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TEST REPORT

CHINA HARBOUR ENGINEERING CO. LTD.

**DELIVERY OF RECLAMATION MATERIAL
TO MAINLAND –
ENVIRONMENTAL MONITORING AND AUDIT
(CONTRACT NO.: CV/2005/01)**

TSEUNG KWAN O AREA 137 FILL BANK

MONTHLY EM&A REPORT

(DECEMBER 2006)

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Report No.: ENA60915

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2714 0113

Subject

**Agreement No. CE 9/2005 (EP)
Tseung Kwan O Area 137 Fill Bank -
Monthly Environmental Monitoring & Audit Report**

We refer to the revised first monthly EM&A report that we received yesterday through email and are pleased to confirm we have no further comment on the report.

Should you require further information, please feel free to contact us.

Best regards,



Joseph Poon
Independent Environmental Checker

JP/ac

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EXECUTIVE SUMMARY

This is the first monthly Environmental Monitoring and Audit (EM&A) report prepared by ETS-Testconsult Ltd (ET) for the "Contract No. CV/2005/01 Delivery of Reclamation Material to Mainland – Tseung Kwan O Area 137 Fill Bank" (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 December 2006.

Construction Progress

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

- The construction work of Principal & Site office
- The construction work of contractor office
- Set up of the crushing plant
- Set up two Tipping Halls
- Upgrade the access road

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: 12 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

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

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	06, 12, 18, 29
IEC site inspection	12, 21

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 panels were satisfactory in this reporting month. The Contractor should properly maintain the hydroseeded panels.

Environmental Complaints, Notification of summons and successful prosecutions

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

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

China Harbour Engineering Company Limited (CHEC) appointed Environmental Team (ET) of ETS-Testconsult Limited (ETL) to undertake the Environmental Monitoring and Audit (EM&A) for the "Contract No. CV/2005/01 Delivery of reclamation material to mainland – Tseung Kwan O Area 137 Fill Bank" (The Project).

In accordance with the Environmental Permit (No.: EP-134/2002/F) (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 MaterialLab. 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 December 2006.

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 a temporary storm water system;
- Stockpiling of 6 million m³ of public fill;
- 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. WT CHAU Mr. HC TANG Mr. P YLU	Engineer's Representative	2760 5835	2714 0113
IEC (Materialab)	Mr Joseph POON	IEC	2450 8238	2450 6138
Contractor (CHEC)	Mr. William CHAN	Assistant Project Manager	9772 7055	2243 4089
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:

- The construction work of Principal & Site office
- The construction work of contractor office
- Set up of the crushing plant
- Set up two Tipping Halls
- Upgrade the access road

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 calibrator are attached in Appendix B1.



Table 4.1 Air Quality Monitoring Equipment

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

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

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

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

Monitoring station	Location
TKO-A1	Outside CEDD Site Office
TKO-A2	Site Egress

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											
TKO-A1	Outside CEDD Site Office						06/12/06	08:30	09:30					
													09:45	10:45
													11:00	12:00
							12/12/06						08:30	09:30
													13:00	14:00
													15:30	16:30
							18/12/06						08:30	09:30
													09:45	10:45
													11:00	12:00
							23/12/06						08:30	09:30
													09:45	10:45
													11:00	12:00
29/12/06						08:30	09:30							
						13:30	14:30							
						15:00	16:00							
TKO-A2	Site Egress						06/12/06	08:30	09:30					
													09:45	10:45
													11:00	12:00
							12/12/06						13:00	14:00
													14:15	15:15
													15:30	16:30
							18/12/06						08:30	09:30
													09:45	10:45
													11:00	12:00
							23/12/06						08:30	09:30
													09:45	10:45
													11:00	12:00
29/12/06						08:30	09:30							
						13:30	14:30							
						15:00	16:00							



