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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  
(NOVEMBER 2005)**

Prepared by:



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**BMT Asia Pacific Limited**

13 December 2005  
Our Ref: 8116/2248

By Hand

Penta-Ocean Construction Co., Ltd.  
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Wanchai  
Hong Kong

For the attention of Mr. Stephen Choi

Dear Sir

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

Following review of the Monthly EM&A Report No. 5 for the reporting period November 2005, the IEC has verified the information presented.

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

Yours sincerely  
**BMT Asia Pacific Limited**

Ben Ridley  
IEC

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## **EXECUTIVE SUMMARY**

This is the fourth 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 Wo" (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 November 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: 5 Occasions at 2 designated locations*
- *1-hour TSP Monitoring: 15 Occasions at 2 designated locations*
- *Marine Water Quality Monitoring: 13 Occasions at 2 designated locations*
- *Weekly-site inspection: 4 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**

There were four exceedances of Limit Level recorded in this reporting month.

According to the summary of marine water monitoring results, two exceedances of Turbidity on Limit Level at Monitoring Stations C1 and M4 were recorded at 14 November 2005 (mid-ebb). According to the site observation, no abnormal site activities were observed at the Fill Bank. Besides, it was noted that the Turbidity level of the impact station M4 (4.90mg/L) was found close to that of the reference station C1 (4.59mg/L). The exceedances might be due to natural fluctuation of Turbidity in the water body around the area and considered not due to the Fill Bank operation and hence no further actions were required. The turbidity level of marine water was found to have returned back to normal level during the next monitoring tide (mid-flood).

Another two exceedances of Turbidity on Limit Level at Monitoring Stations C1 and M4 were recorded at 28 November 2005 (mid-ebb). It was noted that the Turbidity level of the impact station M4 (4.84mg/L) was found to be lower than the reference station C1 (4.89mg/L). Besides, no abnormal site activities were observed at the Fill Bank during the site investigation on the same day. Hence, the exceedances might be due to natural fluctuation of Turbidity in the water body around the area and considered not due to the Fill Bank operation. As a result, no further actions were required. The turbidity level of marine water was found to have returned back to normal level during the next tide monitoring (mid-flood).



### **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	03, 11, 15, 21
IEC site inspection	11, 15

In general, performance on environmental mitigation measures implemented was found to be 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 continued to be 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 Wo" (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 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 November 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.*



#### 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>

During the reporting month, 1-hr and 24-hr TSP monitoring were carried out as the schedule. The details for 24-hr and 1-hr TSP monitoring carried out in this reporting month are summarized in table 4.4.



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					03/11/05	11:00	12:00		
							13:00	14:00		
							14:10	15:10		
							09/11/05	08:30	09:30	
								11:00	12:00	
								13:00	14:00	
							15/11/05	11:00	12:00	
								13:00	14:00	
								14:00	15:00	
							21/11/05	09:30	10:30	
								11:00	12:00	
							25/11/05	13:00	14:00	
								08:30	09:30	
								09:45	10:45	
							AA2	Site Egress		
13:00	14:00									
14:10	15:10									
09/11/05	08:30	09:30								
	11:00	12:00								
	13:00	14:00								
15/11/05	11:00	12:00								
	13:00	14:00								
	14:00	15:00								
21/11/05	09:30	10:30								
	11:00	12:00								
25/11/05	13:00	14:00								
	08:30	09:30								
	09:45	10:45								
AA1	Outside CEDD Site Office									
							09/11/05	14:45	10/11/05	14:19
							15/11/05	15:05	16/11/05	15:09
							21/11/05	14:05	22/11/05	14:05
							25/11/05	12:05	26/11/05	12:07
AA2	Site Egress						03/11/05	15:30	04/11/05	15:31
							09/11/05	14:15	10/11/05	14:26
							15/11/05	15:18	16/11/05	15:20
							21/11/05	14:15	22/11/05	14:15
							25/11/05	12:15	26/11/05	12:37

#### 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).



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	03/11/05	184	X	03/11/05	11:00	321	X
						13:00	283	
						14:10	296	
		09/11/05	176	X	09/11/05	08:30	235	X
						11:00	313	
						13:00	295	
		15/11/05	195	X	15/11/05	11:00	325	X
						13:00	277	
						14:00	283	
		21/11/05	203	X	21/11/05	09:30	265	X
						11:00	324	
						13:00	279	
25/11/05	191	X	25/11/05	08:30	223	X		
				09:45	258			
				11:00	319			
AA2	Site Egress	03/11/05	169	X	03/11/05	11:00	303	X
						13:00	265	
						14:10	270	
		09/11/05	153	X	09/11/05	08:30	226	X
						11:00	294	
						13:00	274	
		15/11/05	166	X	15/11/05	11:00	346	X
						13:00	309	
						14:00	295	
		21/11/05	187	X	21/11/05	09:30	276	X
						11:00	338	
						13:00	314	
25/11/05	174	X	25/11/05	08:30	235	X		
				09:45	270			
				11:00	326			

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. Furthermore, 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

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

### 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

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

### 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

<i>Monitoring station</i>	<i>Location</i>	<i>Type of Measurement</i>
<i>N1</i>	<i>Outside site Egress along Wan Po Road</i>	<i>Façade</i>

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

Table 5.4 Monitoring Period for noise monitoring stations

<i>Noise monitoring stations</i>	<i>Monitoring Period</i>	
	<i>Day-time</i>	
<i>N1</i>	<i>03/11/05</i>	<i>10:03</i>

### 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

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

\* 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

<i>Date</i>	<i>Start Sampling Time (hh:mm)</i>	<i>Noise Level dB (A)</i>		
		<i>L<sub>eq(30min)</sub></i>	<i>L<sub>10</sub></i>	<i>L<sub>90</sub></i>
<i>03/11/05</i>	<i>10:03</i>	<i>68.0</i>	<i>72.1</i>	<i>59.4</i>

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 (Ebb tide)	C1	844 740.208	815 371.502
Monitoring Station, Tung Lung Chau Fish Culture Zone	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-feet 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	01-09-2005	30-11-2005	EW/003/001*
Turbidity	HACH Model 2100P Turbid Meter	27-10-2005	26-01-2006	ET/0505/002
Salinity	YSI Model 30M	27-10-2005	26-01-2006	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 conducted in this reporting month:

Table 6.7 Time Schedule of Water Quality Monitoring

November 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			

▼ = 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.

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	0	0	0	0	0	0	0	0
	Limit	0	0	0	2	0	0	0	2
M4	Action	0	0	0	0	0	0	0	0
	Limit	0	0	0	2	0	0	0	2

There were four exceedances of Limit Level recorded in this reporting month.

According to the summary of marine water monitoring results, two exceedances of Turbidity on Limit Level at Monitoring Stations C1 and M4 were recorded at 14 November 2005 (mid-ebb). According to the site observation, no abnormal site activities were observed at the Fill Bank. Besides, it was noted that the Turbidity level of the impact station M4 (4.90mg/L) was found close to that of the reference station C1 (4.59mg/L). The exceedances might be due to natural fluctuation of Turbidity in the water body around the area and considered not due to the Fill Bank operation and hence no further actions were required. The turbidity level of marine water was found to have returned back to normal level during the next monitoring tide (mid-flood).

Another two exceedances of Turbidity on Limit Level at Monitoring Stations C1 and M4 were recorded at 28 November 2005 (mid-ebb). It was noted that the Turbidity level of the impact station M4 (4.84mg/L) was found to be lower than the reference station C1 (4.89mg/L). Besides, no abnormal site activities were observed at the Fill Bank during the site investigation on the same day. Hence, the exceedances might be due to natural fluctuation of Turbidity in the water body around the area and considered not due to the Fill Bank operation. As a result, no further actions were required. The turbidity level of marine water was found to have returned back to normal level during the next tide monitoring (mid-flood).



7 Site Audits

7.1.1 During this reporting period, the IEC team conducted two independent site audits.

7.1.2 Findings of the site audits have been recorded on site checklists, copies of which were submitted to the Contractor for their further action as appropriate, and to the Client for their records. Key issues were highlighted to the Contractor's representative at the completion of each site audit to ensure that they were aware of the problem(s) identified and where necessary, to take immediate corrective actions. A copy of the completed checklists are appended to this report in Appendix H.

**Table 3.1: Dates of Site Audits in November 2005**

Date of Audit	Work Period	Site Audit Checklist Submitted Under IEC's Ref No.
11 November 2005	Operation	8116/2196
15 November 2005	Operation	8116/2200

7.1.3 The major findings recorded during the site audits conducted during this reporting period are summarized below. Full details are provided in the site audit checklists presented in Appendix H.

**Table 3.2: Key Findings of Site Audits in November 2005**

Date	Key Findings	Action
11 Nov 2005	<ul style="list-style-type: none"> <li>Fugitive dust emission due to vehicular movement was noted at haul road between Portions D &amp; K.</li> </ul>	<ul style="list-style-type: none"> <li>The Contractor was advised to spray the mentioned area.</li> </ul>
	<ul style="list-style-type: none"> <li>Some buckets/drums of chemical wastes stored in the Chemical Waste Storage Shed were uncovered/unlabelled.</li> </ul>	<ul style="list-style-type: none"> <li>The Contractor was reminded to properly cap all the chemical / oil containers and suggested to have toolbox training to the workers.</li> </ul>
	<ul style="list-style-type: none"> <li>The surface of the Workshop was found contaminated by lubricating oil due to maintenance work of an excavator.</li> </ul>	<ul style="list-style-type: none"> <li>The Contractor was reminded to clean up the contaminated soil and treat it as chemical waste ASAP. Also, the Contractor was reminded to provide impermeable sheet on the ground before conducting maintenance works.</li> </ul>
	<ul style="list-style-type: none"> <li>Rubbish including cans was still observed in water browser filling station</li> </ul>	<ul style="list-style-type: none"> <li>The Contractor should keep the site tidy and clean and provide properly sized waste containers.</li> </ul>
	<ul style="list-style-type: none"> <li>Two unlabelled 200L metal containers and one unlabelled 20L plastic container believed to be lubricating oil, were placed on the ground at DP3 near the wheel washing facilities.</li> </ul>	<ul style="list-style-type: none"> <li>The Contractor was reminded to label the chemicals and place them into a drip tray.</li> </ul>
15 Nov 2005	<ul style="list-style-type: none"> <li>There were several open buckets full of waste lubricating oil stored in the Chemical Waste Shed and without appropriate labeling.</li> </ul>	<ul style="list-style-type: none"> <li>The Contractor was reminded to properly cap all the chemical / oil containers and suggested to provide toolbox training to the workers.</li> </ul>



Date	Key Findings	Action
15 Nov 2005	<ul style="list-style-type: none"> <li>The surface of the Workshop was still found to be contaminated by lubricating oil due to maintenance work of an excavator.</li> </ul>	<ul style="list-style-type: none"> <li>The Contractor was again reminded to clean up the contaminated soil and treat it as chemical waste ASAP. Also, the Contractor was reminded to provide impermeable sheet on the ground before conducting maintenance works.</li> </ul>
	<ul style="list-style-type: none"> <li>The containers stored behind the shed by the water filling station and used as water tanks, were still without labels.</li> </ul>	<ul style="list-style-type: none"> <li>The Contractor should label the water tanks.</li> </ul>
	<ul style="list-style-type: none"> <li>One unlabelled 20L plastic container believed to contain diesel, was placed on the ground at DP3 near the wheel washing facilities.</li> </ul>	<ul style="list-style-type: none"> <li>The Contractor was reminded to label all chemical containers and place them into a drip tray.</li> </ul>

**7.1.4** Following from the previous two reporting periods (September and October 2005), there were again no air quality exceedances recorded during this reporting period. Based on observations recorded during site inspections and site supervision events, the Contractor was observed to have implemented most of their dust prevention measures during the reporting period. However, on occasion fugitive dust emission was observed when the trucks were travelling on the main haul road. As such, the CV/2005/05 Contractor was reminded to ensure that all dust mitigation measures, particularly those near the site entrance, were operated according to their design merits to ensure that fugitive dust impacts to neighbouring land users was minimized.

**7.1.5** The frequency of road / platform watering was considered to be acceptable in the reporting period. Nevertheless, the Contractor has been reminded to regularly review the frequency of road watering in light of the seasonally dry weather conditions in Hong Kong.

**7.1.6** During the previous reporting period, an observation was made by the IEC regarding rubbish being stockpiled at the Water Browser Filling Station. While the Contractor had advised that they would remove the rubbish, it was still observed to be in place during the site inspection conducted on 11 November 2005. The Contractor was again reminded both verbally and through the submission of the IEC's site checklist, to immediately clean the area. Slight improvement was observed in the follow up site inspection conducted on 15 November 2005. The Contractor has been reminded to ensure that sufficient properly sized trash bins be provided on site to collect any waste generated and that these waste bins should be regularly emptied and the wastes disposed of appropriately.

**7.1.7** During the site inspections conducted during this reporting period, it was observed that lubricating oil had been allowed to drip directly onto the work floor of the Maintenance Workshop Area where an excavator was undergoing maintenance. The Contractor was immediately notified of this and requested to take immediate action to clean up the lubricating oil. The IEC further reminded the Contractor that any sand used to soak up the lubricating oil should be treated as chemical waste and thus should be collected and stored properly in the Chemical Waste Storage Shed. The ET were also reminded to review this issue during their weekly site inspections. A slight improvement was noted as at the end of the reporting period although constant reminders have been given to both the Contractor and their ET regarding this issue.

**7.1.8** Containers containing waste lubricating oil continued to be observed to have been left uncovered in the Chemical Waste Storage Shed during the site inspections. The Contractor has been reminded on numerous occasions to cover all the containers as per EPD's guidelines and as outlined in their latest Waste Management Plan. Although the Contractor stated (during the Progress Meeting) that they would rectify this issue, it was not observed to have been completely addressed as at the end



of the reporting period. The only measure that had been put in place was to cover the containers with a tarpaulin sheeting. This is considered ineffective at providing the primary spill prevention mechanism for the waste lubricating oil.

- 7.1.9** Some chemical containers (20L and 200L) were found located near DP3 to be unlabelled and without a drip tray. The Contractor was notified of the spillage potential and requested to either provide a drip tray for these containers or to remove them to a dedicated chemical storage area. Moreover, the Contractor was reminded that all containers with chemicals should be properly labeled.

## **7.2 Weekly ET Site Inspections**

Weekly ET site inspections were carried out by ET to monitor the timely implementation of proper environmental pollution control and mitigation measures for the Project. In this reporting month, four weekly site inspections were conducted (03, 11, 15 and 21 November 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 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;
- Potential fugitive dust from vehicle movement was observed at the haul road between Portion D and K during weekly site inspection at 11 November 2005. The Contractor was reminded to water the haul road more frequently or if necessary during dry season;
- 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;
- 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**

- A substantial amount of dead vegetation and mud observed in front of the gates at the Permanent Desilting Chamber C during the weekly site inspections in September 2005 was cleaned up. However, the Contractor was still advised to remove any blockage at the gates regularly to prevent any potential flooding on site;
- Fill materials were accumulated on the concrete embankment at the BHA. The Contractor should clean up the fill materials as soon as each unloading activity is completed to avoid the fill materials from being washed into the sea.

### **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, 7.8 tons C&D waste were disposed to SENT Landfill;
- The chemical waste was stored in the Chemical Waste Storage Area (CWSA). The Contractor should dispose chemical wastes regularly to avoid over accumulation of chemical waste on site.
- Equipment maintenance was undertaken at the workshop area. Oil spillage from the maintenance work of an excavator was observed during weekly site inspection at 11 November 2005. The Contractor was reminded to clean up the oil spillage immediately and treated all the materials used in this event as chemical waste. Tarpaulin sheeting and containers should be laid underneath the maintained equipment to collect leaked oil and avoid further contamination. However, the oil stain from this leakage was still found at the last weekly site inspection at 21 November 2005. This finding will be verified at the next weekly site inspection in the coming month.
- During weekly site inspections at 11 and 15 November 2005, two 200L metal containers and one 20L plastic bottles, which filled with waste oil, were placed on the ground without labels and drip tray at DB3 near wheel washing facilities. These oil containers should be labeled and placed in appropriate chemical storage area such as Chemical Waste Storage Shed. The Contractor was also recommended to provided cover or cap for chemical waste containers.
- A number of filled waste oil drums were not labeled and open buckets containing waste oil were found inside the Chemical Waste Storage Shed. The Contractor should collect, store and dispose the chemical waste following the revised Waste Management Plan. Labels should be provided on every chemical waste container. Besides, regular collection of chemical waste should also be arranged by the Contractor.
- Follow-up action of the finding noted at the previous month, valid license of "The Registration of Waste Producer" for the previous contract was posted at Chemical Waste Storage Shed.

### **Landscape and Visual**

- The germination rate on the panel at Portion A, B, G, H and I was satisfactory in this reporting month. The Contractor was still advised to maintain the panel properly;
- Sufficient lighting was provided for the Fill Bank operation in the evening.

### **Site Practices**

- Rubbish observed behind the water tank at the Water Truck Filling Station was clean up during weekly site inspection at 15 November 2005. However, the Contractor was advised to keep the site area tidy and clean. Sufficient rubbish skips should be provided at site by the Contractor;
- The generators at Portion D4 and next to the monitoring station AA1 were found without drip tray. The Contractor should provide drip tray for all generator in order to avoid oil spillage;
- Oil leakage observed from the generator at DB3 was found clean up during the ET weekly site inspection on 03 November 2005. The Contractor should clean up the contaminated soil and treated as chemical waste.

### **Landfill Gas**

- The registered safety officer carried out landfill gas monitoring (oxygen, carbon dioxide and methane) twice per day for each temporary office in this reporting month;
- The equipments used in the monitoring have been calibrated for all these three parameters;
- All the monitoring results were satisfactory.





### 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.

There were four exceedances of Limit Level recorded in this reporting month.

According to the summary of marine water monitoring results, two exceedances of Turbidity on Limit Level at Monitoring Stations C1 and M4 were recorded at 14 November 2005 (mid-ebb). According to the site observation, no abnormal site activities were observed at the Fill Bank. Besides, it was noted that the Turbidity level of the impact station M4 (4.90mg/L) was found close to that of the reference station C1 (4.59mg/L). The exceedances might be due to natural fluctuation of Turbidity in the water body around the area and considered not due to the Fill Bank operation and hence no further actions were required. The turbidity level of marine water was found to have returned back to normal level during the next monitoring tide (mid-flood).

Another two exceedances of Turbidity on Limit Level at Monitoring Stations C1 and M4 were recorded at 28 November 2005 (mid-ebb). It was noted that the Turbidity level of the impact station M4 (4.84mg/L) was found to be lower than the reference station C1 (4.89mg/L). Besides, no abnormal site activities were observed at the Fill Bank during the site investigation on the same day. Hence, the exceedances might be due to natural fluctuation of Turbidity in the water body around the area and considered not due to the Fill Bank operation. As a result, no further actions were required. The turbidity level of marine water was found to have returned back to normal level during the next tide monitoring (mid-flood).

No exceedances were recorded in air quality and noise monitoring in this reporting month.

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 using 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. No chemical waste disposal was undertaken in the reporting month.

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	<p><u>Group A:</u></p> <ul style="list-style-type: none"> <li>• 1 Compactor, vibratory (CNP 050)</li> <li>• 2 Dump truck, 5.5 tonne-gross vehicle weight ≤ 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> <p><u>Group B:</u></p> <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	13/07/05	---	<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.

There were four exceedances of Limit Level recorded in this reporting month.

According to the summary of marine water monitoring results, two exceedances of Turbidity on Limit Level at Monitoring Stations C1 and M4 were recorded at 14 November 2005 (mid-ebb). According to the site observation, no abnormal site activities were observed at the Fill Bank. Besides, it was noted that the Turbidity level of the impact station M4 (4.90mg/L) was found close to that of the reference station C1 (4.59mg/L). The exceedances might be due to natural fluctuation of Turbidity in the water body around the area and considered not due to the Fill Bank operation and hence no further actions were required. The turbidity level of marine water was found to have returned back to normal level during the next monitoring tide (mid-flood).

Another two exceedances of Turbidity on Limit Level at Monitoring Stations C1 and M4 were recorded at 28 November 2005 (mid-ebb). It was noted that the Turbidity level of the impact station M4 (4.84mg/L) was found to be lower than the reference station C1 (4.89mg/L). Besides, no abnormal site activities were observed at the Fill Bank during the site investigation on the same day. Hence, the exceedances might be due to natural fluctuation of Turbidity in the water body around the area and considered not due to the Fill Bank operation. As a result, no further actions were required. The turbidity level of marine water was found to have returned back to normal level during the next tide monitoring (mid-flood).

### 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 four exceedances of Limit Level recorded in this reporting month.

According to the summary of marine water monitoring results, two exceedances of Turbidity on Limit Level at Monitoring Stations C1 and M4 were recorded at 14 November 2005 (mid-ebb). According to the site observation, no abnormal site activities were observed at the Fill Bank. Besides, it was noted that the Turbidity level of the impact station M4 (4.90mg/L) was found close to that of the reference station C1 (4.59mg/L). The exceedances might be due to natural fluctuation of Turbidity in the water body around the area and considered not due to the Fill Bank operation and hence no further actions were required. The turbidity level of marine water was found to have returned back to normal level during the next monitoring tide (mid-flood).

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There was no exceedance on air quality and noise monitoring parameters recorded in this monitoring month. Hence no further actions were required.

### 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>November 2005</i>	<i>Cumulative</i>	<i>November 2005</i>	<i>Cumulative</i>	<i>November 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 03 November 2005. The noise level measured at the monitoring station complied with the Limit Level of 75dB(A). No complaint was received regarding noise issue.

There were four exceedances of Limit Level recorded in this reporting month.

According to the summary of marine water monitoring results, two exceedances of Turbidity on Limit Level at Monitoring Stations C1 and M4 were recorded at 14 November 2005 (mid-ebb). According to the site observation, no abnormal site activities were observed at the Fill Bank. Besides, it was noted that the Turbidity level of the impact station M4 (4.90mg/L) was found close to that of the reference station C1 (4.59mg/L). The exceedances might be due to natural fluctuation of Turbidity in the water body around the area and considered not due to the Fill Bank operation and hence no further actions were required. The turbidity level of marine water was found to have returned back to normal level during the next monitoring tide (mid-flood).

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According to the ET weekly site inspection and IEC site audit 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 this reporting month.

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 bowsers;
- 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 by provision, operation and maintenance of automatic wheel washing facilities.

#### ***Noise***

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

#### ***Water Quality***

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

#### ***Chemical and Waste Management***

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

#### ***Landscape and Visual***

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



## 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**

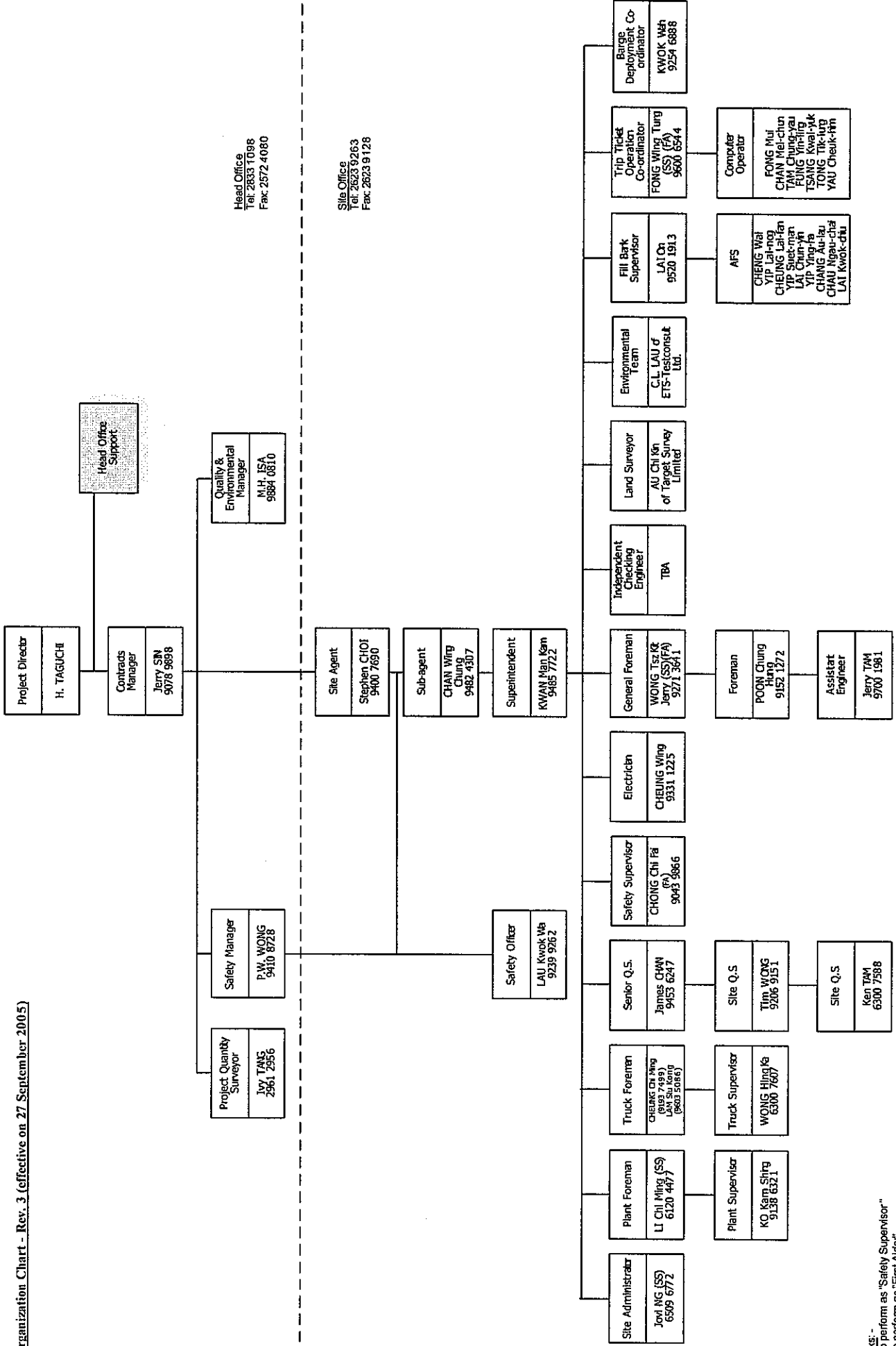
The Proposed EM&A program in coming month are presented in Appendix M.





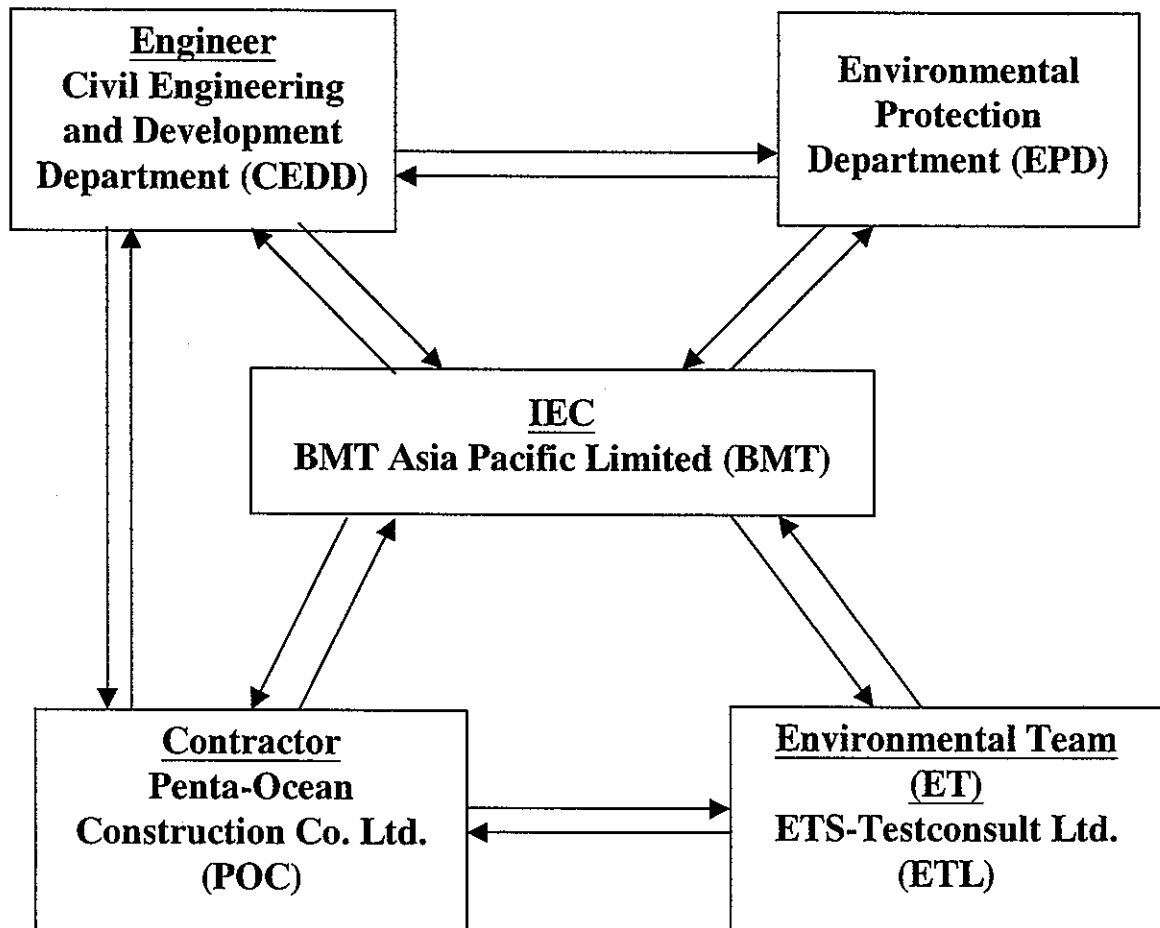
## **Appendix A**

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



\* Remarks: - (SS) Also perform as "Safety Supervisor" (FA) Also perform as "First Aider"

# 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

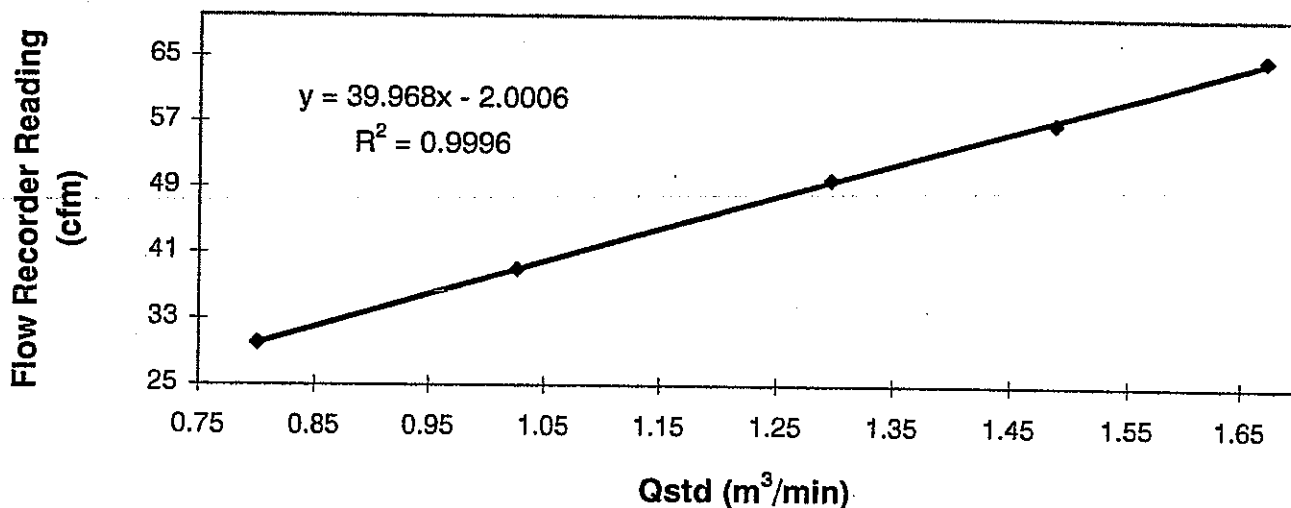
**TEST REPORT**

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

Manufacturer : Greasby GMW Date of Calibration : 14 September 2005  
Serial No. : 10347 ( ET / EA / 003 / 06 ) Calibration Due Date : 13 November 2005  
Method : Based on Operations Manual for in series calibration method by TISCH  
ENVIROMENTAL Model Te-5025A calibration kit

Results	Flow recorder reading (cfm)	65	57	50	39	30
	Qstd (Actual flow rate, m <sup>3</sup> /min)	1.37	1.49	1.30	1.03	0.80
	Pressure : 761.31 mm Hg	Temp. : 309 K				

**Air Sampler 10347 Calibration Curve**  
**Site: Tseung Kwan O (AA1)**  
**Date of Calibration: 14 September 2005**



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

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

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

Approved by : Linda Law  
Linda Law  
(Environmental Officer)



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Fax : 2695 3944 Web site : www.ets-testconsult.com

**TEST REPORT**

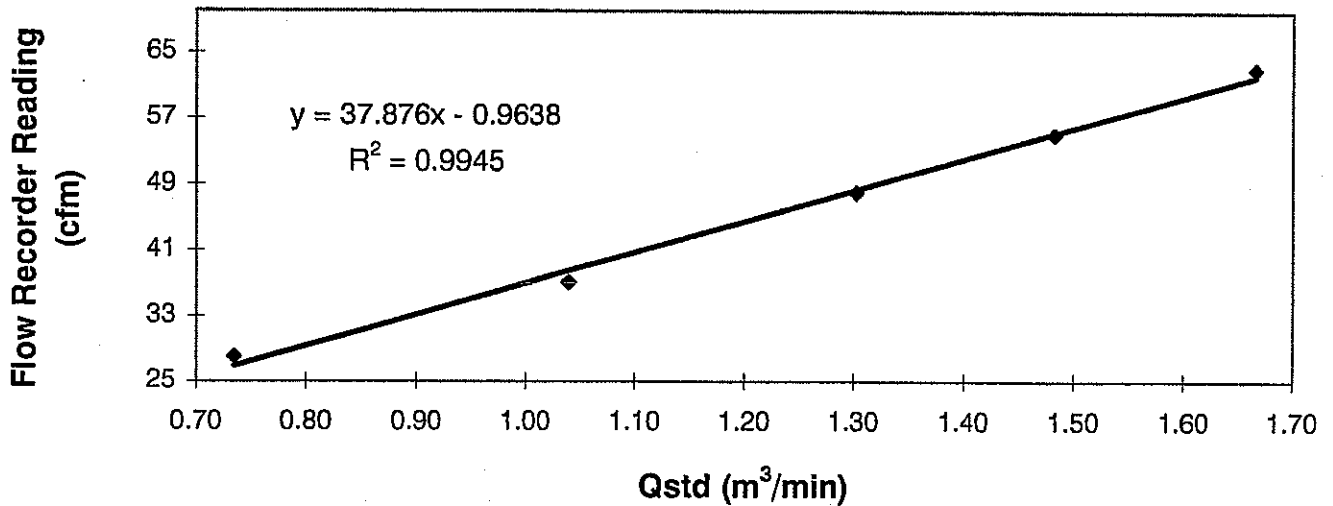
**Calibration Report**  
of  
**High Volume Air Sampler**

**Manufacturer** : Greasby GMW      **Date of Calibration** : 15 November 2005  
**Serial No.** : 10347 ( ET / EA / 003 / 06 )      **Calibration Due Date** : 14 January 2006  
**Method** : Based on Operations Manual for in series calibration method by TISCH  
ENVIROMENTAL Model Te-5025A calibration kit

**Results** :

Flow recorder reading (cfm)	63	55	48	37	28
Qstd (Actual flow rate, m <sup>3</sup> /min)	1.67	1.48	1.30	1.04	0.73
Pressure :	763.56 mm Hg		Temp. :	298 K	

**Air Sampler 10347 Calibration Curve**  
**Site:Tseung Kwan O (AA1)**  
**Date of Calibration: 15 November 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.

