.8945	3.2129	134
30/09/05	18:27	01/10/05	18:19	11015.93	11039.79	23.86	1.40	1.40	1.40	2.8860	3.3009	156

Remark (*): The monitoring was carried out from the previous contract CV/2002/08 by Maunsell.

(*) : Additional monitoring was conducted since the monitoring at 08/09/05 was cancelled due to equipment failure.

(**) : The monitoring was only carried out for 10 hours due to failure in power supply.

Summary of 1-hr TSP Monitoring Results

Monitoring Station : AA1
Location : Outside CEDD Site Office

Date	Time		Elapsed Time		Sampling Time (hrs)		Flow Rate (m ³ /min.)		Average (m ³ /min.)	Filter Weight (g)		Conc. (µg/m ³)
	Start	Finish	Initial	Final	Initial	Final	Initial	Final		Initial	Final	
06/07/05*	09:00	10:00										123
	10:00	11:00										128
	11:00	09:00										128
20/07/05	11:30	12:30	7376.56	7377.56	1.00	1.52	1.52	1.52	1.52	2.9281	2.9621	372
	13:20	14:20	7377.56	7378.56	1.00	1.52	1.52	1.52	1.52	2.9198	2.9536	372
	14:23	15:23	7378.56	7379.56	1.00	1.52	1.52	1.52	1.52	2.9292	2.9629	370
26/07/05	09:45	10:47	7403.56	7404.59	1.03	1.52	1.52	1.52	1.52	2.8778	2.9111	355
	11:00	12:02	7405.63	7405.63	1.04	1.52	1.52	1.52	1.52	2.8983	2.9334	370
	13:00	14:00	7405.63	7406.63	1.00	1.52	1.52	1.52	1.52	2.9035	2.9329	322
01/08/05	08:30	09:30	7430.82	7431.82	1.00	1.66	1.66	1.66	1.66	2.9653	2.9995	343
	11:00	12:00	7431.82	7432.82	1.00	1.66	1.66	1.66	1.66	2.9812	3.0186	375
	13:30	14:30	7432.82	7433.82	1.00	1.66	1.66	1.66	1.66	2.9097	2.9436	372
05/08/05	08:30	09:30	7458.09	7459.09	1.00	1.18	1.18	1.18	1.18	2.9540	2.9769	323
	09:45	10:45	7459.09	7460.09	1.00	1.18	1.18	1.18	1.18	2.9612	2.9861	352
	11:00	12:00	7460.09	7461.09	1.00	1.18	1.18	1.18	1.18	2.9612	2.9861	352
11/08/05	09:30	10:30	7485.58	7486.58	1.00	0.93	0.93	0.93	0.93	2.9229	2.9403	317
	11:00	12:00	7486.58	7487.58	1.00	0.93	0.93	0.93	0.93	2.9314	2.9511	353
	13:00	14:00	7487.58	7488.58	1.00	0.93	0.93	0.93	0.93	2.9168	2.9358	341
17/08/05	11:00	12:00	7512.99	7513.99	1.00	0.73	0.73	0.73	0.73	2.9527	2.9651	283
	13:00	14:00	7513.99	7514.99	1.00	0.73	0.73	0.73	0.73	2.9240	2.9346	242
	14:05	15:05	7514.99	7515.99	1.00	0.73	0.73	0.73	0.73	2.9638	2.9750	256
23/08/05	11:00	12:00	7539.95	7540.95	1.00	1.01	1.01	1.01	1.01	2.8914	2.9129	355
	13:00	14:00	7540.95	7541.95	1.00	1.01	1.01	1.01	1.01	2.8857	2.9047	314
	14:06	15:06	7541.95	7542.95	1.00	1.01	1.01	1.01	1.01	2.8643	2.8847	337
29/08/05	08:30	09:30	7566.83	7567.83	1.00	1.18	1.18	1.18	1.18	2.8960	2.9183	315
	09:45	10:45	7567.83	7568.83	1.00	1.18	1.18	1.18	1.18	2.8853	2.9091	336
	11:00	12:00	7568.83	7569.83	1.00	1.18	1.18	1.18	1.18	2.8797	2.9061	373
02/09/05	08:25	09:25	7593.54	7594.54	1.00	0.76	0.76	0.76	0.76	2.8942	2.9054	246
	09:27	10:27	7594.54	7595.54	1.00	0.76	0.76	0.76	0.76	2.8897	2.9028	287
	11:00	12:00	7595.54	7596.54	1.00	0.76	0.76	0.76	0.76	2.8904	2.9067	357
08/09/05	09:18	10:18	7620.40	7621.40	1.00	0.79	0.79	0.79	0.79	2.8620	2.8620	264
	11:00	12:00	7621.40	7622.40	1.00	0.79	0.79	0.79	0.79	2.8767	2.8919	321
	13:00	14:00	7622.40	7623.40	1.00	0.79	0.79	0.79	0.79	2.8523	2.8656	281
14/09/05	11:20	12:20	7642.61	7643.61	1.00	1.47	1.47	1.47	1.47	2.8733	2.9039	347
	13:00	14:00	7643.61	7644.61	1.00	1.24	1.24	1.24	1.24	2.8534	2.8775	324
	14:30	15:30	7644.61	7645.61	1.00	1.24	1.24	1.24	1.24	2.8792	2.9020	306
20/09/05	09:30	10:30	7669.81	7670.81	1.00	0.80	0.80	0.80	0.80	2.8828	2.8934	221
	11:00	12:00	7670.81	7671.81	1.00	0.80	0.80	0.80	0.80	2.8563	2.8713	313
	13:00	14:00	7671.81	7672.81	1.00	0.80	0.80	0.80	0.80	2.8913	2.9040	265
26/09/05	09:45	10:45	7696.42	7697.42	1.00	0.83	0.83	0.83	0.83	2.8795	2.8897	205
	11:00	12:00	7697.42	7698.42	1.00	0.83	0.83	0.83	0.83	2.8634	2.8766	265
	13:00	14:00	7698.42	7699.42	1.00	0.83	0.83	0.83	0.83	2.8493	2.8619	253
30/09/05	11:00	12:00	7723.46	7724.46	1.00	0.85	0.85	0.85	0.85	2.8762	2.8917	304
	15:00	16:00	7724.46	7725.46	1.00	0.85	0.85	0.85	0.85	2.8801	2.8946	288
	6:05	7:05	7725.46	7726.46	1.00	0.85	0.85	0.85	0.85	2.8776	2.8914	271

Remark (*): The monitoring was carried out from the previous contract CV/2002/08 by Maunsell.

Summary of 1-hr TSP Monitoring Results

Monitoring Station : AA2
Location : Site Egress

Date	Time		Elapse Time		Sampling Time (hrs)	Flow Rate (m ³ /min.)		Average (m ³ /min.)	Filter Weight (g)		Conc. (µg/m ³)
	Start	Finish	Initial	Final		Initial	Final		Initial	Final	
05/07/05 *	09:00	10:00									112
	10:00	11:00									122
	11:00	12:00									118
20/07/05	11:30	12:30	10674.69	10675.69	1.00	1.09	1.09	1.09	2.9050	2.9288	364
	13:30	14:30	10675.69	10676.69	1.00	1.09	1.09	1.09	2.9031	2.9271	367
	14:35	15:35	10676.69	10677.69	1.00	1.09	1.09	1.09	2.9006	2.9242	361
26/07/05	09:45	10:44	10701.69	10702.68	0.99	1.05	1.05	1.05	2.9295	2.9488	309
	11:00	11:59	10702.68	10703.67	0.99	1.09	1.09	1.09	2.9066	2.9279	329
	13:00	14:00	10703.67	10704.67	1.00	1.09	1.09	1.09	2.9357	2.9557	306
01/08/05	08:30	09:30	10728.67	10729.67	1.00	1.09	1.09	1.09	2.9243	2.9460	332
	11:00	12:00	10729.67	10730.67	1.00	1.09	1.09	1.09	2.9335	2.9570	360
	13:30	14:30	10730.67	10731.67	1.00	1.09	1.09	1.09	2.9069	2.9295	345
05/08/05	08:30	09:30	10755.85	10756.85	1.00	1.09	1.09	1.09	2.9292	2.9499	317
	09:40	10:40	10756.85	10757.85	1.00	1.09	1.09	1.09	2.9306	2.9545	365
	11:00	12:00	10757.85	10758.85	1.00	1.09	1.09	1.09	2.9188	2.9429	369
11/08/05	09:40	10:40	10782.87	10783.87	1.00	1.09	1.09	1.09	2.9513	2.9714	307
	11:00	12:00	10783.87	10784.87	1.00	1.09	1.09	1.09	2.9516	2.9744	349
	13:00	14:00	10784.87	10785.87	1.00	1.09	1.09	1.09	2.9420	2.9646	346
17/08/05	11:00	12:00	10809.80	10810.80	1.00	1.09	1.09	1.09	2.9511	2.9693	278
	13:00	14:00	10810.80	10811.80	1.00	1.09	1.09	1.09	2.9608	2.9772	251
	14:10	15:10	10811.82	10812.80	1.00	1.09	1.09	1.09	2.9339	2.9487	226
23/08/05	11:00	12:00	10836.81	10837.81	1.00	1.21	1.21	1.21	2.8775	2.9017	333
	13:00	14:00	10837.81	10838.81	1.00	1.21	1.21	1.21	2.8696	2.8904	287
	14:02	15:02	10838.81	10839.81	1.00	1.21	1.21	1.21	2.8878	2.9107	315
29/08/05	08:30	09:30	10863.97	10864.97	1.00	1.12	1.12	1.12	2.9147	2.9367	327
	09:45	10:45	10864.97	10865.97	1.00	1.12	1.12	1.12	2.9460	2.9703	362
	11:00	12:00	10865.97	10866.97	1.00	1.12	1.12	1.12	2.9653	3.0101	369
02/09/05	08:20	09:20	10890.97	10891.97	1.00	1.28	1.28	1.28	2.9040	2.9240	260
	09:22	10:22	10891.97	10892.97	1.00	1.28	1.28	1.28	2.8967	2.9200	303
	11:00	12:00	10892.97	10893.97	1.00	1.28	1.28	1.28	2.8927	2.9196	353
08/09/05	09:25	10:25	10917.55	10918.55	1.00	1.24	1.24	1.24	2.8434	2.8610	237
	11:00	12:00	10918.55	10919.55	1.00	1.24	1.24	1.24	2.8929	2.9150	297
	13:00	14:00	10919.55	10920.55	1.00	1.24	1.24	1.24	2.8816	2.9020	274
14/09/05	11:32	12:32	10932.40	10933.40	1.00	1.21	1.21	1.21	2.8746	2.9009	362
	13:00	14:00	10933.40	10934.40	1.00	1.21	1.21	1.21	2.8852	2.9098	339
	14:30	15:30	10934.40	10935.50	1.00	1.21	1.21	1.21	2.8787	2.9011	309
20/09/05	09:30	10:30	10959.42	10960.42	1.00	1.40	1.40	1.40	2.8544	2.8725	215
	11:00	12:00	10960.42	10961.42	1.00	1.40	1.40	1.40	2.8763	2.9035	300
	13:00	14:00	10961.42	10962.42	1.00	1.40	1.40	1.40	2.8672	2.8877	244
26/09/05	09:45	10:45	10986.09	10987.09	1.00	1.43	1.43	1.43	2.8517	2.8685	196
	11:00	12:00	10987.09	10988.09	1.00	1.43	1.43	1.43	2.8832	2.9041	244
	13:00	14:00	10988.09	10989.09	1.00	1.43	1.43	1.43	2.8912	2.9111	232
30/09/05	11:00	12:00	11012.93	11013.93	1.00	1.40	1.40	1.40	2.8811	2.9099	343
	15:09	16:09	11013.93	11014.93	1.00	1.40	1.40	1.40	2.8797	2.9060	313
	16:12	17:12	11014.93	11015.93	1.00	1.40	1.40	1.40	2.8799	2.9069	321

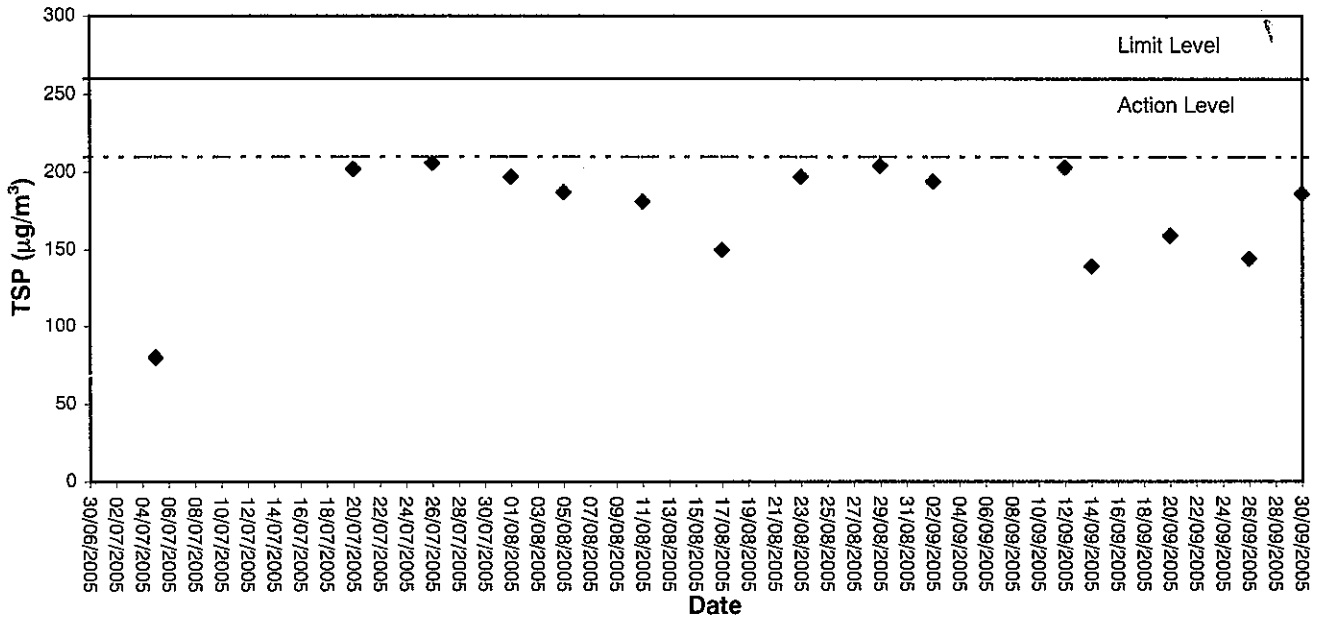
Remark (*): The monitoring was carried out from the previous contract CV/2002/08 by Maunsell.



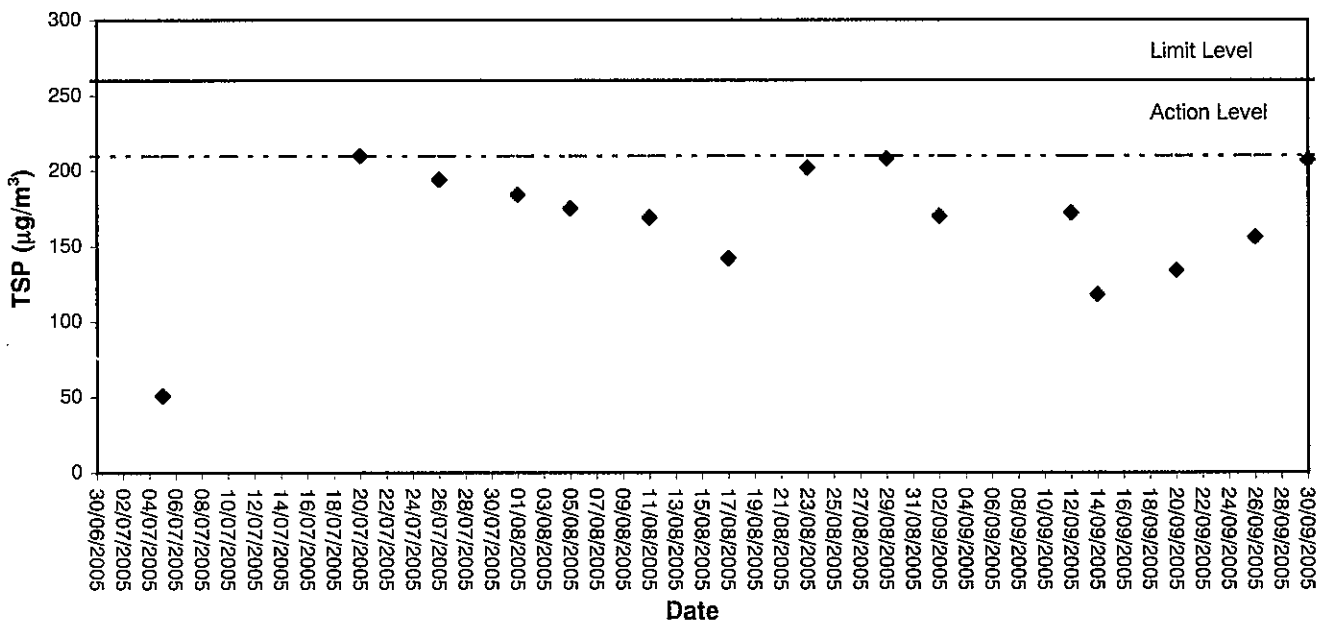
Appendix B3

Graphical Plots of Air Quality Monitoring Data

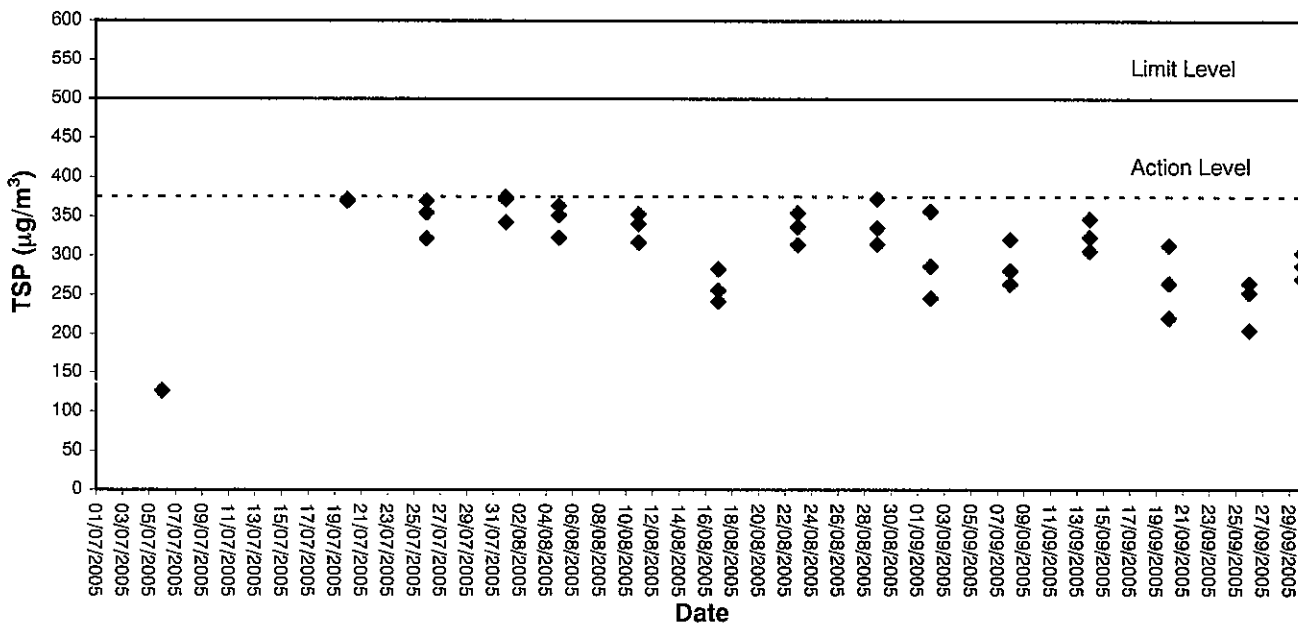
24-hour TSP level at AA1 (Outside CEDD Site Office)



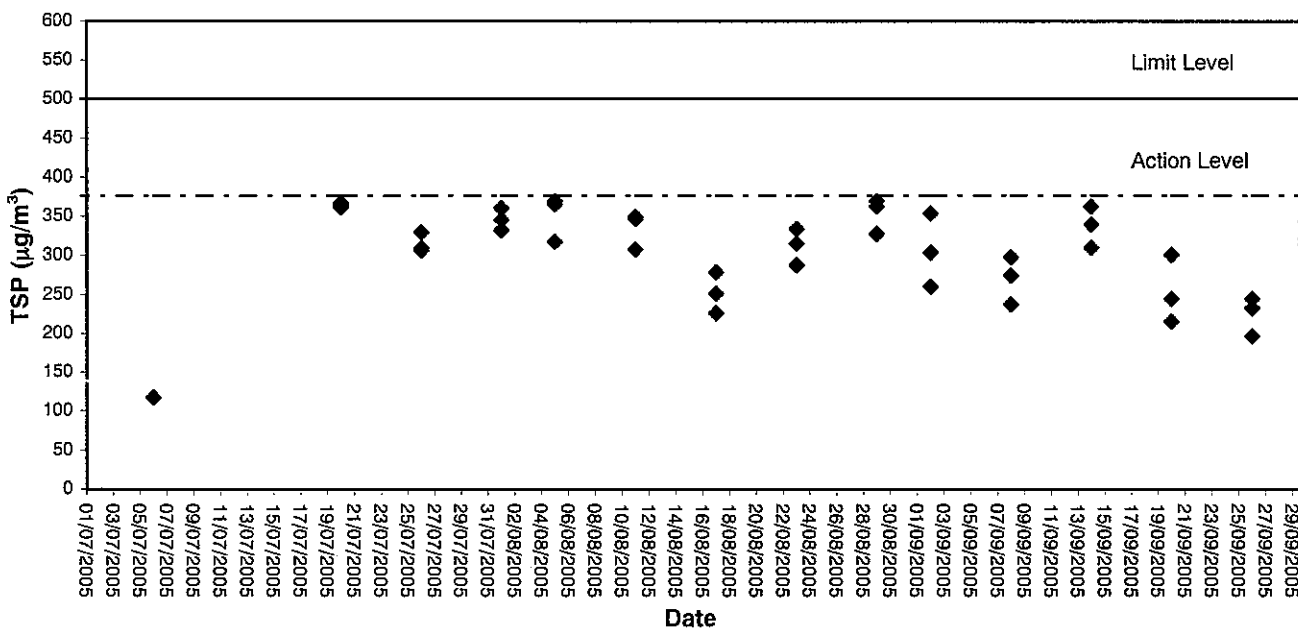
24-hour TSP level at AA2 (Site Egress)



1-hour TSP level at AA1 (Outside CEDD Site Office)



1-hour TSP level at AA2 (Site Egress)





Appendix C1

Calibration Certificates for Noise Monitoring Equipments



Hong Kong Calibration Ltd.