Air quality monitoring stations	Location	Monitoring Period							
		24-hr TSP				1-hr TSP			
		Start		Finish		Date	Start	Finish	
		Date	Time	Date	Time				
TKO-A1	Outside CEDD Site Office	06/12/06	13:00	07/12/06	13:00				
		12/12/06	16:45	13/12/06	16:45				
		18/12/06	13:00	19/12/06	12:59				--
		23/12/06	13:00	24/12/06	13:00				
		29/12/06	16:30	30/12/06	16:30				
TKO-A2	Site Egress	06/12/06	13:00	07/12/06	12:59				
		12/12/06	16:45	13/12/06	16:45				
		18/12/06	13:00	19/12/06	13:01				--
		23/12/06	13:00	24/12/06	13:01				
		29/12/06	16:30	30/12/06	16:30				

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 0.6m³/min and 1.7m³/min.) in accordance with the manufacturer's instruction to within the range recommended in USEPA Standard Title 40, CFR Part 50. The flow rate was indicated on the flow rate chart.
- 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 1 hour or 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 recorded.
- 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 ($\mu\text{g}/\text{m}^3$)		1-hr TSP ($\mu\text{g}/\text{m}^3$)	
	Action Level	Limit Level	Action Level	Limit Level
TKO-A1	210	260	376	500
TKO-A2	210	260	376	500

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 #
TKO-A1	Outside CEDD Site Office	06/12/06	169	X	06/12/06	08:30	246	X
						09:45	330	
						11:00	341	
		12/12/06	150	X	12/12/06	08:30	203	X
						13:00	285	
						15:30	315	
		18/12/06	154	X	18/12/06	08:30	234	X
						09:45	301	
						11:00	320	
		23/12/06	157	X	23/12/06	08:30	246	X
						09:45	308	
						11:00	334	
29/12/06	162	X	29/12/06	08:30	279	X		
				13:30	317			
				15:00	349			
						328		

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



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 #
TKO-A2	Site Egress	06/12/06	144	X	06/12/06	08:30	225	X
						09:45	296	
						11:00	316	
		12/12/06	137	X	12/12/06	08:30	187	X
						13:15	242	
						15:30	257	
		18/12/06	139	X	18/12/06	08:30	236	X
						09:45	294	
						11:00	306	
		23/12/06	144	X	23/12/06	08:30	214	X
						09:45	314	
						11:00	321	
29/12/06	149	X	29/12/06	08:30	234	X		
				13:30	352			
				15:00	328			

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 bowzers and automatic water sprinklers on the main haul roads. Furthermore, hydroseeded slopes on the stockpiling areas was maintained properly in order to prevent dust generation from wind erosion of the exposed surfaces. Other dust sources near TKO Area 137 also included operation of the C&DMSF at the PBR2 Project site, the temporary C&DMSF at Portion K and dumping activities at the SENT Landfill.

5.0 Noise Monitoring

5.1 Monitoring Requirements

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

5.2 Monitoring Equipment

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

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

Table 5.1 Noise Monitoring Equipment

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



5.3 Monitoring Parameters, Duration and Frequency

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

Table 5.2 Duration, Frequencies and Parameters of Noise Monitoring

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

5.4 Monitoring Locations and Period

One Noise monitoring was conducted at the noise monitoring location, TKO-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>TKO-N1</i>	<i>Outside site Egress along Wan Po Road</i>	<i>Free Field</i>

The noise-monitoring period of monitoring station is summarized in Appendix C2.

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 : 30 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 L_{eq} , L_{10} and L_{90} 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 5.4.

Table 5.4 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>



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 TKO-N1 in this reporting month. The detail of the noise monitoring 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 5.5.

Table 5.5 Summary of Impact Noise Level

Date	Start Sampling Time (hh:mm)	Noise Level dB (A)		
		$L_{eq(30min)}$	L_{10}	L_{90}
06/12/06	10:15	69.5	74.7	62.3

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

5.8.2 Observation

The major noise source during the monitoring event was the dump truck traffic. Operation of the Fill Bank was from 08:00 to 21:00 from Monday to Sunday in the reporting month. Whereas the operation hours for barge activities in the TKO Basin was from 08:00 to 23:00. The monitoring result complied with the noise limit of 75dB(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)	TKO-C1	844 740.208	815 371.502
Monitoring Station, Tung Lung Chau Fish Culture Zone	TKO-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

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

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

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

6.5 Monitoring Methodology and Equipment Used

For Location of the monitoring stations

Global Positioning System (GPS)

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

For Water Depth measurement

Echo Sounder

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

For In-situ Water Quality Measurement

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

Dissolved Oxygen (DO) and temperature measuring equipment

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

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

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

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 th 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 the start of measurement.

