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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**

**MONTHLY EM&A REPORT  
(AUGUST 2005)**

Prepared by:

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Report No.: ENA50488



**BMT Asia Pacific Limited**

14 September 2005  
Our Ref: 8116/2079

By Post

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For the attention of Mr. Stephen Choi

Dear Sir

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

Following review of the Monthly EM&A Report No. 2 for the reporting period August 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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## TABLE OF CONTENTS

Page

### EXECUTIVE SUMMARY

<b>1.0</b>	<b>INTRODUCTION</b>	1
<b>2.0</b>	<b>PROJECT INFORMATION</b>	
	2.1 Scope of the Project	2
	2.2 Site Description	2
	2.3 Construction Programme	2
	2.4 Project Organization and Management Structure	2
	2.5 Contact Details of Key Personnel	2
<b>3.0</b>	<b>CONSTRUCTION PROGRESS IN THIS REPORTING MONTH</b>	3
<b>4.0</b>	<b>AIR QUALITY MONITORING</b>	
	4.1 Monitoring Requirement	4
	4.2 Monitoring Equipment	4
	4.3 Monitoring Parameters, Frequency and Duration	4
	4.4 Monitoring Locations and Schedule	4 – 5
	4.5 Monitoring Methodology	5 – 6
	4.6 Action and Limit Levels	6
	4.7 Event-Action Plans	7
	4.8 Results and Observation	7 - 8
<b>5.0</b>	<b>NOISE MONITORING</b>	
	5.1 Monitoring Requirements	9
	5.2 Monitoring Equipment	9
	5.3 Monitoring Parameters, Duration and Frequency	9
	5.4 Monitoring Locations and Period	9
	5.5 Monitoring Procedures and Calibration Details	9 – 10
	5.6 Action and Limit Levels	10
	5.7 Event-Action Plans	10
	5.8 Results and Observation	10 – 11
<b>6.0</b>	<b>MARINE WATER QUALITY MONITORING</b>	
	6.1 Monitoring Requirements	12
	6.2 Monitoring Locations	12
	6.3 Monitoring Parameters	12
	6.4 Monitoring Frequency	12
	6.5 Monitoring Methodology and Equipment Used	13 – 14
	6.6 Action and Limit Level	14
	6.7 Event and Action Plan	15
	6.8 Monitoring Duration and Period in this reporting month	15
	6.9 Marine Water Monitoring Results	15
	6.10 Assessment of the Exceedances	15
<b>7.0</b>	<b>SITE INSPECTION</b>	
	7.1 IEC site Audits	16
	7.2 Weekly ET Site Inspections	16 – 17
	7.3 Review of Environmental Monitoring Procedures	17 – 18
	7.4 Assessment of Environmental Monitoring Results	18
	7.5 Advice on the Solid and Liquid Waste Management Status	18
<b>8.0</b>	<b>STATUS OF ENVIRONMENTAL LICENSING AND PERMITTING</b>	19
<b>9.0</b>	<b>ENVIRONMENTAL NON-CONFORMANCE</b>	
	9.1 Summary of air quality, noise and marine water quality	20
	9.2 Summary of Environmental Complaints	20
	9.3 Summary of Notification of Summons and Prosecution	20
<b>10.0</b>	<b>Implementation Status</b>	
	10.1 Implementation Status of Environmental Mitigation Measures	21
	10.2 Implementation Status of Event and Action Plan	21
	10.3 Implementation Status of Environmental Complaint, Notifications of Summons and Successful Prosecutions Handling	21
<b>11.0</b>	<b>CONCLUSION AND RECOMMENDATIONS</b>	22 – 23
<b>12.0</b>	<b>FUTURE KEY ISSUE</b>	
	12.1 Construction Programme for the Coming Month	24
	12.2 Key Issues for the Coming Month	24 – 25
	12.3 Monitoring Schedule for the Coming Month	25



## APPENDIX

A	Organization Chart and Lines of Communication
B1	Calibration Certificates for Impact Air Quality Monitoring Equipment
B2	Impact Air Quality Monitoring Results
B3	Graphical Plots of Impact Air Quality Monitoring Data
C1	Calibration Certificates for Impact Noise Monitoring Equipment
C2	Impact Noise Monitoring Results
C3	Graphical Plots of Impact Noise Monitoring Data
D1	Calibration Certificates for Marine Water Quality Monitoring Equipment
D2	Impact Marine Water Quality Monitoring Results
D3	Graphical Plots of Impact Marine Water Quality Monitoring Data
E	Weather Condition
F	Event-Action Plans
G	Construction Programme
H	IEC's Site Audit Record
I	Weekly ET's Site Inspection Record
J	Implementation Schedule of Mitigation Measures
K	Interim Notification of Environmental Quality Limits Exceedance
L	Site General Layout Plan
M	Monitoring Schedule for the Coming Month

## Figures

Figure 1	Air Quality Environmental Monitoring Stations
Figure 2	Noise Environmental Monitoring Station
Figure 3	Water Quality Monitoring Stations

## Tables

2.1	Contact Details of Key Personnel
4.1	Air Quality Monitoring Equipment
4.2	Monitoring parameters, duration and frequency of air quality monitoring
4.3	Air Quality Monitoring Locations
4.4	Monitoring Schedule for air quality monitoring stations
4.5	Action and Limit levels for 24-hr TSP and 1-hr TSP
5.1	Noise Monitoring Equipment
5.2	Duration, Frequency and Parameters of noise monitoring
5.3	Noise Monitoring Locations
5.4	Monitoring Period for noise monitoring stations
5.5	Action and Limit levels for noise monitoring
6.1	Location of Marine Water Monitoring Stations
6.2	Marine Water Quality Monitoring Parameters
6.3	The monitoring frequency of the marine water
6.4	Summary of testing procedures
6.5	Details of Water Quality Monitoring Equipment (In-site measurement)
6.6	Water Quality Action and Limit Level
6.7	Time Schedule of Water Quality Monitoring
6.8	Summary of Marine Water Quality Exceedances in this reporting month
6.9	Daily summary of recorded of marine water quality
7.1	Dates of IEC Site Audits in this reporting month
8.1	Summary of environmental licensing and permit status
10.1	Summary of Environmental Complaints and Prosecutions



## **EXECUTIVE SUMMARY**

This is the second monthly Environmental Monitoring and Audit (EM&A) 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 documented the findings of EM&A Works conducted during the operation phase of Fill Bank at Tseung Kwan O Area 137 in August 2005.

### **Construction Progress**

As informed by the Contractor, the construction activities in this reporting month 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.

### **Environmental Monitoring Progress**

The summary of the monitoring activities in this monitoring month is listed below:

- Noise Monitoring (Day-time): 1 Occasion at 1 designated location
- 24-hour TSP Monitoring: 6 Occasions at 2 designated locations
- 1-hour TSP Monitoring: 18 Occasions at 2 designated locations
- Marine Water Quality Monitoring: 14 Occasions at 2 designated locations
- Weekly-site inspection: 5 Occasions

### **Noise Monitoring**

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

### **Air Monitoring**

No exceedances of Action and Limit levels were recorded for 24-hr and 1-hr TSP monitoring in the reporting month.

### **Marine Water Quality Monitoring**

According to the summary of marine water monitoring results, one exceedance of dissolved oxygen in Action Level was recorded during the monitoring on 29 August 2005 (mid-flood). According to the monitoring results, it was found that dissolved oxygen of the monitoring station C1 (4.64mg/L) was found closed to that of reference station M1 (4.91mg/L). Besides, no abnormal site activities were observed at the Fill Bank during the site investigation. Therefore, the exceedance might be due to natural fluctuation of Dissolved Oxygen in the water body around the area and considered not due to the Fill Bank operation. Hence, no further actions were required.

### **Site Inspection**

Environmental site inspections conducted in this reporting month are presented as follows:

<u>Concerned Parties</u>	<u>Dates of Audit / Inspection</u>
ET Weekly site inspection	01, 11, 17, 23, 29
IEC site inspection	12, 31

In general, performance on environmental mitigation measures implemented was found satisfactory in this reporting month. The major findings observed during site inspections are presented in the Section 7.0.



### **Landscape and Visual**

The germination rate on the panel at Portion A, B, G and H was satisfactory in this reporting month. However, the vegetation growth on the last hydroseeded panel in Portion I appeared to be poor. 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 month.

### **Permits and Licenses**

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.

### **Future Key Issues**

Based on the site inspections and forecast of engineering works in the coming month, key issues to be considered are as follows:

- Noise and air quality impact due to construction works;
- Maintain wheel washing facilities properly;
- Maintain all drainage and desilting facilities properly;
- Use and maintain silt curtain properly;
- Clean up the fill material on concrete pavement along the BHA frequently;
- Watering, hydroseeding or covering all opening slopes and stockpiles with tarpaulin to avoid wind and water erosion;
- Sufficient drip trays for all oil drums / chemical containers;
- Implement all necessary preventive measures to avoid oil leakage. In the event an oil leakage happens, the Contractor should properly remove the leaked oil and handle the contaminated soil and all materials using for this cleaning works as chemical waste;
- Maintain good site practice and waste management to minimize environmental impacts at the site; and
- Follow-up improvements on waste management issues.



## 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.

The EM&A programme requires environmental monitoring for air quality, noise and water quality and environmental site inspections for air quality, noise, 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.

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

This report documented the findings of EM&A Works conducted during the operation phase of Fill Bank at Tseung Kwan O Area 137 in August 2005.



## 2.0 PROJECT INFORMATION

### 2.1 Scope of the Project

The scale and scope of the Project as stated in the EP include:

- Site clearance;
- Construction of 6 million m<sup>3</sup> of public fill;
- Stockpile up two barging points;
- Setting up two barging points: one at the Tseung Kwan O Basin (TKO Basin) and one at the Construction and Demolition Material Sorting Facility (C&DMSF) for transporting the stockpiled public fill by barges;
- Setting up a temporary barging point at the existing Explosive Off-loading Barging Point located in the south-eastern part of Area 137 for the period of May 2004 to December 2004 for transporting the stockpiled public fill by barge;
- Construction and operation of a Construction and Demolition Material Sorting Facility (C&DMSF);
- Setting up a Construction and Demolition Material Crushing Facility at the TKO Basin; and
- Remove the temporary fill bank.

### 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 CONSTRUCTION PROGRESS IN THIS REPORTING MONTH

As informed by the Contractor, the activities in the reporting month 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.*



Table 4.4 Monitoring Schedule for the air quality monitoring stations

Air quality monitoring stations	Location	Monitoring Period							
		24-hr TSP				1-hr TSP			
		Start		Finish		Date	Start	Finish	
		Date	Time	Date	Time				
AA1	Outside CEDD Site Office	---				01/08/05	08:30	09:30	
							11:00	12:00	
							13:30	14:30	
						05/08/05	08:30	09:30	
							09:45	10:45	
							11:00	12:00	
						11/08/05	09:30	10:30	
							11:00	12:00	
							13:00	14:00	
						17/08/05	11:00	12:00	
							13:00	14:00	
							14:05	15:05	
						23/08/05	11:00	12:00	
							13:00	14:00	
14:06	15:06								
29/08/05	08:30	09:30							
	09:45	10:45							
	11:00	12:00							
AA2	Site Egress	---				01/08/05	08:30	09:30	
							11:00	12:00	
							13:30	14:30	
						05/08/05	08:30	09:30	
							09:40	10:40	
							11:00	12:00	
						11/08/05	09:40	10:40	
							11:00	12:00	
							13:00	14:00	
						17/08/05	11:00	12:00	
							13:00	14:00	
							14:10	15:10	
						23/08/05	11:00	12:00	
							13:00	14:00	
14:02	15:02								
29/08/05	08:30	09:30							
	09:45	10:45							
	11:00	12:00							
AA1	Outside CEDD Site Office	---				01/08/05	14:32	02/08/05	14:45
						05/08/05	13:05	06/08/05	13:34
						11/08/05	14:02	12/08/05	14:27
						17/08/05	16:30	18/08/05	16:28
						23/08/05	15:10	24/08/05	15:03
						29/08/05	13:00	30/08/05	12:43
AA2	Site Egress	---				01/08/05	14:36	02/08/05	14:47
						05/08/05	13:10	06/08/05	13:11
						11/08/05	14:06	12/08/05	14:02
						17/08/05	16:30	18/08/05	16:31
						23/08/05	15:05	24/08/05	15:15
						29/08/05	13:00	30/08/05	13:00

#### 4.5 Monitoring Methodology

##### Both 1-hr and 24-hr air quality monitoring (High Volume Sampler)

###### Instrumentation

High volume sampler, as HVS, (Greasby GMWS2310) complete with appropriate sampling inlets were employed for both 1-hour and 24-hour TSP monitoring. The sampler is composed of a motor, a filter holder, a flow controller and a sampling inlet and its performance specification complies with that required by USEPA standard Title 40, Code of Federation Regulations Chapter 1 (Part 50).



#### 4.0 AIR QUALITY MONITORING

##### 4.1 Monitoring Requirement

TSP levels were monitored in the reporting month in accordance with the EM&A Manual. Table 4.5 shows the Action and Limit Levels for the environmental monitoring works.

##### 4.2 Monitoring Equipment

Both 1-hour and 24-hour TSP air quality monitoring was performed using a GMWS2310 High Volume Air Sampler (HVS) located at each of the designated monitoring station. Table 4.1 summarizes the equipment used in the air quality monitoring programme. A copy of the calibration certificates for the HVS and portable dust meter are attached in Appendix B1.

Table 4.1 Air Quality Monitoring Equipment

<i>Equipment</i>	<i>Model and Make</i>
<i>HVS</i>	<i>Greasby GMWS2310</i>
<i>Calibrator</i>	<i>Tisch TE-5025A</i>
<i>Wind Data Logger</i>	<i>Davis Weather Monitor II</i>

##### 4.3 Monitoring Parameters, Frequency and Duration

Table 4.2 summarizes the monitoring parameters, monitoring duration and frequencies of air quality monitoring.

Table 4.2 Monitoring parameters, duration, frequency of air quality monitoring

<i>Parameter</i>	<i>Duration</i>	<i>Frequency</i>
<i>24-hr TSP</i>	<i>24 hr</i>	<i>Once every six days</i>
<i>1-hr TSP</i>	<i>1 hr</i>	<i>Three times per day every six days</i>

##### 4.4 Monitoring Locations and Schedule

Table 4.3 tabulates the air quality monitoring locations of this project.

Table 4.3 Air quality monitoring locations

<i>Monitoring station</i>	<i>Location</i>
<i>AA1</i>	<i>Outside CEDD Site Office</i>
<i>AA2</i>	<i>Site Egress</i>

The air quality monitoring schedule for 24-hr and 1-hr TSP monitoring at designated monitoring locations is summarized in table 4.4.



Installation

The installation of HVS refers to the requirement stated in EM&A Manual.

Operation/Analytical Procedures

Operating/analytical procedures for the operation of HVS are as below:

Prior to the commencement of the dust sampling, the flow rate of the high volume sampler was properly set (between 0.6m<sup>3</sup>/min and 1.7m<sup>3</sup>/min.) in accordance with the manufacturer's instruction to within the range recommended in USEPA Standard Title 40, CFR Part 50.

- For TSP sampling, fiberglass filters (GA-55) were used.
- The power supply was checked to ensure the sampler worked properly.
- On sampling, the sampler was operated 5 minutes to establish thermal equilibrium before placing any filter media at designated air monitoring station.
- The filter holding frame was then removed by loosening the four nuts and carefully a weighted and conditioned filter was centered with the stamped number upwards, on a supporting screen.
- The filter was aligned on the screen so that the gasket formed an air-tight seal on the outer edges of the filter. Then the filter holder frame was tightened to the filter holder with swing bolts. The applied pressure should be sufficient to avoid air leakage at the edges.
- The programmable timer will be set for a sampling period of 24 hours. Information was recorded on the record sheet, which included the starting time, the weather condition and the filter number (the initial weight of the filter paper can be found out by using the filter number.).
- After sampling, the filter was transferred from the filter holder of the HVS to a sealed plastic bag and sent to the laboratory for weighting. The elapsed time was also recoded.
- Before weighting, all filters were equilibrated in a desiccator for 24 hour with the temperature of 25°C ± 3°C and the relative humidity (RH) <50% +5%.
- All measurement procedures in Section 2.3 of the EM&A Manual were followed during the reporting month.

Maintenance & Calibration

- The HVS and their accessories should be maintained in good working condition, such as replacing motor brushes routinely and checking electrical wiring to ensure a continuous power supply.
- HVS should be calibrated at bi-monthly intervals.

**Wind Data Monitoring**

Measuring Procedure

Upon installation of the wind data logger on site, temperature, wind speed and direction was automatically stored in the logger. Regular downloading of the information was carried out weekly.

Maintenance

Cleaning was provided for all the rotational parts of the wind data logger regularly. Replacement of battery was carried out weekly. The wind data logger was checked once per week and no calibration was required for the equipment as instructed by the manufacturer.

**4.6 Action and Limit Levels**

Table 4.5 shows the Action and Limit levels for 24-hr TSP and 1-hr TSP monitoring.

Table 4.5 Action and Limit Levels for 24-hr TSP and 1-hr TSP

Monitoring Location	24-hr TSP (µg/m <sup>3</sup> )		1-hr TSP (µg/m <sup>3</sup> )	
	Action Level *	Limit Level *	Action Level *	Limit Level *
AA1	210	260	376	500
AA2	210	260	376	500

\* Traceable to Method Statement (Marine Water Quality Monitoring and Audit Manual) of Contract No.CV/2002/08, Rev. 2, Section 3.1 – 3.21



#### 4.7 Event-Action Plans

Please refer to Appendix F for details.

#### 4.8 Results and Observation

##### 4.8.1 1-hour and 24-hour TSP Monitoring results

All monitoring data of both 1-hour and 24-hour TSP monitoring is provided in Appendix B2. Graphical presentation of 1-hour and 24-hour TSP monitoring results for the reporting month is shown in Appendix B3. Wind data, including wind speed and wind direction, are annexed in Appendix E. Table 4.6 summarizes 1-hr TSP and 24-hr TSP monitoring results.

Table 4.6 Summary of 1-hr TSP and 24-hr TSP Monitoring Results

Air quality monitoring stations	Location	Monitoring Period						
		24-hr TSP			1-hr TSP			
		Date	Result ( $\mu\text{g}/\text{m}^3$ )	Exceedance #	Date	Start Time	Result ( $\mu\text{g}/\text{m}^3$ )	Exceedance #
AA1	Outside CEDD Site Office	01/08/05	197	X	01/08/05	08:30	343	X
						11:00	375	
						13:30	372	
		05/08/05	187	X	05/08/05	08:30	323	X
						09:45	352	
						11:00	364	
		11/08/05	181	X	11/08/05	09:30	317	X
						11:00	353	
						13:00	341	
		17/08/05	150	X	17/08/05	11:00	283	X
						13:00	242	
						14:05	256	
		23/08/05	197	X	23/08/05	11:00	355	X
						13:00	314	
						14:06	337	
		29/08/05	204	X	29/08/05	08:30	315	X
						09:45	336	
						11:00	373	
AA2	Site Egress	01/08/05	184	X	01/08/05	08:30	332	X
						11:00	360	
						13:30	345	
		05/08/05	175	X	05/08/05	08:30	317	X
						09:40	365	
						11:00	369	
		11/08/05	169	X	11/08/05	09:40	307	X
						11:00	349	
						13:00	346	
		17/08/05	142	X	17/08/05	11:00	278	X
						13:00	251	
						14:10	226	
		23/08/05	202	X	23/08/05	11:00	333	X
						13:00	287	
						14:02	315	
		29/08/05	208	X	29/08/05	08:30	327	X
						09:45	362	
						11:00	369	

Remark (\*): L=Limit Level exceedance, A=Action Level exceedance and X= not an exceedance

No exceedances of Action and Limit Level of both 1-hour and 24-hour TSP monitoring results were recorded during the reporting month.



#### **4.8.2 Observation**

Generally, the Contractor implemented sufficient dust mitigation measures, including operation of the mist spraying systems at the CEDD Combined Reception Office and the site egress area, wheel washing facilities, road dampening by water bowsers and automatic water sprinklers on the main haul roads. Further, hydroseeding had been conducted on several slopes on the stockpiling areas as a means to prevent dust generation from wind erosion of the exposed surfaces.

Besides the Fill Bank operation, the other dust sources near TKO Area 137 also included operation of C&DMSF at PBR2 Project and dumping activities at the SENT Landfill.



## 5.0 Noise Monitoring

### 5.1 Monitoring Requirements

Noise monitoring was conducted at 1 monitoring station as specified in the approved EM&A Monitoring Proposal for good site practice. The equipment, parameter, frequency, duration, methodology, calibration details, results and observations of the noise monitoring for the reporting month are presented in this section.

### 5.2 Monitoring Equipment

An Integrating Sound Level Meter was used for noise monitoring. It was a Type 1 sound level meter capable of giving a continuous readout of the noise level reading including equivalent continuous sound pressure level ( $L_{eq}$ ) and percentile sound pressure level ( $L_x$ ). It complies with International Electro Technical Commission Publications 651:1979 (Type1) and 804:1985 (Type1), and speed in m/s was used to monitor the wind speed.

Table 5.1 summarizes noise monitoring equipment model being used. A copy of the calibration certificate for noise meter and calibrator are attached in Appendix C1.

Table 5.1 Noise Monitoring Equipment

Equipment	Model
Integrating Sound Level Meter	Rion NL-31 Sound Level Meter
Calibrator	Rion NC-73 Sound Level Calibrator
Portable Wind Speed Indicator	TSI Model 8340-M Air Velocity Meter

### 5.3 Monitoring Parameters, Duration and Frequency

Duration, frequencies and parameters of noise measurement are presented in Table 5.2.

Table 5.2 Duration, Frequencies and Parameters of Noise Monitoring

Time period	Duration/min	Parameters	Frequency
Day-time: 0700-1900 hrs on normal weekday	30	$L_{eq}$ $L_{10}$ $L_{90}$	Once per month

### 5.4 Monitoring Locations and Period

Noise monitoring was conducted at the noise monitoring location, N1 as shown in Figure 3.1 during the reporting month. Table 5.3 describes the location of the monitoring station.

Table 5.3 Noise Monitoring Locations

Monitoring station	Location	Type of Measurement
N1	Outside site Egress along Wan Po Road	Façade

The noise-monitoring period of monitoring station is summarized in Table 5.4.

Table 5.4 Monitoring Period for noise monitoring stations

Noise monitoring stations	Monitoring Period	
	Day-time	
N1	20/07/05	13:38

### 5.5 Monitoring Procedures and Calibration Details

#### Operation/Analysis Procedures

- The Sound Level Meter was set on a tripod at a height of 1.2m above the ground.
- For free field measurement, the meter was positioned away from any nearby reflective surfaces.



- The battery condition was checked to ensure the correct functioning of the meter.
- Parameters such as frequency weighting, the time weighting and the measurement time were set as follows:
  - Frequency weighting: A
  - Time weighting : Fast
  - Time measurement : 5 mins
- Prior to and after each noise measurement, the meter was calibrated using a Calibrator for 94 dB at 1000HZ. If the difference in the calibration level before and after measurement was more than 1dB(A), the measurement would be considered invalid and repeat measurement would be required after re-calibration or repair of the equipment.
- The wind speed was frequently checked with a portable wind meter.
- During the monitoring period, the Leq, L10 and L90 were recorded. In addition, site conditions and noise sources were recorded on a standard record sheet.
- Free Field correction to the measurements should be made. Correction factor of +3dB(A) should be made to the free Field measurements.
- Noise monitoring would be cancelled in the presence of fog, rain, wind with a steady speed exceeding 5m/s, or wind gusts exceeding 10m/s.

#### Maintenance and Calibration

- The microphone head of the sound level meter and calibrator are cleaned with soft cloth in quarterly intervals.
- The meter is sent to the supplier or HOKLAS laboratory to check and calibrated in yearly intervals.

### 5.6 Action and Limit Levels

The Action and Limit levels for noise levels derived as illustrated in Table 5.5.

Table 5.5 Action and Limit Levels for noise monitoring

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

\* Traceable to Method Statement (Marine Water Quality Monitoring and Audit Manual) of Contract No.CV/2002/08, Rev. 2, Section 3.1 – 3.21

### 5.7 Event-Action Plans

Please refer to the Appendix F for details.

### 5.8 Results and Observation

#### 5.8.1 Results

Only Day-time noise monitoring was carried out at monitoring station, N1 in this reporting month. Noise level is provided in Appendix C2. Graphical presentation of the monitoring result for the reporting month is shown in Appendix C3. A summary of the monitoring result is presented in Table 5.6.

Table 5.6 Summary of Impact Noise Level

Date	Start Sampling Time (hh:mm)	Noise Level dB (A)		
		L <sub>eq(30min)</sub>	L <sub>10</sub>	L <sub>90</sub>
05/08/05	10:00	62.9	68.5	59.3

No Day-time noise monitoring result at monitoring station N1 exceeded the Action Level since no documented complaints on noise issue were received in this reporting month. Besides, no exceedances in Limit Level were recorded according to the result from Day-time noise monitoring.





### **5.8.2 Observation**

The major noise source during the monitoring event was the dump truck traffic. Operation of the Fill Bank was from 08:00 to 21:00 from Monday to Sunday in the reporting month. Whereas the operation hours for barge activities in the TKO Basin was from 08:00 to 23:00. The monitoring result complied with the noise limit of 75 dB(A).



## 6.0 MARINE WATER QUALITY MONITORING

### 6.1 Monitoring Requirements

In accordance with the EM&A Manual, impact marine water quality monitoring was conducted three days per week. Measurements were taken at both mid-flood and mid-ebb tides at three depths (i.e. 1m below surface, mid depth and 1m from seabed) at the Control Station, C1 and Monitoring Station, M4.

### 6.2 Monitoring Locations

For the Reclamation Project, there were 4 Designated Monitoring Stations and 2 Designated Control Stations specified in the EM&A Manual. Upon the completion of the monitoring programme under Stage 2 reclamation works, the ET started monitoring events at the impact station M4 and the control station C1 from 18 May 2004 onwards. Figure 4.1 shows the location of the marine water quality monitoring stations. Table 6.1 describes the locations of the monitoring stations in the reporting month.

Table 6.1 Location of Marine Water Monitoring Stations

Station Description	Code	HK Metric Grid E	HK Metric Grid N
Control Station (As Reference Station at Ebb tide)	C1	844 740.208	815 371.502
Monitoring Station, Tung Lung Chau Fish Culture Zone (As Reference Station at Flood-tide)	M4	847 741.029	812 977.878

### 6.3 Monitoring Parameters

Monitoring of the marine water quality parameters are listed in Table 6.2.

Table 6.2 Marine Water Quality Monitoring Parameters

In-situ measurement	Laboratory analysis
Depth (m)	Suspended solids (mg/L)
Temperature (°C)	
Dissolved Oxygen (mg/L and % saturation)	
Turbidity (NTU)	
Salinity (ppt)	

### 6.4 Monitoring Frequency

The monitoring frequency of the marine water monitoring is summarized in Table 6.3.

Table 6.3 The monitoring frequency of the marine water

Parameter	Frequency	No. of Location	No. of Depths
Temperature	3 days/week, 2 tides/day	2 (C1 and M4)	3 (Surface, mid- depth & bottom)
Salinity			
DO			
Turbidity			
pH value			
Suspended solids			



## 6.5 Monitoring Methodology and Equipment Used

### For Location of the monitoring stations

#### **Global Positioning System (GPS)**

A hand-held digital GPS was used to identify the designated monitoring stations prior to water sampling.

### For Water Depth measurement

#### **Echo Sounder**

A portable, battery-operated echo sounder was used for the determination of water depth at each designated monitoring station.

### For In-situ Water Quality Measurement

All in-situ monitoring instruments were checked, calibrated and certified by a laboratory accredited under HOKLAS or any other international accreditation scheme before use, and subsequently re-calibrated at 3 monthly intervals or sometimes longer throughout all stages of the water quality monitoring.

#### **Dissolved Oxygen (DO) and temperature measuring equipment**

A portable, weatherproof DO-measuring meter with built-in salinity compensation (YSI model 95) was used in the impact monitoring. It can be capable for measuring:

- a dissolved oxygen level in the range of 0-20 mg/L and 0-200 % saturation; and
- a temperature of 0-45 degree Celsius

This type of DO-measuring meter has a membrane electrode with automatic temperature compensation complete with a 50-foot cable. Wet bulb calibration for a DO meter was carried out before measurement at each monitoring location

#### **Turbidity Measurement Instrument**

A portable and weatherproof turbidity meter (HACH model 2100P) was used during impact monitoring. It has a photoelectric sensor capable of measuring turbidity between 0-1000 NTU. Response of the sensor was checked with certified standard Turbidity solutions before the start of measurement.

#### **Salinity Meter**

A portable salinity meter capable of measuring salinity in the range 0-40 ppt (YSI Model 30M) was provided for measuring salinity of the water at each monitoring location. It was checked with standard 30 ppt Salinity solutions before the start of measurement.

### For Water Sampling and Sample Analysis

In-situ monitoring was carried out at three depths: 1 meter below water surface, at mid-depth and 1 meter above the seabed. If the water depth is less than 6 m, the mid-depth station shall be omitted and if the water depth is below 3 m, only the mid depth station shall be monitored.

#### **Water Sampler**

A water sampler comprising a transparent PVC cylinder, with a capacity of not less than 2 liters, was lowered into the water body at the predetermined depth. The both opening ends of the sampler were then closed accordingly by dead weight and water samples were collected.

#### **Water Container**

The sample container, made by high-density polythene, was rinsed with a portion of the water sample. The water sample was then transferred to the container, labelled with a unique sample ID and sealed with a screw cap. The water samples were stored in a cool box maintained at 4°C. The water samples were then delivered to a local HOKLAS-accredited laboratory (Environmental Laboratory, ETS-Testconsult Ltd, HOKLAS Registration No. 022) on the same day for analysis.



The summary of testing method of testing parameter as recommended by EIA or required by EPD, with the QA/QC results in accordance with the requirement of HOKLAS or international accredited scheme is shown in Table 6.4.

Table 6.4 Summary of testing procedures

Laboratory Analysis	Testing Procedure	Detection Limit
Total suspended solids	In house method based on APHA 19 <sup>th</sup> ed 2540D	1.0 mg/L

**In-situ measurement**

All in-situ monitoring instruments were checked, calibrated and certified by a laboratory accredited under HOKLAS or any other international accreditation scheme before use. Responses of sensors and electrodes were checked with certified standard solutions before each use. Wet bulb calibration for a DO meter was carried out before measurement at each monitoring location.

At each measurement/sampling depth, two consecutive measurements of dissolved oxygen (DO), dissolved oxygen saturation (DOS), turbidity and salinity were taken. For turbidity measurement, the sample was collected by using sampler and then transferred to the cell. The reading of turbidity of the sample was directly recorded from the Turbidimeter (HACH 2100P) after inserting the cell to the Turbidimeter. For DO, DOS and Salinity, duplicate measurements were performed by dropping the calibrated probes of the corresponding monitoring equipments to the designated depths of the water column and taking readings after stabilized. The duplicate measurements were averaged if the difference was not greater than 25%.

Table 6.5 shows the equipment used for in-situ monitoring of water quality. The calibration certificates are attached in Appendix D1.

Table 6.5 Details of Marine Water Quality Monitoring Equipment (In-site measurement)

Parameter	Model	Date of Calibration	Due Date	Equipment No.
Coordinate of Monitoring stations	MLR GPS Navigator, SP24	----	----	EW/005/01*
Dissolved Oxygen (Saturation), Temperature	YSI Dissolved Oxygen Meter, YSI 95	01-06-2005	31-08-2005	EW/003/001*
Turbidity	HACH Model 2100P Turbid Meter	27-07-2005	26-10-2005	ET/0505/002
Salinity	YSI Model 30M	27-07-2005	26-10-2005	ET/0527/001
Water Depth	EAGLE Strata 128 Sonar	----	----	EW/002/02

Remark: (\*) indicates the instrument should be calibrated on use.

**6.6 Action and Limit Level**

The water quality criteria, namely Action and Limit (A/L) levels are presented in the table below.

Table 6.6 Water Quality Action and Limit Levels

Parameter	Action Level *	Limit Level *
DO (mg/L)	<u>Surface &amp; Middle</u> <5.45 mg/L (5%-ile of baseline data)  <u>Bottom</u> <4.72 mg/L (5%-ile of baseline data)	<u>Surface &amp; Middle</u> <5.10 mg/L (1%-ile of baseline data)  <u>Bottom</u> <2.00 mg/L
SS (mg/L) (Depth-averaged)	>6.74 mg/L (95%-ile of baseline data) or >120% of the upstream control station's SS at the same tide on the same day	>7.67 mg/L (99%-ile of baseline data) or >130% of the upstream control station's SS at the same tide on the same day
Turbidity (NTU) (Depth-averaged)	>4.28 NTU (95%-ile of Impact data) or >120% of the upstream control station's turbidity at the same tide on the same day	>4.58 NTU (99%-ile of Impact data) or >130% of the upstream control station's turbidity at the same tide on the same day

\* Traceable to Method Statement (Marine Water Quality Monitoring and Audit Manual) of Contract No.CV/2002/08, Rev. 2, Section 3.1 - 3.21



## 6.7 Event and Action Plan

Please refer to the Appendix F for details.

## 6.8 Monitoring Duration and Period in this reporting month

Below is the time schedule that water quality monitoring was performed in this reporting month:

Table 6.7 Time Schedule of Water Quality Monitoring

August 2005						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1	2	3	4	5	6
	▼		▼		▼	
7	8	9	10	11	12	13
	▼		▼		▼	
14	15	16	17	18	19	20
	▼		▼		▼	
21	22	23	24	25	26	27
	▼		▼		▼	
28	29	30	31			
	▼		▼			

▼ = Marine water quality monitoring carried out by ET

The daily marine water quality monitoring duration are detailed in Appendix D2.

## 6.9 Marine Water Quality Monitoring Results

The impact water quality measurement results are detailed in Appendix D2. Appendix D3 presents the water quality monitoring data and graphical presentations of monitoring results respectively.

The summary of marine water quality exceedances is shown in Table 6.8 and Table 6.9.

Table 6.8 Summary of Marine Water Quality Exceedances in this reporting month

Station	Exceedance Level	DO		Turbidity		SS		Total	
		Flood	Ebb	Flood	Ebb	Flood	Ebb	Flood	Ebb
C1	Action	1	0	0	0	0	0	1	0
	Limit	0	0	0	0	0	0	0	0
M4	Action	0	0	0	0	0	0	0	0
	Limit	0	0	0	0	0	0	0	0

One exceedance of dissolved oxygen in Action Level was recorded on 29 August 2005 in this reporting month.

## 6.10 Assessment of the Exceedances

Monitoring Date	Tide	Exceedance parameters	Locations	ET Verification	Implementation of Event and Action Plan
29/08/05	Mid-Flood	Dissolved Oxygen (Action Level)	C1	According to the monitoring results, it was found that dissolved oxygen of the monitoring station C1 (4.64mg/L) was found closed to that of reference station M1 (4.91mg/L). Besides, no abnormal site activities were observed at the Fill Bank during the site investigation. Therefore, the exceedance might be due to natural fluctuation of Dissolved Oxygen in the water body around the area and considered not due to the Fill Bank operation.	No further mitigation measures should be taken since the exceedance was not related to the operation of Fill Bank.

Interim notification of exceedance (NOE) for the exceedance was issued to EPD, ER, IEC and the Contractor by ET (for this contract). The summary of NOE is attached in Appendix K.



## 7 SITE INSPECTION

### 7.1 IEC Site Audits

During this reporting month, the IEC team conducted three independent site audits. The details of the IEC site audits are present in Table 7.1.

Table 7.1 Dates of IEC Site Audits in this reporting month

<i>Date of Audit</i>	<i>Work Period</i>	<i>Site Audit Checklist Submitted under IEC's Ref No.</i>
<i>12 August 2005</i>	<i>Operation</i>	<i>8116/2024</i>
<i>31 August 2005</i>	<i>Operation</i>	<i>8116/2053</i>

Full details are provided in the IEC site audit checklists presented in Appendix H. IEC site audit summary is also attached in Appendix H.

### 7.2 Weekly ET Site Inspections

Weekly ET site inspections were carried by ET to monitor the timely implementation of proper environmental pollution control and mitigation measures for the Project. In this reporting month, five weekly site inspections were conducted (01, 11, 17, 23 and 29 August 2005). After each site inspection, the Contractor was notified of the ET's observations and recommendations. A follow-up action plan detailing the environmental observations had also been prepared by the ET. The Contractor then completed this plan to propose / report their remedial works. The Contractor should also submit the completed the follow-up action report to IEC and ET by e-mail. This follow-up action plan submission procedure was adopted for each subsequent ET's inspection to notify all the relevant parties of the Contractor's follow up actions. The weekly site inspection reports are attached in Appendix I. Summaries of the weekly site inspection findings in this reporting month are described as follows:

#### Air quality

- The major dust sources were dump truck movement on the unpaved haul roads and loading & unloading activities on various working platforms in the Fill Bank. The Contractor deployed water bowsers to dampen the haul roads and the working platforms;
- A road sweeper was used to remove settled dust particulates outside the site egress on Wan Po Road;
- Several automatic sprinklers served to dampen the haul roads outside the site office and on the ramp to the stockpiling area;
- Wheel washing facilities were operating during weekly site inspections. Besides, the Contractor operated several mist spraying systems at the site egress and weighbridge respectively. The truckloads were dampened during inspection of fill material at the CEDD Combined Reception Office;
- The dump trucks were operating below the speed limit in the Fill Bank. There were sufficient speed limit signs on site to advise the drivers;
- According to the comment from IEC's site inspection, fugitive dust was observed at Portion D and haul road through Portion I. The Contractor was reminded to provide more mitigation measures (e.g. spraying water) to avoid dust generation. The situation was found improved during the subsequent weekly site inspection (11/08/05);
- The fill material was usually dampened on the barge. Dust impact was minimal from the barge delivery and unloading activity at the BHA;
- No dark emission was noted from the site machines in the reporting month. Generally, all the powered mechanical equipment (PME) were maintained regularly; and
- Other than the Fill Bank operation, dust sources also included road paving works of Wan Po Road outside the site egress, operation of PBR2 at Portion J of the Fill Bank, delivery of rock fill material from the SENT Landfill to the EPD's barging point and associated dumping activity, operation of the SENT Landfill, vehicular movement and wind erosion on Wan Po Road.



### **Noise**

- The major noise source was dump truck traffic in the Fill Bank. Since the nearby NSR were remote from the Fill Bank, the noise impact was minimal. There was no specific observation noted regarding noise issue.

### **Water Quality**

- During the ET's weekly site inspections, it was noted that a lot of silt and sand were deposited in the open surface channel connecting DP3 and DP4. The Contractor was reminded to clean them up so as to maintain the drainage capacity of the surface channel;
- A substantial amount of dead vegetation was observed in front of the gates at the Permanent Desilting Chamber C during the weekly site inspections. The vegetation had been removed at the end of this reporting month;
- Rainwater was accumulated in the drip tray at the Workshop. The Contractor was reminded to drain the rain water out and cover the drip tray with tarpaulin sheet;
- Standing water was accumulated in the drainage channel near Gammon Site Office at Portion K. The Contractor was reminded to apply pesticide regularly to avoid mosquito breeding.

### **Chemical and Waste Management**

- The Contractor provided waste skips to collect general refuse and disposal of them regularly to the SENT Landfill. In this reporting month, 7.24 tons C&D waste were disposed to SENT Landfill and 600 litres waste oil were collected by Licensed Waste Collector;
- Equipment maintenance was undertaken at the workshop area. Tarpaulin sheeting and containers were usually laid underneath the maintained equipment to collect leaked oil and avoid further contamination;
- Oily water was found to have leaked from the drip tray and sign of oil spillage from the valve was observed at Water Truck Filling Station. The Contractor drained the water at the end of the reporting month and will repair the valve later on the coming month;
- The drip tray for a generator was found full of mud at Barging Handling Area (BHA) Office. The contractor was reminded to clean up the drip tray as soon as possible;
- The chemical waste was stored in the Chemical Waste Storage Area (CWSA). The Contractor should dispose the chemical wastes regularly to avoid the over accumulation of chemical waste on site.

### **Landscape and Visual**

- The germination rate on the panel at Portion A, B, G and H was satisfactory in this reporting month. However, the vegetation growth on the last hydroseeded panel in Portion I appeared to be poor. The Contractor should properly maintain the panel;
- Sufficient lighting was provided for the Fill Bank operation in the evening.

### **Landfill Gas**

- The registered safety officer carried out oxygen and methane gas monitoring twice per day for each temporary office. All the monitoring results were satisfactory. However, carbon dioxide should also be monitored according to the EP. Hence, the Contractor was reminded to monitor three landfill gas parameters during the coming landfill gas monitoring.

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

The monitoring works conducted by the Environmental Team were inspected regularly. The observations for the monitoring works were recorded and summarized as follows:

### **Air Quality Monitoring**

- The monitoring team recorded the observations around the monitoring stations within and outside of the construction site.
- The monitoring team recorded the temperature, air pressure and general weather condition on the monitoring day.



#### **Noise Monitoring**

- The monitoring team recorded the observations around the monitoring station, which might affect the results.
- Major noise sources were identified and recorded.

#### **Water Quality Monitoring**

The monitoring team recorded the observations around the monitoring stations, which might affect the results.

### **7.4 Assessment of Environmental Monitoring Results**

All monitoring results were audited against the Action and Limit levels and any exceedances would be validated. In this reporting month, there was one exceedance of dissolved oxygen recorded in marine water quality monitoring and the NOE was issued to EPD, ER, IEC and the Contractor.

The monitoring results in this reporting period were comparable with those of baseline period. Detailed discussions were given in Section 2, 3 and 4 of this Report.

### **7.5 Advice on the Solid and Liquid Waste Management Status**

During the site inspection, drip trays were found covered by tarpaulin sheets. However, some tarpaulin sheets were dirty and broken. The Contractor should replace the old and broken tarpaulin sheets to minimize rainfall accumulation.

The Contractor should provide sufficient preventive measures during equipment maintenance works so as to avoid oil leakage on the ground. In the event of any oil leakage, the Contractor should clean up the polluted soil and handle all the materials used for this cleaning works as chemical waste.

Concrete bundings were erected outside the CEDD combined reception office and near automatic wheel washing facilities for storing generator sets and oil drums. The drain outlet of all the bunded areas should be plugged properly. Besides, pre-cast drip trays were provided for oil drums at several areas, such as workshop and chemical storage area. The Contractor should collect and dispose of any stagnant water accumulated in the concrete bunding and drip trays and handle them as chemical waste.

The Contractor should use suitable containers with proper labels to store chemical wastes in accordance with Code of Practice on the Packaging, Labeling and Storage of Chemical Waste. The Contractor should also advise their workers of the proper procedures in handling the chemical waste. All the trip tickets for chemical waste disposal were properly kept in the site office.

The Contractor was reminded to increase the frequency of inspection and cleaning at the drainage system, including permanent desilting chambers, desilting facilities, oil interceptor bypass tank, DP3 and DP4 and all the trapezoidal channels. Moreover, the Contractor should apply pesticides in the stagnant water ponds.

All the runoff from the parking area should be pumped to the treatment tank to remove suspended solids and oil & grease prior to discharge.





## 8.0 Status of Environmental Licensing and Permitting

All permits/licenses valid in this reporting month are summarized in Table 8.1.

Table 8.1 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"> <li>▪ Site clearance</li> <li>▪ Construction of a temporary storm water system</li> <li>▪ Stockpiling of 6 million m3 of public fill</li> <li>▪ Setting up two barging points for transporting the stockpiled public fill by barges</li> <li>▪ 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</li> <li>▪ Construction of operation of a construction and Demolition Material Sorting Facility (C&amp;DMSF)</li> <li>▪ Setting up a Construction and Demolition Material Crushing Facility at the TKO Basin</li> <li>▪ Remove the temporary fill bank</li> </ul>
Effluent Discharge License	TE/D1152/839/1	06/06/03	30/06/08	<ul style="list-style-type: none"> <li>▪ For effluent from site toilet and shower room</li> <li>▪ For aerobic wastewater treatment plant</li> </ul>
Construction Noise Permit	GW-RE0226-05	15/08/05	31/12/05	<u>Group A:</u> <ul style="list-style-type: none"> <li>• 1 Compactor, vibratory (CNP 050)</li> <li>• 2 Dump truck, 5.5 tonne-gross vehicle weight <math>\leq</math> 38 tonne (CNP 068)</li> <li>• 2 Excavator, tracked (CNP 081)</li> <li>• 1 Roller, vibratory (CNP 186)</li> <li>• 1 Saw, circular, wood (CNP 201)</li> </ul> <u>Group B:</u> <ul style="list-style-type: none"> <li>• 1 Breaker, excavator mounted (hydraulic) (CNP 028)</li> <li>• 2 Concrete lorry mixer (CNP 044)</li> <li>• 2 Poker, vibratory, hand-held (CNP 170)</li> </ul>
Chemical Waste Producer	5213-839-P2800-23	04/08/05	---	<ul style="list-style-type: none"> <li>▪ Spent Lubricating Oil</li> <li>▪ Solvent &amp; Battery</li> <li>▪ Surplus Paint Bank &amp; Fuel</li> <li>▪ Contaminated Soil</li> <li>▪ Empty Chemical Containers</li> </ul>



## **9.0 ENVIRONMENTAL NON-CONFORMANCE**

### **9.1 Summary of air quality, noise and marine water quality**

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

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

According to the summary of marine water monitoring results in this reporting month, one exceedance of dissolved oxygen was recorded. According to the monitoring results, it was found that dissolved oxygen of the monitoring station C1 was found closed to that of reference station M4. Besides, no abnormal site activities were observed at the Fill Bank during the site investigation. Therefore, the exceedance might be due to natural fluctuation of Dissolved Oxygen in the water body around the area and considered not to be related to the Fill Bank operation. Hence, no further actions were required.

### **9.2 Summary of Environmental Complaints**

No environmental complaints were received in this monitoring month.

### **9.3 Summary of Notification of Summons and Prosecution**

There was no notification of summons respect to environmental issues registered in this month.



## 10.0 IMPLEMENTATION STATUS

### 10.1 Implementation Status of Environmental Mitigation Measures

An updated summary of the Environmental Mitigation Implementation Schedule (EMIS) is presented in Appendix J. Most of the necessary mitigation measures were implemented properly. Any deficiencies were noted in the remarks of the schedule.

### 10.2 Implementation Status of Event and Action Plan

There were no exceedances in air quality and noise monitoring parameters recorded in this monitoring month. However, there was one marine water quality exceedance recorded. The exceedance was considered not related to the Project and hence no further actions were required. Details of the exceedance events refer to the Sections 4 of the Report.

The event action plan and interim notification of exceedance (NOE) are attached in Appendix F and K respectively.

### 10.3 Implementation Status of Environmental Complaint, Notifications of Summons and Successful Prosecutions Handling

No complaints, notifications of summons and successful prosecutions were received in this reporting month. A summary of environmental complaints and prosecutions was given in Table 10.1.

Table 10.1 Summary of Environmental Complaints and Prosecutions

<i>Complaints logged</i>		<i>Summons served</i>		<i>Successful Prosecution</i>	
<i>August 2005</i>	<i>Cumulative</i>	<i>August 2005</i>	<i>Cumulative</i>	<i>August 2005</i>	<i>Cumulative</i>
0	0	0	0	0	0



## 11.0 CONCLUSIONS AND RECOMMENDATIONS

### Conclusions

Impact monitoring of air quality and noise were carried out at designated locations in accordance with the EM&A Manual in this reporting month.

According to the summary of air monitoring results, no exceedances of Action and Limit Level of 24-hour and 1-hour TSP monitoring results were recorded during the reporting month.

Impact noise level monitoring was performed on 05 August 2005. The noise level measured at the monitoring station complied with the Limit Level of 75dB(A). No complaint was received regarding noise issue.

According to the summary of marine water monitoring results in this reporting month, one exceedance of dissolved oxygen was recorded. According to the monitoring results, it was found that dissolved oxygen of the monitoring station C1 was found closed to that of reference station M4. Besides, no abnormal site activities were observed at the Fill Bank during the site investigation. Therefore, the exceedance might be due to natural fluctuation of Dissolved Oxygen in the water body around the area and considered not to be related to the Fill Bank operation. Hence, no further actions were required.

According to the ET weekly site inspection and IEC site audits carried out this month, 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.

No complaints, prosecutions or notifications of summons were received in August 2005.

New Construction Noise Permit and Licence for Chemical Waste Producer were under application in the reporting month.

### Recommendations

According to the environmental site inspections performed in the reporting month, 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;
- 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;
- 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 by water bowers;
- 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;
- Designate proper haul roads to ensure effective water spraying; and
- Ensure all vehicles to be washed before leaving the site egress b 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;



- 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.



## 12.0 FUTURE KEY ISSUES

### 12.1 Construction Programme for the Coming Month

As informed by the Contractor, the activities to be conducted by them in the next month included:

- *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.*

### 12.2 Key Issues for the Coming Month

**Key issues to be considered in the coming month include:**

- Chemical and waste management
- Treatment of runoff and wastewater prior to discharge
- Dust generated from loading and unloading activities; and
- Dust generated from dump trucks traffic.

**Mitigation measures to be required in the coming month:**

#### Air Quality Impact

- To provide adequate water spraying on haul roads and working platform;
- To operate and maintain automatic wheel washing facilities properly;
- To dampen the fill material prior to unloading or movement;
- To provide road sweeping on the haul road near site egress and the public roads outside site egress;
- To ensure implementation of the dust mitigation measures for the construction activities;
- To maintain proper operation of the mist spraying system;
- To provide proper maintenance for vehicles and machines on site; and
- To investigate any other dust sources around the air sensitive receivers.