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Web site : www.ets-testconsult.com

**TEST REPORT**

**Calibration Report**

of

**High Volume Air Sampler**

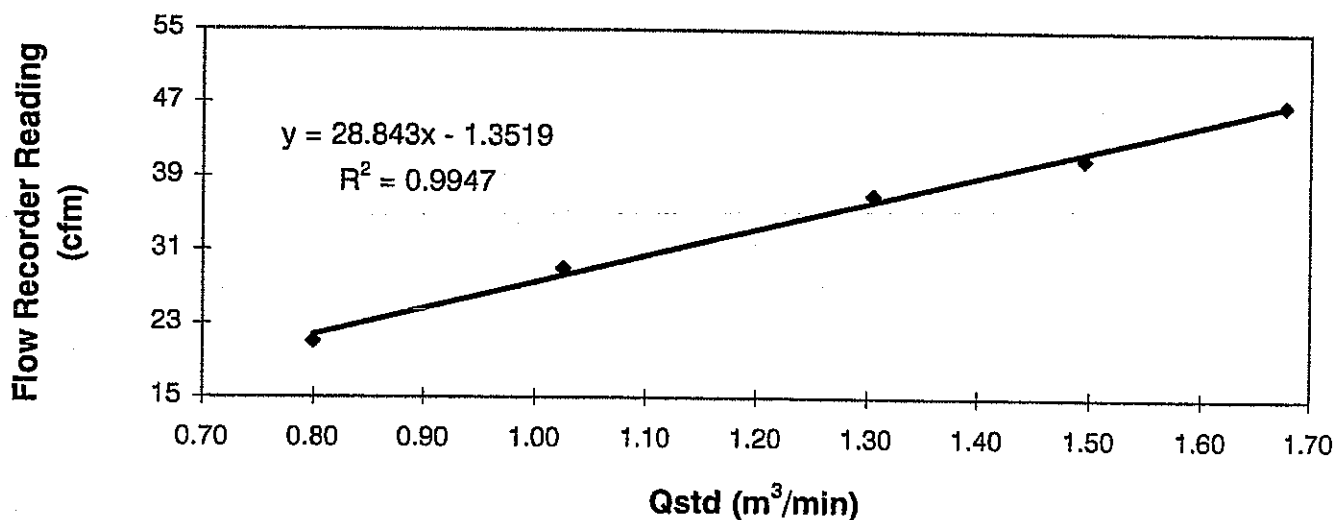
Manufacturer : Greasby GMW Date of Calibration : 14 September 2005

Serial No. : 1176 ( ET / EA / 003 / 05 ) Calibration Due Date : 13 November 2005

Method : Based on Operations Manual for in series calibration method by TISCH  
ENVIROMENTAL Model Te-5025A calibration kit

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

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

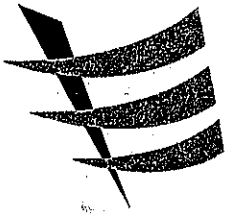


Acceptance Criteria : Correlation coefficient (r) of the calibration curve greater than 0.990 after a 5 point calibration

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

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

Approved by : Linda Law  
Linda Law  
(Environmental Officer)



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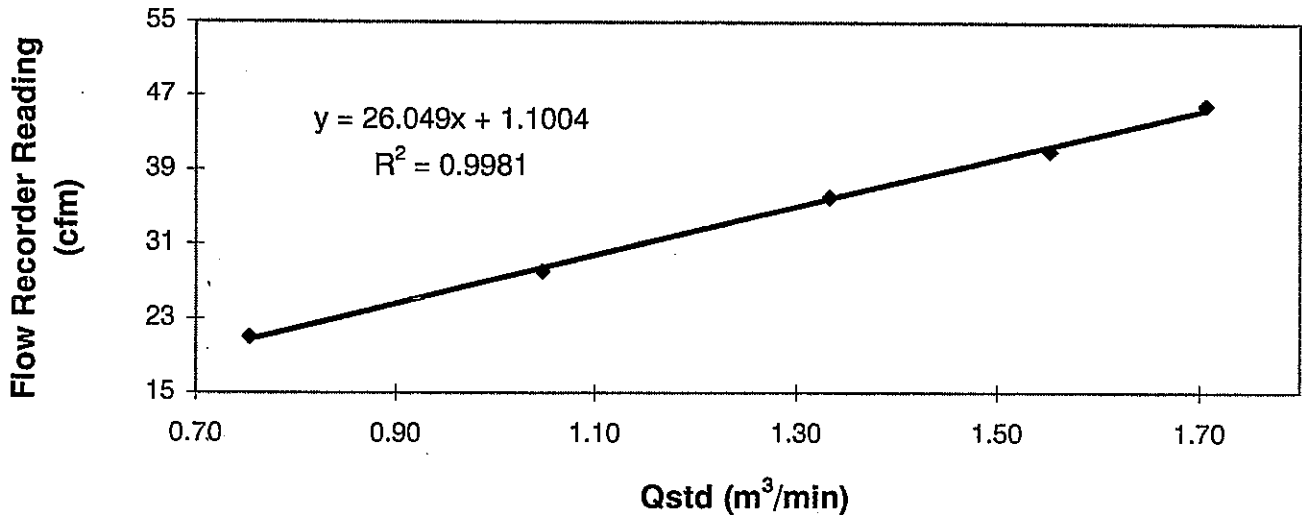
**TEST REPORT**

Calibration Report  
of  
High Volume Air Sampler

Manufacturer : Greasby GMW Date of Calibration : 15 November 2005  
Serial No. : 1176 (ET / EA / 003 / 05) Calibration Due Date : 14 January 2006  
Method : Based on Operations Manual for in series calibration method by TISCH  
ENVIROMENTAL Model Te-5025A calibration kit

Results :	Flow recorder reading (cfm)	46	41	36	28	21
	Qstd (Actual flow rate, m <sup>3</sup> /min)	1.71	1.55	1.33	1.05	0.75
	Pressure :	763.56 mm Hg		Temp. : 297 K		

**Air Sampler 1176 Calibration Curve**  
**Site: Tseung Kwan O (AA2)**  
**Date of Calibration: 15 November 2005**



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

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

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

Approved by : Linda Law  
Linda Law  
(Environmental Officer)





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 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 = SQRT[H2O(Pa/760)(298/Ta)]			y axis = SQRT[H2O(Ta/Pa)]		

CALCULATIONS

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

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

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

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

For subsequent flow rate calculations:

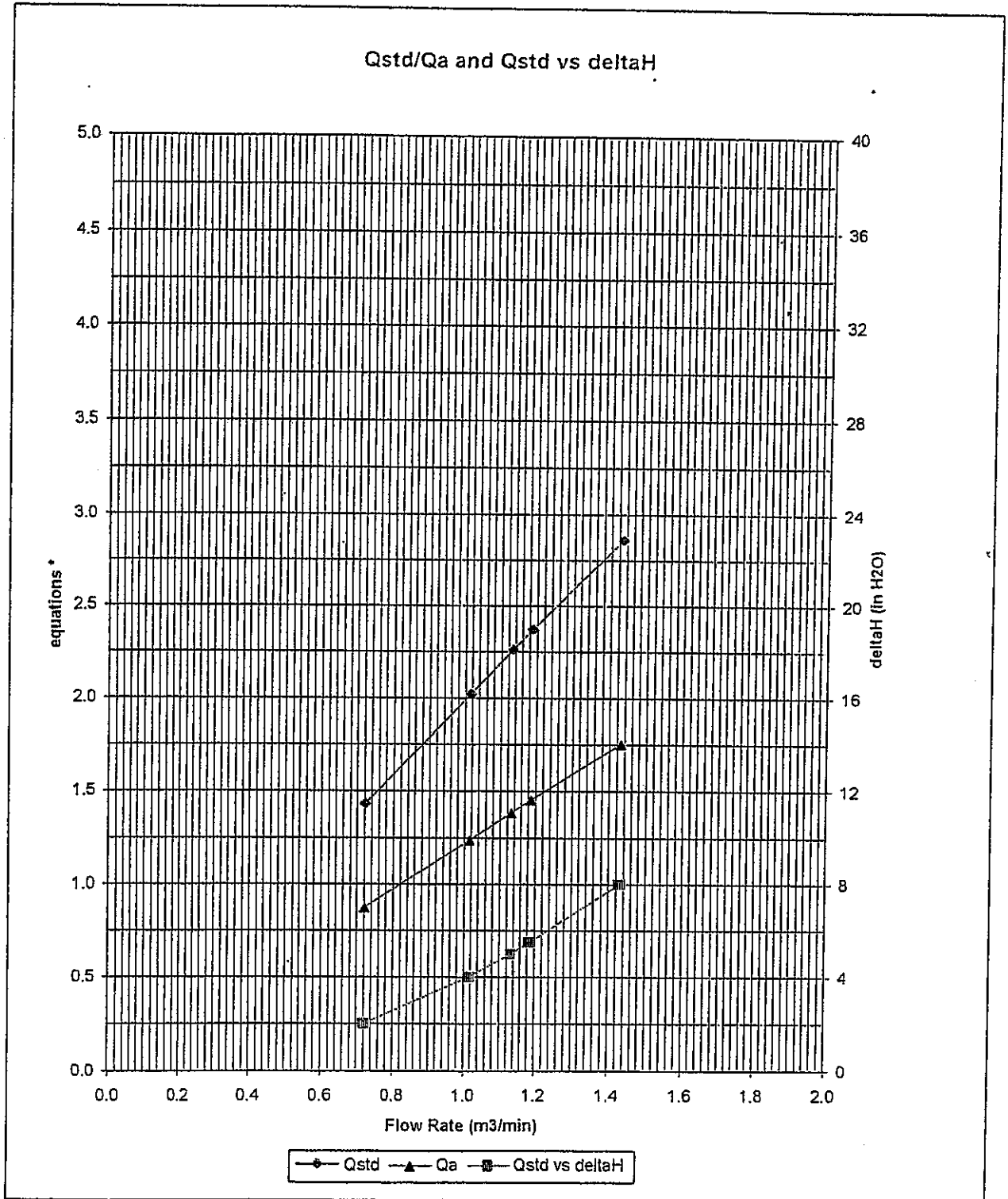
$$Qstd = 1/m \{ [\text{SQRT}(\text{H2O}(\text{Pa}/760)(298/\text{Ta}))] - b \}$$

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



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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	
03/11/05	15:30	04/11/05	15:37	7888.78	7912.89	24.11	0.93	0.93	0.93	2.8465	3.0940	184
09/11/05	14:45	10/11/05	14:19	7915.89	7939.95	24.06	0.83	0.83	0.83	2.8855	3.0964	176
15/11/05	15:05	16/11/05	15:09	7942.95	7967.02	24.07	1.00	1.00	1.00	2.8935	3.1751	195
21/11/05	14:05	22/11/05	14:05	7970.02	7994.05	24.00	1.08	1.08	1.08	2.8912	3.2069	203
25/11/05	12:05	26/11/05	12:07	7997.02	9021.06	24.04	1.08	1.08	1.08	2.8985	3.1960	191

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	
03/11/05	15:30	04/11/05	15:31	11177.98	11201.99	24.01	1.36	1.36	1.36	2.8776	3.2087	169
09/11/05	14:15	10/11/05	14:26	11204.99	11229.17	24.18	1.33	1.33	1.33	2.9096	3.2048	153
15/11/05	15:18	16/11/05	15:20	11232.17	11256.20	24.03	1.49	1.49	1.49	2.8866	3.2432	166
21/11/05	14:15	22/11/05	14:15	11256.20	11283.37	24.17	1.49	1.49	1.49	2.9034	3.3075	187
25/11/05	12:15	26/11/05	12:37	11286.37	11310.73	24.36	1.42	1.42	1.42	2.9098	3.2709	174

## 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	
03/11/05	11:00	12:00	7885.78	7886.78	1.00	0.93	0.93	0.93	2.8456	2.8635	321
	13:00	14:00	7886.78	7887.78	1.00	0.93	0.93	0.93	2.8712	2.8870	283
	14:10	15:10	7887.78	7888.78	1.00	0.93	0.93	0.93	2.8494	2.8494	296
09/11/05	08:30	09:30	7912.89	7913.89	1.00	0.83	0.83	0.83	2.8423	2.8540	235
	11:00	12:00	7913.89	7914.89	1.00	0.83	0.83	0.83	2.8533	2.8689	313
	13:00	14:00	7914.89	7915.89	1.00	0.83	0.83	0.83	2.8142	2.8289	295
15/11/05	11:00	12:00	7939.95	7940.95	1.00	1.00	1.00	1.00	2.8438	2.8633	325
	13:00	14:00	7940.95	7941.95	1.00	1.00	1.00	1.00	2.8929	2.8895	277
	14:00	15:00	7941.95	7942.95	1.00	1.00	1.00	1.00	2.8697	2.8867	283
21/11/05	09:30	10:30	7967.02	7968.02	1.00	1.08	1.08	1.08	2.8543	2.8715	265
	11:00	12:00	7968.02	7969.02	1.00	1.08	1.08	1.08	2.8611	2.8821	324
	13:00	14:00	7969.02	7970.02	1.00	1.08	1.08	1.08	2.8727	2.8908	279
25/11/05	08:30	09:30	7994.02	7995.02	1.00	1.06	1.06	1.06	2.8693	2.8835	223
	09:45	10:45	7995.02	7996.02	1.00	1.06	1.06	1.06	2.8754	2.8918	258
	11:00	12:00	7996.02	7997.02	1.00	1.06	1.06	1.06	2.8632	2.9035	319

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	
03/11/05	11:00	12:00	11174.98	11175.98	1.00	1.36	1.36	1.36	2.8475	2.8722	303
	13:00	14:00	11175.98	11176.98	1.00	1.36	1.36	1.36	2.8803	2.9019	265
	14:10	15:10	11176.98	11177.98	1.00	1.36	1.36	1.36	2.8565	2.8785	270
09/11/05	08:30	09:30	11201.99	11202.99	1.00	1.33	1.33	1.33	2.8905	2.9085	226
	11:00	12:00	11202.99	11203.99	1.00	1.33	1.33	1.33	2.8544	2.8779	294
	13:00	14:00	11203.99	11204.99	1.00	1.33	1.33	1.33	2.8172	2.8391	274
15/11/05	11:00	12:00	11229.17	11230.17	1.00	1.49	1.49	1.49	2.8353	2.8662	346
	13:00	14:00	11230.17	11231.17	1.00	1.49	1.49	1.49	2.8418	2.8694	309
	14:00	15:00	11231.17	11232.17	1.00	1.49	1.49	1.49	2.8717	2.8981	295
21/11/05	09:30	10:30	11256.20	11257.20	1.00	1.49	1.49	1.49	2.8634	2.8881	276
	11:00	12:00	11257.20	11258.20	1.00	1.49	1.49	1.49	2.8592	2.8894	338
	13:00	14:00	11258.20	11259.20	1.00	1.49	1.49	1.49	2.8433	2.8714	314
25/11/05	08:30	09:30	11283.37	11284.37	1.00	1.49	1.49	1.49	2.8176	2.8386	235
	09:45	10:45	11284.37	11285.37	1.00	1.49	1.49	1.49	2.8445	2.8686	270
	11:00	12:00	11285.37	11286.37	1.00	1.49	1.49	1.49	2.8222	2.8513	326

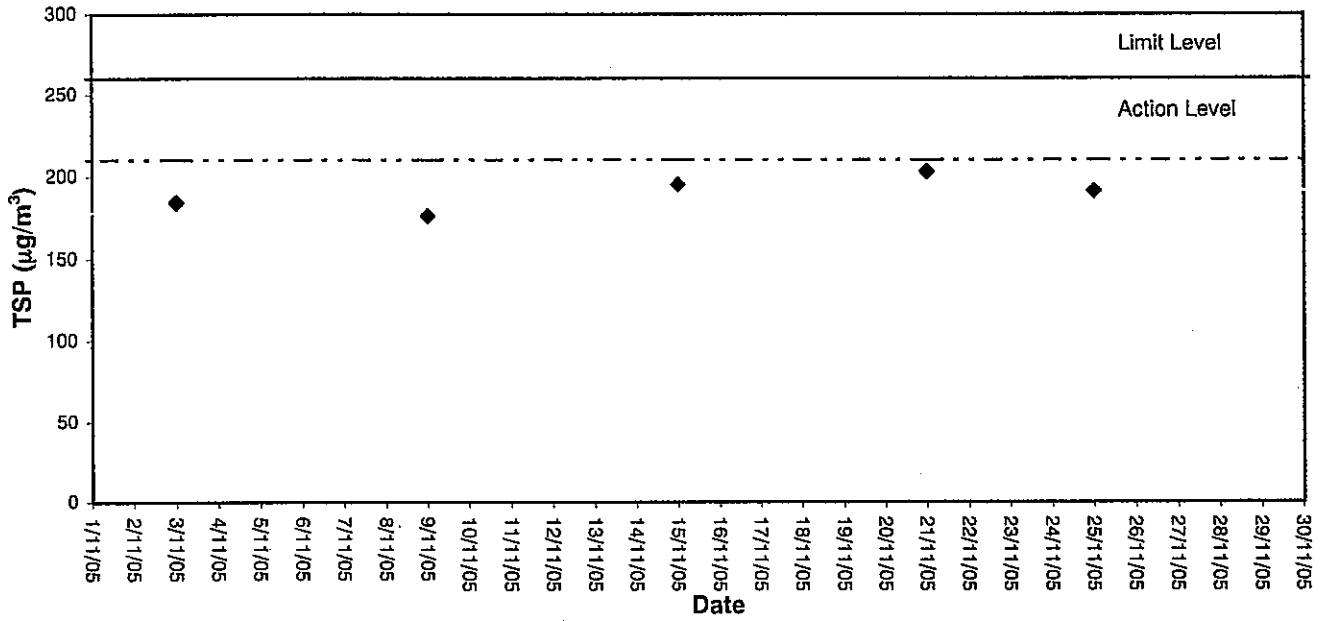


## **Appendix B3**

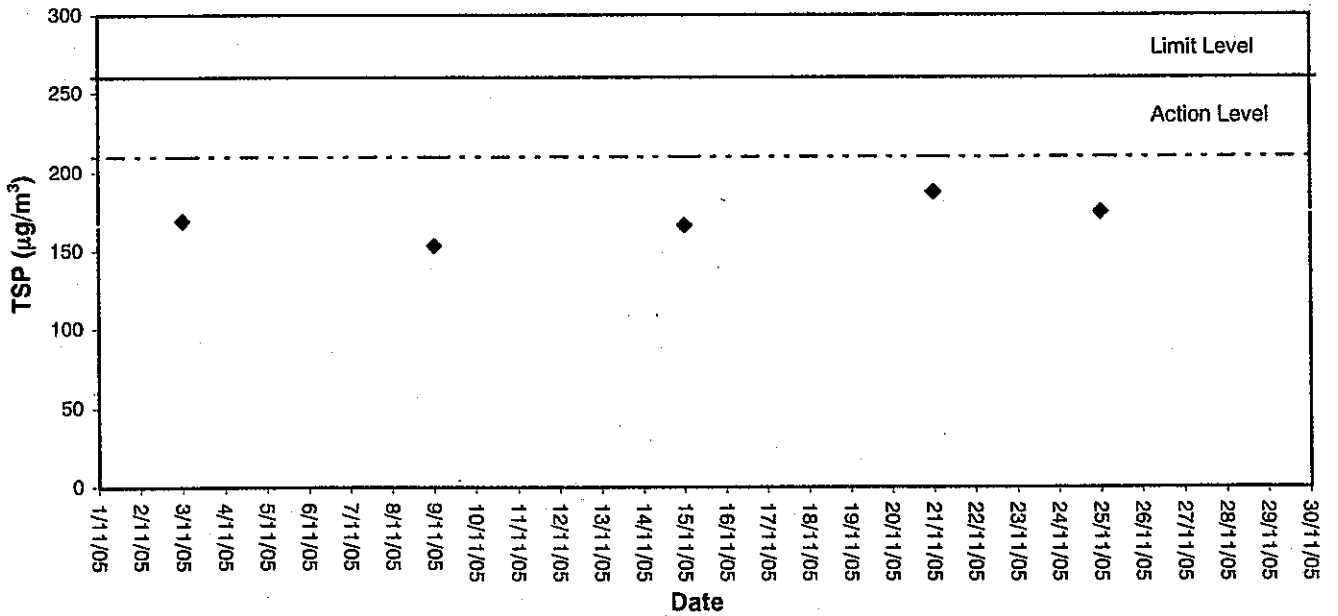
### **Graphical Plots of Air Quality Monitoring Data**



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

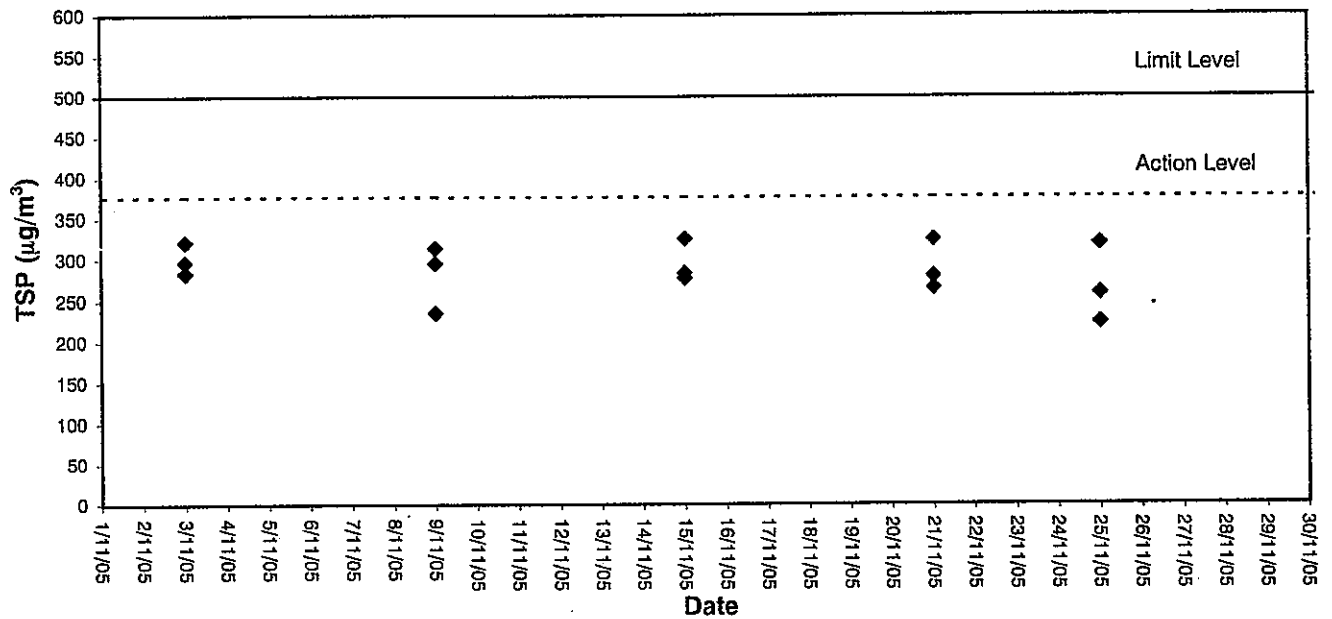


### 24-hour TSP level at AA2 (Site Egress)

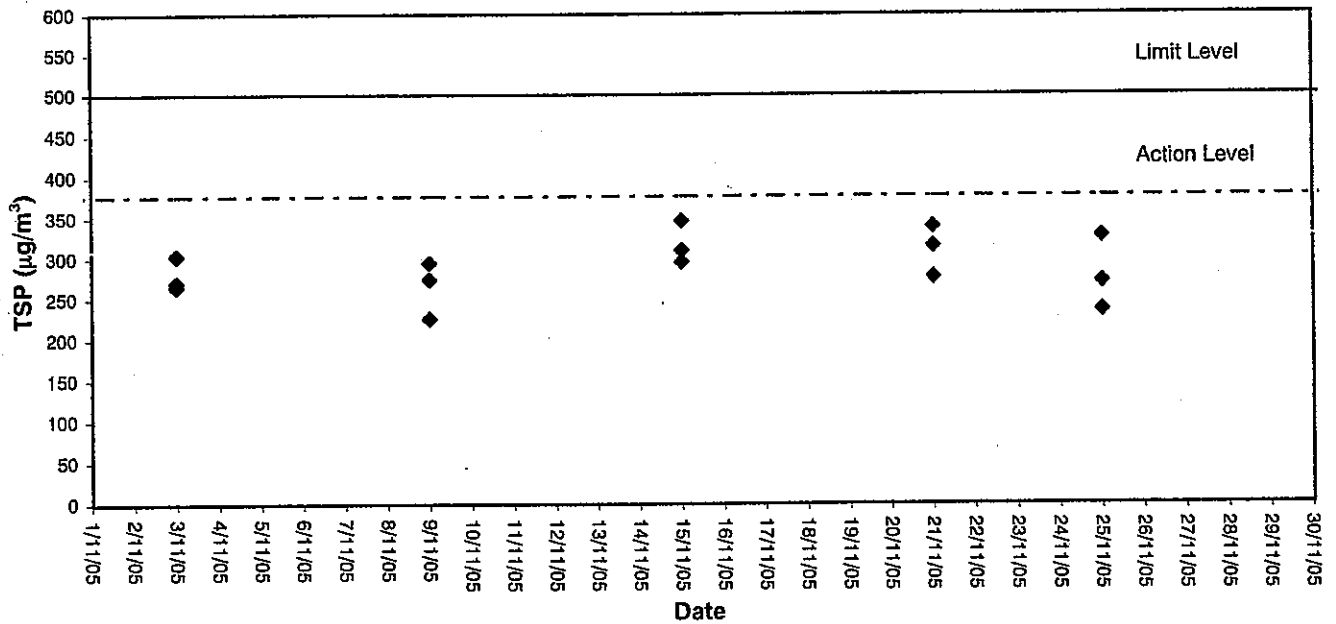




### 1-hour TSP level at AA1 (Outside CEDD Site Office)



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







## **Appendix C1**

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



# 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

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. 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. : ± 0.7 dB

Uncertainty : ± 0.2 dB

## 2. Level Stability : 0.0 dB

IEC 651 Type 1 Spec. : ± 0.3 dB

Uncertainty : ± 0.01 dB



# Calibration Certificate

Certificate No. 51472

Page 3 of 3 Pages

### 3. Frequency Weighting

A weighting

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

Uncertainty : ± 0.1 dB

### 4. Time Averaging

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

Uncertainty : ± 0.1 dB

Remark : 1. UUT : Unit-Under-Test

2. True Value = UUT Reading + Correction.

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

4. Atmospheric Pressure : 1 000 hPa.

----- END -----



## **Appendix C2**

### **Noise Monitoring Results**



## Day-time Noise Monitoring

Monitoring Location: N1 (Site Egress)

Date	Start Sampling Time (hh:mm)	Noise Level dB (A)			Wind Speed (m/s)	Weather Condition
		L <sub>eq(30min)</sub>	L <sub>10</sub>	L <sub>90</sub>		
03/11/05	10:03	68.0	72.1	59.4	1.8	Sunny



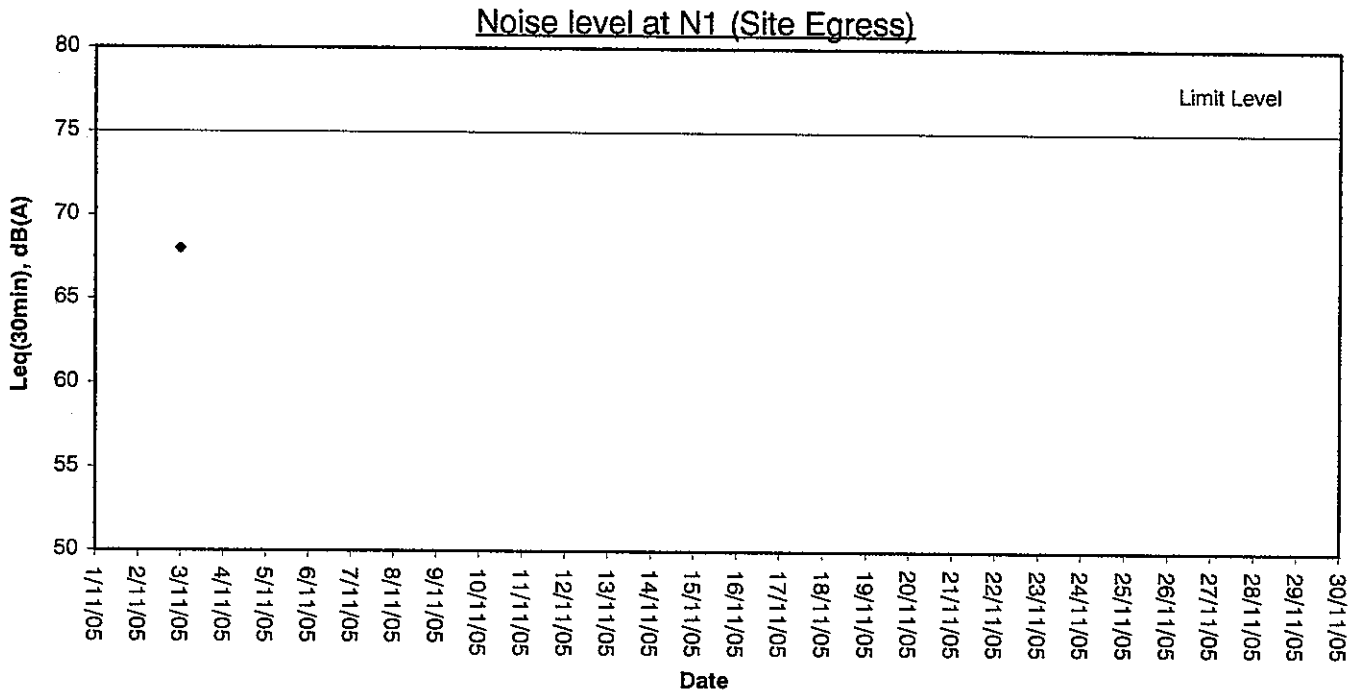


## **Appendix C3**

### **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. : <u>ET/En/003/001</u>	Manufacturer : <u>YSI</u>
Model No. : <u>95</u>	Serial No. : <u>97H 04071 AD</u>
Date of Calibration : <u>01/09/09</u>	Calibration Due Date : <u>30/11/09</u>

Ref. No. of Reference Thermometer : ET/2403/01

Ref. No. of Potassium Dichromate : ET/0520/003/02

#### Temperature Verification

Thermometer reading	Temperature (°C)
20.0	20.0
20.0	20.0

#### Linearity Checking

Purging time, min	DO meter reading, mg/L			Winkler Titration result, mg/L			Difference (%) of DO Content
	1	2	Average	1	2	Average	
2	7.09	7.07	7.08	7.02	7.00	7.01	0.99
5	5.15	5.13	5.14	5.22	5.20	5.21	1.35
10	3.36	3.34	3.35	3.30	3.32	3.31	1.20
Linear regression coefficient				0.9985			

#### Zero Point Checking

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

#### Salinity Checking

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

#### Acceptance Criteria

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

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

\* Delete as appropriate

Calibrated by : Linda Lam

Approved by : [Signature]



## Internal Calibration Report of Turbidimeter

Equipment Ref. No. : ET.10505/002

Manufacturer : HACH

Model No. : 2100P

Serial No. : 930900003728

Date of Calibration : 27/10/05

Calibration Due : 26/11/06

### Data

(4.95)	(49.0)	(409)
0 - 10 NTU Gelex Vial	10 - 100 NTU Gelex Vial	100 - 1000 NTU Gelex Vial
4.94	48.3	407

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 : [Signature]



## Performance Check of Salinity Meter

Equipment Ref. No. : ET 10527 1001      Manufacturer : YSI  
Model No. : Model 30      Serial No. : 996 1183  
Date of Calibration : 27 Oct. 2005      Due Date : 26 Jan, 2006

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

J196A

Salinity Standard (ppt)	Measured Salinity (ppt)	Difference %
30	29.4	2.0%

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 : PK

Approved by : [Signature]



## **Appendix D2**

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

# Mid-Flood Tide



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

## Monitoring Station : C1

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Monitoring Depth (m)	Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)			Dissolved Oxygen Saturation (%)			Turbidity (NTU)			Suspended Solids (mg/L)		
					Value	Average	Value	Average	Depth-average	Value	Average	Value	Average	Depth-average	Value	Average	Depth-average	
02/11/05	17:30 - 17:44	20/Cloudy	Surface	25.2	32.3	32.3	6.92	6.88	107.3	106.8	1.68	1.64	4.5	4.5	5.1			
			Middle	25.0	33.1	33.1	6.31	6.26	97.8	97.4	2.20	2.15	5.2	5.2				
			Bottom	24.4	33.7	33.7	5.75	5.70	89.1	88.6	2.44	2.39	5.5	5.5				
04/11/05	07:00 - 07:10	28/Sunny	Surface	26.2	31.2	31.2	6.89	6.87	105.4	105.1	3.17	3.18	6.0	6.0	6.0			
			Middle	25.7	31.8	31.8	6.24	6.23	94.8	94.6	2.84	2.84	6.0	6.0				
			Bottom	25.0	32.4	32.4	5.98	5.97	90.8	90.7	3.02	3.03	5.7	5.7				
08/11/05	16:47 - 17:05	22/Cloudy	Surface	26.0	32.0	32.0	6.12	6.08	93.3	93.8	1.82	1.87	3.5	3.5	3.9			
			Middle	25.6	33.0	33.0	5.98	5.94	92.7	92.4	1.99	1.95	3.8	3.8				
			Bottom	25.0	32.9	32.9	5.59	5.55	86.8	86.4	2.03	2.07	4.3	4.3				
10/11/05	15:00 - 15:12	28/Cloudy	Surface	27.2	31.2	31.2	6.70	6.72	101.8	102.1	3.26	3.25	5.0	5.0	4.6			
			Middle	26.7	32.0	32.0	6.20	6.22	94.2	94.4	2.97	2.97	4.5	4.5				
			Bottom	26.0	32.3	32.3	5.84	5.86	88.1	88.4	2.62	2.63	4.3	4.3				
12/11/05	14:45 - 14:58	28/Sunny	Surface	26.4	31.1	31.1	6.96	6.95	105.9	105.7	3.47	3.52	4.5	4.5	4.3			
			Middle	26.0	32.0	32.0	6.32	6.31	95.4	95.3	2.94	2.92	3.5	3.5				
			Bottom	25.7	32.5	32.5	6.07	6.07	91.6	91.5	3.64	3.67	5.0	5.0				
14/11/05	15:45 - 15:58	28/Cloudy	Surface	26.0	32.3	32.3	6.69	6.68	98.3	98.2	4.02	4.01	4.5	4.5	4.4			
			Middle	25.8	32.2	32.2	6.59	6.58	96.8	96.7	3.86	3.87	4.3	4.3				
			Bottom	25.6	32.3	32.3	6.52	6.51	95.1	94.9	3.94	3.95	4.5	4.5				
16/11/05	17:36 - 17:55	22/Cloudy	Surface	25.1	32.6	32.6	6.30	6.26	97.6	97.3	2.97	2.94	5.5	5.5	5.5			
			Middle	25.4	33.1	33.1	6.09	6.05	94.5	94.0	3.10	3.05	5.0	5.0				
			Bottom	25.9	33.4	33.4	5.59	5.55	86.8	86.4	3.37	3.34	6.0	6.0				



# Mid-Flood Tide



英業 振動 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	Value	Average	Value	Average	Depth-average	Value	Average
18/11/05	07:45 - 07:57	25/Sunny	Surface	24.4	32.0	32.0	6.57	6.56	100.5	100.3	3.82	3.83	4.5	4.5	4.5			
			Middle	24.0	32.6	6.20	6.22	94.2	94.4	3.50	3.52	4.5	4.5	4.3				
			Bottom	23.7	32.8	6.12	6.15	93.0	93.3	2.92	2.93	4.0	4.0					
21/11/05	14:47 - 15:05	19/Cloudy	Surface	25.1	33.0	6.49	6.45	99.7	99.4	2.99	3.04	4.0	4.0	4.0				
			Middle	25.2	33.4	6.27	6.24	96.3	95.8	3.37	3.34	5.2	5.2		4.9			
			Bottom	25.4	33.5	5.86	5.83	90.1	89.6	3.61	3.56	5.5	5.5					
23/11/05	16:00 - 16:13	23/Sunny	Surface	22.8	32.1	6.92	6.94	105.1	105.4	3.95	3.95	5.0	5.0	5.0				
			Middle	22.4	32.7	6.42	6.44	97.5	97.8	3.43	3.43	5.0	5.0		5.0			
			Bottom	22.0	33.0	6.11	6.10	92.2	92.0	3.02	3.03	5.0	5.0					
25/11/05	14:40 - 14:56	20/Cloudy	Surface	25.1	32.8	6.37	6.34	97.7	97.4	3.36	3.41	6.0	6.0	6.0				
			Middle	25.1	33.0	6.19	6.16	96.6	96.3	3.70	3.65	6.3	6.3		6.0			
			Bottom	25.0	33.3	5.79	5.81	90.1	90.6	3.38	3.34	5.7	5.8					
28/11/05	15:30 - 15:40	25/Cloudy	Surface	24.2	32.1	6.24	6.23	89.1	89.0	2.22	2.23	3.0	3.0	3.2				
			Middle	23.8	32.5	6.31	6.31	89.3	89.2	2.57	2.56	4.0	4.0		4.1			
			Bottom	23.6	32.7	6.44	6.41	91.0	90.6	3.76	3.78	5.0	5.0					
30/11/05	16:12 - 16:30	21/Cloudy	Surface	24.1	32.4	6.32	6.28	97.9	97.5	2.73	2.68	5.0	5.0	5.0				
			Middle	24.0	32.8	6.23	6.20	96.6	96.3	2.82	2.87	5.0	5.0		4.9			
			Bottom	24.6	33.1	5.90	5.85	91.4	90.9	2.99	2.95	4.5	4.5					

# Mid-Flood Tide



英業德勘測試驗有限公司  
ETS-TESTCONSULT LIMITED

## Monitoring Station : M4

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Monitoring Depth (m)	Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)		Dissolved Oxygen Saturation (%)		Turbidity (NTU)		Suspended Solids (mg/L)	
					Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
02/01/05	18:14 - 18:30	20/Cloudy	Surface	25.1	32.7	32.7	6.58	6.54	101.9	101.5	2.55	2.59	5.7	5.7
			Middle	25.0	33.2	33.2	6.19	6.15	95.9	95.5	2.62	2.57	6.0	6.0
			Bottom	24.8	34.1	34.1	6.10	6.25	95.0	97.3	2.52	2.33	6.0	5.1
04/11/05	07:40 - 07:52	28/Sunny	Surface	26.4	31.2	31.2	7.17	7.15	109.7	109.5	2.96	2.96	5.7	5.7
			Middle	25.9	31.8	31.8	6.49	6.48	109.2	99.0	2.95	2.44	5.7	5.2
			Bottom	25.7	32.4	32.4	6.46	6.12	98.8	92.9	2.44	1.88	5.2	5.0
08/11/05	16:00 - 16:15	22/Cloudy	Surface	25.8	33.0	33.0	6.20	6.16	93.1	95.0	1.87	2.28	4.3	4.3
			Middle	25.5	32.8	32.8	6.12	6.01	94.5	93.4	2.33	3.15	4.3	5.5
			Bottom	25.2	33.1	33.1	5.97	6.03	93.0	92.4	3.20	2.83	5.5	5.5
10/11/05	15:37 - 15:47	28/Cloudy	Surface	27.4	31.2	31.2	7.07	7.05	92.8	107.2	2.80	2.91	5.5	5.2
			Middle	26.8	32.1	32.1	6.52	6.55	92.0	99.4	2.90	2.53	5.2	5.0
			Bottom	26.5	32.4	32.4	6.57	6.08	99.9	91.8	2.52	2.61	5.0	5.5
12/11/05	14:25 - 14:46	28/Sunny	Surface	26.2	31.3	31.3	7.14	7.12	110.3	110.1	3.19	3.22	4.0	4.0
			Middle	25.9	32.1	32.1	6.87	6.55	109.8	99.6	3.24	2.92	4.0	4.3
			Bottom	25.7	32.5	32.5	6.74	6.26	99.3	94.4	2.96	2.55	4.2	4.5
14/11/05	16:28 - 16:38	28/Cloudy	Surface	26.1	32.3	32.3	6.84	6.86	94.5	100.7	4.09	4.08	5.0	5.0
			Middle	25.8	32.2	32.2	6.60	6.76	100.5	98.6	4.07	3.93	5.0	4.8
			Bottom	25.8	32.4	32.4	6.63	6.62	98.4	96.5	3.96	3.80	4.7	4.5
16/11/05	18:23 - 18:40	22/Cloudy	Surface	25.2	33.0	33.0	6.14	6.12	95.3	94.6	3.79	3.35	4.5	5.5
			Middle	25.5	33.1	33.1	6.10	5.88	94.1	91.5	3.81	3.21	4.5	5.3
			Bottom	25.7	32.9	32.9	5.83	5.97	92.0	93.4	3.17	3.04	5.2	5.0

# 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)		
					Value	Average	Value	Average	Depth-average	Value	Average	Value	Average	Depth-average	Value	Average	Depth-average	
18/11/05	08:27 - 08:37	25/Sunny	Surface	24.7	32.1	32.1	6.64	6.66	101.5	101.8	3.47	3.48	4.3	4.3	4.8			
			Middle	24.5	32.6	32.6	6.37	6.36	97.4	97.3	3.10	3.09	5.0	5.0				
			Bottom	24.1	32.8	32.8	6.29	6.28	95.6	95.4	3.22	3.22	5.0	5.0				
02/11/05	14:00 - 14:16	19/Cloudy	Surface	25.0	32.9	32.9	6.24	6.27	95.9	96.4	2.72	2.67	4.5	4.5	4.0			
			Middle	25.0	33.2	33.2	6.11	6.06	93.9	93.5	2.88	2.84	3.5	3.5				
			Bottom	25.1	33.5	33.5	6.02	6.06	92.7	93.2	2.99	2.95	4.0	4.0				
29/11/05	16:38 - 16:48	23/Sunny	Surface	23.1	32.1	32.1	7.08	7.07	107.6	107.4	3.17	3.16	4.5	4.5	4.7			
			Middle	22.7	32.7	32.7	6.64	6.63	100.2	100.1	3.03	3.03	4.5	4.5				
			Bottom	22.5	33.0	33.0	6.27	6.29	95.1	94.9	2.84	2.85	5.0	5.0				
25/11/05	15:28 - 15:45	20/Cloudy	Surface	25.0	32.6	32.6	6.40	6.35	98.2	97.7	2.99	3.04	5.5	5.5	5.4			
			Middle	24.9	33.1	33.1	6.26	6.23	97.7	97.4	3.17	3.14	5.2	5.3				
			Bottom	25.1	32.9	32.9	6.17	6.14	96.0	95.5	3.30	3.33	5.5	5.5				
28/11/05	14:40 - 14:52	25/Cloudy	Surface	24.2	32.3	32.3	7.12	7.13	101.4	101.5	4.57	4.54	4.5	4.5	5.1			
			Middle	23.9	32.5	32.5	6.86	6.83	97.0	96.6	3.52	3.51	5.3	5.4				
			Bottom	23.9	32.8	32.8	6.90	6.87	97.7	97.1	3.55	3.56	5.5	5.5				
30/11/05	17:13 - 17:30	21/Cloudy	Surface	24.3	32.1	32.1	6.28	6.24	97.3	96.8	3.04	3.02	5.0	5.0	4.8			
			Middle	24.3	33.0	33.0	6.15	6.11	95.3	94.8	2.79	2.82	4.5	4.5				
			Bottom	24.4	33.7	33.7	6.01	5.99	93.1	92.6	2.66	2.63	5.0	5.0				