香港校正有限公司

Calibration Certificate

Certificate No. **51473**

Page 1 of 2 Pages

Customer : ETS-Testconsult Limited

Address : 8/F., Block B, Veristrong Industrial Centre, 34-36 Au Pui Wan St., Fotan, Hong Kong.

Order No. : Q50535

Date of receipt : 7-Apr-05

Item Tested

Description : Sound Level Calibrator (Equip No.: ET/0527/004)

Manufacturer : Rion

Model : NC-73

Serial No. : 10196943

Test Conditions

Date of Test : 20-Apr-05

Supply Voltage : --

Ambient Temperature : $(22.5 \pm 2.5)^{\circ}\text{C}$

Relative Humidity : $(50 \pm 20) \%$

Test Specifications

Calibration check according to customer's requirement.

Calibration procedure : F21, Z02.

Test Results

All results were within the manufacturer's specification.

The results are shown in the attached page(s).

Test equipment used:

<u>Equipment No.</u>	<u>Cert. No.</u>	<u>Due Date</u>	<u>Traceable to</u>
S014	43147	7-Jul-05	PRC-NIM
S024	S41431	22-May-05	PRC-NIM
S041	43734	12-Aug-05	PRC-NIM

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

The test equipment used for calibration are traceable to International System of Units (SI).

The test results apply to the above Unit-Under-Test only

Calibrated by : 

Approved by : 

Alan Chu - Manager

Date: 20-Apr-05

This Certificate is issued by:

Hong Kong Calibration Ltd.

Unit 8B, 24/F., Well Fung Industrial Centre, No. 58-76, Ta Chuen Ping Street, Kwai Chung, NT, Hong Kong.

Tel: 2425 8801 Fax: 2425 8646

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Calibration Certificate

Certificate No. 51473

Page 2 of 2 Pages

Results :

1. Level Accuracy (at 1 kHz)

UUT Nominal Value	Measured Value	Mfr's Spec.
94 dB	94.1 dB	± 1 dB

Uncertainty : ± 0.2 dB

2. Frequency Accuracy

UUT Nominal Value	Measured Value	Mfr's Spec.
1 kHz	0.991 kHz	± 2 %

Uncertainty : ± 0.1 %

3. Level Stability : 0.0 dB

Uncertainty : ± 0.01 dB

4. Total Harmonic Distortion : < 0.3 %

Mfr's Spec. : < 3 %

Uncertainty : ± 2.3 % of reading

Remark : 1. UUT : Unit-Under-Test

2. The uncertainty claimed is for a confidence probability of not less than 95%.

3. Atmospheric Pressure : 1 000 hPa

4. The above measured values are the mean of 3 measurement.

----- END -----



Calibration Certificate

Certificate No. **51472**

Page 1 of 3 Pages

Customer : ETS-Testconsult Limited

Address : 8/F., Block B, Veristrong Industrial Centre, 34-36 Au Pui Wan St., Fotan, Hong Kong.

Order No. : Q50535

Date of receipt : 7-Apr-05

Item Tested

Description : Precision Integrating Sound Level Meter

Manufacturer : Rion

Model : NL-31

Serial No. : 00531142

Test Conditions

Date of Test : 20-Apr-05

Supply Voltage : --

Ambient Temperature : $(22.5 \pm 2.5)^{\circ}\text{C}$

Relative Humidity : $(50 \pm 20) \%$

Test Specifications

Calibration check according to customer's requirement.

Calibration procedure : Z01.

Test Results

All results were within the manufacturer's, IEC 651 Type 1, IEC 804 Type 1 specification.

The results are shown in the attached page(s).

Test equipment used:


<u>Equipment No.</u>	<u>Cert. No.</u>	<u>Due Date</u>	<u>Traceable to</u>
S017	C051022	21-Mar-06	PRC-NIM
S024	S41431	22-May-05	PRC-NIM

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

The test equipment used for calibration are traceable to International System of Units (SI).

The test results apply to the above Unit-Under-Test only

Calibrated by : 

Approved by : 
Alan Chu - Manager

This Certificate is issued by:
Hong Kong Calibration Ltd.

Date: 20-Apr-05

Unit 8B, 24/F., Well Fung Industrial Centre, No. 58-76, Ta Chuen Ping Street, Kwai Chung, NT, Hong Kong.
Tel: 2425 8801 Fax: 2425 8646



Calibration Certificate

Certificate No. 51472

Page 2 of 3 Pages

Results :

1. SPL Accuracy

UUT Setting			UUT Reading (dB)	Correction (dB)
Level Range (dB)	Weight	Response		
20 - 100	L _A	Fast	94.0	+ 0.1
		Slow		+ 0.1
	L _C	Fast		0.0
		L _p		Fast
30 - 120	L _A	Fast	94.0	+ 0.1
		Slow		+ 0.1
	L _C	Fast		+ 0.1
	L _p	Fast		+ 0.1
30 - 120	L _A	Fast	114.0	+ 0.1
		Slow		+ 0.1
	L _C	Fast		0.0
	L _p	Fast		0.0

IEC 651 Type 1 Spec. : ± 0.7 dB

Uncertainty : ± 0.2 dB

2. Level Stability : 0.0 dB

IEC 651 Type 1 Spec. : ± 0.3 dB

Uncertainty : ± 0.01 dB



Calibration Certificate

Certificate No. 51472

Page 3 of 3 Pages

3. Frequency Weighting

A weighting

Frequency	Attenuation (dB)	IEC 651 Type 1 Spec.
31.5 Hz	- 39.6	- 39.4 dB, ± 1.5 dB
63 Hz	- 26.2	- 26.2 dB, ± 1.5 dB
125 Hz	- 16.2	- 16.1 dB, ± 1 dB
250 Hz	- 8.7	- 8.6 dB, ± 1 dB
500 Hz	- 3.2	- 3.2 dB, ± 1 dB
1 kHz	0.0 (Ref.)	0 dB, ± 1 dB
2 kHz	+ 1.3	+ 1.2 dB, ± 1 dB
5 kHz	+ 1.1	+ 1.0 dB, ± 1 dB
8 kHz	- 1.1	- 1.1 dB, + 1.5 dB ~ - 3 dB
16 kHz	- 6.7	- 6.6 dB, + 3 dB ~ ∞

Uncertainty : ± 0.1 dB

4. Time Averaging

Applied Burst duty Factor	UUT Reading (dB)	Correction (dB)	IEC 804 Type 1 Spec.
continuous	40.0	--	--
1/10	39.9	+ 0.1	± 0.5 dB
1/10 ²	39.9	+ 0.1	
1/10 ³	39.9	+ 0.1	± 1.0 dB
1/10 ⁴	39.8	+ 0.2	

Uncertainty : ± 0.1 dB

Remark : 1. UUT : Unit-Under-Test

2. True Value = UUT Reading + Correction.

3. The uncertainty claimed is for a confidence probability of not less than 95%.

4. Atmospheric Pressure : 1 000 hPa.

----- END -----



Appendix C2

Noise Monitoring Results

Day-time Noise Monitoring

Monitoring Location: N1 (Site Egress)

Date	Start Sampling Time (hh:mm)	Noise Level dB (A)			Wind Speed (m/s)	Weather Condition
		L _{eq(30min)}	L ₁₀	L ₉₀		
20/07/05	13:38	71.8	73.0	58.7	4.1	Cloudy
05/08/05	10:00	62.9	68.5	59.3	0.6	Sunny
08/09/05	09:50	64.5	65.4	63.4	2.5	Sunny

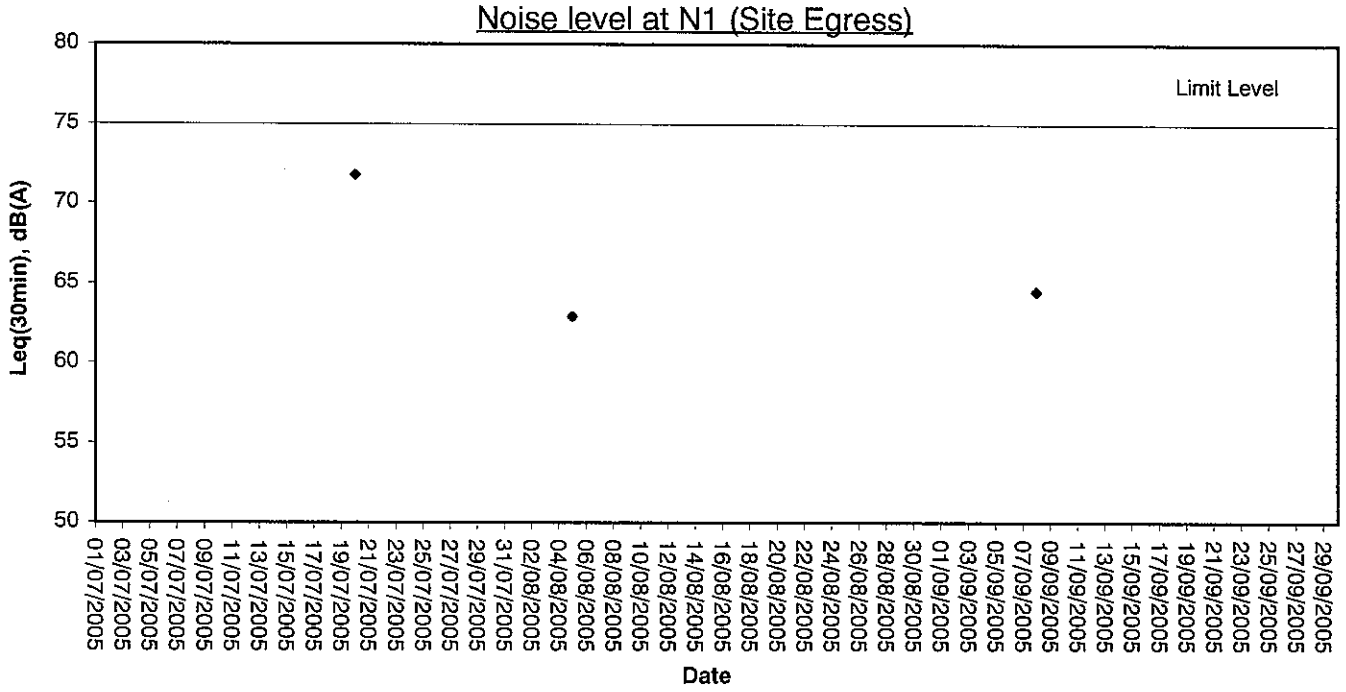


Appendix C3

Graphical Plots of Noise Monitoring Data



Noise Monitoring (Day-time)





Appendix D1

Calibration Certificates for Marine Water Quality Monitoring Equipments



Internal Calibration Report of Turbidimeter

Equipment Ref. No. : ET/0505 /002 Manufacturer : HACH
Model No. : 2100 P Serial No. : 930900003728
Date of Calibration : 27/4/05 Calibration Due : 26/7/05

Data

(4.95)	(49.0)	(409)
0 - 10 NTU Gelex Vial	10 - 100 NTU Gelex Vial	100 - 1000 NTU Gelex Vial
4.92	48.3	405

The equipment complies * / ~~does not comply~~ * with the specified requirements and is deemed acceptable * / ~~unacceptable~~ * for use.

* Delete as appropriate

Calibrated by : PK

Approved by : [Signature]



Internal Calibration Report of Turbidimeter

Equipment Ref. No. : ET/2505/002

Manufacturer : HACH

Model No. : 2100P

Serial No. : 930900003728

Date of Calibration : 27/7/05

Calibration Due : 26/11/05

Data

(4.95) 0 - 10 NTU Gelex Vial	(49.0) 10 - 100 NTU Gelex Vial	(409) 100 - 1000 NTU Gelex Vial
4.96	48.1	411

The equipment complies * / ~~does not comply~~ * with the specified requirements and is deemed acceptable * / ~~unacceptable~~ * for use.

* Delete as appropriate

Calibrated by : Rh

Approved by : Gilda Lam



Performance Check of Salinity Meter

Equipment Ref. No. : ET/0527/001 Manufacturer : YSI
Model No. : Model 30 Serial No. : 9967 1183
Date of Calibration : 27 Apr 2005 Due Date : 26 July 2005

Ref. No. of Salinity Standard used (30ppt)

J196A


Salinity Standard (ppt)	Measured Salinity (ppt)	Difference %
30	29.8	0.7 %

Acceptance Criteria

Difference : <10 %

The salinity meter complies * / ~~does not comply~~ * with the specified requirements and is deemed acceptable * / ~~unacceptable~~ * for use. Measurements are traceable to national standards.

Checked by : 

Approved by : 



Performance Check of Salinity Meter

Equipment Ref. No. : ET/0527/001 Manufacturer : YSI
Model No. : Model 30 Serial No. : 9987 1183
Date of Calibration : 27 July 2005 Due Date : 26 Oct. 2005

Ref. No. of Salinity Standard used (30ppt)

J196A

Salinity Standard (ppt)	Measured Salinity (ppt)	Difference %
30	29.6	1.3

Acceptance Criteria

Difference : <10 %

The salinity meter complies * / ~~does not comply~~ * with the specified requirements and is deemed acceptable * / ~~unacceptable~~ * for use. Measurements are traceable to national standards.

Checked by : RL Approved by : Jack Law



Internal Calibration Report of Dissolved Oxygen Meter

Equipment Ref. No. : ET/EN/003/001 Manufacturer : YSI
 Model No. : 95 Serial No. : 97H04071AD
 Date of Calibration : 01/09/05 Calibration Due Date : 30/11/05

Ref. No. of Reference Thermometer : ET/2403/01
 Ref. No. of Potassium Dichromate : ET/0520/003/02

Temperature Verification

	Temperature (°C)
Thermometer reading	20.0
Meter reading	20.0

Linearity Checking

Purging time, min	DO meter reading, mg/L			Winkler Titration result, mg/L			Difference (%) of DO Content
	1	2	Average	1	2	Average	
2	7.09	7.07	7.08	7.02	7.00	7.01	0.99
5	5.15	5.13	5.14	5.22	5.20	5.21	1.35
10	3.36	3.34	3.35	3.30	3.22	3.31	1.20
Linear regression coefficient						0.9985	

Zero Point Checking

DO meter reading, mg/L	0.00
------------------------	------

Salinity Checking

Salinity (ppt)	DO meter reading, mg/L			Winkler Titration result, mg/L			Difference (%) of DO Content
	1	2	Average	1	2	Average	
10	6.65	6.63	6.64	6.77	6.75	6.76	1.79
30	5.83	5.85	5.84	6.02	6.04	6.03	3.20

Acceptance Criteria

- (1) Difference between temperature readings from temperature sensor of DO probe and reference thermometer : < 0.5 °C
- (2) Linear regression coefficient : > 0.99
- (3) Zero checking: 0.0mg/L
- (4) Difference (%) of DO content from the meter reading and by winkler titration : within ± 5%

The equipment complies * / ~~does not comply~~ * with the specified requirements and is deemed acceptable * / ~~unacceptable~~ * for use.

* Delete as appropriate

Calibrated by : Linda Lam

Approved by : [Signature]



Appendix D2

Impact Marine Water Quality Monitoring Results

Mid-Flood Tide

Monitoring Station : C1

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Monitoring Depth (m)		Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)			Dissolved Oxygen Saturation (%)			Turbidity (NTU)			Suspended Solids (mg/L)			
			Surface	Bottom		Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value
02/07/2005	16:32	Fine	Surface	Bottom	28.9	22.7	22.8	7.89	7.90	111.3	111.5	1.32	1.35	8.0	8.0	1.98	7.0	7.0	7.0	7.0
			Middle	25.9	31.1	31.0	4.33	4.48	60.2	62.4	1.46	1.51	7.0	7.0						
			Bottom	27.2	34.4	34.5	2.65	2.60	39.8	39.0	3.07	3.11	6.0	6.0						
04/07/2005	16:07	Sunny	Surface	Bottom	29.5	22.2	22.1	9.10	9.20	129.9	132.4	1.02	1.01	6.0	6.0	1.26	10.0	10.0	10.0	7.3
			Middle	25.0	28.4	28.8	6.73	6.76	96.7	98.3	0.98	1.00	10.0	10.0						
			Bottom	24.0	34.6	34.9	2.33	2.50	33.6	36.7	1.71	1.78	6.0	6.0						
06/07/2005	19:13	Fine	Surface	Bottom	26.9	23.4	23.5	12.80	12.80	187.7	189.0	1.64	1.63	9.0	9.0	1.54	9.0	9.0	9.0	10.0
			Middle	27.5	27.1	27.0	8.88	8.84	132.4	128.6	1.34	1.38	9.0	9.0						
			Bottom	26.2	33.4	33.7	3.33	3.37	41.8	42.8	1.56	1.64	12.0	12.0						
18/07/2005	16:55 - 17:07	32 / Sunny	Surface	Bottom	26.8	29.1	29.1	7.22	7.17	105.9	105.5	3.71	3.66	6.2	6.2	3.59	6.0	6.0	6.0	6.2
			Middle	26.3	29.9	29.9	6.72	6.67	98.6	98.3	3.59	3.55	6.0	6.0						
			Bottom	24.0	33.1	33.1	7.00	7.05	104.2	103.7	3.62	3.57	6.4	6.4						
20/07/2005	16:40 - 16:55	32 / Cloudy	Surface	Bottom	26.6	32.3	32.3	7.17	7.14	106.5	106.0	2.46	2.43	4.8	4.7	2.43	4.2	4.2	4.2	4.8
			Middle	24.7	33.8	33.8	6.31	6.26	93.0	93.2	2.27	2.24	4.2	4.2						
			Bottom	24.0	34.0	34.0	5.80	5.75	84.8	84.4	2.66	2.63	5.5	5.5						
22/07/2005	19:00 - 19:10	28 / Rainy	Surface	Bottom	27.2	27.9	27.8	7.46	7.45	106.6	106.4	2.87	2.88	5.0	5.0	2.96	5.0	5.0	5.0	5.2
			Middle	23.5	33.0	33.0	6.61	6.63	94.5	94.7	2.96	2.96	5.0	5.0						
			Bottom	23.2	33.4	33.4	6.46	6.48	92.3	92.6	3.00	3.05	5.5	5.5						
25/07/2005	07:30 - 07:42	33 / Sunny	Surface	Bottom	25.8	31.9	31.9	7.14	7.16	10.6	58.4	2.65	2.66	4.5	4.5	2.59	4.8	4.8	4.8	4.4
			Middle	24.2	33.0	33.0	6.75	6.77	100.4	100.2	2.84	2.85	4.8	4.8						
			Bottom	23.6	33.4	33.4	6.80	6.82	100.6	100.9	2.26	2.27	4.0	4.0						
27/07/2005	09:30 - 09:45	33 / Sunny	Surface	Bottom	24.8	32.6	32.6	7.26	7.22	107.4	106.9	2.09	2.08	4.0	4.2	1.97	3.8	3.8	3.8	4.0
			Middle	24.2	33.1	33.1	6.29	6.25	93.1	92.5	1.83	1.83	3.8	3.8						
			Bottom	23.4	33.4	33.4	5.97	5.94	88.4	88.0	2.02	2.02	4.0	4.0						