#### Noise

- To switch off equipment if not in use;
- To operate silent equipment;
- To identify the noise sources inside and outside of the site;
- To follow up any exceedance caused by the Fill Bank operation;
- To re-schedule the work activities in the event of valid noise exceedance.

#### Water Quality Impact

- To maintain the drainage system in the Fill Bank;
- To ensure the cleanliness of oil interceptor bypass tanks and all the drainage channels;
- To maintain the existing silt trap to ensure good efficiency of wheel wash facilities;
- To repair, inspect and maintain the silt curtains regularly;
- To provide covers for the drip trays to avoid stagnant water pond due to rainfall;
- To provide proper treatment for oily water discharged from the area around air monitoring station AA1;
- To deploy a cleaning vessel to remove floating rubbish in the TKO Basin;
- To clean up the concrete paved area at Portion I every night to avoid fill materials from being washed into the sea; and



- To avoid any stagnant water or provide insecticide to avoid mosquito breeding in the Fill Bank.

Chemical and Waste Management

- To remove waste from the site regularly;
- To properly store and handle chemical wastes on site;
- To implement trip ticket system for all the imported public fill and general refuse disposal;
- To provide and manage sufficiently sized drip trays for diesel drums or chemical containers;
- To remove existing unwanted material in the stockpiles and avoid improper disposal at the Fill Bank through inspection of imported truckloads;
- To maintain proper housekeeping at the workshop area;
- To remove the oil stains in the event of leakage and handle all materials using for this cleaning works as chemical waste;
- To maintain mesh screen on top of the additional drainage, DP3 opening to avoid improper dumping of rubbish into this channel; and
- To identify C&D material by packaging, labeling, storage, transportation and disposal in accordance with statutory regulations.

**12.3 Monitoring Schedule for the Coming Month**

The Proposed EM&A program in coming month are presented in Appendix M.



## **Appendix A**

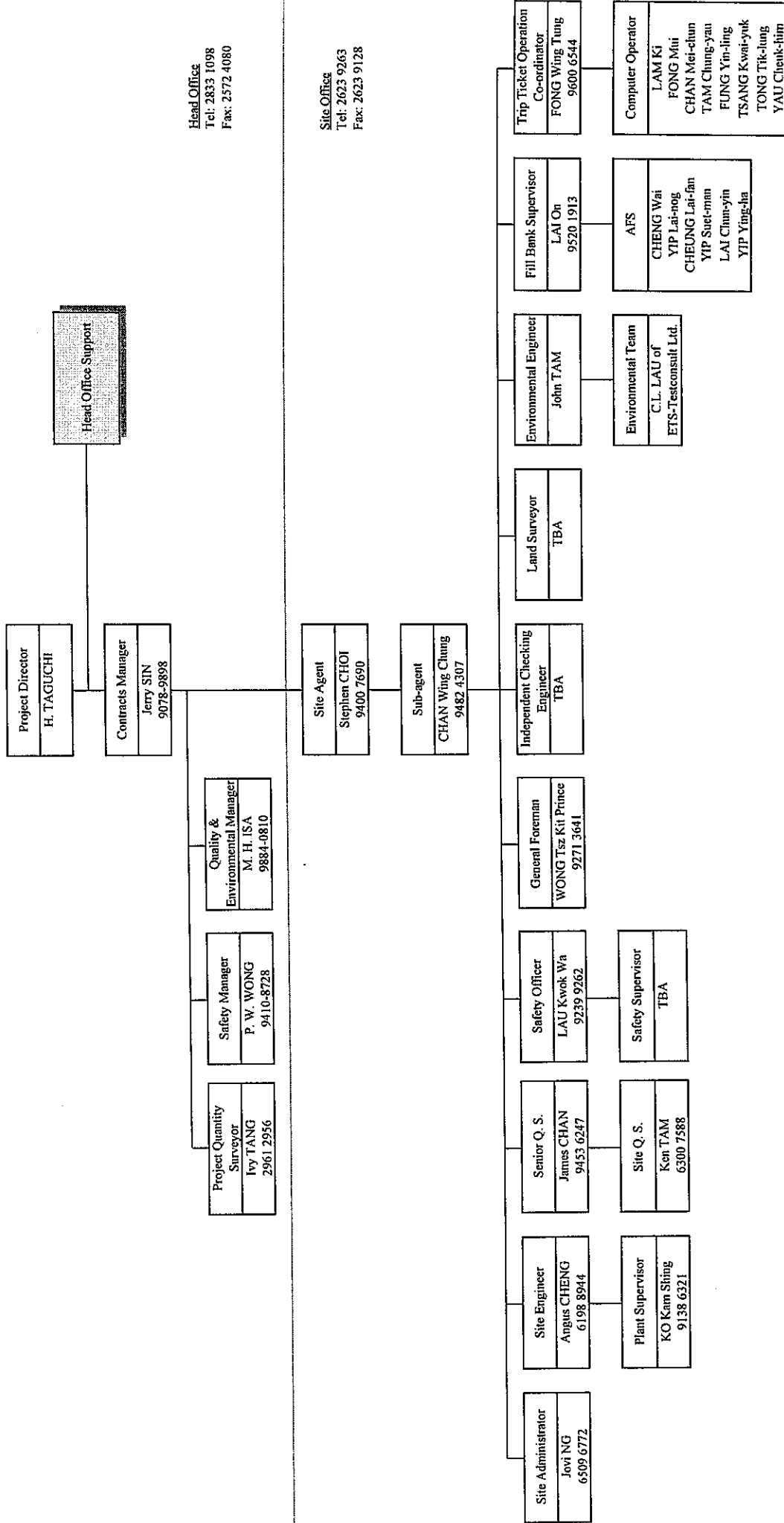
### **Organization Chart and Lines of Communication**



Contract No. CV/2005/05

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

Site Organization Chart - Rev. 1 (effective on 13 July 2005)

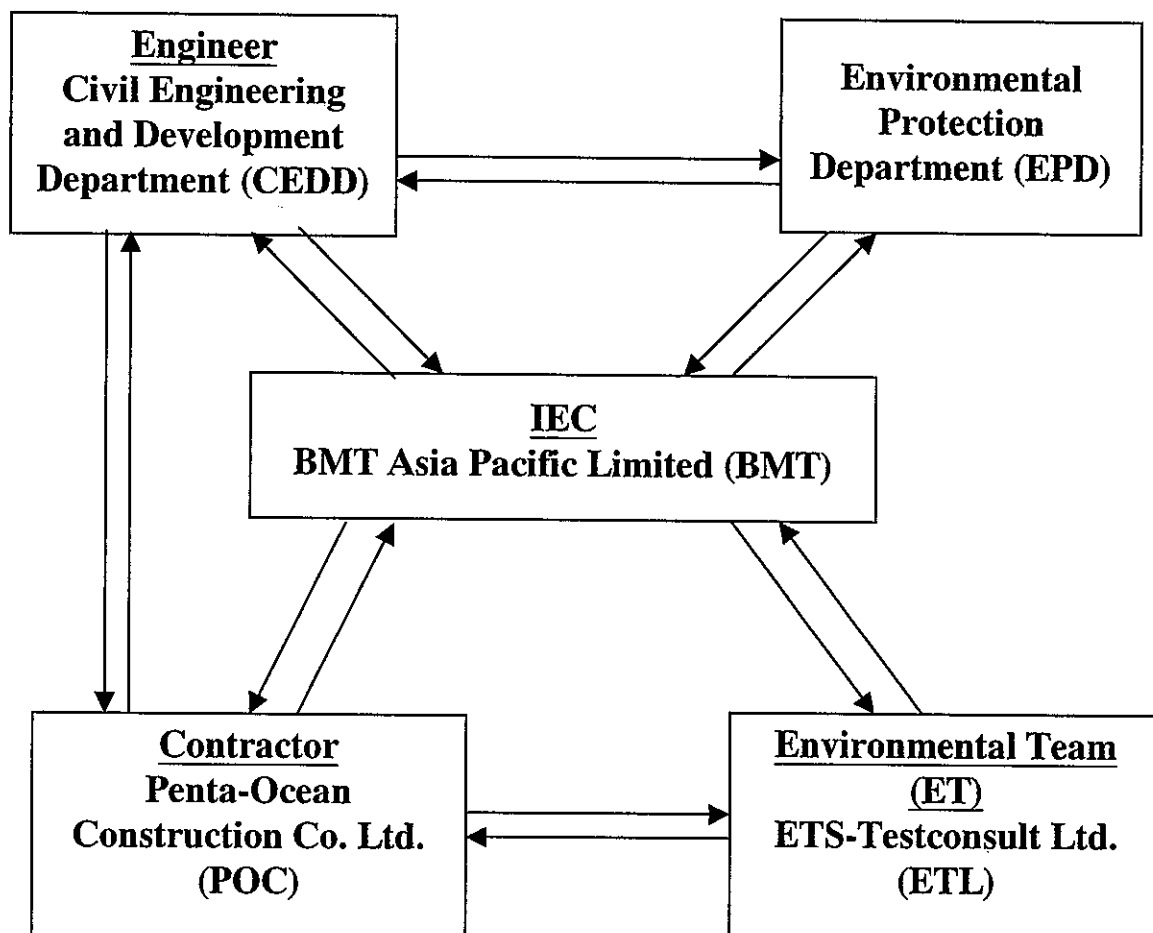


Head Office  
Tel: 2833 1098  
Fax: 2572 4080

Site Office  
Tel: 2623 9263  
Fax: 2623 9128



# 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  
Tel : 2695 8318 E-mail : etl@ets-testconsult.com  
Fax : 2695 3944 Web site : www.ets-testconsult.com

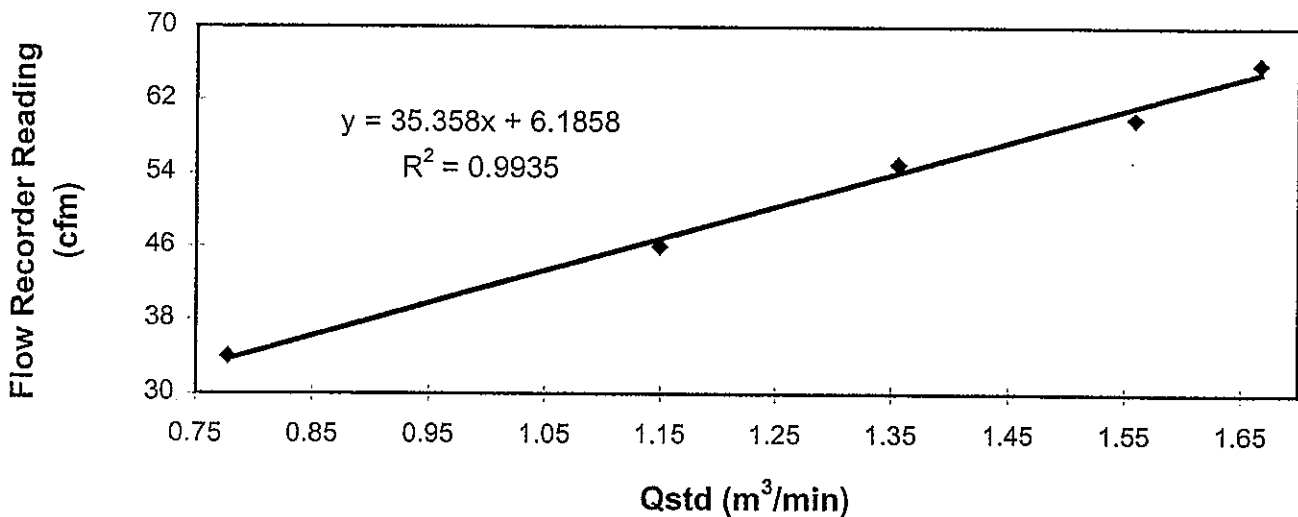
**TEST REPORT**

**Calibration Report**  
of  
**High Volume Air Sampler**

Manufacturer : Greasby GMW Date of Calibration : 16 July 2005  
Serial No. : 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 <sup>3</sup> /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

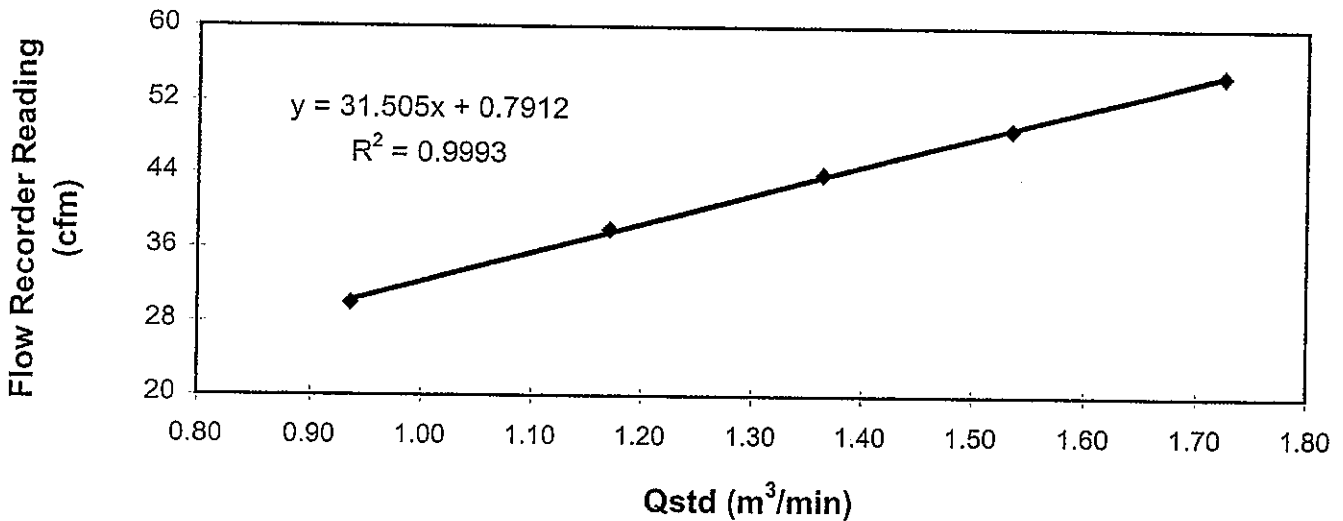
**TEST REPORT**

**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 <sup>3</sup> /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)



TISCH ENVIRONMENTAL, INC.  
 145 SOUTH MIAMI AVE.  
 VILLAGE OF CLEVELAND, OH 45002  
 513.467.9000  
 877.263.7610 TOLL FREE  
 513.467.9009 FAX  
 WWW.TISCH-ENV.COM

AIR POLLUTION MONITORING EQUIPMENT

ORIFICE TRANSFER STANDARD CERTIFICATION WORKSHEET TE-5025A

Date - Jun 24, 2005 Roots-meter 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 DIFF Hg (mm)	ORFICE 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:

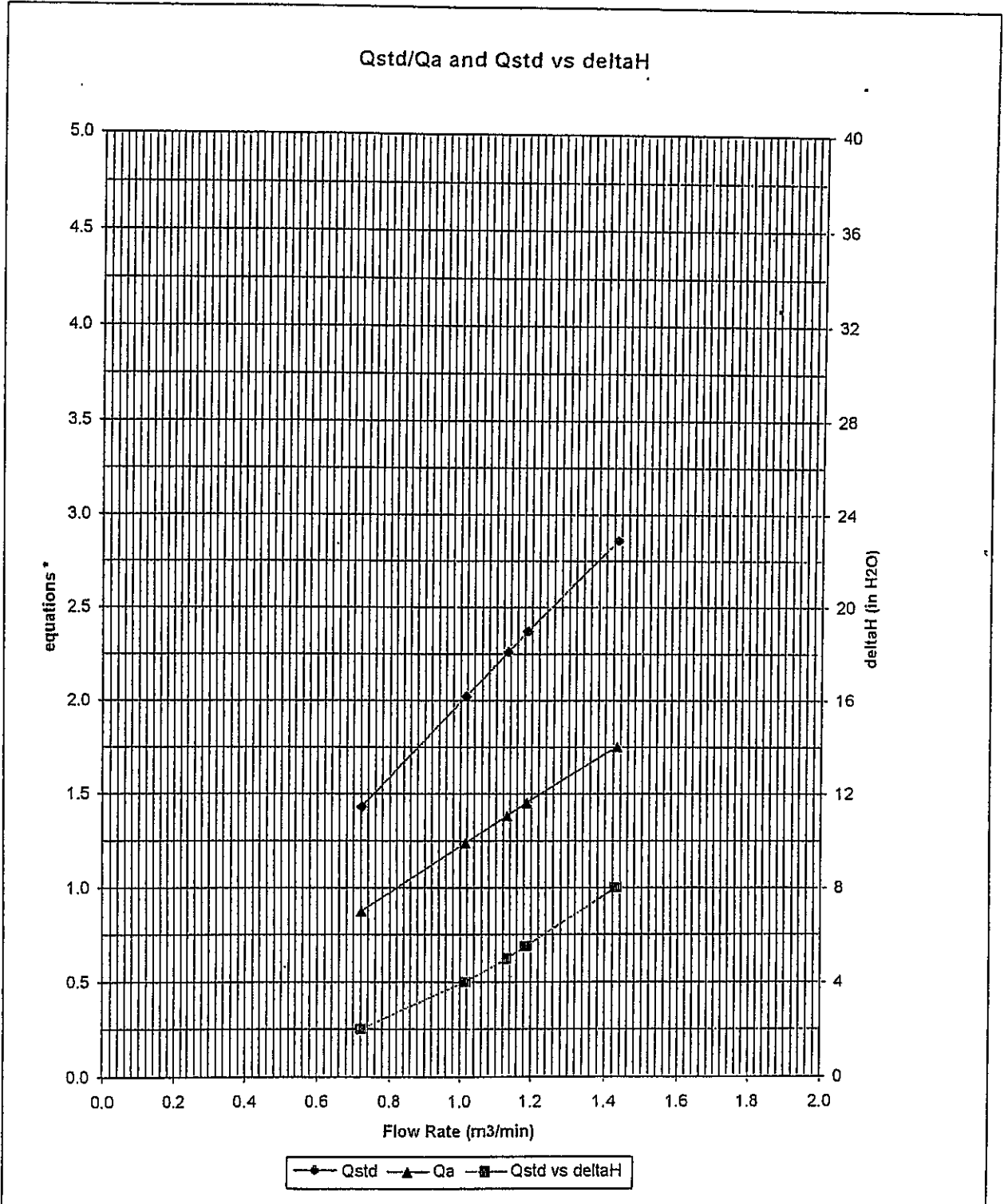
$$\text{Qstd} = 1/m \{ [\text{SQRT}(\text{H2O}(\text{Pa}/760)(298/\text{Ta}))] - b \}$$

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



TISCH ENVIORNENTAL, INC.  
 145 SOUTH MIAMI AVE.  
 VILLAGE OF CLEVES, OH 45002  
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 877.263.7610 TOLL FREE  
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 WWW.TISCH-ENV.COM

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		Elapse Time		Sampling Time (hrs)	Flow Rate (m <sup>3</sup> /min.)		Average (m <sup>3</sup> /min.)	Filter Weight (g)		Conc. (µg/m <sup>3</sup> )
		Date	Time	Initial	Final		Initial	Final		Initial	Final	
01/08/05	14:32	02/08/05	14:45	7433.83	7458.09	24.26	1.18	1.18	1.18	2.9195	3.2577	197
05/08/05	13:05	06/08/05	13:34	7461.09	7486.58	24.49	0.93	0.93	0.93	2.9047	3.1602	187
11/08/05	14:02	12/08/05	14:27	7488.58	7512.99	24.41	0.73	0.73	0.73	2.8858	3.0793	181
17/08/05	16:30	18/08/05	16:28	7515.99	7539.95	23.96	1.01	1.01	1.01	2.8804	3.0982	150
23/08/05	15:10	24/08/05	15:03	7542.95	7566.83	23.88	1.18	1.18	1.18	2.8750	3.2081	197
29/08/05	13:00	30/08/05	12:43	7569.83	7593.54	23.71	1.18	1.18	1.18	2.9222	3.2647	204

Monitoring Station : AA2  
Location : Site Egress

Start Date	Start Time	Finish		Elapse Time		Sampling Time (hrs)	Flow Rate (m <sup>3</sup> /min.)		Average (m <sup>3</sup> /min.)	Filter Weight (g)		Conc. (µg/m <sup>3</sup> )
		Date	Time	Initial	Final		Initial	Final		Initial	Final	
01/08/05	14:36	02/08/05	14:47	10731.67	10755.85	24.18	1.09	1.09	1.09	2.9099	3.2014	184
05/08/05	13:10	06/08/05	13:11	10758.85	10782.87	24.02	1.09	1.09	1.09	2.9016	3.1765	175
11/08/05	14:06	12/08/05	14:02	10785.87	10809.80	23.97	1.09	1.09	1.09	2.8800	3.1445	169
17/08/05	16:30	18/08/05	16:31	10812.80	10836.81	24.01	1.21	1.21	1.21	2.9051	3.1526	142
23/08/05	15:05	24/08/05	15:15	10839.81	10863.97	24.16	1.12	1.12	1.12	2.9119	3.2399	202
29/08/05	13:00	30/08/05	13:00	10866.97	10890.97	24.00	1.12	1.12	1.12	2.9076	3.2431	208

## Summary of 1-hr TSP Monitoring Results

Monitoring Station : AA1  
 Location : Outside CEDD Site Office

Date	Time		Elapse Time		Sampling Time (hrs)	Flow Rate (m <sup>3</sup> /min.)		Average (m <sup>3</sup> /min.)	Filter Weight (g)		Conc. (µg/m <sup>3</sup> )
	Start	Finish	Initial	Final		Initial	Final		Initial	Final	
01/08/05	08:30	09:30	7430.82	7431.82	1.00	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	2.9812	3.0186	375
	13:30	14:30	7432.82	7433.82	1.00	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	2.9540	2.9769	323
	09:45	10:45	7459.09	7460.09	1.00	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	2.9148	2.9406	364
11/08/05	09:30	10:30	7485.58	7486.58	1.00	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	2.9314	2.9511	353
	13:00	14:00	7487.58	7488.58	1.00	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	2.9527	2.9651	283
	13:00	14:00	7513.99	7514.99	1.00	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	2.9638	2.9750	256
23/08/05	11:00	12:00	7539.95	7540.95	1.00	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	2.8857	2.9047	314
	14:06	15:06	7541.95	7542.95	1.00	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	2.8960	2.9183	315
	09:45	10:45	7567.83	7568.83	1.00	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	2.8797	2.9061	373

Monitoring Station : AA2  
 Location : Site Egress

Date	Time		Elapse Time		Sampling Time (hrs)	Flow Rate (m <sup>3</sup> /min.)		Average (m <sup>3</sup> /min.)	Filter Weight (g)		Conc. (µg/m <sup>3</sup> )
	Start	Finish	Initial	Final		Initial	Final		Initial	Final	
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	10784.82	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

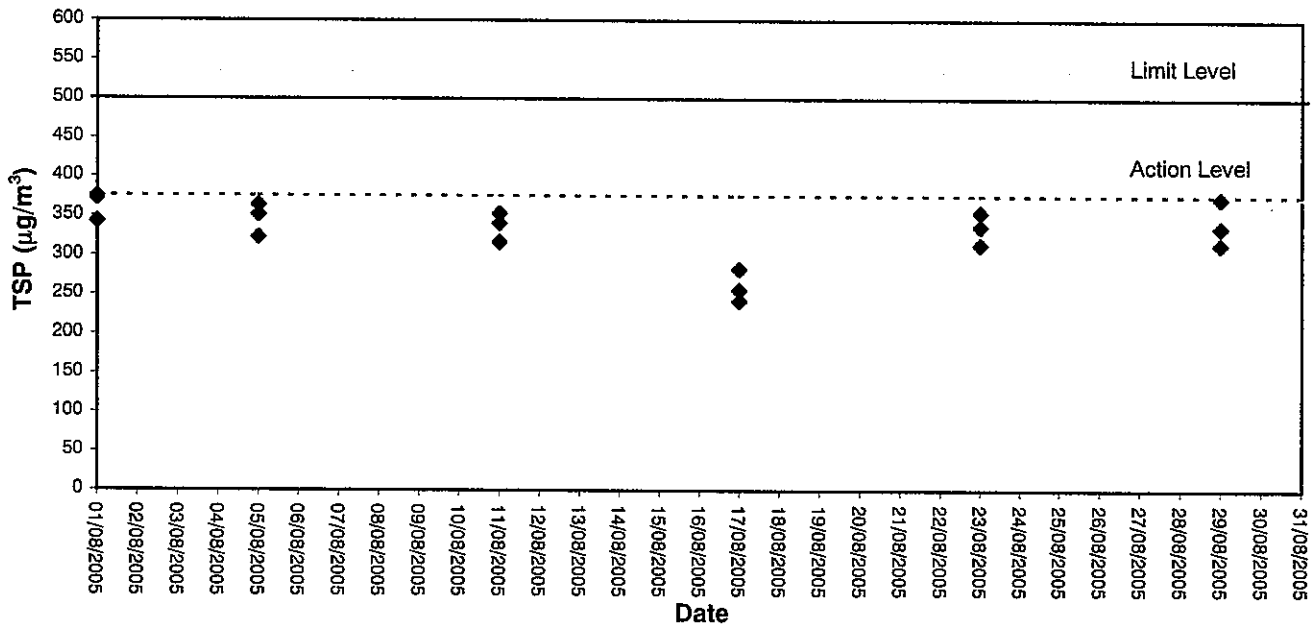


## **Appendix B3**

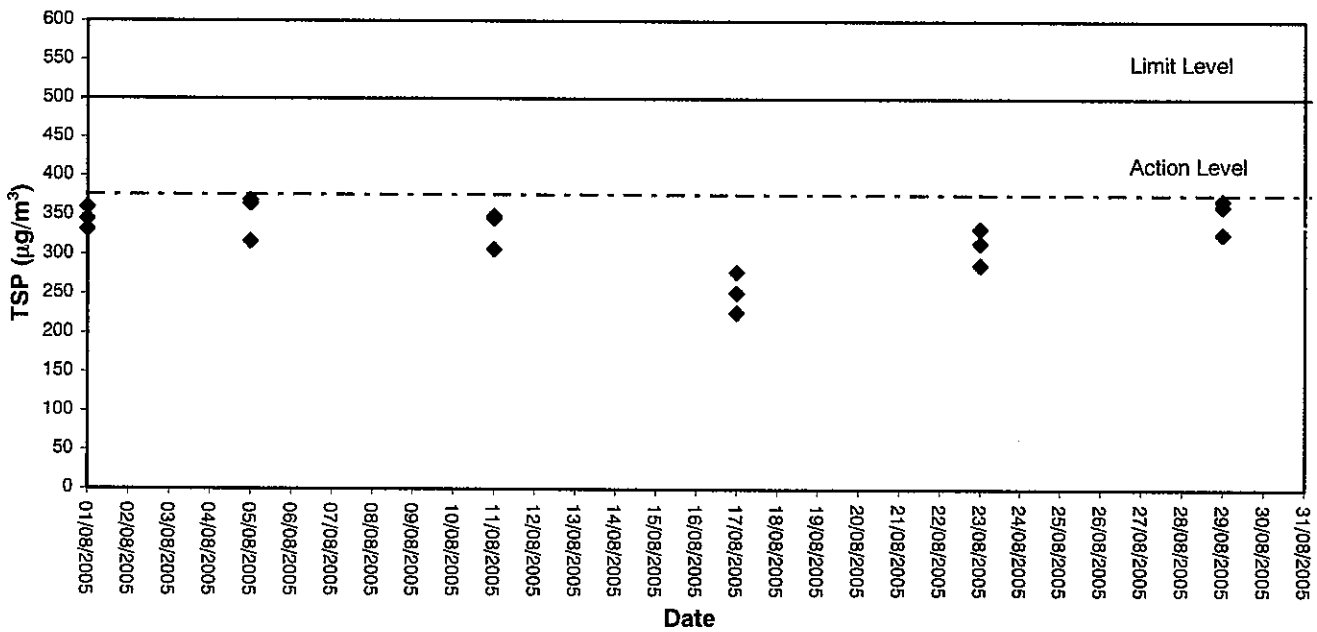
### **Graphical Plots of Air Quality Monitoring Data**



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

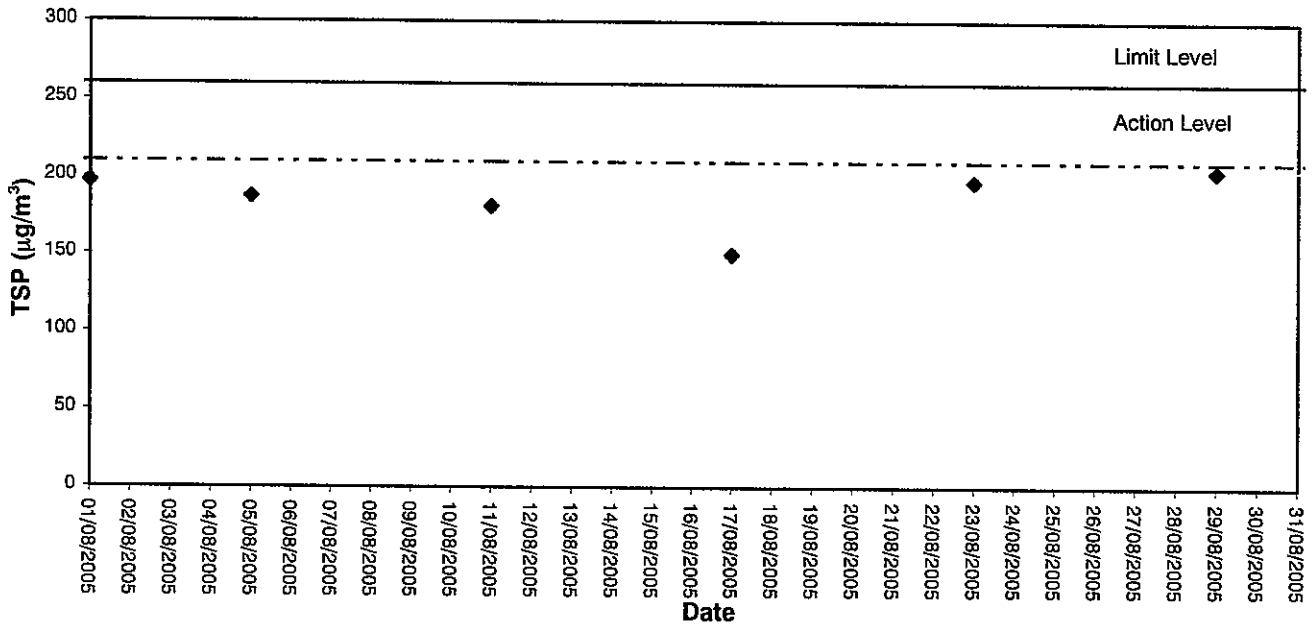


### 1-hour TSP level at AA2 (Site Egress)

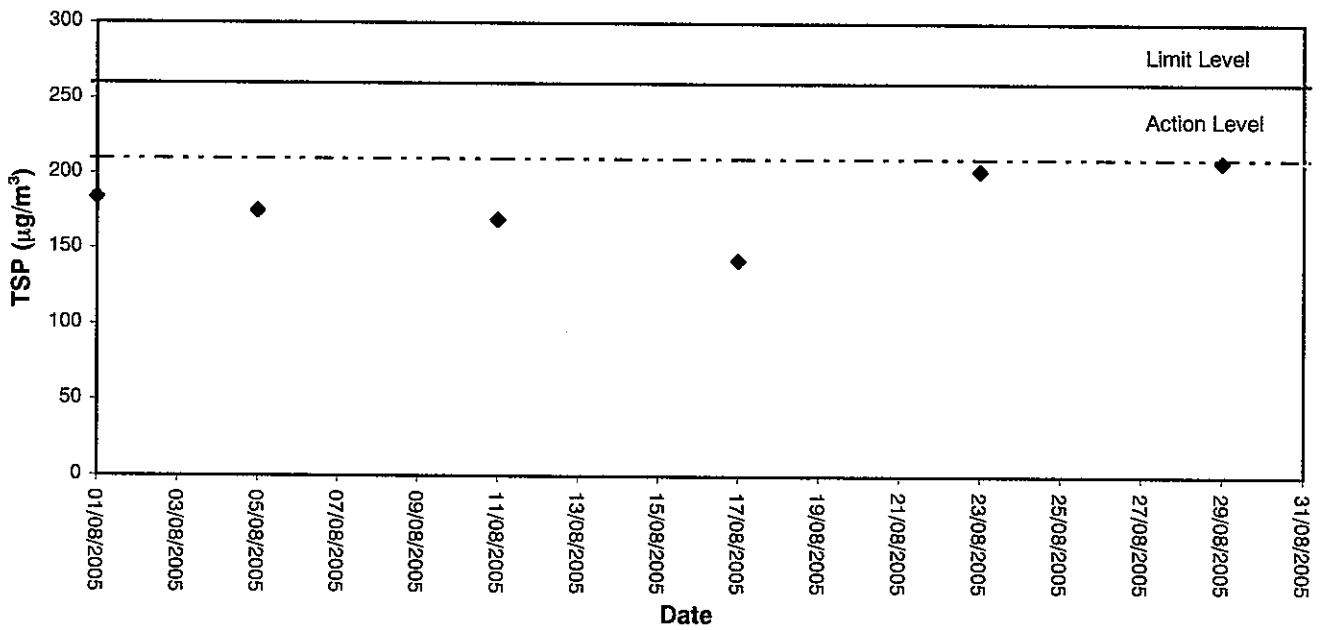




### 24-hour TSP level at AA1 (Outside CEDD Site Office)



### 24-hour TSP level at AA2 (Site Egress)





## **Appendix C1**

### **Calibration Certificates for Noise Monitoring Equipments**



# 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 ± 2.5)°C

Relative Humidity : (50 ± 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

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

Date: 20-Apr-05



# 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	$\pm 1$ dB

Uncertainty :  $\pm 0.2$  dB

## 2. Frequency Accuracy

UUT Nominal Value	Measured Value	Mfr's Spec.
1 kHz	0.991 kHz	$\pm 2$ %

Uncertainty :  $\pm 0.1$  %

## 3. Level Stability : 0.0 dB

Uncertainty :  $\pm 0.01$  dB

## 4. Total Harmonic Distortion : $< 0.3$ %

Mfr's Spec. :  $< 3$  %

Uncertainty :  $\pm 2.3$  % 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

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



# 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 <sub>A</sub>	Fast	94.0	+ 0.1
		Slow		+ 0.1
	L <sub>C</sub>	Fast		0.0
	L <sub>p</sub>	Fast		0.0
30 - 120	L <sub>A</sub>	Fast	94.0	+ 0.1
		Slow		+ 0.1
	L <sub>C</sub>	Fast		+ 0.1
	L <sub>p</sub>	Fast		+ 0.1
30 - 120	L <sub>A</sub>	Fast	114.0	+ 0.1
		Slow		+ 0.1
	L <sub>C</sub>	Fast		0.0
	L <sub>p</sub>	Fast		0.0

IEC 651 Type 1 Spec. :  $\pm 0.7$  dB

Uncertainty :  $\pm 0.2$  dB

## 2. Level Stability : 0.0 dB

IEC 651 Type 1 Spec. :  $\pm 0.3$  dB

Uncertainty :  $\pm 0.01$  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, $\pm 1.5$ dB
63 Hz	- 26.2	- 26.2 dB, $\pm 1.5$ dB
125 Hz	- 16.2	- 16.1 dB, $\pm 1$ dB
250 Hz	- 8.7	- 8.6 dB, $\pm 1$ dB
500 Hz	- 3.2	- 3.2 dB, $\pm 1$ dB
1 kHz	0.0 (Ref.)	0 dB, $\pm 1$ dB
2 kHz	+ 1.3	+ 1.2 dB, $\pm 1$ dB
5 kHz	+ 1.1	+ 1.0 dB, $\pm 1$ dB
8 kHz	- 1.1	- 1.1 dB, + 1.5 dB ~ - 3 dB
16 kHz	- 6.7	- 6.6 dB, + 3 dB ~ $\infty$

Uncertainty :  $\pm 0.1$  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	$\pm 0.5$ dB
1/10 <sup>2</sup>	39.9	+ 0.1	
1/10 <sup>3</sup>	39.9	+ 0.1	$\pm 1.0$ dB
1/10 <sup>4</sup>	39.8	+ 0.2	

Uncertainty :  $\pm 0.1$  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 <sub>eq(30min)</sub>	L <sub>10</sub>	L <sub>90</sub>		
05/08/05	10:00	62.9	68.5	59.3	0.6	Sunny

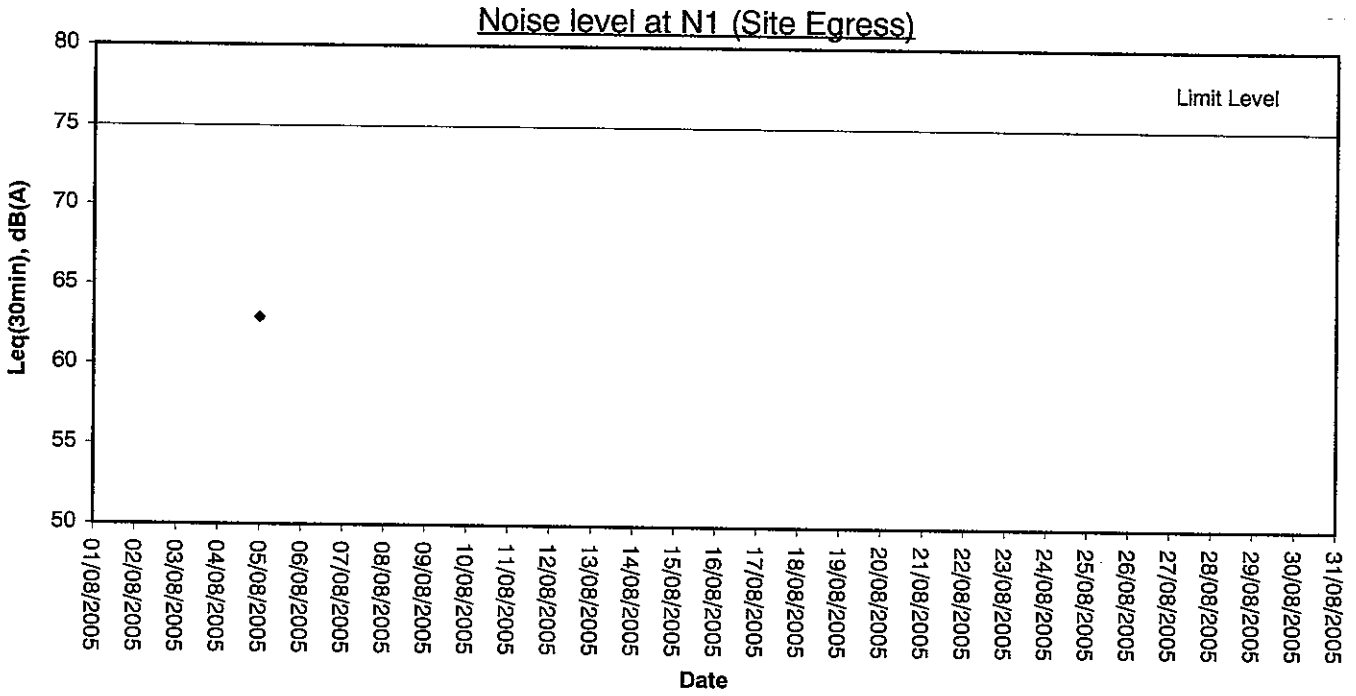


## **Appendix C3**

### **Graphical Plots of Noise Monitoring Data**



## Noise Monitoring (Day-time)





## **Appendix D1**

### **Calibration Certificates for Marine Water Quality Monitoring Equipments**





### Internal Calibration Report of Dissolved Oxygen Meter

Equipment Ref. No. : ET/Ew/003/001                      Manufacturer : YSI  
 Model No. : 95    Serial No. : 97H 04071AD  
 Date of Calibration : 01/06/05                                      Calibration Due Date : 31/08/05

Ref. No. of Reference Thermometer : ET/2403/01  
 Ref. No. of Potassium Dichromate : ET/0.520/003/02

**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	7.10	7.08	7.09	7.00	6.98	6.99	1.42
5	5.10	5.08	5.09	5.11	5.09	5.10	0.20
10	3.33	3.31	3.32	3.21	3.19	3.20	3.68
Linear regression coefficient				0.9987			

**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	6.84	6.86	6.85	6.82	6.84	6.83	0.29
30	6.19	6.17	6.18	6.11	6.09	6.10	1.30

**Acceptance Criteria**

- (1) Differenc 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 : Tinda Law

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 : 26/10/05

### 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 : YSZ  
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 : Chia Law



## **Appendix D2**

### **Impact Marine Water Quality Monitoring Results**

# Mid-Flood Tide



東業德動測試顧問有限公司  
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
01/08/05	18:39 - 18:51	30/Sunny	Surface	25.6	32.1	7.20	7.15	107.2	106.7	2.00	1.95	3.5	3.5	3.5				
			Middle	25.0	33.1	7.03	6.98	106.2	104.8	1.90	1.88	3.5	3.0					
			Bottom	23.7	33.0	6.93	6.97	105.3	104.3	1.88	1.80	3.0	3.0					
03/08/05	17:30 - 17:40	32/Sunny	Surface	29.4	34.0	7.42	7.37	112.0	111.5	1.70	1.65	4.0	4.0	5.4				
			Middle	28.0	31.5	7.23	7.25	111.0	110.1	1.60	2.56	4.0	5.2					
			Bottom	27.9	33.5	6.98	6.97	109.8	105.1	2.57	2.10	4.5	4.5					
05/08/05	18:00 - 18:10	33/Sunny	Surface	27.4	33.8	6.69	6.67	101.1	100.9	2.17	2.18	4.5	4.5	5.5				
			Middle	27.0	31.2	6.64	7.10	100.7	107.2	2.18	2.77	4.5	5.5					
			Bottom	26.5	31.7	7.12	6.93	107.5	104.6	2.78	2.58	5.5	5.5					
08/08/05	08:00 - 08:13	30/Sunny	Surface	24.8	32.2	6.79	6.78	101.8	101.6	2.64	2.65	5.5	5.5	4.5				
			Middle	24.0	32.1	6.76	7.35	101.3	110.4	2.65	2.03	4.5	4.5					
			Bottom	23.7	32.1	7.30	7.09	110.7	106.0	2.03	2.11	4.5	4.3					
10/08/05	08:00 - 08:10	30/Cloudy	Surface	27.4	32.7	7.06	6.86	105.7	105.0	2.00	1.96	6.0	6.0	6.0				
			Middle	26.1	32.7	6.84	6.86	105.2	105.0	2.74	2.74	6.0	5.5					
			Bottom	25.6	33.5	5.95	5.93	104.8	91.3	2.73	2.96	5.5	6.3					
12/08/05	10:38 - 10:53	32/Cloudy	Surface	28.3	31.1	5.83	5.84	88.4	88.6	1.33	1.37	3.0	3.0	3.0				
			Middle	26.5	32.2	5.85	5.60	88.8	85.6	1.40	1.86	3.0	3.5					
			Bottom	24.3	32.7	5.62	4.85	85.9	74.0	1.90	1.73	3.5	3.5					
15/08/05	17:00 - 17:10	30/Cloudy	Surface	29.5	32.7	4.89	4.85	74.3	74.0	1.73	1.69	3.5	3.3	3.4				
			Middle	28.2	29.5	4.80	7.24	73.7	109.3	1.65	2.49	3.5	5.5					
			Bottom	27.4	31.9	7.23	6.82	109.1	102.9	2.48	2.18	5.5	5.0					
			Surface	27.4	31.9	6.84	5.64	103.2	85.1	2.17	2.07	5.0	5.0	5.0				
			Middle	27.4	32.3	5.62	5.64	102.6	85.3	2.18	2.06	5.0	5.0					
			Bottom	27.4	32.3	5.65	5.64	84.8	85.3	2.06	2.07	5.0	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)		
			Surface	Bottom		Value	Average	Value	Average	Depth-average	Value	Average	Depth-average	Value	Average	Depth-average	Value	Average	Depth-average
17/08/05	17:25 - 17:40	28/Rainy	Surface	1.0	25.3	31.3	31.3	6.69	6.65	101.1	100.6	1.77	1.74	3.5	3.5	3.6			
			Middle	10.0	24.0	32.1	32.1	5.91	5.87	89.6	89.3	1.50	1.45	3.2	3.2				
			Bottom	19.0	23.4	33.1	33.1	5.11	5.10	77.1	76.6	1.81	1.76	4.0	4.0				
19/08/05	17:00 - 17:10	29/Rainy	Surface	1.0	28.4	27.8	27.8	6.92	6.90	104.4	104.1	3.27	3.28	7.0	6.9	6.4			
			Middle	9.7	27.0	31.0	31.0	5.93	5.92	89.5	89.3	3.06	3.07	6.3	6.3				
			Bottom	18.4	26.4	31.6	31.6	4.99	4.98	74.8	74.6	2.93	2.93	6.0	6.0				
22/08/05	07:30 - 07:50	29/Cloudy	Surface	1.0	28.3	29.5	29.5	7.04	7.02	106.8	106.6	2.75	2.77	6.0	5.9	5.0			
			Middle	9.6	27.5	31.5	31.6	7.18	7.16	108.3	108.1	2.25	2.23	5.0	5.0				
			Bottom	18.2	26.8	32.1	32.1	5.11	5.13	77.6	77.9	1.46	1.48	4.0	4.0				
24/08/05	08:30 - 08:40	30/Cloudy	Surface	1.0	28.4	29.2	29.2	6.94	6.92	105.4	105.2	2.92	2.92	6.0	5.9	5.6			
			Middle	9.7	27.5	30.9	30.9	6.20	6.19	94.2	94.0	2.43	2.43	5.2	5.3				
			Bottom	18.4	26.9	31.8	31.8	4.77	4.79	72.0	72.3	2.68	2.69	5.8	5.8				
26/08/05	10:40 - 10:54	27/Cloudy	Surface	1.0	25.8	31.9	31.9	6.99	6.96	103.1	102.8	1.84	1.82	3.5	3.5	4.2			
			Middle	10.1	23.9	33.0	33.0	5.37	5.34	77.0	76.6	1.91	1.89	4.0	4.0				
			Bottom	19.2	23.0	33.5	33.5	5.30	5.34	76.7	76.4	2.21	2.19	5.0	5.0				
29/08/05	16:00 - 16:18	30/cloudy	Surface	1.0	28.0	32.2	32.2	7.65	7.68	117.1	117.3	1.12	1.11	3.0	3.0	3.8			
			Middle	9.4	26.8	32.0	32.0	6.37	6.39	96.1	96.3	1.65	1.65	3.8	3.8				
			Bottom	17.9	24.8	32.8	32.8	4.62	4.64	67.8	68.0	2.12	2.13	4.5	4.5				
31/08/05	17:08 - 17:22	30/cloudy	Surface	1.0	27.9	32.4	32.4	7.08	7.12	107.1	107.6	2.06	2.03	4.5	4.5	4.0			
			Middle	10.2	25.1	33.8	33.8	6.39	6.35	95.0	95.5	1.82	1.78	3.8	3.8				
			Bottom	19.4	23.2	34.2	34.2	5.77	5.74	87.6	87.3	1.66	1.63	3.8	3.8				

# Mid-Flood Tide



東業德動測試顧問有限公司  
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)		
			Surface	Middle		Value	Average	Value	Average	Depth-average	Value	Average	Depth-average	Value	Average	Depth-average	Value	Average	Depth-average
01/08/05	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	102.3	101.8	2.22	2.17	4.0	4.0					
			Bottom		23.9	33.2	6.73	7.15	101.3	108.4	2.12	1.84	4.0	4.3					
03/08/05	18:10 - 18:20	32/Sunny	Surface		29.6	31.4	31.4	7.10	7.12	6.96	108.0	108.2	3.08	3.08	6.5	6.5	6.3		
			Middle		28.0	33.7	6.77	6.80	102.9	102.6	2.87	2.86	6.0	6.0					
			Bottom		27.9	33.9	6.82	6.56	99.3	99.0	3.02	3.03	6.5	6.5					
05/08/05	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	103.0	102.8	2.67	2.67	5.8	5.8					
			Bottom		26.7	31.9	6.84	6.77	101.8	101.5	2.98	2.98	6.3	6.3					
08/08/05	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	32.9	6.88	6.84	103.0	102.6	2.40	2.38	5.5	5.5					
			Bottom		24.0	33.0	6.80	7.19	102.2	107.7	2.36	2.16	5.5	5.0					
10/08/05	08:35 - 08:45	30/Cloudy	Surface		27.8	31.3	31.3	7.21	7.23	6.98	111.0	111.3	3.06	3.06	6.5	6.5	6.4		
			Middle		27.4	32.4	6.74	6.73	103.1	103.0	3.12	3.12	6.8	6.8					
			Bottom		26.9	32.7	6.72	5.43	102.8	83.0	3.11	2.89	6.7	6.0					
12/08/05	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	5.13	5.17	83.0	83.3	1.83	1.80	4.0	3.5					
			Bottom		24.9	32.1	5.20	5.67	83.6	87.3	1.77	1.46	3.5	3.5					
15/08/05	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	6.67	6.66	100.7	100.5	2.64	2.65	5.2	5.2					
			Bottom		27.9	32.0	5.43	5.42	100.2	81.3	2.88	2.87	6.0	6.0					