**Mid-Ebb 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
02/11/05	12:28 - 12:42	20/Cloudy	Surface	1.0	32.0	32.0	6.85	6.80	107.1	106.6	2.07	2.04	4.0	4.2	4.6			
					32.0		6.75		106.1		2.00		4.3					
					32.9		6.15		96.2		1.88		4.5					
	32.9		6.05	95.2	1.80	4.5												
	Bottom		19.0	34.0	34.0	5.59	5.55	87.4	86.9	2.27	2.24	5.0	5.0	5.0		5.0		
				34.0		5.50		86.4		2.20		5.0						
31.3		6.94		106.1		3.43		6.3										
04/11/05	12:30 - 12:32	28/Sunny	Surface	1.0	31.3	31.3	6.91	6.93	105.7	105.9	3.45	3.44	6.3	6.3	5.9			
					31.3		6.91		105.7		3.45		6.3					
					31.8		6.34		96.3		2.93		6.0					
	31.8		6.30	95.7	2.92	6.0												
	Bottom		18.2	32.4	32.4	6.06	6.05	92.1	91.9	2.44	2.45	5.5	5.5	5.5		5.5		
				32.4		6.03		91.6		2.46		5.5						
32.1		6.39		98.4		2.76		5.5										
08/11/05	07:44 - 08:00	22/Cloudy	Surface	1.0	32.1	32.1	6.32	6.36	97.4	97.9	2.70	2.73	6.0	6.0	5.9			
					32.4		6.18		95.9		3.02		6.0					
					32.4		6.10		95.0		3.10		6.0					
	32.6		5.63	87.4	2.70	6.0												
	Bottom		20.2	32.6	32.6	5.55	5.59	86.4	86.9	2.62	2.66	6.3	6.2	6.3		6.2		
				31.2		6.97		105.9		3.07		6.0						
31.2		6.94		105.4		3.09		6.0										
10/11/05	07:00 - 07:13	28/Cloudy	Surface	1.0	31.9	31.9	6.40	6.42	97.2	97.5	2.86	2.87	6.0	6.0	5.8			
					31.9		6.43		97.7		2.87		6.0					
					31.9		6.43		97.7		2.87		6.0					
	32.3		6.02	91.5	2.90	5.5												
	Bottom		18.4	32.3	32.3	6.05	6.04	91.9	91.7	2.92	2.91	5.5	5.5	5.5		5.5		
				31.3		7.02		106.8		3.29		5.5						
31.3		7.00		106.5		3.35		5.5										
12/11/05	08:15 - 08:32	28/Sunny	Surface	1.0	31.8	31.8	6.41	7.01	106.7	106.7	3.32	3.32	5.5	5.5	5.2			
					31.8		6.41		106.7		3.32		5.5					
					31.8		6.37		96.8		2.96		5.0					
	32.3		5.94	91.4	3.22	5.0												
	Bottom		18.2	32.3	32.3	6.46	5.98	90.5	91.0	3.25	3.24	5.0	5.1	5.0		5.0		
				32.3		6.47		94.7		5.09		6.5						
32.1		6.49		95.0		5.12		6.5										
14/11/05	09:45 - 09:58	28/Cloudy	Surface	1.0	32.3	32.3	6.44	6.48	94.9	94.9	5.08	5.11	6.5	6.5	5.8			
					32.3		6.44		94.1		5.08		6.5					
					32.2		6.46		94.5		5.09		6.5					
	32.4		6.67	97.4	3.56	4.5												
	Bottom		18.8	32.2	32.2	6.66	6.67	97.1	97.3	3.58	3.57	4.5	4.5	4.5		4.5		
				32.4		6.42		98.8		3.21		5.5						
32.4		6.36		98.0		3.11		5.5										
16/11/05	11:59 - 12:13	22/Sunny	Surface	1.0	32.7	32.7	6.22	6.39	98.4	98.4	3.37	3.34	5.5	5.5	5.7			
					32.7		6.14		96.5		3.30		5.5					
					32.7		6.14		95.5		3.30		5.5					
	33.0		5.72	88.2	3.20	6.0												
	Bottom		19.0	33.1	33.1	5.64	5.68	87.2	87.7	3.14	3.17	6.0	6.0	6.0		6.0		
				32.4		6.42		98.8		3.21		5.5						
32.4		6.36		98.0		3.11		5.5										

# Mid-Ebb 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	Value	Average	Depth-average	Value	Average	Depth-average		
18/11/05	11:45 - 11:57	25/Sunny	Surface	25.3	32.1	32.1	6.73	6.72	102.9	102.8	3.63	3.64	5.0	5.0	5.0	5.0	5.0	5.0	4.8
					32.1		6.71		102.6		3.64		5.0						
					32.6		6.42		97.5		3.02		5.0						
21/11/05	06:15 - 06:30	19/Cloudy	Surface	24.9	32.6	32.6	6.45	6.44	98.0	97.8	3.03	3.03	4.5	4.5	4.5	4.5	4.5	4.5	4.5
					32.9		6.02		91.5		3.17		4.5						
					32.9		6.05		91.9		3.18		4.5						
21/11/05	06:15 - 06:30	19/Cloudy	Middle	25.1	32.7	33.1	6.31	6.15	96.5	94.4	2.77	2.69	4.0	4.0	4.0	4.0	4.0	4.0	4.5
					32.7		6.21		95.5		2.70		4.3						
					33.1		6.19		94.7		2.69		4.5						
23/11/05	07:15 - 07:28	22/Sunny	Bottom	25.3	33.1	33.0	6.10	6.25	94.0	94.9	2.60	3.18	4.3	4.3	4.3	4.3	4.3	4.3	5.4
					32.9		5.76		88.1		3.02		5.0						
					33.0		5.70		87.1		3.12		5.0						
25/11/05	07:30 - 07:45	20/Cloudy	Surface	20.7	32.0	33.0	6.77	6.00	102.9	100.3	3.67	2.71	5.2	5.2	5.2	5.2	5.2	5.2	5.1
					32.0		6.74		102.4		2.89		4.5						
					32.4		6.23		94.6		2.80		4.5						
28/11/05	08:45 - 08:57	25/Cloudy	Middle	25.5	32.4	33.6	6.26	6.24	95.1	88.9	3.20	2.80	5.5	5.5	5.5	5.5	5.5	5.5	4.8
					32.9		6.02		90.9		2.94		4.5						
					33.0		5.97		90.2		2.95		4.5						
30/11/05	11:06 - 11:23	21/Cloudy	Bottom	24.8	33.1	33.4	6.50	5.95	100.6	90.5	2.71	2.87	6.0	6.0	6.0	6.0	6.0	6.0	6.0
					33.1		6.40		100.0		2.61		5.0						
					33.6		6.27		97.6		2.89		5.0						
28/11/05	08:45 - 08:57	25/Cloudy	Surface	23.5	33.6	33.6	6.20	6.23	97.0	87.5	2.80	4.93	5.2	5.2	5.2	5.2	5.2	5.2	4.8
					33.6		6.20		97.0		2.80		5.0						
					33.4		6.31		88.7		4.70		4.5						
30/11/05	11:06 - 11:23	21/Cloudy	Middle	23.3	33.4	33.4	6.46	6.33	90.7	88.9	5.01	5.02	5.0	5.0	5.0	5.0	5.0	5.0	5.7
					32.3		6.43		90.2		5.02		5.0						
					32.3		6.43		90.2		5.02		5.0						
30/11/05	11:06 - 11:23	21/Cloudy	Bottom	24.2	33.1	33.4	6.17	6.03	96.3	94.3	3.12	3.36	5.5	5.5	5.5	5.5	5.5	5.5	5.7
					33.1		6.10		95.3		3.02		5.5						
					33.4		6.06		94.6		3.30		5.5						
30/11/05	11:06 - 11:23	21/Cloudy	Surface	24.8	33.6	33.6	5.79	5.75	88.9	88.5	3.50	3.45	6.0	6.0	6.0	6.0	6.0	6.0	6.0
					33.6		5.70		88.0		3.40		6.0						
					33.6		5.70		88.0		3.40		6.0						

**Mid-Ebb Tide**



東業 獲 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)		
					Value	Average	Value	Average	Depth-average	Value	Average	Depth-average	Value	Average	Depth-average	Value	Average	Depth-average
02/11/05	13:15 - 13:30	20/Cloudy	Surface	25.0	32.4	32.4	6.69	6.65	6.44	104.6	104.3		2.22	2.17		5.0	5.2	
			Middle	24.8	32.6	32.6	6.27	6.24	6.44	98.0	97.5	2.23	2.04	1.99	5.2	5.2	5.3	
			Bottom	24.7	33.2	33.2	6.11	6.06	6.06	95.5	95.0		2.56	2.53	5.5	5.5		
04/11/05	13:00 - 13:12	28/Sunny	Surface	27.0	31.3	31.3	7.21	7.20	6.93	110.3	110.2		3.02	3.02		5.7	5.9	
			Middle	26.6	31.9	31.9	6.68	6.67	6.93	110.0	102.0	2.64	2.62	2.62	6.0	6.0	5.8	
			Bottom	26.4	32.5	32.5	6.27	6.28	6.28	95.3	95.5		2.27	2.28	5.5	5.5		
08/11/05	07:00 - 07:13	22/Cloudy	Surface	25.7	32.4	32.4	6.06	6.03	5.99	93.4	92.9		3.10	3.06		5.5	5.5	
			Middle	25.5	32.8	32.8	5.99	5.95	5.99	92.9	92.5	3.18	3.37	3.34	6.0	6.0	5.7	
			Bottom	25.4	32.2	32.2	6.02	5.98	5.98	93.5	93.0		3.18	3.14	5.5	5.5		
10/11/05	07:43 - 07:53	28/Cloudy	Surface	26.7	31.2	31.2	7.09	7.11	6.88	107.7	108.0		2.87	2.88		5.5	5.5	
			Middle	26.2	32.0	32.0	6.67	6.66	6.88	101.3	101.1	2.70	2.63	2.64	6.0	6.0	5.7	
			Bottom	26.0	32.3	32.3	6.17	6.15	6.15	100.9	92.9		2.57	2.58	5.5	5.5		
12/11/05	08:50 - 09:14	28/Sunny	Surface	26.0	31.2	31.2	7.30	7.28	7.01	111.1	110.8		2.48	2.53		4.5	4.5	
			Middle	25.5	31.8	31.8	6.76	6.74	7.01	110.4	102.6	3.10	3.08	3.14	5.0	5.1	5.0	
			Bottom	25.3	32.3	32.3	6.10	6.06	6.06	102.4	92.6		3.20	3.63	5.5	5.5		
14/11/05	10:40 - 10:50	28/Cloudy	Surface	25.6	32.3	32.3	6.76	6.75	6.75	96.8	96.6		5.15	5.15		6.3	6.2	
			Middle	25.5	32.2	32.2	6.73	6.75	6.75	98.2	98.6	4.90	4.97	4.96	5.0	5.3	5.6	
			Bottom	25.5	32.2	32.2	6.69	6.72	6.72	98.9	98.1		4.60	4.59	5.5	5.5		
16/11/05	12:45 - 13:00	22/Sunny	Surface	25.5	33.0	33.0	6.19	6.15	6.10	95.3	94.8		3.79	3.75		5.7	5.7	
			Middle	25.6	33.2	33.2	6.11	6.06	6.10	94.8	94.4	3.58	3.61	3.56	6.0	6.0	5.7	
			Bottom	25.6	33.1	33.1	6.07	6.04	6.04	94.2	93.7		3.49	3.45	5.5	5.5		

# Mid-Ebb Tide



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## Monitoring Station : M4

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Monitoring Depth (m)	Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)			Dissolved Oxygen Saturation (%)			Turbidity (NTU)			Suspended Solids (mg/L)		
					Value	Average	Value	Average	Depth-average	Value	Average	Value	Average	Depth-average	Value	Average	Value	Average
18/11/05	12:27 - 12:37	25/Sunny	Surface	25.2	32.1	32.1	6.98	6.97	6.77	106.7	106.5	3.05	3.05	4.5	4.5			
					32.1		6.95			106.3		3.04		4.5				
					32.6		6.59			100.8		2.86		4.5				
21/11/05	07:00 - 07:15	19/Cloudy	Middle	24.7	32.5	32.6	6.57	6.58	6.09	100.5	100.7	2.87	2.87	4.2	4.4	3.01	4.6	
					32.9		6.20			94.8		3.12		4.8				
					32.9		6.17			94.4		3.11		4.8				
21/11/05	07:00 - 07:15	19/Cloudy	Bottom	24.2	33.1	33.1	6.15	6.12	6.09	94.0	93.5	2.64	2.59	5.0	5.0			
					33.1		6.09			93.0		2.54		5.0				
					33.2		6.03			92.2		3.27		5.2				
23/11/05	07:58 - 08:08	22/Sunny	Middle	25.1	33.2	33.2	6.09	6.06	6.09	93.0	92.6	3.20	3.24	5.3	5.3	2.99	4.9	
					33.4		5.99			91.6		3.16		4.3				
					33.4		5.90			91.0		3.10		4.5				
25/11/05	08:16 - 08:30	20/Cloudy	Bottom	25.2	32.1	32.1	6.88	6.86	6.59	104.5	104.3	3.02	3.02	5.5	5.5			
					32.1		6.84			104.0		3.01		5.5				
					32.4		6.30			95.1		2.87		4.5				
28/11/05	09:27 - 09:37	25/Cloudy	Middle	21.5	32.4	32.4	6.32	6.31	6.13	95.4	95.3	2.88	2.88	4.5	4.5	2.93	4.8	
					32.9		6.12			92.4		2.92		4.5				
					32.9		6.09			91.9		2.90		4.5				
28/11/05	08:16 - 08:30	20/Cloudy	Surface	21.3	33.0	33.0	6.22	6.17	6.15	96.2	95.7	3.01	3.06	5.5	5.6			
					33.0		6.12			95.2		3.11		5.7				
					33.2		6.18			94.6		3.20		5.5				
28/11/05	09:27 - 09:37	25/Cloudy	Bottom	25.0	33.2	33.2	6.18	6.13	6.03	95.6	95.1	3.10	3.15	5.5	5.5	3.29	5.5	5.5
					33.4		6.06			94.6		3.70		5.5				
					33.4		6.00			94.0		3.60		5.5				
30/11/05	11:59 - 12:15	21/Cloudy	Surface	23.5	31.6	31.6	6.47	6.45	6.45	91.1	90.9	4.97	4.97	5.3	5.2			
					31.6		6.43			90.7		4.96		5.0				
					32.4		6.47			90.8		4.85		4.5				
30/11/05	11:59 - 12:15	21/Cloudy	Middle	23.2	32.4	32.4	6.43	6.45	6.45	90.2	90.5	4.86	4.86	4.5	4.5	4.83	5.0	
					32.4		6.43			90.2		4.86		4.5				
					32.3		6.47			90.5		4.67		5.2				
30/11/05	11:59 - 12:15	21/Cloudy	Bottom	23.2	32.3	32.3	6.50	6.49	6.49	90.9	90.7	4.68	4.68	5.3	5.3			
					32.5		6.40			99.9		3.30		5.5				
					32.5		6.30			99.0		3.20		5.5				
30/11/05	11:59 - 12:15	21/Cloudy	Surface	24.4	33.0	33.0	6.27	6.24	6.29	97.9	97.5	3.41	3.37	5.5	5.5	3.39	5.3	
					33.0		6.20			97.0		3.33		5.5				
					33.7		6.11			95.4		3.60		5.0				
30/11/05	11:59 - 12:15	21/Cloudy	Middle	24.2	33.6	33.6	6.01	6.06	6.06	94.4	94.9	3.50	3.55	5.0	5.0			
					33.6		6.01			94.4		3.50		5.0				
					33.7		6.11			95.4		3.60		5.0				



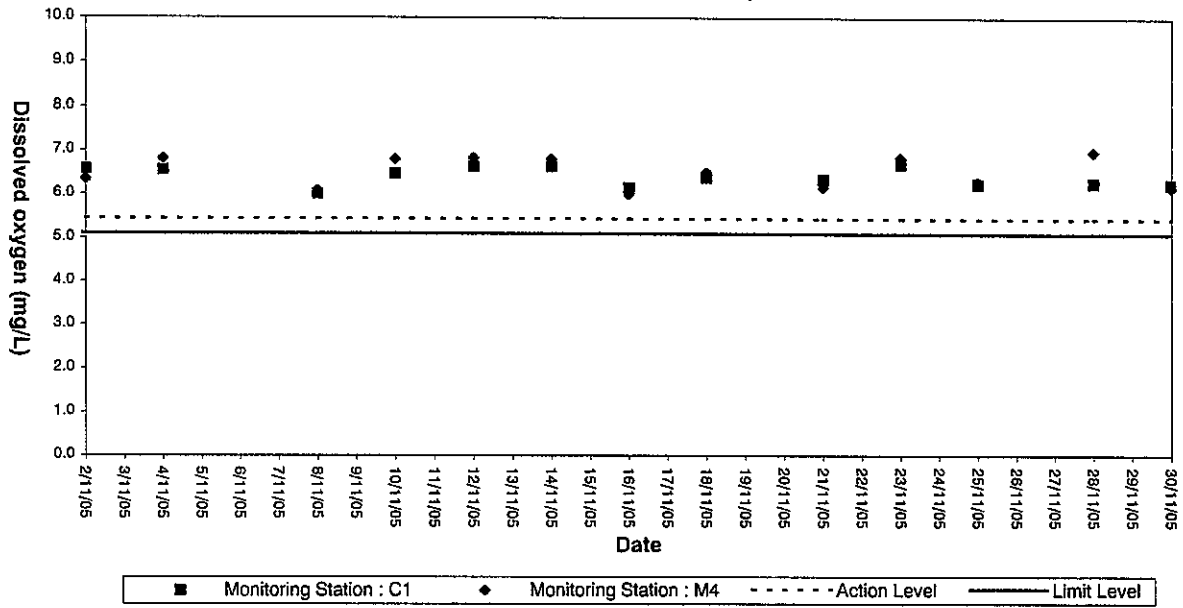
## **Appendix D3**

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

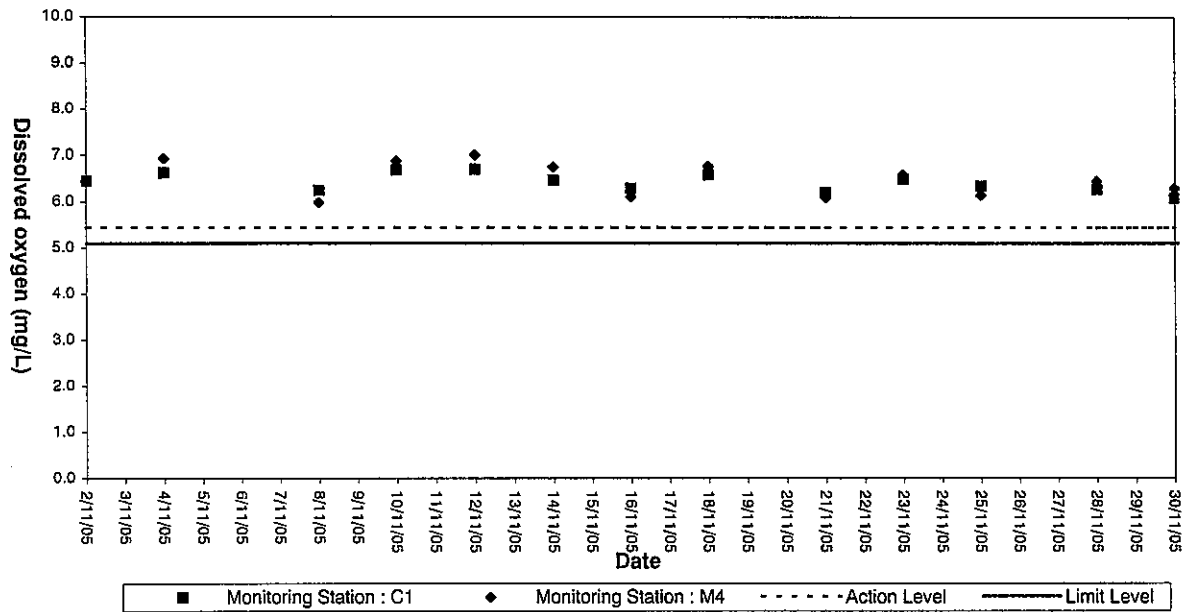




### Dissolved Oxygen (Surface & Middle) at Mid-Flood Tide

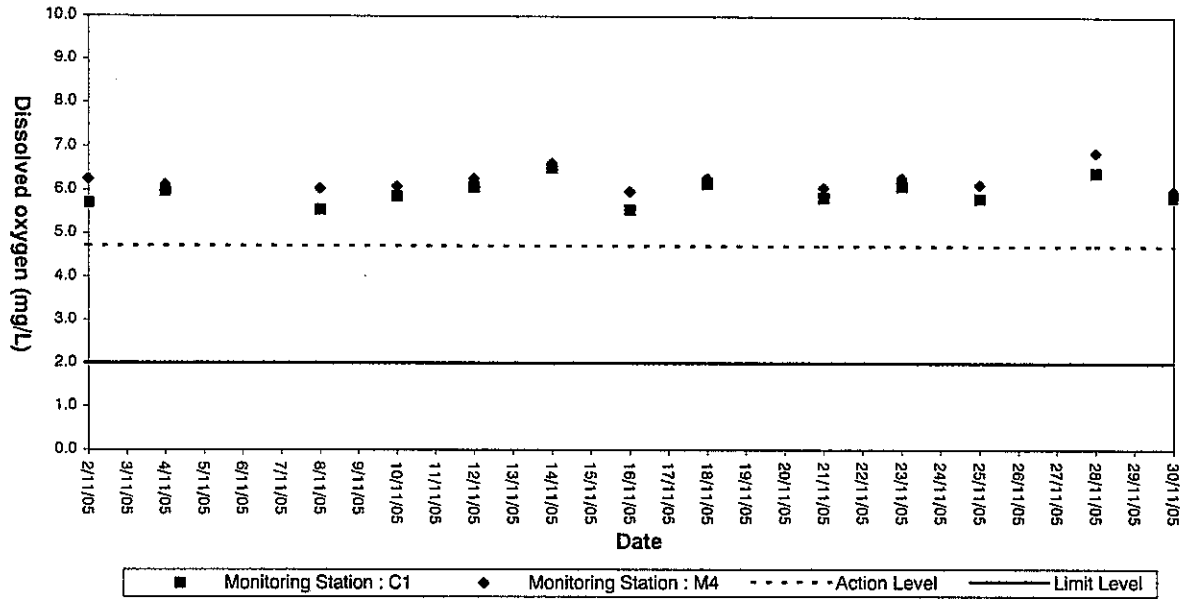


### Dissolved Oxygen (Surface & Middle) at Mid-Ebb Tide

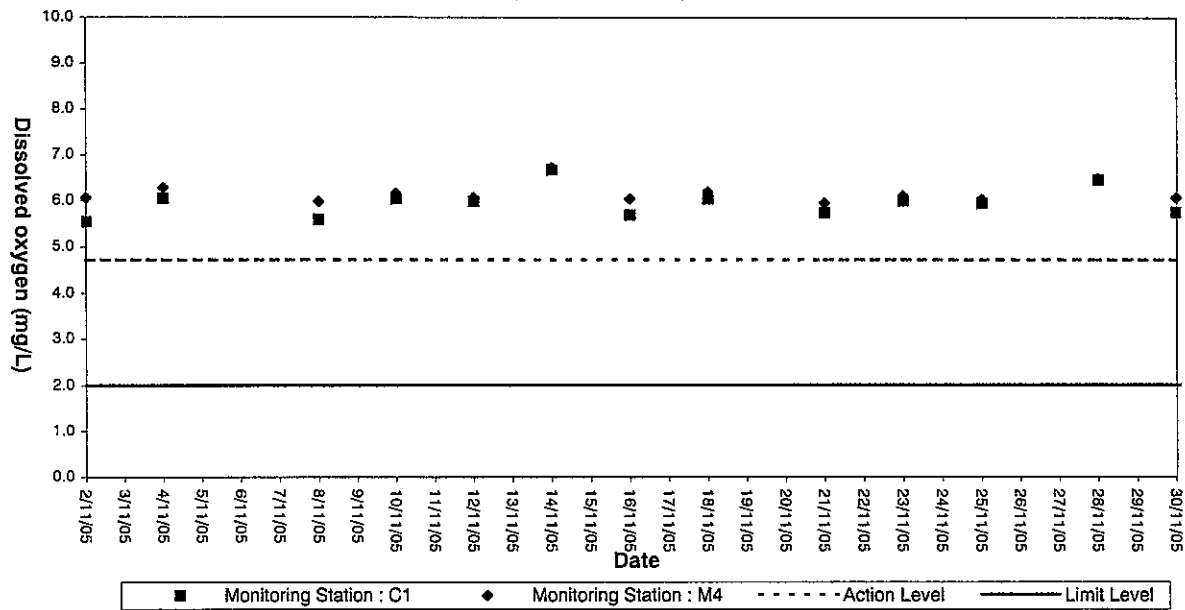




### Dissolved Oxygen (Bottom) at Mid-Flood Tide

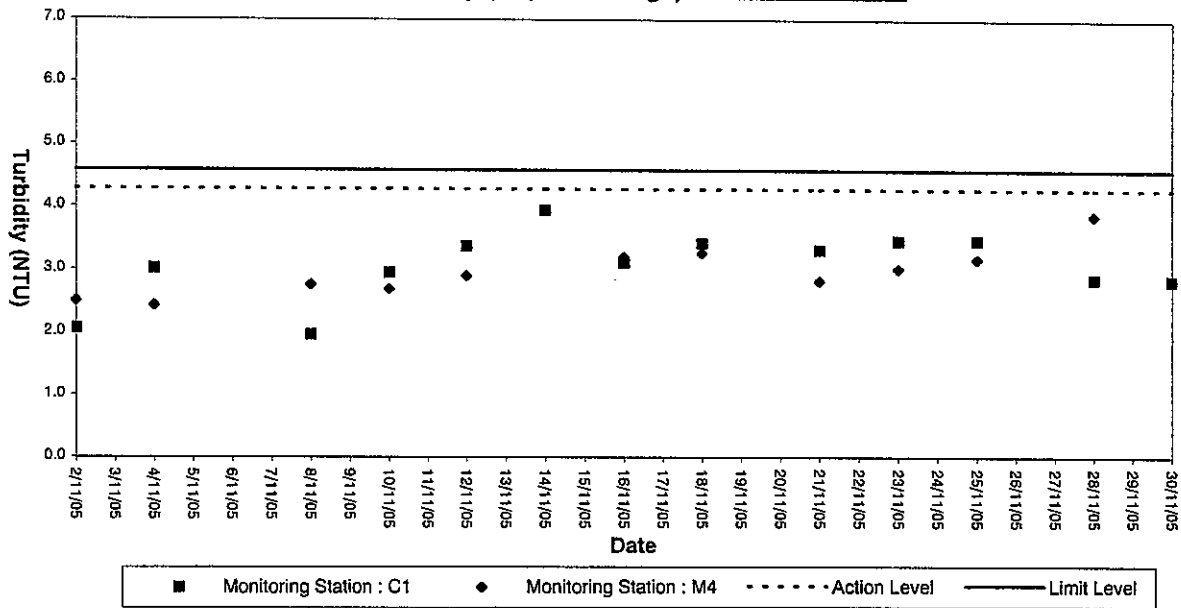


### Dissolved Oxygen (Bottom) at Mid-Ebb Tide

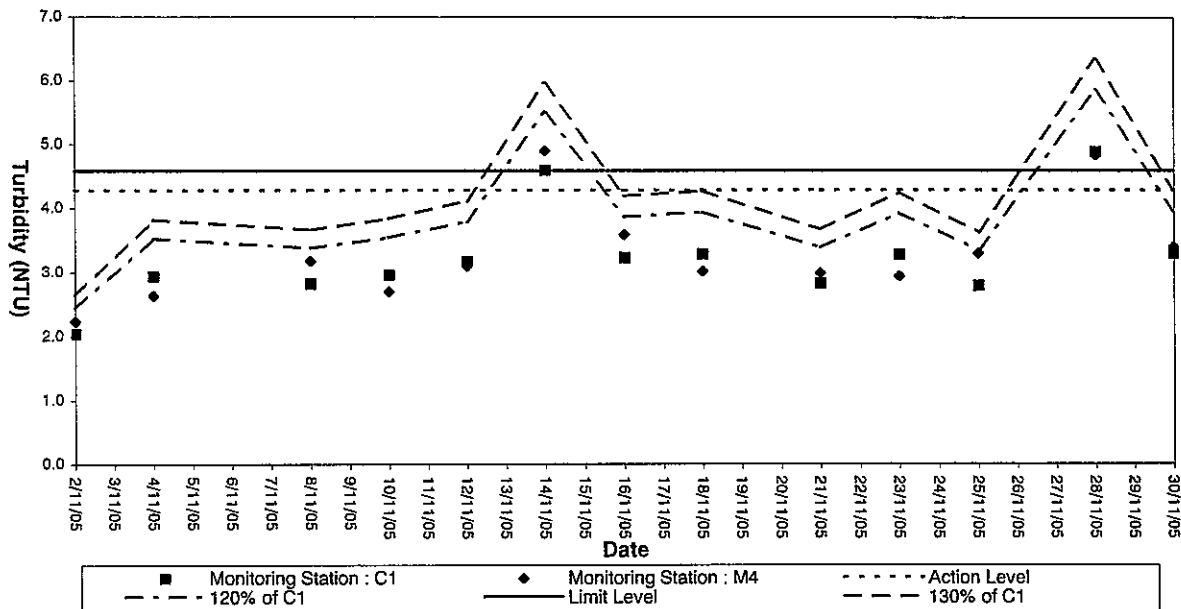




### Turbidity (Depth-average) at Mid-Flood Tide

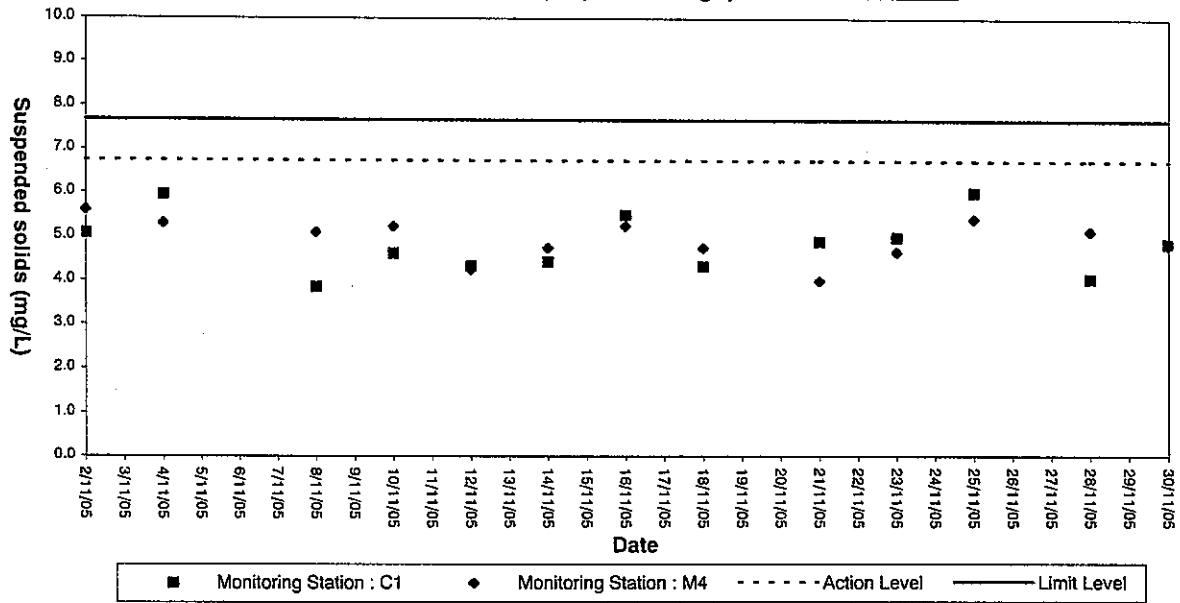


### Turbidity (Depth-average) at Mid-Ebb Tide

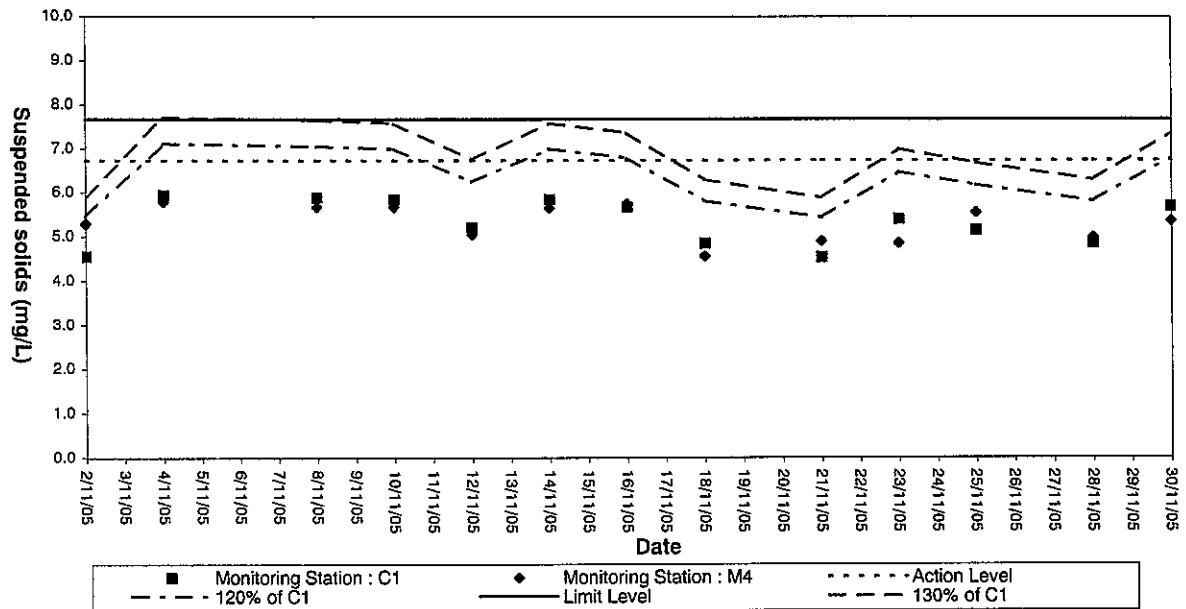




### Suspended solids (Depth-average) at Mid-Flood Tide



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





## **Appendix E**

### **Weather Condition**



### Weather information in November 2005

Date (MDY)	Time	Average	Hi	Low	Wind Speed (m/s)		Wind Direction	Period
		Temp	Temp	Temp	Average	Hi		
11/01/05	12:00 AM	22.9	23.2	22.8	4.0	10.7	NE	30
11/01/05	12:30 AM	22.8	23.0	22.6	3.1	10.7	NE	30
11/01/05	1:00 AM	22.6	22.8	22.3	3.6	8.9	NE	30
11/01/05	1:30 AM	22.4	22.6	22.2	3.6	7.6	NE	30
11/01/05	2:00 AM	22.3	22.4	22.1	1.8	6.7	NNE	30
11/01/05	2:30 AM	22.3	22.5	22.1	4.0	9.8	NE	30
11/01/05	3:00 AM	22.2	22.3	22.0	4.5	9.4	NE	30
11/01/05	3:30 AM	22.2	22.4	22.1	4.5	8.9	NE	30
11/01/05	4:00 AM	22.1	22.3	22.0	4.5	8.5	NE	30
11/01/05	4:30 AM	21.9	22.2	21.8	3.6	8.0	NE	30
11/01/05	5:00 AM	22.1	22.3	21.8	4.0	9.4	NE	30
11/01/05	5:30 AM	22.2	22.5	22.0	3.6	9.4	NE	30
11/01/05	6:00 AM	22.3	22.5	21.9	4.0	9.4	NE	30
11/01/05	6:30 AM	22.2	22.4	22.1	4.9	10.7	ENE	30
11/01/05	7:00 AM	22.4	22.6	22.2	4.5	12.1	ENE	30
11/01/05	7:30 AM	22.7	23.2	22.4	2.7	7.6	NE	30
11/01/05	8:00 AM	22.7	23.4	22.4	1.8	5.4	NNE	30
11/01/05	8:30 AM	23.2	23.9	22.7	2.2	5.8	NE	30
11/01/05	9:00 AM	23.7	24.4	23.2	2.2	5.4	NNE	30
11/01/05	9:30 AM	24.2	25.3	23.5	2.7	8.5	NE	30
11/01/05	10:00 AM	24.3	24.9	23.9	3.1	8.0	NE	30
11/01/05	10:30 AM	24.6	25.4	23.9	3.1	7.2	NE	30
11/01/05	11:00 AM	24.3	25.1	23.8	3.6	6.7	NE	30
11/01/05	11:30 AM	24.2	24.8	23.6	2.7	7.6	NE	30
11/01/05	12:00 PM	24.3	24.9	23.6	2.7	7.2	NE	30
11/01/05	12:30 PM	24.2	24.7	23.7	3.1	5.8	NE	30
11/01/05	1:00 PM	24.3	25.2	23.7	2.7	5.4	NE	30
11/01/05	1:30 PM	25.3	26.7	24.2	2.7	7.2	NE	30
11/01/05	2:00 PM	24.8	25.8	24.2	1.8	4.9	NE	30
11/01/05	2:30 PM	24.9	26.2	24.3	2.7	5.4	NE	30
11/01/05	3:00 PM	24.4	26.0	23.6	1.8	4.5	NE	30
11/01/05	3:30 PM	24.1	24.7	23.5	2.2	5.4	NNE	30
11/01/05	4:00 PM	23.6	24.1	23.3	1.8	5.8	NNE	30
11/01/05	4:30 PM	23.6	24.0	23.4	2.7	6.7	NE	30
11/01/05	5:00 PM	23.6	23.9	23.2	3.1	10.3	NE	30
11/01/05	5:30 PM	23.4	23.7	23.2	3.6	7.2	NE	30
11/01/05	6:00 PM	23.3	26.0	23.1	3.1	7.2	NE	30
11/01/05	6:30 PM	23.4	23.7	23.3	2.2	7.2	NE	30
11/01/05	7:00 PM	23.6	23.8	23.4	2.2	7.2	NE	30
11/01/05	7:30 PM	23.4	23.7	23.3	1.3	5.8	NE	30
11/01/05	8:00 PM	23.6	23.8	23.5	3.6	9.4	SE	30
11/01/05	8:30 PM	23.7	23.9	23.6	5.4	11.2	SE	30
11/01/05	9:00 PM	23.7	23.8	23.6	5.4	10.3	SE	30
11/01/05	9:30 PM	23.6	23.9	23.5	5.4	9.8	SE	30
11/01/05	10:00 PM	23.6	23.8	23.4	4.9	10.3	SE	30
11/01/05	10:30 PM	23.6	23.7	23.4	5.8	12.5	SE	30
11/01/05	11:00 PM	23.5	23.6	23.4	5.8	11.6	SE	30
11/01/05	11:30 PM	23.4	23.6	23.3	5.4	12.1	SE	30
11/02/05	12:00 AM	23.4	23.6	23.3	4.9	10.3	SE	30
11/02/05	12:30 AM	23.5	23.6	23.4	5.4	10.3	SE	30
11/02/05	1:00 AM	23.5	23.7	23.3	5.4	10.3	SE	30
11/02/05	1:30 AM	23.5	23.7	23.3	5.4	9.8	SE	30
11/02/05	2:00 AM	23.5	23.7	23.4	5.4	10.7	SE	30
11/02/05	2:30 AM	23.4	23.5	23.3	4.0	11.2	SE	30
11/02/05	3:00 AM	23.3	23.5	23.2	2.7	10.3	SE	30
11/02/05	3:30 AM	23.2	23.3	23.1	1.8	7.6	SE	30
11/02/05	4:00 AM	23.1	23.3	23.0	1.8	7.2	NE	30
11/02/05	4:30 AM	23.1	23.3	23.0	2.7	7.6	SE	30
11/02/05	5:00 AM	23.1	23.2	23.0	2.2	6.7	SE	30
11/02/05	5:30 AM	23.1	23.2	22.9	2.7	7.6	NE	30
11/02/05	6:00 AM	22.9	23.1	22.8	4.0	8.9	NE	30
11/02/05	6:30 AM	22.9	23.0	22.8	3.6	9.8	NE	30
11/02/05	7:00 AM	23.0	23.2	22.8	4.5	8.9	NE	30
11/02/05	7:30 AM	23.1	23.3	22.9	4.0	10.7	NE	30
11/02/05	8:00 AM	23.2	23.4	22.9	4.0	8.5	NE	30
11/02/05	8:30 AM	23.2	23.8	-20.8	4.0	8.9	NE	30
11/02/05	9:00 AM	23.6	23.7	1.9	3.6	7.2	NE	30
11/02/05	9:30 AM	23.7	24.1	23.4	3.6	7.2	NE	30
11/02/05	10:00 AM	24.1	24.7	23.8	4.0	8.0	NE	30
11/02/05	10:30 AM	25.5	28.4	23.9	2.7	6.7	NE	30
11/02/05	11:00 AM	27.8	30.3	26.3	2.7	6.3	NE	30
11/02/05	11:30 AM	29.1	31.4	27.1	3.1	7.2	NNE	30
11/02/05	12:00 PM	28.9	30.5	27.7	4.0	8.5	ENE	30
11/02/05	12:30 PM	29.3	31.6	27.4	3.6	8.5	ENE	30
11/02/05	1:00 PM	28.3	29.7	27.3	4.0	8.5	ENE	30
11/02/05	1:30 PM	28.7	32.1	27.1	2.7	7.2	ENE	30
11/02/05	2:00 PM	28.2	30.7	26.8	3.6	8.0	ENE	30
11/02/05	2:30 PM	28.2	30.4	26.9	2.7	7.2	NE	30
11/02/05	3:00 PM	29.1	31.3	27.1	2.2	6.3	SE	30
11/02/05	3:30 PM	26.9	27.8	26.3	1.8	4.9	SE	30
11/02/05	4:00 PM	26.3	27.2	25.6	1.8	5.8	NE	30
11/02/05	4:30 PM	25.6	25.9	25.2	0.9	4.9	SE	30
11/02/05	5:00 PM	25.2	25.5	25.0	0.9	4.5	SE	30
11/02/05	5:30 PM	24.7	25.1	-34.4	0.9	3.6	SE	30
11/02/05	6:00 PM	24.6	24.8	24.4	0.9	3.6	NE	30
11/02/05	6:30 PM	24.5	24.8	24.3	1.8	5.8	NE	30
11/02/05	7:00 PM	24.3	24.5	24.0	1.3	4.5	ENE	30
11/02/05	7:30 PM	24.2	24.6	24.0	1.8	4.0	NE	30
11/02/05	8:00 PM	24.2	24.5	24.0	1.3	4.5	NE	30
11/02/05	8:30 PM	24.0	24.3	23.8	1.3	3.6	NE	30
11/02/05	9:00 PM	24.1	24.6	23.8	0.9	4.0	NE	30
11/02/05	9:30 PM	23.9	24.4	23.7	0.9	4.0	NNE	30
11/02/05	10:00 PM	23.8	24.0	23.6	1.3	4.0	NE	30
11/02/05	10:30 PM	23.7	23.9	23.6	1.8	4.0	NE	30
11/02/05	11:00 PM	23.7	23.9	23.6	0.9	4.5	SE	30
11/02/05	11:30 PM	23.6	23.8	23.4	1.8	5.4	NE	30