Mid-Flood Tide

Monitoring Station : C1

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Monitoring Depth (m)		Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)			Dissolved Oxygen Saturation (%)			Turbidity (NTU)			Suspended Solids (mg/L)		
			Surface	Bottom		Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
29/07/2005	12:30 - 12:40	30 / Cloudy	Surface	1.0	27.3	31.7	31.6	7.30	7.30	110.0	110.0	1.69	1.67	3.0	3.0	2.8			
						31.4	7.29	110.0	1.65	3.0									
						32.3	7.28	108.8	1.60	2.8									
01/08/2005	18:39 - 18:51	30/Sunny	Middle	9.6	26.6	32.0	32.2	7.26	7.26	109.4	109.1	1.69	1.65	2.7	2.8	3.5			
						31.7	7.24	108.2	1.55	2.8									
						31.7	7.21	107.9	1.57	2.7									
03/08/2005	17:30 - 17:40	32/Sunny	Surface	1.0	29.4	32.1	32.1	7.20	7.15	107.2	106.7	2.00	1.95	3.5	3.5	4.8			
						32.1	7.10	106.2	1.90	3.5									
						33.1	7.03	105.3	1.88	3.0									
05/08/2005	18:00 - 18:10	33/Sunny	Middle	9.7	28.0	33.0	33.1	6.93	6.98	104.3	104.8	1.80	1.84	4.5	4.5	5.5			
						33.5	7.42	112.0	1.70	4.0									
						33.5	6.95	104.9	2.10	4.5									
08/08/2005	08:00 - 08:13	30/Sunny	Bottom	18.4	27.9	33.8	33.8	6.69	6.67	101.1	100.9	2.17	2.18	4.5	4.5	5.5			
						33.8	6.64	100.7	2.18	4.5									
						31.2	7.12	107.5	2.76	5.5									
10/08/2005	08:00 - 08:10	30/Cloudy	Surface	1.0	27.4	31.2	31.2	7.08	7.10	106.9	107.2	2.78	2.77	5.5	5.5	5.9			
						31.7	6.95	104.9	2.58	5.5									
						31.7	6.91	104.3	2.57	5.5									
12/08/2005	10:38 - 10:53	32/Cloudy	Bottom	18.6	26.5	32.2	32.2	6.79	6.78	101.8	101.6	2.64	2.65	5.5	5.5	4.1			
						32.2	6.76	101.3	2.65	5.5									
						32.1	7.39	110.7	2.03	4.5									
15/08/2005	17:00 - 17:10	30/Cloudy	Surface	1.0	27.4	32.1	32.1	7.30	7.35	110.0	110.4	2.11	2.07	4.5	4.5	5.2			
						32.7	7.06	105.7	2.00	4.3									
						32.7	7.12	106.3	1.92	4.0									
08/08/2005	08:00 - 08:13	30/Sunny	Middle	9.6	24.0	33.5	32.7	7.51	7.09	112.5	106.0	1.62	1.96	3.8	4.2	5.5			
						33.5	7.44	111.9	1.54	3.5									
						31.1	7.36	113.3	2.96	6.0									
10/08/2005	08:00 - 08:10	30/Cloudy	Bottom	18.2	23.7	31.1	31.1	7.33	7.35	113.0	113.2	2.97	2.97	6.0	6.0	5.5			
						32.0	6.88	105.2	2.74	5.5									
						32.0	6.84	104.8	2.73	5.5									
12/08/2005	10:38 - 10:53	32/Cloudy	Surface	1.0	28.3	33.5	33.5	5.95	5.93	91.6	91.3	2.95	2.96	6.3	6.3	3.3			
						33.5	5.91	91.0	2.96	6.3									
						31.0	5.83	88.4	1.33	3.0									
15/08/2005	17:00 - 17:10	30/Cloudy	Middle	9.3	26.5	31.0	31.0	5.85	5.84	88.8	88.6	1.40	1.37	3.0	3.0	5.0			
						32.2	5.62	85.9	1.90	3.5									
						32.2	5.58	85.3	1.82	3.5									
08/08/2005	08:00 - 08:10	30/Cloudy	Bottom	17.6	24.3	32.7	32.7	4.89	4.85	74.3	74.0	1.73	1.69	3.5	3.4	5.0			
						32.7	4.80	73.7	1.65	3.3									
						29.5	7.23	109.1	2.49	5.5									
15/08/2005	17:00 - 17:10	30/Cloudy	Surface	1.0	29.5	29.5	29.5	7.25	7.24	109.4	109.3	2.48	2.49	5.5	5.5	5.0			
						31.9	6.84	103.2	2.17	5.0									
						31.9	6.80	102.6	2.18	5.0									
08/08/2005	08:00 - 08:10	30/Cloudy	Bottom	18.4	27.4	32.3	32.3	5.62	5.64	84.8	85.1	2.06	2.07	5.0	5.0	5.2			
						32.3	5.65	85.3	2.07	5.0									
						7.03	6.82	102.9	2.18	5.0									

Mid-Flood Tide



東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

Monitoring Station : C1

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Monitoring Depth (m)	Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)			Dissolved Oxygen Saturation (%)			Turbidity (NTU)			Suspended Solids (mg/L)		
					Value	Average	Value	Average	Depth-average	Value	Average	Depth-average	Value	Average	Depth-average	Value	Average	Depth-average
17/08/2005	17:25 - 17:40	28/Rainy	Surface	25.3	31.3	31.3	6.69	6.65	6.26	101.1	100.6	1.77	1.74	3.5	3.5	3.6		
			Middle	24.0	32.1	32.1	5.91	5.87	89.6	89.3	1.50	1.45	3.2	3.2				
			Bottom	23.4	33.1	33.1	5.11	5.10	77.1	76.6	1.81	1.76	4.0	4.0				
19/08/2005	17:00 - 17:10	29/Rainy	Surface	28.4	27.8	27.8	6.92	6.90	6.41	104.4	104.1	3.27	3.28	7.0	6.9	6.4		
			Middle	27.0	31.0	31.0	5.93	5.92	89.5	89.3	3.06	3.07	6.3	6.3				
			Bottom	26.4	31.6	31.6	4.99	4.98	89.1	74.6	3.07	2.93	6.3	6.0				
22/08/2005	07:30 - 07:50	29/Cloudy	Surface	28.3	29.5	29.5	7.04	7.02	7.09	106.8	106.6	2.75	2.77	6.0	5.9	5.0		
			Middle	27.5	31.6	31.6	7.18	7.16	108.3	108.1	2.25	2.23	5.0	5.0				
			Bottom	26.8	32.1	32.1	5.11	5.13	107.8	77.9	2.20	1.48	4.0	4.0				
24/08/2005	08:30 - 08:40	30/Cloudy	Surface	28.4	29.2	29.2	6.94	6.92	6.55	105.4	105.2	2.92	2.92	6.0	5.9	5.6		
			Middle	27.5	30.9	30.9	6.20	6.19	94.2	94.0	2.43	2.43	5.2	5.3				
			Bottom	26.9	31.8	31.8	4.77	4.79	93.7	72.3	2.68	2.69	5.3	5.8				
26/08/2005	10:40 - 10:54	27/Cloudy	Surface	25.8	31.9	31.9	6.99	6.96	6.15	103.1	102.8	1.84	1.82	3.5	3.5	4.2		
			Middle	23.9	33.0	33.0	5.37	5.34	77.0	76.6	1.80	1.89	4.0	4.0				
			Bottom	23.0	33.5	33.5	5.38	5.34	76.2	76.4	1.86	2.19	4.0	5.0				
29/08/2005	16:00 - 16:18	30/cloudy	Surface	28.0	32.2	32.2	7.65	7.68	7.03	117.1	117.3	1.12	1.11	3.0	3.0	3.8		
			Middle	26.8	32.0	32.0	6.37	6.39	96.1	96.3	1.65	1.65	3.8	3.8				
			Bottom	24.8	32.8	32.8	4.62	4.64	96.5	68.0	1.64	2.13	3.8	4.5				
31/08/2005	17:08 - 17:22	30/cloudy	Surface	27.9	32.4	32.4	7.08	7.12	6.73	107.1	107.6	2.06	2.03	4.5	4.5	4.0		
			Middle	25.1	33.8	33.8	6.39	6.35	108.0	95.5	2.00	1.78	4.5	3.8				
			Bottom	23.2	34.2	34.2	5.77	5.74	95.0	87.3	1.74	1.63	3.8	3.8				
02/09/2005	17:30 - 17:42	32/Cloudy	Surface	29.6	31.9	31.9	7.28	7.27	6.83	109.9	109.7	2.62	2.63	5.5	5.5	5.1		
			Middle	27.5	32.5	32.5	6.40	6.39	96.6	96.4	1.97	1.98	4.8	4.8				
			Bottom	26.9	32.9	32.9	5.59	5.58	96.1	83.6	1.98	2.03	4.8	5.0				

Mid-Flood Tide

Monitoring Station : C1

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Monitoring Depth (m)		Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)			Dissolved Oxygen Saturation (%)			Turbidity (NTU)			Suspended Solids (mg/L)		
			Surface	Middle		Bottom	Value	Average	Value	Average	Depth-average	Value	Average	Depth-average	Value	Average	Depth-average	Value	Average
05/09/2005	07:40 - 08:05	29/Sunny	Surface	1.0	29.1	32.6	32.6	6.59	6.55	101.6	101.3	1.77	1.74	3.0	3.0	1.73	3.0	3.0	3.1
			Middle	9.8	26.2	33.4	33.4	6.09	6.05	93.2	92.7	1.92	1.87	3.5	3.4				
			Bottom	18.6	24.6	34.1	34.1	5.32	5.27	81.2	80.7	1.63	1.58	3.0	3.0				
07/09/2005	07:30 - 07:42	32/Sunny	Surface	1.0	28.2	30.8	30.8	7.08	7.07	106.9	106.7	2.27	2.27	5.0	5.0	1.91	5.0	5.0	4.2
			Middle	9.8	27.4	32.5	32.5	6.40	6.42	96.6	96.8	1.82	1.83	4.0	4.0				
			Bottom	19.6	26.8	33.0	33.0	5.62	5.61	84.2	84.0	1.65	1.65	3.5	3.5				
09/09/2005	09:29 - 09:47	29/Cloudy	Surface	1.0	28.3	31.7	31.7	6.29	6.26	98.0	97.7	1.31	1.33	3.0	3.0	2.08	3.0	3.0	4.7
			Middle	10.6	27.8	31.9	31.9	6.03	5.99	93.3	93.0	1.86	1.83	4.0	4.0				
			Bottom	20.2	27.2	31.9	31.9	5.67	5.64	87.4	87.0	3.04	3.07	7.0	7.0				
12/09/2005	07:00 - 07:12	30/Cloudy	Surface	1.0	28.7	30.9	30.9	6.90	6.89	104.8	104.6	2.27	2.28	4.0	4.0	3.16	4.0	4.0	6.7
			Middle	9.9	27.9	31.8	31.8	6.30	6.32	95.7	96.0	1.79	1.80	3.0	3.0				
			Bottom	18.8	26.5	32.9	32.9	5.57	5.56	84.1	83.9	2.07	2.08	3.8	3.8				
14/09/2005	16:48 - 17:08	32/Sunny	Surface	1.0	29.3	32.3	32.3	6.98	7.00	108.0	108.4	2.59	2.55	5.5	5.5	3.08	5.5	5.5	5.5
			Middle	9.1	28.3	32.2	32.2	6.21	6.14	95.7	94.5	2.24	2.19	5.0	5.0				
			Bottom	17.2	28.1	32.3	32.3	5.46	5.51	83.8	84.5	4.76	4.73	9.5	9.5				
16/09/2005	10:30 - 10:42	32/Sunny	Surface	1.0	29.1	31.9	31.9	6.90	6.89	106.2	106.0	2.32	2.32	5.0	5.0	2.37	5.0	5.0	5.0
			Middle	9.8	28.4	32.1	32.1	6.14	6.12	94.5	94.2	2.17	2.18	4.5	4.5				
			Bottom	18.6	27.3	32.5	32.5	5.30	5.28	81.0	80.8	2.62	2.63	5.5	5.5				
20/09/2005	08:00 - 08:14	29/Sunny	Surface	1.0	26.8	32.0	32.0	7.01	7.03	105.9	106.2	1.21	1.23	3.0	3.0	1.73	3.0	3.0	3.6
			Middle	10.2	26.0	32.1	32.2	6.28	6.30	95.2	95.0	1.75	1.72	3.5	3.5				
			Bottom	19.4	25.4	32.2	32.2	5.01	5.00	74.6	74.4	2.25	2.24	4.3	4.3				
22/09/2005	08:00 - 08:12	32/Cloudy	Surface	1.0	29.3	32.4	32.4	6.17	6.19	96.7	96.8	3.08	3.08	5.5	5.5	4.12	5.5	5.5	6.5
			Middle	10.0	28.2	32.8	32.8	6.00	5.99	94.1	94.0	4.56	4.57	7.0	7.0				
			Bottom	19.0	28.0	33.1	33.1	5.47	5.45	84.9	84.7	4.72	4.72	7.0	7.0				

Mid-Flood Tide



東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

Monitoring Station : C1

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Monitoring Depth (m)		Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)			Dissolved Oxygen Saturation (%)			Turbidity (NTU)			Suspended Solids (mg/L)		
			Surface	Middle		Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
26/09/2005	18:00 - 18:12	24/Rainy	Surface	1.0	25.2	31.8	31.8	6.89	6.87	99.8	99.7	3.82	3.86	7.0	7.2	6.2	2.90	6.0	6.0
			Middle	10.1	23.9	32.4	32.4	6.07	6.05	82.2	82.0	2.57	2.59	6.0	6.0				
			Bottom	19.2	23.0	33.2	33.3	5.10	5.08	72.9	72.8	2.24	2.25	5.5	5.5				
28/09/2005	18:45 - 19:00	31/Sunny	Surface	1.0	28.9	32.2	32.2	6.82	6.77	106.3	105.8	2.29	2.25	4.5	4.4	4.3	2.18	4.5	4.5
			Middle	10.2	28.4	32.5	32.5	6.07	6.04	94.6	94.3	2.41	2.36	4.5	4.5				
			Bottom	19.4	27.4	33.1	33.1	5.58	5.54	86.9	86.5	1.99	1.95	4.0	4.0				
30/09/2005	17:31 - 17:46	30/Cloudy	Surface	1.0	29.1	32.0	32.0	7.11	7.06	111.2	110.7	1.72	1.76	4.0	4.0	4.4	1.88	4.5	4.3
			Middle	9.9	28.3	32.6	32.6	6.33	6.28	99.0	98.5	1.87	1.84	4.5	4.4				
			Bottom	18.8	27.4	33.4	33.4	5.69	5.65	89.0	88.6	2.01	2.06	5.0	4.9				

Mid-Flood Tide

Monitoring Station : M4

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Monitoring Depth (m)	Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)			Dissolved Oxygen Saturation (%)			Turbidity (NTU)			Suspended Solids (mg/L)		
					Value	Average	Value	Average	Depth-average	Value	Average	Depth-average	Value	Average	Depth-average	Value	Average	Depth-average
02/07/2005	15:43	Fine	Surface	28.9	23.0	22.9	8.06	7.89	7.12	113.9	112.0	1.17	1.18	6.0	6.0	6.7		
			Middle	26.2	30.6	30.8	6.37	6.35	89.1	89.7	1.21	1.19	5.0	5.0				
			Bottom	25.5	31.4	31.6	5.47	5.22	77.4	74.5	1.06	1.05	9.0	9.0				
04/07/2005	17:26	Sunny	Surface	29.8	22.7	22.6	9.22	9.25	8.54	138.4	136.6	1.07	1.04	5.0	5.0	4.7		
			Middle	27.4	28.8	28.7	8.01	7.83	108.7	109.5	1.09	1.12	4.0	4.0				
			Bottom	25.1	28.9	28.5	7.71	7.77	105.6	108.9	1.46	1.45	5.0	5.0				
06/07/2005	18:21	Fine	Surface	28.8	23.3	23.3	12.70	12.70	10.69	184.6	182.8	1.47	1.44	10.0	10.0	12.0		
			Middle	28.2	29.1	29.0	8.61	8.67	119.1	121.9	1.49	1.53	10.0	10.0				
			Bottom	27.6	31.6	32.0	8.64	8.66	126.3	127.0	1.63	1.65	16.0	16.0				
18/07/2005	16:15 - 16:27	32 / Sunny	Surface	27.0	29.1	29.1	7.38	7.34	7.09	108.4	107.9	2.79	2.75	5.0	5.0	5.0		
			Middle	26.4	29.9	29.9	6.89	6.85	101.1	100.6	2.60	2.55	4.8	4.8				
			Bottom	24.2	33.1	33.1	7.03	6.98	103.2	102.7	3.14	3.09	5.2	5.2				
20/07/2005	17:25 - 17:39	32 / Cloudy	Surface	26.5	32.7	32.7	7.58	7.54	6.94	112.6	112.1	2.29	2.25	4.4	4.4	4.4		
			Middle	24.4	34.0	34.0	6.37	6.34	92.7	92.4	1.99	1.95	3.8	3.7				
			Bottom	24.0	34.3	34.3	5.96	5.93	87.1	86.6	2.89	2.85	5.0	5.0				
22/07/2005	19:50 - 20:00	28 / Rainy	Surface	27.4	27.8	27.8	7.60	7.59	7.17	107.9	107.7	2.69	2.70	4.5	4.5	4.6		
			Middle	23.6	32.8	32.8	6.74	6.76	95.7	95.9	25.80	14.20	4.5	4.5				
			Bottom	23.3	33.2	33.2	6.59	6.61	93.5	93.8	2.87	2.88	4.8	4.8				
25/07/2005	08:12 - 08:25	33 / Sunny	Surface	26.2	32.1	32.1	7.27	7.26	7.03	107.5	107.3	2.97	2.98	5.0	5.0	5.2		
			Middle	24.5	33.2	33.2	6.82	6.81	100.9	100.8	2.60	2.61	4.5	4.5				
			Bottom	24.0	33.4	33.4	6.60	6.62	97.6	97.9	3.01	3.02	6.0	6.0				

Mid-Flood Tide

Monitoring Station : M4



東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Monitoring Depth (m)	Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)			Dissolved Oxygen Saturation (%)			Turbidity (NTU)			Suspended Solids (mg/L)		
					Value	Average	Value	Average	Depth-average	Value	Average	Depth-average	Value	Average	Depth-average	Value	Average	Depth-average
27/07/2005	10:00 - 10:15	33 / Sunny	Surface	25.2	32.2	32.3	7.32	7.28	6.79	108.3	107.8	2.09	2.08	4.5	4.5	4.3		
			Middle	24.7	33.8	6.34	6.30	6.79	107.2	1.83	4.5	4.0	4.5	4.0				
			Bottom	24.2	33.7	6.26	6.06	6.06	93.2	1.82	4.0	4.5	4.5	4.5	4.5			
29/07/2005	13:05 - 13:17	30 / Cloudy	Surface	27.3	31.5	31.6	7.14	7.16	7.15	107.1	107.7	1.74	1.76	3.2	3.2	3.9		
			Middle	27.3	31.9	7.10	7.15	7.15	107.1	107.5	1.28	1.29	2.5	2.5				
			Bottom	27.2	31.3	7.15	7.14	7.14	107.8	107.5	1.30	3.83	6.0	6.0	6.0			
01/08/2005	19:30 - 19:42	30/Sunny	Surface	25.4	32.3	32.3	7.06	7.03	6.91	105.1	104.6	2.13	2.08	4.5	4.5	4.3		
			Middle	24.8	32.8	6.83	6.78	6.91	104.1	2.22	4.0	4.0	4.0	4.0				
			Bottom	23.9	33.2	6.73	7.15	7.15	102.3	101.8	2.22	1.80	4.3	4.3	4.3			
03/08/2005	18:10 - 18:20	32/Sunny	Surface	29.6	31.4	31.4	7.10	7.12	6.96	108.7	108.2	3.08	3.08	6.5	6.5	6.3		
			Middle	28.0	33.7	6.77	6.80	6.96	102.9	2.87	6.0	6.0	6.0	6.0				
			Bottom	27.9	33.9	6.58	6.56	6.56	102.2	2.85	6.5	6.5	6.5	6.5	6.5			
05/08/2005	18:40 - 18:52	33/sunny	Surface	27.4	31.2	31.2	7.05	7.07	6.96	106.4	106.7	2.88	2.88	6.0	6.0	6.0		
			Middle	27.0	31.7	6.87	6.86	6.77	106.9	2.67	5.8	5.8	5.8	5.8				
			Bottom	26.7	31.9	6.79	6.77	6.77	102.5	2.66	6.3	6.3	6.3	6.3	6.3			
08/08/2005	08:43 - 08:55	30/Sunny	Surface	24.7	32.4	32.4	7.09	7.06	6.95	106.2	105.8	3.00	2.95	6.5	6.4	5.6		
			Middle	24.4	33.0	6.88	6.84	6.95	103.0	2.40	5.5	5.5	5.5	5.5				
			Bottom	24.0	33.6	6.80	7.19	7.19	102.2	2.36	5.0	5.0	5.0	5.0	5.0			
10/08/2005	08:35 - 08:45	30/Cloudy	Surface	27.8	31.3	31.3	7.21	7.23	6.98	108.1	107.7	3.06	3.06	6.5	6.5	6.4		
			Middle	27.4	32.4	6.74	6.73	6.98	111.6	3.05	6.8	6.8	6.8	6.8				
			Bottom	26.9	32.7	6.72	5.43	5.43	103.1	3.11	6.0	6.0	6.0	6.0	6.0			