# 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)		
			Surface	Bottom		Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
17/08/05	18:16 - 18:30	28/Rainy	Surface	1.0	25.1	31.6	31.6	7.01	6.96	105.8	105.4	1.39	1.44	3.0	3.0	3.3	3.3	3.3	3.3
			Middle	3.9	24.2	32.2	32.2	5.82	5.78	87.8	87.4	1.68	1.64	3.2	3.3				
			Bottom	6.8	23.6	33.4	33.4	5.03	4.98	75.9	75.5	1.57	1.54	3.5	3.5				
19/08/05	17:40 - 17:50	29/Rainy	Surface	1.0	28.6	28.2	28.2	6.84	6.86	103.2	103.5	3.50	3.51	7.3	7.3	6.6	6.6	6.6	6.6
			Middle	4.2	27.7	30.5	30.5	5.76	5.78	86.9	87.2	2.94	2.95	6.0	6.0				
			Bottom	7.4	27.3	30.8	30.8	5.12	5.10	76.7	76.5	3.17	3.18	6.5	6.5				
22/08/05	08:20 - 08:40	29/Cloudy	Surface	1.0	28.7	29.5	29.5	7.06	7.08	107.1	107.3	2.65	2.54	5.7	5.7	5.0	5.0	5.0	5.0
			Middle	4.0	27.6	31.8	31.8	7.05	7.03	106.7	106.5	2.73	2.71	5.5	5.5				
			Bottom	7.0	27.2	32.0	32.0	7.10	7.11	106.9	107.0	1.59	1.63	3.8	3.8				
24/08/05	09:05 - 09:15	30/Cloudy	Surface	1.0	28.6	29.2	29.2	6.78	6.77	103.0	102.8	2.69	2.70	5.8	5.8	5.7	5.7	5.7	5.7
			Middle	4.1	27.4	31.0	31.0	6.27	6.26	95.3	95.1	2.56	2.57	5.2	5.2				
			Bottom	7.2	27.2	31.9	31.9	5.04	5.03	76.6	76.4	2.89	2.90	6.3	6.3				
26/08/05	11:20 - 11:34	27/Cloudy	Surface	1.0	25.2	32.3	32.3	6.60	6.58	97.0	96.7	1.86	1.84	4.3	4.3	4.2	4.2	4.2	4.2
			Middle	4.2	25.1	32.0	32.0	6.50	6.47	95.2	94.9	1.50	1.46	4.0	4.0				
			Bottom	7.4	24.8	32.0	32.0	6.56	6.53	96.1	95.8	1.75	1.73	4.3	4.3				
29/08/05	16:45 - 17:00	30/Cloudy	Surface	1.0	27.6	31.8	31.8	7.52	7.56	114.9	115.3	1.20	1.18	3.5	3.5	3.8	3.8	3.8	3.8
			Middle	4.1	26.9	31.8	31.8	6.08	6.11	115.6	115.8	1.17	1.18	3.5	3.5				
			Bottom	7.2	26.7	32.2	32.2	4.93	4.91	92.1	91.8	2.44	2.47	5.0	5.0				
31/08/05	16:30 - 16:47	30/Cloudy	Surface	1.0	27.6	32.5	32.5	7.00	6.96	105.8	105.4	1.06	1.08	3.0	3.0	4.0	4.0	4.0	4.0
			Middle	4.3	25.0	33.9	33.9	6.27	6.24	105.0	105.4	1.91	1.88	4.0	4.0				
			Bottom	7.6	24.5	34.5	34.5	6.20	5.34	93.3	93.7	1.70	1.67	3.5	3.4				
						34.5	34.5	5.38	5.34	81.7	81.4	2.05	2.02	4.3	4.2				



## 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	Depth-average	Value	Average	Depth-average	Value	Average	Depth-average	Value	Average	Depth-average
01/08/05	09:30 - 09:42	30/Sunny	Surface	1.0	26.1	32.4	32.4	7.37	7.34	108.7	108.4	1.81	1.86	4.0	4.0	3.8			
			Middle	10.1	24.9	33.2	33.2	6.98	6.94	103.6	103.3	1.77	1.74	3.8	3.8				
			Bottom	19.2	23.2	34.1	34.1	7.21	7.16	108.7	108.4	1.95	1.90	3.5	3.5				
03/08/05	10:30 - 10:40	32/Sunny	Surface	1.0	29.6	31.4	31.4	7.17	7.16	108.2	108.0	2.74	2.75	6.0	5.9	5.6			
			Middle	9.9	27.4	33.5	33.5	6.96	6.95	105.0	104.8	2.58	2.59	5.5	5.5				
			Bottom	18.8	27.2	33.9	33.9	6.62	6.60	99.6	99.4	2.26	2.27	5.5	5.5				
05/08/05	11:30 - 11:40	33/Sunny	Surface	1.0	27.6	31.2	31.2	7.30	7.32	110.2	110.4	2.84	2.85	6.0	6.0	6.0			
			Middle	9.5	26.9	31.6	31.6	7.08	7.07	106.9	106.7	2.43	2.43	5.5	5.5				
			Bottom	18.0	26.4	32.1	32.1	6.94	6.93	104.7	104.5	2.80	2.81	6.0	6.0				
08/08/05	13:50 - 14:09	32/Sunny	Surface	1.0	25.3	32.3	32.3	6.40	6.36	93.3	92.9	3.16	3.13	6.5	6.5	6.7			
			Middle	10.0	22.9	32.9	32.9	4.75	4.78	66.8	67.1	3.22	3.20	7.0	7.0				
			Bottom	19.0	22.8	33.5	33.5	4.83	4.85	68.0	68.3	3.18	3.20	6.5	6.5				
10/08/05	14:30 - 14:40	30/Cloudy	Surface	1.0	28.1	31.1	31.1	7.41	7.43	113.2	113.4	3.15	3.15	6.5	6.4	6.2			
			Middle	9.9	27.2	32.2	32.2	6.68	6.66	102.8	102.6	2.89	2.90	6.0	6.0				
			Bottom	18.8	26.7	33.0	33.0	5.86	5.88	89.6	89.9	3.08	3.09	6.3	6.3				
12/08/05	15:30 - 15:45	32/Cloudy	Surface	1.0	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	10.5	27.0	31.7	31.7	5.49	5.48	85.1	84.9	2.08	2.04	4.3	4.3				
			Bottom	20.0	25.2	32.2	32.2	5.08	5.04	78.7	78.4	2.01	1.96	4.0	4.0				
15/08/05	08:00 - 08:10	29/Cloudy	Surface	1.0	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	9.9	27.6	31.6	31.6	6.65	6.67	100.4	100.7	2.24	2.24	5.0	5.0				
			Bottom	18.8	26.9	32.2	32.2	5.39	5.40	80.3	80.5	2.86	2.86	6.0	6.0				



**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
17/08/05	10:00 - 10:11	28/Rainy	Surface	25.8	31.8	31.8	6.81	6.77	6.12	99.2	98.7	2.17	2.14	4.5	4.4	4.0	
			Middle	23.9	32.4	32.4	5.50	5.47	81.0	80.6	1.90	1.85	4.0	4.0			
			Bottom	23.0	33.3	33.3	4.96	4.93	73.0	72.7	1.61	1.57	3.5	3.5			
19/08/05	11:00 - 11:10	29/Rainy	Surface	27.8	27.8	27.8	7.03	7.05	6.57	106.1	106.4	3.29	3.29	6.8	6.8	6.0	
			Middle	26.6	30.9	30.9	6.07	6.09	91.6	91.9	2.43	2.44	5.5	5.5			
			Bottom	26.2	31.4	31.4	5.26	5.25	79.4	79.3	2.69	2.69	5.7	5.7			
22/08/05	13:30 - 13:52	29/Cloudy	Surface	29.2	29.6	29.6	7.24	7.23	7.18	109.3	109.1	2.56	2.57	5.5	5.5	5.3	
			Middle	28.0	32.0	32.0	7.11	7.14	106.2	106.5	2.69	2.71	6.0	6.0			
			Bottom	27.2	32.5	32.5	5.29	5.27	80.0	79.7	1.97	1.99	4.5	4.5			
24/08/05	14:30 - 14:40	30/Cloudy	Surface	29.2	29.4	29.4	6.85	6.83	6.48	104.1	103.9	3.08	3.09	6.5	6.5	6.3	
			Middle	27.8	31.0	31.0	6.13	6.12	93.1	93.0	2.87	2.88	6.0	6.0			
			Bottom	27.0	31.9	31.9	4.75	4.72	71.2	70.9	2.94	2.95	6.3	6.3			
26/08/05	15:05 - 15:30	27/Cloudy	Surface	25.2	30.7	30.7	7.19	7.15	6.37	108.2	107.8	1.48	1.44	3.5	3.5	4.5	
			Middle	23.9	32.5	32.5	5.61	5.58	78.5	78.2	1.51	1.48	3.8	3.8			
			Bottom	23.0	33.6	33.6	5.69	5.72	78.9	79.3	2.88	2.84	6.3	6.3			
29/08/05	08:30 - 08:40	30/Cloudy	Surface	27.6	32.0	32.0	6.90	6.92	6.49	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	90.1	89.8	2.18	2.19	5.0	5.0			
			Bottom	26.3	33.2	33.2	4.78	4.77	70.2	70.0	2.65	2.66	5.5	5.5			
31/08/05	09:20 - 09:37	30/Cloudy	Surface	27.1	32.0	32.0	7.20	7.17	6.82	108.7	108.4	1.96	1.93	4.0	4.0	3.6	
			Middle	25.3	33.4	33.4	6.52	6.48	97.0	97.4	1.67	1.64	3.5	3.5			
			Bottom	23.4	33.9	33.9	5.61	5.57	84.9	84.5	1.49	1.45	3.2	3.2			

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)		
			Surface	Bottom		Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Depth-average
01/08/05	10:15 - 10:27	30/Sunny	Surface	1.0	26.0	32.5	32.6	7.46	7.43	110.0	109.5	2.31	2.26	4.2	4.1	4.2		
			Middle	4.1	25.0	33.0	33.0	7.10	7.05	105.4	104.9	2.00	1.95	4.5	4.5			
			Bottom	7.2	24.2	33.1	33.2	7.30	7.25	110.1	105.1	2.18	2.14	4.0	4.0			
03/08/05	11:10 - 11:20	32/Sunny	Surface	1.0	29.8	31.6	31.6	7.04	7.06	106.3	106.6	2.98	2.97	6.0	6.0	6.2		
			Middle	4.3	27.9	33.7	33.7	6.68	6.67	100.8	100.6	2.74	2.74	6.0	6.0			
			Bottom	7.6	27.8	34.0	34.0	6.43	6.42	97.0	96.9	3.17	3.19	6.5	6.5			
05/08/05	12:10 - 12:20	33/Sunny	Surface	1.0	27.7	31.1	31.1	7.15	7.17	107.9	108.2	2.69	2.68	5.7	5.9	5.5		
			Middle	4.2	27.0	31.7	31.7	7.02	7.04	106.0	106.2	2.32	2.32	5.0	5.0			
			Bottom	7.4	26.8	31.8	31.8	6.86	6.84	103.5	103.3	2.77	2.76	5.5	5.5			
08/08/05	13:00 - 13:19	32/Sunny	Surface	1.0	25.2	32.1	32.1	7.48	7.43	109.3	108.2	1.81	1.79	3.2	3.4	3.4		
			Middle	4.3	23.0	32.9	33.0	5.31	5.28	74.6	74.0	1.79	1.76	3.5	3.5			
			Bottom	7.6	22.7	33.6	33.6	4.72	4.74	65.9	66.1	1.98	1.94	3.2	3.2			
10/08/05	15:05 - 15:15	30/Cloudy	Surface	1.0	28.5	31.2	31.2	7.33	7.35	112.8	113.1	3.47	3.48	7.0	7.0	6.2		
			Middle	4.1	27.6	32.3	32.4	6.47	6.45	99.6	99.3	2.79	2.77	5.5	5.5			
			Bottom	7.2	27.0	32.6	32.6	5.27	5.29	80.6	80.8	2.82	2.83	6.0	6.0			
12/08/05	16:20 - 16:34	32/Cloudy	Surface	1.0	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	4.5	27.3	32.1	32.1	5.39	5.35	83.8	83.4	1.90	1.95	3.0	2.9			
			Bottom	8.0	25.4	32.4	32.4	5.91	5.86	91.8	91.4	1.69	1.65	3.0	3.0			
15/08/05	08:35 - 08:45	29/Cloudy	Surface	1.0	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	4.3	27.7	31.7	31.7	6.72	6.70	101.4	101.1	2.89	2.89	5.5	5.6			
			Bottom	7.6	27.4	32.0	32.0	5.26	5.24	78.8	79.1	2.97	2.97	6.0	6.0			

**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)			
			Surface	Bottom		Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Depth-average
17/08/05	10:45 - 11:00	28/Rainy	Surface	1.0	25.6	31.6	31.6	7.10	7.05	102.9	102.5	2.03	1.98	3.8	3.8	4.0	1.86	4.0	4.0	
			Middle	3.7	24.1	32.4	5.96	5.93	87.3	86.9	1.93	1.62	3.8	4.0						
			Bottom	6.4	23.4	32.4	5.90	5.04	86.5	74.4	1.52	2.06	4.0	2.03	4.3					4.2
19/08/05	11:40 - 11:50	29/Rainy	Surface	1.0	28.0	33.2	33.2	4.99	7.12	73.9	107.4	2.00	3.50	7.0	7.0	6.4	3.15	6.0	6.3	
			Middle	4.4	27.4	30.4	5.86	5.85	88.4	88.3	3.50	2.87	7.0	2.88	6.0					6.0
			Bottom	7.8	27.0	30.8	5.84	4.97	88.1	75.0	3.07	3.08	6.3	3.08	6.3					6.3
22/08/05	14:25 - 14:50	29/Cloudy	Surface	1.0	29.3	29.7	29.7	7.03	7.05	105.5	105.9	2.47	2.46	5.3	5.2	5.0	2.23	5.0	4.8	
			Middle	4.2	28.2	32.1	7.06	7.03	106.2	105.4	2.44	2.14	5.0	2.12	5.0					5.0
			Bottom	7.4	27.7	32.3	7.01	7.15	105.2	107.2	2.10	2.09	4.8	2.11	4.8					4.8
24/08/05	15:05 - 15:15	30/Cloudy	Surface	1.0	29.4	29.4	29.4	6.70	6.72	101.8	102.0	3.16	3.17	6.7	6.8	6.3	2.99	6.3	6.3	
			Middle	4.4	27.9	31.1	6.17	6.16	93.7	93.5	2.93	2.94	6.3	2.94	6.3					6.3
			Bottom	7.8	27.5	31.9	6.14	5.33	93.3	80.4	2.87	2.88	6.0	2.88	5.7					5.9
26/08/05	14:23 - 14:40	27/Cloudy	Surface	1.0	25.6	31.7	31.7	6.89	6.88	101.3	100.8	2.03	2.07	4.5	4.5	4.0	1.80	4.0	4.0	
			Middle	4.3	25.3	31.9	6.87	6.92	100.2	101.9	2.10	1.55	4.5	1.50	4.5					3.5
			Bottom	7.6	25.1	32.0	6.82	6.34	103.5	93.9	1.45	1.88	4.0	1.84	4.0					4.0
29/08/05	09:05 - 09:15	30/Cloudy	Surface	1.0	27.8	32.1	32.1	7.06	7.08	104.4	104.7	1.98	1.99	3.3	3.4	4.0	1.97	4.5	4.5	
			Middle	4.2	27.0	32.7	5.92	5.94	87.6	87.8	2.06	2.07	4.5	2.07	4.5					4.5
			Bottom	7.4	26.9	33.1	5.95	5.09	88.0	74.7	2.07	1.84	4.0	1.85	4.0					4.0
31/08/05	10:00 - 10:18	30/Cloudy	Surface	1.0	27.4	32.2	32.2	7.06	7.03	106.6	106.3	2.24	2.25	5.0	5.0	4.2	1.89	4.0	3.5	
			Middle	4.0	24.9	34.4	6.62	6.58	106.0	98.8	1.85	1.83	5.0	1.83	4.0					4.0
			Bottom	7.0	24.7	34.8	6.54	5.48	98.4	83.3	1.80	1.61	3.5	1.59	3.5					3.5

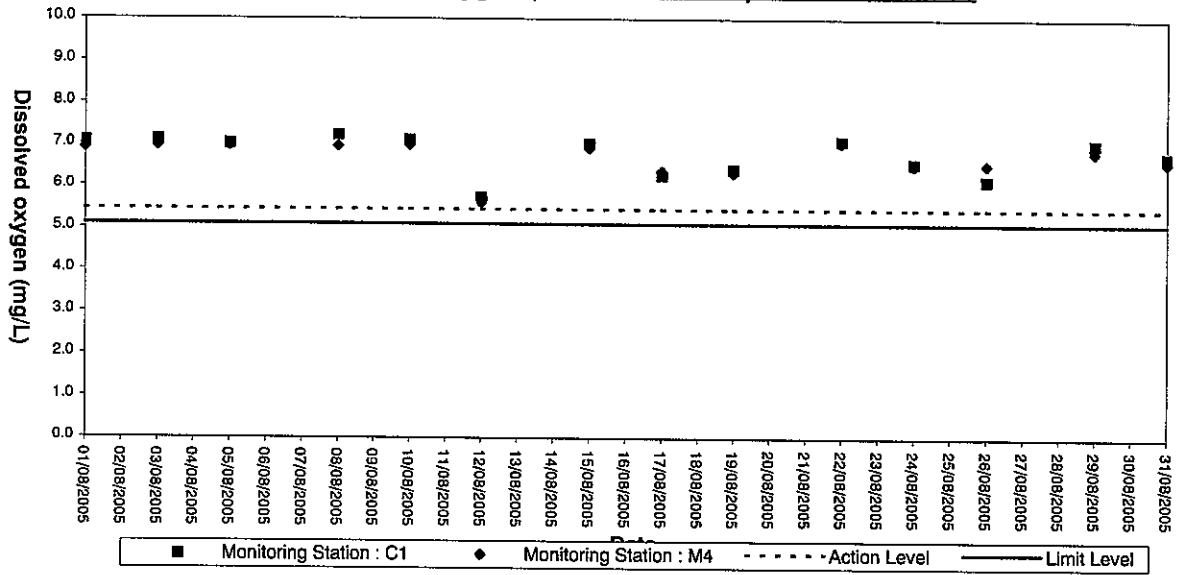


## **Appendix D3**

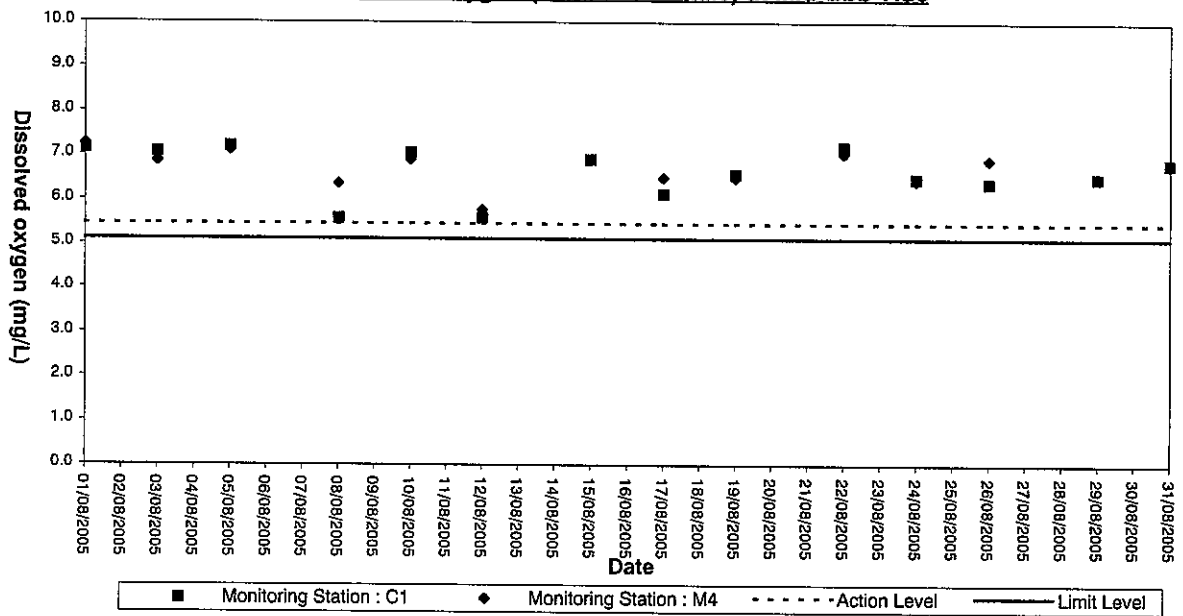
### **Graphical Plots of Impact Marine Water Quality Monitoring Data**



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

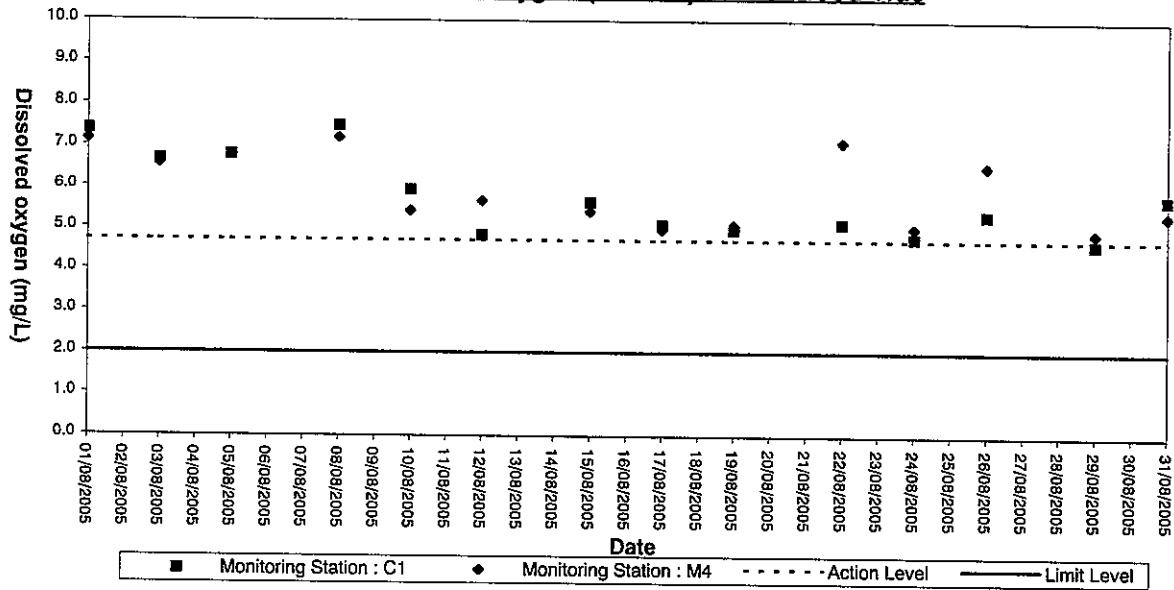


### Dissolved Oxygen (Surface & Middle) at Mid-Ebb Tide

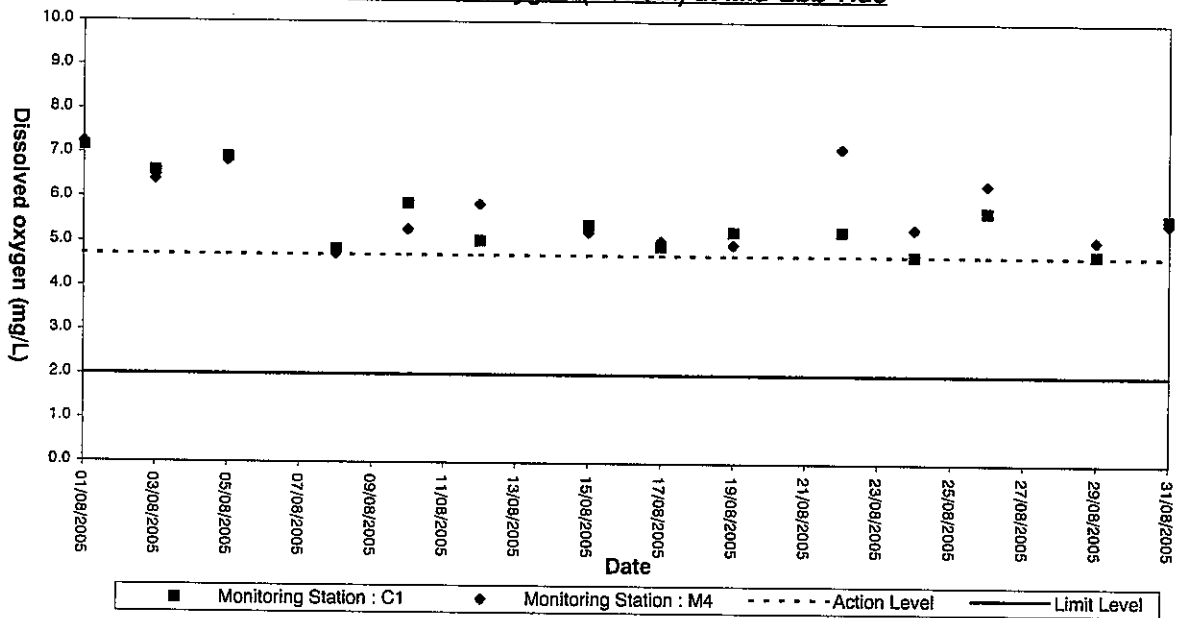




### Dissolved Oxygen (Bottom) at Mid-Flood Tide

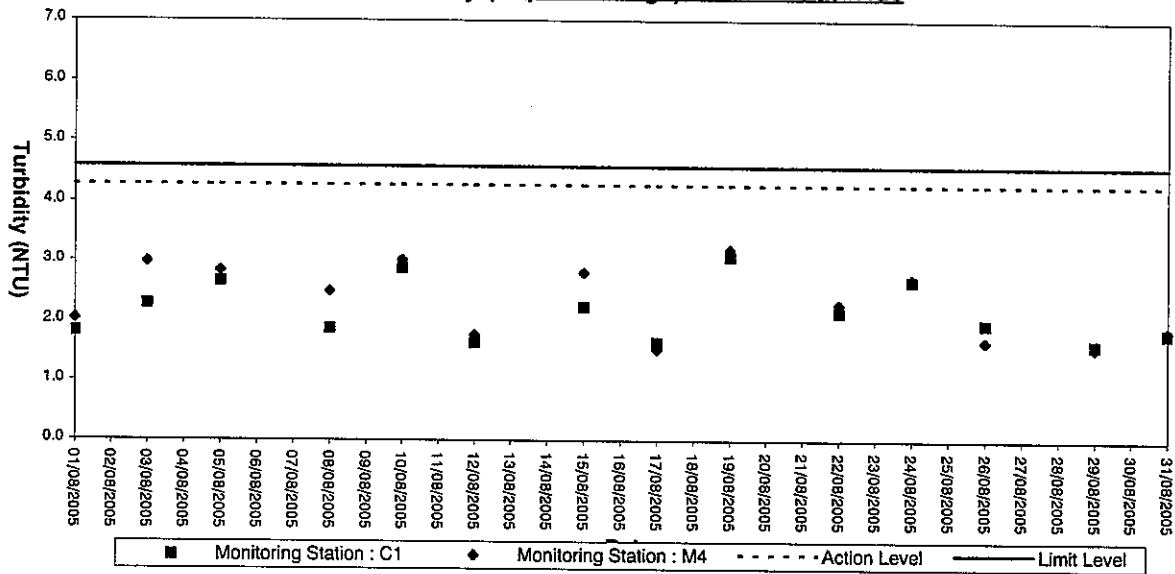


### Dissolved Oxygen (Bottom) at Mid-Ebb Tide

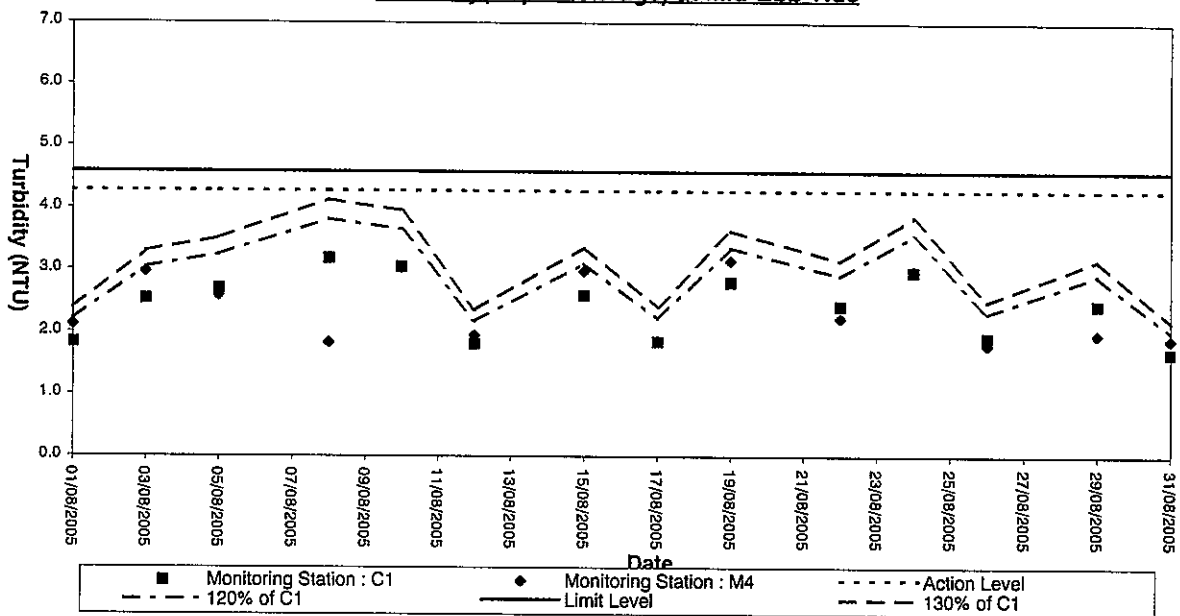




### Turbidity (Depth-average) at Mid-Flood Tide



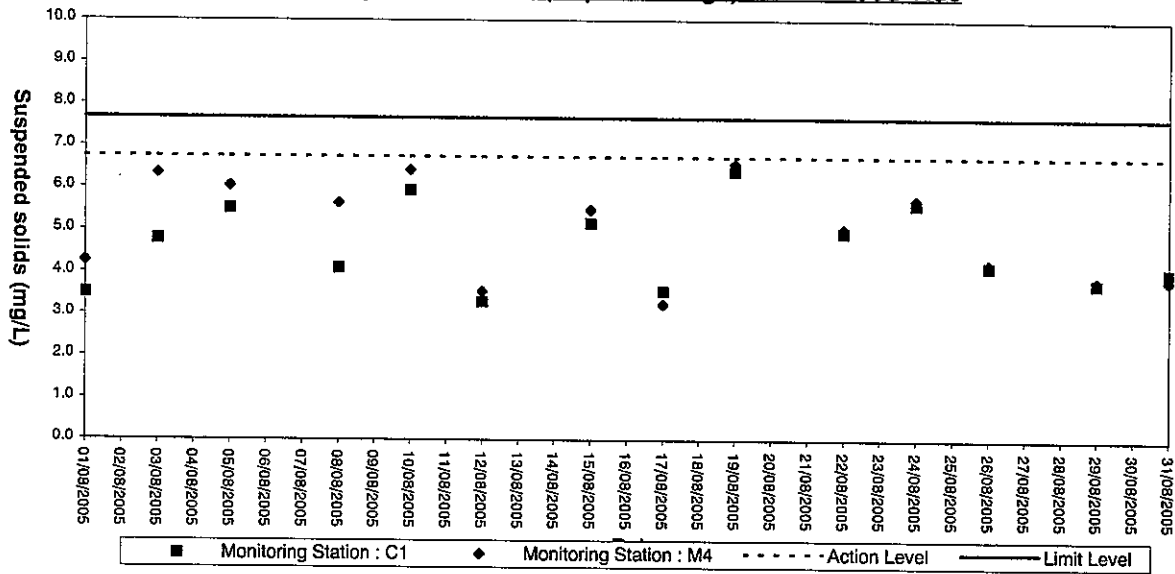
### Turbidity (Depth-average) at Mid-Ebb Tide



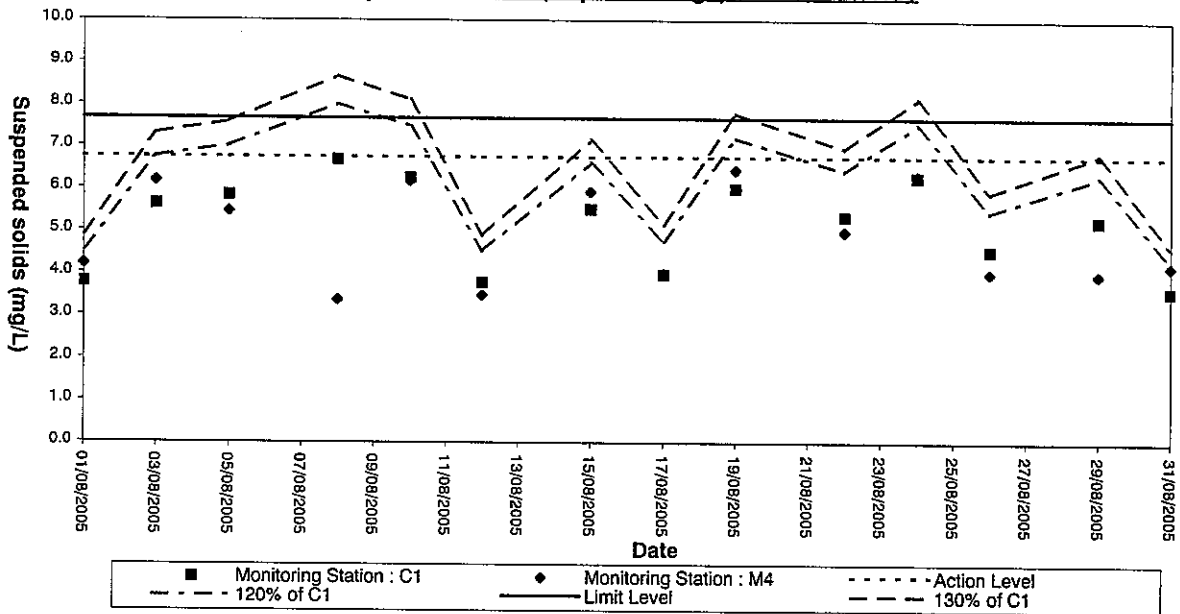




### Suspended solids (Depth-average) at Mid-Flood Tide



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





## **Appendix E**

### **Weather Condition**



### Weather information in August 2005

Date (MDY)	Time	Outside	Wind	Hi	Low	Wind Speed (m/s)		Wind Direction	Rain	Inside Temp (°C)	Archive Period
		Temp (°C)	Chill	Temp	Temp	Average	Hi				
08/01/2005	16:30	32	31.9	34.2	30.8	2.2	4.5	NW	0	27	30
08/01/2005	17:00	31.1	31.1	32.5	30.4	1.8	4	E	0	27.1	30
08/01/2005	17:30	31.4	31.3	32.7	29.9	2.7	4.5	SSE	0	27.1	30
08/01/2005	18:00	32.4	32.3	32.9	31.7	2.2	4.9	S	0	27.2	30
08/01/2005	18:30	30.9	30.8	31.9	29.2	2.2	4.5	SSE	0	27	30
08/01/2005	19:00	28.9	28.9	29.3	28.7	1.8	4.5	SSE	0	26.1	30
08/01/2005	19:30	28.5	28.5	28.7	28.4	0.9	2.7	S	0	25.2	30
08/01/2005	20:00	28.4	28.4	28.4	28.3	0.4	1.8	S	0	24.7	30
08/01/2005	20:30	28.4	28.4	28.5	28.2	1.3	3.6	S	0	24.4	30
08/01/2005	21:00	28.2	28.2	28.3	28.1	0.4	2.7	S	0	24.2	30
08/01/2005	21:30	28.1	28.1	28.2	28.1	0.9	2.2	SSE	0	23.9	30
08/01/2005	22:00	27.9	27.9	28.2	27.7	0.9	1.8	SSE	0	23.8	30
08/01/2005	22:30	27.8	27.8	27.9	27.6	1.3	2.7	SSE	0	23.6	30
08/01/2005	23:00	27.9	27.9	28.1	27.7	1.3	3.1	SSE	0	23.4	30
08/01/2005	23:30	28.1	28.1	28.1	27.9	1.8	3.1	S	0	23.4	30
08/02/2005	0:00	27.9	27.9	28.1	27.7	1.3	2.7	SSE	0	23.4	30
08/02/2005	0:30	27.7	27.7	27.9	27.6	0.4	2.2	SSE	0	23.3	30
08/02/2005	1:00	27.8	27.8	27.9	27.7	0.4	1.3	S	0	23.2	30
08/02/2005	1:30	27.6	27.6	27.8	27.5	0.4	1.8	SSE	0	23.1	30
08/02/2005	2:00	27.4	27.4	27.6	27.2	0.4	1.3	SSE	0	23	30
08/02/2005	2:30	27.1	27.1	27.3	26.8	0	0.9	S	0	22.8	30
08/02/2005	3:00	27.1	27.1	27.2	26.8	0	0.9	SSE	0	22.6	30
08/02/2005	3:30	26.9	26.9	27.1	26.8	0	0	---	0	22.5	30
08/02/2005	4:00	27.1	27.1	27.4	26.6	0	0	---	0	22.4	30
08/02/2005	4:30	26.5	26.5	26.7	26.2	0	0	---	0	22.4	30
08/02/2005	5:00	26.2	26.2	26.3	26	0	0	---	0	22.2	30
08/02/2005	5:30	26.1	26.1	26.2	25.9	0	0	---	0	22	30
08/02/2005	6:00	25.9	25.9	26.1	25.8	0	0	---	0	21.8	30
08/02/2005	6:30	26.3	26.3	26.7	25.9	0	0	---	0	21.8	30
08/02/2005	7:00	29.1	29.1	33.1	26.7	0	0	---	0	22.5	30
08/02/2005	7:30	33.6	33.6	34.8	31.2	0	0	---	0	24.2	30
08/02/2005	8:00	32.7	32.7	34.5	29.9	0	1.3	SSE	0	25.6	30
08/02/2005	8:30	34.3	34.3	35.6	33.3	1.3	2.7	SSE	0	26.6	30
08/02/2005	9:00	35.8	35.8	37.6	33.1	0.9	2.2	SSW	0	27.4	30
08/02/2005	9:30	36.4	36.4	37.4	35.3	1.3	2.7	S	0	28.1	30
08/02/2005	10:00	37	37	38.4	35.4	1.3	3.1	S	0	28.5	30
08/02/2005	10:30	37.2	37.2	38.2	36.2	2.2	3.6	S	0	28.8	30
08/02/2005	11:00	37.3	37.3	39.5	33.1	2.2	3.6	SSW	0	29.2	30
08/02/2005	11:30	36.7	36.7	37.9	35.5	2.7	4.9	SSW	0	29.3	30
08/02/2005	12:00	36.3	36.3	37.5	34.9	3.1	5.4	SSW	0	29.4	30
08/02/2005	12:30	36.5	36.5	37.6	35.2	2.7	4.9	SSW	0	29.5	30
08/02/2005	13:00	37	37	39.7	35.9	3.6	5.4	SSW	0	29.6	30
08/02/2005	13:30	36.8	36.8	38.7	34.4	3.6	6.3	SW	0	29.8	30
08/02/2005	14:00	37.1	37.1	38.3	35.2	3.1	5.4	SSW	0	29.8	30
08/02/2005	14:30	36.6	36.6	37.4	35.6	3.6	5.4	SSW	0	29.6	30
08/02/2005	15:00	36.4	36.4	37.5	35.4	3.6	5.8	SW	0	29.4	30
08/02/2005	15:30	35.7	35.7	37	34.6	4	6.3	SW	0	29.4	30
08/02/2005	16:00	35.2	35.2	36.3	34.2	3.6	6.3	SW	0	29.2	30
08/02/2005	16:30	35.4	35.4	36.5	34.5	3.1	5.4	SSW	0	29.1	30
08/02/2005	17:00	34.9	34.9	36	33.8	3.1	4.5	SSW	0	28.9	30
08/02/2005	17:30	33.6	33.6	34.9	32.7	3.1	4.5	SSW	0	28.8	30
08/02/2005	18:00	33.3	33.3	34.6	32.5	3.1	4.5	SW	0	28.7	30
08/02/2005	18:30	31.9	31.8	32.9	29.9	2.2	3.6	SSW	0	28.2	30
08/02/2005	19:00	29.4	29.1	29.9	29.1	2.7	4.5	SW	0	27	30
08/02/2005	19:30	28.8	28.8	29.1	28.7	1.3	3.6	SW	0	25.9	30
08/02/2005	20:00	28.6	28.3	28.7	28.4	2.2	4.5	SW	0	25.2	30
08/02/2005	20:30	28.4	28.4	28.6	28.1	1.3	2.7	SW	0	24.7	30
08/02/2005	21:00	28.2	28.2	28.3	28.1	1.3	2.2	SSW	0	24.3	30
08/02/2005	21:30	28.3	28.3	28.4	28.2	1.3	3.6	SW	0	24	30
08/02/2005	22:00	28.1	28.1	28.3	27.8	1.3	3.6	SW	0	23.7	30
08/02/2005	22:30	27.7	27.7	27.9	27.4	0.4	1.3	SSE	0	23.4	30
08/02/2005	23:00	27.6	27.6	27.9	27	0.4	1.8	SW	0	23.2	30
08/02/2005	23:30	27.1	27.1	27.5	26.8	0	0.4	WNW	0	22.9	30
08/03/2005	0:00	27.2	27.2	27.3	26.9	0	0.9	ESE	0	22.7	30
08/03/2005	0:30	27.3	27.3	27.6	26.8	0	1.3	SW	0	22.6	30
08/03/2005	1:00	27.3	27.3	27.5	27	0	2.7	WSW	0	22.5	30
08/03/2005	1:30	27.4	27.4	27.8	26.7	0	0.9	W	0	22.4	30
08/03/2005	2:00	26.7	26.7	27.2	26.2	0	0	---	0	22.2	30
08/03/2005	2:30	26.5	26.5	26.8	26.2	0	0.4	W	0	22.1	30
08/03/2005	3:00	26.8	26.8	27.4	26.6	0	1.3	W	0	21.9	30
08/03/2005	3:30	26.8	26.8	27.5	26.4	0	1.3	WNW	0	21.9	30
08/03/2005	4:00	27.4	27.4	27.7	27.2	0	2.2	NW	0	21.9	30
08/03/2005	4:30	27.4	27.4	27.9	27	0.4	2.7	W	0	22	30
08/03/2005	5:00	27.4	27.4	27.8	26.8	0.9	3.6	W	0	22	30
08/03/2005	5:30	27.5	27.5	27.7	27.2	0.4	3.1	W	0	21.9	30
08/03/2005	6:00	27.6	27.6	28.1	26.9	1.3	4.9	W	0	21.9	30
08/03/2005	6:30	28.1	27.8	28.2	27.9	2.2	4.5	W	0	22.2	30
08/03/2005	7:00	29.3	29.1	31.8	28.1	2.2	4	WSW	0	22.8	30
08/03/2005	7:30	32.2	32.2	33.2	30.5	1.3	4	WSW	0	24.6	30
08/03/2005	8:00	31.7	31.7	34.3	29.7	1.3	3.6	W	0	25.9	30
08/03/2005	8:30	33.2	33.2	34.4	30.6	1.3	4.5	W	0	26.7	30
08/03/2005	9:00	34.5	34.5	35.7	33.5	1.8	5.8	W	0	27.4	30
08/03/2005	9:30	33	33	37.1	30.9	1.3	5.8	WNW	0	28	30
08/03/2005	10:00	33.4	33.4	36.2	31.7	1.3	4.5	N	0	27.7	30
08/03/2005	10:30	34.3	34.3	37.5	32.1	1.3	5.8	N	0	27.5	30
08/03/2005	11:00	36.1	36.1	39.3	32.4	1.3	4.5	WNW	0	27.9	30
08/03/2005	11:30	36.4	36.4	38.7	33.4	1.3	4.5	N	0	28.4	30
08/03/2005	12:00	34.3	34.3	38	32.7	1.3	6.3	N	0	28.3	30
08/03/2005	12:30	36.3	36.3	37.7	33.7	1.8	5.8	N	0	28.1	30
08/03/2005	13:00	36.6	36.6	38.8	33.7	2.2	5.4	N	0	28.1	30
08/03/2005	13:30	36.9	36.9	40.5	32.2	2.2	4.9	N	0	28.2	30