Weather information in November 2005

Date (MDY)	Time	Average	Hi	Low	Wind Speed (m/s)		Wind Direction	Period
		Temp	Temp	Temp	Average	Hi		
11/03/05	12:00 AM	23.6	23.7	23.4	0.9	5.4	NE	30
11/03/05	12:30 AM	23.6	23.7	23.4	1.3	4.5	NNE	30
11/03/05	1:00 AM	23.8	24.0	23.5	2.7	4.8	SE	30
11/03/05	1:30 AM	23.8	23.9	23.7	2.7	4.5	SE	30
11/03/05	2:00 AM	23.8	24.0	23.7	4.5	5.4	SE	30
11/03/05	2:30 AM	23.8	23.9	23.7	4.5	9.4	SE	30
11/03/05	3:00 AM	23.8	24.0	23.7	4.5	8.5	SE	30
11/03/05	3:30 AM	23.8	23.9	23.7	4.0	6.5	SE	30
11/03/05	4:00 AM	23.8	24.1	23.7	4.5	7.2	ESE	30
11/03/05	4:30 AM	23.8	23.9	23.7	4.9	6.9	SE	30
11/03/05	5:00 AM	23.6	23.9	23.4	2.7	7.0	SE	30
11/03/05	5:30 AM	23.4	23.6	23.3	1.8	6.7	NNE	30
11/03/05	6:00 AM	23.4	23.6	23.2	2.7	6.7	NE	30
11/03/05	6:30 AM	23.3	23.4	23.2	2.2	7.2	NE	30
11/03/05	7:00 AM	23.6	23.9	23.5	2.7	5.6	NE	30
11/03/05	7:30 AM	25.0	26.3	23.8	3.6	6.2	NE	30
11/03/05	8:00 AM	26.7	27.6	26.0	3.1	7.6	NE	30
11/03/05	8:30 AM	27.3	28.3	26.6	3.6	6.4	NE	30
11/03/05	9:00 AM	27.9	29.4	26.8	3.6	5.9	NE	30
11/03/05	9:30 AM	28.7	31.6	27.1	3.1	5.5	ENE	30
11/03/05	10:00 AM	28.8	30.5	27.3	3.1	5.2	ENE	30
11/03/05	10:30 AM	28.6	28.7	28.3	2.1	2.5	NE	30
11/03/05	11:00 AM	28.6	28.7	28.5	1.7	2.1	E	30
11/03/05	11:30 AM	28.0	28.4	28.0	1.8	3.0	E	30
11/03/05	12:00 PM	27.9	27.9	27.9	2.2	2.6	E	30
11/03/05	12:30 PM	27.4	27.7	27.2	2.6	4.0	E	30
11/03/05	1:00 PM	27.8	28.0	27.7	2.1	4.3	E	30
11/03/05	1:30 PM	28.3	28.4	28.2	2.0	2.8	NE	30
11/03/05	2:00 PM	28.3	28.5	28.1	2.8	3.4	NE	30
11/03/05	2:30 PM	28.5	28.5	28.3	2.7	3.0	NE	30
11/03/05	3:00 PM	28.6	28.6	28.4	2.5	4.5	NE	30
11/03/05	3:30 PM	28.3	28.4	28.2	3.4	5.0	E	30
11/03/05	4:00 PM	28.3	28.4	28.0	1.9	3.3	NE	30
11/03/05	4:30 PM	27.0	27.4	26.9	1.6	3.3	NE	30
11/03/05	5:00 PM	27.0	27.0	26.8	1.6	2.2	NE	30
11/03/05	5:30 PM	26.7	27.0	26.7	1.0	2.2	E	30
11/03/05	6:00 PM	25.3	25.4	25.3	1.4	2.6	NE	30
11/03/05	6:30 PM	25.0	25.1	24.9	2.2	4.2	SE	30
11/03/05	7:00 PM	25.0	25.3	24.9	0.9	1.5	NE	30
11/03/05	7:30 PM	24.7	25.0	24.6	0.6	0.9	E	30
11/03/05	8:00 PM	24.5	24.7	24.2	0.5	1.6	NE	30
11/03/05	8:30 PM	25.0	25.2	24.9	0.5	1.7	E	30
11/03/05	9:00 PM	25.4	25.6	25.2	0.9	2.1	E	30
11/03/05	9:30 PM	25.4	25.7	25.1	0.8	2.2	E	30
11/03/05	10:00 PM	25.6	25.9	25.5	0.9	1.6	E	30
11/03/05	10:30 PM	25.5	25.6	25.3	1.3	2.4	NE	30
11/03/05	11:00 PM	25.5	25.9	25.5	0.6	1.9	E	30
11/03/05	11:30 PM	25.5	25.7	25.4	1.1	2.5	E	30
11/04/05	12:00 AM	25.6	26.0	25.5	1.2	1.7	E	30
11/04/05	12:30 AM	25.4	25.7	25.2	1.4	3.0	E	30
11/04/05	1:00 AM	25.4	25.5	25.3	1.8	3.8	E	30
11/04/05	1:30 AM	25.3	25.4	25.1	1.9	3.7	E	30
11/04/05	2:00 AM	25.2	25.3	25.0	1.8	2.6	SE	30
11/04/05	2:30 AM	25.1	25.3	25.0	1.3	2.5	E	30
11/04/05	3:00 AM	25.1	25.2	24.9	2.5	3.7	NE	30
11/04/05	3:30 AM	25.0	25.0	24.9	1.9	4.0	NE	30
11/04/05	4:00 AM	25.0	25.3	24.8	2.1	4.0	E	30
11/04/05	4:30 AM	24.7	24.8	24.7	0.9	1.6	E	30
11/04/05	5:00 AM	24.8	25.0	24.8	1.7	4.0	E	30
11/04/05	5:30 AM	24.7	24.9	24.6	1.8	3.5	NE	30
11/04/05	6:00 AM	24.7	25.0	24.7	2.0	3.2	E	30
11/04/05	6:30 AM	24.8	25.0	24.7	1.9	2.8	N	30
11/04/05	7:00 AM	24.7	24.8	24.7	1.9	2.0	E	30
11/04/05	7:30 AM	24.7	25.1	24.5	3.5	4.1	NE	30
11/04/05	8:00 AM	24.4	24.7	24.2	1.6	3.3	NE	30
11/04/05	8:30 AM	25.6	25.7	25.5	2.3	4.2	NE	30
11/04/05	9:00 AM	25.6	26.0	25.6	2.2	2.8	E	30
11/04/05	9:30 AM	25.2	25.5	25.1	3.3	3.6	NE	30
11/04/05	10:00 AM	27.0	27.1	26.9	3.1	3.3	E	30
11/04/05	10:30 AM	27.5	27.7	27.2	3.5	5.3	E	30
11/04/05	11:00 AM	28.3	28.6	28.1	2.0	2.0	NE	30
11/04/05	11:30 AM	28.9	30.3	27.7	3.6	7.6	ENE	30
11/04/05	12:00 PM	28.9	30.9	27.4	4.0	7.6	NE	30
11/04/05	12:30 PM	28.1	30.6	26.1	4.5	7.2	ENE	30
11/04/05	1:00 PM	28.2	29.6	27.0	4.9	6.5	ENE	30
11/04/05	1:30 PM	28.2	30.3	26.3	4.5	8.0	ENE	30
11/04/05	2:00 PM	26.2	30.1	26.4	4.0	7.3	ENE	30
11/04/05	2:30 PM	28.6	30.1	27.8	3.6	6.7	ENE	30
11/04/05	3:00 PM	27.8	28.8	27.2	4.9	6.7	ENE	30
11/04/05	3:30 PM	28.2	29.5	27.6	3.6	6.3	ENE	30
11/04/05	4:00 PM	28.1	29.5	27.2	3.6	6.3	ENE	30
11/04/05	4:30 PM	27.7	28.6	26.9	2.7	5.4	NE	30
11/04/05	5:00 PM	27.3	28.1	26.7	1.8	4.9	ENE	30
11/04/05	5:30 PM	25.4	27.3	24.4	0.9	4.9	SE	30
11/04/05	6:00 PM	24.2	24.5	23.8	0.0	1.8	ESE	30
11/04/05	6:30 PM	24.1	24.3	23.9	0.4	2.7	SE	30
11/04/05	7:00 PM	24.3	24.5	24.1	0.9	3.1	SE	30
11/04/05	7:30 PM	24.3	24.5	24.2	1.3	3.1	SE	30
11/04/05	8:00 PM	24.4	24.6	24.2	0.9	3.1	SE	30
11/04/05	8:30 PM	24.2	24.5	24.1	0.4	2.7	E	30
11/04/05	9:00 PM	24.2	24.3	24.1	1.3	3.1	E	30
11/04/05	9:30 PM	24.1	24.2	23.9	1.8	3.6	E	30
11/04/05	10:00 PM	24.1	24.3	24.0	1.3	4.0	E	30
11/04/05	10:30 PM	24.1	24.2	23.9	1.3	4.0	E	30
11/04/05	11:00 PM	24.0	24.3	23.8	1.8	4.0	ESE	30
11/04/05	11:30 PM	23.9	24.2	23.3	1.3	4.0	E	30



Weather information in November 2005

Date (MDY)	Time	Average	Hi	Low	Wind Speed (m/s)		Wind Direction	Period
		Temp	Temp	Temp	Average	Hi		
11/05/05	12:00 AM	23.2	23.4	23.0	0.4	2.2	NE	30
11/05/05	12:30 AM	23.1	23.2	22.9	0.9	2.7	NE	30
11/05/05	1:00 AM	23.0	23.2	22.9	0.9	2.7	NE	30
11/05/05	1:30 AM	23.0	23.2	22.8	0.4	2.7	NE	30
11/05/05	2:00 AM	23.1	23.3	23.0	0.9	3.1	NE	30
11/05/05	2:30 AM	23.0	23.2	22.8	1.3	3.1	NE	30
11/05/05	3:00 AM	22.8	23.1	22.7	0.9	2.7	NE	30
11/05/05	3:30 AM	22.9	23.0	22.8	1.3	2.7	NE	30
11/05/05	4:00 AM	22.8	23.0	22.7	1.3	2.7	NE	30
11/05/05	4:30 AM	22.9	23.1	22.7	1.3	2.7	NE	30
11/05/05	5:00 AM	23.0	23.2	22.8	1.8	3.1	NE	30
11/05/05	5:30 AM	23.1	23.2	23.0	0.9	2.7	NE	30
11/05/05	6:00 AM	22.9	23.2	22.8	1.3	2.7	NE	30
11/05/05	6:30 AM	22.8	22.9	22.6	1.3	2.7	NE	30
11/05/05	7:00 AM	22.7	22.9	22.6	0.9	2.7	NE	30
11/05/05	7:30 AM	23.3	24.0	22.9	0.0	0.4	--	30
11/05/05	8:00 AM	25.7	27.9	24.1	0.4	4.0	SE	30
11/05/05	8:30 AM	25.7	29.2	24.5	1.8	4.5	E	30
11/05/05	9:00 AM	27.9	28.7	27.3	3.1	4.5	NE	30
11/05/05	9:30 AM	28.3	29.4	27.2	2.7	4.9	NE	30
11/05/05	10:00 AM	30.3	33.6	27.7	2.2	4.9	NE	30
11/05/05	10:30 AM	30.0	31.8	27.8	2.2	4.5	ENE	30
11/05/05	11:00 AM	30.8	32.3	29.8	1.3	4.0	SSE	30
11/05/05	11:30 AM	31.4	33.1	30.1	1.3	4.0	ENE	30
11/05/05	12:00 PM	31.8	32.7	30.9	2.2	4.9	SSE	30
11/05/05	12:30 PM	31.6	32.9	30.5	2.7	5.8	S	30
11/05/05	1:00 PM	31.6	32.2	30.8	2.2	4.5	SSE	30
11/05/05	1:30 PM	30.7	31.7	29.8	3.1	4.9	SSE	30
11/05/05	2:00 PM	30.9	31.8	30.3	2.7	4.5	SSE	30
11/05/05	2:30 PM	30.7	31.4	29.9	2.7	4.0	SSE	30
11/05/05	3:00 PM	30.2	31.2	29.3	2.7	4.0	SSE	30
11/05/05	3:30 PM	29.9	30.6	29.3	2.2	3.6	SSE	30
11/05/05	4:00 PM	28.3	29.5	25.8	3.1	4.5	SSE	30
11/05/05	4:30 PM	26.0	27.7	25.4	2.7	4.5	SSE	30
11/05/05	5:00 PM	26.4	26.9	25.6	2.2	3.6	SSE	30
11/05/05	5:30 PM	25.7	26.5	24.6	1.8	2.7	SSE	30
11/05/05	6:00 PM	24.3	24.6	24.1	0.9	1.8	SSE	30
11/05/05	6:30 PM	23.9	24.1	23.8	0.4	1.3	S	30
11/05/05	7:00 PM	23.7	23.9	23.6	0.4	1.3	S	30
11/05/05	7:30 PM	23.6	23.7	23.5	0.0	0.4	S	30
11/05/05	8:00 PM	23.4	23.6	23.3	0.1	0.9	S	30
11/05/05	8:30 PM	23.4	23.5	23.3	0.2	0.9	S	30
11/05/05	9:00 PM	23.4	23.7	23.3	0.0	1.3	S	30
11/05/05	9:30 PM	23.6	23.7	23.4	0.0	0.4	S	30
11/05/05	10:00 PM	23.7	24.0	23.4	0.0	0.0	--	30
11/05/05	10:30 PM	24.2	24.3	24.0	0.0	1.8	S	30
11/05/05	11:00 PM	23.7	24.1	23.5	0.0	0.4	S	30
11/05/05	11:30 PM	23.5	23.7	23.4	0.0	0.4	S	30
11/06/05	12:00 AM	23.6	23.7	23.5	0.2	0.9	S	30
11/06/05	12:30 AM	23.7	23.9	23.6	0.3	0.9	S	30
11/06/05	1:00 AM	23.6	23.8	23.3	0.5	1.3	S	30
11/06/05	1:30 AM	23.3	23.4	23.0	0.1	0.4	S	30
11/06/05	2:00 AM	23.4	23.7	23.2	0.0	0.4	S	30
11/06/05	2:30 AM	23.8	23.9	23.6	0.0	0.4	--	30
11/06/05	3:00 AM	24.1	24.2	23.9	0.0	0.4	--	30
11/06/05	3:30 AM	24.1	24.2	24.0	0.0	0.0	--	30
11/06/05	4:00 AM	24.2	24.3	24.0	0.2	0.9	E	30
11/06/05	4:30 AM	24.3	24.4	24.2	0.0	0.4	E	30
11/06/05	5:00 AM	24.3	24.4	24.1	0.0	0.4	--	30
11/06/05	5:30 AM	24.2	24.3	24.1	0.1	0.4	--	30
11/06/05	6:00 AM	24.2	24.4	24.1	0.0	0.0	--	30
11/06/05	6:30 AM	24.2	24.3	24.1	0.0	0.0	--	30
11/06/05	7:00 AM	24.4	24.8	24.1	0.0	0.0	--	30
11/06/05	7:30 AM	24.9	25.0	24.7	0.0	0.0	--	30
11/06/05	8:00 AM	25.2	25.5	25.0	0.0	0.0	--	30
11/06/05	8:30 AM	25.7	26.1	25.4	0.0	0.4	W	30
11/06/05	9:00 AM	27.2	29.1	26.1	0.2	1.3	N	30
11/06/05	9:30 AM	30.6	34.1	28.5	0.4	2.2	WSW	30
11/06/05	10:00 AM	32.4	34.3	31.1	0.9	2.2	WSW	30
11/06/05	10:30 AM	32.2	33.6	30.3	1.3	3.6	SSE	30
11/06/05	11:00 AM	31.9	33.4	30.6	1.3	3.1	SE	30
11/06/05	11:30 AM	32.7	34.3	31.4	1.8	3.1	SW	30
11/06/05	12:00 PM	33.0	34.3	31.5	1.8	4.5	SSW	30
11/06/05	12:30 PM	33.3	34.9	32.2	2.2	4.9	S	30
11/06/05	1:00 PM	33.2	34.7	31.8	2.2	4.0	SSE	30
11/06/05	1:30 PM	33.6	34.9	31.8	1.8	4.0	S	30
11/06/05	2:00 PM	33.7	35.6	32.6	1.8	4.0	SSE	30
11/06/05	2:30 PM	33.2	35.7	32.0	2.2	4.0	SSW	30
11/06/05	3:00 PM	31.9	32.7	31.3	2.7	4.5	SSE	30
11/06/05	3:30 PM	32.2	33.1	31.2	2.2	4.0	SSW	30
11/06/05	4:00 PM	31.2	32.4	30.4	2.2	4.0	SSW	30
11/06/05	4:30 PM	30.0	31.6	28.9	2.2	4.0	S	30
11/06/05	5:00 PM	28.3	29.4	27.4	2.7	4.0	SSW	30
11/06/05	5:30 PM	26.8	27.5	26.3	2.2	4.0	SSW	30
11/06/05	6:00 PM	25.9	26.3	25.7	2.2	4.5	SW	30
11/06/05	6:30 PM	25.7	25.8	25.6	1.3	3.1	SW	30
11/06/05	7:00 PM	25.8	25.9	25.7	0.4	1.8	SSW	30
11/06/05	7:30 PM	25.8	25.9	25.4	0.4	2.7	WSW	30
11/06/05	8:00 PM	25.7	25.8	25.6	0.4	2.7	WNW	30
11/06/05	8:30 PM	25.5	25.7	25.3	0.0	1.8	WNW	30
11/06/05	9:00 PM	25.3	25.4	25.2	0.9	2.7	SW	30
11/06/05	9:30 PM	25.2	25.3	25.1	0.4	2.2	WSW	30
11/06/05	10:00 PM	24.9	25.1	24.7	0.0	0.0	--	30
11/06/05	10:30 PM	24.8	25.1	24.6	0.0	0.4	WSW	30
11/06/05	11:00 PM	24.6	25.1	24.4	0.0	0.0	--	30
11/06/05	11:30 PM	24.3	24.5	24.2	0.0	0.0	--	30





Weather information in November 2005

Date (MDY)	Time	Average	Hi	Low	Wind Speed (m/s)		Wind	Period
		Temp	Temp	Temp	Average	Hi	Direction	
11/07/05	12:00 AM	24.4	24.7	24.2	0.0	0.0	---	30
11/07/05	12:30 AM	24.2	24.6	23.9	0.0	0.0	---	30
11/07/05	1:00 AM	24.0	24.3	23.8	0.0	0.4	WSW	30
11/07/05	1:30 AM	24.2	24.4	23.9	0.0	0.9	WSW	30
11/07/05	2:00 AM	23.7	23.9	23.5	0.0	0.0	---	30
11/07/05	2:30 AM	23.6	23.8	23.5	0.0	0.0	---	30
11/07/05	3:00 AM	24.6	24.8	23.7	0.0	1.8	WNW	30
11/07/05	3:30 AM	24.3	24.7	24.1	0.0	0.9	NNW	30
11/07/05	4:00 AM	24.2	24.5	23.9	0.0	0.0	---	30
11/07/05	4:30 AM	24.0	24.3	23.8	0.0	0.4	---	30
11/07/05	5:00 AM	23.8	24.1	23.7	0.0	0.4	NNW	30
11/07/05	5:30 AM	23.7	24.0	23.5	0.0	0.0	---	30
11/07/05	6:00 AM	23.4	23.6	23.3	0.0	0.0	---	30
11/07/05	6:30 AM	23.2	23.4	23.1	0.0	0.0	---	30
11/07/05	7:00 AM	23.3	23.6	23.0	0.0	0.0	---	30
11/07/05	7:30 AM	24.1	24.8	23.6	0.0	0.0	---	30
11/07/05	8:00 AM	26.1	27.1	24.8	0.0	0.0	---	30
11/07/05	8:30 AM	27.4	28.2	26.9	0.0	2.2	NE	30
11/07/05	9:00 AM	28.2	29.4	27.2	0.0	1.8	S	30
11/07/05	9:30 AM	28.6	29.8	27.5	0.0	1.8	W	30
11/07/05	10:00 AM	30.3	31.8	28.3	0.9	2.2	W	30
11/07/05	10:30 AM	30.4	31.3	29.9	1.3	3.1	SSE	30
11/07/05	11:00 AM	29.4	30.3	28.4	2.2	3.6	SSE	30
11/07/05	11:30 AM	29.6	30.7	28.6	2.2	4.0	SSE	30
11/07/05	12:00 PM	30.7	31.6	29.6	2.7	4.5	SSE	30
11/07/05	12:30 PM	30.9	31.9	30.4	3.1	5.8	SSE	30
11/07/05	1:00 PM	30.3	31.8	28.3	1.8	4.5	S	30
11/07/05	1:30 PM	29.1	29.9	28.3	0.9	3.1	S	30
11/07/05	2:00 PM	27.8	28.6	27.3	0.9	3.6	E	30
11/07/05	2:30 PM	27.5	28.0	27.0	1.3	4.0	E	30
11/07/05	3:00 PM	27.0	27.4	26.6	2.2	4.5	E	30
11/07/05	3:30 PM	27.3	27.6	26.9	2.2	4.0	SSE	30
11/07/05	4:00 PM	27.2	27.4	26.8	2.7	4.9	SSE	30
11/07/05	4:30 PM	27.2	27.7	26.9	1.3	4.0	S	30
11/07/05	5:00 PM	26.6	27.3	26.2	1.3	3.6	S	30
11/07/05	5:30 PM	26.2	26.3	25.9	0.9	2.7	S	30
11/07/05	6:00 PM	25.8	25.9	25.7	0.9	2.2	S	30
11/07/05	6:30 PM	25.6	25.8	25.4	0.9	1.8	SSE	30
11/07/05	7:00 PM	25.4	25.6	25.3	0.9	3.1	S	30
11/07/05	7:30 PM	25.2	25.3	24.9	0.0	2.2	SSE	30
11/07/05	8:00 PM	24.9	25.1	24.8	0.0	1.8	E	30
11/07/05	8:30 PM	25.1	25.3	25.0	1.3	3.1	ESE	30
11/07/05	9:00 PM	25.3	25.4	25.2	1.8	4.5	ESE	30
11/07/05	9:30 PM	25.3	25.4	25.2	1.3	4.5	ESE	30
11/07/05	10:00 PM	25.3	25.4	25.2	2.2	4.5	ESE	30
11/07/05	10:30 PM	25.3	25.6	25.1	2.7	5.8	ESE	30
11/07/05	11:00 PM	25.2	25.4	25.1	3.1	6.7	ESE	30
11/07/05	11:30 PM	25.2	25.3	25.2	2.7	4.9	E	30
11/08/05	12:00 AM	25.2	25.3	25.1	3.1	6.3	E	30
11/08/05	12:30 AM	25.1	25.2	24.9	2.7	5.8	E	30
11/08/05	1:00 AM	25.0	25.2	24.8	3.1	5.8	ESE	30
11/08/05	1:30 AM	24.9	25.0	24.8	3.1	6.7	E	30
11/08/05	2:00 AM	24.8	25.0	24.7	3.1	6.3	ESE	30
11/08/05	2:30 AM	24.7	24.8	24.6	2.7	7.2	ESE	30
11/08/05	3:00 AM	24.6	24.7	24.5	2.7	5.8	SE	30
11/08/05	3:30 AM	24.5	24.7	24.3	1.8	4.9	SE	30
11/08/05	4:00 AM	24.5	24.6	24.3	1.3	4.0	NE	30
11/08/05	4:30 AM	24.6	24.8	24.5	3.1	6.3	NE	30
11/08/05	5:00 AM	24.6	24.8	24.4	1.8	5.4	SE	30
11/08/05	5:30 AM	24.6	24.7	24.4	2.2	5.8	NE	30
11/08/05	6:00 AM	24.6	24.7	24.4	1.3	4.5	SE	30
11/08/05	6:30 AM	24.6	24.7	24.4	1.8	4.9	NE	30
11/08/05	7:00 AM	24.6	24.8	24.4	1.8	4.5	NE	30
11/08/05	7:30 AM	25.0	25.2	24.7	2.2	5.8	NE	30
11/08/05	8:00 AM	25.2	25.4	25.0	1.3	5.4	ENE	30
11/08/05	8:30 AM	25.1	25.3	24.9	1.3	5.4	NE	30
11/08/05	9:00 AM	25.5	26.2	25.1	3.1	4.9	NE	30
11/08/05	9:30 AM	25.9	26.3	25.6	2.7	5.8	NE	30
11/08/05	10:00 AM	26.0	26.4	25.8	1.8	5.4	ENE	30
11/08/05	10:30 AM	26.3	27.5	25.7	1.3	4.9	SE	30
11/08/05	11:00 AM	29.2	32.1	27.3	1.3	4.0	NE	30
11/08/05	11:30 AM	31.1	33.3	29.2	1.3	4.5	SSE	30
11/08/05	12:00 PM	29.9	31.3	28.5	1.8	5.4	E	30
11/08/05	12:30 PM	30.1	32.9	28.1	2.2	5.8	NE	30
11/08/05	1:00 PM	29.9	32.1	28.2	3.1	5.4	NE	30
11/08/05	1:30 PM	29.0	31.4	27.9	4.0	6.3	ENE	30
11/08/05	2:00 PM	28.7	29.8	27.4	4.0	5.8	ENE	30
11/08/05	2:30 PM	29.4	31.5	27.8	3.1	6.3	ENE	30
11/08/05	3:00 PM	29.1	31.6	27.5	2.7	5.8	ENE	30
11/08/05	3:30 PM	28.6	30.0	27.3	2.2	5.4	SE	30
11/08/05	4:00 PM	28.0	29.9	26.7	1.3	4.5	E	30
11/08/05	4:30 PM	26.4	28.1	26.0	1.3	4.0	E	30
11/08/05	5:00 PM	26.1	26.6	25.5	1.3	3.6	ESE	30
11/08/05	5:30 PM	25.2	25.7	24.9	1.3	3.6	E	30
11/08/05	6:00 PM	24.7	25.0	24.5	0.9	3.1	SE	30
11/08/05	6:30 PM	24.4	24.6	24.2	0.4	2.2	SE	30
11/08/05	7:00 PM	24.3	24.6	24.2	0.0	1.3	S	30
11/08/05	7:30 PM	24.3	24.6	24.1	0.0	1.3	ENE	30
11/08/05	8:00 PM	24.2	24.6	24.1	0.0	2.2	SE	30
11/08/05	8:30 PM	24.5	24.8	24.3	0.4	2.2	SE	30
11/08/05	9:00 PM	24.7	24.8	24.6	0.9	2.2	SSE	30
11/08/05	9:30 PM	24.5	24.6	24.4	0.0	1.8	S	30
11/08/05	10:00 PM	24.4	24.6	24.3	0.4	1.8	SSE	30
11/08/05	10:30 PM	24.6	24.7	24.5	0.4	2.7	E	30
11/08/05	11:00 PM	24.5	24.7	24.3	0.4	2.2	SSE	30
11/08/05	11:30 PM	24.4	24.5	24.3	0.4	2.2	S	30



Weather information in November 2005

Date (MDY)	Time	Average	Hi	Low	Wind Speed (m/s)		Wind	Period
		Temp	Temp	Temp	Average	Hi	Direction	
11/09/05	12:00 AM	24.3	24.4	24.1	0.0	2.2	SSE	30
11/09/05	12:30 AM	24.4	24.6	24.2	0.0	1.8	SSE	30
11/09/05	1:00 AM	24.6	24.7	24.4	0.0	1.8	S	30
11/09/05	1:30 AM	24.6	24.7	24.4	0.0	1.3	S	30
11/09/05	2:00 AM	24.3	24.4	24.2	0.0	0.4	S	30
11/09/05	2:30 AM	24.2	24.3	24.1	0.0	0.9	S	30
11/09/05	3:00 AM	24.4	24.6	24.2	0.4	1.3	S	30
11/09/05	3:30 AM	24.4	24.6	24.3	0.0	1.8	S	30
11/09/05	4:00 AM	24.7	24.8	24.6	0.4	2.2	SE	30
11/09/05	4:30 AM	24.6	24.7	24.4	0.9	2.7	ESE	30
11/09/05	5:00 AM	24.3	24.6	24.1	0.4	3.1	NE	30
11/09/05	5:30 AM	24.4	24.9	24.1	0.9	4.0	SE	30
11/09/05	6:00 AM	24.7	24.9	24.5	2.2	4.5	E	30
11/09/05	6:30 AM	24.6	24.7	24.5	2.2	4.0	E	30
11/09/05	7:00 AM	24.7	24.9	24.5	2.7	4.5	ESE	30
11/09/05	7:30 AM	25.1	25.3	24.7	2.2	4.9	ESE	30
11/09/05	8:00 AM	25.4	25.8	25.2	3.1	4.9	ESE	30
11/09/05	8:30 AM	26.2	27.6	25.4	2.7	4.9	ESE	30
11/09/05	9:00 AM	28.4	30.5	27.2	2.2	5.4	ENE	30
11/09/05	9:30 AM	28.3	30.5	26.1	2.2	5.8	ENE	30
11/09/05	10:00 AM	28.7	31.8	26.9	2.7	5.8	ENE	30
11/09/05	10:30 AM	29.8	31.0	27.4	7.2	51.0	SE	30
11/09/05	11:00 AM	30.4	31.7	29.4	2.2	4.9	E	30
11/09/05	11:30 AM	29.6	31.2	27.4	3.1	6.3	ENE	30
11/09/05	12:00 PM	29.7	31.4	27.6	3.1	5.4	ENE	30
11/09/05	12:30 PM	31.4	34.2	29.3	2.7	6.3	NE	30
11/09/05	1:00 PM	31.0	34.0	29.1	3.1	6.7	ENE	30
11/09/05	1:30 PM	31.4	34.5	28.9	2.2	5.4	E	30
11/09/05	2:00 PM	30.4	32.4	27.3	3.1	5.4	NE	30
11/09/05	2:30 PM	31.5	33.2	29.9	2.2	4.9	SSE	30
11/09/05	3:00 PM	31.0	31.9	30.3	2.7	5.4	SSE	30
11/09/05	3:30 PM	30.3	30.9	29.6	2.7	4.9	S	30
11/09/05	4:00 PM	29.4	30.3	29.0	2.7	4.9	S	30
11/09/05	4:30 PM	28.1	29.4	26.2	2.7	4.0	SSE	30
11/09/05	5:00 PM	25.8	26.3	25.4	2.2	3.6	SSE	30
11/09/05	5:30 PM	25.1	25.4	24.6	1.8	3.1	SSE	30
11/09/05	6:00 PM	24.6	24.8	24.3	1.3	2.2	S	30
11/09/05	6:30 PM	24.4	24.6	24.3	1.3	2.2	SSE	30
11/09/05	7:00 PM	24.2	24.4	24.0	0.9	2.2	SSE	30
11/09/05	7:30 PM	24.1	24.2	23.9	0.4	1.8	S	30
11/09/05	8:00 PM	23.8	23.9	23.6	0.0	0.0	---	30
11/09/05	8:30 PM	23.7	23.8	23.5	0.0	0.9	S	30
11/09/05	9:00 PM	23.8	24.1	23.6	0.0	0.9	S	30
11/09/05	9:30 PM	23.8	23.9	23.7	0.0	1.8	S	30
11/09/05	10:00 PM	23.8	23.9	23.7	0.0	1.3	S	30
11/09/05	10:30 PM	23.6	24.0	23.3	0.0	0.4	---	30
11/09/05	11:00 PM	23.2	23.4	23.1	0.0	0.4	S	30
11/09/05	11:30 PM	23.1	23.2	23.0	0.0	0.4	---	30
11/10/05	12:00 AM	23.5	24.1	23.1	0.0	1.3	ENE	30
11/10/05	12:30 AM	23.3	23.6	23.1	0.0	0.4	---	30
11/10/05	1:00 AM	23.3	23.5	23.0	0.0	0.4	NE	30
11/10/05	1:30 AM	23.1	23.4	22.8	0.0	0.4	---	30
11/10/05	2:00 AM	22.9	23.0	22.8	0.0	0.0	---	30
11/10/05	2:30 AM	23.3	23.8	22.8	0.0	0.4	---	30
11/10/05	3:00 AM	23.2	23.8	22.7	0.0	0.0	---	30
11/10/05	3:30 AM	22.7	22.8	22.6	0.0	0.4	NE	30
11/10/05	4:00 AM	22.6	22.9	22.4	0.0	0.0	---	30
11/10/05	4:30 AM	22.5	22.6	22.4	0.0	0.0	---	30
11/10/05	5:00 AM	22.3	22.5	22.1	0.0	0.0	---	30
11/10/05	5:30 AM	22.1	22.4	21.9	0.0	0.0	---	30
11/10/05	6:00 AM	22.1	22.4	21.8	0.0	0.4	---	30
11/10/05	6:30 AM	22.4	22.6	22.1	0.0	0.0	---	30
11/10/05	7:00 AM	22.7	23.1	22.3	0.0	0.4	NE	30
11/10/05	7:30 AM	24.1	25.7	23.1	0.0	0.0	---	30
11/10/05	8:00 AM	25.9	26.9	25.1	0.0	0.4	---	30
11/10/05	8:30 AM	28.0	29.8	26.1	0.0	0.4	NE	30
11/10/05	9:00 AM	29.4	32.2	27.5	0.0	1.3	WNW	30
11/10/05	9:30 AM	30.6	33.6	28.2	0.9	3.1	NE	30
11/10/05	10:00 AM	32.6	35.1	29.9	0.4	3.1	NE	30
11/10/05	10:30 AM	32.2	35.3	29.8	1.3	3.6	ENE	30
11/10/05	11:00 AM	31.4	34.7	28.7	1.3	4.0	ENE	30
11/10/05	11:30 AM	32.6	34.3	30.9	2.2	5.4	SSE	30
11/10/05	12:00 PM	32.7	34.3	31.7	2.7	4.5	SSE	30
11/10/05	12:30 PM	32.9	34.2	32.1	2.2	4.5	SSE	30
11/10/05	1:00 PM	32.6	33.7	31.4	2.2	4.0	SSE	30
11/10/05	1:30 PM	32.5	33.9	31.5	2.2	4.0	SSE	30
11/10/05	2:00 PM	32.0	33.2	30.7	2.2	4.0	SSE	30
11/10/05	2:30 PM	30.9	32.8	28.7	2.7	4.5	SSE	30
11/10/05	3:00 PM	28.6	30.6	27.5	3.1	4.9	SSE	30
11/10/05	3:30 PM	29.4	30.8	27.6	2.7	4.5	SSE	30
11/10/05	4:00 PM	29.3	30.3	27.9	2.7	4.5	SSE	30
11/10/05	4:30 PM	26.8	28.2	25.9	2.7	4.9	SSE	30
11/10/05	5:00 PM	25.7	25.9	25.4	2.2	3.6	SSE	30
11/10/05	5:30 PM	25.3	25.5	25.1	2.2	4.0	SSE	30
11/10/05	6:00 PM	25.0	25.1	24.9	1.8	3.1	SSE	30
11/10/05	6:30 PM	24.9	25.0	24.7	0.9	2.2	SSE	30
11/10/05	7:00 PM	24.8	24.9	24.7	0.4	2.7	SSE	30
11/10/05	7:30 PM	24.8	24.9	24.7	0.4	2.2	SSE	30
11/10/05	8:00 PM	24.7	24.8	24.6	0.0	1.3	S	30
11/10/05	8:30 PM	24.5	24.6	24.4	0.0	1.3	S	30
11/10/05	9:00 PM	24.4	24.7	24.2	0.0	0.4	---	30
11/10/05	9:30 PM	23.9	24.3	23.6	0.0	0.0	---	30
11/10/05	10:00 PM	23.8	23.9	23.7	0.0	1.3	S	30
11/10/05	10:30 PM	23.8	23.9	23.5	0.0	1.3	S	30
11/10/05	11:00 PM	23.3	23.5	23.2	0.0	0.4	---	30
11/10/05	11:30 PM	23.2	23.3	23.1	0.0	0.0	---	30