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%. If the difference is greater than 25%, repeat measurement will be required.

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	20/11/2006	19/02/2007	EW/003/001*
Turbidity	HACH Model 2100P Turbid Meter	28/10/2006	28/01/2007	ET/0505/002
Salinity	YSI Model 30M	26/10/2006	26/01/2007	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 & 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 & 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

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 for the water quality monitoring events that were conducted in this reporting month:

Table 6.7 Time Schedule of Water Quality Monitoring

December 2006						
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 Public Holiday	26 Public Holiday	27 ▼	28	29 ▼	30
31						

Remarks: (▼) = 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
TKO-C1	Action	0	0	0	0	0	0	0	0
	Limit	0	0	0	0	0	0	0	0
TKO-M4	Action	0	0	0	0	0	0	0	0
	Limit	0	0	0	0	0	0	0	0

No exceedances for water monitoring were recorded in this reporting month.

7.0 IEC SITE AUDIT AND WEEKLY ET SITE INSPECTIONS

7.1 IEC Site Audit

7.1.1 During this reporting period, the IEC team conducted total of two independent site audits of the Contract CV 2005/01 site (TKO Area 137 Fill Bank).

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 7.1 Dates of Site Audits in December 2006

Date of Audit	Work Period	Site Audit Checklist Submitted Under IEC's Ref No.
12 December 2006	Operation of TKO Area 137 Fill Bank	MCLF 1496
21 December 2006	Operation of TKO Area 137 Fill Bank	MCLF 1511

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 7.2 Key Findings of IEC Site Audits in December 2006

Date	Key Findings	Action Taken recommended by IEC
12 Dec 06	• Equipment maintenance areas were found at various locations	• To designate an area / areas for equipment maintenance with proper protection to prevent soil from contamination due to spillage of chemicals.
	• Stagnant water was observed at desilting chambers.	• To implement mosquito controls regularly.
	• Oil tank near TKO-A1 was placed on bare ground.	• To provide drip trays for all chemical drums.
21 Dec 06	• Dust emission was observed during unloading of fill materials from dump trucks and traffic on unpaved area on top of the Fill Banl.	• To coordinate the works and deploy water trucks to dampen the area with dust generation activities.
	• Engine covers of some excavators were opened during operation.	• To keep engine covers closed to reduce noise emission.
	• Oil stains were observed at various locations.	• To clean up and dispose of the contaminated soil properly.

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, five weekly site inspections were conducted (06, 12, 18, 29 December 2006). After each site inspection, a site inspection report detailing the environmental observations had also been prepared by the ET and submitted to RE, IEC and Contractor to notify of the ET's observations and recommendations.



The weekly site inspection reports in this reporting month 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;
- Several automatic sprinklers served to dampen the haul roads outside the site office and on the ramp to the stockpiling area. However, the water sprinkling facility near air monitoring station A2 was found not in used during the several weekly site inspections. The contractor was advised to keep it in proper operation all the time especially during dry season to avoid dust generation by vehicles passing by;
- 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 CEDD Combined Reception Office;
- No potential fugitive dust from vehicle movement was observed in this reporting month. The Contractor was still reminded to water the haul road more frequently 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 smoke emission was noted from the site machine and equipment in this reporting month. The Contractor was still reminded to maintain all the Powered Mechanical Equipment (PME) 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, temp C&DMSF at Portion K, 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