Mid-Flood Tide



聚業德測測試顧問有限公司
ETS-TESTCONSULT LIMITED

Monitoring Station : M4

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Monitoring Depth (m)	Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)			Dissolved Oxygen Saturation (%)			Turbidity (NTU)			Suspended Solids (mg/L)		
					Value	Average	Value	Average	Depth-average	Value	Average	Depth-average	Value	Average	Depth-average	Value	Average	Depth-average
12/08/2005	11:20 - 11:36	32/Cloudy	Surface	28.1	30.8	30.8	6.01	6.05	5.61	91.7	92.1	2.06	2.04	4.3	4.2	3.6		
			Middle	26.7	31.9	31.9	5.13	5.17	83.0	83.3	1.83	1.80	3.5	3.5				
			Bottom	24.9	32.1	32.1	5.71	5.67	87.6	87.3	1.42	1.46	3.0	3.0				
15/08/2005	11:35 - 11:45	30/Cloudy	Surface	29.6	29.5	29.5	7.15	7.17	6.91	107.9	108.2	2.92	2.93	5.2	5.3	5.5		
			Middle	28.4	31.9	31.9	6.67	6.66	100.7	100.5	2.64	2.65	5.2	5.2				
			Bottom	27.9	32.0	32.0	5.43	5.42	81.4	81.3	2.88	2.87	6.0	6.0				
17/08/2005	18:16 - 18:30	28/Rainy	Surface	25.1	31.6	31.6	7.01	6.96	6.37	105.8	105.4	1.39	1.44	3.0	3.0	3.3		
			Middle	24.2	32.2	32.2	5.82	5.78	87.8	87.4	1.68	1.64	3.2	3.3				
			Bottom	23.6	33.4	33.4	5.03	4.98	75.9	75.5	1.57	1.54	3.5	3.5				
19/08/2005	17:40 - 17:50	29/Rainy	Surface	28.6	28.2	28.2	6.84	6.86	6.32	103.2	103.5	3.50	3.51	7.3	7.3	6.6		
			Middle	27.7	30.5	30.5	5.76	5.78	86.9	87.2	2.94	2.95	6.0	6.0				
			Bottom	27.3	30.8	30.8	5.12	5.10	76.7	76.5	3.17	3.18	6.5	6.5				
22/08/2005	08:20 - 08:40	29/Cloudy	Surface	28.7	29.5	29.5	7.06	7.08	7.05	107.1	107.3	2.65	2.54	5.7	5.6	5.0		
			Middle	27.6	31.8	31.8	7.05	7.03	106.7	106.5	2.73	2.71	5.5	5.5				
			Bottom	27.2	31.8	31.8	7.01	7.11	106.2	107.0	2.69	2.69	5.7	5.7				
24/08/2005	09:05 - 09:15	30/Cloudy	Surface	28.6	29.2	29.2	6.78	6.77	6.51	103.0	102.8	2.69	2.70	5.8	5.8	5.7		
			Middle	27.4	31.0	31.0	6.27	6.26	95.3	95.1	2.56	2.57	5.2	5.2				
			Bottom	27.2	31.9	31.9	5.04	5.03	76.6	76.4	2.89	2.90	6.3	6.2				
26/08/2005	11:20 - 11:34	27/Cloudy	Surface	25.2	32.3	32.3	6.60	6.58	6.53	97.0	96.7	1.86	1.84	4.3	4.3	4.2		
			Middle	25.1	32.0	32.0	6.50	6.47	94.6	94.9	1.50	1.46	4.0	4.0				
			Bottom	24.8	32.0	32.0	6.56	6.53	96.1	95.8	1.75	1.73	4.3	4.4				

Mid-Flood Tide



東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

Monitoring Station : M4

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Monitoring Depth (m)	Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)			Dissolved Oxygen Saturation (%)			Turbidity (NTU)			Suspended Solids (mg/L)		
					Value	Average	Value	Average	Depth-average	Value	Average	Depth-average	Value	Average	Depth-average	Value	Average	Depth-average
29/08/2005	16:45 - 17:00	30/Cloudy	Surface	27.6	31.8	31.8	7.52	7.56	6.84	114.9	115.3	1.20	1.18	3.5	3.5	3.8		
			Middle	26.9	31.8	31.8	6.08	6.11	6.14	92.1	91.8	2.44	2.47	5.0	5.0			
			Bottom	26.7	32.2	32.2	4.93	4.91	4.89	73.7	73.5	1.10	1.08	3.0	3.0			
31/08/2005	16:30 - 16:47	30/Cloudy	Surface	27.6	32.5	32.5	7.00	6.96	6.60	105.8	105.4	1.91	1.88	4.0	4.0	3.9		
			Middle	25.0	33.9	33.9	6.27	6.24	6.20	94.1	93.7	1.70	1.67	3.5	3.4			
			Bottom	24.5	34.5	34.5	5.38	5.34	5.30	81.7	81.4	2.05	2.02	4.3	4.2			
02/09/2005	18:05 - 18:15	32/Cloudy	Surface	29.7	31.9	31.9	7.34	7.36	7.01	110.8	111.0	2.46	2.46	5.5	5.5	4.7		
			Middle	27.6	32.5	32.5	6.67	6.66	6.64	100.7	100.5	1.74	1.75	4.5	4.5			
			Bottom	27.4	33.0	33.0	5.98	5.97	5.95	89.6	89.4	1.82	1.83	4.0	4.0			
05/09/2005	08:40 - 08:55	29/Sunny	Surface	28.6	32.9	32.9	6.69	6.65	6.39	103.1	102.6	1.66	1.63	3.0	3.0	3.2		
			Middle	27.1	33.2	33.2	6.17	6.14	6.10	94.4	94.0	1.57	1.54	3.0	3.0			
			Bottom	26.0	33.8	33.8	6.39	6.35	6.30	97.3	96.9	1.82	1.77	3.5	3.5			
07/09/2005	08:15 - 08:25	32/Sunny	Surface	28.1	30.9	30.9	7.14	7.13	6.86	107.8	107.6	2.06	2.07	4.5	4.5	3.9		
			Middle	27.6	32.5	32.5	6.57	6.59	6.60	99.2	99.4	1.77	1.78	3.8	3.8			
			Bottom	27.0	33.0	33.0	5.98	6.00	6.02	90.2	90.5	1.40	1.41	3.5	3.5			
09/09/2005	10:14 - 10:30	29/Cloudy	Surface	28.1	31.8	31.8	6.35	6.38	6.30	98.7	99.1	1.73	1.67	4.0	3.9	3.7		
			Middle	27.9	31.8	31.8	6.24	6.21	6.18	97.1	96.8	1.56	1.50	4.0	4.0			
			Bottom	27.9	32.1	32.1	6.00	5.97	5.94	93.5	93.2	1.72	1.69	3.2	3.2			
12/09/2005	07:42 - 07:52	30/Cloudy	Surface	28.8	30.9	30.9	7.08	7.10	6.92	107.6	107.8	2.34	2.35	4.3	4.3	3.4		
			Middle	28.0	31.8	31.8	6.72	6.74	6.75	102.1	102.4	1.62	1.63	3.0	3.0			
			Bottom	27.4	32.8	32.8	5.98	5.96	5.94	90.2	89.9	1.64	1.65	3.0	3.0			

Monitoring Station : M4

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Monitoring Depth (m)	Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)			Dissolved Oxygen Saturation (%)			Turbidity (NTU)			Suspended Solids (mg/L)		
					Value	Average	Value	Average	Depth-average	Value	Average	Value	Average	Depth-average	Value	Average	Depth-average	
14/09/2005	16:12 - 16:27	32/Sunny	Surface	29.3	32.3	32.3	6.85	6.81	6.81	106.8	106.4	2.50	2.45	5.7	5.8	5.3		
			Middle	29.2	32.3	6.83	6.81	106.3	2.03	2.40	5.8							
			Bottom	29.0	32.3	6.77	6.72	105.6	1.98	2.01	4.0							
16/09/2005	11:12 - 11:22	32/Sunny	Surface	29.0	32.0	32.0	6.97	6.96	6.96	107.3	107.1	2.12	2.13	4.8	4.8	4.4		
			Middle	28.4	32.2	6.58	6.57	101.3	2.05	2.06	4.0							
			Bottom	27.9	32.5	5.80	5.78	88.7	2.29	2.30	4.5							
20/09/2005	08:45 - 08:58	29/Sunny	Surface	27.0	31.8	31.8	6.84	6.83	6.83	103.3	103.1	1.27	1.29	3.2	3.2	4.1		
			Middle	26.3	31.9	6.25	6.27	94.4	2.70	2.67	5.2							
			Bottom	25.9	32.0	5.45	5.44	81.7	1.87	1.89	4.0							
22/09/2005	08:35 - 08:45	32/Cloudy	Surface	29.5	32.0	32.0	6.10	6.12	6.12	95.3	95.5	2.72	2.73	5.0	5.0	6.3		
			Middle	29.1	32.4	5.93	5.95	92.3	4.49	4.50	7.5							
			Bottom	29.0	32.7	5.42	5.44	83.6	3.72	3.73	6.5							
26/09/2005	18:35 - 18:50	24/Rainy	Surface	25.0	31.6	31.7	7.21	7.19	7.19	104.0	103.8	3.16	3.15	6.5	6.5	5.6		
			Middle	24.1	32.3	6.07	6.05	88.4	2.80	2.78	5.3							
			Bottom	23.4	32.4	6.03	6.03	87.9	2.75	2.75	5.5							
28/09/2005	19:35 - 19:50	31/Sunny	Surface	29.1	31.9	31.9	6.73	6.68	6.68	104.9	104.5	2.30	2.25	4.0	4.0	4.1		
			Middle	28.5	32.2	6.70	6.65	104.5	2.02	1.97	4.3							
			Bottom	28.1	33.3	6.48	6.44	101.0	2.28	2.24	4.0							
30/09/2005	16:45 - 17:01	30/Cloudy	Surface	29.2	32.2	32.2	6.90	6.85	6.85	108.1	107.6	2.21	2.16	4.8	4.8	5.1		
			Middle	28.6	32.6	6.71	6.66	105.1	2.42	2.37	5.2							
			Bottom	28.3	33.6	6.52	6.47	102.1	2.50	2.45	5.5							

Monitoring Station : C1

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Monitoring Depth (m)	Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)			Dissolved Oxygen Saturation (%)			Turbidity (NTU)			Suspended Solids (mg/L)		
					Value	Average	Value	Average	Depth-average	Value	Average	Depth-average	Value	Average	Depth-average	Value	Average	Depth-average
02/07/2005	10:21	Fine	Surface	26.9	23.3	23.4	7.67	7.63	5.99	110.9	109.8	1.13	1.11	5.0	5.0	4.3		
				23.4	7.59	108.7	1.09	5.0										
			Middle	23.8	30.0	4.36	61.5	61.3	1.11	1.14	3.0	3.0	1.52					
				30.2	4.35	61.1	1.17	3.0										
			Bottom	28.2	33.9	2.74	41.4	40.7	2.23	2.32	5.0	5.0						
				28.4	34.0	2.68	40.0	2.41	0.99	1.00	6.0	6.0						
04/07/2005	10:46	Sunny	Surface	28.4	22.7	22.8	9.34	9.38	8.14	135.3	137.4	1.01	1.00	6.0	6.0			
				22.9	9.41	139.4	1.14	4.0										
			Middle	25.0	29.6	6.88	6.91	10.0	1.18	4.0	4.0	1.29						
				28.3	28.3	6.93	101.7	1.21	4.0									
			Bottom	23.8	33.0	3.06	2.88	41.4	1.67	1.68	6.0	6.0						
				23.2	33.2	2.69	38.6	1.69	6.0									
06/07/2005	12:40	Sunny	Surface	27.2	25.1	25.2	12.80	12.80	10.75	192.4	189.6	1.55	1.56	7.0	7.0			
				25.3	12.80	186.7	1.57	7.0										
			Middle	26.7	26.7	8.76	8.70	121.0	1.21	1.21	10.0	10.0	1.49					
				26.8	26.8	8.64	118.2	1.20	10.0									
			Bottom	25.9	32.7	3.61	3.53	45.5	1.69	1.70	6.0	6.0						
				33.1	32.9	3.44	43.2	1.70	6.0									
18/07/2005	09:45 - 09:57	32 / Sunny	Surface	26.4	28.8	28.8	7.46	7.41	6.98	107.3	106.8	3.28	3.24	5.2	5.1			
				28.8	7.36	106.3	3.20	5.0										
			Middle	23.7	33.1	6.59	6.55	100.9	3.41	3.36	5.5	5.5	3.49					
				33.1	33.1	6.50	100.0	3.31	5.4									
			Bottom	23.2	34.3	7.36	7.31	101.8	3.91	3.86	6.6	6.6						
				34.3	34.3	7.26	101.2	3.81	6.6									
20/07/2005	09:25 - 09:40	32 / Cloudy	Surface	26.2	32.1	32.1	7.94	7.29	6.69	108.9	108.5	2.31	2.26	4.2	4.2			
				32.0	7.24	108.0	2.21	4.1										
			Middle	24.3	33.6	6.13	6.08	88.9	2.00	1.95	3.8	3.7	2.25					
				33.6	33.6	6.03	88.0	1.90	3.6									
			Bottom	23.4	33.8	5.82	5.85	85.3	2.58	2.54	5.0	5.0						
				33.8	33.8	5.87	84.3	2.50	5.0									
22/07/2005	12:00 - 12:12	28 / Rainy	Surface	27.5	27.9	27.9	7.69	7.71	7.09	109.9	110.2	2.96	2.97	5.0	5.0			
				27.9	7.73	110.4	2.97	5.0										
			Middle	24.0	32.9	6.45	6.47	92.3	2.82	2.83	4.8	4.8	3.05					
				32.9	32.9	6.48	92.7	2.83	4.8									
			Bottom	23.4	33.5	6.87	6.85	98.5	3.36	3.37	6.3	6.3						
				33.5	33.5	6.83	98.0	3.37	6.3									
25/07/2005	14:15 - 14:28	33 / Sunny	Surface	26.9	32.2	32.2	7.09	7.11	6.87	104.9	105.1	2.97	2.98	6.0	6.0			
				32.2	7.12	105.3	2.98	6.0										
			Middle	25.0	33.4	6.64	6.63	98.2	2.44	2.44	4.5	4.5	2.71					
				33.4	33.4	6.61	97.8	2.43	4.5									
			Bottom	24.1	33.6	6.42	6.41	94.5	2.72	2.72	5.0	5.0						
				33.6	33.6	6.39	94.8	2.71	5.0									

Monitoring Station : C1

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Monitoring Depth (m)	Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)			Dissolved Oxygen Saturation (%)			Turbidity (NTU)			Suspended Solids (mg/L)		
					Value	Average	Value	Average	Depth-average	Value	Average	Value	Average	Depth-average	Value	Average	Depth-average	
27/07/2005	15:45 - 16:00	33 / Sunny	Surface	25.3	32.4	7.06	7.01	104.3	103.7	2.38	2.38	5.0	4.9	4.8				
				32.3	6.96	103.0	2.37	4.7										
			Middle	24.6	33.5	6.14	6.11	90.9	90.5	2.19	2.19	4.5	4.5					
				33.4	6.08	90.0	2.19	4.5										
			Bottom	24.1	34.1	5.87	5.90	86.8	87.3	2.51	2.51	5.0	5.0					
				34.0	5.93	87.8	2.50	5.0										
29/07/2005	17:45 - 17:55	30 / Cloudy	Surface	27.5	31.6	7.39	7.38	110.8	110.7	1.72	1.73	3.0	3.0	2.9				
				31.6	7.36	110.5	1.74	3.0										
			Middle	26.4	32.4	7.18	7.20	106.8	107.1	1.58	1.59	3.0	3.0					
				32.3	7.22	107.3	1.59	3.0										
			Bottom	26.5	31.8	7.31	7.29	108.9	108.7	1.47	1.48	2.7	2.8					
				31.8	7.27	108.5	1.49	2.8										
01/08/2005	09:30 - 09:42	30/Sunny	Surface	26.1	32.4	7.37	7.34	108.7	108.4	1.81	1.86	4.0	4.0	3.8				
				32.4	7.30	108.0	1.91	4.0										
			Middle	24.9	33.2	6.98	6.94	103.6	103.3	1.77	1.74	3.8	3.8					
				33.2	6.90	103.0	1.70	3.8										
			Bottom	23.2	34.1	7.21	7.16	108.7	108.4	1.95	1.90	3.5	3.5					
				34.1	7.11	108.0	1.85	3.5										
03/08/2005	10:30 - 10:40	32/Sunny	Surface	29.6	31.4	7.17	7.16	108.2	108.0	2.74	2.75	6.0	5.9	5.6				
				31.4	7.14	107.8	2.75	5.7										
			Middle	27.4	33.5	6.96	6.95	105.0	104.8	2.58	2.59	5.5	5.5					
				33.5	6.93	104.6	2.59	5.5										
			Bottom	27.2	33.9	6.62	6.60	99.6	99.4	2.26	2.27	5.5	5.5					
				33.9	6.58	99.1	2.27	5.5										
05/08/2005	11:30 - 11:40	33/Sunny	Surface	27.6	31.2	7.30	7.32	110.2	110.4	2.84	2.85	6.0	6.0	5.8				
				31.2	7.34	110.6	2.86	6.0										
			Middle	26.9	31.6	7.08	7.07	106.9	106.7	2.43	2.43	5.5	5.5					
				31.6	7.05	106.4	2.42	5.5										
			Bottom	26.4	32.1	6.94	6.93	104.7	104.5	2.80	2.81	6.0	6.0					
				32.1	6.91	104.2	2.82	6.0										
08/08/2005	13:50 - 14:09	32/Sunny	Surface	25.3	32.3	6.40	6.36	93.3	92.9	3.16	3.13	6.5	6.5	6.7				
				32.3	6.32	92.5	3.10	6.5										
			Middle	22.9	32.9	4.75	4.78	66.8	67.1	3.22	3.20	7.0	7.0					
				32.9	4.81	67.4	3.18	7.0										
			Bottom	22.8	33.5	4.83	4.85	68.0	68.3	3.18	3.20	6.5	6.5					
				33.4	4.86	68.5	3.22	6.5										
10/08/2005	14:30 - 14:40	30/Cloudy	Surface	28.1	31.1	7.41	7.43	113.2	113.4	3.15	3.15	6.5	6.4	6.2				
				31.1	7.44	113.5	3.14	6.3										
			Middle	27.2	32.2	6.68	6.66	102.8	102.6	2.89	2.90	6.0	6.0					
				32.2	6.64	102.3	2.90	6.0										
			Bottom	26.7	33.0	5.86	5.88	89.6	89.9	3.08	3.09	6.3	6.3					
				33.0	5.90	90.1	3.09	6.3										