Weather information in November 2005

Date (MDY)	Time	Average	Hi	Low	Wind Speed (m/s)		Wind	Period
		Temp	Temp	Temp	Average	Hi	Direction	
11/11/05	12:00 AM	23.0	23.2	22.8	0.0	0.0	---	30
11/11/05	12:30 AM	22.9	23.1	22.8	0.0	0.0	---	30
11/11/05	1:00 AM	22.8	22.9	22.7	0.0	0.4	---	30
11/11/05	1:30 AM	22.7	22.8	22.6	0.0	0.0	---	30
11/11/05	2:00 AM	22.7	22.8	22.6	0.0	0.0	---	30
11/11/05	2:30 AM	22.6	22.8	22.5	0.0	0.0	---	30
11/11/05	3:00 AM	22.7	22.9	22.4	0.0	0.0	---	30
11/11/05	3:30 AM	22.9	23.3	22.6	0.0	1.8	S	30
11/11/05	4:00 AM	22.6	22.8	22.3	0.0	0.0	---	30
11/11/05	4:30 AM	22.5	22.9	22.3	0.0	0.4	S	30
11/11/05	5:00 AM	22.5	22.7	22.4	0.0	0.4	S	30
11/11/05	5:30 AM	22.4	22.5	22.1	0.0	0.4	S	30
11/11/05	6:00 AM	22.2	22.5	22.0	0.0	0.4	S	30
11/11/05	6:30 AM	22.3	22.7	22.0	0.0	1.3	S	30
11/11/05	7:00 AM	22.6	22.9	22.3	0.0	2.2	NE	30
11/11/05	7:30 AM	23.6	24.9	22.8	0.0	0.4	---	30
11/11/05	8:00 AM	26.1	28.0	25.3	0.0	2.7	NNE	30
11/11/05	8:30 AM	28.3	30.8	26.7	0.9	3.6	NE	30
11/11/05	9:00 AM	29.1	30.9	26.6	1.8	4.0	NE	30
11/11/05	9:30 AM	30.0	32.0	27.8	1.8	3.6	NE	30
11/11/05	10:00 AM	31.7	34.1	29.4	1.3	4.0	ENE	30
11/11/05	10:30 AM	31.8	34.0	28.4	1.8	4.9	SSE	30
11/11/05	11:00 AM	31.5	32.2	30.6	2.2	4.9	SSE	30
11/11/05	11:30 AM	31.0	33.0	27.8	2.2	4.5	S	30
11/11/05	12:00 PM	32.6	33.7	30.4	2.2	4.9	S	30
11/11/05	12:30 PM	32.9	34.7	30.7	2.2	4.9	S	30
11/11/05	1:00 PM	33.0	34.5	32.2	2.2	4.5	S	30
11/11/05	1:30 PM	33.4	35.5	32.2	2.2	4.0	SSE	30
11/11/05	2:00 PM	32.0	33.3	29.8	2.7	4.9	SSE	30
11/11/05	2:30 PM	30.7	32.9	28.0	2.7	4.5	SSE	30
11/11/05	3:00 PM	29.4	30.6	28.4	2.2	3.6	SSE	30
11/11/05	3:30 PM	29.9	30.7	29.0	2.7	4.0	SSE	30
11/11/05	4:00 PM	29.3	29.8	28.4	2.7	4.0	SSE	30
11/11/05	4:30 PM	28.1	28.6	27.4	2.2	3.6	SSE	30
11/11/05	5:00 PM	27.1	27.7	26.6	1.8	2.7	SSE	30
11/11/05	5:30 PM	25.9	26.7	25.1	0.4	1.8	SSE	30
11/11/05	6:00 PM	24.8	25.1	24.5	0.4	1.8	SSE	30
11/11/05	6:30 PM	24.4	24.7	24.3	0.4	1.8	SSE	30
11/11/05	7:00 PM	24.2	24.4	24.0	0.0	0.4	SSE	30
11/11/05	7:30 PM	23.9	24.2	23.7	0.0	0.0	---	30
11/11/05	8:00 PM	23.8	24.0	23.6	0.0	0.4	SSE	30
11/11/05	8:30 PM	23.8	24.3	23.3	0.0	0.4	---	30
11/11/05	9:00 PM	23.4	23.7	23.2	0.0	0.0	---	30
11/11/05	9:30 PM	23.4	23.7	23.1	0.0	0.0	---	30
11/11/05	10:00 PM	23.7	23.8	23.6	0.0	0.9	NE	30
11/11/05	10:30 PM	23.2	23.6	23.1	0.0	0.4	---	30
11/11/05	11:00 PM	23.1	23.3	22.8	0.0	0.4	---	30
11/11/05	11:30 PM	22.8	23.1	22.6	0.0	0.0	---	30
11/12/05	12:00 AM	22.7	22.9	22.5	0.0	0.0	---	30
11/12/05	12:30 AM	22.7	23.2	22.5	0.0	0.9	NE	30
11/12/05	1:00 AM	22.8	23.0	22.6	0.0	0.4	NE	30
11/12/05	1:30 AM	22.8	23.1	22.6	0.0	0.4	NE	30
11/12/05	2:00 AM	23.1	23.6	22.7	0.0	1.8	NNE	30
11/12/05	2:30 AM	23.1	23.5	22.7	0.0	1.3	N	30
11/12/05	3:00 AM	22.8	22.9	22.7	0.0	0.4	---	30
11/12/05	3:30 AM	23.0	23.4	22.6	0.0	0.4	N	30
11/12/05	4:00 AM	23.7	23.9	23.3	0.0	2.2	N	30
11/12/05	4:30 AM	23.9	24.2	23.6	1.3	4.0	N	30
11/12/05	5:00 AM	24.1	24.4	23.7	2.2	4.5	N	30
11/12/05	5:30 AM	23.9	24.3	23.6	1.3	3.1	N	30
11/12/05	6:00 AM	23.5	23.7	23.2	0.0	1.8	NNW	30
11/12/05	6:30 AM	23.6	23.8	23.2	0.0	0.4	---	30
11/12/05	7:00 AM	23.3	24.3	22.8	0.0	2.2	N	30
11/12/05	7:30 AM	25.0	26.5	24.3	0.9	3.1	N	30
11/12/05	8:00 AM	28.1	29.6	26.5	0.4	3.6	N	30
11/12/05	8:30 AM	30.1	31.3	29.1	0.9	3.1	N	30
11/12/05	9:00 AM	31.7	33.3	30.4	0.9	4.0	N	30
11/12/05	9:30 AM	32.1	34.4	30.4	1.3	4.9	NE	30
11/12/05	10:00 AM	31.0	32.7	30.2	2.7	5.8	NE	30
11/12/05	10:30 AM	31.2	33.4	30.1	3.1	7.2	NE	30
11/12/05	11:00 AM	30.8	32.0	29.4	4.0	7.2	NE	30
11/12/05	11:30 AM	30.8	33.6	28.9	3.1	5.8	ENE	30
11/12/05	12:00 PM	31.9	33.9	30.3	3.1	7.2	ESE	30
11/12/05	12:30 PM	30.0	33.0	28.2	4.5	10.7	SE	30
11/12/05	1:00 PM	28.5	29.1	28.1	4.9	8.9	ESE	30
11/12/05	1:30 PM	27.7	28.7	27.1	4.5	9.8	SE	30
11/12/05	2:00 PM	28.4	29.9	26.9	4.9	10.7	SE	30
11/12/05	2:30 PM	28.2	30.1	27.3	4.0	8.0	SE	30
11/12/05	3:00 PM	27.3	28.4	26.6	4.0	8.0	SE	30
11/12/05	3:30 PM	26.7	28.2	26.1	5.4	10.7	SE	30
11/12/05	4:00 PM	26.6	27.7	26.1	4.5	8.9	SE	30
11/12/05	4:30 PM	26.2	27.3	25.8	4.0	9.4	SE	30
11/12/05	5:00 PM	25.7	26.0	25.4	3.6	8.9	SE	30
11/12/05	5:30 PM	25.5	25.7	25.2	4.0	10.3	SE	30
11/12/05	6:00 PM	25.3	25.6	25.2	5.4	10.3	ESE	30
11/12/05	6:30 PM	25.2	25.4	25.1	5.4	9.8	ESE	30
11/12/05	7:00 PM	25.2	25.4	25.1	5.4	11.2	ESE	30
11/12/05	7:30 PM	25.2	25.4	25.1	5.8	11.2	SE	30
11/12/05	8:00 PM	25.1	25.3	25.0	5.8	10.3	SE	30
11/12/05	8:30 PM	25.2	25.3	25.1	5.4	11.2	SE	30
11/12/05	9:00 PM	25.1	25.3	25.0	5.4	10.7	SE	30
11/12/05	9:30 PM	25.1	25.2	24.9	5.4	11.6	SE	30
11/12/05	10:00 PM	25.2	25.4	25.1	5.4	10.3	ESE	30
11/12/05	10:30 PM	25.3	25.4	25.2	5.4	13.9	SE	30
11/12/05	11:00 PM	25.2	25.4	25.1	4.9	9.8	SE	30
11/12/05	11:30 PM	25.1	25.2	24.9	3.6	9.4	SE	30



Weather information in November 2005

Date (MDY)	Time	Average	Hi	Low	Wind Speed (m/s)		Wind Direction	Period
		Temp	Temp	Temp	Average	Hi		
11/13/05	12:00 AM	25.0	25.2	24.9	3.6	8.5	SE	30
11/13/05	12:30 AM	25.0	25.2	24.9	4.0	8.5	SE	30
11/13/05	1:00 AM	25.1	25.3	25.0	4.9	10.3	SE	30
11/13/05	1:30 AM	25.1	25.2	25.0	4.5	10.3	SE	30
11/13/05	2:00 AM	25.1	25.2	25.0	4.9	9.8	SE	30
11/13/05	2:30 AM	25.1	25.2	24.9	4.9	9.8	ESE	30
11/13/05	3:00 AM	25.0	25.2	24.9	4.9	9.8	SE	30
11/13/05	3:30 AM	25.0	25.2	24.8	4.9	10.3	ESE	30
11/13/05	4:00 AM	24.8	24.9	24.7	4.0	9.8	SE	30
11/13/05	4:30 AM	24.7	24.9	24.6	3.1	9.4	SE	30
11/13/05	5:00 AM	24.6	24.7	24.5	1.3	6.7	ENE	30
11/13/05	5:30 AM	24.6	24.9	24.6	2.2	6.3	NNE	30
11/13/05	6:00 AM	24.6	24.9	24.5	3.6	7.6	NE	30
11/13/05	6:30 AM	24.7	24.8	24.6	2.7	7.2	NE	30
11/13/05	7:00 AM	24.9	25.1	24.7	3.1	8.9	SE	30
11/13/05	7:30 AM	25.2	25.7	24.9	3.1	7.6	NE	30
11/13/05	8:00 AM	25.7	26.1	25.4	3.6	9.8	ENE	30
11/13/05	8:30 AM	25.8	26.2	25.4	3.6	8.0	NE	30
11/13/05	9:00 AM	25.9	26.2	25.7	1.8	5.8	NE	30
11/13/05	9:30 AM	26.9	28.7	25.8	2.2	8.0	NE	30
11/13/05	10:00 AM	27.0	30.2	26.1	1.8	6.7	ENE	30
11/13/05	10:30 AM	28.9	30.1	27.7	4.0	8.0	NE	30
11/13/05	11:00 AM	28.7	32.1	27.3	2.2	6.7	NE	30
11/13/05	11:30 AM	29.2	31.3	28.1	2.7	8.0	NE	30
11/13/05	12:00 PM	28.3	29.9	27.4	2.2	6.3	NE	30
11/13/05	12:30 PM	28.1	29.3	27.3	1.8	6.7	ENE	30
11/13/05	1:00 PM	28.2	29.4	27.4	2.7	6.7	ENE	30
11/13/05	1:30 PM	27.1	27.8	26.3	2.2	7.2	SE	30
11/13/05	2:00 PM	27.3	30.4	26.4	2.2	5.8	NE	30
11/13/05	2:30 PM	29.9	31.8	27.9	3.1	8.5	NE	30
11/13/05	3:00 PM	29.2	31.1	27.6	3.1	6.7	SE	30
11/13/05	3:30 PM	26.7	28.3	25.8	1.8	6.3	SE	30
11/13/05	4:00 PM	25.9	26.4	25.7	1.8	4.9	SE	30
11/13/05	4:30 PM	25.7	26.0	25.5	4.0	6.7	SE	30
11/13/05	5:00 PM	25.4	25.6	25.2	3.1	7.2	SE	30
11/13/05	5:30 PM	25.2	25.3	25.0	1.8	5.4	SE	30
11/13/05	6:00 PM	25.1	25.2	24.9	2.7	5.8	SE	30
11/13/05	6:30 PM	25.2	25.3	25.1	3.1	5.8	SE	30
11/13/05	7:00 PM	25.2	25.3	25.1	3.1	6.3	SE	30
11/13/05	7:30 PM	25.1	25.2	25.0	2.7	7.2	SE	30
11/13/05	8:00 PM	25.1	25.3	25.0	2.7	5.8	SE	30
11/13/05	8:30 PM	25.1	25.2	24.8	2.2	5.4	SE	30
11/13/05	9:00 PM	24.8	25.2	24.7	1.3	4.9	SE	30
11/13/05	9:30 PM	24.8	25.0	24.7	0.4	4.0	SE	30
11/13/05	10:00 PM	24.9	25.1	24.7	1.3	5.4	SE	30
11/13/05	10:30 PM	24.8	25.1	24.6	2.7	5.8	SE	30
11/13/05	11:00 PM	24.6	24.8	24.5	1.3	4.9	SE	30
11/13/05	11:30 PM	24.8	25.0	24.7	3.1	6.3	SE	30
11/14/05	12:00 AM	24.9	25.0	24.8	3.6	6.7	SE	30
11/14/05	12:30 AM	24.9	25.2	24.8	2.7	5.8	SE	30
11/14/05	1:00 AM	24.9	25.1	24.8	3.1	7.6	SE	30
11/14/05	1:30 AM	24.9	25.0	24.8	3.1	6.7	SE	30
11/14/05	2:00 AM	24.9	25.0	24.8	2.7	7.6	SE	30
11/14/05	2:30 AM	24.9	25.1	24.8	3.1	7.2	SE	30
11/14/05	3:00 AM	24.9	25.0	24.8	2.7	6.3	SE	30
11/14/05	3:30 AM	24.8	25.0	24.7	3.1	6.3	SE	30
11/14/05	4:00 AM	24.8	24.9	24.7	3.1	6.7	SE	30
11/14/05	4:30 AM	24.9	25.0	24.8	2.7	5.8	SE	30
11/14/05	5:00 AM	24.9	25.1	24.8	2.7	4.9	ESE	30
11/14/05	5:30 AM	24.8	25.0	24.7	2.2	5.4	SE	30
11/14/05	6:00 AM	24.8	24.9	24.7	2.2	4.0	SE	30
11/14/05	6:30 AM	24.8	24.9	24.7	2.2	4.5	SE	30
11/14/05	7:00 AM	24.9	25.2	24.7	2.2	5.4	SE	30
11/14/05	7:30 AM	25.1	25.2	24.9	2.7	4.9	SE	30
11/14/05	8:00 AM	25.3	25.6	25.1	2.7	5.8	SE	30
11/14/05	8:30 AM	26.0	26.2	25.6	0.9	4.0	SE	30
11/14/05	9:00 AM	26.0	26.6	25.5	1.3	5.8	NNE	30
11/14/05	9:30 AM	26.0	27.2	25.7	2.7	5.8	SE	30
11/14/05	10:00 AM	26.3	26.8	25.6	1.3	5.4	SSE	30
11/14/05	10:30 AM	26.7	27.7	25.9	2.2	7.6	NE	30
11/14/05	11:00 AM	28.1	29.2	27.3	3.1	7.6	SE	30
11/14/05	11:30 AM	27.3	28.2	26.6	2.2	7.6	SE	30
11/14/05	12:00 PM	26.8	28.1	26.1	1.8	4.5	SE	30
11/14/05	12:30 PM	26.7	27.1	26.2	3.6	8.5	SE	30
11/14/05	1:00 PM	27.6	30.3	26.7	3.6	8.0	SE	30
11/14/05	1:30 PM	28.6	30.8	27.1	4.5	9.8	ESE	30
11/14/05	2:00 PM	29.6	31.5	27.4	2.7	8.9	NE	30
11/14/05	2:30 PM	30.1	32.2	27.7	2.7	7.6	ENE	30
11/14/05	3:00 PM	29.7	31.6	28.1	3.6	7.6	ESE	30
11/14/05	3:30 PM	27.5	29.3	26.2	4.5	10.3	SE	30
11/14/05	4:00 PM	25.7	27.1	25.1	4.5	9.8	SE	30
11/14/05	4:30 PM	25.0	25.3	24.7	4.0	8.0	SE	30
11/14/05	5:00 PM	24.6	24.9	24.3	3.6	8.0	SE	30
11/14/05	5:30 PM	24.3	24.5	24.0	2.7	7.2	SE	30
11/14/05	6:00 PM	24.1	24.2	23.7	4.0	8.5	SE	30
11/14/05	6:30 PM	24.0	24.3	23.8	4.5	8.5	SE	30
11/14/05	7:00 PM	23.9	24.1	23.8	4.0	8.0	SE	30
11/14/05	7:30 PM	23.9	24.1	23.7	4.5	9.4	SE	30
11/14/05	8:00 PM	24.1	24.2	23.9	4.9	9.4	ESE	30
11/14/05	8:30 PM	24.2	24.3	24.0	4.9	8.0	ESE	30
11/14/05	9:00 PM	24.2	24.3	23.9	4.9	9.4	ESE	30
11/14/05	9:30 PM	24.2	24.4	24.1	4.9	8.9	SE	30
11/14/05	10:00 PM	24.2	24.3	24.1	4.9	9.4	SE	30
11/14/05	10:30 PM	24.1	24.2	24.0	4.9	10.7	SE	30
11/14/05	11:00 PM	24.1	24.2	24.0	4.5	9.8	SE	30
11/14/05	11:30 PM	24.1	24.3	24.0	4.9	10.7	SE	30



Weather information in November 2005

Date (MDY)	Time	Average	Hi	Low	Wind Speed (m/s)		Wind Direction	Period
		Temp	Temp	Temp	Average	Hi		
11/15/05	12:00 AM	24.1	24.2	23.9	4.5	9.4	SE	30
11/15/05	12:30 AM	24.1	24.3	23.9	4.5	10.7	SE	30
11/15/05	1:00 AM	24.2	24.3	24.0	5.4	9.8	SE	30
11/15/05	1:30 AM	24.1	24.2	23.9	3.6	8.9	SE	30
11/15/05	2:00 AM	24.0	24.1	23.9	1.8	8.0	SE	30
11/15/05	2:30 AM	23.9	24.1	23.8	1.3	4.9	SSE	30
11/15/05	3:00 AM	23.8	24.0	23.7	1.8	5.8	NE	30
11/15/05	3:30 AM	23.8	23.9	23.7	2.2	7.6	NE	30
11/15/05	4:00 AM	23.7	23.9	23.6	2.7	8.9	NE	30
11/15/05	4:30 AM	23.8	24.1	23.6	2.2	8.5	SE	30
11/15/05	5:00 AM	23.7	23.9	23.5	1.8	5.8	NE	30
11/15/05	5:30 AM	23.4	23.9	22.1	1.3	6.7	SE	30
11/15/05	6:00 AM	23.2	23.5	22.4	3.1	8.0	SE	30
11/15/05	6:30 AM	22.7	23.6	21.2	1.8	7.2	SE	30
11/15/05	7:00 AM	21.2	21.7	20.8	1.3	6.3	NE	30
11/15/05	7:30 AM	21.8	23.3	21.1	1.8	5.8	SE	30
11/15/05	8:00 AM	23.5	23.7	23.3	2.2	8.5	NE	30
11/15/05	8:30 AM	23.8	24.0	23.6	2.2	7.6	NE	30
11/15/05	9:00 AM	23.8	23.9	23.3	1.8	5.4	SE	30
11/15/05	9:30 AM	23.4	23.8	22.9	2.2	8.0	SE	30
11/15/05	10:00 AM	23.2	23.8	22.5	2.2	6.7	NNE	30
11/15/05	10:30 AM	23.5	24.2	23.0	2.7	5.8	NNE	30
11/15/05	11:00 AM	23.8	24.7	22.4	3.1	8.5	N	30
11/15/05	11:30 AM	21.6	21.6	21.5	2.5	3.3	NNE	30
11/15/05	12:00 PM	21.5	21.7	21.3	2.8	3.7	NEE	30
11/15/05	12:30 PM	21.5	21.6	21.4	1.7	3.8	NEE	30
11/15/05	1:00 PM	21.5	21.5	21.3	2.1	2.7	NEE	30
11/15/05	1:30 PM	21.6	21.7	21.3	3.4	4.4	NEE	30
11/15/05	2:00 PM	21.5	21.6	21.4	2.6	4.4	NEE	30
11/15/05	2:30 PM	21.6	21.9	21.5	2.4	2.7	NE	30
11/15/05	3:00 PM	21.8	21.9	21.7	2.5	4.1	NEE	30
11/15/05	3:30 PM	21.4	21.5	21.4	2.8	3.2	NNE	30
11/15/05	4:00 PM	21.2	21.5	21.0	2.2	3.1	NNE	30
11/15/05	4:30 PM	21.0	21.0	20.9	2.9	3.8	NEE	30
11/15/05	5:00 PM	20.5	20.9	20.4	2.5	3.0	NEE	30
11/15/05	5:30 PM	20.1	20.3	20.0	2.5	4.2	NE	30
11/15/05	6:00 PM	20.1	20.3	20.0	1.9	3.9	NNE	30
11/15/05	6:30 PM	20.1	20.1	19.9	2.5	4.1	NNE	30
11/15/05	7:00 PM	20.2	20.3	20.2	2.9	4.1	NEE	30
11/15/05	7:30 PM	20.1	20.2	19.8	2.0	3.5	NNE	30
11/15/05	8:00 PM	20.0	20.2	20.0	1.7	2.4	N	30
11/15/05	8:30 PM	20.0	20.4	19.8	1.9	3.6	NNE	30
11/15/05	9:00 PM	20.0	20.4	19.8	2.5	4.1	N	30
11/15/05	9:30 PM	19.9	20.0	19.8	1.3	3.5	NNE	30
11/15/05	10:00 PM	19.8	20.1	19.8	1.9	2.4	NNE	30
11/15/05	10:30 PM	19.5	19.9	19.3	2.2	3.0	NE	30
11/15/05	11:00 PM	19.4	19.6	19.1	2.3	2.3	N	30
11/15/05	11:30 PM	19.2	19.4	19.0	1.9	3.2	N	30
11/16/05	12:00 AM	19.1	19.3	18.8	2.3	3.7	N	30
11/16/05	12:30 AM	19.0	19.2	18.9	2.6	3.0	NNE	30
11/16/05	1:00 AM	18.9	19.1	18.8	2.2	2.9	NEE	30
11/16/05	1:30 AM	18.8	19.1	18.8	2.2	3.2	NNE	30
11/16/05	2:00 AM	18.8	18.9	18.6	0.4	2.0	N	30
11/16/05	2:30 AM	18.5	18.8	18.4	2.4	4.0	N	30
11/16/05	3:00 AM	18.5	18.7	18.4	2.2	3.4	NNE	30
11/16/05	3:30 AM	18.2	18.5	18.1	1.3	2.8	NNE	30
11/16/05	4:00 AM	18.1	18.3	18.0	2.5	2.7	NEE	30
11/16/05	4:30 AM	18.0	18.1	17.9	1.0	1.9	N	30
11/16/05	5:00 AM	18.0	18.2	17.9	2.6	4.2	N	30
11/16/05	5:30 AM	18.0	18.1	17.7	1.3	2.1	NNE	30
11/16/05	6:00 AM	18.0	18.3	17.8	1.9	3.5	N	30
11/16/05	6:30 AM	17.9	17.9	17.7	1.4	1.9	N	30
11/16/05	7:00 AM	17.9	18.0	17.8	2.8	4.2	NEE	30
11/16/05	7:30 AM	18.2	18.4	18.0	3.3	4.8	NNE	30
11/16/05	8:00 AM	18.8	18.8	18.6	3.3	3.5	NNE	30
11/16/05	8:30 AM	19.7	19.9	19.6	3.3	4.9	NNE	30
11/16/05	9:00 AM	20.2	20.4	20.2	2.9	3.4	NEE	30
11/16/05	9:30 AM	21.2	21.3	21.0	2.7	4.0	NE	30
11/16/05	10:00 AM	21.8	22.1	21.7	2.9	3.0	NE	30
11/16/05	10:30 AM	22.2	22.5	22.0	3.8	5.9	NEE	30
11/16/05	11:00 AM	22.6	23.0	22.4	4.2	6.1	NE	30
11/16/05	11:30 AM	23.0	23.4	22.8	4.6	5.3	NEE	30
11/16/05	12:00 PM	23.9	23.9	23.9	3.1	3.6	NEE	30
11/16/05	12:30 PM	24.0	24.2	23.7	2.8	3.7	NEE	30
11/16/05	1:00 PM	23.4	23.5	23.3	2.5	4.2	NE	30
11/16/05	1:30 PM	23.5	23.6	23.5	2.5	3.4	N	30
11/16/05	2:00 PM	24.0	24.1	23.9	2.9	4.0	NEE	30
11/16/05	2:30 PM	24.2	24.5	24.0	3.1	5.1	SEE	30
11/16/05	3:00 PM	24.3	24.5	24.3	2.5	4.1	N	30
11/16/05	3:30 PM	23.9	24.0	23.9	2.2	3.9	N	30
11/16/05	4:00 PM	24.0	24.3	24.0	1.7	3.0	N	30
11/16/05	4:30 PM	23.7	24.0	23.7	2.1	3.3	E	30
11/16/05	5:00 PM	23.5	23.7	23.4	2.3	2.6	NE	30
11/16/05	5:30 PM	22.9	23.1	22.8	1.8	3.3	NE	30
11/16/05	6:00 PM	22.7	23.0	22.6	0.9	2.9	N	30
11/16/05	6:30 PM	22.4	22.5	22.3	1.5	2.8	N	30
11/16/05	7:00 PM	22.2	22.2	22.0	2.0	3.5	N	30
11/16/05	7:30 PM	22.0	22.0	21.8	2.2	3.0	N	30
11/16/05	8:00 PM	21.5	21.8	21.5	2.9	4.0	NE	30
11/16/05	8:30 PM	21.2	21.2	21.2	3.0	3.6	NE	30
11/16/05	9:00 PM	20.7	21.0	20.7	2.2	3.3	NE	30
11/16/05	9:30 PM	20.3	20.5	20.3	2.3	2.6	E	30
11/16/05	10:00 PM	20.0	20.3	20.0	1.8	3.8	NE	30
11/16/05	10:30 PM	19.9	20.2	19.8	2.6	3.4	NE	30
11/16/05	11:00 PM	19.8	20.0	19.5	1.4	2.4	N	30
11/16/05	11:30 PM	19.6	20.0	19.5	1.0	2.7	N	30



Weather information in November 2005

Date (MDY)	Time	Average	Hi	Low	Wind Speed (m/s)		Wind Direction	Period
		Temp	Temp	Temp	Average	Hi		
11/17/05	12:00 AM	19.5	19.6	19.3	1.9	4.1	N	30
11/17/05	12:30 AM	19.3	19.5	19.2	1.7	2.9	N	30
11/17/05	1:00 AM	19.4	19.6	19.3	2.2	3.0	N	30
11/17/05	1:30 AM	19.5	19.6	19.5	2.8	3.0	N	30
11/17/05	2:00 AM	19.4	19.8	19.3	3.2	4.0	N	30
11/17/05	2:30 AM	19.4	19.5	19.2	3.7	5.3	NE	30
11/17/05	3:00 AM	19.5	19.9	19.3	2.5	3.3	NE	30
11/17/05	3:30 AM	19.4	19.5	19.1	2.8	5.0	N	30
11/17/05	4:00 AM	19.3	19.6	19.3	1.8	3.3	N	30
11/17/05	4:30 AM	19.2	19.4	19.1	1.4	1.9	N	30
11/17/05	5:00 AM	19.3	19.5	19.2	2.1	2.4	N	30
11/17/05	5:30 AM	19.3	19.4	19.1	2.9	3.7	NE	30
11/17/05	6:00 AM	19.3	19.7	19.0	3.5	4.7	N	30
11/17/05	6:30 AM	19.2	19.5	19.0	2.4	4.0	N	30
11/17/05	7:00 AM	19.6	19.7	19.5	1.0	1.9	N	30
11/17/05	7:30 AM	19.9	19.9	19.7	2.2	2.6	N	30
11/17/05	8:00 AM	20.4	20.5	20.3	0.9	1.4	N	30
11/17/05	8:30 AM	20.7	20.8	20.5	1.1	3.2	NW	30
11/17/05	9:00 AM	21.2	21.4	21.0	2.4	3.4	N	30
11/17/05	9:30 AM	21.6	21.6	21.5	2.1	3.5	N	30
11/17/05	10:00 AM	21.8	22.1	21.7	2.9	5.0	N	30
11/17/05	10:30 AM	22.1	22.5	21.8	1.2	3.4	E	30
11/17/05	11:00 AM	22.3	22.6	22.2	1.7	2.1	N	30
11/17/05	11:30 AM	22.3	22.3	22.2	2.0	3.1	NE	30
11/17/05	12:00 PM	22.5	22.7	22.3	2.6	2.9	NE	30
11/17/05	12:30 PM	22.6	22.8	22.4	0.6	0.8	N	30
11/17/05	1:00 PM	22.7	22.7	22.5	1.5	2.3	E	30
11/17/05	1:30 PM	22.5	22.8	22.3	2.3	3.9	N	30
11/17/05	2:00 PM	22.3	22.5	22.1	0.8	1.5	NE	30
11/17/05	2:30 PM	22.4	22.5	22.2	2.1	4.3	NE	30
11/17/05	3:00 PM	22.5	22.8	22.3	1.9	3.7	NE	30
11/17/05	3:30 PM	22.0	22.1	21.7	1.5	3.1	NE	30
11/17/05	4:00 PM	21.9	21.9	21.7	1.3	2.6	E	30
11/17/05	4:30 PM	21.8	22.1	21.6	1.8	3.6	N	30
11/17/05	5:00PM	21.7	22.0	21.4	1.4	1.9	E	30
11/17/05	5:30 PM	21.6	21.6	21.4	0.9	1.1	SE	30
11/17/05	6:00PM	21.5	21.7	21.4	0.1	1.2	E	30
11/17/05	6:30 PM	20.9	21.3	20.9	1.3	3.1	E	30
11/17/05	7:00PM	20.9	21.0	20.8	0.2	1.7	N	30
11/17/05	7:30 PM	20.9	21.2	20.8	1.2	1.4	NWW	30
11/17/05	8:00PM	21.0	21.3	20.8	2.2	4.2	NW	30
11/17/05	8:30 PM	20.9	21.0	20.8	1.7	2.0	NE	30
11/17/05	9:00PM	20.8	21.0	20.7	3.3	4.6	NEE	30
11/17/05	9:30 PM	20.2	20.6	20.1	4.2	4.7	NEE	30
11/17/05	10:00PM	20.0	20.3	20.0	2.3	2.5	NEE	30
11/17/05	10:30 PM	19.8	20.0	19.6	2.5	4.3	NEE	30
11/17/05	11:00PM	19.8	20.2	19.7	0.8	2.8	N	30
11/17/05	11:30 PM	19.8	19.8	19.7	1.6	2.4	N	30
11/18/05	12:00AM	19.9	20.1	19.7	1.4	2.9	NEE	30
11/18/05	12:30 AM	19.8	20.1	19.8	1.4	1.9	N	30
11/18/05	1:00AM	19.7	19.9	19.6	1.8	3.6	N	30
11/18/05	1:30 AM	19.3	19.7	19.1	1.8	1.8	N	30
11/18/05	2:00AM	19.0	19.2	18.7	1.1	2.3	NE	30
11/18/05	2:30 AM	18.8	19.2	18.6	3.2	3.7	NE	30
11/18/05	3:00AM	18.7	19.0	18.6	3.4	3.4	NNE	30
11/18/05	3:30 AM	18.5	18.8	18.2	2.8	3.3	NNE	30
11/18/05	4:00AM	18.4	18.6	18.4	2.3	3.6	NNE	30
11/18/05	4:30 AM	18.4	18.6	18.4	2.1	3.4	N	30
11/18/05	5:00AM	18.2	18.4	18.0	1.4	2.3	N	30
11/18/05	5:30 AM	18.0	18.0	17.9	2.5	3.6	N	30
11/18/05	6:00AM	18.0	18.1	17.9	1.7	2.3	NNE	30
11/18/05	6:30 AM	17.9	18.2	17.9	1.6	3.7	NNE	30
11/18/05	7:00AM	17.9	18.2	17.8	1.0	1.6	E	30
11/18/05	7:30 AM	18.0	18.1	17.8	2.9	3.9	NEE	30
11/18/05	8:00AM	18.0	18.1	17.9	2.2	3.1	NEE	30
11/18/05	8:30 AM	20.0	20.4	19.9	2.5	4.6	E	30
11/18/05	9:00AM	20.4	20.5	20.3	2.5	3.2	E	30
11/18/05	9:30 AM	21.0	21.0	20.7	2.5	3.9	NE	30
11/18/05	10:00AM	21.2	21.5	21.1	5.0	5.6	NNE	30
11/18/05	10:30 AM	22.1	22.3	22.0	3.5	5.1	NE	30
11/18/05	11:00AM	22.5	22.8	22.4	3.4	4.6	NEE	30
11/18/05	11:30 AM	22.6	22.7	22.5	5.0	5.6	NE	30
11/18/05	12:00NN	22.8	23.1	22.7	3.7	5.7	NE	30
11/18/05	12:30 PM	24.0	24.1	23.8	3.0	3.8	NNE	30
11/18/05	1:00 PM	23.4	23.5	23.2	2.8	5.1	SE	30
11/18/05	1:30 PM	24.0	24.4	23.9	2.8	5.1	NEE	30
11/18/05	2:00 PM	24.0	24.4	23.8	3.3	3.6	E	30
11/18/05	2:30 PM	24.2	24.5	24.1	1.7	3.3	E	30
11/18/05	3:00 PM	24.0	24.3	23.8	3.3	3.6	E	30
11/18/05	3:30 PM	23.0	23.2	22.8	3.1	4.1	E	30
11/18/05	4:00 PM	22.8	23.2	22.8	2.5	4.3	NEE	30
11/18/05	4:30 PM	22.5	22.9	22.4	2.5	3.2	E	30
11/18/05	5:00 PM	22.4	22.5	22.4	1.9	3.1	NEE	30
11/18/05	5:30 PM	22.0	22.1	21.9	2.0	2.0	N	30
11/18/05	6:00 PM	21.8	21.9	21.6	1.6	1.9	NWW	30
11/18/05	6:30 PM	22.0	22.3	21.9	2.0	2.2	N	30
11/18/05	7:00 PM	21.5	21.5	21.3	1.7	1.9	N	30
11/18/05	7:30 PM	21.0	21.2	20.9	3.3	3.3	N	30
11/18/05	8:00 PM	21.0	21.1	20.8	1.4	1.7	NEE	30
11/18/05	8:30 PM	20.5	20.5	20.3	3.0	4.4	NEE	30
11/18/05	9:00 PM	20.4	20.7	20.1	1.8	2.5	NEE	30
11/18/05	9:30 PM	20.2	20.6	20.2	3.2	4.0	N	30
11/18/05	10:00 PM	20.0	20.0	20.0	0.7	2.0	NEE	30
11/18/05	10:30 PM	19.8	19.8	19.6	1.7	3.9	N	30
11/18/05	11:00 PM	19.8	20.1	19.7	1.9	2.5	N	30
11/18/05	11:30 PM	19.4	19.6	19.4	2.0	3.3	NEE	30