### Weather information in August 2005

Date (MDY)	Time	Outside Temp (°C)	Wind Chill	Hi Temp	Low Temp	Wind Speed (m/s)		Wind Direction	Rain	Inside Temp (°C)	Archive Period
						Average	Hi				
08/03/2005	14:00	33.8	33.8	37.8	32.2	2.7	4.5	SW	0	28.4	30
08/03/2005	14:30	35.5	35.5	37.2	32.4	3.6	6.3	SW	0	28.6	30
08/03/2005	15:00	34.4	34.4	36.7	32	4	6.3	SW	0	28.8	30
08/03/2005	15:30	34.4	34.4	36.1	32.1	4.5	7.2	SW	0	28.6	30
08/03/2005	16:00	35.2	35.2	36.1	33.8	4.5	6.7	SW	0	28.6	30
08/03/2005	16:30	34.3	34.3	34.9	33.8	5.4	7.6	SW	0	28.4	30
08/03/2005	17:00	33.4	33.4	34.2	32.8	4.5	6.7	SW	0	28.3	30
08/03/2005	17:30	33.6	33.6	34.7	32.9	3.6	6.7	SW	0	28.2	30
08/03/2005	18:00	32.8	32.8	33.3	32.2	2.7	4.9	SW	0	28.1	30
08/03/2005	18:30	31.4	31.3	32.9	29.8	2.2	4.5	SW	0	27.8	30
08/03/2005	19:00	29.6	29.4	29.8	29.2	2.2	4.9	WSW	0	26.9	30
08/03/2005	19:30	29.1	28.8	29.3	29	2.7	6.7	WSW	0	25.9	30
08/03/2005	20:00	28.9	28.5	29.1	28.6	2.7	5.4	WSW	0	25.1	30
08/03/2005	20:30	28.6	28.6	28.7	28.6	1.3	3.1	WSW	0	24.7	30
08/03/2005	21:00	28.7	28.7	28.8	28.5	1.8	4.9	WSW	0	24.3	30
08/03/2005	21:30	28.6	28.6	28.8	28.4	1.3	3.6	WSW	0	24.1	30
08/03/2005	22:00	28.4	28.4	28.6	28.3	0.9	3.1	WSW	0	23.9	30
08/03/2005	22:30	28.4	28.4	28.6	28.2	0.9	4	W	0	23.8	30
08/03/2005	23:00	28.5	28.5	28.7	28.3	0.9	3.6	W	0	23.7	30
08/03/2005	23:30	28.5	28.5	28.7	28.3	0.9	3.6	W	0	23.6	30
08/04/2005	0:00	28.4	28.4	28.6	28.3	0.9	4	W	0	23.5	30
08/04/2005	0:30	28.4	28.4	28.6	28.2	0.4	2.7	WNW	0	23.4	30
08/04/2005	1:00	28.4	28.4	28.7	28.3	0.9	2.7	NW	0	23.4	30
08/04/2005	1:30	28.4	28.4	28.7	28.1	0.4	2.7	WNW	0	23.4	30
08/04/2005	2:00	28.1	28.1	28.6	27.8	0.4	2.2	W	0	23.3	30
08/04/2005	2:30	28.3	28.3	28.5	28.2	0.4	2.7	W	0	23.2	30
08/04/2005	3:00	28.4	28.4	28.6	28.2	0.4	2.7	NW	0	23.2	30
08/04/2005	3:30	28.4	28.4	28.6	28.3	0.4	2.7	WNW	0	23.2	30
08/04/2005	4:00	28.4	28.4	28.7	28.2	0.4	2.7	WNW	0	23.2	30
08/04/2005	4:30	28.4	28.4	28.6	28.3	0.4	2.7	WNW	0	23.2	30
08/04/2005	5:00	28.2	28.2	28.4	27.9	0.4	3.6	WNW	0	23.1	30
08/04/2005	5:30	27.9	27.9	28.2	27.7	0	1.8	WNW	0	23.1	30
08/04/2005	6:00	28.2	28.2	28.4	28	0.9	4.9	WNW	0	22.9	30
08/04/2005	6:30	28.6	28.6	28.8	28.2	0.9	3.6	WNW	0	23.1	30
08/04/2005	7:00	29.5	29.5	31.1	28.8	0.9	4.5	WNW	0	23.8	30
08/04/2005	7:30	31.7	31.7	33.2	30.9	1.3	4.5	W	0	25.1	30
08/04/2005	8:00	33.3	33.3	34.2	32.6	1.3	3.6	W	0	26.6	30
08/04/2005	8:30	33.9	33.9	35.3	31.8	0.9	3.1	W	0	28.1	30
08/04/2005	9:00	34.7	34.7	35.9	32.8	1.8	4.5	WSW	0	29.1	30
08/04/2005	9:30	34.2	34.2	36.2	32.7	2.2	5.4	W	0	30.1	30
08/04/2005	10:00	35.4	35.4	37.8	33.4	2.2	4.5	W	0	30.7	30
08/04/2005	10:30	34.9	34.9	37.9	33.3	1.3	4	W	0	30.9	30
08/04/2005	11:00	34.7	34.7	37.5	33	1.8	4.9	WNW	0	30.6	30
08/04/2005	11:30	34	34	36.9	32.4	1.8	4.9	WNW	0	29.9	30
08/04/2005	12:00	32.9	32.9	35.5	31.9	1.8	4.5	WNW	0	29.4	30
08/04/2005	12:30	34.8	34.8	37.6	32.8	1.8	5.4	WNW	0	29.1	30
08/04/2005	13:00	36.7	36.7	38.8	35.4	1.8	4	W	0	29.3	30
08/04/2005	13:30	37.9	37.9	40	34.9	2.2	4.9	WSW	0	29.8	30
08/04/2005	14:00	38.2	38.2	39.8	37.2	2.2	4.5	WSW	0	30.2	30
08/04/2005	14:30	36.7	36.7	39.1	34.3	3.6	6.3	SW	0	30.5	30
08/04/2005	15:00	36.3	36.3	38.1	33.6	3.6	6.3	SW	0	30.4	30
08/04/2005	15:30	36.5	36.5	38.2	35.4	3.6	6.3	SW	0	30.4	30
08/04/2005	16:00	35.8	35.8	37	34.9	3.6	6.7	SW	0	30.2	30
08/04/2005	16:30	34.7	34.7	35.8	34.1	4	6.3	SW	0	29.9	30
08/04/2005	17:00	33.6	33.6	34.7	32.9	4	6.7	SW	0	29.5	30
08/04/2005	17:30	33.6	33.6	34.7	32.7	3.6	5.4	SW	0	29.2	30
08/04/2005	18:00	32.5	32.4	33.4	31.8	3.6	7.6	SW	0	28.9	30
08/04/2005	18:30	31.4	31.2	32.6	30.2	2.7	4.5	SW	0	28.4	30
08/04/2005	19:00	29.9	29.6	30.3	29.7	2.7	6.3	SW	0	27.6	30
08/04/2005	19:30	29.4	29.1	29.7	29.3	2.7	4.9	SW	0	26.7	30
08/04/2005	20:00	29.3	29.1	29.4	29.2	2.2	4.9	SW	0	26	30
08/04/2005	20:30	29.1	29.1	29.3	28.9	1.8	4	SW	0	25.5	30
08/04/2005	21:00	29.1	29.1	29.2	29	1.8	3.6	SW	0	25.2	30
08/04/2005	21:30	29.1	29.1	29.2	28.9	1.8	4	SW	0	24.8	30
08/04/2005	22:00	28.9	28.9	29.1	28.9	0.9	3.1	WSW	0	24.6	30
08/04/2005	22:30	28.9	28.9	29.1	28.9	1.3	4.5	WSW	0	24.3	30
08/04/2005	23:00	29	29	29.1	28.8	1.3	3.6	WSW	0	24.1	30
08/04/2005	23:30	28.9	28.9	29	28.8	0.9	4	W	0	24.1	30
08/05/2005	0:00	28.9	28.9	29.1	28.8	0.9	4.5	WNW	0	23.9	30
08/05/2005	0:30	29	29	29.1	28.9	0.9	4	WNW	0	23.9	30
08/05/2005	1:00	28.9	28.9	29	28.7	0.4	3.1	W	0	23.9	30
08/05/2005	1:30	28.8	28.8	29.1	28.6	0.9	3.6	WNW	0	23.8	30
08/05/2005	2:00	28.7	28.7	29.1	28.6	0.9	3.6	W	0	23.7	30
08/05/2005	2:30	28.7	28.7	28.8	28.5	1.3	5.4	W	0	23.7	30
08/05/2005	3:00	28.8	28.8	28.9	28.7	1.3	5.4	WNW	0	23.7	30
08/05/2005	3:30	29	29	29.2	28.8	0.9	2.7	NW	0	23.7	30
08/05/2005	4:00	28.9	28.9	29.3	28.7	0.9	4.5	NW	0	23.7	30
08/05/2005	4:30	28.6	28.6	28.7	28.4	1.3	3.1	WSW	0	23.7	30
08/05/2005	5:00	28.7	28.7	28.9	28.4	1.3	4.9	W	0	23.6	30
08/05/2005	5:30	28.9	28.9	29.1	28.7	1.3	4.9	WNW	0	23.6	30
08/05/2005	6:00	28.7	28.4	28.9	28.4	2.2	5.4	WSW	0	23.6	30
08/05/2005	6:30	28.7	28.7	28.9	28.5	0.4	2.7	WNW	0	23.7	30
08/05/2005	7:00	29.2	29.2	29.4	28.9	0.4	3.1	NW	0	23.9	30
08/05/2005	7:30	30.7	30.7	32.2	29.4	0.4	2.7	N	0	24.4	30
08/05/2005	8:00	31.9	31.9	32.8	30.6	1.8	5.4	N	0	25.8	30
08/05/2005	8:30	33.7	33.7	35.6	31.9	0.9	4	N	0	27.3	30
08/05/2005	9:00	34.5	34.5	36.1	32.4	0.9	4	N	0	28.7	30
08/05/2005	9:30	34.7	34.7	35.9	33.4	1.3	4.9	WNW	0	29.6	30
08/05/2005	10:00	34.9	34.9	36.4	33.5	1.8	4	WNW	0	30.3	30
08/05/2005	10:30	36	36	37.1	34.7	1.3	4	WNW	0	30.8	30
08/05/2005	11:00	36.8	36.8	38.3	35.8	1.3	5.4	WNW	0	31.1	30



### Weather information in August 2005

Date (MDY)	Time	Outside Temp (°C)	Wind Chill	Hi Temp	Low Temp	Wind Speed (m/s)		Wind Direction	Rain	Inside Temp (°C)	Archive Period
						Average	Hi				
08/05/2005	11:30	37.2	37.2	39.1	35.7	0.9	4.5	WNW	0	30.9	30
08/05/2005	12:00	38.2	38.2	39.9	36.4	1.3	5.4	N	0	30.9	30
08/05/2005	12:30	37.9	37.9	39.6	36.8	0.9	4.5	WNW	0	31.1	30
08/05/2005	13:00	38	38	39.6	37.1	1.3	4	WNW	0	31.3	30
08/05/2005	13:30	37.9	37.9	40.2	36.2	2.2	7.6	WNW	0	31.4	30
08/05/2005	14:00	37.6	37.6	39.3	34.7	2.7	5.4	WSW	0	31.7	30
08/05/2005	14:30	36.1	36.1	37.7	33.8	3.1	6.3	SW	0	31.6	30
08/05/2005	15:00	37.1	37.1	38.4	35.3	3.1	5.4	SW	0	31.4	30
08/05/2005	15:30	36.9	36.9	38.3	34.6	2.2	4.9	WSW	0	31.6	30
08/05/2005	16:00	35.2	35.2	36.5	34.2	2.2	7.2	WNW	0	31.5	30
08/05/2005	16:30	35.6	35.6	37.3	34.4	1.8	6.3	N	0	31	30
08/05/2005	17:00	35.2	35.2	37.4	33.6	1.8	4.5	W	0	30.7	30
08/05/2005	17:30	33.1	33.1	34.6	32.1	1.8	3.6	SSE	0	30	30
08/05/2005	18:00	31.4	31.4	32.6	30.9	1.8	4.9	W	0	29.1	30
08/05/2005	18:30	31	31	31.3	30.7	1.8	4.5	WSW	0	28.3	30
08/05/2005	19:00	30.5	30.5	30.9	30.3	1.8	4.9	W	0	27.7	30
08/05/2005	19:30	30.1	30.1	30.4	30	0.4	1.8	WSW	0	27.1	30
08/05/2005	20:00	30.1	30.1	30.5	29.8	0.9	4.5	WSW	0	26.6	30
08/05/2005	20:30	30.2	29.9	30.5	29.9	2.7	6.7	W	0	26	30
08/05/2005	21:00	29.9	29.6	30.1	29.8	3.1	7.2	W	0	25.6	30
08/05/2005	21:30	29.7	29.6	30	29.5	2.2	6.7	W	0	25.4	30
08/05/2005	22:00	29.6	29.6	29.8	29.5	1.8	5.8	W	0	25.1	30
08/05/2005	22:30	29.7	29.7	29.9	29.4	0.9	4.5	WNW	0	24.9	30
08/05/2005	23:00	29.7	29.7	29.9	29.3	0.4	3.1	WNW	0	24.8	30
08/05/2005	23:30	29.7	29.7	29.9	29.3	0.9	4	W	0	24.7	30
08/06/2005	0:00	29.7	29.7	29.9	29.5	1.3	4.5	W	0	24.7	30
08/06/2005	0:30	29.7	29.7	29.8	29.6	1.3	4.5	W	0	24.7	30
08/06/2005	1:00	29.6	29.6	29.8	29.4	1.3	3.6	W	0	24.7	30
08/06/2005	1:30	29.4	29.4	29.7	29.1	0.9	4.5	W	0	24.6	30
08/06/2005	2:00	29.3	29.3	29.4	29	0.9	3.1	W	0	24.5	30
08/06/2005	2:30	29.3	29.3	29.5	29	1.3	4.5	W	0	24.4	30
08/06/2005	3:00	29.1	29.1	29.3	28.9	0.4	3.1	WNW	0	24.3	30
08/06/2005	3:30	28.9	28.9	29.1	28.8	0.4	2.2	NW	0	24.2	30
08/06/2005	4:00	28.9	28.9	29.1	28.7	0.9	3.1	NW	0	24.1	30
08/06/2005	4:30	29.1	29.1	29.1	28.9	0.9	4.5	NW	0	24.1	30
08/06/2005	5:00	28.9	28.9	29.1	28.8	0.9	4	WNW	0	24.1	30
08/06/2005	5:30	28.9	28.9	29	28.7	1.3	4	NW	0	24	30
08/06/2005	6:00	28.7	28.7	28.9	28.4	0.4	3.1	NW	0	23.9	30
08/06/2005	6:30	29.1	29.1	29.4	28.7	0.4	3.6	NW	0	24	30
08/06/2005	7:00	30.3	30.3	31.1	29.4	0.9	4.5	WNW	0	24.4	30
08/06/2005	7:30	32.2	32.2	33.3	30.9	0.9	4.5	N	0	25.8	30
08/06/2005	8:00	31.4	31.4	32.6	30.6	0.9	4	NNW	0	26.4	30
08/06/2005	8:30	30.9	30.9	31.9	30.1	0.4	2.2	S	0	26.8	30
08/06/2005	9:00	29.9	29.9	30.5	29.4	0.9	2.7	SSE	0	26.6	30
08/06/2005	9:30	29.9	29.9	30.4	29.4	0.9	2.2	SSE	0	26.2	30
08/06/2005	10:00	31.6	31.6	32.5	30.3	0.4	2.2	S	0	26.3	30
08/06/2005	10:30	33.1	33.1	34.3	31.6	0.4	2.2	SSE	0	26.8	30
08/06/2005	11:00	36.3	36.3	39.1	33.3	0.9	4	W	0	27.9	30
08/06/2005	11:30	36.7	36.7	38.2	34.9	1.3	5.4	WNW	0	29.3	30
08/06/2005	12:00	37.5	37.5	38.8	36.7	1.3	4.5	WNW	0	30	30
08/06/2005	12:30	37.4	37.4	38.7	36.7	2.2	4	WSW	0	30.5	30
08/06/2005	13:00	37.7	37.7	39.7	36.8	2.7	4.5	WSW	0	30.9	30
08/06/2005	13:30	37.3	37.3	38.2	36.2	3.6	5.8	SW	0	31.2	30
08/06/2005	14:00	36.9	36.9	38.6	35.2	4.5	7.2	SW	0	31.1	30
08/06/2005	14:30	36.7	36.7	37.4	36.1	4.5	6.7	SW	0	30.9	30
08/06/2005	15:00	37	37	38.5	36	3.6	6.3	SW	0	30.9	30
08/06/2005	15:30	36.4	36.4	37.5	35.3	4	7.6	SW	0	31.2	30
08/06/2005	16:00	36.2	36.2	37.3	35	4	6.3	SW	0	31.2	30
08/06/2005	16:30	35.4	35.4	36.4	34.6	2.7	6.3	SW	0	30.8	30
08/06/2005	17:00	34.6	34.6	35.4	33.4	3.1	5.4	SW	0	30.4	30
08/06/2005	17:30	33.1	33.1	34.2	32	4	6.3	SW	0	29.8	30
08/06/2005	18:00	31.8	31.7	32.4	31.3	3.6	5.8	SW	0	29.1	30
08/06/2005	18:30	31.2	31.1	31.6	31	2.7	6.3	WSW	0	28.2	30
08/06/2005	19:00	30.9	30.7	31.1	30.6	2.7	5.8	WSW	0	27.6	30
08/06/2005	19:30	30.4	30.4	30.8	30.2	1.3	5.4	W	0	26.9	30
08/06/2005	20:00	30.1	30.1	30.3	30	0	1.3	W	0	26.4	30
08/06/2005	20:30	30	30	30.4	29.9	0.4	3.1	W	0	26.1	30
08/06/2005	21:00	29.9	29.9	30.1	29.8	0.4	3.6	W	0	25.8	30
08/06/2005	21:30	30	30	30.3	29.7	1.3	5.4	W	0	25.6	30
08/06/2005	22:00	29.8	29.8	30	29.7	0.9	3.6	WSW	0	25.2	30
08/06/2005	22:30	29.9	29.9	30	29.7	0.4	2.7	SW	0	25.1	30
08/06/2005	23:00	29.8	29.8	29.9	29.6	0.4	4	WSW	0	25	30
08/06/2005	23:30	29.9	29.9	30	29.7	0.9	3.1	W	0	24.9	30
08/07/2005	0:00	29.9	29.9	30.1	29.8	0.9	3.6	NW	0	24.9	30
08/07/2005	0:30	29.9	29.9	30.2	29.7	0.9	4	W	0	24.8	30
08/07/2005	1:00	29.6	29.6	29.7	29.4	0.9	3.1	WSW	0	24.8	30
08/07/2005	1:30	29.6	29.6	29.7	29.3	0.4	3.6	WSW	0	24.7	30
08/07/2005	2:00	28.4	27.4	29.4	27.1	4	10.7	WSW	0	24.6	30
08/07/2005	2:30	28	27.7	28.5	27.4	2.2	7.6	SW	0	24.3	30
08/07/2005	3:00	28.7	28.7	29	28.5	0.9	4.5	WSW	0	24.1	30
08/07/2005	3:30	28.9	28.9	29.2	28.7	0.4	3.6	NW	0	23.9	30
08/07/2005	4:00	28.9	28.9	29.2	28.6	1.3	4	W	0	23.9	30
08/07/2005	4:30	28.9	28.7	29.2	28.6	2.2	5.4	WSW	0	23.8	30
08/07/2005	5:00	28.6	28.6	28.8	28.4	0.9	4	WSW	0	23.7	30
08/07/2005	5:30	28.9	28.9	29.1	28.8	1.3	4.9	W	0	23.7	30
08/07/2005	6:00	28.8	28.8	29	28.6	1.8	4	SW	0	23.6	30
08/07/2005	6:30	28.8	28.8	29.1	28.6	0.9	4	WSW	0	23.7	30
08/07/2005	7:00	29.4	29.4	30.2	29	0.4	2.7	WSW	0	24.2	30
08/07/2005	7:30	31	31	31.9	30.2	1.3	3.1	W	0	25.3	30
08/07/2005	8:00	31.9	31.9	32.6	31.3	1.8	3.6	SW	0	26.7	30
08/07/2005	8:30	31.2	31.2	31.8	30.5	1.3	3.1	SW	0	26.9	30



### Weather information in August 2005

Date (MDY)	Time	Outside Temp (°C)	Wind Chill	Hi Temp	Low Temp	Wind Speed (m/s)		Wind Direction	Rain	Inside Temp (°C)	Archive Period
						Average	Hi				
08/07/2005	9:00	32.1	32.1	33.7	31.2	2.7	4.9	SW	0	27.6	30
08/07/2005	9:30	33.8	33.8	36.9	32.5	1.3	4	WSW	0	28.5	30
08/07/2005	10:00	33.7	33.7	36.3	32.1	1.3	3.1	WSW	0	29.1	30
08/07/2005	10:30	35.3	35.3	38.1	33.4	1.8	4	SSW	0	29.7	30
08/07/2005	11:00	37	37	38.6	34.6	2.7	4.5	SSW	0	30.2	30
08/07/2005	11:30	36.3	36.3	37.6	35.4	3.6	5.8	SSW	0	30.3	30
08/07/2005	12:00	36.4	36.4	37.6	35.4	3.6	6.3	SW	0	30.3	30
08/07/2005	12:30	36.1	36.1	37	34.8	3.6	6.3	SW	0	30.3	30
08/07/2005	13:00	36.1	36.1	37.7	35.2	4	5.4	SSW	0	30.1	30
08/07/2005	13:30	36.2	36.2	37.9	35.4	4	6.3	SSW	0	29.8	30
08/07/2005	14:00	36.5	36.5	37.4	35.8	3.6	5.8	SSW	0	29.6	30
08/07/2005	14:30	36.8	36.8	37.8	35.7	3.6	5.8	SSW	0	29.4	30
08/07/2005	15:00	35.9	35.9	36.6	35.2	3.6	5.8	SW	0	29.3	30
08/07/2005	15:30	35.9	35.9	36.7	35.4	3.6	4.9	SW	0	29.2	30
08/07/2005	16:00	35.5	35.5	36.4	34.7	3.6	5.4	SW	0	29.1	30
08/07/2005	16:30	35.4	35.4	36.5	34.5	3.1	5.4	SW	0	28.9	30
08/07/2005	17:00	34.4	34.4	35.3	33.3	2.7	4.5	SW	0	28.7	30
08/07/2005	17:30	33.9	33.9	34.4	32.4	2.7	4.9	SW	0	28.6	30
08/07/2005	18:00	33.3	33.3	34	32.7	2.2	3.6	SW	0	28.4	30
08/07/2005	18:30	31.3	31.3	32.9	29.9	1.3	3.1	SSW	0	27.9	30
08/07/2005	19:00	29.6	29.6	30	29.4	1.3	2.7	SSW	0	26.9	30
08/07/2005	19:30	28.9	28.9	29.4	28.7	0.9	2.2	SSE	0	26.1	30
08/07/2005	20:00	28.8	28.8	29	28.6	0.9	2.2	S	0	25.3	30
08/07/2005	20:30	28.6	28.6	28.7	28.4	0	1.3	S	0	24.9	30
08/07/2005	21:00	28.7	28.7	28.8	28.6	0	0.9	S	0	24.6	30
08/07/2005	21:30	28.7	28.7	28.8	28.5	0	0.4	S	0	24.4	30
08/07/2005	22:00	28.6	28.6	28.7	28.3	0	0.9	S	0	24.2	30
08/07/2005	22:30	28.5	28.5	28.7	28.4	0.4	1.3	SSE	0	24	30
08/07/2005	23:00	28.3	28.3	28.4	27.9	0	0.9	S	0	23.8	30
08/07/2005	23:30	27.9	27.9	28.1	27.7	0	0	---	0	23.7	30
08/08/2005	0:00	27.8	27.8	27.9	27.6	0	0	---	0	23.6	30
08/08/2005	0:30	28.3	28.3	28.8	27.8	0.9	2.2	SE	0	23.4	30
08/08/2005	1:00	28.6	28.6	28.8	28.2	0.9	2.2	SE	0	23.5	30
08/08/2005	1:30	27.8	27.8	28.3	27.4	0.4	1.8	SSE	0	23.5	30
08/08/2005	2:00	27.4	27.4	27.5	27.3	0	0	---	0	23.4	30
08/08/2005	2:30	27.4	27.4	27.7	27.2	0	1.8	W	0	23.2	30
08/08/2005	3:00	27.5	27.5	27.8	27.3	0	0	---	0	23.2	30
08/08/2005	3:30	27.5	27.5	27.8	26.9	0	0.9	WSW	0	23.2	30
08/08/2005	4:00	27.7	27.7	28.4	26.9	0	1.8	E	0	23.1	30
08/08/2005	4:30	27.7	27.7	28.6	27	0.4	1.8	W	0	23.2	30
08/08/2005	5:00	27.5	27.5	28.2	27.1	0.4	2.2	SW	0	23.1	30
08/08/2005	5:30	27.4	27.4	27.8	27.2	0	1.3	WNW	0	23	30
08/08/2005	6:00	26.9	26.9	27.3	26.7	0.4	2.2	WSW	0	22.9	30
08/08/2005	6:30	27.1	27.1	27.3	26.9	0	0.9	NW	0	22.8	30
08/08/2005	7:00	28.3	28.3	31.3	27.3	0	0.9	ENE	0	23.2	30
08/08/2005	7:30	31.9	31.9	33.8	30.3	0	1.8	SE	0	24.4	30
08/08/2005	8:00	30.8	30.8	35.1	29.3	0.4	3.6	W	0	25.6	30
08/08/2005	8:30	33.2	33.2	34.4	31	1.8	4	NE	0	26.5	30
08/08/2005	9:00	32.9	32.9	34.2	30.9	3.1	5.4	ENE	0	27.3	30
08/08/2005	9:30	33.1	33.1	34.4	30.8	2.7	5.8	E	0	27.8	30
08/08/2005	10:00	32.9	32.9	34.6	30.6	3.1	5.8	ENE	0	28.1	30
08/08/2005	10:30	33.1	33.1	35.1	30.6	3.6	6.7	ENE	0	28	30
08/08/2005	11:00	32.6	32.6	35.9	30.6	3.1	6.7	ENE	0	27.9	30
08/08/2005	11:30	32.6	32.6	35.4	30.3	3.6	8	ENE	0	27.7	30
08/08/2005	12:00	33.7	33.7	35.8	31.5	3.1	6.3	ENE	0	27.5	30
08/08/2005	12:30	33.6	33.6	35.2	32.2	3.1	6.3	ENE	0	27.4	30
08/08/2005	13:00	35.2	35.2	36.9	33.7	2.7	5.8	ESE	0	27.4	30
08/08/2005	13:30	35.1	35.1	36.6	34.1	3.6	6.3	ESE	0	27.6	30
08/08/2005	14:00	35.1	35.1	36.4	34.2	3.6	6.7	E	0	27.6	30
08/08/2005	14:30	35.1	35.1	36.8	33.7	3.6	6.3	ESE	0	27.8	30
08/08/2005	15:00	35.2	35.2	36.3	34.3	3.6	7.2	ESE	0	27.6	30
08/08/2005	15:30	34.1	34.1	36.1	32.5	3.6	6.3	E	0	27.6	30
08/08/2005	16:00	32.2	32.1	34.2	30.9	3.1	5.8	E	0	27.4	30
08/08/2005	16:30	31.9	31.7	33.4	31.2	3.1	5.4	E	0	27.3	30
08/08/2005	17:00	30.9	30.6	32.3	30.3	3.1	5.8	E	0	27.1	30
08/08/2005	17:30	30.6	30.2	31.4	30.1	3.1	6.7	ESE	0	26.7	30
08/08/2005	18:00	30.4	30	31.3	30	3.6	6.3	ESE	0	26.4	30
08/08/2005	18:30	30.2	29.6	30.6	29.8	4	7.6	E	0	26.1	30
08/08/2005	19:00	29.8	29.1	30.1	29.6	4	6.3	E	0	25.6	30
08/08/2005	19:30	29.5	28.9	29.8	29.3	3.6	7.2	E	0	25.2	30
08/08/2005	20:00	29.4	29.1	29.7	29.2	2.7	5.4	E	0	25	30
08/08/2005	20:30	29.4	28.9	29.7	29.2	3.1	6.7	E	0	24.9	30
08/08/2005	21:00	29.2	28.7	29.6	29.1	3.1	6.7	E	0	24.8	30
08/08/2005	21:30	29.3	29	29.5	29.1	2.7	5.8	E	0	24.7	30
08/08/2005	22:00	29	29	29.2	28.8	1.3	6.3	SE	0	24.6	30
08/08/2005	22:30	28.8	28.4	29	28.6	2.7	6.7	ESE	0	24.3	30
08/08/2005	23:00	28.7	28.3	28.9	28.6	2.7	6.7	E	0	24.2	30
08/08/2005	23:30	28.7	28.7	29	28.5	1.8	5.4	SE	0	24.1	30
08/09/2005	0:00	28.6	28.6	28.7	28.4	1.3	4.9	SE	0	23.9	30
08/09/2005	0:30	28.4	28.4	28.6	28.2	0.9	3.1	ESE	0	23.9	30
08/09/2005	1:00	28.4	28.4	28.6	28.3	0.9	4	SE	0	23.6	30
08/09/2005	1:30	28.3	27.8	28.4	27.6	2.7	5.4	NE	0	23.7	30
08/09/2005	2:00	26.4	25.6	27.7	24.8	3.1	6.7	ENE	0	23.3	30
08/09/2005	2:30	25.2	25.2	25.5	24.8	0.9	4	SE	0	22.4	30
08/09/2005	3:00	25.1	25.1	25.5	24.5	0.4	3.1	WSW	0	21.9	30
08/09/2005	3:30	24.9	24.9	25.6	24.7	0.4	2.2	NNE	0	21.7	30
08/09/2005	4:00	25.5	25.5	25.7	25.2	1.3	3.1	NNE	0	21.6	30
08/09/2005	4:30	25.1	25.1	25.9	24.4	1.3	7.2	SE	0	21.3	30
08/09/2005	5:00	24.9	24.9	25.2	24.7	0.4	2.2	N	0	20.9	30
08/09/2005	5:30	24.8	24.8	25	24.7	0	2.2	NNE	0	20.8	30
08/09/2005	6:00	25.3	25.3	26.1	24.9	0.4	3.1	W	0	20.9	30



### Weather information in August 2005

Date (MDY)	Time	Outside	Wind	Hi	Low	Wind Speed (m/s)		Wind	Rain	Inside	Archive
		Temp (°C)	Chill	Temp	Temp	Average	Hi	Direction		Temp (°C)	Period
08/09/2005	6:30	26.7	26.7	27.4	25.9	1.8	6.3	NE	0	21.3	30
08/09/2005	7:00	27.7	27.2	28.2	27.3	2.7	5.4	NE	0	21.8	30
08/09/2005	7:30	28.3	27.7	28.7	27.8	3.1	6.3	NE	0	22.4	30
08/09/2005	8:00	28.4	27.8	28.7	28.2	3.1	6.7	NE	0	22.7	30
08/09/2005	8:30	28.9	28.5	29.9	28.4	2.7	5.8	NE	0	23.3	30
08/09/2005	9:00	28.4	28	28.7	28.3	2.7	6.7	NE	0	23.3	30
08/09/2005	9:30	28.3	27.6	28.6	28.1	3.6	8.5	NE	0	23.4	30
08/09/2005	10:00	28.7	27.9	29.4	28.2	3.6	9.4	NE	0	23.5	30
08/09/2005	10:30	27.9	27.3	29.7	26.1	3.1	6.3	NE	0	23.8	30
08/09/2005	11:00	30	30	33.9	26.7	0.9	4	NNE	0	23.9	30
08/09/2005	11:30	33.7	33.7	36.7	31.2	2.7	8	NE	0	25.2	30
08/09/2005	12:00	32.9	32.9	35.5	30.4	4	9.4	NE	0	25.6	30
08/09/2005	12:30	33.9	33.9	35.2	32.6	3.6	9.4	ENE	0	26.1	30
08/09/2005	13:00	34.3	34.3	36.2	33.2	4	8.5	ENE	0	26.4	30
08/09/2005	13:30	35.2	35.2	37.2	33.4	3.6	8.5	NE	0	26.9	30
08/09/2005	14:00	34.3	34.3	36.4	32.7	4	8.9	NE	0	27.1	30
08/09/2005	14:30	34.9	34.9	37.6	32.6	3.1	10.3	NE	0	27.1	30
08/09/2005	15:00	34.3	34.3	36.8	32.3	2.7	8.9	NE	0	27.4	30
08/09/2005	15:30	33.4	33.4	35.6	31.8	2.2	8.5	NE	0	27.6	30
08/09/2005	16:00	32.7	32.7	36.7	31.1	2.2	8.5	ENE	0	27.4	30
08/09/2005	16:30	30.5	30.3	31.7	29.7	2.7	8.9	SE	0	26.7	30
08/09/2005	17:00	31.9	31.7	35.1	30.3	3.1	9.4	SE	0	26.5	30
08/09/2005	17:30	31.4	31.3	33.8	29.7	2.7	8.9	SE	0	26.3	30
08/09/2005	18:00	29.6	29.6	29.9	29.2	1.8	5.8	NNE	0	25.7	30
08/09/2005	18:30	29.1	29.1	29.7	28.4	1.8	8.9	SE	0	25.1	30
08/09/2005	19:00	28.7	28.3	29.2	28.4	2.7	8.9	SE	0	24.6	30
08/09/2005	19:30	28.7	28.3	28.9	28.6	2.7	9.4	SE	0	24.3	30
08/09/2005	20:00	28.3	28.3	28.8	27.7	1.8	8.9	SE	0	24.1	30
08/09/2005	20:30	28	27.7	28.4	27.6	2.2	10.3	SSE	0	23.9	30
08/09/2005	21:00	28.2	27.2	28.6	27.7	4	12.1	SE	0	23.8	30
08/09/2005	21:30	28	26.6	28.5	27.6	5.4	15.2	SE	0	23.6	30
08/09/2005	22:00	27.2	25.6	27.7	26.6	5.4	13.4	SE	0	23.2	30
08/09/2005	22:30	27.9	27.5	28.2	27.6	2.7	7.6	SE	0	22.9	30
08/09/2005	23:00	27.1	25.2	28.1	26.7	6.3	15.2	SE	0	22.9	30
08/09/2005	23:30	27	25.6	27.8	25.9	4.5	12.1	SE	0	22.7	30
08/10/2005	0:00	27.4	26.1	27.9	26.6	4.5	12.1	SE	0	22.6	30
08/10/2005	0:30	27.2	25.4	27.8	26.6	5.8	11.2	SE	0	22.6	30
08/10/2005	1:00	27.3	25.6	28.5	26.5	6.3	16.1	ESE	0	22.4	30
08/10/2005	1:30	28.7	27.4	29	28.1	5.8	11.6	ESE	0	22.8	30
08/10/2005	2:00	28	27.2	28.4	27.7	3.6	9.8	SE	0	22.9	30
08/10/2005	2:30	27.4	25.9	28.2	26.6	4.9	13.4	ESE	0	22.8	30
08/10/2005	3:00	28.9	27.8	29.2	28.2	4.9	10.3	ESE	0	22.9	30
08/10/2005	3:30	27.2	26.9	28.9	26	2.2	7.6	E	0	23	30
08/10/2005	4:00	27.6	27.1	28.2	27.1	2.7	8	E	0	22.6	30
08/10/2005	4:30	28.6	28	29.1	28.1	3.1	8.9	E	0	22.8	30
08/10/2005	5:00	28.8	28.4	28.9	28.6	2.7	8.5	E	0	23.1	30
08/10/2005	5:30	28.3	28.1	28.7	27.9	2.2	7.6	ESE	0	23.1	30
08/10/2005	6:00	28	27.6	28.2	27.8	2.7	5.8	E	0	22.9	30
08/10/2005	6:30	28.3	27.7	28.7	28	3.1	7.2	E	0	23.1	30
08/10/2005	7:00	29	28.5	29.6	28.6	3.1	7.2	E	0	23.5	30
08/10/2005	7:30	30.8	30.6	32	29.3	2.7	6.3	E	0	24.3	30
08/10/2005	8:00	31.9	31.8	33.7	30.8	2.7	8.9	E	0	25.9	30
08/10/2005	8:30	31.8	31.8	35	29.6	1.8	6.3	E	0	26.7	30
08/10/2005	9:00	32.7	32.6	34.7	30	3.6	7.6	E	0	27	30
08/10/2005	9:30	31.3	31	34.3	29	3.6	10.3	E	0	27.3	30
08/10/2005	10:00	27.7	26.6	29.1	25.8	4	11.6	E	0	25.1	30
08/10/2005	10:30	30	29.3	33.7	27.8	4.5	11.6	E	0	23.8	30
08/10/2005	11:00	32	31.8	34.5	29.7	4	8.5	E	0	24.6	30
08/10/2005	11:30	32.6	32.6	35	30.3	4	8.5	E	0	26.1	30
08/10/2005	12:00	30.5	30.2	35.2	26.9	3.1	6.7	E	0	26.4	30
08/10/2005	12:30	32.8	32.7	35	27.6	4	8	E	0	26.7	30
08/10/2005	13:00	31.3	30.9	35.1	27.4	4.9	8.9	E	0	26.4	30
08/10/2005	13:30	32.7	32.7	35.4	27.7	5.4	10.3	E	0	26.7	30
08/10/2005	14:00	32.8	32.7	36.4	27.4	4.9	10.7	E	0	26.4	30
08/10/2005	14:30	33.3	33.3	36.3	31.2	3.1	8	E	0	26.7	30
08/10/2005	15:00	31.8	31.7	35.4	29.8	2.2	8.5	E	0	26.3	30
08/10/2005	15:30	31.9	31.8	34.3	30.7	2.7	7.6	E	0	26.2	30
08/10/2005	16:00	30.6	30.1	32.1	30.1	4	8.5	E	0	26.1	30
08/10/2005	16:30	31.4	31.1	33.1	30.1	3.6	9.4	E	0	25.9	30
08/10/2005	17:00	30.9	30.3	33.5	28.6	4.9	11.6	E	0	26.2	30
08/10/2005	17:30	28.9	27.9	30.9	28.2	4.5	8.9	ESE	0	25.2	30
08/10/2005	18:00	27.4	26.7	28.4	25.9	3.1	8.5	ESE	0	24.3	30
08/10/2005	18:30	27.9	26.8	28.5	27.1	4	8	E	0	23.7	30
08/10/2005	19:00	28.3	27.1	28.6	28.2	4.9	10.7	E	0	23.6	30
08/10/2005	19:30	28.7	27.6	29.1	28.5	5.4	10.3	E	0	23.7	30
08/10/2005	20:00	28.9	27.7	29.2	28.8	5.8	11.6	E	0	23.8	30
08/10/2005	20:30	29	27.9	29.3	28.8	4.9	9.8	E	0	23.9	30
08/10/2005	21:00	28.6	27.3	28.9	28.4	5.8	10.3	E	0	23.9	30
08/10/2005	21:30	27.9	26.6	28.7	26.6	5.4	12.1	ESE	0	23.7	30
08/10/2005	22:00	27.4	25.7	28.4	26.5	5.8	14.3	E	0	22.9	30
08/10/2005	22:30	28.4	27.2	29	26.6	5.4	12.1	E	0	22.1	30
08/10/2005	23:00	27.1	26.3	27.7	26.7	3.1	10.7	E	0	22.3	30
08/10/2005	23:30	28.2	27.1	28.9	26.9	4.5	9.8	E	0	22.4	30
08/11/2005	0:00	28.8	27.8	29	28.7	4.9	10.7	E	0	22.7	30
08/11/2005	0:30	28.8	28.1	28.9	28.7	3.6	7.2	E	0	22.8	30
08/11/2005	1:00	28.8	28.2	29	28.6	3.6	9.4	E	0	22.9	30
08/11/2005	1:30	28.1	27.1	29	26.7	4	8.5	E	0	23	30
08/11/2005	2:00	26.9	26.3	28.4	25.7	2.7	9.8	E	0	22.8	30
08/11/2005	2:30	28.2	27.6	28.7	27.3	3.1	7.6	ESE	0	22.6	30
08/11/2005	3:00	27.3	26.6	28.8	26.1	3.1	8.5	E	0	22.8	30
08/11/2005	3:30	26.2	25.3	26.7	25.6	3.1	13.9	SSE	0	22.2	30



### Weather information in August 2005

Date (MDY)	Time	Outside Temp (°C)	Wind Chill	Hi Temp	Low Temp	Wind Speed (m/s)		Wind Direction	Rain	Inside Temp (°C)	Archive Period
						Average	Hi				
08/11/2005	4:00	26.9	25.9	27.7	25.9	3.6	7.6	E	0	21.8	30
08/11/2005	4:30	28.4	27.3	28.9	27.7	4.9	9.8	E	0	22.2	30
08/11/2005	5:00	28.7	27.6	28.9	28.5	4.5	8.5	E	0	22.7	30
08/11/2005	5:30	28.7	27.8	28.8	28.6	4	7.6	E	0	22.9	30
08/11/2005	6:00	28.7	28	28.9	28.6	3.6	6.7	E	0	23.1	30
08/11/2005	6:30	28.7	27.8	29	28.5	4	7.2	E	0	23.2	30
08/11/2005	7:00	29.2	28.3	29.8	28.8	4.5	8.5	E	0	23.6	30
08/11/2005	7:30	30	29.4	30.9	29.5	4	8	E	0	24.5	30
08/11/2005	8:00	30.4	29.8	32.1	29.6	4	9.4	E	0	25.2	30
08/11/2005	8:30	30.2	29.6	31.6	29.6	4.5	9.4	E	0	25.7	30
08/11/2005	9:00	31.1	30.6	32.1	30.4	4.9	8	E	0	26.2	30
08/11/2005	9:30	32.1	31.9	33.4	30.9	4.9	8.9	E	0	26.9	30
08/11/2005	10:00	32.6	32.5	34.6	31.1	4.5	10.7	E	0	27.5	30
08/11/2005	10:30	33.2	33.2	35.2	31.9	4	9.4	E	0	27.8	30
08/11/2005	11:00	32.6	32.4	35.2	30.9	4.9	10.3	E	0	27.7	30
08/11/2005	11:30	33.8	33.8	34.9	32.4	4.5	9.8	E	0	27.8	30
08/11/2005	12:00	34	34	35.6	32.2	4.9	10.7	ESE	0	27.8	30
08/11/2005	12:30	32.4	32.2	37.6	28	4.5	8.5	E	0	27.6	30
08/11/2005	13:00	34.5	34.5	36.7	33.5	4.5	8.5	E	0	27.4	30
08/11/2005	13:30	35.1	35.1	37.2	33.6	4	7.6	SE	0	27.6	30
08/11/2005	14:00	34.9	34.9	37.2	32.9	3.6	8.5	SE	0	27.8	30
08/11/2005	14:30	34.5	34.5	35.6	33.5	3.6	8	E	0	27.6	30
08/11/2005	15:00	34.3	34.3	36.3	31.2	4	7.6	SE	0	27.4	30
08/11/2005	15:30	34.3	34.3	35.7	33.6	3.1	8.5	SE	0	27.3	30
08/11/2005	16:00	33.9	33.9	37.7	30.9	2.2	8	SE	0	27.7	30
08/11/2005	16:30	31.4	31.2	32.3	30.6	3.1	7.6	SE	0	27.3	30
08/11/2005	17:00	31.2	31	32.4	30.3	3.1	8	SE	0	27.1	30
08/11/2005	17:30	30.9	30.7	32.2	29.9	2.7	7.2	SE	0	26.8	30
08/11/2005	18:00	29.9	29.5	30.6	29.4	3.1	8	SE	0	26.2	30
08/11/2005	18:30	29.4	29.4	29.8	29.1	1.3	4.9	SSE	0	25.6	30
08/11/2005	19:00	29.2	29.2	29.4	28.9	1.3	4	SE	0	25.2	30
08/11/2005	19:30	28.9	28.9	29.5	28.7	1.8	5.8	SE	0	24.8	30
08/11/2005	20:00	28.9	28.7	29.2	28.6	2.2	5.8	SE	0	24.7	30
08/11/2005	20:30	28.9	28.9	29.2	28.7	0.9	4	SE	0	24.4	30
08/11/2005	21:00	28.7	28.7	29.4	28.5	1.3	2.7	NE	0	24.2	30
08/11/2005	21:30	28.6	28.6	29	28.2	1.3	3.1	NE	0	24	30
08/11/2005	22:00	28.3	28.3	28.8	27.9	0.4	2.2	ESE	0	23.8	30
08/11/2005	22:30	28.4	28.4	28.8	28	0.4	2.2	SE	0	23.6	30
08/11/2005	23:00	28.1	28.1	28.7	27.3	0	2.2	SSE	0	23.4	30
08/11/2005	23:30	27.3	27.3	27.6	27	0	0	---	0	23.2	30
08/12/2005	0:00	27	27	27.2	26.7	0	0	---	0	22.8	30
08/12/2005	0:30	26.9	26.9	27.2	26.7	0	0	---	0	22.6	30
08/12/2005	1:00	26.9	26.9	27.3	26.6	0	1.3	NE	0	22.4	30
08/12/2005	1:30	26.7	26.7	27.1	26.3	0	0.4	NE	0	22.2	30
08/12/2005	2:00	26.7	26.7	26.8	26.4	0	1.3	N	0	22.1	30
08/12/2005	2:30	26.5	26.5	26.8	26.2	0	0.4	N	0	21.9	30
08/12/2005	3:00	26.4	26.4	27.3	25.9	0	0	---	0	21.7	30
08/12/2005	3:30	25.9	25.9	26.2	25.8	0	0	---	0	21.6	30
08/12/2005	4:00	25.6	25.6	25.9	25.5	0	0	---	0	21.5	30
08/12/2005	4:30	26.8	26.8	27.8	25.5	0	1.8	NW	0	21.4	30
08/12/2005	5:00	27.1	27.1	27.7	26.4	0	0.4	N	0	21.6	30
08/12/2005	5:30	26.4	26.4	26.9	25.8	0	0.4	N	0	21.5	30
08/12/2005	6:00	26.4	26.4	27.3	25.8	0	1.8	N	0	21.4	30
08/12/2005	6:30	27.4	27.4	28	27.1	0	1.8	N	0	21.5	30
08/12/2005	7:00	28	28	28.5	27.4	0	3.1	N	0	22	30
08/12/2005	7:30	29.3	29.3	30.1	28.5	0	2.7	NNW	0	22.8	30
08/12/2005	8:00	30.6	30.6	31.6	29.9	0.9	3.1	NNW	0	23.8	30
08/12/2005	8:30	32	32	34.1	30.5	0.4	3.1	NW	0	25.1	30
08/12/2005	9:00	33.3	33.3	35.1	31.7	0.9	4.5	NNW	0	26.4	30
08/12/2005	9:30	33.7	33.7	35.4	31.9	1.3	4.9	N	0	26.9	30
08/12/2005	10:00	35.1	35.1	36.7	33.7	1.3	5.4	N	0	27.9	30
08/12/2005	10:30	36	36	38.7	34.1	1.3	6.3	WNW	0	28.7	30
08/12/2005	11:00	36.3	36.3	38.4	35.1	1.8	6.7	W	0	29.2	30
08/12/2005	11:30	38	38	40.8	35.1	0.9	5.4	WNW	0	29.7	30
08/12/2005	12:00	37.1	37.1	40	35.1	1.8	5.8	WNW	0	29.8	30
08/12/2005	12:30	37.5	37.5	39.8	35.6	1.8	6.7	WNW	0	29.9	30
08/12/2005	13:00	36	36	38.8	33.7	2.2	8.9	WNW	0	29.8	30
08/12/2005	13:30	36.1	36.1	37.9	35.1	1.3	4.9	WNW	0	29.7	30
08/12/2005	14:00	35.5	35.5	37.7	34.4	0.9	4	WNW	0	29.7	30
08/12/2005	14:30	38.1	38.1	41.6	35	1.3	6.7	WNW	0	29.8	30
08/12/2005	15:00	36.7	36.7	40.4	34.7	1.3	3.6	WNW	0	30.2	30
08/12/2005	15:30	36.2	36.2	37.4	34.8	0.9	4	WNW	0	30.1	30
08/12/2005	16:00	35.4	35.4	37.1	34.4	0.9	4	WNW	0	30.2	30
08/12/2005	16:30	35.1	35.1	36.4	34.4	0.9	3.1	NW	0	29.9	30
08/12/2005	17:00	35.3	35.3	36.4	34.3	0.9	3.6	NW	0	29.9	30
08/12/2005	17:30	34	34	34.3	33.8	0.4	2.7	NW	0	29.4	30
08/12/2005	18:00	33.7	33.7	34	33.5	0.9	4.5	WNW	0	29	30
08/12/2005	18:30	33.7	33.7	34.6	33.2	0.9	4	WNW	0	28.8	30
08/12/2005	19:00	32.3	32.2	33.3	29.2	2.2	9.8	NE	0	28.3	30
08/12/2005	19:30	29.5	29.5	30.6	28.7	1.8	8.9	NE	0	26.8	30
08/12/2005	20:00	29.2	29.2	29.7	28.9	0.4	2.7	WSW	0	25.8	30
08/12/2005	20:30	29.6	29.6	30.1	28.9	0.4	3.1	N	0	25.1	30
08/12/2005	21:00	29.7	29.7	30.4	29.4	0.4	4.5	W	0	24.9	30
08/12/2005	21:30	29.8	29.8	30.1	29.6	1.8	8	N	0	24.8	30
08/12/2005	22:00	29.8	29.6	30	29.7	2.7	8.9	W	0	24.8	30
08/12/2005	22:30	29.8	29.4	30.1	29.6	3.1	13	W	0	24.6	30
08/12/2005	23:00	26.8	25.2	29.8	26	4.9	15.2	SSE	0	23.9	30
08/12/2005	23:30	26.2	25.3	26.4	25.8	3.1	7.2	ESE	0	22.7	30
08/13/2005	0:00	25.9	25.9	26.5	25.7	1.3	4.9	S	0	22.4	30
08/13/2005	0:30	27.2	26.3	27.6	26.5	3.6	6.7	ESE	0	22.4	30
08/13/2005	1:00	26.4	26.4	27.4	25.6	1.3	4	NE	0	22.3	30