Mid-Ebb Tide

Monitoring Station : C1

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Monitoring Depth (m)	Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)			Dissolved Oxygen Saturation (%)			Turbidity (NTU)			Suspended Solids (mg/L)		
					Value	Average	Value	Average	Depth-average	Value	Average	Value	Average	Depth-average	Value	Average	Value	Average
12/08/2005	15:30 - 15:45	32/Cloudy	Surface	28.7	30.8	30.8	5.73	5.68	88.3	87.8	1.47	1.44	3.0	3.0	3.8			
			Middle	27.0	31.7	31.7	5.63	5.48	85.1	84.9	2.08	2.04	4.3	4.3				
			Bottom	25.2	32.2	32.2	5.46	5.04	84.6	78.4	2.00	1.96	4.3	4.0				
15/08/2005	08:00 - 08:10	29/Cloudy	Surface	28.4	29.4	29.4	7.12	7.14	107.5	107.7	2.67	2.68	5.5	5.5	5.5			
			Middle	27.6	31.6	31.6	7.15	6.67	107.9	100.7	2.24	2.24	5.0	5.0				
			Bottom	26.9	32.2	32.2	6.65	5.40	101.0	80.5	2.23	2.86	5.0	6.0				
17/08/2005	10:00 - 10:11	28/Rainy	Surface	25.8	31.8	31.8	6.81	6.77	99.2	98.7	2.17	2.14	4.5	4.4	4.0			
			Middle	23.9	32.4	32.4	6.73	5.47	98.2	80.6	2.10	1.85	4.3	4.0				
			Bottom	23.0	33.3	33.3	5.50	4.93	81.0	72.7	1.90	1.61	4.0	3.5				
19/08/2005	11:00 - 11:10	29/Rainy	Surface	27.8	27.8	27.8	7.03	7.05	106.1	106.4	3.29	3.29	6.8	6.8	6.0			
			Middle	26.6	30.9	30.9	7.06	6.09	106.6	91.9	3.28	2.44	6.8	5.5				
			Bottom	26.2	31.4	31.4	6.07	5.25	91.6	79.3	2.43	2.69	5.5	5.7				
22/08/2005	13:30 - 13:52	29/Cloudy	Surface	29.2	29.6	29.6	5.26	7.23	79.4	109.1	2.68	2.57	5.5	5.5	5.3			
			Middle	28.0	32.0	32.0	5.24	7.14	108.9	106.5	2.56	2.71	5.5	6.0				
			Bottom	27.2	32.5	32.5	7.21	5.27	106.2	79.7	2.69	1.99	6.0	4.5				
24/08/2005	14:30 - 14:40	30/Cloudy	Surface	29.2	29.4	29.4	6.85	6.83	104.1	103.9	3.08	3.09	6.5	6.5	6.3			
			Middle	27.8	31.0	31.0	6.81	6.12	103.6	93.0	3.09	2.88	6.5	6.0				
			Bottom	27.0	31.9	31.9	6.13	4.72	93.1	70.9	2.87	2.95	6.0	6.3				
26/08/2005	15:05 - 15:30	27/Cloudy	Surface	25.2	30.7	30.7	4.75	7.15	71.2	108.2	2.94	1.48	3.5	3.5	4.5			
			Middle	23.9	32.5	32.5	4.69	5.58	107.4	78.2	2.95	1.44	3.5	3.8				
			Bottom	23.0	33.6	33.6	7.19	5.72	78.5	79.3	2.88	2.84	3.8	6.3				

Mid-Ebb Tide

Monitoring Station : C1

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Monitoring Depth (m)	Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)			Dissolved Oxygen Saturation (%)			Turbidity (NTU)			Suspended Solids (mg/L)		
					Value	Average	Value	Average	Depth-average	Value	Average	Value	Average	Depth-average	Value	Average	Value	Average
29/08/2005	08:30 - 08:40	30/Cloudy	Surface	27.6	32.0	32.0	6.90	6.92	102.1	102.3	2.46	2.47	5.2	5.2	5.2			
			Middle	26.8	32.8	32.8	6.09	6.07	102.5	89.8	2.47	2.19	5.2	5.0				
			Bottom	26.3	33.2	33.2	6.05	4.77	89.5	70.0	2.19	2.66	5.5	5.5				
31/08/2005	09:20 - 09:37	30/Cloudy	Surface	27.1	32.0	32.0	7.20	7.17	69.8	108.4	1.96	1.93	4.0	4.0	3.6			
			Middle	25.3	33.4	33.4	6.52	6.48	108.7	97.4	1.90	1.64	3.5	3.5				
			Bottom	23.4	33.9	33.9	6.44	5.57	97.0	84.5	1.60	1.45	3.2	3.2				
02/09/2005	10:45 - 10:57	32/Cloudy	Surface	28.5	31.8	31.8	7.08	7.11	84.1	107.2	2.27	2.28	4.5	4.5	4.1			
			Middle	27.2	32.4	32.4	7.13	6.27	107.4	94.6	1.62	1.63	4.0	4.0				
			Bottom	26.6	32.9	32.9	6.29	5.28	94.9	79.1	1.39	1.40	3.8	3.8				
05/09/2005	12:15 - 12:30	32/Sunny	Surface	30.8	33.0	33.0	6.71	6.66	78.8	102.9	2.01	1.96	3.8	3.8	3.5			
			Middle	27.0	33.6	33.6	6.61	6.17	102.4	94.7	1.91	1.75	3.5	3.5				
			Bottom	24.8	34.4	34.4	6.22	5.46	95.2	83.4	1.79	1.54	3.2	3.2				
07/09/2005	13:00 - 13:10	32/Sunny	Surface	29.2	30.8	30.8	7.20	7.22	83.8	109.6	1.58	1.97	4.5	4.5	4.0			
			Middle	27.9	32.4	32.4	6.39	6.38	109.4	96.9	1.96	1.70	4.0	4.0				
			Bottom	27.0	33.0	33.0	6.36	5.46	109.8	82.3	1.69	1.35	3.5	3.5				
09/09/2005	15:10 - 15:27	30/Cloudy	Surface	28.6	32.0	32.0	5.47	6.42	82.1	100.1	1.35	1.48	3.0	3.0	3.3			
			Middle	27.6	32.2	32.2	6.39	6.09	99.6	94.4	1.53	1.64	3.0	3.0				
			Bottom	27.0	32.4	32.4	6.44	5.44	100.6	83.9	1.43	1.39	3.5	3.5				
12/09/2005	17:45 - 17:57	32/Cloudy	Surface	30.2	30.9	30.9	6.83	6.82	83.4	103.6	2.49	2.50	4.5	4.5	4.0			
			Middle	29.6	31.9	31.9	6.80	6.22	103.3	93.8	1.68	1.90	3.5	3.5				
			Bottom	28.4	33.0	33.0	6.23	5.38	94.0	81.1	1.44	1.94	4.0	4.0				

Mid-Ebb Tide



東業 德 勤 測 試 顧 問 有 限 公 司
ETS-TESTCONSULT LIMITED

Monitoring Station : C1

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Monitoring Depth (m)	Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)			Dissolved Oxygen Saturation (%)			Turbidity (NTU)			Suspended Solids (mg/L)		
					Value	Average	Value	Average	Depth-average	Value	Average	Depth-average	Value	Average	Depth-average	Value	Average	Depth-average
14/09/2005	09:02 - 09:19	32/Sunny	Surface	29.1	31.7	31.7	7.04	6.99	6.40	110.1	109.6	1.90	1.95	4.0	4.0	6.7		
			Middle	28.3	32.0	32.0	5.78	5.82	6.40	88.6	88.9	3.67	3.64	7.5	7.5			
			Bottom	27.8	32.1	32.1	5.61	5.58	5.58	86.2	85.9	3.98	3.94	8.5	8.5			
16/09/2005	17:35 - 17:47	32/Sunny	Surface	29.4	31.9	31.9	6.82	6.84	6.53	105.0	105.2	2.40	2.41	5.0	5.0	5.4		
			Middle	28.6	32.2	32.2	6.25	6.23	6.53	95.6	95.3	2.57	2.58	5.5	5.5			
			Bottom	27.9	32.5	32.5	5.22	5.21	5.21	79.8	79.6	2.66	2.67	5.7	5.8			
20/09/2005	14:28 - 14:41	31/Sunny	Surface	29.1	32.1	32.1	6.92	6.94	6.59	104.7	105.0	2.58	2.60	5.5	5.5	5.6		
			Middle	28.3	32.3	32.3	6.22	6.23	6.59	93.9	94.1	2.31	2.29	5.3	5.3			
			Bottom	27.0	32.3	32.3	4.80	4.83	4.83	71.7	72.0	2.88	2.86	6.0	6.0			
22/09/2005	14:30 - 14:40	32/Cloudy	Surface	30.0	32.4	32.4	5.98	5.98	5.92	94.5	94.5	2.62	2.65	5.2	5.3	5.5		
			Middle	29.5	32.5	32.4	5.89	5.87	5.92	92.8	92.6	2.27	2.29	5.0	5.0			
			Bottom	29.3	32.6	32.8	5.66	5.68	5.68	88.7	89.3	2.89	2.91	6.3	6.3			
28/09/2005	08:30 - 08:45	31/Sunny	Surface	28.9	32.0	32.0	6.96	6.93	6.35	108.9	108.5	2.06	2.03	4.0	4.2	5.4		
			Middle	28.1	32.2	32.2	5.81	5.78	6.35	108.0	90.5	3.10	3.06	5.5	5.5			
			Bottom	27.2	32.9	33.0	5.69	5.65	5.65	89.0	88.5	3.72	3.67	6.5	6.6			
30/09/2005	09:30 - 09:49	30/Cloudy	Surface	29.4	32.2	32.2	6.99	6.95	6.44	108.8	108.4	1.82	1.77	4.5	4.5	4.5		
			Middle	28.4	32.3	32.3	5.97	5.94	6.44	92.9	92.5	2.06	2.03	4.5	4.5			
			Bottom	27.3	33.2	33.2	5.81	5.86	5.86	90.4	90.9	1.88	1.84	4.5	4.5			



Monitoring Station : M4

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Monitoring Depth (m)	Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)			Dissolved Oxygen Saturation (%)			Turbidity (NTU)			Suspended Solids (mg/L)		
					Value	Average	Value	Average	Depth-average	Value	Average	Depth-average	Value	Average	Depth-average	Value	Average	Depth-average
02/07/2005	9:34	Fine	Surface	27.1	23.4	23.5	7.50	7.54	7.27	107.4	107.7	1.20	1.24	5.0	5.0	4.3		
			Middle	23.9	30.1	7.14	7.00	101.3	99.8	1.35	1.38	4.0	4.0					
			Bottom	23.4	30.4	4.75	4.79	67.1	67.8	2.14	2.10	4.0	4.0					
04/07/2005	11:28	Sunny	Surface	28.6	22.9	22.9	9.27	9.32	140.1	139.4	0.94	0.96	7.0	7.0	7.3			
			Middle	26.7	29.1	6.92	6.90	100.4	101.1	1.12	1.17	9.0	9.0					
			Bottom	24.3	29.9	6.21	6.16	87.2	85.8	1.34	1.36	6.0	6.0					
06/07/2005	11:52	Sunny	Surface	27.0	25.2	25.3	12.70	12.70	192.4	189.6	1.55	1.56	12.0	12.0	10.7			
			Middle	27.5	26.1	8.92	8.88	123.8	121.0	1.21	1.21	8.0	8.0					
			Bottom	26.9	26.7	8.61	8.64	47.8	45.5	1.69	1.70	12.0	12.0					
18/07/2005	09:00 - 09:13	32 / Sunny	Surface	27.6	28.9	28.9	7.46	7.43	109.8	109.4	2.53	2.48	4.2	4.1	6.2			
			Middle	26.1	29.1	6.93	6.88	100.1	99.6	2.71	2.66	4.5	4.5					
			Bottom	23.7	33.6	6.83	7.06	99.1	100.9	5.10	5.05	10.0	10.0					
20/07/2005	09:56 - 10:10	32 / Cloudy	Surface	26.2	32.2	32.2	7.45	7.40	110.7	110.2	2.12	2.07	4.0	4.0	3.8			
			Middle	24.2	34.2	6.10	6.05	109.7	87.6	2.02	1.76	3.5	3.5					
			Bottom	24.3	34.1	6.00	5.66	87.1	83.0	1.71	2.05	4.0	4.0					
22/07/2005	12:50 - 13:00	28 / Rainy	Surface	27.8	27.8	27.8	7.58	7.56	108.8	108.5	2.42	2.43	4.5	4.5	5.0			
			Middle	24.9	32.6	6.52	6.54	93.2	93.4	2.77	2.78	5.0	4.9					
			Bottom	23.8	33.8	6.68	6.67	95.5	95.3	3.05	3.06	5.7	5.7					
25/07/2005	14:58 - 15:10	33 / Sunny	Surface	27.0	32.2	32.2	7.11	7.10	105.2	105.0	3.04	3.05	6.5	6.5	5.9			
			Middle	25.2	33.4	6.70	6.72	99.1	99.4	2.81	2.81	5.0	5.0					
			Bottom	24.6	33.6	6.63	6.62	98.1	97.9	2.97	2.97	6.3	6.3					

Mid-Ebb Tide

Monitoring Station : M4



Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Monitoring Depth (m)	Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)			Dissolved Oxygen Saturation (%)			Turbidity (NTU)			Suspended Solids (mg/L)		
					Value	Average	Value	Average	Depth-average	Value	Average	Depth-average	Value	Average	Depth-average	Value	Average	Depth-average
27/07/2005	16:28 - 16:43	33 / Sunny	Surface	5.1	31.8	31.9	7.46	7.42	6.82	110.4	109.8	2.16	2.16	4.5	4.5	4.5		
			Middle	24.7	33.2	6.25	6.22	6.82	109.2	109.8	2.16	2.16	4.5	4.5				
			Bottom	24.3	33.1	6.19	6.22	6.82	92.5	92.1	1.83	1.84	4.0	4.0				
29/07/2005	18:25 - 18:37	30 / Cloudy	Surface	27.5	33.8	33.8	5.91	5.95	5.95	87.5	88.1	2.42	2.41	5.0	5.0	3.0		
			Middle	26.4	31.5	31.5	7.11	7.13	7.10	88.7	106.6	1.68	1.69	3.0	3.0			
			Bottom	26.5	31.6	31.5	7.14	7.17	7.17	106.9	106.8	1.69	1.69	3.0	3.0			
01/08/2005	10:15 - 10:27	30/Sunny	Surface	26.0	32.5	32.6	7.46	7.43	7.24	110.0	109.5	2.31	2.26	4.2	4.1	4.2		
			Middle	25.0	33.0	33.0	7.08	7.05	7.24	105.0	105.2	1.42	1.43	4.5	4.5			
			Bottom	24.2	33.1	33.2	7.19	7.15	7.25	105.4	104.9	1.44	1.95	4.5	4.5			
03/08/2005	11:10 - 11:20	32/Sunny	Surface	29.8	31.6	31.6	7.04	7.06	6.86	104.4	100.6	2.73	2.74	6.0	6.0	6.2		
			Middle	27.9	33.7	33.7	6.68	6.67	6.86	100.8	100.6	2.74	2.74	6.0	6.0			
			Bottom	27.8	34.0	34.0	6.65	6.42	6.42	100.4	100.6	2.73	3.19	6.5	6.5			
05/08/2005	12:10 - 12:20	33/Sunny	Surface	27.7	31.1	31.1	7.15	7.17	7.10	97.0	96.9	3.17	3.19	5.7	5.9	5.5		
			Middle	27.0	31.7	31.7	7.18	7.04	7.10	107.9	108.2	2.69	2.68	6.0	6.0			
			Bottom	26.8	31.8	31.8	6.86	6.84	6.84	108.4	108.2	2.66	2.68	6.0	6.0			
08/08/2005	13:00 - 13:19	32/Sunny	Surface	25.2	32.1	32.1	7.38	7.43	6.36	106.0	106.2	2.32	2.32	5.0	5.0	3.4		
			Middle	23.0	33.0	33.0	5.31	5.28	6.36	106.4	106.2	2.31	2.32	5.0	5.0			
			Bottom	22.7	33.6	33.6	5.25	4.74	4.74	103.5	103.3	2.77	2.76	5.5	5.5			
10/08/2005	15:05 - 15:15	30/Cloudy	Surface	28.5	31.2	31.2	7.33	7.35	6.90	103.1	108.2	1.76	1.79	3.2	3.4	7.0		
			Middle	27.6	32.3	32.4	4.72	6.45	6.90	109.3	108.2	1.81	1.76	3.5	3.5			
			Bottom	27.0	32.6	32.6	4.76	5.29	5.29	74.6	74.0	1.79	1.94	3.5	3.5			

Mid-Ebb Tide



東榮德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

Monitoring Station : M4

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Monitoring Depth (m)	Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)			Dissolved Oxygen Saturation (%)			Turbidity (NTU)			Suspended Solids (mg/L)		
					Value	Average	Value	Average	Depth-average	Value	Average	Depth-average	Value	Average	Depth-average	Value	Average	Depth-average
12/08/2005	16:20 - 16:34	32/Cloudy	Surface	28.5	31.0	31.0	6.21	6.17	95.7	95.4	2.28	2.24	4.5	4.5	3.5			
			Middle	27.3	32.1	32.1	5.39	5.35	83.8	83.4	1.99	1.95	3.0	2.9				
			Bottom	25.4	32.4	32.4	5.91	5.86	91.8	91.4	1.69	1.65	3.0	3.0				
15/08/2005	08:35 - 08:45	29/Cloudy	Surface	28.8	29.4	29.4	7.04	7.06	106.3	106.5	3.08	3.09	6.3	6.2	5.9			
			Middle	27.7	31.7	31.7	6.72	6.70	101.4	101.1	2.89	2.89	5.5	5.6				
			Bottom	27.4	32.0	32.0	5.26	5.24	79.4	79.1	2.97	2.97	6.0	6.0				
17/08/2005	10:45 - 11:00	28/Rainy	Surface	25.6	31.6	31.6	7.10	7.05	102.9	102.5	2.03	1.98	3.8	3.8	4.0			
			Middle	24.1	32.4	32.4	5.96	5.93	87.3	86.9	1.62	1.57	4.0	4.0				
			Bottom	23.4	33.2	33.2	4.99	5.04	73.9	74.4	2.06	2.03	4.3	4.2				
19/08/2005	11:40 - 11:50	29/Rainy	Surface	28.0	28.0	28.0	7.10	7.12	107.2	107.4	3.49	3.50	7.0	7.0	6.4			
			Middle	27.4	30.4	30.4	5.86	5.85	88.4	88.3	2.87	2.88	6.0	6.0				
			Bottom	27.0	30.8	30.8	4.98	4.97	75.1	75.0	3.07	3.08	6.3	6.3				
22/08/2005	14:25 - 14:50	29/Cloudy	Surface	29.3	29.7	29.7	7.03	7.05	105.5	105.9	2.47	2.46	5.3	5.2	5.0			
			Middle	28.2	32.1	32.1	7.04	7.03	105.6	105.4	2.14	2.12	5.0	5.0				
			Bottom	27.7	32.3	32.3	7.11	7.15	106.9	107.2	2.09	2.11	4.8	4.8				
24/08/2005	15:05 - 15:15	30/Cloudy	Surface	29.4	29.4	29.4	6.70	6.72	101.8	102.0	3.16	3.17	6.7	6.8	6.3			
			Middle	27.9	31.1	31.1	6.17	6.16	93.7	93.5	2.93	2.94	6.3	6.3				
			Bottom	27.5	31.9	31.9	5.32	5.33	80.1	80.4	2.87	2.88	5.7	5.9				
26/08/2005	14:23 - 14:40	27/Cloudy	Surface	25.6	31.7	31.7	6.89	6.88	101.3	100.8	2.03	2.07	4.5	4.5	4.0			
			Middle	25.3	31.9	31.9	7.02	6.92	103.5	101.9	1.55	1.50	3.5	3.5				
			Bottom	25.1	32.0	32.0	6.37	6.34	94.2	93.9	1.88	1.84	4.0	4.0				