Weather information in November 2005

Date (MDY)	Time	Average	Hi	Low	Wind Speed (m/s)		Wind	Period
		Temp	Temp	Temp	Average	Hi	Direction	
11/19/05	12:00 AM	19.2	19.6	19.2	2.0	2.9	N	30
11/19/05	12:30 AM	19.0	19.3	18.9	1.8	2.7	NEE	30
11/19/05	1:00 AM	19.0	19.4	18.9	2.1	4.1	NEE	30
11/19/05	1:30 AM	18.8	19.1	18.7	1.0	2.6	N	30
11/19/05	2:00 AM	18.8	19.2	18.6	2.1	3.2	NEE	30
11/19/05	2:30 AM	18.0	18.1	17.9	2.1	4.3	NEE	30
11/19/05	3:00 AM	17.8	18.0	17.6	3.0	4.0	NEE	30
11/19/05	3:30 AM	17.5	17.8	17.4	1.0	2.0	N	30
11/19/05	4:00 AM	17.4	17.7	17.2	1.7	3.8	N	30
11/19/05	4:30 AM	17.0	17.4	17.0	1.3	2.8	NEE	30
11/19/05	5:00 AM	16.8	17.1	16.6	0.4	0.8	NEE	30
11/19/05	5:30 AM	17.0	17.4	16.8	1.7	2.0	NEE	30
11/19/05	6:00 AM	16.8	17.0	16.7	2.2	2.6	NEE	30
11/19/05	6:30 AM	16.5	16.6	16.3	0.8	1.9	NEE	30
11/19/05	7:00 AM	16.4	16.7	16.2	0.4	1.0	SEE	30
11/19/05	7:30 AM	17.5	17.8	17.4	0.4	1.6	SEE	30
11/19/05	8:00 AM	18.5	18.7	18.4	0.8	3.0	NEE	30
11/19/05	8:30 AM	20.0	20.3	19.8	1.9	3.3	E	30
11/19/05	9:00 AM	20.5	20.7	20.3	2.9	3.8	NEE	30
11/19/05	9:30 AM	20.5	20.7	20.5	2.8	3.7	NEE	30
11/19/05	10:00 AM	20.5	20.5	20.4	4.2	6.4	NEE	30
11/19/05	10:30 AM	20.8	21.2	20.6	4.9	6.5	NEE	30
11/19/05	11:00 AM	21.1	21.1	20.8	3.5	5.3	NE	30
11/19/05	11:30 AM	21.3	21.5	21.2	2.8	4.3	NE	30
11/19/05	12:00 PM	21.5	21.7	21.4	2.2	4.4	NE	30
11/19/05	12:30 PM	21.4	21.7	21.2	2.6	4.6	NE	30
11/19/05	1:00 PM	21.3	21.6	21.0	3.4	3.8	NW	30
11/19/05	1:30 PM	21.2	21.4	21.1	2.8	2.9	N	30
11/19/05	2:00 PM	21.4	21.4	21.3	2.2	3.1	N	30
11/19/05	2:30 PM	21.3	21.6	21.1	2.2	3.1	N	30
11/19/05	3:00 PM	21.2	21.3	20.9	1.8	2.2	N	30
11/19/05	3:30 PM	21.0	21.1	20.9	2.4	4.3	N	30
11/19/05	4:00 PM	20.8	20.8	20.7	1.2	3.1	NE	30
11/19/05	4:30 PM	20.5	20.8	20.4	0.6	1.7	N	30
11/19/05	5:00 PM	20.2	20.3	20.2	1.5	3.7	N	30
11/19/05	5:30 PM	20.2	20.2	20.0	1.5	2.6	NE	30
11/19/05	6:00 PM	19.9	20.0	19.7	2.4	2.9	NE	30
11/19/05	6:30 PM	19.7	20.0	19.6	2.8	4.2	NE	30
11/19/05	7:00 PM	19.4	19.6	19.2	3.1	3.2	NE	30
11/19/05	7:30 PM	19.5	19.7	19.3	3.8	4.6	N	30
11/19/05	8:00 PM	19.3	19.7	19.1	2.2	2.3	N	30
11/19/05	8:30 PM	19.2	19.3	19.0	2.5	3.4	N	30
11/19/05	9:00 PM	18.8	18.9	18.8	2.1	3.6	N	30
11/19/05	9:30 PM	18.6	18.8	18.6	2.9	3.2	NW	30
11/19/05	10:00 PM	18.7	19.1	18.4	2.7	4.7	NW	30
11/19/05	10:30 PM	18.5	18.7	18.4	3.1	5.3	N	30
11/19/05	11:00 PM	18.3	18.6	18.1	4.2	6.2	N	30
11/19/05	11:30 PM	18.3	18.5	18.0	2.1	3.8	N	30
11/20/05	12:00 AM	18.2	18.3	18.0	1.2	2.4	NE	30
11/20/05	12:30 AM	18.3	18.7	18.3	1.8	3.7	NE	30
11/20/05	1:00 AM	18.2	18.3	18.0	1.3	2.3	NE	30
11/20/05	1:30 AM	18.2	18.2	18.1	0.4	1.5	N	30
11/20/05	2:00 AM	18.1	18.3	18.1	1.3	1.5	N	30
11/20/05	2:30 AM	18.0	18.2	17.9	1.9	2.6	N	30
11/20/05	3:00 AM	18.0	18.1	18.0	2.5	3.7	N	30
11/20/05	3:30 AM	17.8	17.9	17.8	2.7	4.7	NE	30
11/20/05	4:00 AM	17.8	18.0	17.7	2.6	2.8	E	30
11/20/05	4:30 AM	17.9	18.1	17.8	2.1	3.7	E	30
11/20/05	5:00 AM	17.8	18.1	17.7	3.5	4.2	N	30
11/20/05	5:30 AM	17.9	18.1	17.8	2.3	4.0	NE	30
11/20/05	6:00 AM	17.8	17.9	17.8	2.9	3.2	N	30
11/20/05	6:30 AM	18.1	18.4	17.8	1.7	1.8	N	30
11/20/05	7:00 AM	18.5	18.9	18.3	1.9	3.3	N	30
11/20/05	7:30 AM	18.9	18.9	18.8	2.2	2.8	N	30
11/20/05	8:00 AM	19.1	19.5	18.9	2.9	2.9	N	30
11/20/05	8:30 AM	19.3	19.5	19.2	2.5	4.5	NE	30
11/20/05	9:00 AM	19.5	19.8	19.4	3.2	4.1	NEE	30
11/20/05	9:30 AM	19.7	20.1	19.6	2.9	3.5	N	30
11/20/05	10:00 AM	19.8	20.1	19.6	1.5	3.7	N	30
11/20/05	10:30 AM	19.8	20.0	19.5	2.5	4.7	N	30
11/20/05	11:00 AM	19.8	19.8	19.7	4.4	6.3	NEE	30
11/20/05	11:30 AM	20.0	20.2	19.8	3.6	5.5	NE	30
11/20/05	12:00 PM	20.5	20.5	20.4	2.5	3.5	NEE	30
11/20/05	12:30 PM	21.0	21.3	20.8	2.8	3.8	NE	30
11/20/05	1:00 PM	21.2	21.4	21.0	3.3	4.9	NE	30
11/20/05	1:30 PM	21.0	21.2	20.8	2.5	2.6	N	30
11/20/05	2:00 PM	21.2	21.4	21.0	2.4	4.7	NEE	30
11/20/05	2:30 PM	21.2	21.3	21.0	2.5	4.6	NEE	30
11/20/05	3:00 PM	21.1	21.1	21.1	2.1	3.0	N	30
11/20/05	3:30 PM	20.5	20.6	20.3	3.2	4.2	NEE	30
11/20/05	4:00 PM	20.0	20.1	19.7	2.6	4.8	NEE	30
11/20/05	4:30 PM	19.8	20.2	19.6	1.6	2.0	N	30
11/20/05	5:00 PM	19.2	19.3	19.1	0.6	2.2	NE	30
11/20/05	5:30 PM	18.5	18.5	18.4	1.6	3.4	N	30
11/20/05	6:00 PM	18.1	18.4	18.0	1.5	3.5	NE	30
11/20/05	6:30 PM	18.0	18.4	17.8	1.9	3.3	NNE	30
11/20/05	7:00 PM	18.0	18.2	17.9	1.6	2.9	N	30
11/20/05	7:30 PM	17.8	17.8	17.5	1.9	3.2	N	30
11/20/05	8:00 PM	17.5	17.7	17.2	1.0	2.6	NNW	30
11/20/05	8:30 PM	17.0	17.4	16.8	1.7	2.0	NEE	30
11/20/05	9:00 PM	16.8	16.9	16.6	2.1	2.7	NEE	30
11/20/05	9:30 PM	16.5	16.8	16.4	2.1	2.2	E	30
11/20/05	10:00 PM	16.5	16.8	16.3	4.2	4.8	NEE	30
11/20/05	10:30 PM	16.8	17.0	16.6	2.7	2.7	NEE	30
11/20/05	11:00 PM	17.0	17.1	16.9	4.9	4.9	NEE	30
11/20/05	11:30 PM	17.0	17.1	16.9	1.4	2.2	NEE	30



Weather information in November 2005

Date (MDY)	Time	Average	Hi	Low	Wind Speed (m/s)		Wind Direction	Period
		Temp	Temp	Temp	Average	Hi		
11/21/05	12:00 AM	16.9	17.2	16.6	3.1	4.7	NEE	30
11/21/05	12:30 AM	16.7	16.7	16.4	3.5	5.3	NEE	30
11/21/05	1:00 AM	16.7	17.0	16.4	3.7	5.3	NE	30
11/21/05	1:30 AM	16.5	16.8	16.4	2.9	4.7	NNE	30
11/21/05	2:00 AM	16.5	16.5	16.4	3.0	3.1	NE	30
11/21/05	2:30 AM	16.5	16.7	16.3	2.5	3.1	NEE	30
11/21/05	3:00 AM	16.4	16.5	16.2	2.9	3.0	NNE	30
11/21/05	3:30 AM	16.4	16.7	16.1	3.2	5.1	NE	30
11/21/05	4:00 AM	16.3	16.5	16.1	2.5	4.2	NE	30
11/21/05	4:30 AM	16.3	16.5	16.1	3.1	3.4	NNE	30
11/21/05	5:00 AM	16.1	16.1	16.0	2.9	5.1	NE	30
11/21/05	5:30 AM	16.0	16.1	15.7	1.9	4.1	NE	30
11/21/05	6:00 AM	15.8	15.9	15.7	2.1	4.0	NEE	30
11/21/05	6:30 AM	15.7	15.8	15.4	3.8	5.9	NEE	30
11/21/05	7:00 AM	15.7	16.0	15.7	3.3	5.4	NEE	30
11/21/05	7:30 AM	16.0	16.0	15.8	3.3	4.1	NNE	30
11/21/05	8:00 AM	16.8	17.0	16.7	3.2	5.0	E	30
11/21/05	8:30 AM	17.1	17.3	17.1	3.4	4.4	NE	30
11/21/05	9:00 AM	18.0	18.3	17.7	2.7	4.7	NE	30
11/21/05	9:30 AM	19.0	19.2	18.8	2.5	4.4	NEE	30
11/21/05	10:00 AM	19.1	19.4	18.8	4.2	5.0	NNE	30
11/21/05	10:30 AM	19.1	19.2	19.0	4.2	5.8	NEE	30
11/21/05	11:00 AM	20.3	20.6	20.3	4.3	5.4	NEE	30
11/21/05	11:30 AM	20.5	20.9	20.3	4.9	5.6	NNE	30
11/21/05	12:00 PM	20.5	20.9	20.4	4.9	5.4	NNE	30
11/21/05	12:30 PM	21.0	21.1	20.9	4.8	7.0	NE	30
11/21/05	1:00 PM	21.2	21.3	21.1	4.8	6.7	NNE	30
11/21/05	1:30 PM	21.5	21.5	21.3	4.2	6.4	NEE	30
11/21/05	2:00 PM	21.8	21.8	21.7	4.2	4.8	NNE	30
11/21/05	2:30 PM	21.5	21.6	21.5	3.0	3.9	N	30
11/21/05	3:00 PM	21.1	21.2	21.0	3.2	3.6	N	30
11/21/05	3:30 PM	20.5	20.7	20.4	2.9	5.1	NNE	30
11/21/05	4:00 PM	20.2	20.3	20.1	2.9	3.2	N	30
11/21/05	4:30 PM	19.9	20.1	19.8	2.1	2.5	NEE	30
11/21/05	5:00 PM	19.5	19.7	19.3	2.3	2.9	N	30
11/21/05	5:30 PM	19.3	19.3	19.3	2.7	4.9	N	30
11/21/05	6:00 PM	18.9	19.2	18.6	2.3	2.6	N	30
11/21/05	6:30 PM	18.0	18.3	17.8	2.0	3.9	N	30
11/21/05	7:00 PM	18.0	18.3	17.9	1.7	3.0	N	30
11/21/05	7:30 PM	17.9	18.1	17.8	2.2	3.7	N	30
11/21/05	8:00 PM	17.9	18.3	17.8	1.6	2.8	N	30
11/21/05	8:30 PM	17.2	17.6	17.0	0.8	2.7	NNE	30
11/21/05	9:00 PM	17.0	17.1	16.9	1.8	3.1	NEE	30
11/21/05	9:30 PM	17.2	17.2	16.9	1.9	3.5	NNE	30
11/21/05	10:00 PM	16.9	17.2	16.8	1.3	3.6	N	30
11/21/05	10:30 PM	16.4	16.8	16.3	1.9	3.0	NEE	30
11/21/05	11:00 PM	15.9	16.3	15.9	1.3	2.4	SEE	30
11/21/05	11:30 PM	15.1	15.5	15.0	1.5	2.0	E	30
11/22/05	12:00 AM	14.9	15.1	14.8	1.9	3.7	E	30
11/22/05	12:30 AM	15.2	15.6	14.9	2.2	3.2	NEE	30
11/22/05	1:00 AM	15.5	15.6	15.3	0.7	1.6	NEE	30
11/22/05	1:30 AM	15.5	15.6	15.3	0.8	1.7	NEE	30
11/22/05	2:00 AM	15.3	15.6	15.3	0.8	2.8	E	30
11/22/05	2:30 AM	15.1	15.3	15.0	0.4	2.7	SEE	30
11/22/05	3:00 AM	14.9	15.2	14.8	0.3	1.7	SWW	30
11/22/05	3:30 AM	14.0	14.2	13.9	0.8	1.2	NE	30
11/22/05	4:00 AM	14.5	14.6	14.3	0.7	1.8	NW	30
11/22/05	4:30 AM	14.8	15.1	14.6	0.8	1.2	NNE	30
11/22/05	5:00 AM	15.0	15.2	14.8	1.3	3.4	N	30
11/22/05	5:30 AM	15.0	15.2	14.9	1.7	3.7	NE	30
11/22/05	6:00 AM	14.9	15.0	14.8	2.2	4.4	NE	30
11/22/05	6:30 AM	14.9	15.2	14.7	2.0	4.1	NE	30
11/22/05	7:00 AM	15.0	15.3	14.8	1.6	3.4	NEE	30
11/22/05	7:30 AM	15.2	15.3	15.1	1.8	3.7	NNE	30
11/22/05	8:00 AM	16.0	16.2	16.0	1.9	2.0	NEE	30
11/22/05	8:30 AM	17.5	17.5	17.3	2.1	3.0	NEE	30
11/22/05	9:00 AM	18.0	18.3	17.8	1.8	3.9	NE	30
11/22/05	9:30 AM	18.6	18.7	18.5	2.1	3.0	NE	30
11/22/05	10:00 AM	19.0	19.3	18.9	2.5	2.6	NE	30
11/22/05	10:30 AM	19.3	19.3	19.1	2.9	4.4	NE	30
11/22/05	11:00 AM	19.7	19.7	19.7	1.2	1.7	N	30
11/22/05	11:30 AM	20.2	20.3	20.2	0.8	2.4	N	30
11/22/05	12:00 PM	20.9	21.2	20.9	1.5	2.0	N	30
11/22/05	12:30 PM	21.2	21.5	21.1	3.5	5.5	N	30
11/22/05	1:00 PM	21.6	21.7	21.4	1.4	1.9	N	30
11/22/05	1:30 PM	21.4	21.4	21.4	0.9	3.1	NE	30
11/22/05	2:00 PM	21.3	21.3	21.1	2.8	3.9	N	30
11/22/05	2:30 PM	21.2	21.3	20.9	2.6	3.1	NE	30
11/22/05	3:00 PM	20.9	21.2	20.7	2.1	2.7	N	30
11/22/05	3:30 PM	20.7	20.9	20.5	1.8	3.3	NW	30
11/22/05	4:00 PM	20.5	20.9	20.3	2.5	3.6	E	30
11/22/05	4:30 PM	20.3	20.6	20.0	1.9	3.3	N	30
11/22/05	5:00 PM	20.2	20.5	19.9	1.4	3.3	N	30
11/22/05	5:30 PM	19.8	20.2	19.8	0.8	0.9	NEN	30
11/22/05	6:00 PM	18.8	18.8	18.7	0.9	2.4	NWW	30
11/22/05	6:30 PM	18.2	18.5	18.0	0.6	2.9	NE	30
11/22/05	7:00 PM	18.0	18.1	17.9	0.3	0.5	N	30
11/22/05	7:30 PM	17.5	17.7	17.4	0.8	2.6	NW	30
11/22/05	8:00 PM	17.8	18.1	17.7	0.8	0.8	NW	30
11/22/05	8:30 PM	17.8	17.9	17.7	0.3	0.6	NW	30
11/22/05	9:00 PM	17.8	17.9	17.6	1.3	3.1	NW	30
11/22/05	9:30 PM	17.2	17.4	17.2	1.1	1.4	NWN	30
11/22/05	10:00 PM	17.5	17.5	17.2	1.6	3.3	NW	30
11/22/05	10:30 PM	18.0	18.1	18.0	0.4	2.1	NW	30
11/22/05	11:00 PM	18.0	18.1	17.8	0.1	1.8	N	30
11/22/05	11:30 PM	18.2	18.6	18.0	0.6	0.9	N	30





Weather information in November 2005

Date (MDY)	Time	Average	Hi	Low	Wind Speed (m/s)		Wind Direction	Period
		Temp	Temp	Temp	Average	Hi		
11/23/05	12:00 AM	18.0	18.1	18.0	1.6	2.5	NE	30
11/23/05	12:30 AM	18.5	18.5	18.2	1.7	2.2	NW	30
11/23/05	1:00 AM	18.4	18.4	18.2	1.5	2.5	NWN	30
11/23/05	1:30 AM	18.5	18.7	18.3	1.5	3.8	N	30
11/23/05	2:00 AM	18.0	18.4	17.9	0.9	2.9	N	30
11/23/05	2:30 AM	18.2	18.6	18.2	0.8	2.9	NE	30
11/23/05	3:00 AM	17.8	18.1	17.5	0.8	3.0	E	30
11/23/05	3:30 AM	17.5	17.7	17.3	1.5	2.0	E	30
11/23/05	4:00 AM	17.8	17.9	17.5	1.4	3.4	N	30
11/23/05	4:30 AM	17.2	17.3	17.0	1.1	2.7	E	30
11/23/05	5:00 AM	17.5	17.5	17.3	0.4	1.4	S	30
11/23/05	5:30 AM	17.0	17.1	16.9	0.4	1.8	N	30
11/23/05	6:00 AM	16.5	16.8	16.5	0.2	2.1	SWS	30
11/23/05	6:30 AM	16.0	16.2	15.9	0.2	1.1	SE	30
11/23/05	7:00 AM	15.8	16.2	15.7	0.2	1.4	N	30
11/23/05	7:30 AM	16.2	16.6	16.0	0.4	0.6	E	30
11/23/05	8:00 AM	18.0	18.3	17.7	1.3	1.5	NE	30
11/23/05	8:30 AM	19.2	19.3	19.2	2.5	4.2	NE	30
11/23/05	9:00 AM	20.2	20.5	20.1	2.5	2.9	NE	30
11/23/05	9:30 AM	21.8	22.1	21.6	2.6	4.8	NEE	30
11/23/05	10:00 AM	22.5	22.8	22.4	2.6	4.2	E	30
11/23/05	10:30 AM	23.2	23.2	22.9	2.9	5.0	E	30
11/23/05	11:00 AM	23.8	24.0	23.6	2.6	3.6	NEE	30
11/23/05	11:30 AM	24.5	24.5	24.4	3.2	3.2	NE	30
11/23/05	12:00 PM	24.7	25.0	24.7	3.1	4.1	NE	30
11/23/05	12:30 PM	24.5	24.7	24.3	2.5	4.7	NE	30
11/23/05	1:00 PM	25.0	25.0	24.8	3.2	4.2	NE	30
11/23/05	1:30 PM	25.5	25.7	25.5	3.6	4.9	E	30
11/23/05	2:00 PM	25.2	25.5	25.1	2.5	3.0	NE	30
11/23/05	2:30 PM	25.0	25.4	24.7	3.8	5.7	NE	30
11/23/05	3:00 PM	24.8	25.1	24.6	3.8	5.5	NE	30
11/23/05	3:30 PM	24.0	24.3	23.9	3.6	4.0	NE	30
11/23/05	4:00 PM	23.2	23.6	23.1	1.7	1.7	NE	30
11/23/05	4:30 PM	22.5	22.7	22.2	1.5	2.1	NE	30
11/23/05	5:00 PM	21.5	21.8	21.2	2.4	4.3	NE	30
11/23/05	5:30 PM	22.0	22.3	21.8	2.8	4.2	NEE	30
11/23/05	6:00 PM	20.5	20.6	20.2	0.8	1.7	N	30
11/23/05	6:30 PM	20.2	20.4	20.0	0.7	2.6	NEE	30
11/23/05	7:00 PM	20.3	20.3	20.2	0.7	1.6	NE	30
11/23/05	7:30 PM	19.9	20.1	19.7	0.3	2.2	NE	30
11/23/05	8:00 PM	19.1	19.5	18.9	0.4	1.9	NNE	30
11/23/05	8:30 PM	18.9	18.9	18.7	0.9	2.3	NNE	30
11/23/05	9:00 PM	19.0	19.3	18.7	0.2	0.6	SEE	30
11/23/05	9:30 PM	18.8	18.9	18.6	0.2	1.2	NNE	30
11/23/05	10:00 PM	19.0	19.1	18.9	0.8	2.7	NEE	30
11/23/05	10:30 PM	18.9	19.0	18.6	0.8	2.9	SW	30
11/23/05	11:00PM	18.2	18.5	18.2	0.8	3.0	NW	30
11/23/05	11:30PM	18.0	18.4	17.8	0.8	1.5	NNW	30
11/24/05	12:00 AM	19.0	19.1	18.9	0.3	2.6	NE	30
11/24/05	12:30AM	19.0	19.4	18.9	0.2	2.5	E	30
11/24/05	1:00 AM	19.2	19.6	19.2	0.9	2.6	NEE	30
11/24/05	1:30 AM	19.2	19.6	19.2	1.4	2.3	E	30
11/24/05	2:00 AM	19.6	20.0	19.3	2.7	4.8	NEE	30
11/24/05	2:30 AM	19.2	19.3	18.9	1.6	3.1	NE	30
11/24/05	3:00 AM	19.2	19.2	19.1	2.0	3.5	NEE	30
11/24/05	3:30 AM	19.0	19.1	18.8	2.5	3.8	NEE	30
11/24/05	4:00 AM	18.5	18.7	18.5	2.5	3.5	NEE	30
11/24/05	4:30 AM	18.2	18.4	18.1	3.3	4.9	NEE	30
11/24/05	5:00 AM	17.7	17.9	17.5	3.9	4.8	NEE	30
11/24/05	5:30 AM	17.0	17.1	16.8	0.3	2.5	NEE	30
11/24/05	6:00 AM	17.2	17.4	17.1	1.7	2.1	NNW	30
11/24/05	6:30 AM	17.6	17.7	17.3	0.8	2.9	NNW	30
11/24/05	7:00 AM	18.0	18.3	18.0	0.8	1.9	N	30
11/24/05	7:30 AM	17.3	17.4	17.0	0.3	0.4	SE	30
11/24/05	8:00 AM	18.0	18.2	17.9	2.1	2.6	NEE	30
11/24/05	8:30 AM	19.2	19.5	19.0	3.3	4.1	NEE	30
11/24/05	9:00 AM	19.2	19.4	19.2	2.5	3.0	NEE	30
11/24/05	9:30 AM	20.5	20.8	20.4	2.5	4.4	NEE	30
11/24/05	10:00 AM	21.2	21.3	21.1	2.5	4.0	NEE	30
11/24/05	10:30 AM	22.0	22.3	21.7	1.7	2.0	NEE	30
11/24/05	11:00 AM	22.2	22.6	21.9	2.5	2.6	NE	30
11/24/05	11:30 AM	23.0	23.2	23.0	2.8	5.0	NEE	30
11/24/05	12:00 PM	23.2	23.5	22.9	0.9	1.1	SEE	30
11/24/05	12:30 PM	24.0	24.0	24.0	2.8	4.9	NEE	30
11/24/05	1:00 PM	24.0	24.2	23.8	2.1	3.3	E	30
11/24/05	1:30 PM	23.9	24.1	23.9	2.5	3.2	NNE	30
11/24/05	2:00 PM	23.8	24.2	23.6	2.6	4.4	NEE	30
11/24/05	2:30 PM	23.0	23.4	23.0	2.1	2.2	NEE	30
11/24/05	3:00 PM	23.0	23.2	22.8	1.7	2.8	SEE	30
11/24/05	3:30 PM	22.2	22.5	22.2	2.5	3.8	NE	30
11/24/05	4:00 PM	21.9	22.3	21.6	1.9	4.2	NEE	30
11/24/05	4:30 PM	21.0	21.2	20.9	1.7	4.0	NNE	30
11/24/05	5:00 PM	20.6	20.8	20.6	1.1	1.7	E	30
11/24/05	5:30 PM	19.5	19.7	19.5	0.0	2.2	N	30
11/24/05	6:00 PM	18.8	19.2	18.7	0.0	0.9	N	30
11/24/05	6:30 PM	18.5	18.7	18.3	0.0	2.2	N	30
11/24/05	7:00 PM	18.2	18.5	18.2	0.0	1.3	NWW	30
11/24/05	7:30 PM	18.3	18.4	18.3	0.5	1.0	NWW	30
11/24/05	8:00 PM	18.0	18.3	17.8	0.1	2.2	NW	30
11/24/05	8:30 PM	17.5	17.6	17.2	1.1	1.9	NWW	30
11/24/05	9:00 PM	17.6	17.8	17.4	0.6	1.0	NW	30
11/24/05	9:30 PM	17.5	17.6	17.3	0.4	1.7	NW	30
11/24/05	10:00 PM	17.2	17.4	16.9	0.6	0.7	NWW	30
11/24/05	10:30 PM	17.0	17.3	16.9	0.4	1.5	NWW	30
11/24/05	11:00 PM	16.8	17.0	16.5	0.3	2.1	NNW	30
11/24/05	11:30 PM	16.8	17.1	16.6	0.2	1.9	NNW	30



Weather information in November 2005

Date (MDY)	Time	Average	Hi	Low	Wind Speed (m/s)		Wind Direction	Period
		Temp	Temp	Temp	Average	Hi		
11/25/05	12:00 AM	16.8	16.9	16.7	0.3	0.9	NNW	30
11/25/05	12:30 AM	17.0	17.2	17.0	0.2	1.9	N	30
11/25/05	1:00 AM	17.0	17.3	16.8	0.2	0.6	NWW	30
11/25/05	1:30 AM	17.2	17.3	17.0	0.2	1.9	N	30
11/25/05	2:00 AM	17.6	17.7	17.4	0.0	1.1	N	30
11/25/05	2:30 AM	17.9	18.3	17.9	0.2	1.0	N	30
11/25/05	3:00 AM	18.0	18.1	17.8	0.2	1.2	SEE	30
11/25/05	3:30 AM	18.5	18.7	18.3	0.3	1.7	NE	30
11/25/05	4:00 AM	18.6	18.6	18.4	0.9	1.9	NEE	30
11/25/05	4:30 AM	18.9	19.1	18.8	0.8	2.6	NNE	30
11/25/05	5:00 AM	19.0	19.0	18.7	1.0	2.4	NNW	30
11/25/05	5:30 AM	19.0	19.0	19.0	1.2	2.8	NNE	30
11/25/05	6:00 AM	19.0	19.2	18.9	1.7	1.8	NNW	30
11/25/05	6:30 AM	19.0	19.4	18.7	1.1	2.4	NNW	30
11/25/05	7:00 AM	19.0	19.1	18.9	1.7	2.8	N	30
11/25/05	7:30 AM	19.0	19.2	19.0	0.9	2.8	NNW	30
11/25/05	8:00 AM	19.1	19.4	18.8	1.7	3.4	NNW	30
11/25/05	8:30 AM	20.0	20.3	19.7	0.9	1.4	NEE	30
11/25/05	9:00 AM	20.8	21.1	20.8	1.4	2.8	NEE	30
11/25/05	9:30 AM	21.0	21.3	20.8	2.7	3.6	NNE	30
11/25/05	10:00 AM	21.6	21.8	21.6	1.9	3.1	NE	30
11/25/05	11:00 AM	22.9	22.9	22.7	2.8	3.0	NEE	30
11/25/05	11:30 AM	23.6	23.6	23.4	2.5	3.9	SEE	30
11/25/05	12:00 PM	22.8	22.9	22.7	2.6	3.0	SSE	30
11/25/05	12:30 PM	23.6	23.6	23.3	2.8	3.0	NE	30
11/25/05	1:00 PM	23.8	23.9	23.6	2.3	3.0	SEE	30
11/25/05	1:30 PM	24.2	24.5	24.0	1.2	3.0	SE	30
11/25/05	2:00 PM	24.1	24.1	23.9	2.6	2.9	NEE	30
11/25/05	2:30 PM	23.5	23.8	23.2	2.0	3.9	NEE	30
11/25/05	3:00 PM	23.8	24.0	23.5	1.8	2.3	E	30
11/25/05	3:30 PM	23.0	23.2	22.9	1.8	3.2	NNE	30
11/25/05	4:00 PM	22.1	22.2	22.0	2.8	4.7	NE	30
11/25/05	4:30 PM	21.6	21.6	21.5	1.6	2.0	NE	30
11/25/05	5:00 PM	21.2	21.4	21.0	1.3	2.7	SEE	30
11/25/05	5:30 PM	20.5	20.5	20.5	0.2	2.4	N	30
11/25/05	6:00 PM	19.8	20.2	19.6	0.1	0.7	N	30
11/25/05	6:30 PM	19.0	19.4	18.8	0.0	0.7	N	30
11/25/05	7:00 PM	18.9	18.9	18.8	0.2	0.6	NWW	30
11/25/05	7:30 PM	18.5	18.7	18.3	1.0	1.8	NW	30
11/25/05	8:00 PM	18.2	18.5	18.1	0.4	2.4	NW	30
11/25/05	8:30 PM	18.1	18.1	18.0	0.3	0.8	NNW	30
11/25/05	9:00 PM	18.0	18.1	17.9	0.2	0.6	N	30
11/25/05	9:30 PM	17.8	17.9	17.7	0.0	1.0	N	30
11/25/05	10:00 PM	17.5	17.7	17.2	0.5	0.9	NNW	30
11/25/05	10:30 PM	17.5	17.8	17.3	0.2	2.0	N	30
11/25/05	11:00 PM	17.8	18.0	17.5	0.3	1.9	NNW	30
11/25/05	11:30 PM	18.1	18.5	18.0	0.7	2.1	N	30
11/26/05	12:00 AM	18.0	18.2	17.9	0.2	0.5	NWW	30
11/26/05	12:30 AM	17.9	18.0	17.7	0.2	2.0	N	30
11/26/05	1:00 AM	18.0	18.1	17.8	0.2	1.8	N	30
11/26/05	1:30 AM	18.3	18.7	18.0	0.2	2.0	S	30
11/26/05	2:00 AM	18.0	18.4	17.7	0.3	2.4	N	30
11/26/05	2:30 AM	18.0	18.4	17.9	0.2	2.5	S	30
11/26/05	3:00 AM	18.0	18.2	18.0	0.2	0.5	N	30
11/26/05	3:30 AM	18.1	18.2	18.0	0.2	2.1	N	30
11/26/05	4:00 AM	18.5	18.6	18.4	0.8	1.5	NNE	30
11/26/05	4:30 AM	19.0	19.3	18.8	1.1	3.3	NNE	30
11/26/05	5:00 AM	18.5	18.5	18.4	0.2	1.6	N	30
11/26/05	5:30 AM	18.5	18.8	18.3	0.9	1.7	NNE	30
11/26/05	6:00 AM	18.4	18.6	18.3	0.6	1.8	N	30
11/26/05	6:30 AM	18.1	18.3	17.9	0.9	1.5	NNW	30
11/26/05	7:00 AM	18.0	18.3	17.8	0.6	1.4	NNW	30
11/26/05	7:30 AM	18.5	18.6	18.3	1.9	3.7	NEE	30
11/26/05	8:00 AM	19.2	19.4	18.9	1.3	3.3	NEE	30
11/26/05	8:30 AM	20.2	20.5	19.9	2.1	2.7	NNE	30
11/26/05	9:00 AM	21.0	21.0	20.8	1.4	3.4	NNE	30
11/26/05	9:30 AM	21.7	21.8	21.5	1.9	3.5	E	30
11/26/05	10:00 AM	22.1	22.4	22.0	1.8	3.9	NNE	30
11/26/05	10:30 AM	23.5	23.7	23.2	2.1	3.6	NEE	30
11/26/05	11:00 AM	23.9	24.0	23.8	1.9	1.9	NEE	30
11/26/05	11:30 AM	24.1	24.2	23.9	2.0	3.5	NE	30
11/26/05	12:00 PM	24.3	24.5	24.2	3.0	5.2	NE	30
11/26/05	12:30 PM	24.5	24.8	24.5	2.5	2.7	NEE	30
11/26/05	1:00 PM	24.6	24.9	24.4	1.9	3.1	E	30
11/26/05	1:30 PM	24.4	24.7	24.3	1.5	3.5	E	30
11/26/05	2:00 PM	24.4	24.6	24.3	2.0	2.0	E	30
11/26/05	2:30 PM	24.3	24.5	24.2	2.3	3.0	E	30
11/26/05	3:00 PM	24.1	24.3	23.9	0.9	1.3	E	30
11/26/05	3:30 PM	23.9	24.2	23.8	1.2	3.5	NEE	30
11/26/05	4:00 PM	23.4	23.6	23.1	1.9	3.5	E	30
11/26/05	4:30 PM	23.1	23.3	22.8	2.3	3.4	N	30
11/26/05	5:00 PM	22.7	22.9	22.6	1.5	3.0	N	30
11/26/05	5:30 PM	22.5	22.8	22.3	2.0	3.2	N	30
11/26/05	6:00 PM	22.1	22.5	21.9	1.7	3.3	E	30
11/26/05	6:30 PM	21.7	22.0	21.6	2.2	4.1	E	30
11/26/05	7:00 PM	21.5	21.5	21.4	1.9	2.3	E	30
11/26/05	7:30 PM	21.2	21.6	21.2	1.3	2.0	E	30
11/26/05	8:00 PM	21.0	21.4	20.9	2.5	4.7	NE	30
11/26/05	8:30 PM	20.7	20.9	20.4	1.8	3.1	NE	30
11/26/05	9:00 PM	20.6	20.7	20.6	1.2	1.5	E	30
11/26/05	9:30 PM	20.5	20.6	20.3	1.6	1.8	E	30
11/26/05	10:00 PM	20.4	20.5	20.2	3.0	3.2	NE	30
11/26/05	10:30 PM	20.3	20.5	20.1	2.5	4.5	N	30
11/26/05	11:00 PM	20.4	20.6	20.1	3.9	5.3	NEE	30
11/26/05	11:30 PM	20.5	20.7	20.2	2.1	4.1	E	30
11/27/05	12:00 AM	20.4	20.7	20.4	1.8	2.7	E	30



Weather information in November 2005

Date (MDY)	Time	Average	Hi	Low	Wind Speed (m/s)		Wind Direction	Period
		Temp	Temp	Temp	Average	Hi		
11/27/05	12:30 AM	20.3	20.7	20.0	0.9	2.4	E	30
11/27/05	1:00 AM	20.2	20.3	20.2	0.7	2.3	SE	30
11/27/05	1:30 AM	20.1	20.1	20.1	1.1	1.2	E	30
11/27/05	2:00 AM	20.2	20.2	20.2	1.5	1.5	E	30
11/27/05	2:30 AM	20.2	20.5	20.1	2.4	3.8	E	30
11/27/05	3:00 AM	20.2	20.3	20.1	2.9	5.1	E	30
11/27/05	3:30 AM	20.2	20.3	20.1	3.2	5.2	NE	30
11/27/05	4:00 AM	20.3	20.3	20.2	3.7	3.9	NE	30
11/27/05	4:30 AM	20.2	20.5	20.1	1.5	3.1	E	30
11/27/05	5:00 AM	20.2	20.3	19.9	1.8	2.9	E	30
11/27/05	5:30 AM	20.2	20.4	19.9	2.2	3.3	E	30
11/27/05	6:00 AM	20.1	20.3	20.0	1.9	2.4	NEE	30
11/27/05	6:30 AM	20.2	20.6	20.2	1.2	2.8	E	30
11/27/05	7:00 AM	20.7	20.9	20.5	0.8	1.3	NEE	30
11/27/05	7:30 AM	21.1	21.3	21.0	0.9	2.2	E	30
11/27/05	8:00 AM	21.6	21.9	21.6	1.8	2.1	E	30
11/27/05	8:30 AM	21.9	22.0	21.8	2.7	3.7	E	30
11/27/05	9:00 AM	22.2	22.2	22.1	2.5	3.3	E	30
11/27/05	9:30 AM	22.7	22.8	22.4	1.8	3.2	E	30
11/27/05	10:00 AM	23.1	23.4	23.0	1.9	3.2	E	30
11/27/05	10:30 AM	23.4	23.8	23.4	2.9	4.0	E	30
11/27/05	11:00 AM	23.7	23.8	23.5	3.5	3.8	E	30
11/27/05	11:30 AM	23.8	24.1	23.6	2.7	3.7	E	30
11/27/05	12:00 PM	23.7	23.8	23.7	2.9	4.6	NE	30
11/27/05	12:30 PM	23.6	23.9	23.6	1.7	2.0	NE	30
11/27/05	1:00 PM	23.7	23.8	23.6	1.9	3.8	E	30
11/27/05	1:30 PM	23.5	23.8	23.2	2.2	2.3	N	30
11/27/05	2:00 PM	23.3	23.6	23.3	1.5	2.0	NEE	30
11/27/05	2:30 PM	23.1	23.5	22.9	1.1	1.7	E	30
11/27/05	3:00 PM	23.0	23.2	22.7	1.6	3.5	E	30
11/27/05	3:30 PM	22.9	23.3	22.7	1.9	3.0	E	30
11/27/05	4:00 PM	22.8	22.8	22.6	2.2	2.6	E	30
11/27/05	4:30 PM	22.9	23.0	22.7	2.4	3.1	E	30
11/27/05	5:00 PM	22.7	23.0	22.7	2.6	4.6	E	30
11/27/05	5:30 PM	22.2	22.3	22.1	1.3	1.9	NE	30
11/27/05	6:00 PM	21.8	22.0	21.6	1.1	2.8	E	30
11/27/05	6:30 PM	21.8	22.2	21.6	1.7	3.7	SE	30
11/27/05	7:00 PM	21.6	22.0	21.4	1.6	3.3	SE	30
11/27/05	7:30 PM	21.6	21.9	21.6	1.6	1.6	SE	30
11/27/05	8:00 PM	21.6	22.0	21.5	2.1	2.7	SE	30
11/27/05	8:30 PM	21.6	21.7	21.6	1.3	3.5	SE	30
11/27/05	9:00 PM	21.8	21.9	21.6	2.2	3.0	NEE	30
11/27/05	9:30 PM	21.8	22.0	21.6	2.9	5.0	NE	30
11/27/05	10:00 PM	21.8	22.0	21.5	2.5	4.2	NE	30
11/27/05	10:30 PM	21.6	21.9	21.6	2.7	3.8	NEE	30
11/27/05	11:00 PM	21.5	21.8	21.4	2.4	3.2	E	30
11/27/05	11:30 PM	21.5	21.8	21.2	2.5	2.9	NE	30
11/28/05	12:00 AM	21.6	22.0	21.5	2.7	3.6	NE	30
11/28/05	12:30 AM	21.3	21.6	21.2	2.6	3.7	NEN	30
11/28/05	1:00 AM	21.2	21.4	21.2	1.7	3.7	NE	30
11/28/05	1:30 AM	21.2	21.6	21.0	1.9	2.8	NEE	30
11/28/05	2:00 AM	21.2	21.4	21.1	2.7	4.0	NE	30
11/28/05	2:30 AM	21.0	21.3	20.9	1.1	1.3	N	30
11/28/05	3:00 AM	21.0	21.1	20.9	2.4	3.1	N	30
11/28/05	3:30 AM	21.2	21.6	21.1	1.8	2.7	N	30
11/28/05	4:00 AM	21.2	21.5	21.0	3.9	5.3	NE	30
11/28/05	4:30 AM	21.2	21.2	21.2	3.1	3.5	N	30
11/28/05	5:00 AM	21.2	21.4	21.0	1.7	3.7	N	30
11/28/05	5:30 AM	21.2	21.3	21.0	1.9	2.1	NE	30
11/28/05	6:00 AM	20.8	21.1	20.8	2.0	2.9	NE	30
11/28/05	6:30 AM	20.6	20.7	20.5	0.8	2.1	NE	30
11/28/05	7:00 AM	21.0	21.0	20.9	1.7	3.0	NE	30
11/28/05	7:30 AM	21.0	21.3	21.0	1.9	2.6	NE	30
11/28/05	8:00 AM	21.5	21.7	21.3	2.8	4.5	NE	30
11/28/05	8:30 AM	22.2	22.4	22.1	2.0	2.3	N	30
11/28/05	9:00 AM	22.2	22.3	22.1	1.5	3.7	NE	30
11/28/05	9:30 AM	23.2	23.6	23.2	1.6	2.9	NE	30
11/28/05	10:00 AM	23.5	23.6	23.2	1.5	3.6	NE	30
11/28/05	10:30 AM	24.8	25.0	24.6	1.2	2.2	NE	30
11/28/05	11:00 AM	25.5	25.9	25.4	2.1	3.9	NE	30
11/28/05	11:30 AM	26.5	26.7	26.3	2.5	4.0	NE	30
11/28/05	12:00 PM	27.0	27.4	26.7	2.6	4.0	N	30
11/28/05	12:30 PM	28.2	28.4	27.9	1.9	3.4	NE	30
11/28/05	1:00 PM	27.8	28.0	27.6	2.7	2.8	E	30
11/28/05	1:30 PM	28.0	28.3	27.9	1.4	2.0	NE	30
11/28/05	2:00 PM	27.5	27.5	27.5	1.5	3.4	NE	30
11/28/05	2:30 PM	27.8	28.0	27.8	1.9	3.1	E	30
11/28/05	3:00 PM	27.7	27.8	27.7	2.8	4.5	E	30
11/28/05	3:30 PM	26.2	26.3	26.2	1.9	2.8	NE	30
11/28/05	4:00 PM	25.5	25.7	25.3	0.6	1.9	E	30
11/28/05	4:30 PM	24.6	24.9	24.6	1.7	3.9	NE	30
11/28/05	5:00 PM	23.0	23.1	22.8	1.3	2.3	N	30
11/28/05	5:30 PM	22.5	22.7	22.4	0.6	1.4	S	30
11/28/05	6:00 PM	22.6	22.9	22.6	0.7	2.0	S	30
11/28/05	6:30 PM	22.5	22.9	22.2	0.9	2.7	S	30
11/28/05	7:00 PM	22.3	22.3	22.1	0.1	0.4	S	30
11/28/05	7:30 PM	21.8	22.0	21.8	1.5	3.6	N	30
11/28/05	8:00 PM	21.3	21.6	21.2	0.4	2.0	N	30
11/28/05	8:30 PM	21.1	21.2	20.9	0.3	2.2	NW	30
11/28/05	9:00 PM	21.0	21.3	20.9	0.4	2.2	NW	30
11/28/05	9:30 PM	20.8	21.2	20.6	0.1	2.3	NW	30
11/28/05	10:00 PM	20.6	21.0	20.5	0.2	2.1	NW	30
11/28/05	10:30 PM	20.5	20.5	20.4	0.0	2.3	-	30
11/28/05	11:00 PM	20.2	20.2	20.2	0.1	0.4	N	30
11/28/05	11:30 PM	20.1	20.4	19.9	0.1	1.2	N	30
11/29/05	12:00 AM	21.5	21.5	21.5	0.4	0.9	N	30