### Weather information in August 2005

Date (MDY)	Time	Outside Temp (°C)	Wind Chill	Hi Temp	Low Temp	Wind Speed (m/s)		Wind Direction	Rain	Inside Temp (°C)	Archive Period
						Average	Hi				
08/13/2005	1:30	26	26	26.1	25.8	0.9	2.2	NNE	0	22.1	30
08/13/2005	2:00	25.9	25.9	25.9	25.8	0	1.3	NNE	0	22	30
08/13/2005	2:30	26.1	26.1	26.2	25.9	0.4	2.2	N	0	22	30
08/13/2005	3:00	25.9	25.9	26.3	25.5	0.4	2.7	N	0	21.9	30
08/13/2005	3:30	26	26	26.2	25.8	0	1.3	N	0	21.9	30
08/13/2005	4:00	26	26	26.2	25.7	0.4	2.2	N	0	21.8	30
08/13/2005	4:30	26.2	26.2	26.7	25.7	0.4	2.2	N	0	21.9	30
08/13/2005	5:00	26.9	26.9	27.2	26.6	0.4	4	N	0	21.9	30
08/13/2005	5:30	26.7	26.7	27	26.5	1.3	4	NW	0	22	30
08/13/2005	6:00	26.7	26.7	26.9	26.6	1.3	4.5	N	0	21.9	30
08/13/2005	6:30	26.9	26.9	27.3	26.6	1.8	8	W	0	21.9	30
08/13/2005	7:00	27.3	26.8	27.4	27.2	2.7	7.6	NW	0	22	30
08/13/2005	7:30	27.6	27.3	28	27.3	2.2	8	W	0	22.3	30
08/13/2005	8:00	28.2	28.2	28.6	27.8	1.8	8	NNE	0	22.9	30
08/13/2005	8:30	28.8	28.8	29.6	28.2	1.8	7.6	N	0	23.4	30
08/13/2005	9:00	29.3	29.3	29.9	29	1.8	6.7	N	0	23.9	30
08/13/2005	9:30	29.4	29.4	30.2	29.1	1.3	7.2	N	0	24.1	30
08/13/2005	10:00	30	30	30.9	28.6	1.3	6.3	N	0	24.6	30
08/13/2005	10:30	30.4	30.4	31.2	29.9	0.9	4.5	W	0	25	30
08/13/2005	11:00	30	30	30.6	29.4	1.3	5.4	WNW	0	25	30
08/13/2005	11:30	28.4	28.4	30.4	26.8	0.9	3.1	W	0	24.9	30
08/13/2005	12:00	26.2	25.8	27.1	25.5	2.2	6.7	N	0	24.1	30
08/13/2005	12:30	25.7	25.7	26.1	25.5	1.8	9.8	WNW	0	23.1	30
08/13/2005	13:00	25.9	25.9	26.4	25.4	1.3	4.9	W	0	22.6	30
08/13/2005	13:30	27.1	27.1	28.1	26.4	0.4	2.7	WNW	0	22.6	30
08/13/2005	14:00	28.3	28.3	29.1	27.8	0.9	3.1	WSW	0	22.9	30
08/13/2005	14:30	29.4	29.4	30.1	28.8	0.4	2.7	NW	0	23.6	30
08/13/2005	15:00	30.2	30.2	30.9	29.6	0.9	3.6	NW	0	24.4	30
08/13/2005	15:30	30.9	30.9	32.1	30.6	0.9	3.1	WNW	0	24.9	30
08/13/2005	16:00	30.3	30.3	31.2	29.7	0.9	3.1	SW	0	25.2	30
08/13/2005	16:30	29.8	29.8	30.1	29.4	1.8	4	SSW	0	25.2	30
08/13/2005	17:00	29.6	29.6	29.8	29.4	1.8	4.5	SW	0	24.9	30
08/13/2005	17:30	26.2	25.8	29.8	23.7	2.2	8.9	N	0	24.2	30
08/13/2005	18:00	24.3	22.8	24.7	23.8	3.6	8.5	W	0	22.5	30
08/13/2005	18:30	24.3	23.8	24.8	23.9	2.2	7.6	WSW	0	21.7	30
08/13/2005	19:00	25.1	24.6	25.6	24.6	2.2	7.2	SW	0	21.2	30
08/13/2005	19:30	26.2	26.2	26.8	25.5	1.3	5.8	WSW	0	20.9	30
08/13/2005	20:00	27	26	27.4	26.3	3.6	8.9	WSW	0	21	30
08/13/2005	20:30	27.3	27	27.6	27.2	2.2	8.9	WSW	0	21.3	30
08/13/2005	21:00	27.9	26.7	28.3	27.4	4.5	9.4	WSW	0	21.8	30
08/13/2005	21:30	25.9	24.7	28.7	24.4	3.6	12.5	WSW	0	21.9	30
08/13/2005	22:00	24.4	24.4	24.7	23.8	1.8	13.4	N	0	21.1	30
08/13/2005	22:30	23.8	23.8	24	23.6	0.4	6.3	WNW	0	20.6	30
08/13/2005	23:00	24.2	24.2	24.4	23.9	0	1.8	NW	0	20.3	30
08/13/2005	23:30	24.1	24.1	24.5	23.9	1.3	6.3	WSW	0	20.2	30
08/14/2005	0:00	24.6	23.8	24.8	24.4	2.7	8.9	WSW	0	20.2	30
08/14/2005	0:30	24.6	24.6	24.8	24.3	0.9	4.9	WNW	0	20.3	30
08/14/2005	1:00	24.4	24.4	24.6	24.3	0	2.2	N	0	20.3	30
08/14/2005	1:30	25.8	24.1	26.3	24.6	4.5	12.1	SW	0	20.5	30
08/14/2005	2:00	26.7	24.7	27.3	26.1	6.3	13	SW	0	20.9	30
08/14/2005	2:30	27.9	25.9	28.2	27.3	8	14.8	SW	0	21.4	30
08/14/2005	3:00	27.4	26.7	27.9	27	3.1	11.6	WSW	0	21.7	30
08/14/2005	3:30	27.4	26.7	27.6	27.1	3.1	7.6	W	0	21.6	30
08/14/2005	4:00	27.4	27.2	27.7	27.2	2.2	6.3	W	0	21.6	30
08/14/2005	4:30	27.7	27.7	28.3	27.3	1.8	8.5	WSW	0	21.6	30
08/14/2005	5:00	28.2	27.2	28.6	27.8	4	11.6	WSW	0	21.9	30
08/14/2005	5:30	28.6	27.2	28.9	28.3	6.3	13.4	WSW	0	22.2	30
08/14/2005	6:00	28.7	27.3	28.9	28.4	6.3	13	WSW	0	22.4	30
08/14/2005	6:30	28.6	27.6	28.8	28.4	4.5	11.6	WSW	0	22.5	30
08/14/2005	7:00	28.8	28.1	29.1	28.6	3.6	10.7	WSW	0	22.7	30
08/14/2005	7:30	29.3	28.3	29.7	28.9	4.9	10.7	WSW	0	23.1	30
08/14/2005	8:00	30	29.4	30.4	29.5	4	10.3	WSW	0	23.8	30
08/14/2005	8:30	30.9	30.6	31.9	30.2	3.1	8.5	WSW	0	24.4	30
08/14/2005	9:00	31	30.8	32.1	30.3	2.7	8.9	W	0	25.1	30
08/14/2005	9:30	30.2	30.1	30.7	29.7	2.2	5.8	WSW	0	25	30
08/14/2005	10:00	30.9	30.9	32.7	29.7	1.8	5.8	WSW	0	25	30
08/14/2005	10:30	30.9	30.8	31.9	30.3	2.7	7.2	WSW	0	25.6	30
08/14/2005	11:00	30.7	30.4	31.2	30.2	3.1	8.5	WSW	0	25.8	30
08/14/2005	11:30	32.2	32.1	36.3	30.5	4.5	8	WSW	0	26.4	30
08/14/2005	12:00	31.6	31.3	33.9	30.7	4	7.6	WSW	0	27.1	30
08/14/2005	12:30	32.2	32.1	34.7	31.3	4.5	8.5	WSW	0	27.2	30
08/14/2005	13:00	31.4	31	32.4	30.6	4.9	9.8	SW	0	27.4	30
08/14/2005	13:30	30.3	29.7	30.8	30	4.5	8.9	SW	0	26.8	30
08/14/2005	14:00	31.3	31.1	34.2	29.9	3.6	8.5	SW	0	26.6	30
08/14/2005	14:30	33.1	33.1	36.2	30.6	3.1	8.9	WSW	0	27.3	30
08/14/2005	15:00	32.4	32.3	34.9	30.9	4	8.5	SW	0	27.8	30
08/14/2005	15:30	31.3	30.9	33.4	30.3	4.5	8	SW	0	27.3	30
08/14/2005	16:00	30.2	29.4	31.4	29.7	4.9	8.5	SW	0	26.6	30
08/14/2005	16:30	29.8	28.9	30	29.6	4.9	8.9	SW	0	26.1	30
08/14/2005	17:00	30.6	30.1	31.6	29.7	4.5	7.6	SW	0	26	30
08/14/2005	17:30	30.1	29.5	31.2	29.5	4	7.6	SW	0	26.1	30
08/14/2005	18:00	29.5	28.7	29.8	29.3	4.5	8	SW	0	25.7	30
08/14/2005	18:30	29.3	28.6	29.6	29.1	4	7.2	SSW	0	25.3	30
08/14/2005	19:00	28.8	28.2	29.1	28.3	3.1	7.2	SSW	0	24.8	30
08/14/2005	19:30	28.2	28.2	28.3	28.1	1.3	3.6	SSW	0	24.3	30
08/14/2005	20:00	28.1	28.1	28.3	27.8	0.9	3.1	S	0	24	30
08/14/2005	20:30	27.8	27.8	27.9	27.8	0.9	2.2	SSE	0	23.8	30
08/14/2005	21:00	27.9	27.9	28.1	27.8	1.3	3.1	S	0	23.6	30
08/14/2005	21:30	28	28	28.1	27.9	0.9	2.2	SSE	0	23.6	30
08/14/2005	22:00	28.2	28.2	28.3	28.1	0.9	2.7	S	0	23.5	30
08/14/2005	22:30	28.1	28.1	28.1	28	1.3	3.1	S	0	23.4	30



### Weather information in August 2005

Date (MDY)	Time	Outside Temp (°C)	Wind Chill	Hi Temp	Low Temp	Wind Speed (m/s)		Wind Direction	Rain	Inside Temp (°C)	Archive Period
						Average	Hi				
08/14/2005	23:00	28.1	28.1	28.3	28	1.8	3.6	S	0	23.3	30
08/14/2005	23:30	28.3	28	28.4	28.1	2.2	4.5	S	0	23.3	30
08/15/2005	0:00	28.2	27.9	28.3	28	2.2	4	S	0	23.4	30
08/15/2005	0:30	28	28	28.1	27.9	1.3	3.1	S	0	23.3	30
08/15/2005	1:00	27.9	27.9	28	27.8	1.3	3.1	S	0	23.2	30
08/15/2005	1:30	27.6	27.6	28	27.4	0.9	3.1	S	0	23.1	30
08/15/2005	2:00	27.5	27.5	27.6	27.4	0.4	1.3	S	0	23	30
08/15/2005	2:30	27.3	27.3	27.4	27.1	0	1.3	S	0	22.9	30
08/15/2005	3:00	27.3	27.3	27.4	27.3	0.4	1.3	S	0	22.7	30
08/15/2005	3:30	27.4	27.4	27.5	27.3	0.4	1.8	S	0	22.7	30
08/15/2005	4:00	27.5	27.5	27.5	27.4	0.4	1.8	SSE	0	22.7	30
08/15/2005	4:30	27.3	27.3	27.4	27.3	0.4	1.8	SSE	0	22.6	30
08/15/2005	5:00	27.5	27.5	27.6	27.3	0.4	1.8	SSE	0	22.6	30
08/15/2005	5:30	27.4	27.4	27.7	27.1	0	1.8	SE	0	22.6	30
08/15/2005	6:00	27.1	27.1	27.2	26.7	0	1.3	S	0	22.4	30
08/15/2005	6:30	26.8	26.8	27.1	26.6	0	0.4	S	0	22.4	30
08/15/2005	7:00	27.9	27.9	28.5	27.1	0	1.3	S	0	22.7	30
08/15/2005	7:30	28.7	28.7	29.6	28.3	0.4	1.8	S	0	23.2	30
08/15/2005	8:00	30.1	30.1	31.5	29.3	0	0.9	S	0	23.8	30
08/15/2005	8:30	30.3	30.3	31.3	29.7	1.3	2.7	SE	0	24.3	30
08/15/2005	9:00	34.2	34.2	35.9	31.3	1.3	2.7	SSE	0	26.1	30
08/15/2005	9:30	31.9	31.9	34.3	30.3	1.3	3.1	SSE	0	26.8	30
08/15/2005	10:00	30.7	30.7	33.2	29.5	1.8	4	SSE	0	26.8	30
08/15/2005	10:30	32.7	32.7	34.9	30.7	1.8	3.6	SSE	0	27.1	30
08/15/2005	11:00	34.1	34.1	36.9	30.6	1.3	4.9	SW	0	27.8	30
08/15/2005	11:30	29.5	29.5	30.8	26.6	0.9	4	N	0	27.5	30
08/15/2005	12:00	34.2	34.2	37.6	29.2	0.4	2.2	N	0	26.6	30
08/15/2005	12:30	34.9	34.9	38.7	31.7	0.4	2.2	WNW	0	27	30
08/15/2005	13:00	32.6	32.6	34.4	30.8	0.4	2.2	N	0	26.8	30
08/15/2005	13:30	33.1	33.1	34.6	32.1	0.4	2.2	WSW	0	26.8	30
08/15/2005	14:00	32.4	32.4	33.7	31.8	0.9	2.7	SSE	0	27	30
08/15/2005	14:30	32.5	32.5	33.3	31.9	0.9	2.2	SSE	0	27	30
08/15/2005	15:00	32.3	32.3	32.9	31.7	1.8	3.6	SSE	0	27.4	30
08/15/2005	15:30	29.8	29.4	31.8	28.1	3.1	6.3	SSE	0	27.1	30
08/15/2005	16:00	27.6	26.7	28.2	26.9	3.6	6.7	SSW	0	25.6	30
08/15/2005	16:30	26.5	26.2	27.1	26	2.2	4	SSE	0	24.4	30
08/15/2005	17:00	27.3	27.3	27.7	26.8	1.3	3.1	SSW	0	23.7	30
08/15/2005	17:30	26.7	26.7	27.2	26.4	0.4	2.7	SSE	0	23.4	30
08/15/2005	18:00	26.6	26.6	26.8	26.1	1.3	4.5	SSE	0	23.2	30
08/15/2005	18:30	26.1	25.7	26.2	25.8	2.2	4.5	S	0	23	30
08/15/2005	19:00	25.8	25.8	25.9	25.7	1.3	2.7	SSE	0	22.7	30
08/15/2005	19:30	26	26	26.2	25.8	0.9	2.7	SSE	0	22.3	30
08/15/2005	20:00	26.1	26.1	26.2	25.9	0	1.8	SE	0	22	30
08/15/2005	20:30	25.4	25.4	26.3	25.2	0.9	1.8	SE	0	21.9	30
08/15/2005	21:00	25.2	25.2	25.3	25	0.4	1.8	SSE	0	21.8	30
08/15/2005	21:30	25.3	25.3	25.5	25.1	0.4	1.8	SSE	0	21.7	30
08/15/2005	22:00	25.6	25.6	25.7	25.4	0.4	2.2	SW	0	21.6	30
08/15/2005	22:30	25.8	25.8	26.1	25.6	0.4	3.6	ESE	0	21.6	30
08/15/2005	23:00	26.3	26.3	26.8	25.8	1.3	3.6	E	0	21.6	30
08/15/2005	23:30	26.1	26.1	26.4	25.8	0.9	2.7	NE	0	21.7	30
08/16/2005	0:00	25.6	25.6	26.1	25.3	0.4	3.1	SSW	0	21.6	30
08/16/2005	0:30	26.2	26.2	26.3	25.9	0.9	2.7	SSE	0	21.6	30
08/16/2005	1:00	26.2	26.2	26.4	26	0.4	1.3	S	0	21.7	30
08/16/2005	1:30	25.9	25.9	26.2	25.8	0	0.4	S	0	21.6	30
08/16/2005	2:00	25.9	25.9	26.1	25.8	0	0	---	0	21.6	30
08/16/2005	2:30	26.5	26.5	26.8	26	0	1.8	ENE	0	21.5	30
08/16/2005	3:00	26.9	26.9	27.1	26.8	0.4	1.8	ENE	0	21.7	30
08/16/2005	3:30	27.2	27.2	27.4	26.8	0.9	4	E	0	21.8	30
08/16/2005	4:00	27.2	27.2	27.4	27.1	1.3	4	E	0	21.9	30
08/16/2005	4:30	27.4	27.4	27.6	27.2	1.3	3.1	E	0	22.1	30
08/16/2005	5:00	27.4	27.4	27.6	27.3	0.4	4	E	0	22.1	30
08/16/2005	5:30	26.9	26.9	27.6	26.4	0.4	4.5	ENE	0	22.2	30
08/16/2005	6:00	26.4	26.4	26.6	25.7	0.9	3.6	E	0	22.2	30
08/16/2005	6:30	25.9	25.9	26.5	25.3	0.4	3.1	NE	0	22	30
08/16/2005	7:00	26.8	26.8	27.6	25.9	0.4	4	S	0	21.9	30
08/16/2005	7:30	27.9	27.9	28.3	27.6	1.3	3.6	E	0	22.3	30
08/16/2005	8:00	28.2	28.2	28.6	27.8	0.9	3.1	NNE	0	22.6	30
08/16/2005	8:30	28.7	28.7	29.3	28.2	0.9	3.6	E	0	22.9	30
08/16/2005	9:00	29	29	30.3	27.3	1.3	4.9	E	0	23.6	30
08/16/2005	9:30	28.4	28.1	28.8	27.9	2.2	5.4	SSE	0	23.9	30
08/16/2005	10:00	27.7	27.7	28.8	26.2	0.9	3.1	S	0	23.6	30
08/16/2005	10:30	29.8	29.8	31.3	28.7	1.3	3.1	S	0	23.8	30
08/16/2005	11:00	31.8	31.8	33.7	29.8	0.9	4	S	0	24.7	30
08/16/2005	11:30	27.2	26.8	29.6	25.6	2.2	6.7	NE	0	24.5	30
08/16/2005	12:00	25.8	25.4	27.5	25.2	2.2	6.7	NE	0	23.4	30
08/16/2005	12:30	29.7	29.7	33.1	27.5	0.9	4.9	NE	0	23.3	30
08/16/2005	13:00	30.4	30.4	34.8	27.9	1.8	6.7	E	0	23.9	30
08/16/2005	13:30	31.8	31.6	33.7	29.3	3.6	10.3	SE	0	24.4	30
08/16/2005	14:00	31.2	31.1	34.4	29.4	2.7	7.2	NE	0	24.6	30
08/16/2005	14:30	30.6	30.2	32	29.7	3.1	8.5	ESE	0	24.6	30
08/16/2005	15:00	30.4	29.8	32.8	28.8	4.9	11.2	ESE	0	24.6	30
08/16/2005	15:30	31.7	31.5	35.9	29.3	3.6	8.9	SE	0	25.1	30
08/16/2005	16:00	28.4	28.4	30.4	25.9	1.8	8.5	SE	0	24.7	30
08/16/2005	16:30	27.8	27.8	28.7	26.9	1.3	7.6	NE	0	23.8	30
08/16/2005	17:00	27.9	27.6	28.6	27.4	2.2	6.3	SE	0	23.3	30
08/16/2005	17:30	27.7	26.8	28.1	27.2	3.6	9.4	SE	0	23.3	30
08/16/2005	18:00	26.8	25.5	28.2	24.9	4	10.7	SE	0	23.1	30
08/16/2005	18:30	25.1	23.2	26.1	24.2	4.5	8.9	ESE	0	22.1	30
08/16/2005	19:00	26.2	24.8	26.7	25.4	4	9.4	ESE	0	21.7	30
08/16/2005	19:30	26.7	25.8	26.9	26.4	3.1	9.4	ESE	0	21.8	30
08/16/2005	20:00	26.6	26.2	26.8	26.4	2.2	6.3	NE	0	21.7	30



### Weather information in August 2005

Date (MDY)	Time	Outside Temp (°C)	Wind Chill	Hi Temp	Low Temp	Wind Speed (m/s)		Wind Direction	Rain	Inside Temp (°C)	Archive Period
						Average	Hi				
08/16/2005	20:30	25.8	25.4	26.8	25.2	2.2	7.6	SE	0	21.8	30
08/16/2005	21:00	26.1	24.9	26.7	25.3	3.6	9.4	E	0	21.7	30
08/16/2005	21:30	26.8	25.5	27.3	26.1	4	8	E	0	21.8	30
08/16/2005	22:00	27	27	27.3	26.8	1.8	4.5	E	0	21.9	30
08/16/2005	22:30	27.1	27.1	27.3	26.9	0.9	3.6	E	0	21.9	30
08/16/2005	23:00	27.2	27.2	27.4	27.1	0.4	4	E	0	21.9	30
08/16/2005	23:30	27.1	27.1	27.3	26.9	1.8	4.5	E	0	21.9	30
08/17/2005	0:00	27.2	26.4	27.3	27	3.1	5.4	E	0	21.9	30
08/17/2005	0:30	27.2	26.7	27.4	27.1	2.7	5.8	E	0	22	30
08/17/2005	1:00	26.4	26.4	27.2	25.9	1.3	4.5	S	0	21.9	30
08/17/2005	1:30	26.7	26.7	26.9	26.3	1.8	4.5	SSE	0	21.8	30
08/17/2005	2:00	26.8	26.5	27	26.7	2.2	4.5	SSE	0	21.8	30
08/17/2005	2:30	25.3	24.6	27.1	24.6	2.7	8	S	0	21.6	30
08/17/2005	3:00	24.8	24.8	25.1	24.7	1.8	4.5	SSE	0	21.1	30
08/17/2005	3:30	25.1	24.6	25.3	24.8	2.2	4.5	S	0	20.9	30
08/17/2005	4:00	25.4	25	25.7	25	2.2	6.3	S	0	20.8	30
08/17/2005	4:30	25.1	25.1	25.3	24.9	1.8	4.9	S	0	20.7	30
08/17/2005	5:00	24.8	24.8	25.3	24.4	0	1.3	S	0	20.6	30
08/17/2005	5:30	24.5	24.5	24.6	24.4	0	0	---	0	20.4	30
08/17/2005	6:00	24.7	24.7	25.2	24.5	0	0.4	---	0	20.3	30
08/17/2005	6:30	25.3	25.3	25.7	25.1	0.4	2.7	NE	0	20.4	30
08/17/2005	7:00	26.5	26.5	27.2	25.7	1.3	4	E	0	20.6	30
08/17/2005	7:30	27.6	27.6	28.2	27.2	1.3	4	NNE	0	21.3	30
08/17/2005	8:00	28.7	28.4	29.5	28.1	2.2	5.4	E	0	22.3	30
08/17/2005	8:30	29.6	29.6	34.1	28.4	1.8	5.8	S	0	22.9	30
08/17/2005	9:00	29.3	28.7	31.6	28	3.6	8	E	0	23.8	30
08/17/2005	9:30	25.7	25.3	28.1	25.3	2.2	7.6	S	0	23.2	30
08/17/2005	10:00	28.9	28.9	35.4	24.3	1.8	8.9	S	0	23	30
08/17/2005	10:30	29.8	29.5	32.7	27.6	2.7	6.7	E	0	23.7	30
08/17/2005	11:00	27.9	27.2	29.9	25.4	3.1	6.7	ENE	0	23.8	30
08/17/2005	11:30	25.6	25.6	26.4	25	1.8	4.9	ESE	0	22.9	30
08/17/2005	12:00	25.9	25.6	26.8	24.8	2.2	4.9	NE	0	22.3	30
08/17/2005	12:30	26.7	26.7	30.3	25	0.9	3.6	NE	0	22.1	30
08/17/2005	13:00	31.2	31.2	36.6	28.5	1.3	3.6	WSW	0	23.1	30
08/17/2005	13:30	31.8	31.8	37	28.9	2.2	6.3	NE	0	24.1	30
08/17/2005	14:00	25.2	24.2	29.4	24.3	3.1	7.6	E	0	23.4	30
08/17/2005	14:30	24.4	23	24.7	24.2	3.6	7.6	E	0	21.7	30
08/17/2005	15:00	25.6	24.9	27.9	24.4	2.7	5.8	NE	0	21.4	30
08/17/2005	15:30	28.8	28.4	31.3	27.6	2.7	5.4	NE	0	22.3	30
08/17/2005	16:00	31.4	31.3	32.7	30.2	2.7	5.8	NE	0	22.9	30
08/17/2005	16:30	27.3	26.8	32.1	25.5	2.7	8.5	NE	0	22.9	30
08/17/2005	17:00	27.9	27.9	28.7	27.2	0.9	4.5	SSE	0	22.4	30
08/17/2005	17:30	27.2	27.2	28.8	26.1	1.8	4.9	E	0	22.5	30
08/17/2005	18:00	27.4	26.5	27.7	27.1	3.6	5.8	E	0	22.5	30
08/17/2005	18:30	27.2	26	27.7	26.3	4	9.4	SSE	0	22.6	30
08/17/2005	19:00	26.8	25.7	27.4	26.1	3.6	8.9	S	0	22.3	30
08/17/2005	19:30	27.3	26.3	27.5	26.4	3.6	8.5	SSE	0	22.2	30
08/17/2005	20:00	25.1	24.3	26.4	24.6	2.7	8.5	S	0	21.4	30
08/17/2005	20:30	25.7	25.7	26.1	25.2	1.3	3.6	S	0	20.8	30
08/17/2005	21:00	26.2	26.2	26.4	26	0.9	2.7	SSW	0	20.8	30
08/17/2005	21:30	25.1	25.1	26.1	24.8	0.9	3.6	S	0	20.8	30
08/17/2005	22:00	25.1	25.1	25.3	25	0	0.4	---	0	20.7	30
08/17/2005	22:30	24.8	24.8	25.1	24.6	0	1.3	NNE	0	20.5	30
08/17/2005	23:00	24.7	24.7	24.8	24.6	0	0	---	0	20.4	30
08/17/2005	23:30	24.8	24.8	24.9	24.6	0	1.3	N	0	20.3	30
08/18/2005	0:00	24.9	24.9	25.1	24.6	0	1.8	N	0	20.2	30
08/18/2005	0:30	24.8	24.8	25.2	24.6	0	0	---	0	20.2	30
08/18/2005	1:00	24.7	24.7	25	24.5	0	0.4	---	0	20.2	30
08/18/2005	1:30	24.6	24.6	24.7	24.4	0	0.4	---	0	20.1	30
08/18/2005	2:00	24.4	24.4	24.6	24.3	0	0.4	---	0	20	30
08/18/2005	2:30	24.5	24.5	24.6	24.3	0	1.3	N	0	19.9	30
08/18/2005	3:00	25.2	25.2	25.7	24.6	0.9	3.1	NE	0	19.9	30
08/18/2005	3:30	25.7	25.7	25.9	25.4	1.8	3.6	NNE	0	20.2	30
08/18/2005	4:00	25.3	25.3	25.8	24.9	0	2.7	NNE	0	20.3	30
08/18/2005	4:30	25.1	25.1	25.3	24.9	0.9	2.7	NNE	0	20.4	30
08/18/2005	5:00	25.5	25.5	26.1	25.1	0.4	3.6	NE	0	20.4	30
08/18/2005	5:30	26.1	26.1	26.5	25.8	1.3	5.4	ESE	0	20.6	30
08/18/2005	6:00	26.6	25.9	26.9	26.3	2.7	5.8	E	0	20.8	30
08/18/2005	6:30	25.6	25.2	26.7	24.8	2.2	4.9	SSW	0	20.8	30
08/18/2005	7:00	24.9	24.9	25.4	24.8	0	1.3	NNW	0	20.6	30
08/18/2005	7:30	26.1	26.1	26.4	25.4	0.4	1.8	N	0	20.8	30
08/18/2005	8:00	26.8	26.8	27.2	26.4	0.9	2.2	N	0	21.1	30
08/18/2005	8:30	25.9	25.5	27.8	24.7	2.2	6.7	SSE	0	21.3	30
08/18/2005	9:00	25.5	25.5	26.7	24.8	0.4	1.8	SSE	0	21.2	30
08/18/2005	9:30	27.1	27.1	28.7	25.4	0	1.3	N	0	21.7	30
08/18/2005	10:00	26.5	26.5	27.2	25.9	0	1.8	NNE	0	21.8	30
08/18/2005	10:30	26.7	26.7	28.1	25.5	0	0.9	ESE	0	21.9	30
08/18/2005	11:00	26.6	26.6	27.7	25.8	0.4	2.7	S	0	22.1	30
08/18/2005	11:30	27.4	27.4	29.6	25.8	1.8	3.6	SSW	0	22.3	30
08/18/2005	12:00	29.2	29.2	30.3	28.3	0.9	3.1	SSW	0	22.8	30
08/18/2005	12:30	29.8	29.1	30.8	28.1	4.5	8.5	SW	0	23.4	30
08/18/2005	13:00	30.1	29.5	32.8	29.1	4	8	SW	0	24.1	30
08/18/2005	13:30	29.7	29	33.5	26.2	4	6.7	SW	0	24.4	30
08/18/2005	14:00	29.3	28.8	32.4	26.3	3.1	7.6	SW	0	24.7	30
08/18/2005	14:30	28.3	27.4	30.3	25.9	4	7.6	SW	0	24.3	30
08/18/2005	15:00	29.1	28.2	30	27.9	4.5	8.9	SW	0	24.3	30
08/18/2005	15:30	27.3	25.7	29	25.8	5.4	9.8	SW	0	23.8	30
08/18/2005	16:00	25.9	24.1	26.2	25.7	4.9	8.9	SW	0	23.1	30
08/18/2005	16:30	25.7	23.8	25.9	25.6	4.9	10.3	SSW	0	22.7	30
08/18/2005	17:00	25.2	22.4	25.9	24.6	7.2	13	SW	0	22.3	30
08/18/2005	17:30	25.1	22.6	25.5	24.7	6.3	10.7	SW	0	21.7	30



### Weather information in August 2005

Date (MDY)	Time	Outside Temp (°C)	Wind Chill	Hi Temp	Low Temp	Wind Speed (m/s)		Wind Direction	Rain	Inside Temp (°C)	Archive Period
						Average	Hi				
08/18/2005	18:00	26	24.2	26.5	25.3	4.9	10.3	SW	0	21.6	30
08/18/2005	18:30	25.2	23.4	26.3	24.8	4.5	10.7	SW	0	21.4	30
08/18/2005	19:00	26	24.8	26.4	25.6	3.6	6.3	SW	0	21.1	30
08/18/2005	19:30	26.4	25.6	26.5	26.3	3.1	5.4	SW	0	21	30
08/18/2005	20:00	26.6	25.9	26.7	26.4	2.7	5.4	SW	0	21	30
08/18/2005	20:30	25.4	24.2	26.7	24.2	3.6	13	SW	0	21.1	30
08/18/2005	21:00	24.9	23.9	25.3	24.4	3.1	6.3	SW	0	20.7	30
08/18/2005	21:30	24.9	23.9	25.3	24.8	3.1	5.8	SW	0	20.6	30
08/18/2005	22:00	25.4	24.2	26.2	25.1	3.6	8.5	SW	0	20.6	30
08/18/2005	22:30	25.6	23.5	26.2	25.2	5.4	8.9	SW	0	20.7	30
08/18/2005	23:00	26.6	24.9	27.1	25.7	4.9	11.2	SW	0	20.8	30
08/18/2005	23:30	27.1	25.9	27.3	26.9	4	8.9	SW	0	20.9	30
08/19/2005	0:00	27.2	26.6	27.3	26.9	2.7	5.8	SW	0	21	30
08/19/2005	0:30	26.7	25.4	26.9	26.5	4	8	SSW	0	21.2	30
08/19/2005	1:00	25.6	23.7	26.8	24.9	4.9	10.7	SW	0	21.1	30
08/19/2005	1:30	25.2	23.9	25.6	24.9	3.6	8	SW	0	20.8	30
08/19/2005	2:00	24.7	24.7	25.1	24.6	1.3	4.9	W	0	20.7	30
08/19/2005	2:30	24.7	24.3	25.2	24.6	2.2	10.7	NNW	0	20.5	30
08/19/2005	3:00	24.2	22.7	24.7	23.8	3.6	9.4	WSW	0	20.3	30
08/19/2005	3:30	24.2	23.1	24.4	24	3.1	7.2	WSW	0	20.2	30
08/19/2005	4:00	24.4	24	24.6	24.3	2.2	5.4	WSW	0	20.1	30
08/19/2005	4:30	24.6	24.6	25	24.5	0.4	3.1	WSW	0	20.2	30
08/19/2005	5:00	25.1	25.1	25.3	24.9	0	1.3	SW	0	20.2	30
08/19/2005	5:30	26	25.6	26.4	25.2	2.2	4.9	WSW	0	20.2	30
08/19/2005	6:00	26.2	26.2	26.4	26	1.3	4.5	WSW	0	20.3	30
08/19/2005	6:30	26.2	26.2	26.5	25.8	1.8	4.5	WSW	0	20.4	30
08/19/2005	7:00	26.7	26.2	27.2	26.3	2.7	5.8	SW	0	20.6	30
08/19/2005	7:30	27.2	26.8	27.4	27.1	2.2	4.9	SW	0	20.8	30
08/19/2005	8:00	26.4	25.1	27.4	25.3	4	7.6	SW	0	21	30
08/19/2005	8:30	26.2	25.1	26.9	25.4	3.6	7.2	SSW	0	21.3	30
08/19/2005	9:00	25.3	23.1	25.8	24.7	5.8	13.9	SSW	0	21.4	30
08/19/2005	9:30	25.2	23.9	25.9	24.7	3.6	9.8	WSW	0	21.3	30
08/19/2005	10:00	25.2	23.6	25.7	24.9	4	10.7	WSW	0	21.4	30
08/19/2005	10:30	26.2	24.6	27.7	24.9	4.5	11.2	W	0	21.8	30
08/19/2005	11:00	28	26.7	28.5	26.7	4.9	14.8	WSW	0	22.2	30
08/19/2005	11:30	27.1	25.6	28.4	25.3	4.9	10.3	SW	0	22.3	30
08/19/2005	12:00	27.2	25.4	27.8	26.3	5.8	11.6	SW	0	22.1	30
08/19/2005	12:30	27.2	25.4	27.8	26.6	6.3	13.4	SW	0	22.2	30
08/19/2005	13:00	26.2	24.1	27.2	25.6	6.3	12.5	SW	0	22.1	30
08/19/2005	13:30	25.7	23.8	26.2	25.1	4.9	11.2	SSW	0	21.8	30
08/19/2005	14:00	25.5	24.3	26.3	25.2	3.6	9.4	WSW	0	21.6	30
08/19/2005	14:30	25.3	23.2	26.3	24.8	5.4	12.1	WSW	0	21.6	30
08/19/2005	15:00	24.7	23	24.9	24.4	4	12.1	WSW	0	21.4	30
08/19/2005	15:30	24.6	22.3	24.9	24.3	5.4	13.9	WSW	0	21.2	30
08/19/2005	16:00	24.6	22.4	24.8	24.4	4.9	11.2	WSW	0	21	30
08/19/2005	16:30	24.7	23.3	24.8	24.5	3.6	8.9	WSW	0	20.9	30
08/19/2005	17:00	25.1	24.1	25.3	24.7	3.1	8	SW	0	20.9	30
08/19/2005	17:30	24.9	24.2	25	24.7	2.7	6.3	WSW	0	20.9	30
08/19/2005	18:00	24.9	23.6	25.1	24.7	3.6	9.8	WSW	0	20.9	30
08/19/2005	18:30	24.9	23.2	25.2	24.7	4	8.9	SW	0	20.9	30
08/19/2005	19:00	25.1	23.1	25.3	24.9	4.9	10.7	SW	0	20.9	30
08/19/2005	19:30	25	22.9	25.2	24.9	4.9	9.8	SW	0	20.8	30
08/19/2005	20:00	25	22.8	25.1	24.9	5.4	9.8	SW	0	20.8	30
08/19/2005	20:30	25.1	23	25.1	24.9	4.9	8	SW	0	20.7	30
08/19/2005	21:00	25	22.8	25.1	24.9	5.4	9.4	SW	0	20.7	30
08/19/2005	21:30	24.8	22.6	25.1	24.7	5.4	9.4	SW	0	20.6	30
08/19/2005	22:00	24.8	23.4	24.9	24.6	3.6	8.5	WSW	0	20.5	30
08/19/2005	22:30	24.8	24.4	24.9	24.6	2.2	5.4	WSW	0	20.4	30
08/19/2005	23:00	24.9	24.2	25	24.7	2.7	7.6	WSW	0	20.4	30
08/19/2005	23:30	24.7	23.6	24.8	24.3	3.1	10.3	WSW	0	20.4	30
08/20/2005	0:00	25.1	23.2	25.2	24.7	4.5	9.4	SW	0	20.4	30
08/20/2005	0:30	24.8	22.6	24.9	24.7	5.4	12.1	WSW	0	20.4	30
08/20/2005	1:00	24.9	22.4	25.1	24.7	6.3	12.1	SW	0	20.4	30
08/20/2005	1:30	25	22.6	25.2	24.8	5.8	11.2	SW	0	20.5	30
08/20/2005	2:00	24.8	21.8	24.9	24.2	7.2	14.3	SW	0	20.5	30
08/20/2005	2:30	24.4	21.6	24.6	24.2	6.7	12.5	WSW	0	20.3	30
08/20/2005	3:00	24.7	21.9	25.1	24.1	6.7	15.2	WSW	0	20.3	30
08/20/2005	3:30	24.9	22.1	25.2	24.7	7.2	13	SW	0	20.4	30
08/20/2005	4:00	25.1	22.8	25.3	24.6	5.8	10.7	SW	0	20.5	30
08/20/2005	4:30	24.7	22.3	24.9	24.6	5.8	13.9	WSW	0	20.5	30
08/20/2005	5:00	24.8	23.4	24.9	24.7	3.6	8	WSW	0	20.4	30
08/20/2005	5:30	24.7	22.3	24.9	24.4	5.4	10.7	WSW	0	20.4	30
08/20/2005	6:00	24.4	23	24.6	24.3	3.6	10.3	W	0	20.3	30
08/20/2005	6:30	24.2	21.9	24.5	23.9	4.9	10.7	W	0	20.2	30
08/20/2005	7:00	24.3	21.1	24.7	23.8	7.6	19.7	WSW	0	20.2	30
08/20/2005	7:30	23.9	20.1	24.2	23.6	8.5	17	WSW	0	20.1	30
08/20/2005	8:00	23.8	20	24.1	23.6	8.5	18.3	W	0	19.9	30
08/20/2005	8:30	23.6	20.1	24.1	23.2	7.6	16.1	W	0	19.9	30
08/20/2005	9:00	23.8	20.2	24	23.5	8	16.1	W	0	19.8	30
08/20/2005	9:30	23.9	21.1	24.2	23.7	6.3	14.3	WSW	0	19.8	30
08/20/2005	10:00	24.1	21.2	24.1	23.9	6.3	14.3	WSW	0	19.9	30
08/20/2005	10:30	24	21.8	24.2	23.7	4.5	12.1	W	0	19.9	30
08/20/2005	11:00	23.9	21.6	24.1	23.8	4.9	10.7	W	0	19.8	30
08/20/2005	11:30	24.2	22.1	24.3	24.1	4.5	13.4	W	0	19.9	30
08/20/2005	12:00	24	21.1	24.2	23.7	6.3	12.5	W	0	20.1	30
08/20/2005	12:30	23.9	21.3	24.1	23.7	5.4	12.1	W	0	20.1	30
08/20/2005	13:00	24.1	22.9	24.2	23.9	3.1	7.6	W	0	20.1	30
08/20/2005	13:30	24.3	22.6	24.6	24.2	4	8.5	WSW	0	20.2	30
08/20/2005	14:00	24.5	23.4	24.6	24.4	3.1	8	WSW	0	20.4	30
08/20/2005	14:30	24.4	23.6	24.5	24.1	2.7	9.4	WSW	0	20.4	30
08/20/2005	15:00	24.3	22.9	24.7	24.2	3.6	11.2	WSW	0	20.3	30



### Weather information in August 2005

Date (MDY)	Time	Outside Temp (°C)	Wind Chill	Hi Temp	Low Temp	Wind Speed (m/s)		Wind Direction	Rain	Inside Temp (°C)	Archive Period
						Average	Hi				
08/20/2005	15:30	24.7	22.3	24.8	24.5	5.4	13.4	WSW	0	20.4	30
08/20/2005	16:00	24.6	23.2	24.7	24.6	3.6	7.6	WSW	0	20.6	30
08/20/2005	16:30	24.7	22.3	24.7	24.6	5.4	13.4	WSW	0	20.6	30
08/20/2005	17:00	24.8	22.3	24.9	24.7	5.8	10.7	WSW	0	20.7	30
08/20/2005	17:30	24.9	23.6	24.9	24.8	3.6	9.8	WSW	0	20.8	30
08/20/2005	18:00	24.9	23.6	24.9	24.8	3.6	8.9	WSW	0	20.8	30
08/20/2005	18:30	24.4	22.4	24.9	24	4.5	11.6	W	0	20.7	30
08/20/2005	19:00	24.2	24.2	24.5	24	1.8	7.6	W	0	20.3	30
08/20/2005	19:30	24.7	23.9	24.8	24.4	2.7	6.7	WSW	0	20.2	30
08/20/2005	20:00	24.8	23.4	24.8	24.7	3.6	9.4	WSW	0	20.3	30
08/20/2005	20:30	24.7	23.1	24.9	24.4	4	8	SW	0	20.3	30
08/20/2005	21:00	24.8	23.4	24.9	24.6	3.6	8.5	WSW	0	20.3	30
08/20/2005	21:30	24.9	23	25.2	24.8	4.5	9.8	SW	0	20.3	30
08/20/2005	22:00	25.2	23.3	25.2	25.1	4.5	8	SW	0	20.4	30
08/20/2005	22:30	24.9	22.4	25.1	24.8	5.8	10.3	SW	0	20.5	30
08/20/2005	23:00	24.7	22.3	25.3	24.4	5.4	8.9	SW	0	20.4	30
08/20/2005	23:30	25.7	24.2	26.6	25.2	4	8	WSW	0	20.4	30
08/21/2005	0:00	26	24.8	26.8	25.6	3.6	10.3	SW	0	20.7	30
08/21/2005	0:30	27.2	26.7	27.7	26.7	2.7	8.9	WSW	0	20.9	30
08/21/2005	1:00	27.3	26.3	27.9	26.7	3.6	8	WSW	0	21.2	30
08/21/2005	1:30	26.6	25.5	26.8	26.2	3.6	10.3	WSW	0	21.4	30
08/21/2005	2:00	26.5	25.4	27.1	26.1	3.6	8.5	WSW	0	21.5	30
08/21/2005	2:30	27.1	25.6	27.5	26.3	4.9	10.7	WSW	0	21.6	30
08/21/2005	3:00	26.7	25.2	27.1	26.4	4.5	10.3	WSW	0	21.7	30
08/21/2005	3:30	26.8	26.3	27.7	25.9	2.7	8.5	WSW	0	21.6	30
08/21/2005	4:00	27.5	26.6	27.8	27.3	3.6	7.2	WSW	0	21.7	30
08/21/2005	4:30	26.7	25.2	27.5	26.3	4.5	10.3	WSW	0	21.8	30
08/21/2005	5:00	26.8	26	27.1	26.4	3.1	6.3	WSW	0	21.8	30
08/21/2005	5:30	27.1	26.5	27.7	26.1	2.7	7.2	WSW	0	21.8	30
08/21/2005	6:00	27.2	26.8	27.4	26.4	2.2	6.3	WSW	0	21.8	30
08/21/2005	6:30	27.4	27.4	27.8	27.2	0.9	3.6	W	0	21.8	30
08/21/2005	7:00	27.7	27.7	27.9	27.6	0.4	2.2	WNW	0	21.8	30
08/21/2005	7:30	28.1	28.1	28.3	27.9	0.4	2.7	W	0	22	30
08/21/2005	8:00	28.4	28.4	28.7	28.3	1.3	4.9	WSW	0	22.2	30
08/21/2005	8:30	29.4	29.4	29.9	28.7	1.8	7.2	W	0	22.6	30
08/21/2005	9:00	30.1	30.1	30.9	29.6	1.8	4.9	W	0	23.2	30
08/21/2005	9:30	26.7	26.1	29.6	25.9	2.7	6.3	SW	0	23.1	30
08/21/2005	10:00	25.9	25.6	26.7	25.5	2.2	5.4	SW	0	22.4	30
08/21/2005	10:30	26.2	25.6	26.6	25.5	2.7	6.7	SW	0	21.8	30
08/21/2005	11:00	25.9	25.9	26.2	25.7	1.8	4.5	SW	0	21.7	30
08/21/2005	11:30	26.2	26.2	26.6	26.1	1.8	6.7	WSW	0	21.9	30
08/21/2005	12:00	26.3	26.3	26.4	26.2	1.8	7.6	SW	0	22.1	30
08/21/2005	12:30	26.4	26.1	26.7	26.3	2.2	8.5	SW	0	22	30
08/21/2005	13:00	26.7	26.1	26.9	26.4	2.7	5.8	SW	0	22.1	30
08/21/2005	13:30	25.8	24.9	26.4	25.3	3.1	9.4	WSW	0	21.9	30
08/21/2005	14:00	26.2	25.1	26.4	25.9	3.6	9.8	SW	0	21.7	30
08/21/2005	14:30	26.6	24.9	26.8	26.4	4.9	9.8	SW	0	21.8	30
08/21/2005	15:00	27	25.8	27.5	26.7	4	8	SW	0	21.8	30
08/21/2005	15:30	27.4	26.5	27.6	27.1	3.6	6.3	SW	0	21.9	30
08/21/2005	16:00	26.6	25.9	27.1	26.2	2.7	6.7	SW	0	21.9	30
08/21/2005	16:30	26.4	26.4	26.6	26.2	1.3	2.7	SSW	0	21.9	30
08/21/2005	17:00	26.4	26.4	26.6	26.3	1.3	2.7	S	0	21.9	30
08/21/2005	17:30	26.4	26.4	26.5	26.3	0.9	2.2	S	0	21.9	30
08/21/2005	18:00	26.3	26.3	26.3	26.3	0.4	1.8	S	0	21.9	30
08/21/2005	18:30	26.3	26.3	26.4	26.3	0.4	1.3	SSE	0	21.9	30
08/21/2005	19:00	26.4	26.4	26.4	26.4	0.4	1.3	S	0	21.9	30
08/21/2005	19:30	26.4	26.4	26.4	26.3	0.4	1.3	S	0	21.8	30
08/21/2005	20:00	26.4	26.4	26.4	26.4	0.4	1.3	S	0	21.8	30
08/21/2005	20:30	26.4	26.4	26.5	26.4	0.4	1.8	S	0	21.8	30
08/21/2005	21:00	26.5	26.5	26.6	26.4	0.4	1.8	S	0	21.8	30
08/21/2005	21:30	26.6	26.6	26.9	26.5	0.4	1.8	SSE	0	21.8	30
08/21/2005	22:00	26.9	26.9	27	26.8	0	0.9	S	0	21.8	30
08/21/2005	22:30	27	27	27.1	26.9	0	1.3	SSE	0	21.8	30
08/21/2005	23:00	27	27	27.1	26.9	0.4	1.8	S	0	21.9	30
08/21/2005	23:30	27	27	27.1	26.9	0	1.3	S	0	21.9	30
08/22/2005	0:00	26.9	26.9	27	26.8	0	1.3	S	0	21.8	30
08/22/2005	0:30	26.8	26.8	26.9	26.8	0.4	1.8	S	0	21.8	30
08/22/2005	1:00	26.9	26.9	26.9	26.8	0.4	1.8	S	0	21.8	30
08/22/2005	1:30	26.6	26.6	26.9	26.1	0.4	1.8	S	0	21.7	30
08/22/2005	2:00	26.8	26.8	26.9	26.8	0.4	1.8	S	0	21.7	30
08/22/2005	2:30	26.8	26.8	26.9	26.7	1.3	3.1	S	0	21.7	30
08/22/2005	3:00	26.7	26.7	26.8	26.6	0.9	2.2	S	0	21.7	30
08/22/2005	3:30	26.8	26.8	26.9	26.7	0.9	2.2	SSE	0	21.7	30
08/22/2005	4:00	26.8	26.8	26.9	26.7	0.4	1.8	S	0	21.7	30
08/22/2005	4:30	26.8	26.8	26.9	26.8	0.4	1.8	S	0	21.6	30
08/22/2005	5:00	26.9	26.9	27.1	26.8	0.4	1.8	SSW	0	21.6	30
08/22/2005	5:30	26.9	26.9	27	26.7	0.9	2.7	S	0	21.6	30
08/22/2005	6:00	26.8	26.8	27.1	26.7	0.4	1.8	S	0	21.6	30
08/22/2005	6:30	27.1	27.1	27.1	26.9	0.9	2.2	SSE	0	21.7	30
08/22/2005	7:00	27.4	27.4	28.2	27	0.4	2.2	SSE	0	21.9	30
08/22/2005	7:30	28	28	28.2	27.8	1.3	3.1	S	0	22.4	30
08/22/2005	8:00	28.2	28.2	28.4	27.8	1.3	3.6	SSW	0	22.6	30
08/22/2005	8:30	28.6	28.4	29.1	28.3	2.2	4	SW	0	23.1	30
08/22/2005	9:00	30.2	29.9	34.7	28.8	2.7	4.9	SW	0	23.9	30
08/22/2005	9:30	31.6	31.4	35.1	29.8	3.1	5.4	SW	0	25	30
08/22/2005	10:00	30.6	30.3	32.9	29.8	2.7	6.3	SW	0	25.3	30
08/22/2005	10:30	31.4	31.2	33.1	30.6	3.1	5.4	SW	0	25.8	30
08/22/2005	11:00	32.6	32.5	34.9	30.6	3.1	5.8	SW	0	25.9	30
08/22/2005	11:30	32.6	32.5	35.3	31.2	3.6	7.2	SW	0	26.4	30
08/22/2005	12:00	32.8	32.8	36.3	31.1	3.6	6.3	SW	0	26.9	30
08/22/2005	12:30	34	34	36.7	31.8	3.6	6.3	SW	0	27.2	30