- Silt curtain at BHA was found to be loosed during weekly site inspections on 12 and 18 December 2006. The contractor was reminded to retighten the loosen part back to its original place immediately. The finding was observed to be improved during the last weekly site inspection;
- During weekly site inspections on 06, 12 and 18 December 2006, wastewater was found directly discharged from broken sand trap near contractor's site office. The contractor was reminded to repair the broken sand trap immediately and then maintain sand trap properly. During the last weekly site inspection on 29 December 2006, the broken sand trap was found to be repaired and perform properly; and
- Stagnant water was observed near to the pier during weekly site inspection on 18 December 2006. The contractor was reminded to fill up the pond in order to maintain proper implementation of mosquito at the site. The finding was found improved during the subsequent weekly site inspection (29 December 2006).

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, no C&D waste was disposed to SENT Landfill and no waste oil was collected by licensed waste collector;
- 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;
- A 20L oil drum was found placed at water truck filling station without drip tray during weekly site inspection on 18 December 2006. The Contractor was reminded to provide drip tray for all oil drum or store it in chemical storage area. During the subsequent weekly site inspection on 29



December 2006, the oil drum was relocated to chemical storage area and no further action was required.

Landscape and Visual

- Germination rate on the hydroseeded panels were observed to be satisfactory in this reporting month. The Contractor was still advised to maintain the hydroseeded panels properly; and
- Sufficient lighting was provided for the Fill Bank operation in the evening.

Site Practices

- Sufficient rubbish skips had been provided at site by the Contractor and the site area was found tidy and clean; and
- During weekly site inspection on 06 December 2006, abundant spare tires were found lying outside water truck filling station without covering. The Contractor was advised to cover all tires with tarpaulin sheets. The finding was found improved during the subsequent weekly site inspection (12 December 2006).

Landfill Gas Monitoring

- Since the equipments for landfill gas monitoring were still under calibration at the end of this month, the landfill gas monitoring will be started in the coming month.

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.

No exceedances were recorded in water quality, 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

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



Concrete bunding has erected outside the CEDD combined reception office and near the 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 of the site 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 approved pesticides in the stagnant water ponds.

All the runoff from the parking area should be pumped to the desilting facilities and oil interceptors 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/F	26/01/06	---	(Valid) <ul style="list-style-type: none"> ▪ Site clearance ▪ Construction of a temporary storm water system ▪ Stockpiling of 6 million m3 of public fill ▪ Setting up two barging points for transporting the stockpiled public fill by barges ▪ Setting up a temporary barging point at the existing Explosive Off-loading Barging Point for the period of May 2004 to December 2004 for transporting the stockpiled public fill by barge ▪ Construction of operation of a construction and Demolition Material Sorting Facility (C&DMSF) ▪ Setting up a Construction and Demolition Material Crushing Facility at the TKO Basin ▪ Remove the temporary fill bank
Effluent Discharge License	Application is under progress			
Chemical Waste Producer	Application is under progress			

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 the monitoring station exceeded the Action and Limit Level in the reporting month.



No exceedances of Action and Limit Level of water quality monitoring results were recorded during the reporting month.

9.2 Summary of Environmental Complaints

No complaint was received in this reporting month.

9.3 Summary of Notification of Summons and Prosecution

There was no notification of summons respect to environmental issues registered in this reporting 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 was no exceedance on air quality and noise monitoring parameters recorded in this monitoring month. Hence no further actions were required.

No exceedances of Action and Limit Level of water quality monitoring results were recorded during the reporting month.

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, notifications of summons and successful prosecutions was given in Table 10.1.

Table 10.1 Summary of Environmental Complaints and Prosecutions

Complaints logged		Summons served		Successful Prosecution	
December 2006	Cumulative	December 2006	Cumulative	December 2006	Cumulative
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.

The noise level measured at the monitoring station complied with the Limit Level of 75dB(A). No complaint was received regarding noise issue in this reporting month.

No exceedances of Action and Limit Level of water quality monitoring results were recorded during the reporting month.

According to the ET weekly site inspections and IEC site audits carried out in this reporting month, 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.