Weather information in November 2005

Date (MDY)	Time	Average	Hi	Low	Wind Speed (m/s)		Wind Direction	Period
		Temp	Temp	Temp	Average	Hi		
11/29/05	12:30 AM	21.5	21.8	21.4	1.2	2.6	SE	30
11/29/05	1:00 AM	21.4	21.8	21.3	1.0	1.6	N	30
11/29/05	1:30 AM	21.2	21.4	21.1	1.7	3.5	E	30
11/29/05	2:00 AM	21.2	21.4	21.2	1.2	1.9	SE	30
11/29/05	2:30 AM	21.1	21.1	20.8	2.8	3.1	E	30
11/29/05	3:00 AM	21.0	21.2	20.8	1.7	3.6	E	30
11/29/05	3:30 AM	20.8	21.0	20.5	2.8	3.3	NE	30
11/29/05	4:00 AM	20.7	21.0	20.6	1.9	2.4	E	30
11/29/05	4:30 AM	20.5	20.6	20.3	1.7	3.0	E	30
11/29/05	5:00 AM	19.5	19.8	19.4	2.2	3.3	NE	30
11/29/05	5:30 AM	19.4	19.7	19.3	3.2	3.8	NE	30
11/29/05	6:00 AM	19.4	19.8	19.3	1.3	3.3	NE	30
11/29/05	6:30 AM	19.3	19.4	19.2	2.8	4.1	NE	30
11/29/05	7:00 AM	19.4	19.6	19.3	0.6	2.6	NE	30
11/29/05	7:30 AM	19.6	19.8	19.5	1.2	3.0	NE	30
11/29/05	8:00 AM	20.1	20.5	19.9	1.7	3.6	E	30
11/29/05	8:30 AM	20.2	20.3	20.2	1.9	2.2	E	30
11/29/05	9:00 AM	20.3	20.6	20.2	2.8	4.4	E	30
11/29/05	9:30 AM	20.4	20.4	20.2	2.3	2.8	E	30
11/29/05	10:00 AM	20.5	20.6	20.4	1.9	3.8	E	30
11/29/05	10:30 AM	21.1	21.4	21.0	3.9	5.2	NE	30
11/29/05	11:00 AM	21.0	21.1	20.8	2.4	3.8	E	30
11/29/05	11:30 AM	21.4	21.6	21.2	2.3	4.5	NE	30
11/29/05	12:00 PM	21.3	21.4	21.1	2.8	2.9	E	30
11/29/05	12:30 PM	21.3	21.3	21.3	3.3	5.4	NE	30
11/29/05	1:00 PM	21.5	21.7	21.4	3.9	5.2	E	30
11/29/05	1:30 PM	21.4	21.5	21.2	2.0	3.5	E	30
11/29/05	2:00 PM	21.3	21.5	21.1	3.2	3.7	E	30
11/29/05	2:30 PM	22.2	22.6	22.2	2.2	3.1	E	30
11/29/05	3:00 PM	22.1	22.2	21.8	2.8	4.3	E	30
11/29/05	3:30 PM	22.1	22.4	22.0	2.1	2.2	E	30
11/29/05	4:00 PM	22.1	22.3	22.1	1.0	2.2	SE	30
11/29/05	4:30 PM	21.0	21.2	20.8	1.2	3.3	E	30
11/29/05	5:00 PM	22.5	22.6	22.5	1.3	1.8	SE	30
11/29/05	5:30 PM	22.5	22.9	22.4	0.5	1.1	F	30
11/29/05	6:00 PM	22.2	22.5	21.9	0.9	1.1	SE	30
11/29/05	6:30 PM	22.1	22.3	22.0	0.8	1.4	E	30
11/29/05	7:00 PM	21.9	21.9	21.6	1.2	1.9	E	30
11/29/05	7:30 PM	21.8	21.9	21.5	0.6	1.6	SE	30
11/29/05	8:00 PM	22.0	22.4	21.9	0.9	1.9	F	30
11/29/05	8:30 PM	22.0	22.0	21.8	1.3	1.5	SE	30
11/29/05	9:00 PM	22.2	22.5	22.0	0.8	1.3	NE	30
11/29/05	9:30 PM	21.8	21.9	21.8	1.1	2.7	SE	30
11/29/05	10:00 PM	21.7	21.7	21.5	1.1	1.6	F	30
11/29/05	10:30 PM	21.7	21.9	21.6	1.0	2.2	E	30
11/29/05	11:00 PM	21.7	22.0	21.6	1.0	1.6	E	30
11/29/05	11:30 PM	21.7	21.9	21.5	1.5	3.6	NE	30
11/30/05	12:00 AM	21.5	21.5	21.5	0.4	1.8	N	30
11/30/05	12:30 AM	21.5	21.7	21.3	1.1	2.1	SE	30
11/30/05	1:00 AM	21.5	21.7	21.3	0.9	2.0	SE	30
11/30/05	1:30 AM	21.3	21.4	21.3	0.7	2.9	E	30
11/30/05	2:00 AM	21.2	21.5	21.1	2.4	4.0	E	30
11/30/05	2:30 AM	21.2	21.2	21.1	2.8	5.1	NE	30
11/30/05	3:00 AM	21.1	21.4	21.0	1.8	2.1	E	30
11/30/05	3:30 AM	21.0	21.3	20.7	2.8	4.4	E	30
11/30/05	4:00 AM	20.7	20.8	20.4	1.9	2.2	E	30
11/30/05	4:30 AM	20.5	20.7	20.4	2.4	3.9	E	30
11/30/05	5:00 AM	19.7	20.1	19.5	2.2	3.3	NE	30
11/30/05	5:30 AM	19.5	19.6	19.3	3.3	5.4	NE	30
11/30/05	6:00 AM	19.5	19.8	19.4	1.1	1.6	NE	30
11/30/05	6:30 AM	19.5	19.8	19.3	2.8	3.9	NE	30
11/30/05	7:00 AM	19.2	19.2	19.0	0.5	2.5	NE	30
11/30/05	7:30 AM	19.5	19.6	19.4	1.8	1.8	NE	30
11/30/05	8:00 AM	19.9	20.1	19.8	1.6	3.3	SE	30
11/30/05	8:30 AM	20.1	20.2	19.8	2.9	4.3	NE	30
11/30/05	9:00 AM	20.4	20.5	20.3	2.8	5.0	E	30
11/30/05	9:30 AM	20.5	20.5	20.3	2.8	4.9	E	30
11/30/05	10:00 AM	20.5	20.8	20.3	1.8	2.7	E	30
11/30/05	10:30 AM	20.7	21.0	20.5	3.6	4.3	E	30
11/30/05	11:00 AM	20.8	20.9	20.8	1.7	2.2	E	30
11/30/05	11:30 AM	21.4	21.6	21.4	2.3	3.2	E	30
11/30/05	12:00 PM	21.4	21.4	21.2	2.9	3.5	E	30
11/30/05	12:30 PM	21.5	21.6	21.4	4.1	5.2	E	30
11/30/05	1:00 PM	21.5	21.7	21.3	3.2	4.2	E	30
11/30/05	1:30 PM	21.3	21.3	21.2	1.9	2.7	E	30
11/30/05	2:00 PM	21.4	21.5	21.2	2.9	3.5	E	30
11/30/05	2:30 PM	21.3	21.6	21.2	2.4	4.0	E	30
11/30/05	3:00 PM	21.3	21.4	21.2	2.2	3.2	E	30
11/30/05	3:30 PM	21.2	21.4	21.2	1.7	2.7	E	30
11/30/05	4:00 PM	21.1	21.4	20.8	1.3	1.3	E	30
11/30/05	4:30 PM	21.0	21.3	20.9	1.5	2.3	E	30
11/30/05	5:00 PM	20.8	20.9	20.8	1.5	1.9	SE	30
11/30/05	5:30 PM	20.5	20.6	20.3	1.7	2.1	SE	30
11/30/05	6:00 PM	19.7	20.0	19.5	0.4	1.7	N	30
11/30/05	6:30 PM	19.6	19.7	19.6	0.8	1.1	NE	30
11/30/05	7:00 PM	20.0	20.2	19.8	1.1	2.5	E	30
11/30/05	7:30 PM	20.5	20.6	20.5	1.0	2.8	E	30
11/30/05	8:00 PM	20.5	20.7	20.3	2.3	4.3	E	30
11/30/05	8:30 PM	20.5	20.6	20.3	1.7	2.7	E	30
11/30/05	9:00 PM	20.5	20.5	20.4	2.1	2.2	E	30
11/30/05	9:30 PM	20.5	20.8	20.3	1.2	1.2	E	30
11/30/05	10:00 PM	20.5	20.7	20.5	1.3	3.1	E	30
11/30/05	10:30 PM	20.5	20.5	20.2	2.4	2.5	SE	30
11/30/05	11:00 PM	20.5	20.7	20.2	1.6	2.4	SE	30
11/30/05	11:30 PM	20.5	20.7	20.4	2.3	2.6	E	30



## **Appendix F**

### **Event-Action Plans**

# EVENT/ACTION PLAN FOR AIR QUALITY EXCEEDANCE

## ACTION

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

## EVENT/ACTION PLAN FOR AIR QUALITY EXCEEDANCE

EVENT	ACTION			Contractor
	ET Leader	IC(E)	ER	
2. Exceedance for two or more consecutive samples	<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

EVENT	ACTION			
	ET Leader	IC(E)	ER	Contractor
Action Level	<ol style="list-style-type: none"> <li>1. Notify the IC(E) and the Contractor. Carry out investigation.</li> <li>2. Report the results of investigation to the IC(E) and the Contractor.</li> <li>3. Discuss with the Contractor and formulate remedial measures.</li> <li>4. 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			
	ET Leader	Contractor	ER	IEC
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			IEC
	ET Leader	Contractor	ER	
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**

**Master Programme of Works (Rev. 3)**

Date: 7 November 2005 (Monday)

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] { 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; & (iv) Supply of Public Fill to the Sorting Plant of the Penny's Bay Reclamation Stage 2 Project. }	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 [The Engineer has instructed to proceed with the works of Section D2, as per his letter ref. (39) in FM CN/CV/2005/05/M15/010 dated 30 September 2005] { 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; & (iv) Supply of Public Fill to the Sorting Plant of the Penny's Bay Reclamation Stage 2 Project. }	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 [The Engineer has instructed to proceed with the works of Section D3, as per his letter ref. (49) in FM CN/CV/2005/05/M15/010 dated 1 November 2005] { 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; & (iv) Supply of Public Fill to the Sorting Plant of the Penny's Bay Reclamation Stage 2 Project. }	1 Dec 2005	1 Dec 2005	31 Dec 2005	31 days								

CEDD Contract No. CV/2005/05  
 Operation of Fill Bank at Tseung Kwan O Area 137 and Barging Facilities at Hong Kong Island and Mui Wo  
 3-Month Rolling Programme of Works (Rev. 4)

Date: 1 November 2005 (Tuesday)

Forthcoming Rolling 3 Months: Nov 2005 ⇄ Jan 2006

Section of Works / Major Variation Orders	Description	Earliest Start Date	Latest Start Date	Finish Date	Duration	2005					(to be cont'd)		
						June 2005	July 2005	Aug 2005	Sep 2005	Oct 2005		Nov 2005	Dec 2005
Section D1	<p>Taking over, operation and maintenance of the Fill Bank at Tseung Kwan O Area 137 [Portion D of the Site]</p> <p>{ <i>Main Works</i>: - (i) <i>Handling of Public Fill delivered by Public Dump Trucks through Land Access into the Fill Bank at Tseung Kwan O Area 137;</i></p> <p>(ii) <i>Handling of Public Fill delivered by Barges at the Barge Handling Area (BHA);</i></p> <p>(iii) <i>Sorting of Oversized Materials from the Public Fill supplied to the Sorting Plant of the Penny's Bay Reclamation Stage 2 Project; &amp;</i></p> <p>(iv) <i>Supply of Public Fill to the Sorting Plant of the Penny's Bay Reclamation Stage 2 Project.</i> }</p>	18 Jun 2005	8 July 2005	31 Oct 2005	116 days								
Section D2	<p>Operation and maintenance of the Fill Bank at Tseung Kwan O Area 137 [Portion D of the Site] - Section Subject to Excision [The Engineer has instructed to proceed with the works of Section D2, as per his letter ref. (39) in FM CN/CV/2005/05/M15/010 dated 30 September 2005]</p> <p>{ <i>Main Works</i>: - (i) <i>Handling of Public Fill delivered by Public Dump Trucks through Land Access into the Fill Bank at Tseung Kwan O Area 137;</i></p> <p>(ii) <i>Handling of Public Fill delivered by Barges at the Barge Handling Area (BHA);</i></p> <p>(iii) <i>Sorting of Oversized Materials from the Public Fill supplied to the Sorting Plant of the Penny's Bay Reclamation Stage 2 Project; &amp;</i></p> <p>(iv) <i>Supply of Public Fill to the Sorting Plant of the Penny's Bay Reclamation Stage 2 Project.</i> }</p>	1 Nov 2005	1 Nov 2005	30 Nov 2005	30 days								
Section D3	<p>Operation and maintenance of the Fill Bank at Tseung Kwan O Area 137 [Portion D of the Site] - Section Subject to Excision [The Engineer has instructed to proceed with the works of Section D3, as per his letter ref. (49) in FM CN/CV/2005/05/M15/010 dated 1 November 2005]</p> <p>{ <i>Main Works</i>: - (i) <i>Handling of Public Fill delivered by Public Dump Trucks through Land Access into the Fill Bank at Tseung Kwan O Area 137;</i></p> <p>(ii) <i>Handling of Public Fill delivered by Barges at the Barge Handling Area (BHA);</i></p> <p>(iii) <i>Sorting of Oversized Materials from the Public Fill supplied to the Sorting Plant of the Penny's Bay Reclamation Stage 2 Project; &amp;</i></p> <p>(iv) <i>Supply of Public Fill to the Sorting Plant of the Penny's Bay Reclamation Stage 2 Project.</i> }</p>	1 Dec 2005	1 Dec 2005	31 Dec 2005	31 days								

CEDD Contract No. CV/2005/05  
 Operation of Fill Bank at Tseung Kwan O Area 137 and Barging Facilities at Hong Kong Island and Mui Wo  
 3-Month Rolling Programme of Works (Rev. 4)

Date: 1 November 2005 (Tuesday)

Forthcoming Rolling 3 Months : Nov 2005 → Jan 2006

Section of Works / Major Variation Orders	Description	Earliest Start Date	Latest Start Date	Finish Date	Duration	2005				
						June 2005	July 2005	Aug 2005	Sep 2005	Oct 2005
Variation Order No. 1	Provision of Combined Reception and Exit Office at the Associated Facilities at Portion D4	26 Sep 2005	26 Sep 2005	26 Oct 2005	31 days					Forthcoming Rolling 3 Months: Nov 2005 → Jan 2006
	V.O. 1_a Setting Out, Site Clearance and General Preparation Works	26 Sep 2005	26 Sep 2005	28 Sep 2005	3 days					
	V.O. 1_b Construction of Blinding Layers for Footings of Weighbridges and the Combined Reception and Exit Office	29 Sep 2005	29 Sep 2005	2 Oct 2005	4 days					
	V.O. 1_c Construction of Footings of Weighbridges	3 Oct 2005	3 Oct 2005	6 Oct 2005	4 days					
	V.O. 1_d Construction of Footings of Combined Reception and Exit Office	6 Oct 2005	6 Oct 2005	7 Oct 2005	2 days					
	V.O. 1_e Installation of Containers, Staircase, Concrete Barriers and Collision Bollards	8 Oct 2005	8 Oct 2005	17 Oct 2005	10 days					
	V.O. 1_f Installation of Weighbridges	10 Oct 2005	10 Oct 2005	12 Oct 2005	3 days					
	V.O. 1_g Installation of Hardware Equipment, Furniture and Set Up of Temporary Electricity Supply	11 Oct 2005	11 Oct 2005	20 Oct 2005	10 days					
	V.O. 1_h Installation of Application Softwares	15 Oct 2005	15 Oct 2005	20 Oct 2005	6 days					
	V.O. 1_i Testing and Commissioning	24 Oct 2005	24 Oct 2005	26 Oct 2005	3 days					
Variation Order No. 4	Setup of Tipping Bay and Preliminary Sorting Device	13 Oct 2005	13 Oct 2005	25 Oct 2005	13 days					Forthcoming Rolling 3 Months: Nov 2005 → Jan 2006
	V.O. 2_a Setting Out, Site Clearance and General Preparation Works	13 Oct 2005	13 Oct 2005	13 Oct 2005	1 day					
	V.O. 2_b General Formation of Associated Access Road to the Tipping Bay	17 Oct 2005	17 Oct 2005	20 Oct 2005	4 days					
	V.O. 2_c Installation of Concrete Blocks and Wheel Stop	14 Oct 2005	14 Oct 2005	22 Oct 2005	9 days					
	V.O. 2_d Construction of Tipping Bay Platform	17 Oct 2005	17 Oct 2005	25 Oct 2005	9 days					

Remarks :- (1) Works to be carried out in the forthcoming 2 months (1 Nov 2005 ~ 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 D3 of the Works: 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 2 months (i.e., days after 31 Dec 2005) :





**Appendix H**  
**IEC's Site Audit Records**

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

Date of Site Audit:	11.11.2005	Time of Site Audit:	1:30 PM
Site Auditor:	Antony Wong	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 1.78)? 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 the site.	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		Please refer to the observation sheet
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 CEDD?			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 CEDD.			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		
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		
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	
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		
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		
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		
Has a LFG monitoring programme been formulated by the Safety Officer/Supervisor or by a qualified person?	x		
Has periodic/routine monitoring been conducted during ground-works, in all excavations, and works in confined spaces, if any?	x		
<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		
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
1. Fugitive dust emission due to vehicular movement was noted at haul road between Portions D & K.	The Contractor was advised to spray the mentioned area.
<b>Other Observations</b>	
1) Some buckets/drums of chemical wastes stored in the Chemical Waste Storage Shed were uncovered/unlabelled.	The Contractor was reminded to properly cap all the chemical / oil containers and suggested to have toolbox training to the workers.
2) The surface of the Workshop was found contaminated by lubricating oil due to maintenance work of an excavator.	The Contractor was reminded to clean up the contaminated soil and treat it as chemical waste ASAP. Also, the Contractor was reminded to provide impermeable sheet on the ground before conducting maintenance works.
3) Rubbish including cans was still observed in water browser filling station	The Contractor should keep the site tidy and clean and provide properly sized waste containers.
4) Two unlabelled 200L metal containers and one unlabelled 20L plastic container believed to be lubricating oil, were placed on the ground at DP3 near the wheel washing facilities.	The Contractor was reminded to label the chemicals and place them into a drip tray.

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

Date of Site Audit:	15.11.2005	Time of Site Audit:	11:00 AM
Site Auditor:	Antony Wong	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 the site.	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 (tarpauln sheeting or other impermeable sheeting), or sprayed (with water or a dust suppression chemical) or protected by other methods approved by CEDD?			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 CEDD.			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		
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		
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 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	
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		
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		
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		
Has a LFG monitoring programme been formulated by the Safety Officer/Supervisor or by a qualified person?	x		
Has periodic/routine monitoring been conducted during ground-works, in all excavations, and works in confined spaces, if any?	x		
<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		
At the time of site audit, was any monitoring underway?	x		
If yes, what parameters are being monitored and were the correct procedures adopted?			1-hour TSP
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
1) There were several open buckets full of waste lubricating oil stored in the Chemical Waste Shed and without appropriate labeling.	The Contractor was reminded to properly cap all the chemical / oil containers and suggested to provide toolbox training to the workers.
2) The surface of the Workshop was still found to be contaminated by lubricating oil due to maintenance work of an excavator.	The Contractor was again reminded to clean up the contaminated soil and treat it as chemical waste ASAP. Also, the Contractor was reminded to provide impermeable sheet on the ground before conducting maintenance works.
3) The containers stored behind the shed by the water filling station and used as water tanks, were still without labels.	The Contractor should label the water tanks.
4) One unlabelled 20L plastic container believed to contain diesel, was placed on the ground at DP3 near the wheel washing facilities.	The Contractor was reminded to label all chemical containers and place them into a drip tray.

**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 : 03 November 2005  
Time : 11:00

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

Temperature : 26°C  
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 road 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 shot concrete, 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>			
▪ The existing / realigned intercepting channels and the sand / silt removal facilities shall be used and maintained.	✓		
▪ 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 rainsform.	✓		
▪ 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 rainsform to ensure that these facilities are functioning properly at all times.	✓		
▪ 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.	✓		

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



Landscape and Visual				
<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>	√			
Other Environmental Factors				
<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>	√			Refer to item 4
<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 #6 (24/10/05), rubbish was observed behind the water tank at Water Truck Filling Station. The Contractor was reminded to clean up the rubbish and provide rubbish bins at Water Truck Filling Station.	051103_001	Yes
2	Follow up action to previous comment item #3 (24/10/05), the containers for waste oil placed on the ground at Workshop were removed.	051103_002	No
3	Follow up action to previous comment item #5 (24/10/05), the License of "The Registration of Waste Producer" posted of the previous contract was still posted at Chemical Waste Storage Shed. The Contractor was reminded to displace the valid license.	051103_003	Yes
4	Follow up action to previous comment item #2 (24/10/05), the generator at Portion D4 was still without drip tray. The Contractor was reminded to provide drip trays for all generators.	051103_004	Yes
5	Follow up action to previous comments item #7 (12/10/05), item #6 (18/10/05) and item #1 (24/10/05), oil stain leaked from the generator was cleaned up by the Contractor.	051103_005	No
6	Follow up action to previous comment item #7 (24/10/05), drip tray had been provided for generator next to monitoring station AA1.	051103_006	No

Remark

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Name	Signature	Date
Inspected by H T Chow		03 November 2005
Checked by Linda Law		03 November 2005

Photos



Photo 051103\_001

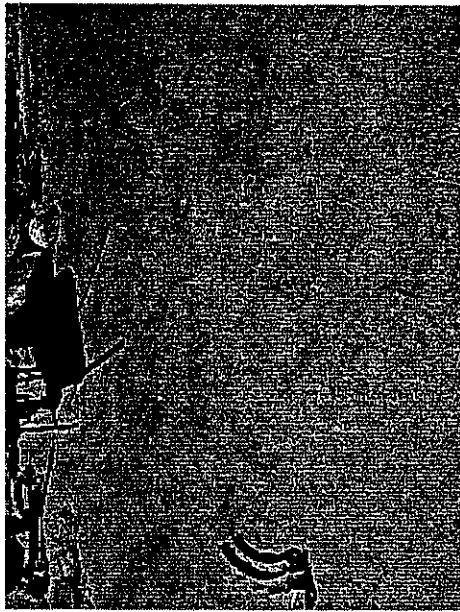


Photo 051103\_002



Photo 051103\_003

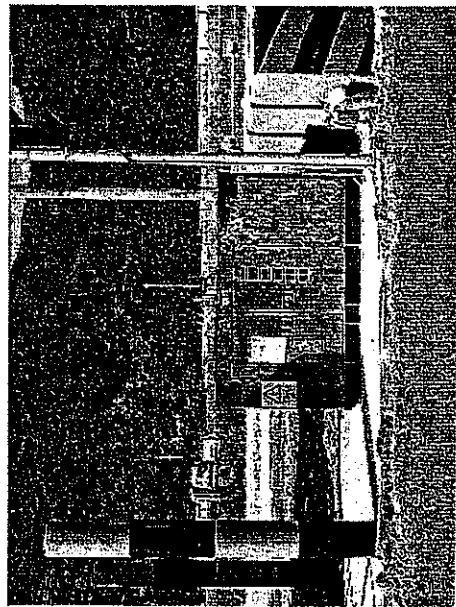


Photo 051103\_004



Photo 051103\_005

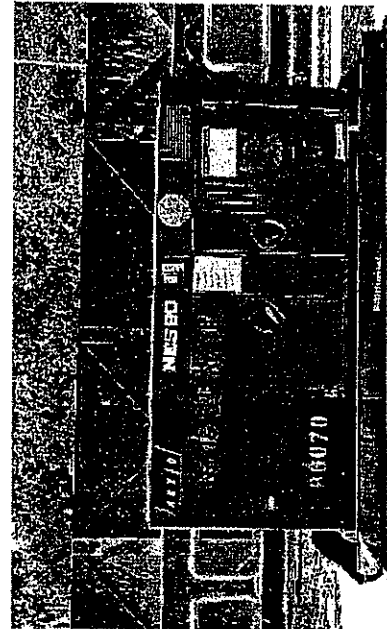


Photo 051103\_006

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 : 03 November 2005  
Time : 11:00  
Inspected by Name : Jerry W K Tam  
(Contractor)  
(ET)  
H T Chow

Weather : Sunny/Fine/Overcast/Drizzle/Rain/Storm/Hazy  
Wind : Calm/Light/Breeze/Strong  
Temperature : 26°C  
Humidity : High/Moderate/Low

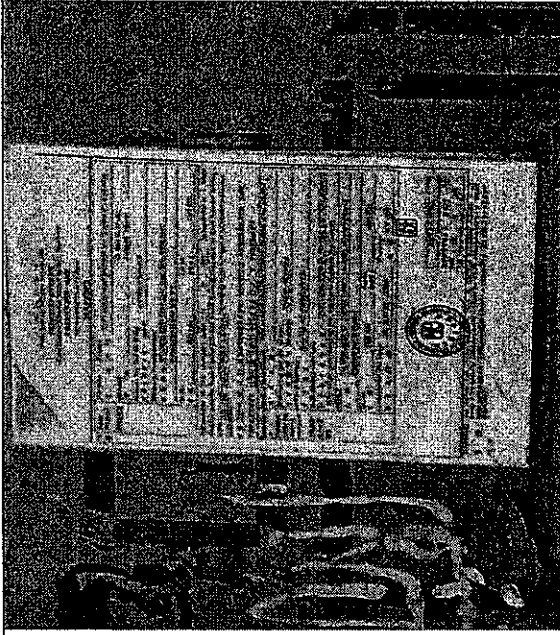
Item	Details of defective works or observations	Response	Date of Action taken	Photo Ref.
1	Follow up action to previous comment item #6 (24/10/05), rubbish was observed behind the water tank at Water Truck Filling Station. The Contractor was reminded to clean up the rubbish and provide rubbish bins at Water Truck Filling Station.	The area around the Water Filling Station has been cleaned up and a rubbish bin has been provided there on 12 November 2005.	12 Nov 2005	121105_01
2	Follow up action to previous comment item #5 (24/10/05), the License of "The Registration of Waste Producer" posted of the previous contract was still posted at Chemical Waste Storage Shed. The Contractor was reminded to displace the valid license.	The valid license of "The Registration of Waste Producer" for this Works Contract has been displaced at the Chemical Waste Storage Shed.	12 Nov 2005	121105_02
3	Follow up action to previous comment item #2 (24/10/05), the generator at Portion D4 was still without drip tray. The Contractor was reminded to provide drip trays for all generators.	The generator has been removed away in associated with the handover of Portion D4 to other contractor on 12 November 2005.	12 Nov 2005	-



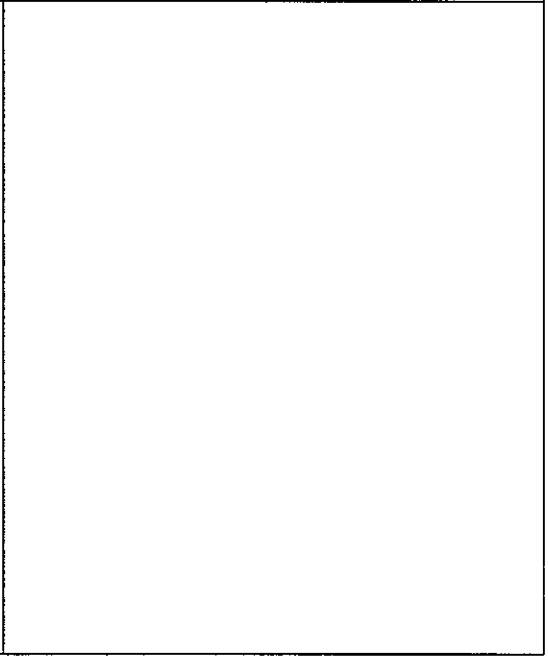
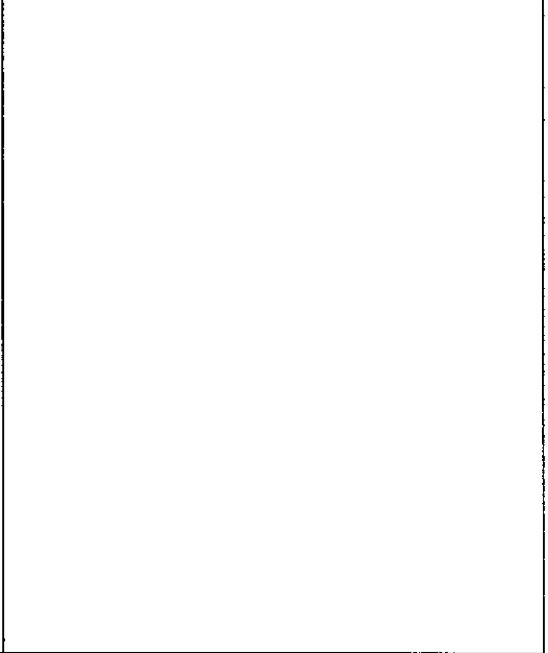
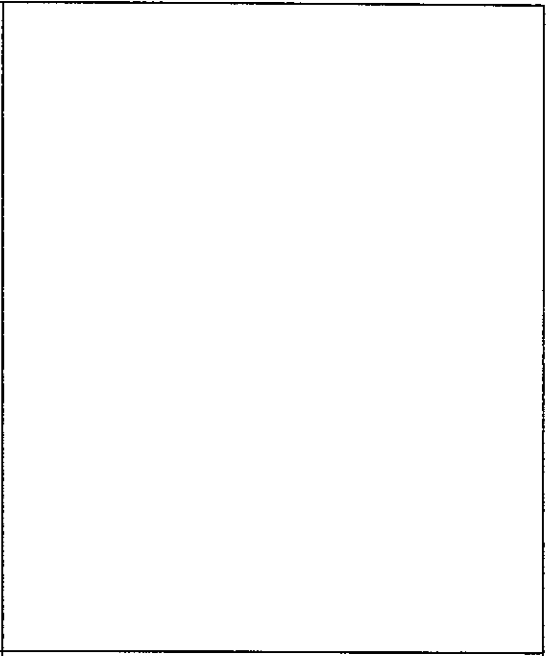
Photo of Follow-up Action



121105\_01



121105\_02



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

Inspection Date : 11 November 2005  
Time : 14:00

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

Temperature : 29°C  
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 road shall be paved or regular watering.	✓			Refer to item 5
▪ 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 CEED.	✓			
▪ 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 shot concrete, latex, vinyl, bitumen, or other suitable surface stabilizer approved by CEED.	✓			
▪ 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>	✓		
<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>	✓		
<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>	✓		



No.	Description	Compliance	Remarks
<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.	√	Refer to item 6
	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 comment item #6 (24/10/05) and item #1 (03/11/05), rubbish was still observed behind the water tank at Water Truck Filling Station. The Contractor was reminded to clean up the rubbish and provide rubbish bins at Water Truck Filling Station. Besides, oil stain was noted on the ground. The Contractor should clean up the oil stain and treat the contaminated soil as chemical waste.	051111_001	Yes
2	Follow up action to previous comment item #5 (24/10/05) and item #3 (03/11/05), the valid License of "The Registration of Waste Producer" posted of the previous contract was posted at Chemical Waste Storage Shed.	051111_002	No
3	A bucket containing waste oil placed inside the Chemical Waste Storage Shed was found without label and covered. The Contractor was reminded to provide appropriate labels and covers / caps for all oil containers.	051111_003	Yes
4	Oil spillage from the maintenance work of the excavator was observed on the bare ground at Workshop. The Contractor should clean up the contaminated soil and treat as chemical wastes immediately after the maintenance work. Besides, the Contractor was also reminded to provide impermeable sheet on the ground before repairing and maintenance works.	051111_004	Yes
5	Potential fugitive dust emission from vehicle movement was observed at haul road between Portion D & K. The Contractor was reminded to water the haul road frequently especially in dry season.	051111_005	Yes
6	Follow up action to previous comment item #2 (24/10/05) and item #4 (03/11/05), the generator at Portion D4 was still without drip tray. The Contractor was reminded to provide drip trays for all generators.	051111_006	Yes
7	Two 200L metal waste oil container and one 20L plastic container without labels and drip tray were placed on the ground at DB3 (near the wheel washing facilities). The Contractor was reminded to provide labels and drip tray for all containers.	051111_007	Yes

Remark

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Inspected by	Name Linda Law	Signature 	Date 11 November 2005
Checked by	C L Lau		11 November 2005