### Weather information in August 2005

Date (MDY)	Time	Outside Temp (°C)	Wind Chill	Hi Temp	Low Temp	Wind Speed (m/s)		Wind Direction	Rain	Inside Temp (°C)	Archive Period
						Average	HI				
08/22/2005	13:00	33.6	33.6	36.1	31.3	3.6	6.7	SW	0	27.5	30
08/22/2005	13:30	32.7	32.7	35.6	30.9	3.6	6.3	SW	0	27.2	30
08/22/2005	14:00	32.9	32.9	35.9	30.8	3.1	5.4	SW	0	27.1	30
08/22/2005	14:30	33.7	33.7	36.6	31.4	3.6	7.6	SW	0	27.1	30
08/22/2005	15:00	33.4	33.4	35.3	31.2	4	7.6	WSW	0	26.9	30
08/22/2005	15:30	32.4	32.3	34.9	30.7	3.1	5.4	SW	0	26.7	30
08/22/2005	16:00	31.7	31.6	35	30.5	3.1	5.8	SW	0	26.6	30
08/22/2005	16:30	30.8	30.5	33.1	30.2	3.6	6.7	SW	0	26.5	30
08/22/2005	17:00	30.5	30.2	32.7	29.8	3.1	7.2	SW	0	26.1	30
08/22/2005	17:30	29.9	29.4	30.4	29.5	3.6	6.7	SW	0	25.9	30
08/22/2005	18:00	29.2	28.7	29.8	28.8	3.1	6.3	SW	0	25.3	30
08/22/2005	18:30	28.6	28.4	28.9	28.4	2.2	4.5	SW	0	24.8	30
08/22/2005	19:00	28.4	27.8	28.6	28.2	3.1	7.2	SW	0	24.3	30
08/22/2005	19:30	28	27.7	28.5	27.7	2.2	5.8	SW	0	23.7	30
08/22/2005	20:00	27.8	27.8	27.9	27.7	1.8	4	SW	0	23.4	30
08/22/2005	20:30	27.6	27.6	27.7	27.5	0.9	2.7	SW	0	23.2	30
08/22/2005	21:00	27.9	27.9	28.1	27.6	0.9	3.6	SW	0	23.1	30
08/22/2005	21:30	27.8	27.8	28	27.6	0	1.3	SSW	0	22.9	30
08/22/2005	22:00	27.7	27.7	27.9	27.6	0	1.8	S	0	22.8	30
08/22/2005	22:30	27.4	27.4	27.6	27.3	0	0.9	S	0	22.7	30
08/22/2005	23:00	27.5	27.5	27.6	27.3	0.4	2.2	S	0	22.6	30
08/22/2005	23:30	27.7	27.7	27.9	27.5	0.4	1.8	S	0	22.5	30
08/23/2005	0:00	27.4	27.4	27.6	27.2	0.4	1.8	S	0	22.5	30
08/23/2005	0:30	26.9	26.9	27.2	26.6	0.4	1.8	SSW	0	22.4	30
08/23/2005	1:00	26.8	26.8	27.1	26.7	0	0.4	---	0	22.2	30
08/23/2005	1:30	26.6	26.6	26.8	26.4	0	0.4	---	0	22.1	30
08/23/2005	2:00	27.1	27.1	27.3	26.9	0.4	1.3	SSE	0	22	30
08/23/2005	2:30	27	27	27.1	26.8	0.4	1.8	S	0	22.1	30
08/23/2005	3:00	26.8	26.8	27.1	26.3	0	1.3	S	0	22	30
08/23/2005	3:30	26.6	26.6	26.8	26.3	0.4	1.8	S	0	21.9	30
08/23/2005	4:00	26.7	26.7	26.8	26.6	0.9	2.7	S	0	21.9	30
08/23/2005	4:30	26.4	26.4	26.7	26.2	0.9	3.1	S	0	21.8	30
08/23/2005	5:00	26.6	26.6	26.7	26.4	1.3	3.1	SSW	0	21.7	30
08/23/2005	5:30	26.6	26.6	26.8	26.4	1.3	2.7	SW	0	21.7	30
08/23/2005	6:00	26.5	26.5	26.8	26.3	0.4	1.8	SW	0	21.6	30
08/23/2005	6:30	27	27	27.8	26.4	0.4	2.2	SW	0	21.6	30
08/23/2005	7:00	27.6	27.6	28.1	27.4	0.4	2.2	SSW	0	22.1	30
08/23/2005	7:30	30.6	30.6	32.7	28.1	0.4	2.2	SW	0	22.9	30
08/23/2005	8:00	33.1	33.1	34	31.3	0.9	2.7	SW	0	24.3	30
08/23/2005	8:30	33.9	33.9	35.8	30.9	0.4	2.7	SW	0	25.8	30
08/23/2005	9:00	34.8	34.8	37.1	32.4	1.3	3.6	SW	0	26.8	30
08/23/2005	9:30	34.9	34.9	36.8	32.1	2.2	3.6	SW	0	27.5	30
08/23/2005	10:00	33.4	33.4	36.3	31.2	2.2	4.9	SW	0	28	30
08/23/2005	10:30	34.7	34.7	36.3	32.1	3.1	5.4	SW	0	28.3	30
08/23/2005	11:00	33.9	33.9	36.2	31.1	2.7	4.9	SW	0	28.4	30
08/23/2005	11:30	34.2	34.2	36.7	31.5	2.7	4.9	SW	0	28.2	30
08/23/2005	12:00	35.2	35.2	37.4	32.4	3.6	6.3	SW	0	28.5	30
08/23/2005	12:30	36	36	37.7	34.1	3.1	5.8	SW	0	28.6	30
08/23/2005	13:00	35.9	35.9	37.2	32.9	3.1	5.8	SW	0	28.4	30
08/23/2005	13:30	35.6	35.6	36.9	33.9	3.6	5.8	SW	0	28	30
08/23/2005	14:00	35.4	35.4	36.6	33.9	4	6.3	SW	0	27.8	30
08/23/2005	14:30	34.7	34.7	36.2	32	4	6.7	SW	0	27.8	30
08/23/2005	15:00	34.3	34.3	35.3	31.8	4	7.2	SW	0	27.7	30
08/23/2005	15:30	34.2	34.2	35.6	31.8	3.6	6.7	SW	0	27.6	30
08/23/2005	16:00	34.1	34.1	35.2	31.9	3.6	6.3	SW	0	27.4	30
08/23/2005	16:30	32.9	32.9	34.7	30.9	3.1	5.8	SW	0	27.2	30
08/23/2005	17:00	30.9	30.8	33.8	30.2	2.7	4.5	SW	0	26.8	30
08/23/2005	17:30	30.2	29.9	30.5	29.6	2.7	4.9	SW	0	26.4	30
08/23/2005	18:00	29.5	29.3	30.2	28.9	2.2	4	SW	0	25.9	30
08/23/2005	18:30	28.9	28.7	29.2	28.6	2.2	4	SW	0	25.3	30
08/23/2005	19:00	28.4	28.4	28.6	28.3	1.3	2.7	SW	0	24.8	30
08/23/2005	19:30	28.4	28.4	28.6	28.2	1.8	4	SW	0	24.3	30
08/23/2005	20:00	28	28	28.2	27.9	1.3	3.1	SW	0	24	30
08/23/2005	20:30	27.9	27.9	28.2	27.8	0.4	2.7	WSW	0	23.8	30
08/23/2005	21:00	28.1	28.1	28.3	27.9	0.9	3.6	WSW	0	23.6	30
08/23/2005	21:30	27.9	27.9	28.1	27.8	0.9	2.2	SW	0	23.4	30
08/23/2005	22:00	27.7	27.7	28.1	27.5	0	1.8	SW	0	23.2	30
08/23/2005	22:30	28.1	28.1	28.3	27.9	1.3	3.6	WSW	0	22.9	30
08/23/2005	23:00	27.9	27.9	28.1	27.7	1.3	3.1	SW	0	22.8	30
08/23/2005	23:30	27.6	27.6	27.8	27.4	0	1.8	WSW	0	22.7	30
08/24/2005	0:00	27.3	27.3	27.6	27.2	0.4	1.3	S	0	22.6	30
08/24/2005	0:30	27.4	27.4	27.5	27.3	0.4	1.8	SSW	0	22.4	30
08/24/2005	1:00	27.3	27.3	27.4	27	0.4	1.8	SSW	0	22.4	30
08/24/2005	1:30	27.2	27.2	27.4	27	0	0.9	SSW	0	22.3	30
08/24/2005	2:00	27.4	27.4	27.5	27.2	0.9	2.2	SSW	0	22.3	30
08/24/2005	2:30	27.4	27.4	27.7	27.2	0.9	3.6	SW	0	22.3	30
08/24/2005	3:00	27.2	27.2	27.4	27.1	0	1.8	W	0	22.2	30
08/24/2005	3:30	27.5	27.5	27.7	27.3	0.4	2.2	W	0	22.2	30
08/24/2005	4:00	27.4	27.4	27.8	26.6	1.3	6.3	SW	0	22.2	30
08/24/2005	4:30	25.4	25.4	26.6	25.1	0.9	8	N	0	21.9	30
08/24/2005	5:00	25.8	25.8	26.1	25.7	0	0.4	---	0	21.6	30
08/24/2005	5:30	25.8	25.8	25.9	25.7	0	0	---	0	21.5	30
08/24/2005	6:00	26.4	26.4	26.6	25.9	0	1.8	N	0	21.6	30
08/24/2005	6:30	26.3	26.3	26.6	26.1	0	0.4	---	0	21.6	30
08/24/2005	7:00	27.2	27.2	28.1	26.6	0	0.4	---	0	21.9	30
08/24/2005	7:30	30.5	30.5	31.8	28.1	0	0.4	---	0	22.8	30
08/24/2005	8:00	31.1	31.1	33.1	29.2	0	1.3	WNNW	0	24	30
08/24/2005	8:30	30.2	30.2	31.5	29.2	0	1.8	NNW	0	24.2	30
08/24/2005	9:00	31.7	31.7	35.2	29.9	0	2.2	W	0	24.9	30
08/24/2005	9:30	33.7	33.7	35.8	30.6	0.9	2.7	W	0	26.2	30
08/24/2005	10:00	29.4	29.4	35.4	26.5	1.3	7.2	SW	0	26.8	30



### Weather information in August 2005

Date (MDY)	Time	Outside Temp (°C)	Wind Chill	Hi Temp	Low Temp	Wind Speed (m/s)		Wind Direction	Rain	Inside Temp (°C)	Archive Period
						Average	Hi				
08/24/2005	10:30	27.3	27.3	28.7	26.5	1.8	7.6	SSW	0	25.3	30
08/24/2005	11:00	28.3	28.3	29.2	27.2	0.9	3.1	SE	0	24.7	30
08/24/2005	11:30	31	31	32.5	29.2	0	1.3	S	0	24.8	30
08/24/2005	12:00	34.4	34.4	39.7	31.3	0.4	2.2	S	0	25.6	30
08/24/2005	12:30	32.6	32.6	35	31.5	0.9	2.7	SSE	0	26.2	30
08/24/2005	13:00	29.7	29.4	33.5	25.9	2.7	8.5	N	0	26.1	30
08/24/2005	13:30	26.2	26.2	27.1	25.7	0.4	2.2	N	0	24.2	30
08/24/2005	14:00	27.4	27.4	28.3	26.4	0.9	3.1	NNW	0	23.4	30
08/24/2005	14:30	28.3	28.3	28.7	27.8	0.4	4	N	0	23.3	30
08/24/2005	15:00	28.9	28.9	30.2	28.2	0.4	2.2	NW	0	23.6	30
08/24/2005	15:30	30.2	30.2	31.5	29.7	0	1.3	NNW	0	23.9	30
08/24/2005	16:00	30.7	30.7	31.4	30.3	0.4	2.2	SW	0	24.3	30
08/24/2005	16:30	30.6	30.6	31.3	30.1	0.4	1.8	SW	0	24.8	30
08/24/2005	17:00	32.2	32.2	33.1	30.6	1.3	2.7	SSW	0	25.1	30
08/24/2005	17:30	31.4	31.4	33.3	29.6	1.3	3.1	SSW	0	25.1	30
08/24/2005	18:00	30	30	30.6	29.4	1.3	2.7	SSE	0	24.8	30
08/24/2005	18:30	28.6	28.6	30	27.8	0.9	2.7	S	0	24.3	30
08/24/2005	19:00	27.6	27.6	27.8	27.3	0.4	2.2	SSE	0	23.6	30
08/24/2005	19:30	27.4	27.4	27.6	27.3	0	1.3	S	0	23.2	30
08/24/2005	20:00	27.8	27.8	28.3	27.3	0	1.8	W	0	22.9	30
08/24/2005	20:30	27.9	27.9	28.7	27.5	0	2.7	SSW	0	22.8	30
08/24/2005	21:00	27.5	27.5	28.6	27	0	1.3	WSW	0	22.7	30
08/24/2005	21:30	27.6	27.6	28.3	27.1	0	1.8	NW	0	22.6	30
08/24/2005	22:00	27.4	27.4	28.1	27.2	0.4	2.7	NE	0	22.5	30
08/24/2005	22:30	27.6	27.6	28.2	26.7	0.4	2.7	NE	0	22.4	30
08/24/2005	23:00	26.6	26.6	27.1	26.3	0	1.3	WSW	0	22.3	30
08/24/2005	23:30	26.2	26.2	26.4	26	0.4	2.2	WSW	0	21.9	30
08/25/2005	0:00	26	26	26.2	25.9	0	1.3	SSE	0	21.7	30
08/25/2005	0:30	26.2	26.2	26.7	25.9	0	0.9	SSE	0	21.6	30
08/25/2005	1:00	26.5	26.5	26.7	26.2	0	0.4	SSE	0	21.6	30
08/25/2005	1:30	26.2	26.2	26.3	26.1	0	0	---	0	21.6	30
08/25/2005	2:00	26.2	26.2	26.3	26.1	0	0	---	0	21.6	30
08/25/2005	2:30	26.9	26.9	27.3	26.3	0	1.8	N	0	21.6	30
08/25/2005	3:00	26.9	26.9	27.1	26.8	0.4	2.7	N	0	21.6	30
08/25/2005	3:30	26.7	26.7	27	26.6	0	1.3	NW	0	21.6	30
08/25/2005	4:00	26.4	26.4	26.7	26.2	0	1.3	NNE	0	21.5	30
08/25/2005	4:30	26.1	26.1	26.3	25.9	0	0.4	NE	0	21.4	30
08/25/2005	5:00	25.9	25.9	26.3	25.8	0	0	---	0	21.3	30
08/25/2005	5:30	26.3	26.3	26.6	25.8	0	1.8	N	0	21.3	30
08/25/2005	6:00	26.5	26.5	26.8	26.2	0	1.8	N	0	21.3	30
08/25/2005	6:30	26.5	26.5	26.8	26.2	0	0.4	---	0	21.3	30
08/25/2005	7:00	26.6	26.6	27.2	26	0	0.9	WSW	0	21.4	30
08/25/2005	7:30	27.6	27.6	27.8	27.2	0.4	2.7	NE	0	21.6	30
08/25/2005	8:00	27.9	27.9	28.6	27.7	1.8	4.9	N	0	21.8	30
08/25/2005	8:30	28.4	28	28.9	28.1	2.7	6.3	N	0	22.3	30
08/25/2005	9:00	29.6	29.6	30.4	28.7	1.8	4.5	N	0	23	30
08/25/2005	9:30	28.9	28.6	29.6	28.6	2.7	5.8	NNE	0	23.3	30
08/25/2005	10:00	29.7	29.4	30.5	29	2.7	5.8	N	0	23.5	30
08/25/2005	10:30	31.2	31.1	32.7	30.1	2.2	5.8	N	0	24.1	30
08/25/2005	11:00	31.2	31.1	32.6	30.4	2.2	5.8	NNE	0	24.6	30
08/25/2005	11:30	31.8	31.7	33.1	30.8	2.2	5.4	NNE	0	24.9	30
08/25/2005	12:00	32.2	32.2	33.5	30.8	2.2	5.4	NNE	0	25.3	30
08/25/2005	12:30	33.1	33.1	33.9	32.1	2.7	6.7	NNE	0	25.5	30
08/25/2005	13:00	35.4	35.4	38.4	33.3	2.2	4.9	NNE	0	26	30
08/25/2005	13:30	35.9	35.9	37.2	34.4	1.8	4.9	N	0	26.4	30
08/25/2005	14:00	38.5	38.5	41.3	35.1	1.3	3.6	NNE	0	26.6	30
08/25/2005	14:30	36.7	36.7	41	31.1	1.3	4	NE	0	26.9	30
08/25/2005	15:00	31	30.9	32.1	30.2	2.2	4.5	SW	0	26.9	30
08/25/2005	15:30	31.1	31.1	31.8	30.1	1.3	3.1	SW	0	26.6	30
08/25/2005	16:00	29.8	29.8	30.6	29.2	1.8	3.1	SSE	0	26.1	30
08/25/2005	16:30	28.9	28.9	29.4	28.3	1.3	2.7	SW	0	25.4	30
08/25/2005	17:00	28.6	28.6	29.2	27.9	1.8	3.1	SW	0	25	30
08/25/2005	17:30	28.1	28.1	28.5	27.4	1.3	2.7	SW	0	24.6	30
08/25/2005	18:00	27.6	27.6	27.8	27.4	0.9	2.2	SW	0	24.2	30
08/25/2005	18:30	27.4	27.4	27.5	27.2	0.4	1.8	SW	0	23.8	30
08/25/2005	19:00	26.9	26.9	27.3	26.7	0	0.4	SSW	0	23.4	30
08/25/2005	19:30	26.7	26.7	27.1	26.4	0	0.4	---	0	22.9	30
08/25/2005	20:00	26.5	26.5	26.9	26.3	0	0.4	---	0	22.6	30
08/25/2005	20:30	26.4	26.4	26.7	26.2	0	0	---	0	22.3	30
08/25/2005	21:00	26.7	26.7	27.3	26.3	0	0	---	0	22.1	30
08/25/2005	21:30	26.5	26.5	27.3	26.1	0	0.4	---	0	22	30
08/25/2005	22:00	26.4	26.4	27.1	26.1	0	1.3	NE	0	21.8	30
08/25/2005	22:30	26.4	26.4	27.1	26.1	0	1.8	NE	0	21.6	30
08/25/2005	23:00	26.2	26.2	26.3	26.1	0	0.9	NE	0	21.4	30
08/25/2005	23:30	25.9	25.9	26.1	25.8	0	0	---	0	21.3	30
08/26/2005	0:00	25.7	25.7	26.1	25.4	0	0	---	0	21.2	30
08/26/2005	0:30	25.4	25.4	25.7	25.3	0	0	---	0	21.1	30
08/26/2005	1:00	26.4	26.4	27.1	25.3	0.9	3.1	NE	0	21	30
08/26/2005	1:30	26.8	26.8	27.1	26.6	1.3	2.7	NE	0	21.2	30
08/26/2005	2:00	26.7	26.7	26.9	26.5	0.9	2.7	ENE	0	21.3	30
08/26/2005	2:30	26.8	26.5	27.2	26.6	2.2	6.7	NE	0	21.4	30
08/26/2005	3:00	26.6	26.3	26.8	26.5	2.2	8.9	SE	0	21.6	30
08/26/2005	3:30	26.7	26.3	26.9	26.5	2.2	6.8	NE	0	21.6	30
08/26/2005	4:00	26.7	25.8	26.9	26.4	3.1	8.5	NE	0	21.7	30
08/26/2005	4:30	26.6	26.6	26.8	26.4	1.3	6.3	NE	0	21.6	30
08/26/2005	5:00	26.6	26.6	26.7	26.5	1.3	6.7	NNE	0	21.6	30
08/26/2005	5:30	26.6	26.6	26.8	26.5	1.3	6.7	SE	0	21.6	30
08/26/2005	6:00	26.6	26.6	26.8	26.5	1.8	5.4	SE	0	21.5	30
08/26/2005	6:30	26.4	26.4	26.7	26.2	1.8	4.9	NE	0	21.5	30
08/26/2005	7:00	26.7	26.7	26.8	26.4	0.9	4.9	SE	0	21.5	30
08/26/2005	7:30	26.8	26.8	27	26.5	1.3	4.5	NE	0	21.6	30



### Weather information in August 2005

Date (MDY)	Time	Outside Temp (°C)	Wind Chill	Hi Temp	Low Temp	Wind Speed (m/s)		Wind Direction	Rain	Inside Temp (°C)	Archive Period
						Average	Hi				
08/26/2005	8:00	27.1	26.5	27.4	26.9	2.7	8	SE	0	21.8	30
08/26/2005	8:30	27.4	27.4	27.9	27	1.8	7.2	SE	0	22.1	30
08/26/2005	9:00	27.1	26.8	27.4	26.8	2.2	5.8	SE	0	22.2	30
08/26/2005	9:30	27.8	27.8	29.3	26.9	1.8	6.3	ESE	0	22.2	30
08/26/2005	10:00	27.8	27.3	28.6	27.3	2.7	9.4	SE	0	22.4	30
08/26/2005	10:30	28.6	27.7	30.1	27.5	4	8	SE	0	22.7	30
08/26/2005	11:00	29.1	28.4	30.1	28.4	3.6	8	ESE	0	23.2	30
08/26/2005	11:30	28.8	28.2	29.9	27.8	3.6	7.6	SE	0	23.4	30
08/26/2005	12:00	29.1	28.4	31.3	27.5	3.6	9.8	ESE	0	23.3	30
08/26/2005	12:30	29.7	29.1	30.9	28.7	4	8.9	ESE	0	23.7	30
08/26/2005	13:00	30.2	29.7	31.9	29.1	3.6	7.6	SE	0	24.3	30
08/26/2005	13:30	28.4	27.7	29.2	28	3.6	6.3	E	0	24	30
08/26/2005	14:00	27.8	27.8	31.1	25.1	1.8	6.3	S	0	23.5	30
08/26/2005	14:30	32.7	32.7	35.7	28.6	1.8	4	SSE	0	23.9	30
08/26/2005	15:00	34.3	34.3	36.4	32	1.3	3.1	SSE	0	24.4	30
08/26/2005	15:30	33.3	33.3	35.8	31	1.3	2.7	SSE	0	24.9	30
08/26/2005	16:00	33.6	33.6	35.7	31.4	0.9	2.7	S	0	25.1	30
08/26/2005	16:30	30.3	30.3	32.2	28.7	1.8	5.8	NE	0	24.9	30
08/26/2005	17:00	29	28.8	30.7	28	2.2	5.4	NE	0	24.3	30
08/26/2005	17:30	28.4	28	28.9	28	2.7	5.4	ENE	0	23.9	30
08/26/2005	18:00	27.9	27.9	28.4	27.6	1.8	4.5	NE	0	23.6	30
08/26/2005	18:30	27.6	27.6	28.2	27.3	0.9	4	SE	0	23.2	30
08/26/2005	19:00	27.3	27.3	27.5	27.1	1.3	5.4	SE	0	22.9	30
08/26/2005	19:30	27.2	26.5	27.4	27	3.1	6.3	SE	0	22.7	30
08/26/2005	20:00	27.2	26.5	27.4	27.1	3.1	8	SE	0	22.6	30
08/26/2005	20:30	27.2	26.6	27.4	27.1	2.7	6.3	SE	0	22.4	30
08/26/2005	21:00	27.3	26.8	27.4	27.1	2.7	6.3	SE	0	22.4	30
08/26/2005	21:30	27.3	27.3	27.6	27	1.8	6.7	SE	0	22.4	30
08/26/2005	22:00	27.3	27.3	27.4	27.1	1.8	7.2	SE	0	22.4	30
08/26/2005	22:30	27.2	27.2	27.3	27.1	1.8	4.9	SE	0	22.3	30
08/26/2005	23:00	27.1	27.1	27.2	27	1.8	4.9	NE	0	22.3	30
08/26/2005	23:30	27.1	27.1	27.2	26.9	1.8	4.5	NE	0	22.2	30
08/27/2005	0:00	26.9	26.9	27.2	26.8	1.8	4.5	NE	0	22.1	30
08/27/2005	0:30	26.8	26.8	26.9	26.7	0.9	5.8	NE	0	22.1	30
08/27/2005	1:00	26.8	26.8	26.9	26.7	1.3	5.4	NE	0	21.9	30
08/27/2005	1:30	26.8	26.8	27.1	26.7	1.3	4.5	ENE	0	21.9	30
08/27/2005	2:00	26.8	26.8	26.9	26.7	1.3	4	SSE	0	21.9	30
08/27/2005	2:30	26.8	26.8	27	26.6	0.9	4	NE	0	21.9	30
08/27/2005	3:00	26.8	26.8	26.9	26.7	1.3	4	SE	0	21.9	30
08/27/2005	3:30	26.8	26.8	26.9	26.7	1.3	4.9	SE	0	21.9	30
08/27/2005	4:00	26.8	26.8	27	26.6	1.8	4.5	NE	0	21.8	30
08/27/2005	4:30	26.8	26.8	27	26.7	1.3	7.2	NNE	0	21.8	30
08/27/2005	5:00	26.7	26.7	26.9	26.6	1.3	4.5	SE	0	21.8	30
08/27/2005	5:30	26.8	26.8	26.9	26.7	1.8	7.6	SE	0	21.8	30
08/27/2005	6:00	26.8	26	26.9	26.4	3.1	7.6	SE	0	21.8	30
08/27/2005	6:30	26.8	26.4	27	26.4	2.2	5.8	NE	0	21.8	30
08/27/2005	7:00	26.9	26.9	27.2	26.8	0.9	4.5	SE	0	21.8	30
08/27/2005	7:30	27.2	27.2	27.7	26.9	1.3	6.3	SE	0	21.9	30
08/27/2005	8:00	28.1	27.8	28.7	27.7	2.2	5.4	NE	0	22.3	30
08/27/2005	8:30	27.9	27.7	29.1	27.4	2.2	6.7	SE	0	22.7	30
08/27/2005	9:00	26.7	25.8	28.1	25.7	3.1	8	SE	0	22.7	30
08/27/2005	9:30	26.2	25.6	26.9	25.7	2.7	7.2	ESE	0	22.6	30
08/27/2005	10:00	28.1	27.6	29.6	26.7	2.7	6.7	NE	0	23.4	30
08/27/2005	10:30	29.1	29.1	30.1	28.3	1.3	5.8	ENE	0	23.9	30
08/27/2005	11:00	28.9	28.9	29.8	27.9	1.8	6.7	SE	4.8	24.1	30
08/27/2005	11:30	30.6	30.6	32.6	29.2	1.3	7.6	NE	297.7	24.8	30
08/27/2005	12:00	29.2	29.2	31	28.3	1.3	7.2	ENE	0	24.8	30
08/27/2005	12:30	27.9	27.7	29	26.4	2.2	6.3	SE	0	23.9	30
08/27/2005	13:00	28.8	28.8	29.7	28.1	1.8	4.9	ENE	0	23.9	30
08/27/2005	13:30	28.3	28	29.1	27.6	2.2	5.8	NE	0	23.7	30
08/27/2005	14:00	28.3	27.8	28.9	27.6	2.7	7.6	NE	0	23.4	30
08/27/2005	14:30	29.2	28.9	32.9	27.9	2.7	7.2	NE	0	23.6	30
08/27/2005	15:00	30.3	30.1	33	28	2.7	8.5	NE	0	24.2	30
08/27/2005	15:30	31.1	30.9	35.3	29.2	3.1	8	NE	0	25.2	30
08/27/2005	16:00	31.1	30.9	34.3	28.9	2.2	7.2	SE	0	25.4	30
08/27/2005	16:30	31.5	31.4	34.1	29.7	2.7	6.7	SE	0	25.6	30
08/27/2005	17:00	31.4	31.2	32.4	30.5	2.7	6.7	E	0	25.3	30
08/27/2005	17:30	29.8	29.6	31.6	29.1	2.7	7.2	ESE	0	24.7	30
08/27/2005	18:00	28.6	28.2	29.6	28	2.7	6.7	SE	0	24	30
08/27/2005	18:30	27.9	27.3	28.4	27.6	3.1	7.6	SE	0	23.4	30
08/27/2005	19:00	27.6	27.3	27.7	27.4	2.2	5.8	ESE	0	23.1	30
08/27/2005	19:30	27.4	27.2	27.6	27.3	2.2	8	SE	0	22.8	30
08/27/2005	20:00	27.5	27	27.7	27.3	2.7	7.2	SE	0	22.7	30
08/27/2005	20:30	27.5	27	27.7	27.4	2.7	7.2	SE	0	22.7	30
08/27/2005	21:00	27.5	27	27.7	27.4	2.7	7.6	SE	0	22.6	30
08/27/2005	21:30	27.5	26.8	27.8	27.4	3.1	8	SE	0	22.6	30
08/27/2005	22:00	27.5	26.6	27.7	27.3	3.6	8.5	SE	0	22.6	30
08/27/2005	22:30	27.6	26.7	27.7	27.4	3.6	11.6	SE	0	22.6	30
08/27/2005	23:00	27.6	26.9	27.8	27.6	3.1	8	SE	0	22.6	30
08/27/2005	23:30	27.7	27.2	27.9	27.5	2.7	6.7	SE	0	22.6	30
08/28/2005	0:00	27.7	27.7	27.9	27.6	1.8	7.2	SE	0	22.6	30
08/28/2005	0:30	27.7	27.7	27.9	27.5	1.3	6.3	N	0	22.6	30
08/28/2005	1:00	27.6	27.6	27.7	27.5	0.9	4.9	SE	0	22.6	30
08/28/2005	1:30	27.5	27.5	27.7	27.4	1.3	4.9	SE	0	22.5	30
08/28/2005	2:00	27.4	27.4	27.6	27.2	0.9	4.5	ENE	0	22.4	30
08/28/2005	2:30	27.2	27.2	27.3	27	1.3	4.5	NE	0	22.4	30
08/28/2005	3:00	27.1	27.1	27.3	26.9	0.9	4.9	ENE	0	22.3	30
08/28/2005	3:30	27.2	27.2	27.4	26.9	0.9	5.4	NE	0	22.2	30
08/28/2005	4:00	27.3	27.3	27.6	27.1	1.3	5.8	NE	0	22.2	30
08/28/2005	4:30	27.3	27.3	27.4	27.1	1.3	3.6	NNE	0	22.2	30
08/28/2005	5:00	27.2	27.2	27.4	27	1.3	4.5	NE	0	22.1	30





### Weather information in August 2005

Date (MDY)	Time	Outside Temp (°C)	Wind Chill	Hi Temp	Low Temp	Wind Speed (m/s)		Wind Direction	Rain	Inside Temp (°C)	Archive Period
						Average	Hi				
08/28/2005	5:30	27.3	27.3	27.5	27.1	1.3	5.4	SE	0	22.1	30
08/28/2005	6:00	27.3	27.3	27.5	27.2	1.3	6.3	NE	0	22.2	30
08/28/2005	6:30	27.4	27.2	27.6	27.3	2.2	7.2	NE	0	22.2	30
08/28/2005	7:00	27.7	27.7	27.8	27.5	1.8	5.8	NE	0	22.3	30
08/28/2005	7:30	28.1	27.8	28.4	27.8	2.2	6.7	NE	0	22.5	30
08/28/2005	8:00	28.7	28.5	29.4	28.1	2.2	5.8	NNE	0	22.8	30
08/28/2005	8:30	29	28.6	29.6	28.4	2.7	6.3	NE	0	23.3	30
08/28/2005	9:00	29.8	29.5	31.8	28.7	2.7	7.2	NE	0	23.8	30
08/28/2005	9:30	30.1	29.8	31.9	29.2	2.7	6.7	NE	0	24.4	30
08/28/2005	10:00	30.4	30.1	33.3	29.2	3.1	7.6	NE	0	24.5	30
08/28/2005	10:30	32.2	32.2	35.2	30.4	2.2	8.5	NE	0	25.2	30
08/28/2005	11:00	33.1	33.1	35.2	31.5	2.2	7.6	NE	0	26.1	30
08/28/2005	11:30	33.3	33.3	35.9	31.2	2.7	8.9	SE	0	26.5	30
08/28/2005	12:00	35.4	35.4	38.9	32.6	2.2	7.6	NE	0	26.9	30
08/28/2005	12:30	34.6	34.6	37.1	32.3	3.1	9.8	NE	0	27.1	30
08/28/2005	13:00	34.6	34.6	37.3	32.4	3.1	7.6	NE	0	26.8	30
08/28/2005	13:30	35	35	37.3	33.4	2.7	13	NE	0	26.9	30
08/28/2005	14:00	35.9	35.9	38.1	33.2	1.8	8.9	ENE	0	27.2	30
08/28/2005	14:30	35	35	37.7	32.6	2.7	8.5	NE	0	27.1	30
08/28/2005	15:00	34.2	34.2	36.9	31.7	2.7	8.5	NE	0	26.7	30
08/28/2005	15:30	34	34	35.6	31	2.7	11.2	NE	0	26.6	30
08/28/2005	16:00	34.3	34.3	35.5	32.9	2.2	9.4	SE	0	26.6	30
08/28/2005	16:30	31.3	31.1	34	30	3.6	9.8	SE	0	26.4	30
08/28/2005	17:00	32.1	31.9	33.2	31.1	3.6	10.7	SE	0	25.9	30
08/28/2005	17:30	28.5	27.9	31.8	26.7	3.1	9.8	SSE	0	25.2	30
08/28/2005	18:00	28.7	27.9	29.2	27.6	3.6	8.5	SE	0	24.3	30
08/28/2005	18:30	28.5	28.1	28.9	28.2	2.7	9.4	SE	0	24.2	30
08/28/2005	19:00	28.1	27.3	28.3	27.9	3.6	8.9	ESE	0	23.9	30
08/28/2005	19:30	28	27.3	28.2	27.9	3.1	9.4	SE	0	23.6	30
08/28/2005	20:00	28	27.2	28.2	27.9	3.6	8	SE	0	23.5	30
08/28/2005	20:30	28	27.3	28.2	27.8	3.1	7.6	SE	0	23.4	30
08/28/2005	21:00	27.3	27	27.9	26.8	2.2	8.5	SE	0	23.3	30
08/28/2005	21:30	27.6	27.6	27.7	27.5	1.8	5.4	SE	0	23.2	30
08/28/2005	22:00	27.6	27.1	27.8	27.6	2.7	8.9	SE	0	23.2	30
08/28/2005	22:30	27.7	26.8	27.8	27.6	3.6	10.3	SE	0	23.1	30
08/28/2005	23:00	27.7	26.8	27.9	27.7	3.6	8.5	SE	0	23	30
08/28/2005	23:30	27.8	26.9	27.9	27.7	3.6	10.7	ESE	0	22.9	30
08/29/2005	0:00	27.7	26.7	27.9	27.6	4	8.5	SE	0	22.9	30
08/29/2005	0:30	27.7	26.7	27.9	27.6	4	10.7	SE	0	22.9	30
08/29/2005	1:00	27.7	27.2	27.8	27.6	2.7	6.7	SE	0	22.8	30
08/29/2005	1:30	27.7	26.8	27.9	26.7	3.6	8.5	SE	0	22.8	30
08/29/2005	2:00	26.6	25.3	27.2	26.4	4	9.8	ESE	0	22.7	30
08/29/2005	2:30	27.1	25.9	27.6	26.4	4	11.6	SE	0	22.5	30
08/29/2005	3:00	27.1	25.8	27.9	26.6	4	8.9	SE	0	22.5	30
08/29/2005	3:30	27.4	26.2	27.7	27.2	4	9.4	ESE	0	22.4	30
08/29/2005	4:00	27.6	26.4	27.7	26.8	4	8.9	E	0	22.4	30
08/29/2005	4:30	27.1	25.7	27.7	26.3	4.5	8.9	E	0	22.4	30
08/29/2005	5:00	27.7	26.8	27.9	27.5	3.6	7.6	E	0	22.5	30
08/29/2005	5:30	27.9	26.8	28.1	27.7	4	8	E	0	22.6	30
08/29/2005	6:00	28	27.2	28.2	27.9	3.6	7.2	E	0	22.7	30
08/29/2005	6:30	28.1	27.3	28.3	28	3.6	8	E	0	22.8	30
08/29/2005	7:00	28.4	28.1	28.7	28.1	2.2	5.8	E	0	23.2	30
08/29/2005	7:30	28.9	28.6	30.2	28.6	2.7	5.8	ESE	0	23.6	30
08/29/2005	8:00	29.4	29.1	30.6	29	2.7	6.3	E	0	23.9	30
08/29/2005	8:30	30.3	30.1	33.2	29.4	2.7	6.3	E	0	24.4	30
08/29/2005	9:00	31.3	31.3	35.3	30.2	1.3	4.5	S	0	25.1	30
08/29/2005	9:30	32.9	32.9	35.4	31.4	2.2	5.4	E	0	26.1	30
08/29/2005	10:00	33	33	34.2	31.5	3.1	6.7	E	0	26.8	30
08/29/2005	10:30	33.8	33.8	35.6	32.1	3.6	7.2	E	0	27.2	30
08/29/2005	11:00	34.4	34.4	35.8	32.6	3.1	8	E	0	27.6	30
08/29/2005	11:30	34.8	34.8	37.4	32.9	3.1	6.7	E	0	27.7	30
08/29/2005	12:00	34.7	34.7	36.5	32.3	3.1	6.7	E	0	27.8	30
08/29/2005	12:30	36.1	36.1	37.4	33.5	2.7	5.8	ESE	0	28	30
08/29/2005	13:00	35.2	35.2	36.6	33.1	2.7	5.8	E	0	27.9	30
08/29/2005	13:30	35.7	35.7	38.7	32.2	2.7	5.8	E	0	27.7	30
08/29/2005	14:00	29.2	29	35.2	26.9	2.2	5.8	ESE	0	27.5	30
08/29/2005	14:30	28.9	28.4	32.1	26.8	3.1	5.8	E	0	26.3	30
08/29/2005	15:00	29.8	29.8	34.2	26.8	1.3	4	NNE	0	25.5	30
08/29/2005	15:30	33.9	33.9	35.2	32.7	2.2	6.3	E	0	25.7	30
08/29/2005	16:00	32.9	32.9	34.4	30.6	2.2	5.4	E	0	25.9	30
08/29/2005	16:30	31.9	31.9	35.1	29.8	2.2	5.8	SE	0	26.1	30
08/29/2005	17:00	31.3	31.3	34.3	29.8	1.8	4.9	SE	0	26.2	30
08/29/2005	17:30	29.7	29.3	32.8	29.1	3.1	6.3	ESE	0	26	30
08/29/2005	18:00	28.8	28.2	29.3	28.4	3.1	6.7	SE	0	25.7	30
08/29/2005	18:30	28.4	27.9	28.7	28.1	2.7	6.3	ESE	0	25	30
08/29/2005	19:00	28.2	27.7	28.4	28.1	2.7	5.8	E	0	24.3	30
08/29/2005	19:30	28.2	27.9	28.2	28.1	2.2	4.9	E	0	23.7	30
08/29/2005	20:00	28.2	27.7	28.3	28.1	2.7	4.5	E	0	23.5	30
08/29/2005	20:30	28.2	27.6	28.4	28.1	3.1	7.2	E	0	23.4	30
08/29/2005	21:00	28.1	27.5	28.3	27.8	3.1	5.4	E	0	23.4	30
08/29/2005	21:30	28	27.7	28.2	27.8	2.2	4.9	E	0	23.2	30
08/29/2005	22:00	28.1	27.8	28.3	27.9	2.2	5.4	E	0	23.2	30
08/29/2005	22:30	27.9	27.9	28.1	27.7	1.3	4.5	E	0	23.1	30
08/29/2005	23:00	27.9	27.9	28.1	27.7	1.8	4	E	0	23.1	30
08/29/2005	23:30	28	27.7	28.3	27.8	2.2	4.5	E	0	23.1	30
08/30/2005	0:00	28.1	27.8	28.2	27.9	2.2	4.5	E	0	23.1	30
08/30/2005	0:30	28	27.7	28.2	27.8	2.2	4.5	E	0	23.1	30
08/30/2005	1:00	27.9	27.9	28.1	27.8	1.8	3.6	E	0	23.1	30
08/30/2005	1:30	27.9	27.7	28.1	27.8	2.2	4	E	0	23	30
08/30/2005	2:00	27.8	27.8	27.9	27.7	1.8	4	E	0	22.9	30
08/30/2005	2:30	27.9	27.4	28.1	27.8	2.7	4.5	E	0	22.9	30



### Weather information in August 2005

Date (MDY)	Time	Outside	Wind	Hi	Low	Wind Speed (m/s)		Wind Direction	Rain	Inside	Archive
		Temp (°C)	Chill	Temp	Temp	Average	Hi			Temp (°C)	
08/30/2005	3:00	27.8	27.3	27.9	27.7	2.7	4.5	E	0	22.8	30
08/30/2005	3:30	27.7	27.4	27.9	27.6	2.2	4.5	E	0	22.8	30
08/30/2005	4:00	27.4	27.4	27.8	27.3	0.9	4.5	NE	0	22.8	30
08/30/2005	4:30	27.6	27.6	27.9	27.2	0.9	3.1	E	0	22.6	30
08/30/2005	5:00	27.4	27.4	27.7	27.2	0.9	3.1	E	0	22.6	30
08/30/2005	5:30	27.3	27.3	27.5	27.1	1.3	4	NE	0	22.5	30
08/30/2005	6:00	27.4	27.4	27.6	27.3	1.3	3.1	NE	0	22.4	30
08/30/2005	6:30	27.3	27.3	27.5	27.2	1.8	4	ENE	0	22.4	30
08/30/2005	7:00	27.6	27.3	27.8	27.2	2.2	4.9	NE	0	22.6	30
08/30/2005	7:30	24.5	24.1	26.8	24	2.2	4.9	SSE	0	22.1	30
08/30/2005	8:00	26.2	26.2	26.7	25.1	0	2.2	SE	0	21.8	30
08/30/2005	8:30	25.6	25.6	26.1	25.2	0	0.4	---	0	22	30
08/30/2005	9:00	25.3	25.3	25.9	25.1	0	1.3	N	0	22.3	30
08/30/2005	9:30	27.3	27.3	34.1	25.4	0	1.3	N	0	23.3	30
08/30/2005	10:00	33.8	33.8	34.9	32.8	0.9	4	ENE	0	24.5	30
08/30/2005	10:30	33.9	33.9	37	31.9	1.8	4.9	NE	0	25.5	30
08/30/2005	11:00	33.9	33.9	35.6	31.9	2.2	4.5	NE	0	26	30
08/30/2005	11:30	37.2	37.2	38.9	34.7	1.3	3.1	SSE	0	26.6	30
08/30/2005	12:00	37.1	37.1	38.4	36.1	1.8	3.6	S	0	27.2	30
08/30/2005	12:30	37	37	38.2	35.5	1.8	3.6	SSE	0	27.3	30
08/30/2005	13:00	36.1	36.1	37.1	35.1	2.7	4.5	SSE	0	27.3	30
08/30/2005	13:30	35.9	35.9	36.6	35	3.1	4.5	SSE	0	27.2	30
08/30/2005	14:00	35.9	35.9	36.9	35.1	2.7	4.5	SSE	0	27.2	30
08/30/2005	14:30	35.7	35.7	37.7	34.4	2.7	4.5	SSE	0	27.2	30
08/30/2005	15:00	35.1	35.1	36.3	34	2.2	4	SSE	0	27.1	30
08/30/2005	15:30	35.2	35.2	37	34.2	2.2	4	SSW	0	27.1	30
08/30/2005	16:00	34.1	34.1	35.8	33.4	2.7	4.9	SW	0	27.2	30
08/30/2005	16:30	34.2	34.2	35.4	33.2	2.2	4	SSW	0	27.3	30
08/30/2005	17:00	34.4	34.4	35.4	33.6	1.8	3.1	S	0	27.2	30
08/30/2005	17:30	33.8	33.8	34.9	32.7	1.8	3.1	SSW	0	27.1	30
08/30/2005	18:00	32.5	32.5	33.4	31.1	1.8	3.6	SSW	0	26.9	30
08/30/2005	18:30	29.7	29.7	31.1	28.7	1.8	3.1	SSW	0	26.3	30
08/30/2005	19:00	28.3	28.3	28.8	28	0.9	2.2	SSE	0	25.1	30
08/30/2005	19:30	27.9	27.9	28	27.7	0.4	1.3	S	0	24.4	30
08/30/2005	20:00	27.7	27.7	27.8	27.6	0.4	1.8	SSE	0	23.9	30
08/30/2005	20:30	27.5	27.5	27.6	27.3	0	1.3	SSE	0	23.6	30
08/30/2005	21:00	27.3	27.3	27.4	27.2	0	1.8	SSE	0	23.4	30
08/30/2005	21:30	27.2	27.2	27.4	27.1	0	1.3	SSE	0	23.2	30
08/30/2005	22:00	26.9	26.9	27.3	26.7	0	0.9	SSE	0	23	30
08/30/2005	22:30	26.7	26.7	27.1	26.3	0	0.4	---	0	22.8	30
08/30/2005	23:00	26.6	26.6	26.9	26.3	0	0	---	0	22.6	30
08/30/2005	23:30	26.4	26.4	26.7	26.2	0	0	---	0	22.4	30
08/31/2005	0:00	26.5	26.5	26.8	26.2	0	0.4	---	0	22.2	30
08/31/2005	0:30	26.7	26.7	26.9	26.2	0	0.4	SSE	0	22.1	30
08/31/2005	1:00	26.5	26.5	26.7	26.2	0	0.4	SSE	0	22	30
08/31/2005	1:30	26.1	26.1	26.3	25.7	0	0	---	0	21.9	30
08/31/2005	2:00	26.2	26.2	26.5	26	0	0.4	SSE	0	21.7	30
08/31/2005	2:30	26.2	26.2	26.9	25.9	0	0.4	SSE	0	21.7	30
08/31/2005	3:00	27.1	27.1	27.5	26.7	0	2.2	NW	0	21.7	30
08/31/2005	3:30	27	27	27.3	26.8	0	1.3	NW	0	21.8	30
08/31/2005	4:00	27.1	27.1	27.3	26.8	0	1.8	NW	0	21.8	30
08/31/2005	4:30	27.2	27.2	27.4	27	0	2.7	NW	0	21.8	30
08/31/2005	5:00	27.2	27.2	27.4	26.9	0.4	3.1	NW	0	21.9	30
08/31/2005	5:30	27	27	27.4	26.8	0.4	2.2	N	0	21.9	30
08/31/2005	6:00	27	27	27.3	26.7	0	2.2	NW	0	21.8	30
08/31/2005	6:30	27.1	27.1	27.3	26.9	0.4	2.2	NW	0	21.8	30
08/31/2005	7:00	27.7	27.7	28.2	27.3	0.4	4	NW	0	22.2	30
08/31/2005	7:30	29.7	29.7	30.6	28	0.4	2.7	NW	0	22.9	30
08/31/2005	8:00	31.3	31.3	32.6	30.3	1.3	5.4	N	0	24.1	30
08/31/2005	8:30	33.5	33.5	35.1	31.9	0.4	3.1	N	0	25.9	30
08/31/2005	9:00	33.6	33.6	35.4	31.8	0.9	4.9	N	0	27.2	30
08/31/2005	9:30	34.2	34.2	35.5	33.2	0.9	4.5	N	0	28	30
08/31/2005	10:00	35.2	35.2	36.4	33.9	0.9	6.3	N	0	28.6	30
08/31/2005	10:30	36.1	36.1	37.2	34.9	1.3	4	N	0	29.1	30
08/31/2005	11:00	37.3	37.3	39.3	35.8	0.4	3.1	N	0	29.4	30
08/31/2005	11:30	38.6	38.6	40.1	36.9	0.4	3.1	N	0	29.9	30
08/31/2005	12:00	38.6	38.6	40.2	36.4	0.9	4	N	0	30	30
08/31/2005	12:30	38.3	38.3	40.3	36.6	1.3	4.5	N	0	30	30
08/31/2005	13:00	39.1	39.1	40.4	37.7	0.9	3.1	N	0	30.1	30
08/31/2005	13:30	38.3	38.3	40.1	37	0.9	3.1	WNW	0	30.3	30
08/31/2005	14:00	37.6	37.6	39.8	36.2	1.3	4.9	WNW	0	30.5	30
08/31/2005	14:30	37.4	37.4	39.7	36.3	1.3	4.5	WNW	0	30.6	30
08/31/2005	15:00	37.9	37.9	40.1	36.2	1.3	4	WNW	0	30.7	30
08/31/2005	15:30	36.4	36.4	37.7	35.7	1.8	4.9	WNW	0	30.7	30
08/31/2005	16:00	36.1	36.1	36.9	35.6	1.3	4	NW	0	30.6	30
08/31/2005	16:30	36.1	36.1	37	35.2	0.9	4	WNW	0	30.5	30
08/31/2005	17:00	35	35	35.9	34.1	0.4	2.2	SW	0	30.3	30
08/31/2005	17:30	33.4	33.4	34.3	32.6	0	1.8	W	0.3	28.9	30
08/31/2005	18:00	32.7	32.7	33.3	32.1	0.4	1.8	WSW	0	26.9	30
08/31/2005	18:30	31.7	31.7	32.4	31	0.4	1.8	WSW	0	26.4	30
08/31/2005	19:00	31.1	31.1	31.4	30.6	0.4	1.8	SSE	0	25.8	30
08/31/2005	19:30	30.6	30.6	31	29.9	0.4	1.8	SSE	0	25.3	30
08/31/2005	20:00	29.8	29.8	30.1	29.5	0.4	1.8	SSE	0	24.9	30
08/31/2005	20:30	30.2	30.2	30.8	29.8	0	0.9	SSW	0	24.7	30
08/31/2005	21:00	30.3	30.3	30.4	30	0.4	1.8	SW	0	24.6	30
08/31/2005	21:30	29.9	29.9	30.3	29.6	0	0.4	SW	0	24.5	30
08/31/2005	22:00	29.8	29.8	30	29.4	0	1.8	SW	0	24.4	30
08/31/2005	22:30	29.4	29.4	29.8	29.1	0	0	---	0	24.3	30
08/31/2005	23:00	29.7	29.7	30.1	29.2	0.4	2.2	S	0	24.2	30
08/31/2005	23:30	30.4	30.4	30.7	30.1	0.9	4.5	W	0	24.1	30



## **Appendix F**

### **Event-Action Plans**

## EVENT/ACTION PLAN FOR AIR QUALITY EXCEEDANCE

### ACTION

IC(E)

ET Leader

ER

Contractor

#### ACTION LEVEL

1. Exceedance for one sample
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

1. Check monitoring data submitted by the ET
2. Check contractor's working method

1. Notify Contractor

1. Rectify any unacceptable practise
2. Amend working methods if appropriate

2. Exceedance for two or more consecutive samples
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

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

1. Confirm receipt of notification of failure in writing
2. Notify the Contractor
3. Ensure remedial measures properly implemented

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

1. Exceedance for one sample
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

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

1. Confirm receipt of notification of failure in writing
2. Notify the Contractor
3. Ensure remedial measures properly implemented

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.