Mid-Ebb Tide

Monitoring Station : M4



東業德動測試顧問有限公司
ETS-TESTCONSULT LIMITED

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Monitoring Depth (m)	Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)			Dissolved Oxygen Saturation (%)			Turbidity (NTU)			Suspended Solids (mg/L)		
					Value	Average	Value	Average	Depth-average	Value	Average	Depth-average	Value	Average	Depth-average	Value	Average	Depth-average
29/08/2005	09:05 - 09:15	30/Cloudy	Surface	27.8	32.1	32.1	7.06	7.08	6.51	104.4	104.7	1.98	1.99	3.3	3.4	4.0		
			Middle	27.0	32.7	32.7	5.92	5.94	87.6	88.0	2.06	2.07	4.5	4.5				
			Bottom	26.9	33.1	33.1	5.07	5.09	74.5	74.9	1.84	1.85	4.0	4.0				
31/08/2005	10:00 - 10:18	30/Cloudy	Surface	27.4	32.2	32.3	7.06	7.03	6.81	106.6	106.3	2.24	2.25	5.0	5.0	4.2		
			Middle	24.9	34.4	34.4	6.62	6.58	98.4	98.4	1.80	1.83	4.0	4.0				
			Bottom	24.7	34.8	34.8	5.53	5.48	83.6	83.0	1.61	1.59	3.5	3.5				
02/09/2005	11:22 - 11:32	32/Cloudy	Surface	28.7	31.8	31.8	7.17	7.16	6.80	108.2	108.0	2.14	2.15	4.5	4.5	4.0		
			Middle	27.5	32.5	32.5	6.43	6.45	97.1	97.5	1.64	1.63	4.0	4.0				
			Bottom	27.0	33.0	33.0	5.87	5.89	88.1	88.4	1.21	1.22	3.5	3.5				
05/09/2005	13:05 - 13:20	32/Cloudy	Surface	30.9	32.8	32.7	6.89	6.87	6.61	106.2	105.9	2.19	2.17	4.2	4.1	4.0		
			Middle	28.8	33.1	33.1	6.40	6.36	97.9	97.5	1.96	1.93	4.0	4.0				
			Bottom	28.0	33.6	33.6	6.61	6.58	100.6	100.0	1.86	1.83	3.8	3.8				
07/09/2005	13:35 - 13:45	32/Sunny	Surface	29.3	30.8	30.8	7.27	7.29	6.77	110.5	110.7	2.03	2.04	5.0	5.0	4.0		
			Middle	28.0	32.5	32.5	6.25	6.26	94.3	94.6	1.43	1.44	3.5	3.5				
			Bottom	27.5	33.1	33.1	5.88	5.87	88.7	88.3	1.29	1.30	3.2	3.4				
09/09/2005	16:00 - 16:16	30/Cloudy	Surface	28.4	32.0	32.0	6.49	6.45	6.36	101.1	100.8	1.91	1.87	4.0	4.0	3.8		
			Middle	28.1	32.1	32.1	6.30	6.26	97.4	97.0	1.40	1.36	3.0	2.9				
			Bottom	27.9	32.7	32.7	6.13	6.09	94.2	93.4	1.94	1.97	4.5	4.5				
12/09/2005	18:28 - 18:40	32/Cloudy	Surface	30.1	31.0	31.0	7.13	7.15	7.01	108.3	108.6	2.12	2.13	4.3	4.2	3.6		
			Middle	29.5	31.9	31.9	6.88	6.87	104.5	104.3	1.80	1.80	3.5	3.5				
			Bottom	28.7	33.0	33.0	5.86	5.88	88.4	89.0	1.60	1.60	3.0	3.0				

Mid-Ebb Tide



東榮德動測試驗有限公司
ETS-TESTCONSULT LIMITED

Monitoring Station : M4

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Monitoring Depth (m)	Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)			Dissolved Oxygen Saturation (%)			Turbidity (NTU)			Suspended Solids (mg/L)		
					Value	Average	Value	Average	Depth-average	Value	Average	Depth-average	Value	Average	Depth-average	Value	Average	Depth-average
14/09/2005	09:43 - 10:00	32/Sunny	Surface	28.9	31.7	31.7	6.62	6.60	6.52	104.4	103.9		2.37	2.34		5.5	5.5	
			Middle	28.6	31.7	31.7	6.49	6.45	6.52	103.4	101.4	2.36	2.30	4.0	4.0	5.2		
			Bottom	28.4	32.0	32.0	6.35	6.31	6.31	101.0	99.0		2.99	2.95	6.0	6.0		
16/09/2005	18:17 - 18:27	32/Sunny	Surface	29.3	31.9	31.9	6.93	6.92	6.68	106.7	106.5		2.05	2.06		4.0	4.0	
			Middle	28.7	32.3	32.3	6.46	6.45	6.68	98.8	98.7	1.92	1.96	4.0	4.0	3.8		
			Bottom	28.1	32.6	32.6	6.44	5.76	5.76	98.5	88.1		1.94	1.75	3.5	3.5		
20/09/2005	15:06 - 15:19	31/Sunny	Surface	28.9	32.0	32.0	6.86	6.88	6.62	103.7	103.9		2.07	2.06		4.2	4.4	
			Middle	28.5	32.1	32.1	6.89	6.37	6.62	104.1	96.2	2.08	2.18	4.5	4.4	4.3		
			Bottom	28.2	32.2	32.2	6.35	5.14	5.14	96.4	77.5		2.20	2.01	4.0	4.2		
22/09/2005	13:45 - 14:05	32/Cloudy	Surface	30.7	32.4	32.4	6.15	6.14	6.10	98.6	98.5		2.32	2.27		5.0	5.0	
			Middle	30.0	32.7	32.7	6.13	6.06	6.10	98.4	96.3	2.26	2.22	4.0	4.2	5.0		
			Bottom	29.5	32.5	32.5	6.04	5.91	5.91	96.5	77.3		1.89	1.91	4.3	4.3		
28/09/2005	09:15 - 09:45	31/Sunny	Surface	28.6	32.1	32.1	6.77	6.74	6.51	101.2	100.7		2.11	2.06		4.3	4.3	
			Middle	28.3	32.5	32.5	6.70	6.28	6.51	100.2	98.6	2.22	2.01	4.3	4.3	4.6		
			Bottom	28.0	33.2	33.2	6.22	6.17	6.17	97.3	96.8		2.76	2.73	5.3	5.2		
30/09/2005	10:19 - 10:30	30/Cloudy	Surface	29.2	32.1	32.1	7.01	6.96	6.66	109.1	108.6		1.99	1.95		4.5	4.5	
			Middle	28.5	32.6	32.6	6.41	6.36	6.66	108.1	99.4	2.12	2.11	4.5	4.4	4.6		
			Bottom	28.2	33.3	33.3	6.31	6.17	6.17	99.0	96.4		2.01	2.06	4.3	4.4		

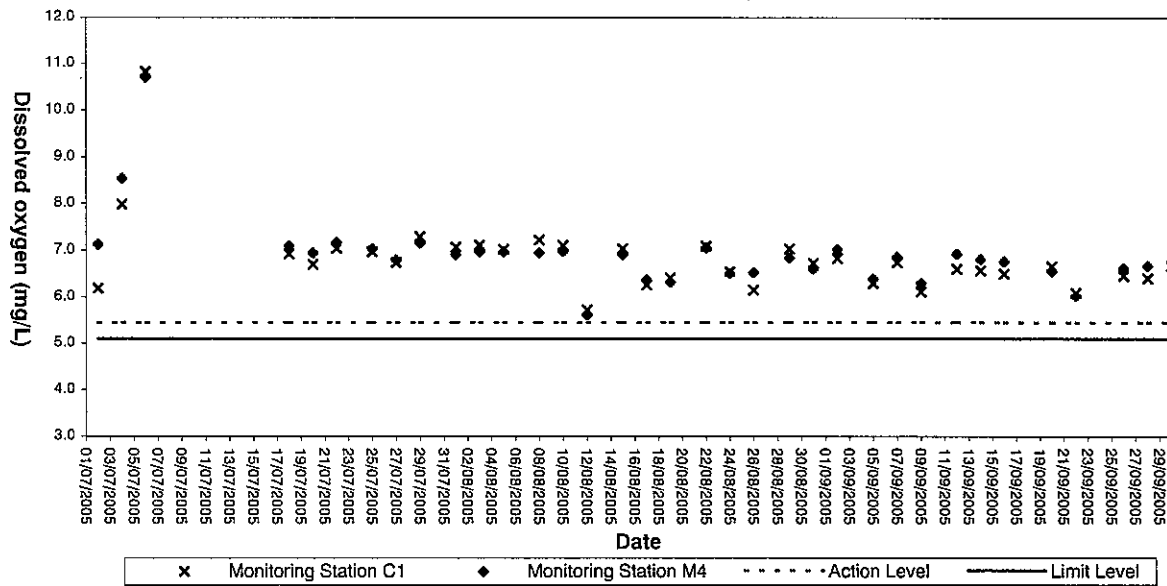


Appendix D3

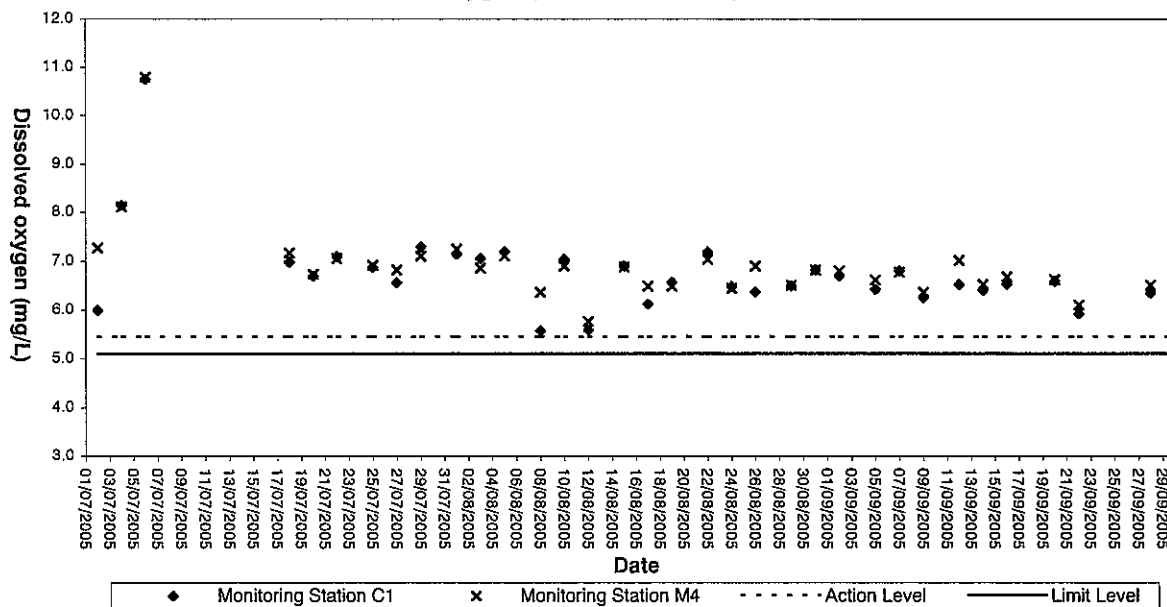
Graphical Plots of Impact Marine Water Quality Monitoring Data