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 all paved haul roads and public roads especially outside and near the site egress by the road sweeper. Undertake water spraying on stockpiling area by water bowlers;
- 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;
- Operate the cleaning vessel within the TKO Basin regularly;
- Provide proper treatment for the oil discharge from the area near air monitoring station TKO-A1;
- Clean up the fill material on the concrete pavement at BHA frequently; and
- Remove the stagnant water or provide approved pesticides 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 hydroseeded 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:

- The construction work of Principal & Site office
- The construction work of contractor office
- Set up of the crushing plant
- Set up two Tipping Halls
- Upgrade the access road

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; and
- 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 TKO-A1;
- 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 of the coming month is attached in Appendix M.



Appendix A

Organization Chart and Lines of Communication

CHEC MANAGEMENT BOARD
YAO Yong Xin, WU Y. N. Victor, CHAN Man

PROJECT DIRECTOR
YAO Yong Xin

Project Manager
Shum Hong Sung

Technical Advisor
C. Y. CHEUNG,
Mainland

Assistant Project Manager (HS)
C. W. CHAN, William

Operation Manager (TKO & QB)
C. Y. HONG, Andrew

QA Team
H. F. SUI, Philip
CHIN, Kelvin

Health & Safety Manager
S. L. SO, Lawrence

Safety Officer
K. W. LAU, Mark /
Judy CHIT

Assistant Safety Officer
2 nos.

Assistant Project Manager (Mainland)
L. L. YIP, Yee Wai

Operation Manager (Mainland)
B. SONG, Yu

Operation Manager (TKO & QB)
C. Y. HONG, Andrew

QA Team
H. F. SUI, Philip
CHIN, Kelvin

Health & Safety Manager
S. L. SO, Lawrence

Safety Officer
K. W. LAU, Mark /
Judy CHIT

Assistant Safety Officer
2 nos.

Commercial Manager
T. T. LAM, Alex
D. H. CHAN, Irene

Chief Surveyor
C. N. SO

Survey Team (TKO & QB)
Survey Team (TM & MW)

Technical Manager
T. H. CHENG, Stan

Senior Planning Engineer
T. F. CHEUNG, Sam

Assistant Liaison & Logistic Manager
K. M. YONG

Planning Engineer
T. H. CHENG, Stan

Tsing Kwan O Fleet Superintendent Movement Control
C. C. YUANG

Tuen Mun Fleet Superintendent Movement Control
K. S. CHAN

Quarry Bay Fleet Superintendent Movement Control
S. S. LEE

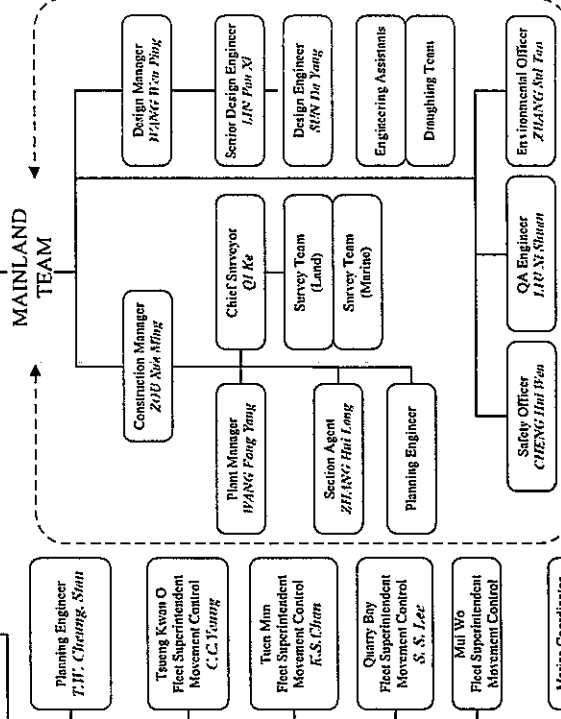
Mai Wo Fleet Superintendent Movement Control

Mainland Coordinator (Mainland)

Liaison Officer (HS)

Liaison Officer (Mainland)

Ship Yard (Superintendent)