## EVENT/ACTION PLAN FOR AIR QUALITY EXCEEDANCE

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

## EVENT/ACTION PLAN FOR NOISE EXCEEDANCE

### ACTION

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

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

## EVENT AND ACTION PLAN FOR WATER QUALITY

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



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

## EVENT AND ACTION PLAN FOR WATER QUALITY EXCEEDANCE

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



## **Appendix G**

### **Construction Programme**

**3-Month Rolling Programme of Works (Rev. 1)**

Date: 1 August 2005 (Monday)

Forthcoming Rolling 3 Months : Aug 2005 →

Oct 2005

Section of Works	Description	Earliest Start Date	Latest Start Date	Finish Date	Duration	2005							
						June	July	Aug	Sep	Oct	Nov	Dec	
Section D1	Taking over, operation and maintenance of the Fill Bank at Tseung Kwan O Area 137 [Portion D of the Site] <i>(Main Works: - (i) Handling of Public Fill delivered by Public Dump Trucks through Land Access into the Fill Bank at Tseung Kwan O Area 137; (ii) Handling of Public Fill delivered by Barges at the Barge Handling Area (BHA); (iii) Sorting of Oversized Materials from the Public Fill supplied to the Sorting Plant of the Penny's Bay Reclamation Stage 2 Project; &amp; (iv) Supply of Public Fill to the Sorting Plant of the Penny's Bay Reclamation Stage 2 Project.</i>	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 <i>(Main Works: - (i) Handling of Public Fill delivered by Public Dump Trucks through Land Access into the Fill Bank at Tseung Kwan O Area 137; (ii) Handling of Public Fill delivered by Barges at the Barge Handling Area (BHA); (iii) Sorting of Oversized Materials from the Public Fill supplied to the Sorting Plant of the Penny's Bay Reclamation Stage 2 Project; &amp; (iv) Supply of Public Fill to the Sorting Plant of the Penny's Bay Reclamation Stage 2 Project.</i>	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 <i>(Main Works: - (i) Handling of Public Fill delivered by Public Dump Trucks through Land Access into the Fill Bank at Tseung Kwan O Area 137; (ii) Handling of Public Fill delivered by Barges at the Barge Handling Area (BHA); (iii) Sorting of Oversized Materials from the Public Fill supplied to the Sorting Plant of the Penny's Bay Reclamation Stage 2 Project; &amp; (iv) Supply of Public Fill to the Sorting Plant of the Penny's Bay Reclamation Stage 2 Project.</i>	1 Dec 2005	1 Dec 2005	31 Dec 2005	31 days								

Remarks :- (1) Works to be carried out in the forthcoming 3 months (1 Aug 2005 ~ 31 Oct 2005) :

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 Nov 2005 to 31 Dec 2005) :

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

**Master Programme of Works (Rev. 0)**

Date: 8 July 2005 (Friday)

Section of Works	Description	Earliest Start Date	Latest Start Date	Finish Date	Duration	2005									
						June 2005	July 2005	Aug 2005	Sep 2005	Oct 2005	Nov 2005	Dec 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										



## **Appendix H**

### **IEC's Site Audit Record**

## Agreement No. 42/2002 Fill Bank at Tseung Kwan O Area 137 - Investigation

Date of Site Audit:	12.08.2005	Time of Site Audit:	3:45pm
Site Auditor:	Lyn Ip	Phase of Works:	Operational
Checked by:	Ben Ridley		

Checklist	Yes	No	Remarks
<b>Operational Phase</b>			
<b>Fugitive Dust Emission</b>			
Have dust control/mitigation measures been implemented to ensure full protection of the nearby ASRs?	x		
Are all installed air pollution control systems and measures operated and/or implemented in accordance with their design merits?	x		
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.	x		
Truck speed limit shall be limited to within 10km per hour.	x		
Is the designated site main haul route (paved)?	x		
Are water lorries and/or road sweepers used in dust suppression? Frequency of watering at least four times per day (as per PS Clause 1.76)? The frequency shall be increased when the weather is dry, when the truckloads are high, and for haul roads located within 100m from the northern boundary of			See observation 1
All dusty fill material shall be sprayed with water or a dust suppression chemical prior to loading, unloading or transfer so as to maintain the fill material wet, except for situations where the moisture content of the dusty material is a matter of concern.	x		
Frequent watering (at least three times per day) of the worksites with active dusty operations. The frequency shall be increased when the weather is dry.			See observation 1
Vehicle washing facilities including high pressure water jet installed at the existing exit shall be maintained and operated by designated staff to ensure that these dust control measures are being used.	x		
Before leaving the fill bank, every vehicle shall be washed to remove any dusty materials from its body and wheels.	x		
Trucks carrying dusty load entered to the site shall be sprayed with water once the impervious sheeting covering the load is removed.	x		
Have the temporary slope surfaces, especially those facing to the north of the site, been covered (tarpaulin sheeting or other impermeable sheeting), or sprayed (with water or a dust suppression chemical) or protected by other methods approved by CED?			Hydroseeded slopes in Portions A, B, G, H and I
Final slope surfaces, especially those facing to the north of the site, shall be treated by compaction, followed by hydroseeding, vegetation plating or sealing with shotcrete, latex, vinyl, bitumen, or other suitable surface stabiliser approved by CED.			Hydroseeded slopes in Portions A, B, G, H and I
When belt conveyor systems are in use for transfer of fill material, the conveyors shall be enclosed on top and 2 sides. Every transfer point between any two conveyors shall be enclosed.			N/A
Is the belt scraper installed at the head pulley of every belt conveyor effective in dislodging fine particles that may adhere to the belt surface, and to reduce carrying back of fine particles on the return belt?			N/A
The level of stockpiling belt conveyor shall be adjustable such that the vertical distance between the belt conveyor and the materials landing point is maintained at no more than 1m.			N/A
Note: Public fill at the stockpiling area should be handled to avoid segregation, deterioration, erosion or instability of the material, especially for the stockpiling surface facing to the north of the site.			
<b>Fixed Noise Impact</b>			
Have the approved method of working, equipment and sound-reducing measures (e.g. use of silenced type of equipment, etc.) been adopted?	x		
Note: The noise standards specified in the Technical Memorandum for the Assessment of Noise From Places Other Than Domestic Premises, Public Places or Construction Sites shall be met.			

## Agreement No. 42/2002 Fill Bank at Tseung Kwan O Area 137 - Investigation

Checklist	Yes	No	Remarks
<b>Water Quality</b>			
The existing/realigned intercepting channels and the sand/silt removal facilities should be used and maintained.		x	See observation 2
Temporary intercepting drains should be used at the stockpiling area to divert polluted stormwater to the intercepting channels. Earth bunds and sand bag barriers shall be used to assist the diversion of polluted stormwater to the silt removal facilities.	x		
Has a buffer distance of at least 100m been maintained between the boundary of the public fill stockpiling area and the sea front?	x		
A buffer distance of at least 20m should be maintained between the boundary of the C&DMSF and the seafront.			N/A
Is the stormwater interception system in the C&DMSF effective?			N/A
Are materials properly covered when there is any chance for the materials to be washed away?	x		
Temporary slope surfaces shall be covered as far as practicable with tarpaulin sheets or other impermeable sheeting or protected by other methods approved by CED especially when a rainstorm is imminent or forecast.			Hydroseeded slopes in Portions A, B, G, H and I
Final slope surfaces shall be treated by compaction, followed by hydroseeding, vegetation planting or sealing with shotcrete, latex, vinyl, bitumen, or other suitable surface stabiliser approved by CED to prevent the washing away of stockpiled material.			Hydroseeded slopes in Portions A, B, G, H and I
Existing and newly constructed catchpits, sand and silt removal facilities and intercepting channels should be maintained, and the deposited silt and grit should be removed weekly and on a need basis especially at the onset of and after each rainstorm to ensure that these facilities are functioning properly at all times.		x	See observation 2
A wheel washing bay should be provided at the site exit and wash-water should have sand and silt settled out or removed before being discharged into storm drains.	x		
Is the section of construction road between the wheel washing bay the public road paved with concrete, bituminous materials or hardcore to reduce vehicle tracking of soil and to prevent site run-off from entering public road drains?	x		
Sewage from toilets should be discharged into a foul sewer, or chemical toilets should be provided.	x		
Should the use of chemical toilets be necessary, these should be provided by a licensed contractor, who will be responsible for disposal and maintenance of these facilities.	x		
Are the grease traps in the canteen kitchens put into use and effective ?			N/A
If no communal sewer can be provided, has the sewage generated from the workforce at the site offices been diverted to septic tanks and regularly removed by using vacuum tankers.	x		Discharged to DP4.
The drainage system provided at car parking areas should be installed with oil interceptors in addition to sand/silt removal facilities. Has regular cleaning of the system been carried out?	x		
Has disturbance to seabed sediments and undue turbidity from vessel movement or propeller wash been minimized?	x		
Barges should not be filled to a level which may cause the overflow of material during loading or transportation. Barge effluents should be properly collected and treated before disposal.	x		
Is foam, oil, grease, scum, litter or other objectionable matters to be present on the water in the vicinity of the barging point? Are these due to work activities?	x		See observation 3
Have silt curtains been provided at the outward side of the basin near the barging point throughout the operational phase when there is public fill intake by barges (after Dec 2003)?	x		



## Agreement No. 42/2002 Fill Bank at Tseung Kwan O Area 137 - Investigation

Checklist	Yes	No	Remarks
Has a waste collection vessel been deployed to remove floating debris on the sea near the fill bank for proper disposal?		x	Contractor advised that it was not a scheduled cleaning day.
Note: Effluent discharged from the site shall meet the relevant discharge limits specified in the Technical Memorandum Standards for Effluents Discharged into Drainage and Sewerage Systems, Inland and Coastal Waters;			
<b>Landfill Gas Hazard</b>			
Are gas detection equipment and appropriate breathing apparatus available and used when workers entering confined spaces or trenches deeper than 2 metres?	x		As advised by Contractor.
A Safety Officer/Supervisor should be present on site throughout the operational stage.	x		
Has the Safety Officer/Supervisor been provided with intrinsically safe portable instrument(s), appropriately calibrated and capable of measuring the gases in the ranges as recommended in the EIA Report?		x	Contractor's existing equipment does not meet the EIA requirements for methane and CO <sub>2</sub>
Has a LFG monitoring programme been formulated by the Safety Officer/Supervisor or by a qualified person?			Not yet submitted for review.
Has periodic/routine monitoring been conducted during ground-works, in all excavations, and works in confined spaces, if any?	x		Only for O <sub>2</sub>
<b>Landscape and Visual</b>			
Does the design of the fill bank and platform heights adopted allow the fill bank to fit into the general topography of the surrounding land? Straight edged slopes should be avoided.	x		
The maximum stockpiling height at the fill bank shall be limited to a maximum of +35.2mPD.	x		
Surface of outer slopes of the fill bank shall preferably be hydroseeded or covered with geo-textile matting of appropriate colour (e.g. dark green/brown) once completed.	x		
The barging point and the C&DMSF at the fill bank shall not be in operation from 7:00pm to 8:00am daily to avoid potential visual impact from glare.	x		To 11pm as per EP.
<b>Other Environmental Factors</b>			
C&D waste sorted from mixed C&D material at the C&DMSF shall be removed from the temporary buffer storage area on a daily basis and transfer to SENT landfill for disposal.	x		
<b>Environmental Monitoring and Audit</b>			
Is a log book maintained by the ET?		x	Not observed to be site.
At the time of site audit, was any monitoring underway?		x	
If yes, what parameters are being monitored and were the correct procedures adopted?			WQM. Not observed.
Have any mitigation measures been implemented as a result of exceedance of Action-Limit Levels? If so, do they appear to be effective?		x	

Agreement No. 42/2002 Fill Bank at Tseung Kwan O Area 137 - Investigation

**Observations**

Issue	Action
<p>1. Water lorries observed on the main haul road (site entrance as well as sections to secondary office and to Portion D). However section of haul road and the active working platforms in Portions A and I were dry.</p>	<p>Contractor was reminded to ensure that all working areas of the site are sufficiently watered to prevent the generation of fugitive dust. The frequency should be increased during dry weather conditions.</p>
<p>2. Debris (dead vegetation) was observed to have been caught in front of the Permanent Desilting Chambers (PDC) B and C. Over growth of vegetation along the bottom edge of the baffle system was noted upstream of PDC B. Algae growth was also noted on the surface of the collected (and very slow moving) water behind PDC C. PDC A was still filled with caked mud. Fine silt was observed in the siltation sump by the primary wheel wash bay at the site entrance.</p>	<p>Contractor has been requested to immediately address the issue at PDCs B and C as well as clean out the siltation sump. The Contractor advised that they would continue to liaise with the PBR2 Contractor regarding the clean up of mud inside PDC A.</p>
<p>3. Rubbish (styro foam, plastic bottles, etc.) was observed to be floating on the water surface inside the Barge Handling Area (BHA). The source of the rubbish is not clearly known.</p>	<p>Contractor was requested to arrange for the collection and disposal of this floating rubbish as well as to review the frequency of their waste collection vessel.</p>
<p><u>Other Observations</u></p>	
<p>i) There are a number of big potholes filled with water, with some observed to have significant algae growth, in Portion I and K, as well as by PDC C.</p>	<p>Contractor was reminded to apply insecticide at these locations regularly but in the long run should consider infilling them.</p>
<p>ii) The last hydroseeded panel in Portion 1 was showing poor growth.</p>	<p>Contractor reminded to provide sufficient watering to all hydroseeded areas.</p>
<p>iii) Given the pending poor weather conditions (heavy rain storm) all drums should be placed into drip trays and covered with tarpaulin (to prevent collection of rain water inside the drip trays).</p>	<p>Contractor's Representative acknowledge this and stated they would address this matter immediately.</p>
<p>iv) A significant quantity of chemical waste (including waste chemical drums) are still being stored at the Chemical Waste Storage Shed.</p>	<p>Contractor was requested to properly manage the storage of chemical waste on site (ie. proper storage regular disposal etc.)</p>
<p>v) Some contaminated sand (believed to be used to soak lubricant oil spillages) was observed underneath two front hoes undergoing maintenance.</p>	<p>Given the pending weather conditions (heavy rainstorm) the Contractor was advised to immediately remove the contaminated sand into waste drums and store them inside the waste Chemical Waste Storage</p>
<p>vi) There were six 1,000-L plastic containers of diesel, of which five were filled and one empty, stored behind a shed at the temporary water filling station with no overhead protection or drip tray (for spillages).</p>	<p>Contractor was advised to immediately provide drip trays underneath the container outlet points and requested to review the need of storing these containers at this location.</p>

## Agreement No. 42/2002 Fill Bank at Tseung Kwan O Area 137 - Investigation

Date of Site Audit:	31.08.2005	Time of Site Audit:	10:00pm
Site Auditor:	Jason Leung JL	Phase of Works:	Operational
Checked by:	Ben Ridley BR		

Checklist	Yes	No	Remarks
<b>Operational Phase</b>			
<b>Fugitive Dust Emission</b>			
Have dust control/mitigation measures been implemented to ensure full protection of the nearby ASRs?	x		
Are all installed air pollution control systems and measures operated and/or implemented in accordance with their design merits?	x		
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.	x		
Truck speed limit shall be limited to within 10km per hour.	x		
Is the designated site main haul route (paved)?	x		
Are water lorries and/or road sweepers used in dust suppression? Frequency of watering at least four times per day (as per PS Clause 1.76)? The frequency shall be increased when the weather is dry, when the truckloads are high, and for haul roads located within 100m from the northern boundary of	x		
All dusty fill material shall be sprayed with water or a dust suppression chemical prior to loading, unloading or transfer so as to maintain the fill material wet, except for situations where the moisture content of the dusty material is a matter of concern.	x		
Frequent watering (at least three times per day) of the worksites with active dusty operations. The frequency shall be increased when the weather is dry.	x		
Vehicle washing facilities including high pressure water jet installed at the existing exit shall be maintained and operated by designated staff to ensure that these dust control measures are being used.	x		
Before leaving the fill bank, every vehicle shall be washed to remove any dusty materials from its body and wheels.	x		
Trucks carrying dusty load entered to the site shall be sprayed with water once the impervious sheeting covering the load is removed.	x		
Have the temporary slope surfaces, especially those facing to the north of the site, been covered (tarpaulin sheeting or other impermeable sheeting), or sprayed (with water or a dust suppression chemical) or protected by other methods approved by CED?			Finished Slopes in Portions A,B,G,H and I have been hydroseeded.
Final slope surfaces, especially those facing to the north of the site, shall be treated by compaction, followed by hydroseeding, vegetation plating or sealing with shotconcrete, latex, vinyl, bitumen, or other suitable surface stabiliser approved by CED.			Finished Slopes in Portions A,B,G,H and I have been hydroseeded.
When belt conveyor systems are in use for transfer of fill material, the conveyors shall be enclosed on top and 2 sides. Every transfer point between any two conveyors shall be enclosed.			N/A
Is the belt scraper installed at the head pulley of every belt conveyor effective in dislodging fine particles that may adhere to the belt surface, and to reduce carrying back of fine particles on the return belt?			N/A
The level of stockpiling belt conveyor shall be adjustable such that the vertical distance between the belt conveyor and the materials landing point is maintained at no more than 1m.			N/A
Note: Public fill at the stockpiling area should be handled to avoid segregation, deterioration, erosion or instability of the material, especially for the stockpiling surface facing to the north of the site.			
<b>Fixed Noise Impact</b>			
Have the approved method of working, equipment and sound-reducing measures (e.g. use of silenced type of equipment, etc.) been adopted?	x		
Note: The noise standards specified in the Technical Memorandum for the Assessment of Noise From Places Other Than Domestic Premises, Public Places or Construction Sites shall be met.			

## Agreement No. 42/2002 Fill Bank at Tseung Kwan O Area 137 - Investigation

Checklist	Yes	No	Remarks
<b>Water Quality</b>			
The existing/realigned intercepting channels and the sand/silt removal facilities should be used and maintained.		x	See observation 1
Temporary intercepting drains should be used at the stockpiling area to divert polluted stormwater to the intercepting channels. Earth bunds and sand bag barriers shall be used to assist the diversion of polluted stormwater to the silt removal facilities.	x		
Has a buffer distance of at least 100m been maintained between the boundary of the public fill stockpiling area and the sea front?	x		
A buffer distance of at least 20m should be maintained between the boundary of the C&DMSF and the seafront.			N/A
Is the stormwater interception system in the C&DMSF effective?			N/A
Are materials properly covered when there is any chance for the materials to be washed away?	x		
Temporary slope surfaces shall be covered as far as practicable with tarpaulin sheets or other impermeable sheeting or protected by other methods approved by CED especially when a rainstorm is imminent or forecast.			Hydroseeded slopes in Portions A, B, G, H and I
Final slope surfaces shall be treated by compaction, followed by hydroseeding, vegetation planting or sealing with shotcrete, latex, vinyl, bitumen, or other suitable surface stabiliser approved by CED to prevent the washing away of stockpiled material.			Hydroseeded slopes in Portions A, B, G, H and I
Existing and newly constructed catchpits, sand and silt removal facilities and intercepting channels should be maintained, and the deposited silt and grit should be removed weekly and on a need basis especially at the onset of and after each rainstorm to ensure that these facilities are functioning properly at all times.		x	See observation 1
A wheel washing bay should be provided at the site exit and wash-water should have sand and silt settled out or removed before being discharged into storm drains.	x		
Is the section of construction road between the wheel washing bay the public road paved with concrete, bituminous materials or hardcores to reduce vehicle tracking of soil and to prevent site run-off from entering public road drains?	x		
Sewage from toilets should be discharged into a foul sewer, or chemical toilets should be provided.	x		
Should the use of chemical toilets be necessary, these should be provided by a licensed contractor, who will be responsible for disposal and maintenance of these facilities.	x		
Are the grease traps in the canteen kitchens put into use and effective ?			N/A
If no communal sewer can be provided, has the sewage generated from the workforce at the site offices been diverted to septic tanks and regularly removed by using vacuum tankers.	x		Discharged to DP4 as per discharge licence.
The drainage system provided at car parking areas should be installed with oil interceptors in addition to sand/silt removal facilities. Has regular cleaning of the system been carried out?	x		
Has disturbance to seabed sediments and undue turbidity from vessel movement or propeller wash been minimized?	x		
Barges should not be filled to a level which may cause the overflow of material during loading or transportation. Barge effluents should be properly collected and treated before disposal.	x		
Is foam, oil, grease, scum, litter or other objectionable matters to be present on the water in the vicinity of the barging point? Are these due to work activities?	x		See observation 2
Have silt curtains been provided at the outward side of the basin near the barging point throughout the operational phase when there is public fill intake by barges (after Dec 2003)?	x		

## Agreement No. 42/2002 Fill Bank at Tseung Kwan O Area 137 - Investigation

Checklist	Yes	No	Remarks
Has a waste collection vessel been deployed to remove floating debris on the sea near the fill bank for proper disposal?		x	See observation 2. Contractor advised vessel to be deployed every Tuesday and Friday. The latest waste collection was 30 August 2005.
Note: Effluent discharged from the site shall meet the relevant discharge limits specified in the Technical Memorandum Standards for Effluents Discharged into Drainage and Sewerage Systems, Inland and Coastal Waters.			
<b>Landfill Gas Hazard</b>			
Are gas detection equipment and appropriate breathing apparatus available and used when workers entering confined spaces or trenches deeper than 2 metres?	x		As advised by Contractor.
A Safety Officer/Supervisor should be present on site throughout the operational stage.	x		
Has the Safety Officer/Supervisor been provided with Intrinsically safe portable instrument(s), appropriately calibrated and capable of measuring the gases in the ranges as recommended in the EIA Report?		x	Contractor's existing equipment does not meet the EIA requirements for methane and CO <sub>2</sub>
Has a LFG monitoring programme been formulated by the Safety Officer/Supervisor or by a qualified person?			Not yet provided to IC for review.
Has periodic/routine monitoring been conducted during ground-works, in all excavations, and works in confined spaces, if any?	x		Only for O <sub>2</sub>
<b>Landscape and Visual</b>			
Does the design of the fill bank and platform heights adopted allow the fill bank to fit into the general topography of the surrounding land? Straight edged slopes should be avoided.	x		
The maximum stockpiling height at the fill bank shall be limited to a maximum of +35.2mPD.	x		
Surface of outer slopes of the fill bank shall preferably be hydroseeded or covered with geo-textile matting of appropriate colour (e.g. dark green/brown) once completed.	x		
The barging point and the C&DMSF at the fill bank shall not be in operation from 7:00pm to 8:00am daily to avoid potential visual impact from glare.	x		To 11pm as per latest EP.
<b>Other Environmental Factors</b>			
C&D waste sorted from mixed C&D material at the C&DMSF shall be removed from the temporary buffer storage area on a daily basis and transfer to SENT landfill for disposal.	x		
<b>Environmental Monitoring and Audit</b>			
Is a log book maintained by the ET?		x	Not observed on site.
At the time of site audit, was any monitoring underway?		x	
If yes, what parameters are being monitored and were the correct procedures adopted?			N/A
Have any mitigation measures been implemented as a result of exceedance of Action-Limit Levels? If so, do they appear to be effective?			N/A

## Agreement No. 42/2002 Fill Bank at Tseung Kwan O Area 137 - Investigation

**Observations**

Issue	Action
<p>1. Debris (dead vegetation) was observed to have been caught in front of the Permanent Desilting Chambers (PDC) B and C. Overgrown vegetation along the bottom edge of the baffle system was noted upstream of PDC B. Trapezoidal channel upstream of PDC A and the chamber itself were entirely filled with mud cake.</p>	<p>Contractor has been requested to immediately address the issue at PDCs B and C. The Contractor advised that they would continue to liaise with the PBR2 Contractor regarding the clean up of mud inside PDC A. Next liaison meeting are to be held in early September 2005.</p>
<p>2. Rubbish (styro foam, plastic bottles, etc.) was observed to be floating on the water surface inside the Barge Handling Area (BHA). The source of the rubbish is not clearly known.</p>	<p>Contractor was requested to arrange for the collection and disposal of this floating rubbish as well as to review the frequency of their waste collection vessel.</p>
<p><b>Other Observations</b></p>	
<p>i) The last hydroseeded panel in Portion I was showing poor growth.</p>	<p>Contractor reminded to provide sufficient watering to all hydroseeded areas.</p>
<p>ii) Drums storing lubricant oil were not capped and covered.</p>	<p>Contractor's Representative instantly recapped drums and covered them with tarpaulin sheets.</p>
<p>iii) A significant quantity of chemical waste (including waste chemical drums) are being stored at the Chemical Waste Storage Shed haphazardly, while drums storing chemical waste were not labelled.</p>	<p>Contractor was requested to properly manage the storage of chemical waste on site (i.e. proper storage with appropriate labels etc.)</p>



東業德勤測試顧問有限公司  
ETS-TESTCONSULT LIMITED

## **Appendix I**

### **Weekly ET's Site Inspection Record**

CEDD Contract No.: CV/2005/05  
 Project: Fill Bank at Tseung Kwun O Area 137

Inspection Date : 01 August 2005  
 Time : 14:45

Weather : Sunny/Fine / Overcast / Drizzle / Rain / Storm / Hazy  
 Wind : Calm / Light / Breeze / Strong

Temperature : 30  
 Humidity : High / Moderate / Low

	Implementation Stages*			Remark
	Yes	No	N/A	
<b>Environmental Checklist</b>				
<b>Fugitive Dust Emission</b>				
▪ Dust control / mitigation measures shall be provided to prevent dust nuisance.	✓			
▪ 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.	✓			
▪ Water sprays shall be provided and used to dampen materials.	✓			
▪ Regular cleaning and watering the site shall be provided to minimize the fugitive dust emissions.	✓			
▪ All vehicles shall be restrict to a maximum speed of 10 km per hour.	✓			
▪ 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.	✓			
▪ The designated site main haul rout shall be paved or regular watering.	✓			
▪ Frequent watering of work site shall be at least three times per day.	✓			
▪ Wheel washing facilities including high pressure water jet shall be provided at the entrance of work site.	✓			
▪ Every vehicle shall be washed to remove any dusty materials from its body and wheels before leaving the fill bank.	✓			
▪ 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.	✓			
▪ 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.	✓			
▪ When fill material is transfer by belt conveyor systems, the conveyors shall be enclosed on top and 2 sides.	✓			
▪ The belt scraper shall be equipped with bottom plates or other similar means to prevent falling of material from the return belt.	✓			
▪ 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.	✓			
<b>Noise Impact</b>				
▪ The approved method of working, equipment and sound-reducing measures (e.g. use of silenced type of equipment, etc.) shall be adapted.	✓			
▪ Only well maintained plant should be operated on-site and plant should be serviced regularly during the construction works.	✓			
▪ Powered mechanical equipment (PME) should be covered or shielded by appropriate acoustic materials.	✓			
▪ Air compressors and hand held breakers should have noise labels.	✓			
▪ Machines and plants that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum.	✓			
▪ Noisy equipment and mobile plant shall always be site away from NSRs.	✓			



Implementation Stages*		Remark
<b>Water Quality</b>		
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	The existing / realigned intercepting channels and the sand / silt removal facilities shall be used and maintained.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Temporary intercepting drains should be used at the stockpiling area to divert polluted stormwater to the intercepting channels. Earth bunds and sand bay barriers shall be used to assist the diversion of polluted stormwater to the intercepting channels.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	A buffer distance of at least 100m shall be maintained between the boundary of the public fill stockpiling area and the sea front.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	A buffer distance of at least 20m shall be maintained between the boundary of the C&DMSF and the seafront.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	The stormwater intercepting system shall be effective to collect of runoff and remove suspended solids before discharge.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	The material shall be properly covered to prevent washed away especially before rainstorm.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	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.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	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 shotcrete, latex, vinyl, bitumen, or other suitable surface stabilizer approved by CEDD.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Existing and newly constructed Catchpits, sand and silt removal facilities and intercepting channels shall be maintained, and the deposited silt and grit shall be removed weekly and on a need basis especially at the onset of and after each rainstorm to ensure that these facilities are functioning properly at all times.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	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.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	The section of construction road between wheel washing bay and the public road shall be paved with concrete, bituminous materials or hardcore to reduce vehicle tracking of soil and to prevent site run-off from entering public road drains.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Sewage from toilets shall be discharged in to a foul sewer, or chemical toilets shall be provided.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	The chemical toilets (if use) shall be provided by a licensed contractor, who will be responsible for disposal and maintenance of these facilities.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Wastewater collected from canteen kitchen, including that from basins, sinks and floor drains, shall be discharged into foul sewers via grease traps.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Oil intercept in addition of sand / silt removal facilities shall be provided at the car parking areas.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	The barges shall be in right size such that adequate clearance is maintained between the vessels and the seabed at all states of the tide to ensure the undue turbidity is not generated by turbulence from vessel movement or propeller wash.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	All vessels used for transportation of fill material shall have tight fitting seals to their bottom openings to prevent leakage of material during transport.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Adequate environmental control measures shall be provided to prevent / avoid dropping of fill material into the sea during the transfer.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Barges shall not be filled to a level which may cause the overflow of material during loading or transportation. Barge effluents shall be properly collected and treated before disposal.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	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.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Existing silt curtain at the outward side of the basin near the Barging Handling Area throughout the period shall be repair, maintain and service when there is public fill intake by barges to the Fill Bank in accordance with PS Clause 1.68. The total length of the silt curtains shall not be less than 160m, and a gap of about 80m shall be left open for access of barges. The silt curtain shall be properly maintained such that it can also serve the function of refuse containment boom to confine floating refuse.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	A waste collection vessel shall be deployed to remove floating debris.



<b>Landscape and Visual</b>			
▪	The design of the fill bank and platform heights adopted should allow the fill bank to fit into the general topography of the surrounding land. Straight edged slopes should be avoided.	✓	
▪	The maximum stockpiling height at the fill bank shall be limited to a maximum of +35.2mPD.	✓	
▪	Surface of outer slopes of the fill bank shall preferably be hydroseeded or covered with geo-textile matting of appropriate colour (e.g. dark green / brown) once completed.	✓	
▪	The barging point and the C&DMSF at the fill bank shall not be in operation from 07:00 pm to 08:00 am daily to avoid potential visual impact from glare.	✓	
<b>Other Environmental Factors</b>			
▪	C&D waste sorted from mixed C&D material at the C&DMSF shall be removed from the temporary buffer storage area on a daily basis and transfer to SENT landfill for disposal.	✓	
▪	Plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste.	✓	
▪	Any unused materials or those with remaining functional capacity should be recycled.	✓	
▪	All generators, fuel and oil storage are within bundle areas.	✓	
▪	Oil leakage from machinery, vehicle and plant is prevented.		Refer to item 5

**Summary of the Weekly Site Inspection:**

Item	Details of defective works or observations	Photo Ref.	Further Action Required (Yes/No)
1	Follow up action to previous comment item #7 (27/07/05), new tarpaulin sheet had been used to cover the chemical containers.	050801_001	No
2	Follow up action to previous comment item #10 (27/07/05), silty water was still observed at the sand trap of the manhole at DB4. The Contractor was reminded to clean the drainage system more frequently.	050801_002	Yes
3	Follow-up action to previous comment item #12 (27/07/05), the finding was improved.	050801_003	No
4	Follow-up action to previous comment item #13 (27/07/05), rain water was still accumulated in drainage channel near Gammon Site Office at Portion K. The Contractor was reminded to provide insecticide to the drainage system regularly in order to prevent mosquito breeding.	050801_004	Yes
5	Oil leakage from the generator near Air Monitoring Station AA1 was observed. Besides, the bucket for collection of leaked oil was full and sign of oil spillage was observed on the ground. The Contractor was reminded to clean up the oil spillage and dispose the oil in the bucket as chemical waste immediately. The Contractor was also reminded to maintain the generator regularly or if necessary to avoid oil leakage.	050801_005	Yes
6	Water ponding was observed at Portion D. The Contractor was reminded to remove the standing water immediately, in particular after every rainstorm.	050801_006	Yes

Remark

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Name	Signature	Date
Inspected by H. T. Chow		01 August 2005
Checked by Linda Law		01 August 2005

**Photos**



Photo 050801\_001

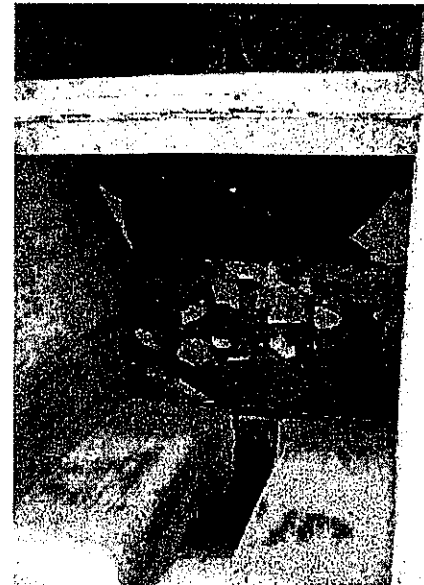


Photo 050801\_002

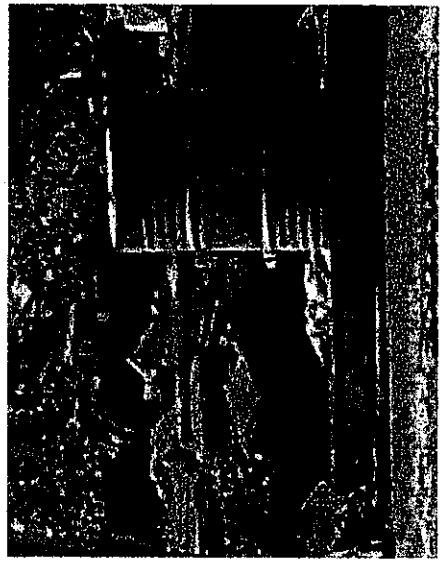


Photo 050801\_003



Photo 050801\_004



Photo 050801\_005

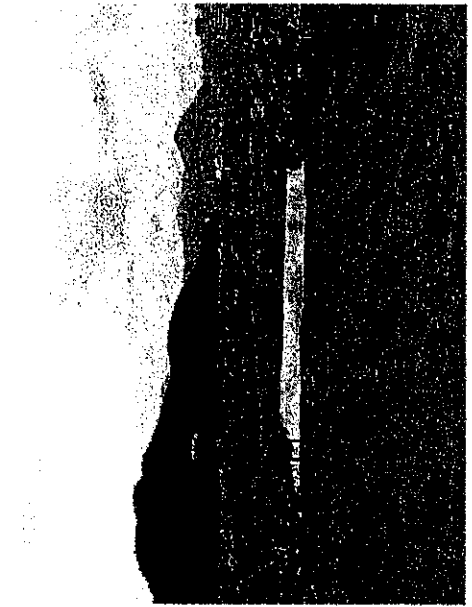


Photo 050801\_006

CEDD Contract No.: CV/2005/05  
Project: Fill Bank at Tseung Kwan O Area 137

**Follow-up Action of the Weekly Site Inspection**

Inspection Date : 01 August 2005  
Time : 14:45  
Inspected by Name : Wing Tung FONG (Contractor)  
: H. T. CHOW (ET)

Weather : Sunny/Fine-/Overcast/Drizzle/Rain-/Storm-/Heavy  
Wind : Calm / Light / Breeze-/Strong  
Temperature : 30  
Humidity : High / Moderate / Low

Item	Details of defective works or observations	Response	Date of Action taken	Photo Ref.
1	Follow up action to previous comment item #10 (27/07/05), silty water was still observed at the sand trap of the manhole at DB4. The Contractor was reminded to clean the drainage system more frequently.	Cleaning of the drainage system will be arranged for 3 times per week for removing silty water at the sand trap of the manhole at DB4.	Starting from August 8, 2005 and continuing.	-
2	Follow-up action to previous comment item #13 (27/07/05), rain water was still accumulated in drainage channel near Gammon Site Office at Portion K. The Contractor was reminded to provide insecticide to the drainage system regularly in order to prevent mosquito breeding.	Application of insecticide to the drainage system will be arranged once per week regularly.	Starting from August 8, 2005 and continuing.	-
3	Oil leakage from the generator near Air Monitoring Station AA1 was observed. Besides, the bucket for collection of leaked oil was full and sign of oil spillage was observed on the ground. The Contractor was reminded to clean up the oil spillage and dispose the oil in the bucket as chemical waste immediately. The Contractor was also reminded to maintain the generator regularly or if necessary to avoid oil leakage.	The bucket full of leaked oil had been removed away and replaced by an empty one. Leaked oil will be cleaned daily if necessary	August 3, 2005	-
4	Water ponding was observed at Portion D. The Contractor was reminded to remove the standing water immediately, in particular after every rainstorm.	The ponding water had been eliminated by filling up and leveling with public filling materials.	August 22, 2005	-

CEDD Contract No.: CV/2005/05  
Project: Fill Bank at Tseung Kwan O Area 137

Inspection Date : 11 August 2005  
Time : 10:00

Weather : Sunny / Fine / Overcast / Drizzle / Rain / Storm / Hazy  
Wind : Calm / Light / Breeze / Strong

Temperature : 32  
Humidity : High / Moderate / Low

Environmental Checklist	Implementation Stages*			Remark
	Yes	No	N/A	
<b>Fugitive Dust Emission</b>				
▪ Dust control / mitigation measures shall be provided to prevent dust nuisance.	√			
▪ A buffer zone of at least 100m shall be maintained between the edge of the stockpiling area and the nearest ASPs 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.	√			
▪ Water sprays shall be provided and used to dampen materials.	√			
▪ Regular cleaning and watering the site shall be provided to minimize the fugitive dust emissions.	√			
▪ All vehicles shall be restrict to a maximum speed of 10 km per hour.	√			
▪ 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.	√			
▪ The designated site main haul rout shall be paved or regular watering.	√			
▪ Frequent watering of work site shall be at least three times per day.	√			
▪ Wheel washing facilities including high pressure water jet shall be provided at the entrance of work site.	√			
▪ Every vehicle shall be washed to remove any dusty materials from its body and wheels before leaving the fill bank.	√			
▪ 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.	√			
▪ 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.	√			
▪ When fill material is transfer by belt conveyor systems, the conveyors shall be enclosed on top and 2 sides.	√			
▪ The belt scraper shall be equipped with bottom plates or other similar means to prevent falling of material from the return belt.	√			
▪ 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.	√			
<b>Noise Impact</b>				
▪ The approved method of working, equipment and sound-reducing measures (e.g. use of silenced type of equipment, etc.) shall be adapted.	√			
▪ Only well maintained plant should be operated on-site and plant should be serviced regularly during the construction works.	√			
▪ Powered mechanical equipment (PME) should be covered or shielded by appropriate acoustic materials.	√			
▪ Air compressors and hand held breakers should have noise labels.	√			
▪ Machines and plants that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum.	√			
▪ Noisy equipment and mobile plant shall always be site away from NSRs.	√			

Environmental Checklist	Implementation Stages*		Remark
	Yes	No / N/A	
<b>Water Quality</b>			
<ul style="list-style-type: none"> <li>The existing / realigned intercepting channels and the sand / silt removal facilities shall be used and maintained.</li> </ul>	✓		Refer to item 3, 4 and 8
<ul style="list-style-type: none"> <li>Temporary intercepting drains should be used at the stockpiling area to divert polluted stormwater to the intercepting channels. Earth bunds and sand bay barriers shall be used to assist the diversion of polluted stormwater to the intercepting channels.</li> </ul>	✓		
<ul style="list-style-type: none"> <li>A buffer distance of at least 100m shall be maintained between the boundary of the public fill stockpiling area and the sea front.</li> </ul>	✓		
<ul style="list-style-type: none"> <li>A buffer distance of at least 20m shall be maintained between the boundary of the C&amp;DMSF and the seafront.</li> </ul>	✓		
<ul style="list-style-type: none"> <li>The stormwater intercepting system shall be effective to collect of runoff and remove suspended solids before discharge.</li> </ul>	✓		
<ul style="list-style-type: none"> <li>The material shall be properly covered to prevent washed away especially before rainstorm.</li> </ul>	✓		
<ul style="list-style-type: none"> <li>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.</li> </ul>	✓		
<ul style="list-style-type: none"> <li>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.</li> </ul>	✓		
<ul style="list-style-type: none"> <li>Existing and newly constructed Catchpits, sand and silt removal facilities and intercepting channels shall be maintained, and the deposited silt and grit shall be removed weekly and on a need basis especially at the onset of and after each rainstorm to ensure that these facilities are functioning properly at all times.</li> </ul>	✓		Refer to item 3, 4 and 8
<ul style="list-style-type: none"> <li>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.</li> </ul>	✓		
<ul style="list-style-type: none"> <li>The section of construction road between wheel washing bay and the public road shall be paved with concrete, bituminous materials or hardcore to reduce vehicle tracking of soil and to prevent site run-off from entering public road drains.</li> </ul>	✓		
<ul style="list-style-type: none"> <li>Sewage from toilets shall be discharged in to a foul sewer, or chemical toilets shall be provided.</li> </ul>	✓		
<ul style="list-style-type: none"> <li>The chemical toilets (if use) shall be provided by a licensed contractor, who will be responsible for disposal and maintenance of these facilities.</li> </ul>	✓		
<ul style="list-style-type: none"> <li>Wastewater collected from canteen kitchen, including that from basins, sinks and floor drains, shall be discharged into foul sewers via grease traps.</li> </ul>	✓		
<ul style="list-style-type: none"> <li>Oil intercept in addition of sand / silt removal facilities shall be provided at the car parking areas.</li> </ul>	✓		
<ul style="list-style-type: none"> <li>The barges shall be in right size such that adequate clearance is maintained between the vessels and the seabed at all states of the tide to ensure the undue turbidity is not generated by turbulence from vessel movement or propeller wash.</li> </ul>	✓		
<ul style="list-style-type: none"> <li>All vessels used for transportation of fill material shall have tight fitting seals to their bottom openings to prevent leakage of material during transport.</li> </ul>	✓		
<ul style="list-style-type: none"> <li>Adequate environmental control measures shall be provided to prevent / avoid dropping of fill material into the sea during the transfer.</li> </ul>	✓		
<ul style="list-style-type: none"> <li>Barges shall not be filled to a level which may cause the overflow of material during loading or transportation. Barge effluents shall be properly collected and treated before disposal.</li> </ul>	✓		
<ul style="list-style-type: none"> <li>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.</li> </ul>	✓		
<ul style="list-style-type: none"> <li>Existing silt curtain at the outward side of the basin near the Barging Handling Area throughout the period shall be repair, maintain and service when there is public fill intake by barges to the Fill Bank in accordance with PS Clause 1.68. The total length of the silt curtains shall not be less than 160m, and a gap of about 80m shall be left open for access of barges. The silt curtain shall be properly maintained such that it can also serve the function of refuse containment boom to confine floating refuse.</li> </ul>	✓		
<ul style="list-style-type: none"> <li>A waste collection vessel shall be deployed to remove floating debris.</li> </ul>	✓		



<b>Landscape and Visual</b>	
▪ The design of the fill bank and platform heights adopted should allow the fill bank to fit into the general topography of the surrounding land. Straight edged slopes should be avoided.	✓
▪ The maximum stockpiling height at the fill bank shall be limited to a maximum of +35.2mPD.	✓
▪ Surface of outer slopes of the fill bank shall preferably be hydroseeded or covered with geo-textile matting of appropriate colour (e.g. dark green / brown) once completed.	✓
▪ The barging point and the C&DMSF at the fill bank shall not be in operation from 07:00 pm to 08:00 am daily to avoid potential visual impact from glare.	✓
<b>Other Environmental Factors</b>	
▪ C&D waste sorted from mixed C&D material at the C&DMSF shall be removed from the temporary buffer storage area on a daily basis and transfer to SENT landfill for disposal.	✓
▪ Plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste.	✓
▪ Any unused materials or those with remaining functional capacity should be recycled.	✓
▪ All generators, fuel and oil storage are within bundle areas.	✓
▪ Oil leakage from machinery, vehicle and plant is prevented.	✓



**Summary of the Weekly Site Inspection:**

Item	Details of defective works or observations	Photo Ref.	Further Action Required (Yes/No)
1	Oily water was found leak from the drip tray at Water Truck Filling Station. The Contractor was reminded to replace the valve and maintain the drip tray regularly.	050811_001	Yes
2	Follow up action to previous comment item #6 (01/08/05), water ponding was stilled observed at Portion D. The Contractor was reminded to remove the standing water immediately, in particular after every rainstorm.	050811_002	Yes
3	Died vegetation was accumulated at the water gate at Gate C. The Contractor was reminded to clean up the water gate immediately.	050811_003	Yes
4	Follow-up action to previous comment item #13 (27/07/05) and #4 (01/08/05), rain water was still accumulated in drainage channel near Gammon Site Office at Portion K. The Contractor was reminded to provide insecticide to the drainage system regularly in order to prevent mosquito breeding.	050811_004	Yes
5	Rain water was accumulated in drip tray near Work Shop. The Contractor was reminded to drain the rain water immediately.	050811_005	Yes
6	Follow up the previous IEC site inspection, fugitive dust at Portion D and haul road through Portion I were improved.	050811_006	No
7	Follow up action to previous comment item #5 (01/08/05), it was noted that oil leakage from the generator near Air Monitoring Station AA1 was stopped and the oil in the bucket was clean up. The Contractor was also reminded to maintain the generator regularly or if necessary to avoid oil leakage.	050811_007	No
8	Follow up action to previous comment item #10 (27/07/05) and item #2 (01/08/05), silty water was still observed at the sand trap of the manhole at DB4. The Contractor was reminded to clean the drainage system more frequently.	050811_008	Yes

Remark

Inspected by	Name	Signature	Date
	H. T. Chow		11 August 2005
Checked by	Linda Law		11 August 2005

Photos



Photo 050811\_001



Photo 050811\_002



Photo 050811\_003



Photo 050811\_004



Photo 050811\_005

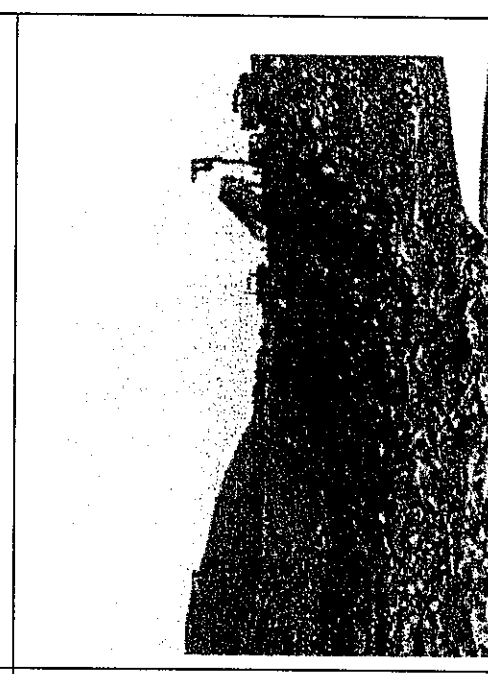


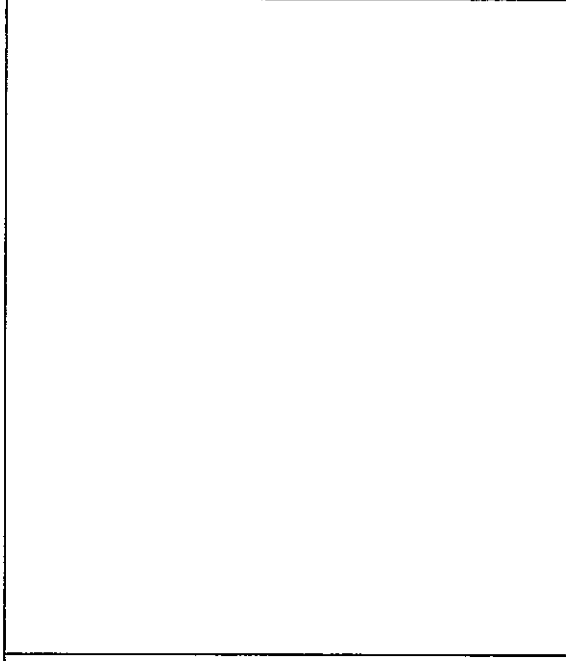
Photo 050811\_006



Photo 050811\_007



Photo 050811\_008



### Follow-up Action of the Weekly Site Inspection

Inspection Date : 11 August 2005  
 Time : 10:00  
 Inspected by Name : Wing Tung FONG (Contractor)  
 : H. T. CHOW (ET)  
 Weather : Sunny / Fine / Overcast / Drizzle / Rain / Storm / Hazy  
 Wind : Galm / Light / Breeze / Strong  
 Temperature : 32  
 Humidity : High / Moderate / Low

Item	Details of defective works or observations	Response	Date of Action taken	Photo Ref.
1	Oily water was found leak from the drip tray at Water Truck Filling Station. The Contractor was reminded to replace the valve and maintain the drip tray regularly.	The drainage valve will be replaced to prevent oil leaked from the drip tray.	By September 7, 2005	-
2	Follow up action to previous comment item #6 (01/08/05), water ponding was still observed at Portion D. The Contractor was reminded to remove the standing water immediately, in particular after every rainstorm.	The ponding water had been eliminated by filling up and leveling with public filling materials.	August 22, 2005	-
3	Died vegetation was accumulated at the water gate at Gate C. The Contractor was reminded to clean up the water gate immediately.	Accumulated died vegetation at the water gate at Gate C had been cleaned up.	August 27, 2005	-
4	Follow-up action to previous comment item #13 (27/07/05) and #4 (01/08/05), rain water was still accumulated in drainage channel near Gammon Site Office at Portion K. The Contractor was reminded to provide insecticide to the drainage system regularly in order to prevent mosquito breeding.	Application of insecticide to the drainage system has been arranged once per week regularly.	Starting from August 8, 2005 and continuing.	-
5	Rain water was accumulated in drip tray near Work Shop. The Contractor was reminded to drain the rain water immediately.	Rain water accumulated in drip tray near Work Shop will be arranged to drain away.	By September 7, 2005	-
6	Follow up action to previous comment item #10 (27/07/05) and item #2 (01/08/05), silty water was still observed at the sand trap of the manhole at DB4. The Contractor was reminded to clean the drainage system more frequently.	Cleaning of the drainage system has been arranged for 3 times per week for removing silty water at the sand trap of the manhole at DB4.	Starting from August 8, 2005 and continuing.	-

CEDD Contract No.: CV/2005/05  
 Project: Fill Bank at Tseung Kwun O Area 137

Inspection Date : 17 August 2005  
 Time : 14:15

Weather : Sunny/Fine/Overcast/Drizzle/Rain/Storm/Hezy  
 Wind : Calm/Light/Breeze/Strong

Temperature : 28  
 Humidity : High/Moderate/Low

	Implementation Stages*			Remark
	Yes	No	N/A	
<b>Environmental Checklist</b>				
<b>Fugitive Dust Emission</b>				
▪	✓			
▪	✓			
▪	✓			
▪	✓			
▪	✓			
▪	✓			
▪	✓			
▪	✓			
▪	✓			
▪	✓			
▪	✓			
▪	✓			
▪	✓			
▪	✓			
▪	✓			
▪	✓			
▪	✓			
<b>Noise Impact</b>				
▪	✓			
▪	✓			
▪	✓			
▪	✓			
▪	✓			
▪	✓			