Photos



Photo 051111\_001

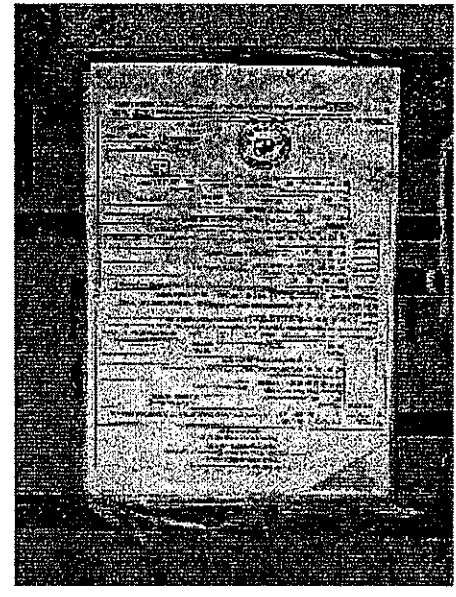


Photo 051111\_002



Photo 051111\_003

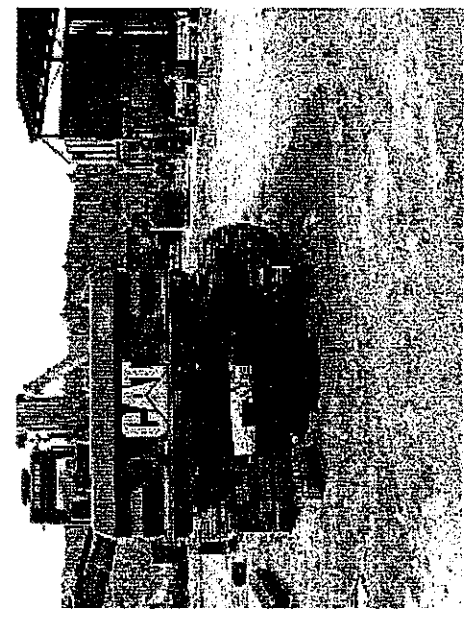


Photo 051111\_004

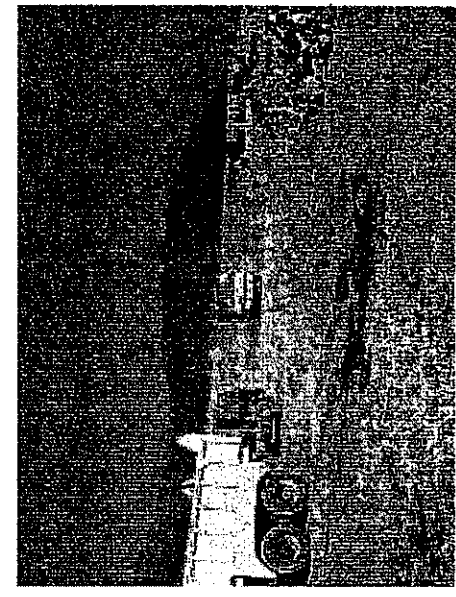


Photo 051111\_005

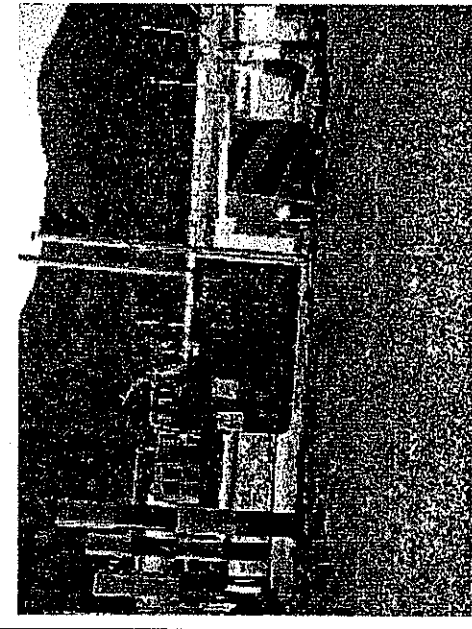
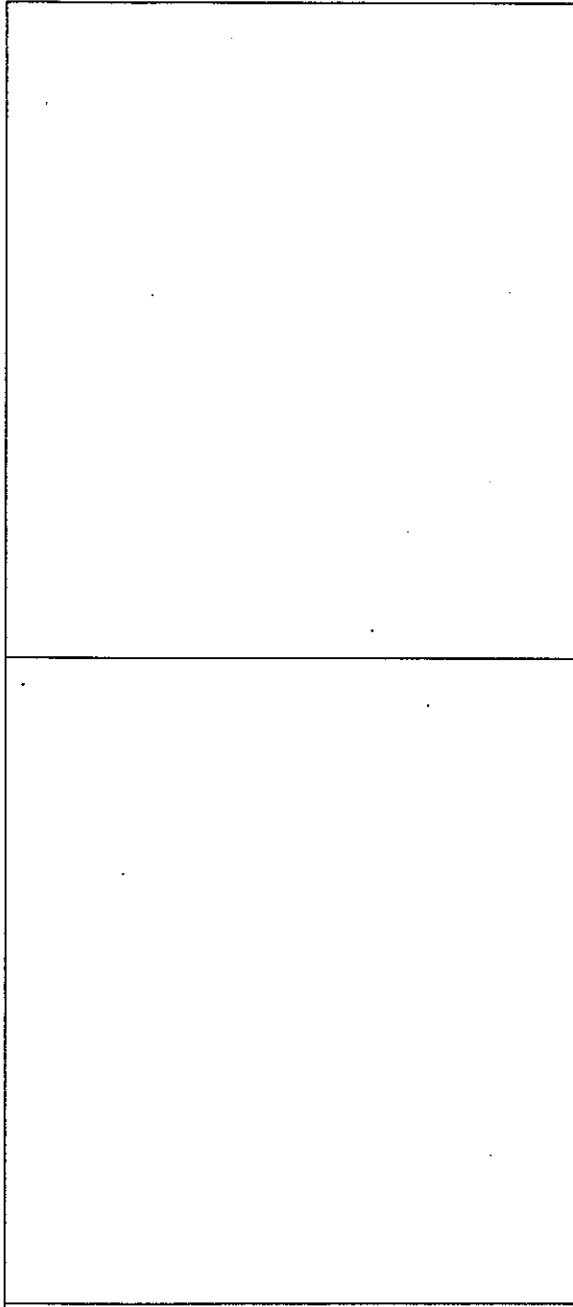


Photo 051111\_006



Photo 051111\_007



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 : 11 November 2005  
Time : 14:00  
Weather : Sunny/Fine/Overcast/Drizzle/Rain/Storm/Hazy  
Wind : Calm/Light/Breeze/Strong

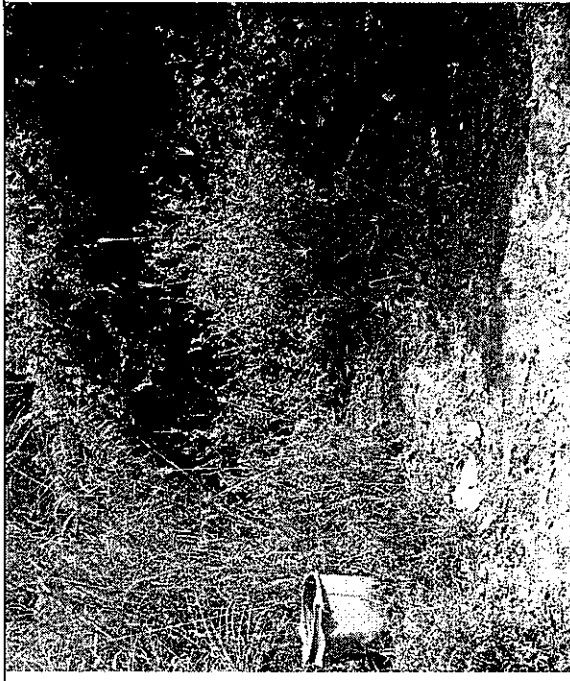
Inspected by Name : Antony Wong (IEC)  
Jerry W K Tam (Contractor)  
Linda Law (ET)

Temperature : 29°C  
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 #6 (24/10/05) and item #1 (03/11/05), rubbish was still observed behind the water tank at Water Truck Filling Station. The Contractor was reminded to clean up the rubbish and provide rubbish bins at Water Truck Filling Station. Besides, oil stain was noted on the ground. The Contractor should clean up the oil stain and treat the contaminated soil as chemical waste.	The area around the Water Truck Filling Station had been cleaned up on 12 November 2005. Rubbish bin had also been provided for collection of rubbish.	12 Nov 2005	121105_01
2	A bucket containing waste oil placed inside the Chemical Waste Storage Shed was found without label and covered. The Contractor was reminded to provided appropriate labels and covers / caps for all oil containers.	All buckets containing waste oil had been well covered up.	19 Nov 2005	191105_03
3	Oil spillage from the maintenance work of the excavator was observed on the bare ground at Workshop. The Contractor should clean up the contaminated soil and treat as chemical wastes immediately after the maintenance work. Besides, the Contractor was also reminded to provide impermeable sheet on the ground before repairing and maintenance works.	The excavator concerned was under repair at the time of inspection. Cleaning up of the contaminated soil caused by oil spillage and further treated as chemical waste for proper storage had been carried out after completion of repair works.	21 Nov 2005	211105_04
4	Potential fugitive dust emission from vehicle movement was observed at haul road between Portion D & K. The Contractor was reminded to water the haul road frequently especially in dry season.	The frequency of water spraying performed by 3 water lorries on site had been enhanced in view of the dry season. In average, total 25 nos. of round trip per day thoroughly covering the site area traveled by the 3 water lorries is recorded.	21 Nov 2005	211105_05
5	Follow up action to previous comment item #2 (24/10/05) and item #4 (03/11/05), the generator at Portion D4 was still without drip tray. The Contractor was reminded to provide drip trays for all generators.	The whole area of Portion D4 had been formally handed over to other contractor on 12 November 2005 and thus the area concerned is not managed by us thereafter.	-	-
6	Two 200L metal waste oil container and one 20L plastic container without labels and drip tray were placed on the ground at DB3 (near the wheel washing facilities). The Contractor was reminded to provide labels and drip tray for all containers.	The metal waste oil containers and plastic container were all removed away and stored inside the Chemical Waste Storage Shed on 11 November 2005.	11 Nov 2005	111105_02



Photo of Follow-up Action



121105\_01



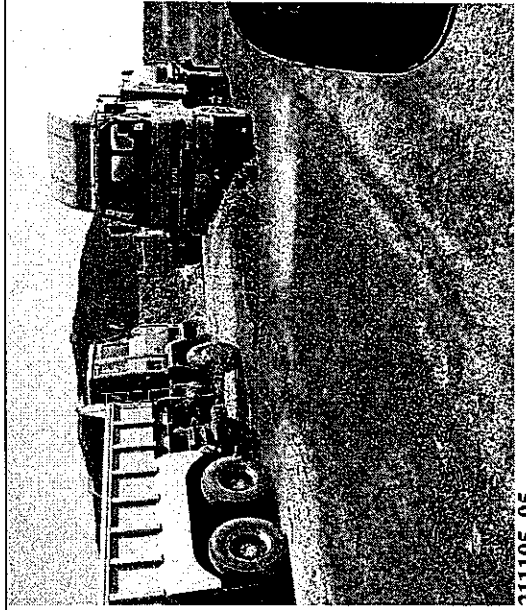
111105\_02



191105\_03



211105\_04



211105\_05

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

Inspection Date : 15 November 2005  
 Time : 11:15

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

Temperature : 25°C  
 Humidity : High / Moderate / Low

Implementation Stages*		Remark
<b>Environmental Checklist</b>		
<b>Fugitive Dust Emission</b>		
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Dust control / mitigation measures shall be provided to prevent dust nuisance.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	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.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Water sprays shall be provided and used to dampen materials.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Regular cleaning and watering the site shall be provided to minimize the fugitive dust emissions.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	All vehicles shall be restricted to a maximum speed of 10 km per hour.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	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.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	The designated site main haul road shall be paved or regular watering.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Frequent watering of work site shall be at least three times per day.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Wheel washing facilities including high-pressure water jet shall be provided at the entrance of work site.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Every vehicle shall be washed to remove any dusty materials from its body and wheels before leaving the fill bank.
<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 shot concrete, latex, vinyl, bitumen, or other suitable surface stabilizer approved by CEDD.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	When fill material is transfer by belt conveyor systems, the conveyors shall be enclosed on top and 2 sides.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	The belt scraper shall be equipped with bottom plates or other similar means to prevent falling of material from the return belt.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	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>		
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	The approved method of working, equipment and sound-reducing measures (e.g. use of silenced type of equipment, etc.) shall be adapted.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Only well maintained plant should be operated on-site and plant should be serviced regularly during the construction works.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Powered mechanical equipment (PME) should be covered or shielded by appropriate acoustic materials.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Air compressors and hand held breakers should have noise labels.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Machines and plants that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	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>				
<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.	<input checked="" type="checkbox"/>		

<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 the 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>														
											Refer to item 2			√

**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 #6 (24/10/05), item #1 (03/11/05) and item #1 (11/11/05), no rubbish was observed and rubbish bin was provided.	051115_001	No
2	Follow up action to previous comment item #4 (11/11/05), oil spillage from the maintenance work of the excavator was still observed on the bare ground at Workshop. The Contractor should clean up the contaminated soil and treat as chemical wastes immediately after the maintenance work. Besides, the Contractor was also reminded to provide impermeable sheet on the ground before repairing and maintenance works.	051115_002	Yes
3	Follow up action to previous comment item #3 (11/11/05), chemical containers placed inside the Chemical Waste Storage Shed was still found without label and covered. The Contractor was reminded to provided appropriate labels and covers / caps for all oil containers.	051115_003	Yes
4	Follow up action to previous comment item #5 (11/11/05), no potential fugitive dust emission from vehicle movement was observed at haul road between Portion D & K.	051115_004	No
5	Follow up action to previous comment item #7 (11/11/05), two 200L metal waste oil containers were removed but the 20L plastic container was still found without label and drip tray at DB3 (near the wheel washing facilities). The Contractor was reminded to provided label and drip tray for the container.	051115_005	Yes

Remark

Inspected by	Name	Signature	Date
	H T Chow		15 November 2005
Checked by	Linda Law		15 November 2005

Photos

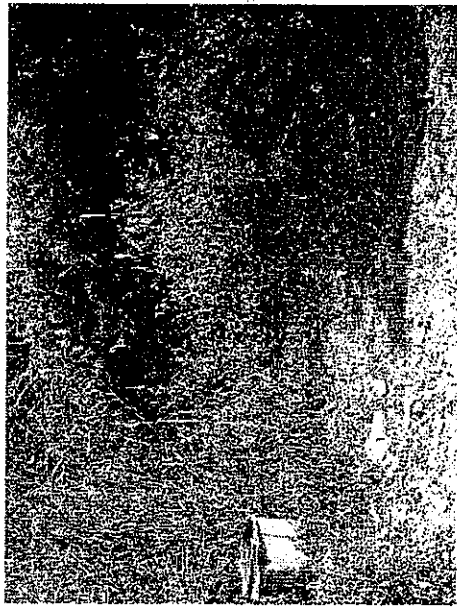


Photo 051115\_001



Photo 051115\_002



Photo 051115\_003

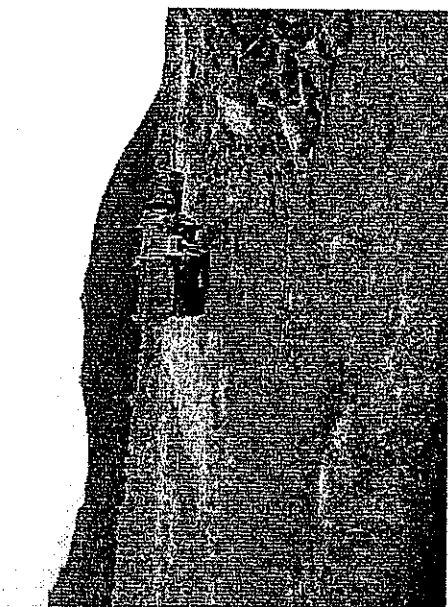


Photo 051115\_004



Photo 051115\_005



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 : 15 November 2005  
Time : 11:15

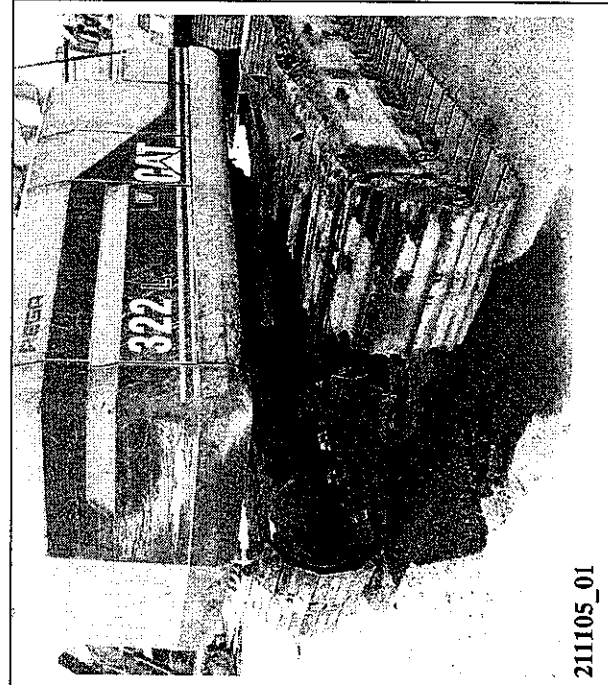
Inspected by Name : Antony Wong (IEC)  
Stephen Choi (Contractor)  
HT Chow (ET)

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

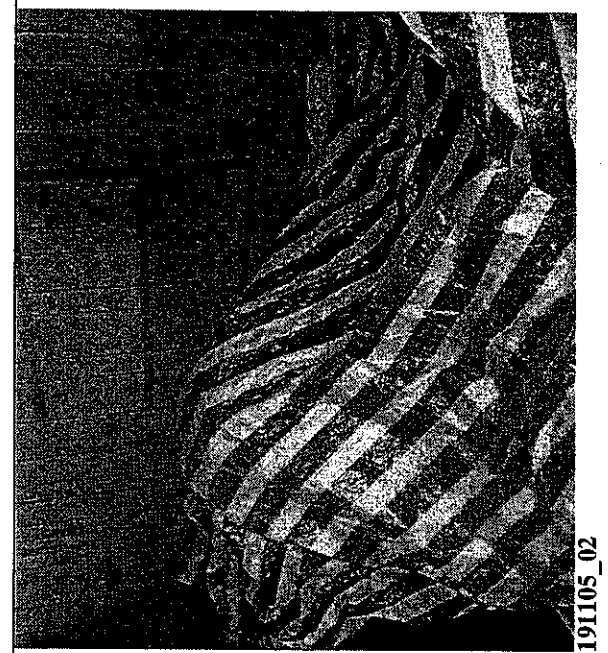
Temperature : 25°C  
Humidity : High/Moderate/Low

Item	Details of defective works or observations	Response	Date of Action taken	Photo Ref.
1	Follow up action to previous comment item #4 (11/11/05), oil spillage from the maintenance work of the excavator was still observed on the bare ground at Workshop. The Contractor should clean up the contaminated soil and treat as chemical wastes immediately after the maintenance work. Besides, the Contractor was also reminded to provide impermeable sheet on the ground before repairing and maintenance works.	The excavator concerned was still under repair at the time of inspection. Cleaning up of the contaminated soil caused by oil spillage and further treated as chemical waste for proper storage had been carried out after completion of repair works.	21 Nov 2005	2111105_01
2	Follow up action to previous comment item #3 (11/11/05), chemical containers placed inside the Chemical Waste Storage Shed was still found without label and covered. The Contractor was reminded to provided appropriate labels and covers / caps for all oil containers.	All buckets containing waste oil had been well covered up.	19 Nov 2005	1911105_02
3	Follow up action to previous comment item #7 (11/11/05), two 200L metal waste oil containers were removed but the 20L plastic container was still found without label and drip tray at DB3 (near the wheel washing facilities). The Contractor was reminded to provide label and drip tray for the container.	All remaining containers were removed away and properly stored inside the Chemical Storage Shed.	21 Nov 2005	2111105_03

Photo of Follow-up Action



211105\_01



191105\_02



211105\_03



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

Inspection Date : 21 November 2005  
 Time : 11:00

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

Temperature : 22°C  
 Humidity : High/Moderate/Low

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



	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.	✓		
▪ 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 shotconcrete, 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.	✓		
▪ 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 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.	✓		
▪ 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 the 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>				Refer to item 1

**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 #4 (11/11/05) and item #2 (15/11/05), oil spillage from the maintenance work of the excavator was still observed on the bare ground at Workshop. The Contractor should clean up the contaminated soil and treat as chemical wastes immediately after the maintenance work. Besides, the Contractor was also reminded to provide impermeable sheet on the ground before repairing and maintenance works.	051121_001	Yes
2	Follow up action to previous comments item #3 (11/11/05) and item #3 (15/11/05), chemical containers placed inside the Chemical Waste Storage Shed were found covered. The Contractor was still advised to provided appropriate labels and covers / caps for all oil containers.	051121_002	No
3	Follow up action to previous comments item #7 (11/11/05) and item #5 (15/11/05), the 20L plastic container at DB3 (near the wheel washing facilities) was found removed.	051121_003	No

Remark

	Name	Signature	Date
Inspected by	H T Chow		21 November 2005
Checked by	Linda Law		21 November 2005

Photos



Photo 051121\_001

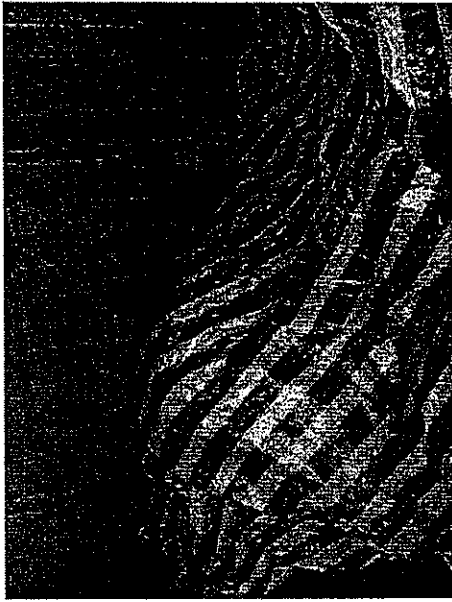


Photo 051121\_002

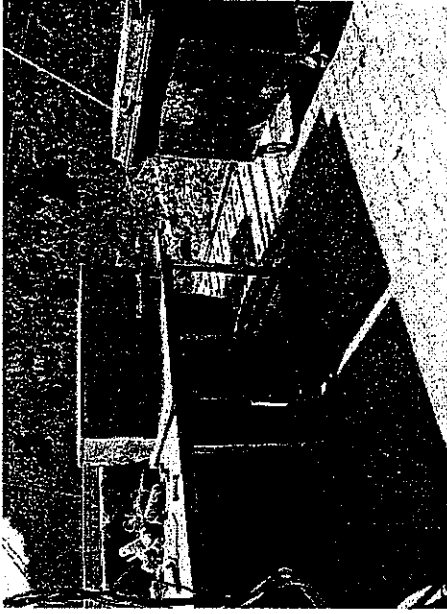


Photo 051121\_003



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 : 21 November 2005  
 Time : 11:00  
 Inspected by : Jerry W K Tam (Contractor)  
 Name : H T Chow (ET)  
 Weather : Sunny / Fine / Cloudy / Overcast / Drizzle / Rain / Storm / Hazy  
 Wind : Calm / Light / Breeze / Strong  
 Temperature : 22°C  
 Humidity : High / Moderate / Low

Item	Details of defective works or observations	Response	Date of Action taken	Photo Ref.
1	<p>Follow up action to previous comments item #4 (11/11/05) and item #2 (15/11/05), oil spillage from the maintenance work of the excavator was still observed on the bare ground at Workshop. The Contractor should clean up the contaminated soil and treat as chemical wastes immediately after the maintenance work. Besides, the Contractor was also reminded to provide impermeable sheet on the ground before repairing and maintenance works.</p>	<p><i>The oil spillage had been cleaned up after completion of maintenance of the plant concerned.</i></p>	<p>22 Nov 2005</p>	<p>221105_01</p>

Photo of Follow-up Action



221105\_01




## **Appendix J**

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







Environmental Protection Measures		Location	Implementation Status			
			Implemented	Partially implemented	Not implemented	Not Applicable
<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 regularly.</li> <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> <li>▪ A buffer distance of at least 20m shall be maintained between the boundary of the C&amp;DMSE and the seafront.</li> <li>▪ The stormwater intercepting system shall be effective to collect of runoff and remove suspended solids before discharge.</li> <li>▪ The material shall be properly covered to prevent washed away especially before rainstorm.</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>▪ 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> <li>▪ Obtain Discharge License</li> <li>▪ Adequate environmental control measures shall be provided to prevent / avoid dropping of fill material into the sea during the transfer.</li> <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> <li>▪ A waste collection vessel shall be deployed to remove floating debris.</li> </ul>		All areas	√			
		Along the seafront	√			
		C&DMSE				
		All areas		√		√
		All areas	√			
		Temporary Slopes	√			
		Wheel Washing facility	√			
		Site Office	√			
		Barge Handling Area (BHA)	√			
		Barge Handling Area (BHA)	√			
		Barge Handling Area (BHA)	√			
		Barge Handling Area (BHA)	√			
<b>Landscape and Visual</b>						
<ul style="list-style-type: none"> <li>• Construction of lighting to avoid spillage and glare</li> <li>• Hydroseeding</li> <li>• Hoarding erection</li> <li>• Damage to surrounding area avoided</li> </ul>		All areas	√			
		Completed slopes	√			
		Site boundary	√			
		All areas	√			
<b>Other Environmental Factors</b>						
<ul style="list-style-type: none"> <li>• C&amp;D waste sorted from mixed C&amp;D material shall be transfer to SENT landfill for disposal.</li> <li>• Plan and stock construction materials carefully to minimise generation of waste.</li> <li>• Any unused materials or those with remaining functional capacity should be recycled.</li> <li>• All generators, fuel and oil storage are within bunded areas.</li> <li>• Oil leakage from machinery, vehicle and plant is prevented.</li> <li>• Bund chemical storage area to 110% capacity.</li> <li>• Prevent disposal of hazardous materials to air, soil and water body</li> <li>• Provide rubbish skips at all work areas</li> </ul>		All areas	√			
		All areas	√			
		All areas	√			
		All areas	√			
		All areas		√		
		All areas	√			
		All areas	√			
		All areas	√			
		All areas	√			



## **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 – Turbidity

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
14/11/05	M4	Mid-ebb	4.90	4.28 or 120% of upstream control stations C1 (4.59 x 1.2 = 5.51)	4.58 or 120% of upstream control stations C1 (4.59 x 1.3 = 5.97)	According to the monitoring results, it was found that Turbidity of the impact station M4 (4.90mg/L) was found closed to that of reference station C1 (4.59mg/L). At the same time, no abnormal site activities was observed at the Fill Bank. Therefore, the exceedance might be due to natural fluctuation of Turbidity in the water body around the area and considered not due to the Fill Bank operation. The turbidity level of marine water was found returned back to normal level during the next tide monitoring (mid-flood).	Nil	Nil
14/11/05	C1	Mid-ebb	4.59	4.28	4.58	Exceedance was not due to the operation of the Fill Bank as the receiver was located upstream to the works area.	Nil	Nil
28/11/05	M4	Mid-ebb	4.84	4.28 or 120% of upstream control stations C1 (4.89 x 1.2 = 5.87)	4.58 or 130% of upstream control stations C1 (4.89 x 1.3 = 6.36)	According to the monitoring results, it was found that Turbidity of the impact station M4 (4.84mg/L) was lower than reference station C1 (4.89mg/L). At the same time, no abnormal site activities was observed at the Fill Bank. Therefore, the exceedance might be due to natural fluctuation of Turbidity in the water body around the area and considered not due to the Fill Bank operation. The turbidity level of marine water was found returned back to normal level during the next tide monitoring (mid-flood).	Nil	Nil
28/11/05	C1	Mid-ebb	4.89	4.28	4.58	Exceedance was not due to the operation of the Fill Bank as the receiver was located upstream to the works area.	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



**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) and Impact Air Monitoring (1-hr TSP & 24-hr  
TSP) and Weekly Site Inspection (Weekly SI)**

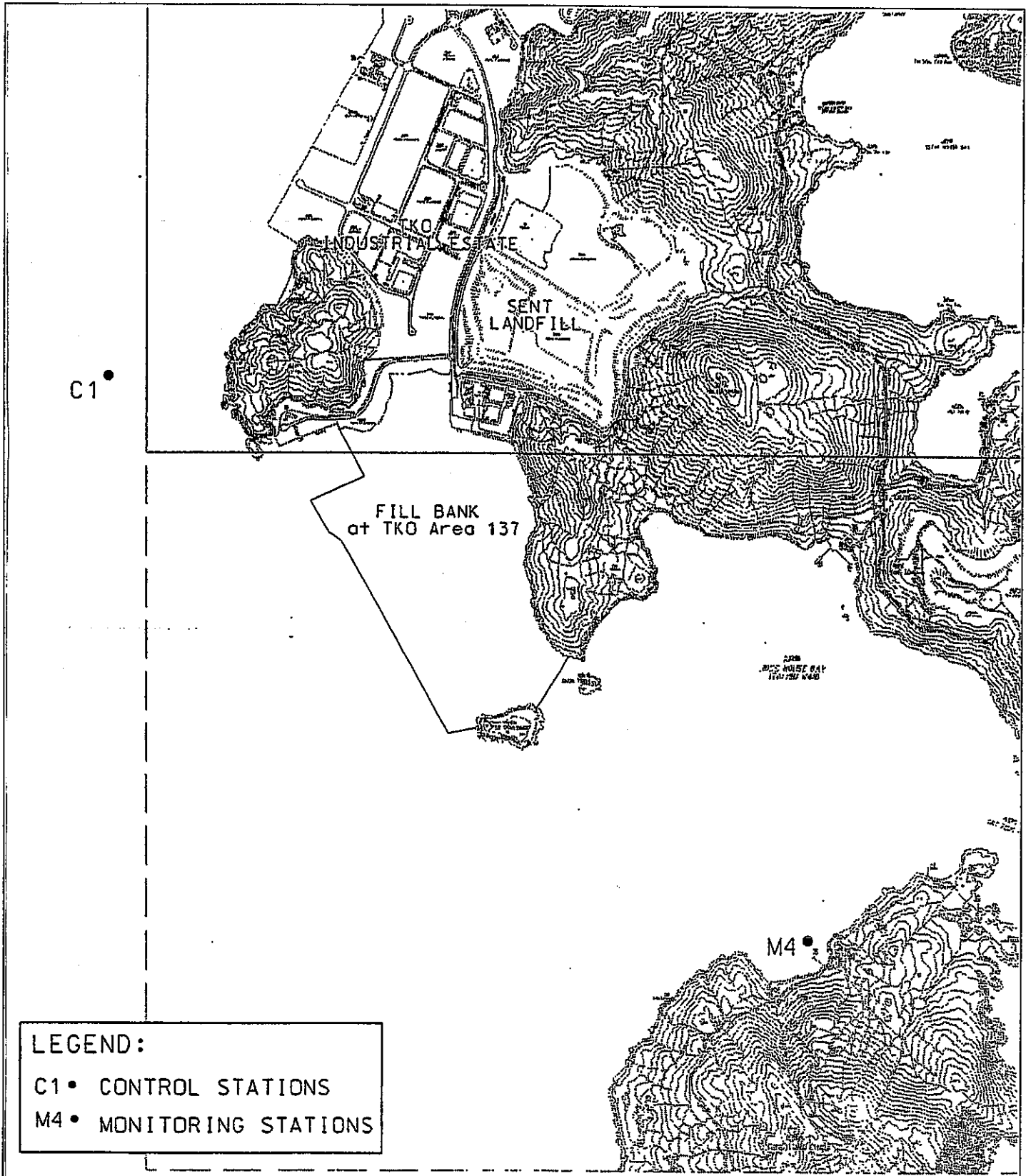
**December 2005**

Sun	Mon	Tue	Wed	Thu	Fri	Sat
				1 <u>1-hr TSP,</u> <u>24-hr TSP</u>  <u>Weekly SI</u>  <u>NM</u>	2 <u>WQM</u> Mid-flood (07:30-09:30) Mid-ebb (11:30-13:30)	3
4	5 <u>WQM</u> Mid-flood (09:00-11:00) Mid-ebb (14:15-15:15)	6	7 <u>WQM</u> Mid-flood (11:00-13:00) Mid-ebb (17:00-19:00)  <u>1-hr TSP,</u> <u>24-hr TSP</u>  <u>Weekly SI</u>	8	9 <u>WQM</u> Mid-ebb (07:00-09:00) Mid-flood (12:45-14:45)	10
11	12 <u>WQM</u> Mid-ebb (08:30-10:30) Mid-flood (14:30-16:30)  <u>Weekly SI</u>	13 <u>1-hr TSP,</u> <u>24-hr TSP</u>	14 <u>WQM</u> Mid-ebb (10:15-12:15) Mid-flood (15:00-17:00)	15	16 <u>WQM</u> Mid-flood (07:00-09:00) Mid-ebb (11:30-13:30)	17
18	19 <u>WQM</u> Mid-flood (08:30-10:30) Mid-ebb (13:30-15:00)  <u>1-hr TSP,</u> <u>24-hr TSP</u>  <u>Weekly SI</u>	20	21 <u>WQM</u> Mid-flood (10:15-12:15) Mid-ebb (15:15-16:15)	22	23 <u>WQM</u> Mid-flood (11:30-13:30) Mid-ebb (17:00-19:00)  <u>1-hr TSP,</u> <u>24-hr TSP</u>	24
25	26 Public Holiday	27 Public Holiday	28 <u>WQM</u> Mid-ebb (09:00-11:00) Mid-flood (14:15-16:15)	29 <u>1-hr TSP,</u> <u>24-hr TSP</u>  <u>Weekly SI</u>	30 <u>WQM</u> Mid-flood (07:00-09:00) Mid-ebb (10:45-12:45)	31





## Figures



Contract No. CV/2005/05

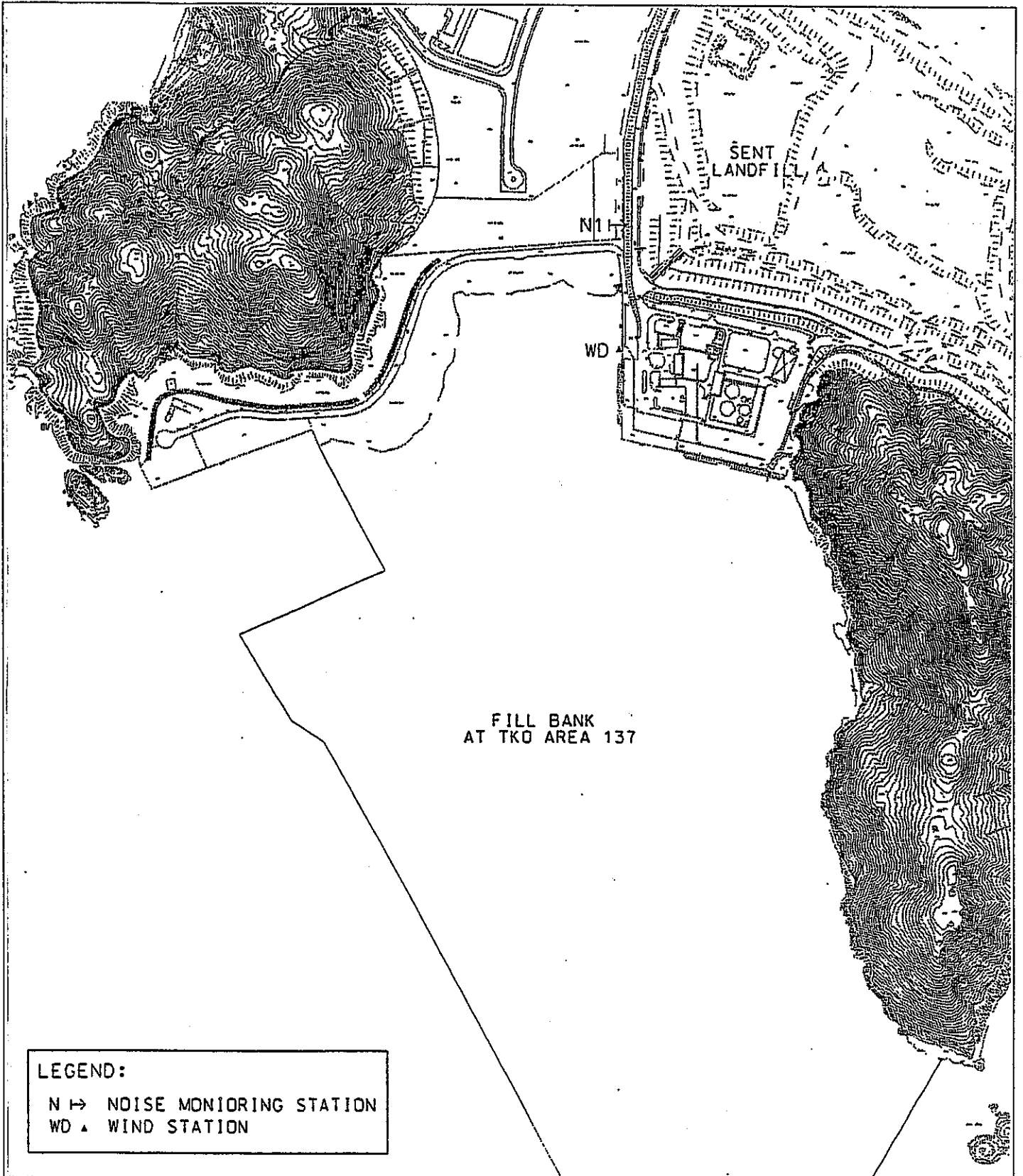
Operation of Fill Bank at Tseung Kwan O Area 137 and Barging Facilities at Hong Kong Island and Mui Woo

Figure 1

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



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Contract No. CV/2005/05

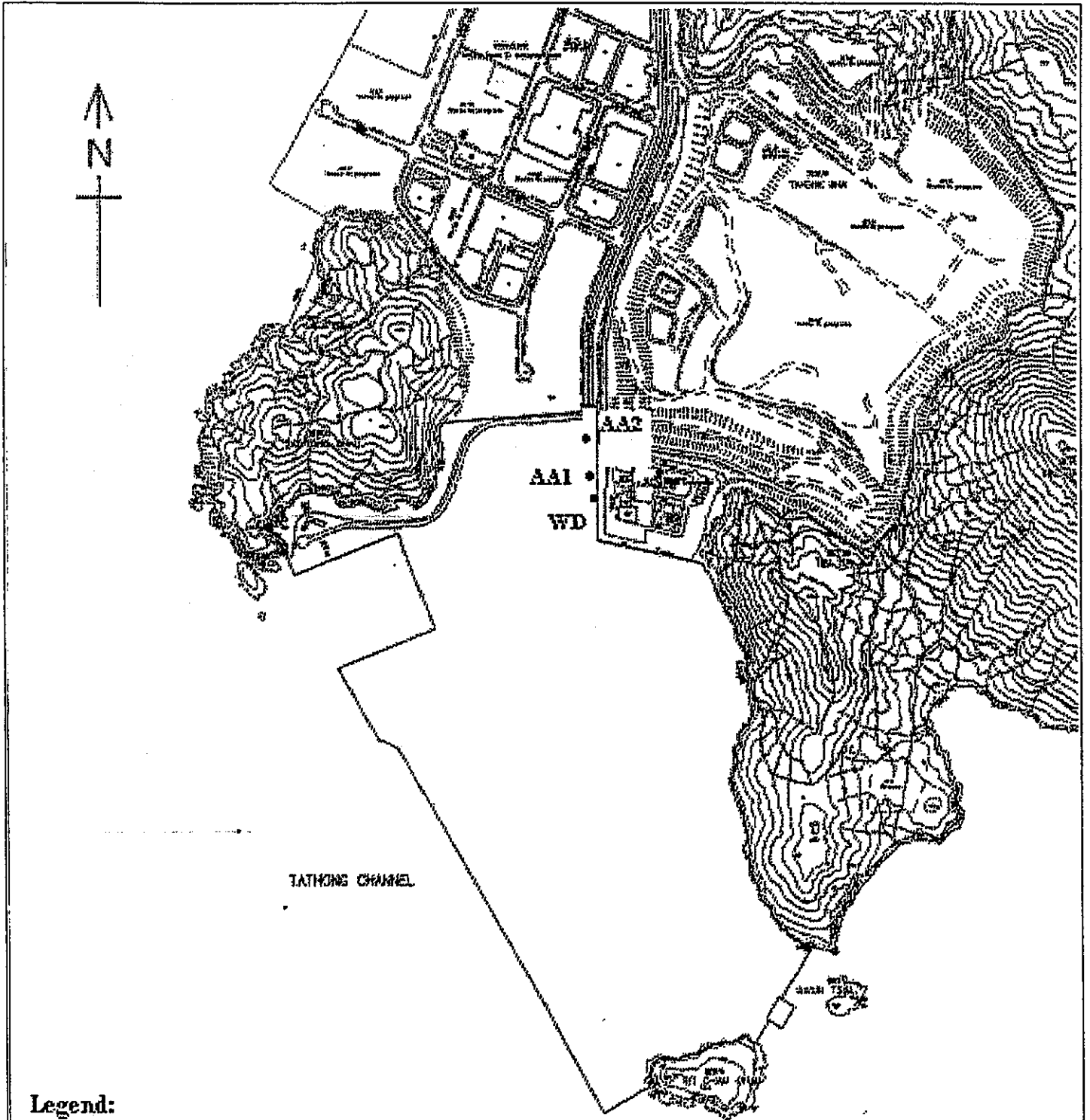
Operation of Fill Bank at Tseung Kwan O Area 137 and Barging Facilities at Hong Kong Island and Mui Woo

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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