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

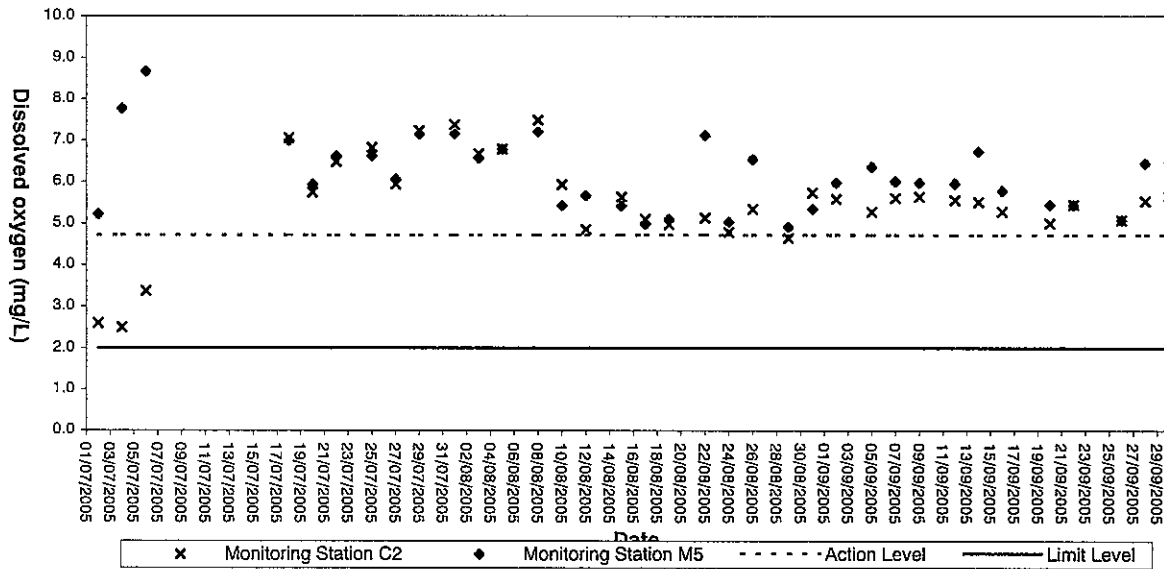


Dissolved Oxygen (Surface & Middle) at Mid-Ebb Tide

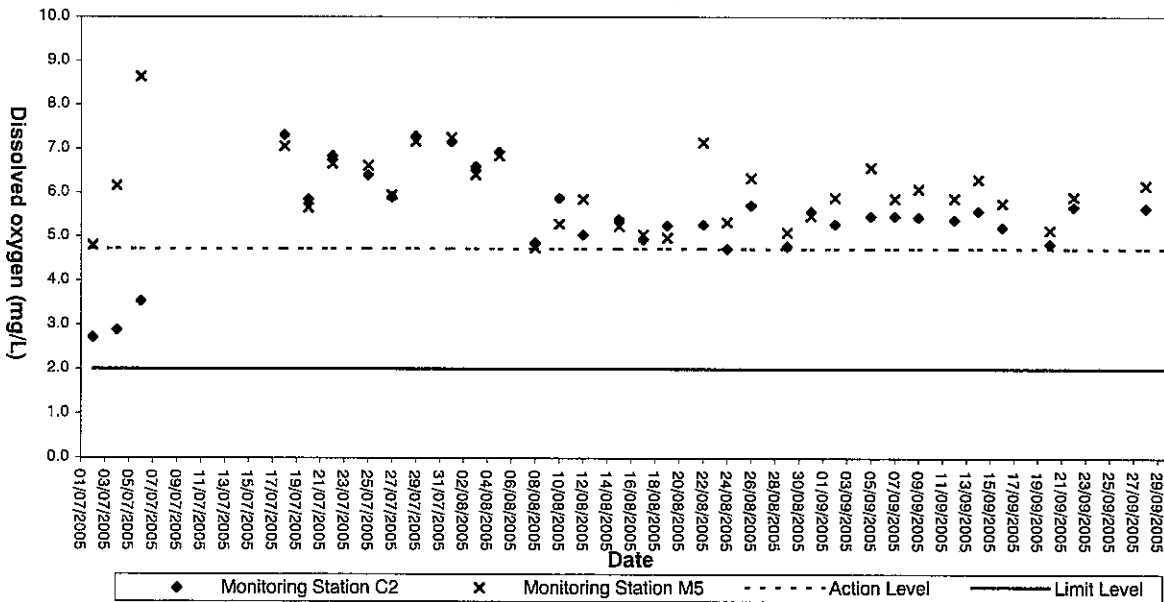




Dissolved Oxygen (Bottom) at Mid-Flood Tide

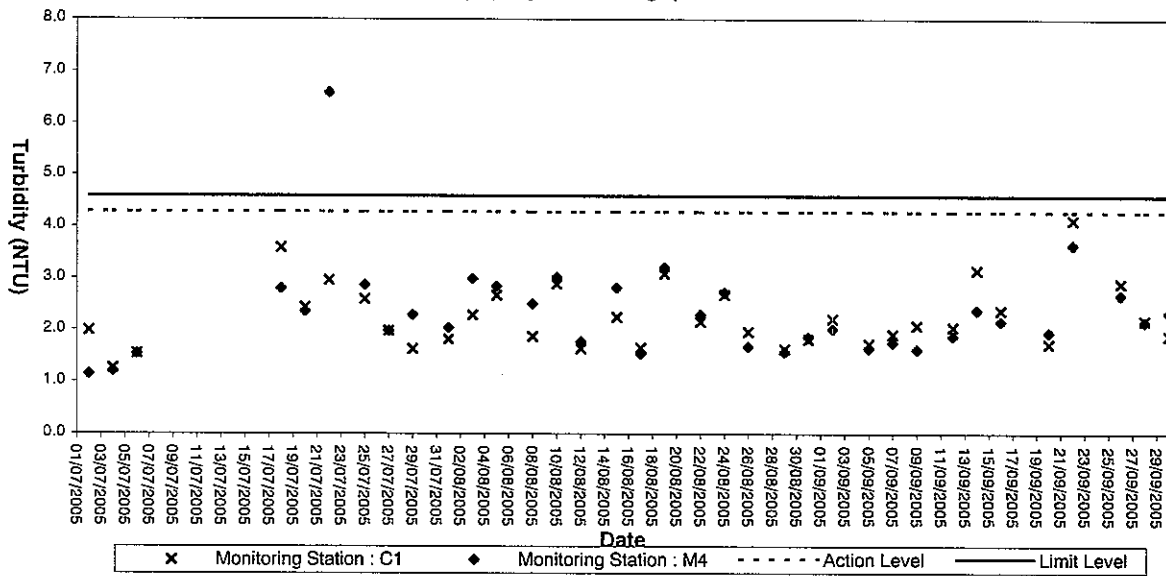


Dissolved Oxygen (Bottom) at Mid-Ebb Tide

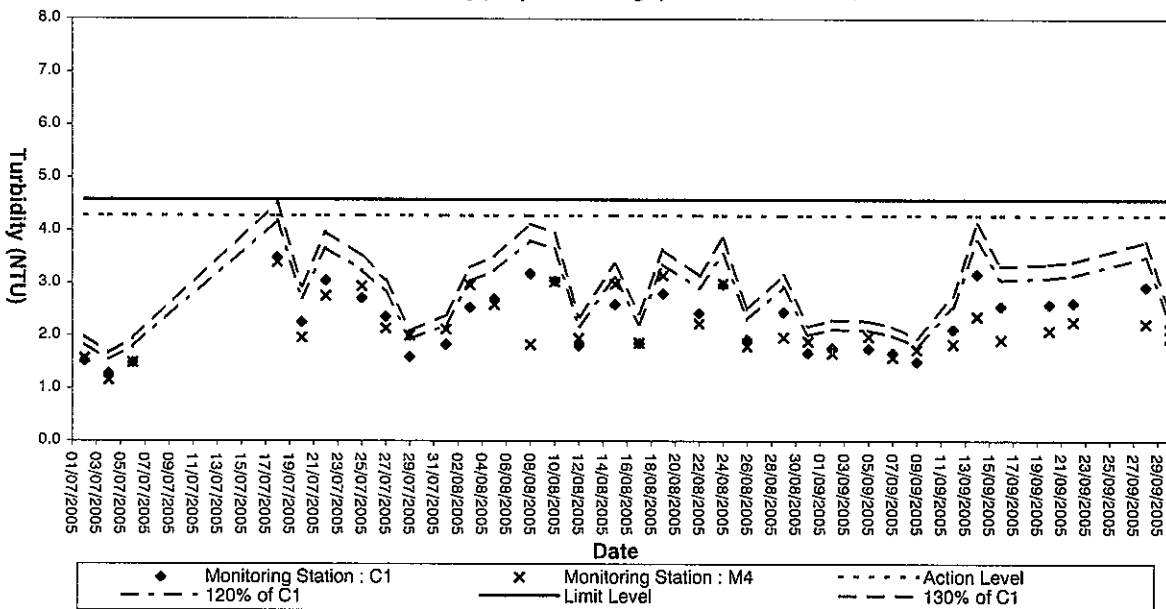




Turbidity (Depth-average) at Mid-Flood Tide

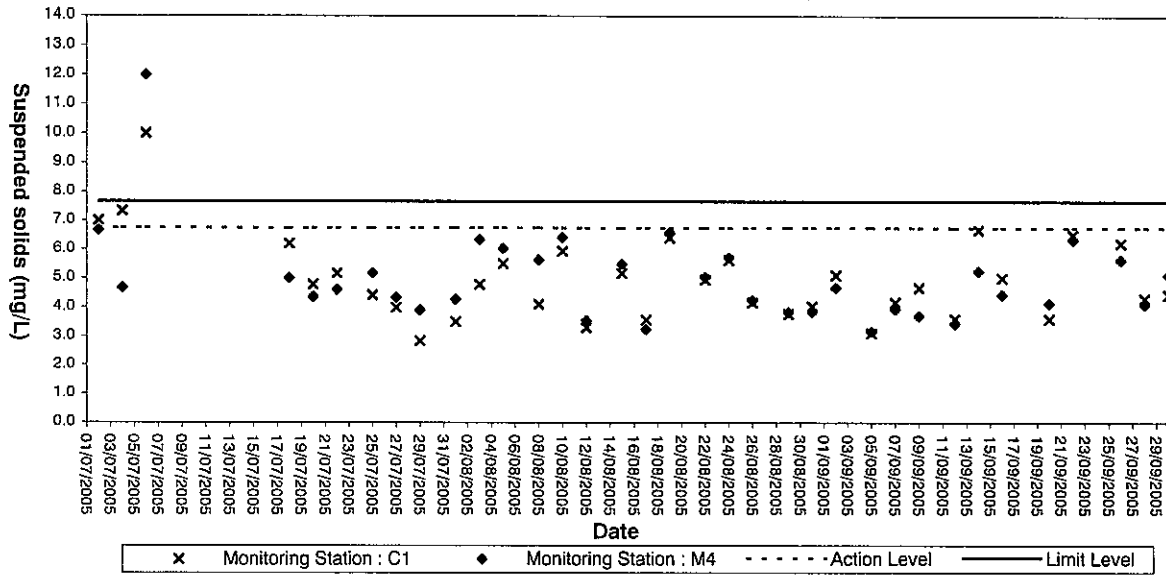


Turbidity (Depth-average) at Mid-Ebb Tide

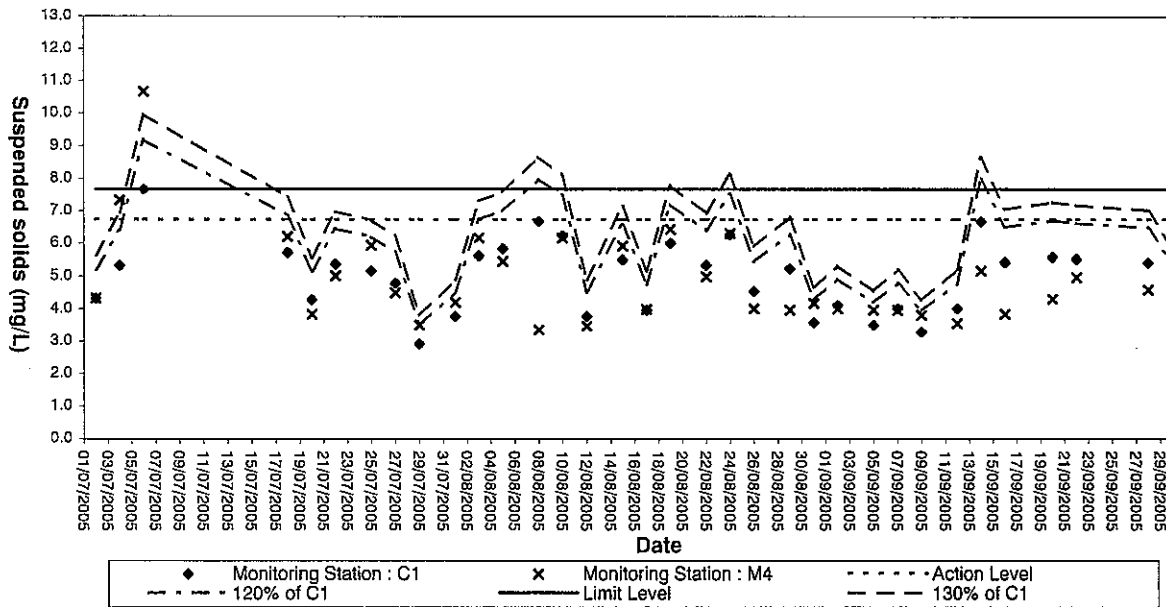




Suspended solids (Depth-average) at Mid-Flood Tide



Suspended Solids (Depth-average) at Mid-Ebb Tide





Appendix E

Environmental Quality Performance (Action / Limit Levels)

Action and Limit Levels for Air Quality

Action and Limit Levels for 1-Hour TSP

Location	Action Level, $\mu\text{g}/\text{m}^3$	Limit Level, $\mu\text{g}/\text{m}^3$
AA1	376	500
AA2		

Action and Limit Levels for 24-Hour TSP

Location	Action Level, $\mu\text{g}/\text{m}^3$	Limit Level, $\mu\text{g}/\text{m}^3$
AA1	210	260
AA2		

Action and Limit Levels for Noise

Time Period	Action	Limit
0900-2100 hrs on all days	When one documented complaint is received	75*dB(A)

Action and Limit Levels for Water Quality

Parameters	Action	Limit
Dissolved oxygen, DO mg/L (Surface, Middle & Bottom)	<u>Surface & Middle</u> DO < 5.45 (5%-ile of baseline data) <u>Bottom</u> DO < 4.72 (5%-ile of baseline data)	<u>Surface & Middle</u> DO < 5.10 (1%-ile of baseline data) <u>Bottom</u> 2 mg/L
Suspended solids, SS mg/L (Depth-averaged)	SS > 6.74 (95%-ile of baseline data or SS > 120% of upstream control stations SS at the same tide of the same day)	SS > 7.67 (99%-ile of baseline data or SS > 130% of upstream control stations SS at the same tide of the same day)
Turbidity, Tby NTU (Depth-averaged)	Tby > 4.28 (95%-ile of baseline data or Tby > 120% of upstream control stations Tby at the same tide of the same day)	Tby > 4.58 (99%-ile of baseline data or Tby > 130% of upstream control stations Tby at the same tide of the same day)



Appendix F

Event-Action Plans

EVENT/ACTION PLAN FOR AIR QUALITY EXCEEDANCE

ACTION

IC(E)

ER

Contractor

ACTION LEVEL

<p>1. Exceedance for one sample</p>	<ol style="list-style-type: none"> 1. Identify source, investigate the causes of exceedance and propose remedial measures 2. Inform ER, IC(E) and Contractor 3. Repeat measurement to confirm finding 4. Increase monitoring frequency to daily 	<ol style="list-style-type: none"> 1. Check monitoring data submitted by the ET 2. Check contractor's working method 	<ol style="list-style-type: none"> 1. Notify Contractor 	<ol style="list-style-type: none"> 1. Rectify any unacceptable practise 2. Amend working methods if appropriate
<p>2. Exceedance for two or more consecutive samples</p>	<ol style="list-style-type: none"> 1. Identify source, investigate the causes of exceedance and propose remedial measures 2. Inform IC(E) and Contractor 3. Repeat measurements to confirm finding 4. Increase monitoring frequency to daily 5. Discuss with IC(E) and Contractor on remedial actions 6. If exceedance continues, arrange meeting with IC(E) and ER. 7. If exceedance stops, cease additional monitoring 	<ol style="list-style-type: none"> 1. Check monitoring data submitted by the ET Leader 2. Check the Contractor's working method 3. Discuss with ET and Contractor on possible remedial measures 4. Advise the ER on the effectiveness of the proposed remedial measures 5. Supervise implementation of remedial measures 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing 2. Notify the Contractor 3. Ensure remedial measures properly implemented 	<ol style="list-style-type: none"> 1. Submit proposals for remedial actions to IC(E) within 3 working days of notification 2. Implement the agreed proposals 3. Amend proposal if appropriate

LIMIT LEVEL

<p>1. Exceedance for one sample</p>	<ol style="list-style-type: none"> 1. Identify source, investigate the causes of exceedance and propose remedial measures 2. Inform ER, Contractor and EPD 3. Repeat measurement to confirm finding 4. Increase monitoring frequency to daily 5. Assess the effectiveness of Contractor's remedial actions and keep IC(E), EPD and ER informed of the results 	<ol style="list-style-type: none"> 1. Check monitoring data submitted by the ET Leader 2. Check Contractor's working method 3. Discuss with ET and Contractor on possible remedial measures 4. Advise the ER on the effectiveness of the proposed remedial measures 5. Supervise implementation of remedial measures 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing 2. Notify the Contractor 3. Ensure remedial measures properly implemented 	<ol style="list-style-type: none"> 1. Take immediate action to avoid further exceedance 2. Submit proposals for remedial actions to IC(E) within 3 working days of notification 3. Implement the agreed proposals 4. Amend proposal if appropriate.
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EVENT/ACTION PLAN FOR AIR QUALITY EXCEEDANCE

EVENT	ACTION			
	ET Leader	IC(E)	ER	Contractor
2. Exceedance for two or more consecutive samples	<ol style="list-style-type: none"> 1. Identify source, investigate the causes of exceedance and propose remedial measures 2. Notify IC(E), ER, EPD and Contractor 3. Repeat measurement to confirm finding 4. Increase monitoring frequency to daily 5. Carry out analysis of contractor's working procedures to determine possible mitigation to be implemented 6. Arrange meeting with IC(E) and ER to discuss the remedial actions to be taken 7. Assess effectiveness of Contractor's remedial actions and keep IC(E), EPD and ER informed of the results 8. If exceedance stops, cease additional monitoring 	<ol style="list-style-type: none"> 1. Discuss amongst ER, ET and Contractor on the potential remedial actions 2. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly 3. Supervise the implementation of remedial measures 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing 2. Notify Contractor 3. In consultation with the IC(E), agree with the Contractor on the remedial measures to be implemented 4. Ensure remedial measures are properly implemented 5. If exceedances continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated 	<ol style="list-style-type: none"> 1. Take immediate action to avoid further exceedances 2. Submit proposals for remedial actions to IC(E) within 3 working days of notification 3. Implement the agreed proposals 4. Resubmit proposals if problem still not under control 5. Stop the relevant activity of works as determined by the ER until the exceedance is abated.

EVENT/ACTION PLAN FOR NOISE EXCEEDANCE

ACTION

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

EVENT AND ACTION PLAN FOR WATER QUALITY EXCEEDANCE

Event	ACTION			
	ET Leader	Contractor	ER	IEC
<p>Action level being exceeded by one sampling day</p>	<ol style="list-style-type: none"> 1. Identify source(s) of impact; 2. Repeat in-situ measurement to confirm findings; 3. Notify Contractor in writing within 24 hours of identification of the exceedance 4. Check monitoring data, all plant, equipment and Contractor's working methods; 5. Carry out investigation 6. Report the results of investigation to the Contractor within 3 working days of identification of exceedance and advise contractor if exceedance is due to contractor's construction works 7. Discuss mitigation measures with Contractor if exceedance is due to the construction works within 4 working days 8. Repeat measurement on next day of exceedance if exceedance is due to the construction works 	<ol style="list-style-type: none"> 1. Notify the ER and IEC in writing within 24 hours of identification of exceedance 2. Rectify unacceptable practice; 3. Check all plant and equipment; 4. Submit investigation report to IEC and ER within 3 working days of the identification of an exceedance 5. Consider changes of working method if exceedance is due to the construction works 6. Discuss with ET, IEC and ER and propose mitigation measures to IEC and ER if exceedance is due to the construction works within 4 working days of identification of an exceedance 7. Implement the agreed mitigation measures within reasonable time scale 	<ol style="list-style-type: none"> 1. Notify EPD and other relevant governmental agencies in writing within 24 hours of the identification of the exceedance 2. Discuss with IEC, ET and Contractor on the proposed mitigation measures; 3. Require contractor to propose remedial measures for the analysed problem if related to the construction works 4. Ensure remedial measures are properly implemented 5. Assess the effectiveness of the mitigation measure 	<ol style="list-style-type: none"> 1. Check monitoring data submitted by ET 2. Confirm ET assessment if exceedance is due / not due to the works 3. Discuss with ET, ER and Contractor on the mitigation measures 4. Review contractor's mitigation measures whenever necessary to ensure their effectiveness and advise the ER accordingly 5. Supervise the implementation of mitigation measures

EVENT AND ACTION PLAN FOR WATER QUALITY

Event	ACTION		
	ET Leader	Contractor	ER
<p>Action level being exceeded by more than one consecutive sampling days</p>	<ol style="list-style-type: none"> 1. Identify source(s) of impact; 2. Repeat in-situ measurement to confirm findings 3. Notify Contractor in writing within 24 hours of identification 4. Check monitoring data, all plant, equipment and Contractor's working methods; 5. Carry out investigation 6. Report the results of investigation to the Contractor within 3 working days of identification of exceedance and advise contractor if exceedance is due to contractor's construction works 7. Discuss mitigation measures with IEC and Contractor within 4 working of identification of an exceedance 8. Ensure mitigation measures are implemented; 9. Prepare to increase the monitoring frequency to daily; 10. Repeat measurement on next day of exceedance. 	<ol style="list-style-type: none"> 1. Notify IEC and ER in writing within 24 hours of identification of exceedance 2. Rectify unacceptable practice; 3. Check all plant and equipment; 4. Consider changes of working methods; 5. Submit the results of the investigation to IEC and ER within 3 working days of the identification of an exceedance 6. Discuss with ET, IEC and ER and propose mitigation measures to IEC and ER within 4 working days of identification of an exceedance 7. Implement the agreed mitigation measures within reasonable time scale 	<ol style="list-style-type: none"> 1. Notify EPD and other relevant governmental agencies in writing within 24 hours of the identification of the exceedance 2. Discuss with IEC, ET and Contractor on the proposed mitigation measures; 3. Require contractor to propose remedial measures for the analysed problem if related to the construction works 4. Ensure remedial measures are properly implemented 5. Assess the effectiveness of the mitigation measure
			<p>IEC</p> <ol style="list-style-type: none"> 1. Check monitoring data submitted by ET 2. Confirm ET assessment if exceedance is due / not due to the works 3. Discuss with ET, ER and Contractor on the mitigation measures. 4. Review contractor's mitigation measures whenever necessary to ensure their effectiveness and advise the ER accordingly 5. Assess the effectiveness of the implemented mitigation measures.

EVENT AND ACTION PLAN FOR WATER QUALITY EXCEEDANCE

Event	ACTION			IEC
	ET Leader	Contractor	ER	
Limit level being exceeded by one sampling day	<ol style="list-style-type: none"> 1. Repeat in-situ measurement to confirm findings; 2. Identify source(s) of impact; 3. Notify Contractor in writing within 24 hours of identification of the exceedance 4. Check monitoring data, all plant, equipment and Contractor's working methods; 5. Carry out investigation 6. Report the results of investigation to the Contractor within 3 working days of identification of exceedance and advise contractor if exceedance is due to contractor's construction works 7. Discuss mitigation measures with IEC, ER and Contractor within 4 working of identification of an exceedance 8. Ensure mitigation measures are implemented; 9. Increase the monitoring frequency to daily until no exceedance of Limit Level. 	<ol style="list-style-type: none"> 1. Notify IEC and ER in writing; within 24 hours of the identification of the exceedance 2. Rectify unacceptable practice; 3. Check all plant and equipment; 4. Consider changes of working methods; 5. Submit the results of the investigation to IEC and ER within 3 working days of the identification of an exceedance 6. Discuss with ET, IEC and ER and propose mitigation measures to IEC and ER within 4 working days of the identification of an exceedance 7. Implement the agreed mitigation measures within reasonable time scale 	<ol style="list-style-type: none"> 1. Notify EPD and other relevant governmental agencies in writing within 24 hours of identification of exceedance 2. Discuss with IEC, ET and Contractor on the proposed mitigation measures; 3. Request Contractor to critically review the working methods; 4. Ensure remedial measures are properly implemented 5. Assess the effectiveness of the implemented mitigation measures. 	<ol style="list-style-type: none"> 1. Check monitoring data submitted by ET 2. Confirm ET assessment if exceedance is due / not due to the works 3. Discuss with ET, ER and Contractor on the mitigation measures. 4. Review proposals on mitigation measures submitted by Contractor and advise the ER accordingly. 5. Assess the effectiveness of the implemented mitigation measures

EVENT AND ACTION PLAN FOR WATER QUALITY EXCEEDANCE

Event	ACTION			IEC
	ET Leader	Contractor	ER	
Limit Level being exceeded by more than one consecutive sampling days	<ol style="list-style-type: none"> 1. Repeat in-situ measurement to confirm findings; 2. Identify source(s) of impact; 3. Notify Contractor in writing within 24 hours of identification of the exceedance 4. Check monitoring data, all plant, equipment and Contractor's working methods; 5. Carry out investigation 6. Report the results of investigation to the Contractor within 3 working days of identification of exceedance and advise contractor if exceedance is due to contractor's construction works 7. Discuss mitigation measures with IEC, ER and Contractor; 8. Ensure mitigation measures are implemented; 9. Increase the monitoring frequency to daily until no exceedance of Limit Level for two consecutive days. 	<ol style="list-style-type: none"> 1. Notify ER and IEC in writing within 24 hours of the identification of the exceedance and 2. Rectify unacceptable practice; 3. Check all plant and equipment; 4. Consider changes of working methods; 8. Submit the results of the investigation to IEC and ER within 3 working days of the identification of an exceedance 5. Discuss with ET, IEC and ER and propose mitigation measures to IEC and ER within 4 working days; 6. Implement the agreed mitigation measures within reasonable time scale 7. As directed by the Engineer, to slow down or to stop all or part of the marine work or construction activities. 	<ol style="list-style-type: none"> 1. Notify EPD and other relevant governmental agencies in writing within 24 hours of identification of exceedance 2. Discuss with IEC, ET and Contractor on the proposed mitigation measures; 3. Request Contractor to critically review the working methods; 6. Ensure remedial measures are properly implemented 4. Assess the effectiveness of the implemented mitigation measures; 5. Consider and instruct, if necessary, the Contractor to slow down or to stop all or part of the marine work until no exceedance of Limit Level. 	<ol style="list-style-type: none"> 1. Check monitoring data submitted by ET 2. Confirm ET assessment if exceedance is due / not due to the works 3. Discuss with ER, ET and Contractor on the mitigation measures. 4. Review proposals on mitigation measures submitted by Contractor and advise the ER accordingly. 5. Assess the effectiveness of the implemented mitigation measures.