### Environmental Checklist


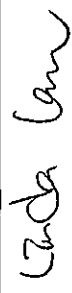
	Implementation Stages*			Remark
	Yes	No	N/A	
<b>Water Quality</b>				
• The existing / realigned intercepting channels and the sand / silt removal facilities shall be used and maintained.	✓			Refer to item 3 and 4
• Temporary intercepting drains should be used at the stockpiling area to divert polluted stormwater to the intercepting channels. Earth bunds and sand bay barriers shall be used to assist the diversion of polluted stormwater to the intercepting channels.	✓			
• 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.	✓			
• 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 shotcrete, latex, vinyl, bitumen, or other suitable surface stabilizer approved by CEDD.	✓			
• Existing and newly constructed Catchpits, sand and silt removal facilities and intercepting channels shall be maintained, and the deposited silt and grit shall be removed weekly and on a need basis especially at the onset of and after each rainstorm to ensure that these facilities are functioning properly at all times.	✓			Refer to item 3 and 4
• 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.	✓			
• The section of construction road between wheel washing bay and the public road shall be paved with concrete, bituminous materials or hardcore to reduce vehicle tracking of soil and to prevent site run-off from entering public road drains.	✓			
• Sewage from toilets shall be discharged in to a foul sewer, or chemical toilets shall be provided.	✓			
• The chemical toilets (if use) shall be provided by a licensed contractor, who will be responsible for disposal and maintenance of these facilities.	✓			
• Wastewater collected from canteen kitchen, including that from basins, sinks and floor drains, shall be discharged into foul sewers via grease traps.	✓			
• Oil intercept in addition of sand / silt removal facilities shall be provided at the car parking areas.	✓			
• The barges shall be in right size such that adequate clearance is maintained between the vessels and the seabed at all states of the tide to ensure the undue turbidity is not generated by turbulence from vessel movement or propeller wash.	✓			
• All vessels used for transportation of fill material shall have tight fitting seals to their bottom openings to prevent leakage of material during transport.	✓			
• Adequate environmental control measures shall be provided to prevent / avoid dropping of fill material into the sea during the transfer.	✓			
• Barges shall not be filled to a level which may cause the overflow of material during loading or transportation. Barge effluents shall be properly collected and treated before disposal.	✓			
• 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.	✓			
• Existing silt curtain at the outward side of the basin near the Barging Handling Area throughout the period shall be repair, maintain and service when there is public fill intake by barges to the Fill Bank in accordance with PS Clause 1.68. The total length of the silt curtains shall not be less than 160m, and a gap of about 80m shall be left open for access of barges. The silt curtain shall be properly maintained such that it can also serve the function of refuse containment boom to confine floating refuse.	✓			
• A waste collection vessel shall be deployed to remove floating debris.	✓			

<b>Landscape and Visual</b>	
<ul style="list-style-type: none"> <li>The design of the fill bank and platform heights adopted should allow the fill bank to fit into the general topography of the surrounding land. Straight edged slopes should be avoided.</li> </ul>	✓
<ul style="list-style-type: none"> <li>The maximum stockpiling height at the fill bank shall be limited to a maximum of +35.2mPD.</li> </ul>	✓
<ul style="list-style-type: none"> <li>Surface of outer slopes of the fill bank shall preferably be hydroseeded or covered with geo-textile matting of appropriate colour (e.g. dark green / brown) once completed.</li> </ul>	✓
<ul style="list-style-type: none"> <li>The barging point and the C&amp;DMSF at the fill bank shall not be in operation from 07:00 pm to 08:00 am daily to avoid potential visual impact from glare.</li> </ul>	✓
<b>Other Environmental Factors</b>	
<ul style="list-style-type: none"> <li>C&amp;D waste sorted from mixed C&amp;D material at eh C&amp;DMSF shall be removed from the temporary buffer storage area on a daily basis and transfer to SENT landfill for disposal.</li> </ul>	✓
<ul style="list-style-type: none"> <li>Plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste.</li> </ul>	✓
<ul style="list-style-type: none"> <li>Any unused materials or those with remaining functional capacity should be recycled.</li> </ul>	✓
<ul style="list-style-type: none"> <li>All generators, fuel and oil storage are within bundle areas.</li> </ul>	✓
<ul style="list-style-type: none"> <li>Oil leakage from machinery, vehicle and plant is prevented.</li> </ul>	✓

**Summary of the Weekly Site Inspection:**

Item	Details of defective works or observations	Photo Ref.	Further Action Required (Yes/No)
1	Follow up action to previous comment item #1 (11/08/05), oily water was found leaked from the drip tray at Water Truck Filling Station. Besides, rainwater was observed accumulated in the drip tray. The Contractor was reminded to drain the rainwater and replace the value and maintain the drip tray regularly.	050817_001	Yes
2	Follow up action to previous comments item #6 (01/08/05) and item #2 (11/08/05), water ponding was stilled observed at Portion D. The Contractor was reminded to remove the standing water immediately, in particular after every rainstorm.	050817_002	Yes
3	Follow up action to previous comment item #3 (11/08/05), accumulation of died vegetation was still observed at the water gate at Screen C. The Contractor was reminded to clean up the water gate immediately.	050817_003	Yes
4	Follow-up action to previous comments item #13 (27/07/05), item #4 (01/08/05) and item #4 (11/08/05), rain water was still accumulated in drainage channel near Gammon Site Office at Portion K. The Contractor was reminded to provide insecticide to the drainage system regularly in order to prevent mosquito breeding.	050817_004	Yes
5	Follow up action to previous comment item #5 (11/08/05), rainwater and rubbish was accumulated in drip tray near Work Shop. The Contractor was reminded to drain the rainwater and clean up the rubbish immediately.	050817_005	Yes
6	Follow up action to previous comments item #10 (27/07/05), item #2 (01/08/05) and item #8 (11/08/05), the finding was found improved but the Contractor was still reminded to clean the drainage system regularly.	050817_006	No

Remark

Inspected by	Name	Signature	Date
	H. T. Chow		17 August 2005
Checked by	Linda Law		17 August 2005



**Photos**

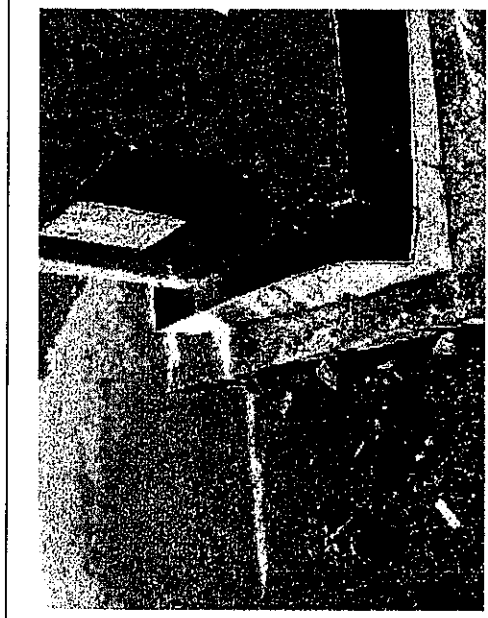


Photo 050817\_001



Photo 050817\_002

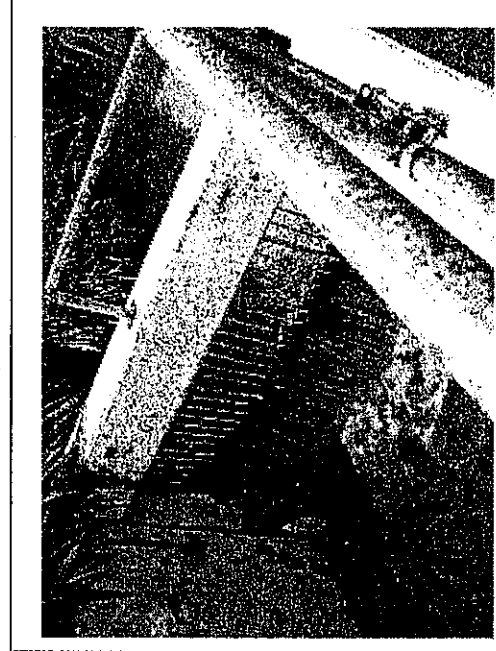


Photo 050817\_003



Photo 050817\_004

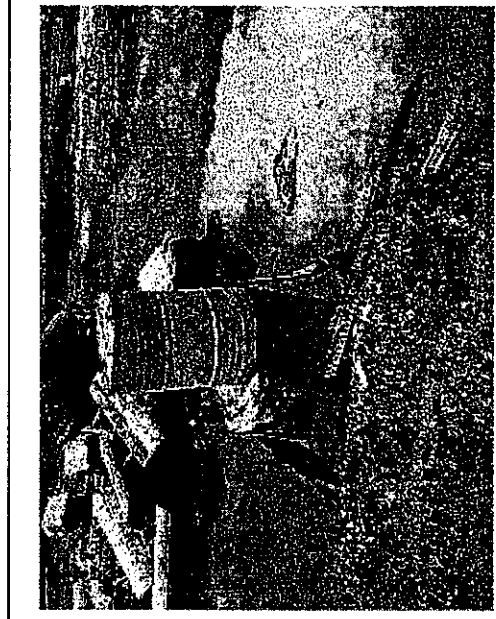


Photo 050817\_005



Photo 050817\_006

CEDD Contract No.: CV/2005/05  
Project: Fill Bank at Tseung Kwan O Area 137

**Follow-up Action of the Weekly Site Inspection**

Inspected by : Jerry W K Tam (Contractor)  
Name : H. T. CHOW (ET)  
Inspection Date : 17 August 2005  
Time : 14:15  
Weather : Sunny/Fine/Overcast/Drizzle/Rain / Storm / Hazy  
Wind : Calm/Light / Breeze / Strong  
Temperature : 28  
Humidity : High / Moderate / Low

Item	Details of defective works or observations	Response	Date of Action taken	Photo Ref.
1	Follow up action to previous comment item #1 (11/08/05), oily water was found leaked from the drip tray at Water Truck Filling Station. Besides, rainwater was observed accumulated in the drip tray. The Contractor was reminded to drain the rainwater and replace the valve and maintain the drip tray regularly.	The oily rain water will be drained away and the drainage valve will be replaced to prevent oil leaked from the drip tray.	By September 7, 2005	-
2	Follow up action to previous comments item #6 (01/08/05) and item #2 (11/08/05), water ponding was still observed at Portion D. The Contractor was reminded to remove the standing water immediately, in particular after every rainstorm.	The ponding water had been eliminated by filling up and leveling with public filling materials.	August 22, 2005	-
3	Follow up action to previous comment item #3 (11/08/05), accumulation of died vegetation was still observed at the water gate at Screen C. The Contractor was reminded to clean up the water gate immediately.	Accumulated died vegetation at the water gate at Gate C had been cleaned up.	August 27, 2005	-
4	Follow-up action to previous comments item #13 (27/07/05), item #4 (01/08/05) and item #4 (11/08/05), rain water was still accumulated in drainage channel near Gammon Site Office at Portion K. The Contractor was reminded to provide insecticide to the drainage system regularly in order to prevent mosquito breeding.	Application of insecticide to the drainage system has been arranged once per week regularly.	Starting from August 8, 2005 and continuing.	-
5	Follow up action to previous comment item #5 (11/08/05), rainwater and rubbish was accumulated in drip tray near Work Shop. The Contractor was reminded to drain the rainwater and clean up the rubbish immediately.	Rain water accumulated in drip tray near Work Shop will be arranged to drain away and the rubbish remained will be cleaned up accordingly.	By September 7, 2005	-

CEDD Contract No.: CV/2005/05  
 Project: Fill Bank at Tseung Kwun O Area 137

Inspection Date : 23 August 2005  
 Time : 10:45

Weather : Sunny / Fine / Overcast / Drizzle / Rain / Storm / Hazy  
 Wind : Calm / Light / Breeze / Strong

Temperature : 32  
 Humidity : High / Moderate / Low

Environmental Checklist	Implementation Stages*			Remark	
	Yes	No	N/A		
<b>Fugitive Dust Emission</b>					
<ul style="list-style-type: none"> <li>▪ Dust control / mitigation measures shall be provided to prevent dust nuisance.</li> <li>▪ 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.</li> <li>▪ Water sprays shall be provided and used to dampen materials.</li> <li>▪ Regular cleaning and watering the site shall be provided to minimize the fugitive dust emissions.</li> <li>▪ All vehicles shall be restrict to a maximum speed of 10 km per hour.</li> <li>▪ 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.</li> <li>▪ The designated site main haul rout shall be paved or regular watering.</li> <li>▪ Frequent watering of work site shall be at least three times per day.</li> <li>▪ Wheel washing facilities including high pressure water jet shall be provided at the entrance of work site.</li> <li>▪ Every vehicle shall be washed to remove any dusty materials from its body and wheels before leaving the fill bank.</li> <li>▪ 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.</li> <li>▪ 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.</li> <li>▪ When fill material is transfer by belt conveyor systems, the conveyors shall be enclosed on top and 2 sides.</li> <li>▪ The belt scraper shall be equipped with bottom plates or other similar means to prevent falling of material from the return belt.</li> <li>▪ 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.</li> </ul>	<ul style="list-style-type: none"> <li>✓</li> <li>✓</li> <li>✓</li> <li>✓</li> <li>✓</li> <li>✓</li> <li>✓</li> <li>✓</li> <li>✓</li> <li>✓</li> <li>✓</li> <li>✓</li> <li>✓</li> <li>✓</li> </ul>	<ul style="list-style-type: none"> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> </ul>	<ul style="list-style-type: none"> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> </ul>		
<b>Noise Impact</b>					
<ul style="list-style-type: none"> <li>▪ The approved method of working, equipment and sound-reducing measures (e.g. use of silenced type of equipment, etc.) shall be adapted.</li> <li>▪ Only well maintained plant should be operated on-site and plant should be serviced regularly during the construction works.</li> <li>▪ Powered mechanical equipment (PME) should be covered or shielded by appropriate acoustic materials.</li> <li>▪ Air compressors and hand held breakers should have noise labels.</li> <li>▪ Machines and plants that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum.</li> <li>▪ Noisy equipment and mobile plant shall always be site away from NSRs.</li> </ul>	<ul style="list-style-type: none"> <li>✓</li> <li>✓</li> <li>✓</li> <li>✓</li> <li>✓</li> </ul>	<ul style="list-style-type: none"> <li></li> <li></li> <li></li> <li></li> <li></li> </ul>	<ul style="list-style-type: none"> <li></li> <li></li> <li></li> <li></li> <li></li> </ul>	<ul style="list-style-type: none"> <li></li> <li></li> <li></li> <li></li> <li></li> </ul>	







**Summary of the Weekly Site Inspection:**

Item	Details of defective works or observations	Photo Ref.	Further Action Required (Yes/No)
1	Follow up action to previous comments, item #1 (11/08/05) and item #1 (17/08/05), oily water found leaked from the drip tray at Water Truck Filling Station was cleaned up. But the Contractor was still reminded to replace the drainage value of the drip tray immediately.	050823_001	Yes
2	Follow up action to previous comments, item #6 (01/08/05), item #2 (11/08/05) and item#2 (17/08/05), no water ponding was observed at Portion D.	050823_002	No
3	Follow up action to previous comment s, item #3 (11/08/05) and item #3 (17/08/05), died vegetation was still accumulated at the water gate at Screen C. The Contractor was reminded to clean up the water gate immediately.	050823_003	Yes
4	Follow-up action to previous comments, item #13 (27/07/05), item #4 (01/08/05), tem #4 (11/08/05) and item #4 (17/08/05), rain water was still accumulated in drainage channel near Gammon Site Office at Portion K. The Contractor provided insecticide to the drainage system regularly in order to prevent mosquito breeding.	050823_004	Yes
5	Follow up action to previous comments, item #5 (11/08/05) and item #5 (17/08/05), rainwater and rubbish was still accumulated in drip tray near Work Shop. The Contractor was reminded to drain the rainwater and clean up the rubbish immediately.	050823_005	Yes
6	The drip tray was full of mud at Barging Handling Area (BHA) Office during the weekly site inspection. The Contractor was reminded to clean up the mud immediately.	050823_006	Yes

Remark

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Name	Signature	Date
Inspected by H. T. Chow		23 August 2005
Checked by Linda Law		23 August 2005

Photos

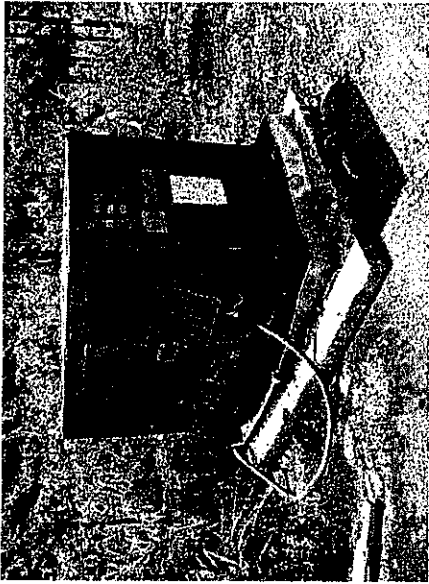


Photo 050823\_001



Photo 050823\_002



Photo 050823\_003



Photo 050823\_004



Photo 050823\_005

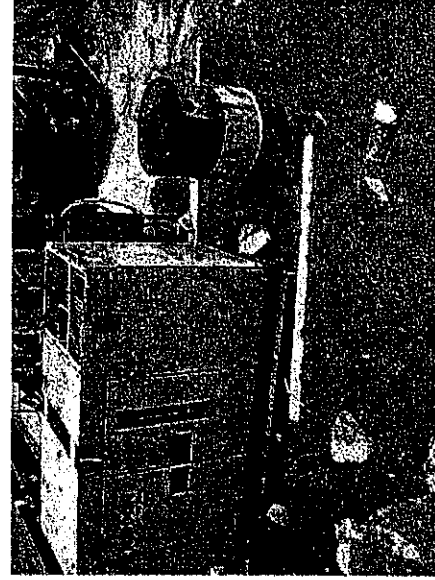


Photo 050823\_006

CEDD Contract No.: CV/2005/05  
Project: Fill Bank at Tseung Kwan O Area 137

**Follow-up Action of the Weekly Site Inspection**

Inspected by : Jerry W K Tam (Contractor)  
Name : H. T. CHOW (ET)  
Inspection Date : 23 August 2005  
Time : 10:45  
Weather : Sunny / Fine / Overcast / Drizzle / Rain / Storm / Hazy  
Wind : Calm / Light / Breeze / Strong  
Temperature : 32  
Humidity : High / Moderate / Low

Item	Details of defective works or observations	Response	Date of Action taken	Photo Ref.
1	Follow up action to previous comments, item #1 (11/08/05) and item #1 (17/08/05), oily water found leaked from the drip tray at Water Truck Filling Station was cleaned up. But the Contractor was still reminded to replace the drainage value of the drip tray immediately.	The drainage valve will be replaced to prevent oil leaked from the drip tray.	By September 7, 2005	-
2	Follow up action to previous comments, item #3 (11/08/05) and item #3 (17/08/05), died vegetation was still accumulated at the water gate at Screen C. The Contractor was reminded to clean up the water gate immediately.	Accumulated died vegetation at the water gate at Gate C had been cleaned up.	August 27, 2005	20050827 - Item 2
3	Follow-up action to previous comments, item #13 (27/07/05), item #4 (01/08/05), item #4 (11/08/05) and item #4 (17/08/05), rain water was still accumulated in drainage channel near Gammon Site Office at Portion K. The Contractor provided insecticide to the drainage system regularly in order to prevent mosquito breeding.	Application of insecticide to the drainage system has been arranged once per week regularly. The last application had been arranged on August 23, 2005.	Starting from August 8, 2005 and continuing.	20050823 - Item 3
4	Follow up action to previous comments, item #5 (11/08/05) and item #5 (17/08/05), rainwater and rubbish was still accumulated in drip tray near Work Shop. The Contractor was reminded to drain the rainwater and clean up the rubbish immediately.	Rain water accumulated in drip tray near Work Shop will be arranged to drain away and the rubbish remained will be cleaned up accordingly.	By September 7, 2005	-
5	The drip tray was full of mud at Barging Handling Area (BHA) Office during the weekly site inspection. The Contractor was reminded to clean up the mud immediately.	The mud accumulated inside the drip tray at the Barge Handling Area (BHA) Office will be arranged to clean up in the near future.	By September 7, 2005	-





Photo No.: 20050823-Item 3

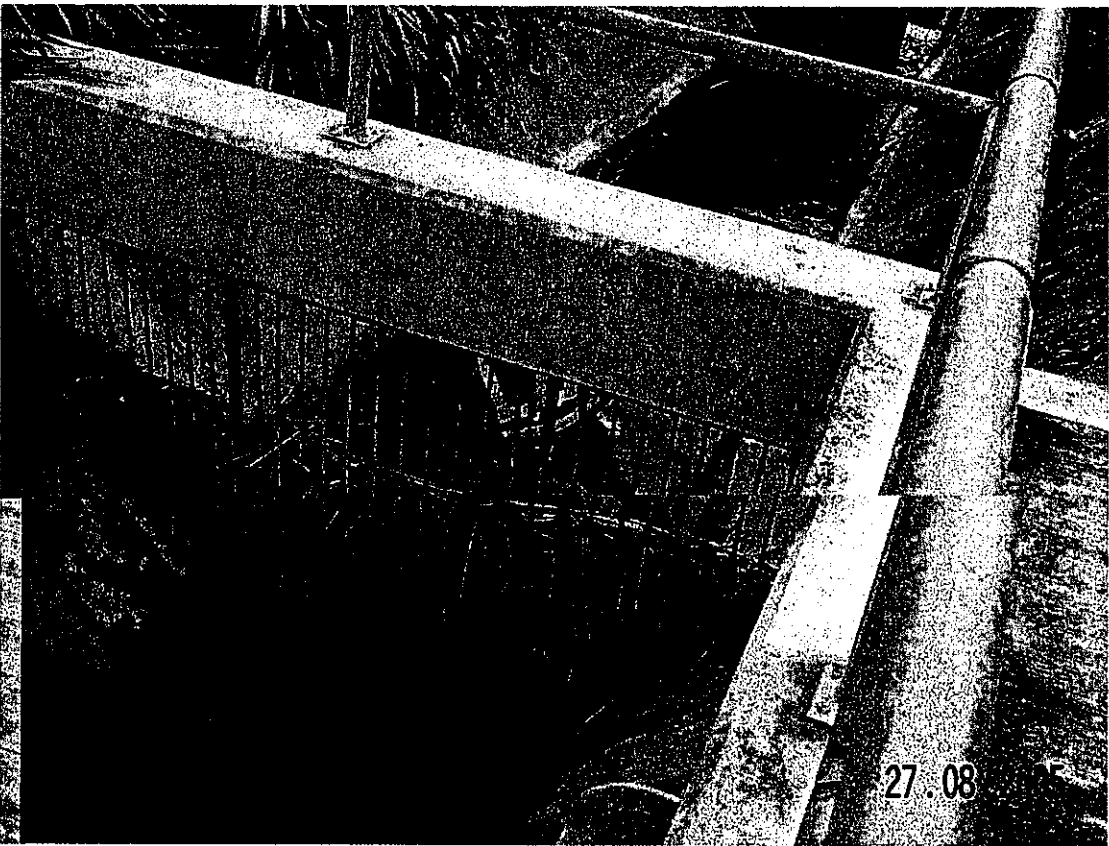


Photo No.: 20050827-Item 2

CEDD Contract No.: CV/2005/05  
 Project: Fill Bank at Tseung Kwun O Area 137

Inspection Date : 29 August 2005  
 Time : 10:15

Weather : Sunny / Fine / Overcast / Drizzle / Rain / Storm / Hazy  
 Wind : Calm / Light / Breeze / Strong

Temperature : 33  
 Humidity : High / Moderate / Low

Environmental Checklist	Implementation Stages*			Remark
	Yes	No	N/A	
<b>Fugitive Dust Emission</b>				
▪ Dust control / mitigation measures shall be provided to prevent dust nuisance.	√			
▪ 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.	√			
▪ Water sprays shall be provided and used to dampen materials.	√			
▪ Regular cleaning and watering the site shall be provided to minimize the fugitive dust emissions.	√			
▪ All vehicles shall be restricted to a maximum speed of 10 km per hour.	√			
▪ 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.	√			
▪ The designated site main haul rout shall be paved or regular watering.	√			
▪ Frequent watering of work site shall be at least three times per day.	√			
▪ Wheel washing facilities including high pressure water jet shall be provided at the entrance of work site.	√			
▪ Every vehicle shall be washed to remove any dusty materials from its body and wheels before leaving the fill bank.	√			
▪ 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.	√			
▪ 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.	√			
▪ When fill material is transfer by belt conveyor systems, the conveyors shall be enclosed on top and 2 sides.	√			
▪ The belt scraper shall be equipped with bottom plates or other similar means to prevent falling of material from the return belt.	√			
▪ 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.	√			
<b>Noise Impact</b>				
▪ The approved method of working, equipment and sound-reducing measures (e.g. use of silenced type of equipment, etc.) shall be adapted.	√			
▪ Only well maintained plant should be operated on-site and plant should be serviced regularly during the construction works.	√			
▪ Powered mechanical equipment (PME) should be covered or shielded by appropriate acoustic materials.	√			
▪ Air compressors and hand held breakers should have noise labels.	√			
▪ Machines and plants that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum.	√			
▪ Noisy equipment and mobile plant shall always be site away from NSRs.	√			

Implementation Stages*		Remark
<b>Water Quality</b>		
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	The existing / realigned intercepting channels and the sand / silt removal facilities shall be used and maintained.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Temporary intercepting drains should be used at the stockpiling area to divert polluted stormwater to the intercepting channels. Earth bunds and sand bay barriers shall be used to assist the diversion of polluted stormwater to the intercepting channels.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	A buffer distance of at least 100m shall be maintained between the boundary of the public fill stockpiling area and the sea front.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	A buffer distance of at least 20m shall be maintained between the boundary of the C&DMSF and the sea front.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	The stormwater intercepting system shall be effective to collect of runoff and remove suspended solids before discharge.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	The material shall be properly covered to prevent washed away especially before rainstorm.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	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.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	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.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Existing and newly constructed Catchpits, sand and silt removal facilities and intercepting channels shall be maintained, and the deposited silt and grit shall be removed weekly and on a need basis especially at the onset of and after each rainstorm to ensure that these facilities are functioning properly at all times.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	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.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	The section of construction road between wheel washing bay and the public road shall be paved with concrete, bituminous materials or hardcore to reduce vehicle tracking of soil and to prevent site run-off from entering public road darins.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Sewage from toilets shall be discharged in to a foul sewer, or chemical toilets shall be provided.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	The chemical toilets (if use) shall be provided by a licensed contractor, who will be responsible for disposal and maintenance of these facilities.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Wastewater collected from canteen kitchen, including that from basins, sinks and floor drains, shall be discharged into foul sewers via grease traps.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Oil intercept in addition of sand / silt removal facilities shall be provided at the car parking areas.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	The barges shall be in right size such that adequate clearance in maintained between the vessels and the seabed at all states of the tide to ensure the undue turbidity is not generated by turbulence from vessel movement or propeller wash.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	All vessels used for transportation of fill material shall have tight fitting seals to their bottom openings to prevent leakage of material during transport.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Adequate environmental control measures shall be provided to prevent / avoid dropping of fill material into the sea during the transfer.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Barges shall not be filled to a level which may cause the overflow of material during loading or transportation. Barge effluents shall be properly collected and treated before disposal.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	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.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Existing silt curtain at the outward side of the basin near the Barging Handling Area throughout the period shall be repair, maintain and service when there is public fill intake by barges to the Fill Bank in accordance with PS Clause 1.68. The total length of the silt curtains shall not be less than 160m, and a gap of about 80m shall be left open for access of barges. The silt curtain shall be properly maintained such that it can also serve the function of refuse containment boom to confine floating refuse.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	A waste collection vessel shall be deployed to remove floating debris.



<b>Landscape and Visual</b>			
▪	The design of the fill bank and platform heights adopted should allow the fill bank to fit into the general topography of the surrounding land. Straight edged slopes should be avoided.	✓	
▪	The maximum stockpiling height at the fill bank shall be limited to a maximum of +35.2mPD.	✓	
▪	Surface of outer slopes of the fill bank shall preferably be hydroseeded or covered with geo-textile matting of appropriate colour (e.g. dark green / brown) once completed.	✓	
▪	The barging point and the C&DMSF at the fill bank shall not be in operation from 07:00 pm to 08:00 am daily to avoid potential visual impact from glare.	✓	
<b>Other Environmental Factors</b>			
▪	C&D waste sorted from mixed C&D material at eh C&DMSF shall be removed from the temporary buffer storage area on a daily basis and transfer to SENT landfill for disposal.	✓	
▪	Plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste.	✓	
▪	Any unused materials or those with remaining functional capacity should be recycled.	✓	
▪	All generators, fuel and oil storage are within bundle areas.	✓	
▪	Oil leakage from machinery, vehicle and plant is prevented.	✓	

**Summary of the Weekly Site Inspection:**

Item	Details of defective works or observations	Photo Ref.	Further Action Required (Yes/No)
1	Follow up action to previous comments, item #1 (11/08/05), item #1 (17/08/05) and item #1 (23/08/05), the drainage value of the drip tray at Water Truck Filling Station was still not repaired and sign of oil spillage from the value was observed. The Contractor was reminded to replace the drainage value of the drip tray immediately to prevent oil leaked from the drip tray.	050829_001	Yes
2	Follow up action to previous comments, item #3 (11/08/05), item #3 (17/08/05) and item #3 (23/08/05), died vegetation at the water gate at Screen C was cleaned up.	050829_002	No
3	Follow-up action to previous comments, item #13 (27/07/05), item #4 (01/08/05), item #4 (11/08/05), item #4 (17/08/05) and item #4 (23/08/05), rain water was still accumulated in drainage channel near Gammon Site Office at Portion K. The Contractor was reminded to provide insecticide to the drainage system regularly in order to prevent mosquito breeding.	050829_003	Yes
4	Follow up action to previous comments, item #5 (11/08/05), item #5 (17/08/05) and item #5 (23/08/05), rainwater and rubbish was still accumulated in drip tray near Work Shop. The Contractor was reminded to drain the rainwater and clean up the rubbish immediately.	050829_004	Yes
5	Follow up action to previous comment item #6 (23/08/05), the drip tray was still full of mud at Barging Handling Area (BHA) Office during the weekly site inspection. The Contractor was reminded to clean up the mud immediately.	050829_005	Yes
6	The fill materials were accumulated on the concrete embankment at the BHA. 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.	050829_006	Yes

Remark

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Name	Signature	Date
Inspected by H. T. Chow		30 August 2005
Checked by Linda Law		30 August 2005

Photos

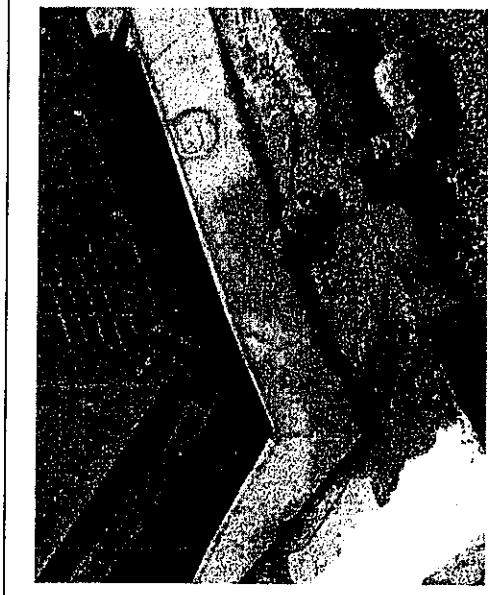


Photo 050829\_001



Photo 050829\_002



Photo 050829\_003



Photo 050829\_004



Photo 050829\_005



Photo 050829\_006

**Follow-up Action of the Weekly Site Inspection**

Inspection Date : 29 August 2005  
 Time : 10:15  
 Inspected by Name : Jerry W K Tam (Contractor)  
 : H. T. CHOW (ET)  
 Weather : Sunny / Fine / Overcast / Drizzle / Rain / Storm / Hazy  
 Wind : Calm / Light / Breeze / Strong  
 Temperature : 33  
 Humidity : High / Moderate / Low

Item	Details of defective works or observations	Response	Date of Action taken	Photo Ref.
1	Follow up action to previous comments, item #1 (11/08/05), item #1 (17/08/05) and item #1 (23/08/05), the drainage value of the drip tray at Water Truck Filling Station was still not repaired and sign of oil spillage from the valve was observed. The Contractor was reminded to replace the drainage value of the drip tray immediately to prevent oil leaked from the drip tray.	The drainage valve will be replaced to prevent oil leaked from the drip tray.	By September 7, 2005	-
3	Follow-up action to previous comments, item #13 (27/07/05), item #4 (01/08/05), item #4 (1/08/05), item #4 (17/08/05) and item #4 (23/08/05), rain water was still accumulated in drainage channel near Gammon Site Office at Portion K. The Contractor was reminded to provide insecticide to the drainage system regularly in order to prevent mosquito breeding.	Application of insecticide to the drainage channel near Gammon Site Office at Portion K has been arranged once per week regularly.	Starting from August 8, 2005 and continuing.	-
3	Follow up action to previous comments, item #5 (11/08/05), item #5 (17/08/05) and item #5 (23/08/05), rainwater and rubbish was still accumulated in drip tray near Work Shop. The Contractor was reminded to drain the rainwater and clean up the rubbish immediately.	Rain water accumulated in drip tray near the Work Shop will be arranged to drain away and the rubbish remained will be cleaned up accordingly.	By September 7, 2005	-
4	Follow up action to previous comment item #6 (23/08/05), the drip tray was still full of mud at Barging Handling Area (BHA) Office during the weekly site inspection. The Contractor was reminded to clean up the mud immediately.	The mud accumulated inside the drip tray at the Barge Handling Area (BHA) Office will be arranged to clean up in the near future.	By September 7, 2005	-
5	The fill materials were accumulated on the concrete embankment at the BHA. 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.	The fill materials accumulated nearby the seawall coping at the Barge Handling Area (BHA) will be cleaned up to avoid being washed down into the sea.	As soon as possible.	-



## **Appendix J**

### **Implementation Schedule of Mitigation Measures**









## **Appendix K**

# **Interim Notification of Environmental Quality Limits Exceedance**

**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**  
**Fill Bank at Tseung Kwan O Area 137**

**Interim Notification of Exceedances of Action / Limit Levels**

Part 1 – Dissolved Oxygen

Date	Monitoring Location	Tide Mode	Measured Value (NTU)	Action Level* (NTU)	Limit Level* (NTU)	Possible Reason(S) for the Exceedance	Action taken to be taken	Remarks
29/08/05	C1	Mid-Flood	4.64	4.72	2.00	According to the monitoring results, it was found that dissolved oxygen of the impact station C1 (4.64mg/L) was found closed to that of reference station M1 (4.91mg/L). Besides, no abnormal site activities operated at the Fill Bank during the site investigation. Therefore, the exceedance might be due to natural fluctuation of Dissolved Oxygen in the water body around the area and considered not due to the Fill Bank operation.	Nil	Nil

\* Traceable to Method Statement (Marine Water Quality Monitoring and Audit Manual) of Contract No.CV/2002/08, Rev. 2, Section 3.1 – 3.21



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**Appendix L**  
**Site General Layout plan**





## **Appendix M**

### **Monitoring Schedule for the Coming Month**



**Contract No. CV/2005/05**  
**Operation of Fill Bank at Tseung Kwan O Area 137 and Barging Facilities at**  
**Hong Kong Island**

**Tseung Kwan O Fill Bank**

**Time Schedule for Water Quality Impact Monitoring (WQM), Impact Day-time Noise Monitoring (NM), Impact Air Monitoring (1-hr TSP & 24-hr TSP) and Weekly Site Inspection**

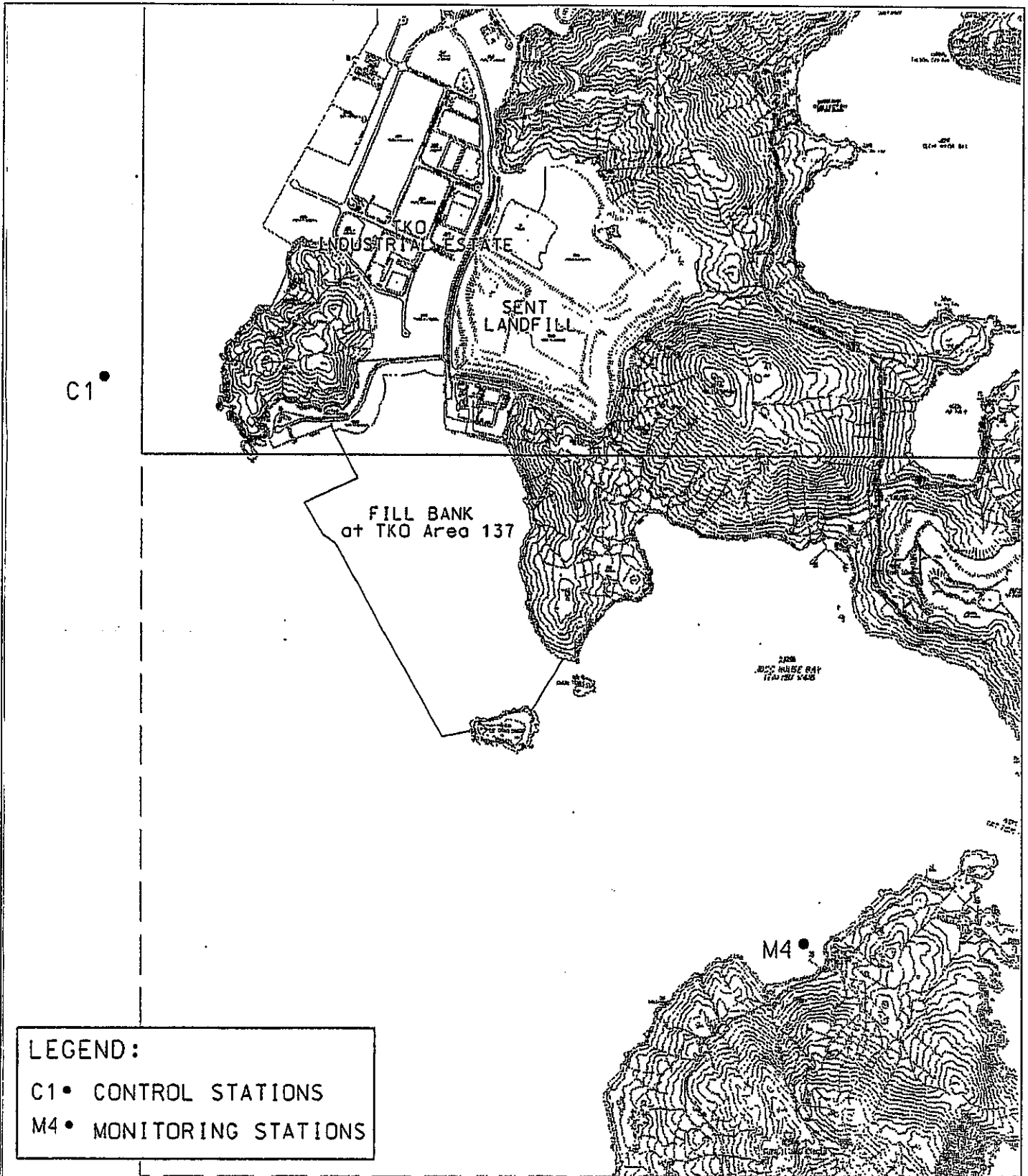
**September 2005**

Sun	Mon	Tue	Wed	Thu	Fri	Sat
				1	2 <u>WQM</u> Mid-ebb (10:45-12:45) Mid-flood (17:30-19:30)  <u>1-hr TSP,</u> <u>24-hr TSP</u>	3
4	5 <u>WQM</u> Mid-flood (07:00-09:00) Mid-ebb (12:15-14:15)	6	7 <u>WQM</u> Mid-flood (07:30-09:30) Mid-ebb (13:30-15:30)  <u>Weekly SI</u>	8 <u>1-hr TSP,</u> <u>24-hr TSP</u>  <u>NM</u>	9 <u>WQM</u> Mid-flood (08:30-10:30) Mid-ebb (14:30-16:30)	10
11	12 <u>WQM</u> Mid-ebb (07:00-09:00) Mid-flood (17:30-19:30)	13	14 <u>WQM</u> Mid-ebb (08:00-10:00) Mid-flood (16:15-18:15)  <u>1-hr TSP,</u> <u>24-hr TSP</u>  <u>Weekly SI</u>	15	16 <u>WQM</u> Mid-ebb (09:45-11:45) Mid-flood (17:00-19:00)	17
18	19	20 <u>WQM</u> Mid-flood (07:00-09:00) Mid-ebb (12:45-14:45)  <u>1-hr TSP,</u> <u>24-hr TSP</u>  <u>Weekly SI</u>	21	22 <u>WQM</u> Mid-flood (08:15-10:15) Mid-ebb (14:00-16:00)	23	24 <u>WQM</u> Mid-flood (10:30-12:30) Mid-ebb (15:30-16:30)
25	26 <u>WQM</u> Mid-ebb (07:00-09:00) Mid-flood (18:00-20:00)  <u>1-hr TSP,</u> <u>24-hr TSP</u>  <u>Weekly SI</u>	27	28 <u>WQM</u> Mid-ebb (08:00-10:00) Mid-flood (18:00-20:00)	29	30 <u>WQM</u> Mid-ebb (09:30-11:30) Mid-flood (16:45-18:45)	





## Figures



Contract No. CV/2005/05

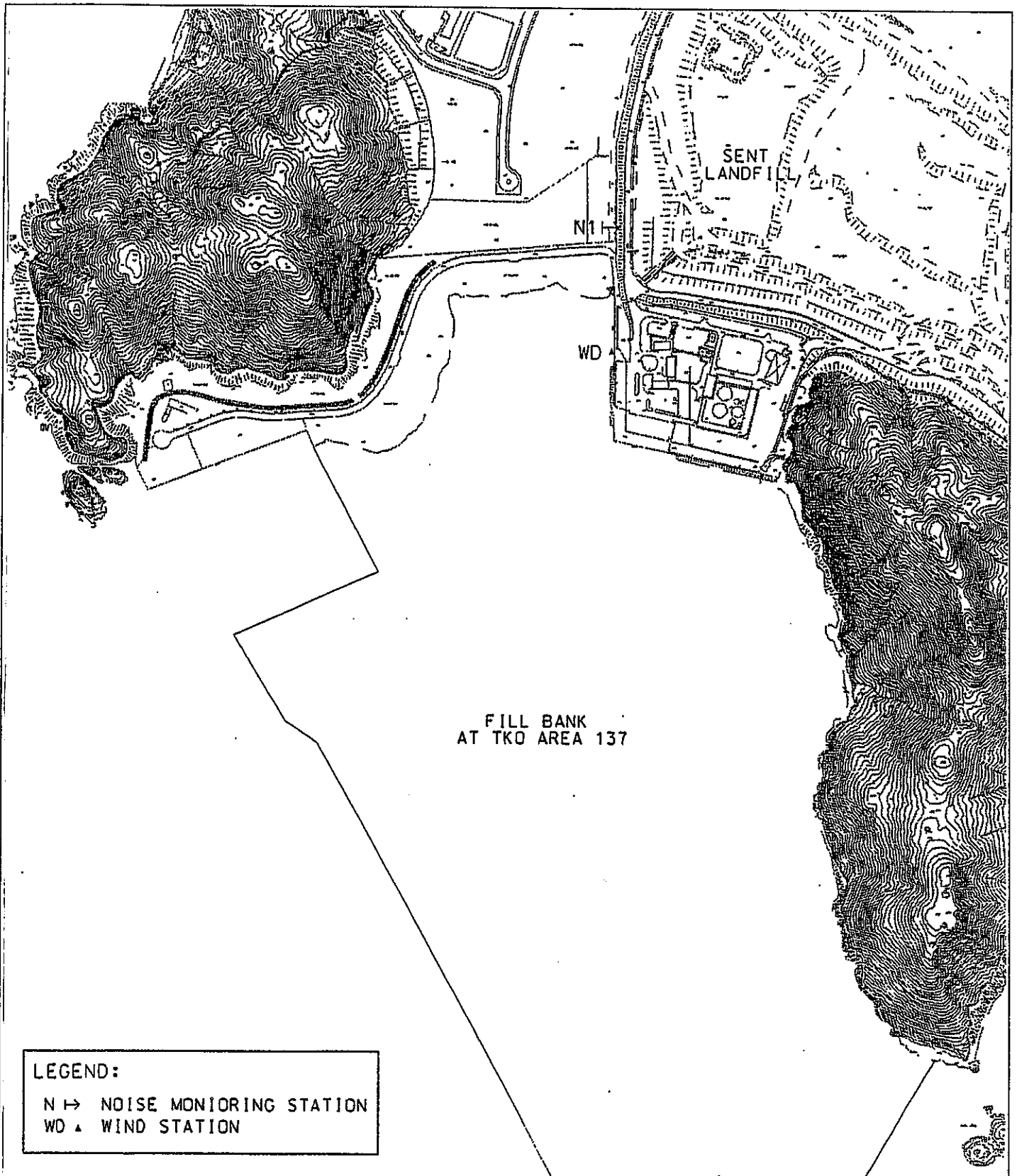
Operation of Fill Bank at Tseung Kwan O Area 137 and Barging Facilities at Hong Kong Island and Mui Woo

Figure 1

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



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**LEGEND:**

- N → NOISE MONITORING STATION
- WD ▲ WIND STATION

Contract No. CV/2005/05

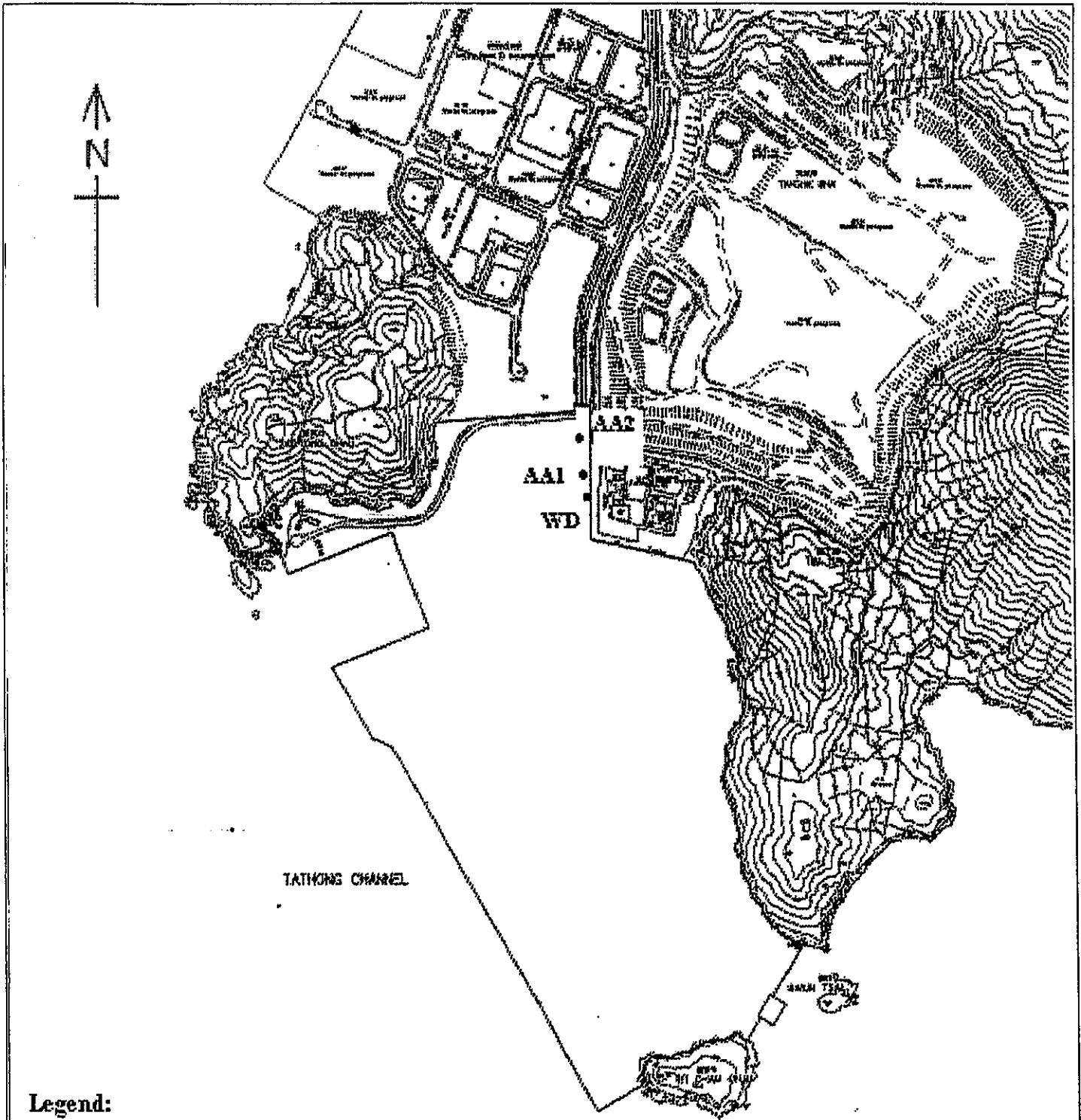
Operation of Fill Bank at Tseung Kwan O Area 137 and Barging Facilities at Hong Kong Island and Mui Woo

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

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

Figure 3

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



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