Appendix G

Construction Programme

3-Month Rolling Programme of Works - Fill Bank at Tseung Kwan O Area 137

Date: 8 July 2005 (Friday)

Forthcoming Rolling 3 Months : Jul 2005 → Sep 2005

Sep 2005

Section of Works	Description	Earliest Start Date	Latest Start Date	Finish Date	Duration	2005			
						June 2005	July 2005	Aug 2005	Sep 2005
Section D1	Taking over, operation and maintenance of the Fill Bank at Tseung Kwan O Area 137 [Portion D of the Site]	18 Jun 2005	8 July 2005	31 Oct 2005	116 days				
Section D2	Operation and maintenance of the Fill Bank at Tseung Kwan O Area 137 [Portion D of the Site] - Section Subject to Excision	1 Nov 2005	1 Nov 2005	30 Nov 2005	30 days				
Section D3	Operation and maintenance of the Fill Bank at Tseung Kwan O Area 137 [Portion D of the Site] - Section Subject to Excision	1 Dec 2005	1 Dec 2005	31 Dec 2005	31 days				

Remarks :- (1) Works to be carried out in the forthcoming 3 months (8 Jul 2005 ~ 30 Sep 2005) :

- Section B1 of the Works: Taking over, operation and maintenance of the Public Filling Barging Point (PFBP) at Quarry Bay [Portion B of the Site]
 - Section C1 of the Works: Taking over, operation and maintenance of the Public Fill Reception Facility (PFRF) at Mui Wo [Portion C of the Site]
 - Section D1 of the Works: Taking over, operation and maintenance of the Fill Bank at Tseung Kwan O Area 137 [Portion D of the Site]
- (2) Remainder of the Works after the forthcoming 3 months (i.e., remaining period from 1 Oct 2005 to 31 Dec 2005) :
- Section B1 of the Works: Taking over, operation and maintenance of the Public Filling Barging Point (PFBP) at Quarry Bay [Portion B of the Site]
 - Section B2 of the Works: Operation and maintenance of the Public Filling Barging Point (PFBP) at Quarry Bay [Portion B of the Site] - Section Subject to Excision
 - Section B3 of the Works: Operation and maintenance of the Public Filling Barging Point (PFBP) at Quarry Bay [Portion B of the Site] - Section Subject to Excision
 - Section C1 of the Works: Taking over, operation and maintenance of the Public Fill Reception Facility (PFRF) at Mui Wo [Portion C of the Site]
 - Section C2 of the Works: Operation and maintenance of the Public Fill Reception Facility (PFRF) at Mui Wo [Portion C of the Site] - Section Subject to Excision
 - Section C3 of the Works: Operation and maintenance of the Public Fill Reception Facility (PFRF) at Mui Wo [Portion C of the Site] - Section Subject to Excision
 - Section D1 of the Works: Taking over, operation and maintenance of the Fill Bank at Tseung Kwan O Area 137 [Portion D of the Site]
 - Section D2 of the Works: Operation and maintenance of the Fill Bank at Tseung Kwan O Area 137 [Portion D of the Site] - Section Subject to Excision
 - Section D3 of the Works: Operation and maintenance of the Fill Bank at Tseung Kwan O Area 137 [Portion D of the Site] - Section Subject to Excision



Appendix H

Implementation Schedule of Environmental Mitigation Measures (EMIS)



Environmental Mitigation Implementation Schedule

	Location	Implementation Status		
		July 2005	August 2005	September 2005
Environmental Protection Measures				
Air Quality				
▪ Dust control / mitigation measures shall be provided to prevent dust nuisance.	All areas	✓	✓	✓
▪ A buffer zone of at least 100m shall be maintained between the edge of the stockpiling area and the nearest ASRs at the TKO Industrial Estate. Within the buffer zone, no dusty material shall be stockpiled and no loading / unloading and similar activities should be allowed.	Northern Site Boundary	✓	✓	✓
▪ Water sprays shall be provided and used to dampen materials.	All areas	✓	✓	✓
▪ Regular cleaning and watering the site shall be provided to minimize the fugitive dust emissions.	All areas	✓	✓	✓
▪ All vehicles shall be restrict to a maximum speed of 10 km per hour.	All areas	✓	✓	✓
▪ Any vehicle with open load carrying area used for moving materials which has the potential to create dust shall have properly fitting side and tail boards. Material having the potential to create dust shall not be loaded to a level higher than the side and tail boards, and shall be covered by a clean tarpaulin.	Site Egress	✓	✓	✓
▪ The designated site main haul rout shall be paved or regular watering.	All haul roads	✓	✓	✓
▪ Frequent watering of work site shall be at least three times per day.	All areas	✓	✓	✓
▪ Wheel washing facilities including high pressure water jet shall be provided at the entrance of work site.	Site Egress	✓	✓	✓
▪ Every vehicle shall be washed to remove any dusty materials from its body and wheels before leaving the fill bank.	Site Egress	✓	✓	✓
▪ The temporary slope surfaces, especially those facing to the north of the site shall be covered with impermeable sheet or sprayed with water or protected by other method approved by CEDD.	All areas	✓	✓	✓
▪ Final slope surfaces, especially those facing to the north of the site shall be treated by compaction, followed by hydroseeding, vegetation planting or sealing with shotconcrete, latex, vinyl, bitumen, or other suitable surface stabilizer approved by CEDD.	All areas	✓	✓	✓
▪ When fill material is transfer by belt conveyor systems, the conveyors shall be enclosed on top and 2 sides.	C&DMSF	N/A	N/A	N/A
▪ The belt scraper shall be equipped with bottom plates or other similar means to prevent falling of material from the return belt.	C&DMFS	N/A	N/A	N/A
▪ The level of stockpiling belt conveyor shall be adjustable such that the vertical distance between the belt conveyor and the material landing point is maintained at no more than 1m.	C&DMFS	N/A	N/A	N/A
Noise Impact				
▪ The approved method of working, equipment and sound-reducing measures (e.g. use of silenced type of equipment, etc.) shall be adapted.	All areas	✓		
▪ Only well maintained plant should be operated on-site and plant should be serviced regularly during the construction works.	All areas	✓		
▪ Powered mechanical equipment (PME) should be covered or shielded by appropriate acoustic materials.	All areas	✓		
▪ Air compressors and hand held breakers should have noise labels.	All areas	✓		
▪ Machines and plants that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum.	All areas	✓		
▪ Noisy equipment and mobile plant shall always be site away from NSRs.	All areas	✓		

Remark: ✓ = Implemented, ∇ = Partially Implemented X = Not Implemented N/A = Not Applicable

Environmental Protection Measures	Location	Implementation Status		
		July 2005	August 2005	September 2005
Water Quality				
<ul style="list-style-type: none"> The existing / realigned intercepting channels and the sand / silt removal facilities shall be used and maintained regularly. A buffer distance of at least 100m shall be maintained between the boundary of the public fill stockpiling area and the sea front. A buffer distance of at least 20m shall be maintained between the boundary of the C&DMSF and the seafront. The stormwater intercepting system shall be effective to collect of runoff and remove suspended solids before discharge. The material shall be properly covered to prevent washed away especially before rainstorm. The temporary slope surfaces, especially those facing to the north of the site shall be covered with impermeable sheet or sprayed with water or protected by other method approved by CEDD. A wheel washing bay shall be provided at the site exit and wash-water shall have sand and silt settled out or removed before being discharged into storm drains. Obtain Discharge License Adequate environmental control measures shall be provided to prevent / avoid dropping of fill material into the sea during the transfer. The work activities shall not cause any visible foam, oil, grease, scum, litter or other objectionable matters to be present on the water in the vicinity of the barging facilities. A waste collection vessel shall be deployed to remove floating debris. 	All areas	√	√	√
Along the seafront	√	√	√	√
C&DMSF	N/A	N/A	N/A	N/A
All areas	√	√	√	√
All areas	√	√	√	√
Temporary Slopes	√	√	√	√
Wheel Washing facility	√	√	√	√
Site Office	√	√	√	√
Barge Handling Area (BHA)	√	√	√	√
Barge Handling Area (BHA)	√	√	√	√
Barge Handling Area (BHA)	√	√	√	√
Landscape and Visual				
Construction of lighting to avoid spillage and glare	All areas	√	√	√
Hydroseeding	Completed slopes	√	√	√
Hoarding erection	Site boundary	√	√	√
Damage to surrounding area avoided	All areas	√	√	√
Other Environmental Factors				
C&D waste sorted from mixed C&D material shall be transfer to SENT landfill for disposal.	All areas	√	√	√
Plan and stock construction materials carefully to minimise generation of waste.	All areas	√	√	√
Any unused materials or those with remaining functional capacity should be recycled.	All areas	√	√	√
All generators, fuel and oil storage are within bunded areas.	All areas	√	√	√
Oil leakage from machinery, vehicle and plant is prevented.	All areas	√	√	√
Bund chemical storage area to 110% capacity.	All areas	√	√	√
Prevent disposal of hazardous materials to air, soil and water body	All areas	√	√	√
Provide rubbish skips at all work areas	All areas	√	√	√

Remark: √ = Implemented, ∇ = Partially Implemented, X = Not Implemented, N/A = Not Applicable



Appendix I

Statistical Analysis of the Trend of Suspended Solids in the Quarter



Statistical Analysis of the Trend of Suspended Solids For Mid-Flood Tide

Station: M4

t-test

Group Name	N	Missing	Mean	Std Dev	SE
130% Baseline Mean	12	0	6.969	1.069	0.322
Quarterly Mean	35	0	4.994	1.577	0.271

Result:

Probability that two variances are equal (f-test) = 0.8484

Difference between means = 1.975 (Std Dev = 3.2968 and SE = 0.4915)
(95% CI : 1.0117 < Diff < 2.9383)

t-value of difference = 4.019 (45 degrees of freedom)
P = <0.001

Conclusion:

There is a statistically significant difference between the groups.

Station: C1

t-test

Group Name	N	Missing	Mean	Std Dev	SE
130% Baseline Mean	12	0	6.969	0.950	0.286
Quarterly Mean	35	0	4.968	1.458	0.250

Result:

Probability that two variances are equal (f-test) = 0.06561

Difference between means = 2.001 (Std Dev = 3.033 and SE = 0.4521)
(95% CI : 1.1148 < Diff < 2.8872)

t-value of difference = 4.426 (45 degrees of freedom)
P = <0.001

Conclusion:

There is a statistically significant difference between the groups.



Statistical Analysis of the Trend of Suspended Solids

For Mid-Ebb Tide

Station: M4

t-test

Group Name	N	Missing	Mean	Std Dev	SE
130% Baseline Mean	12	0	6.897	1.449	0.4369
Quarterly Mean	35	0	4.898	1.454	0.2494

Result:

Probability that two variances are equal (f-test) = 0.4720

Difference between means = 1.999 (Std Dev = 3.2601 and SE = 0.486)
(95% CI : 1.0465 < Diff < 2.9515)

t-value of difference = 4.113 (45 degrees of freedom)
P = <0.001

Conclusion:

There is a statistically significant difference between the groups.

Station: C1

t-test

Group Name	N	Missing	Mean	Std Dev	SE
130% Baseline Mean	12	0	6.933	1.045	0.315
Quarterly Mean	35	0	4.995	1.101	0.189

Result:

Probability that two variances are equal (f-test) = 0.4506

Difference between means = 1.938 (Std Dev = 2.4406 and SE = 0.3638)
(95% CI : 1.2249 < Diff < 2.6511)

t-value of difference = 5.327 (45 degrees of freedom)
P = <0.001

Conclusion:

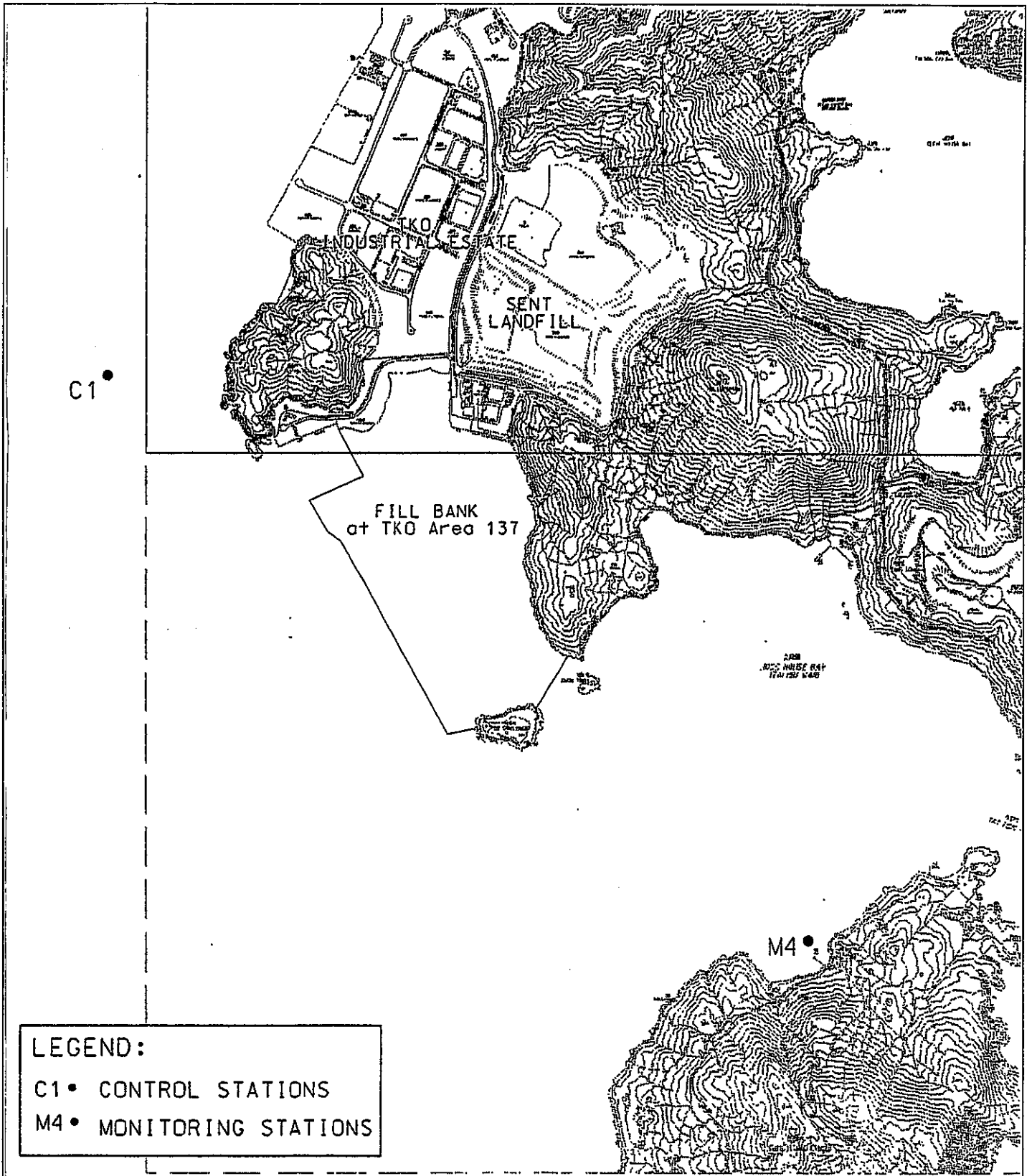
There is a statistically significant difference between the groups.

Appendix J

Site General Layout plan



Figures



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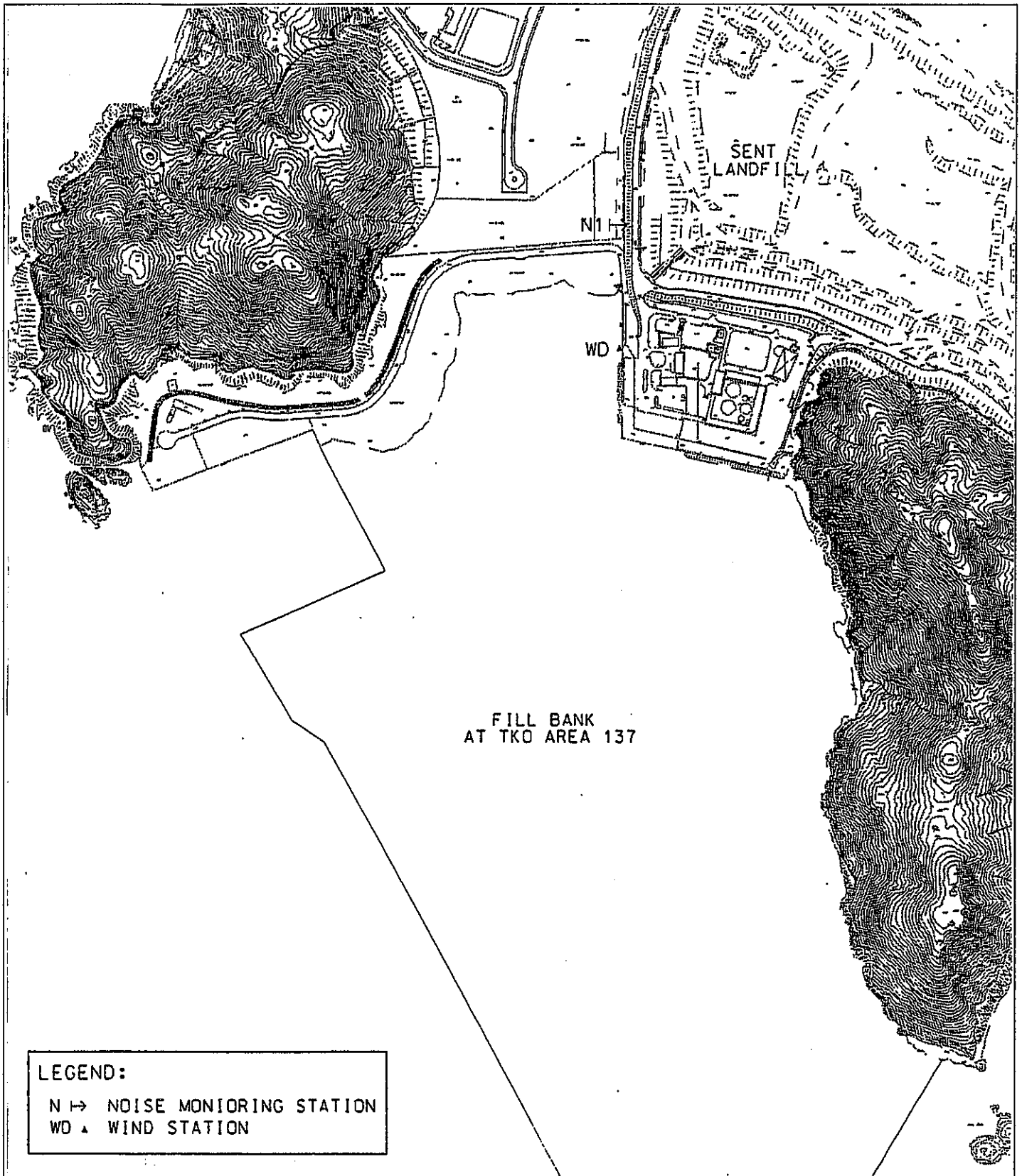
Operation of Fill Bank at Tseung Kwan O Area 137 and Barging Facilities at Hong Kong Island and Mui Woo

Figure 1

Locations of Water Quality Monitoring Stations –
Fill Bank at Tseung Kwan O Area 137



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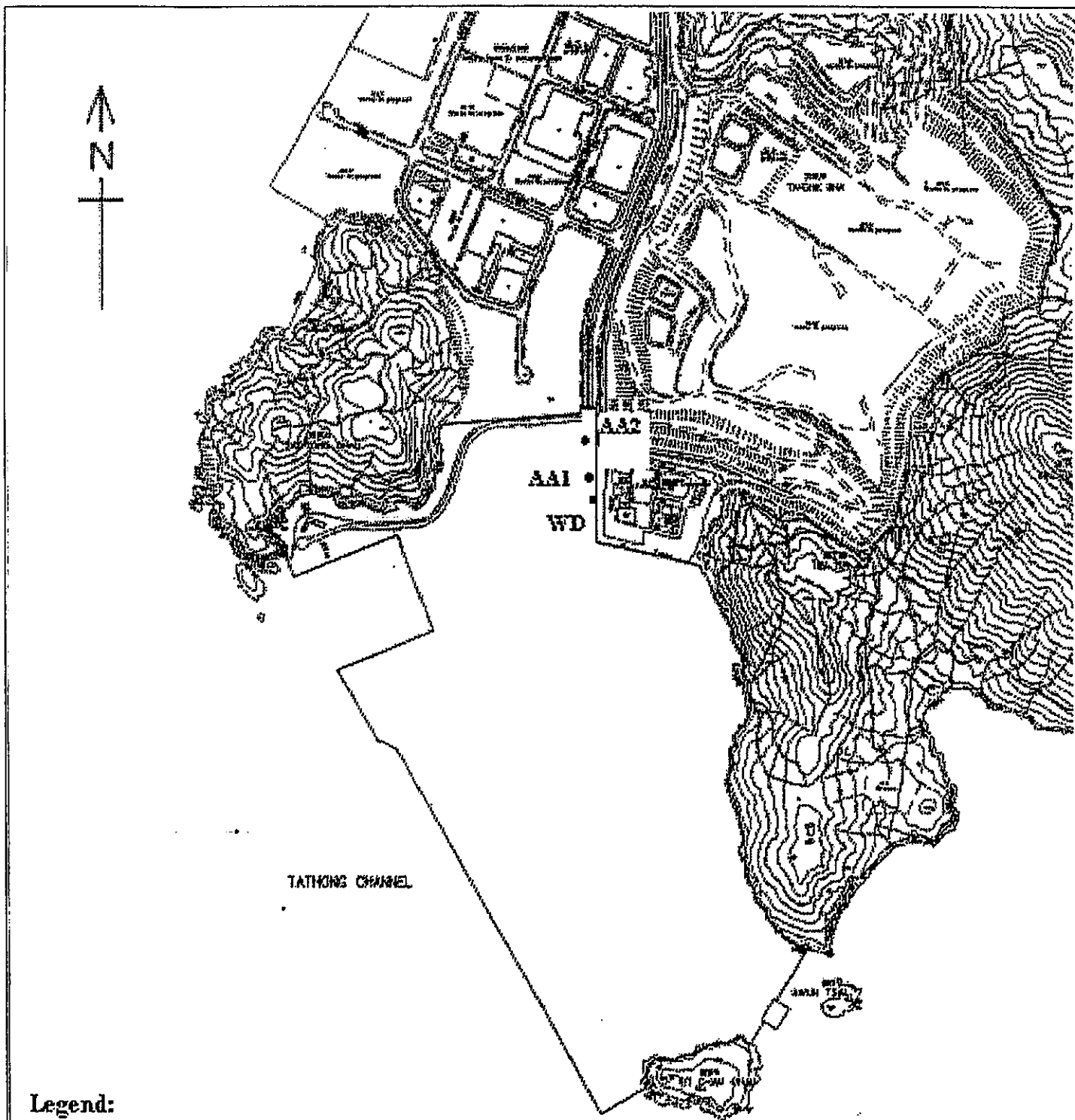
Operation of Fill Bank at Tseung Kwan O Area 137 and Barging Facilities at Hong Kong Island and Mui Woo

Figure 2

Locations of Noise Monitoring Station –
Fill Bank at Tseung Kwan O Area 137



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Legend:

AA ● Air Monitoring Stations

WD ■ Wind Station

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 Operation of Fill Bank at Tseung Kwan O Area 137 and Barging Facilities at Hong Kong Island and Mui Woo

Figure 3
 Locations of Air Quality Monitoring Stations –
 Fill Bank at Tseung Kwan O Area 137