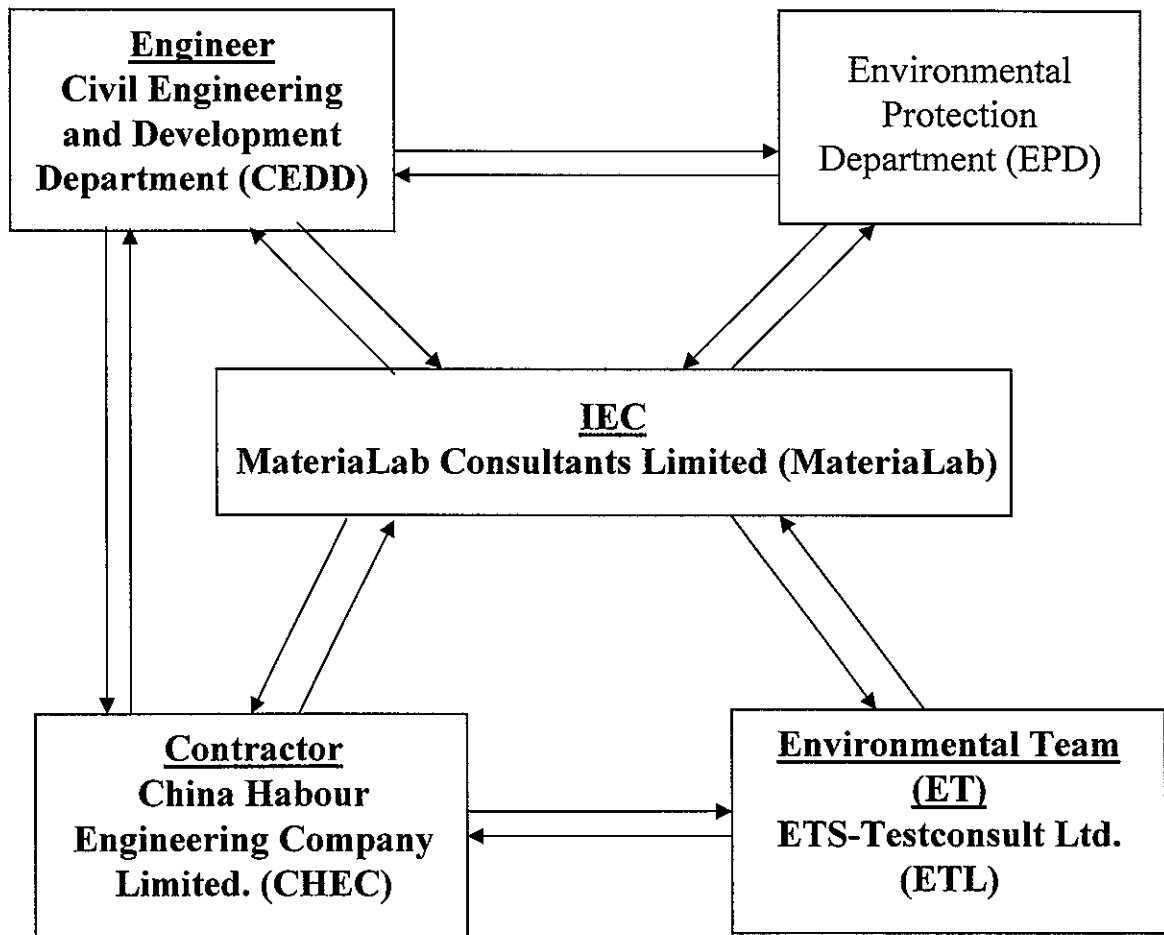
Legend

- CHEC China Harbour Engineering Company Limited
- TKO Tseung Kwan O Area 137 Site
- TM Tuen Mun Area 38 Site
- QB Quarry Bay Temporary Public Fill Barging Point
- MW Mai Wo Temporary Public Fill Reception Facility
- AFS Assistant Filling Supervisor
- Qualified Technical Staff with degree & at least 5-year post-graduate experience in port work





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

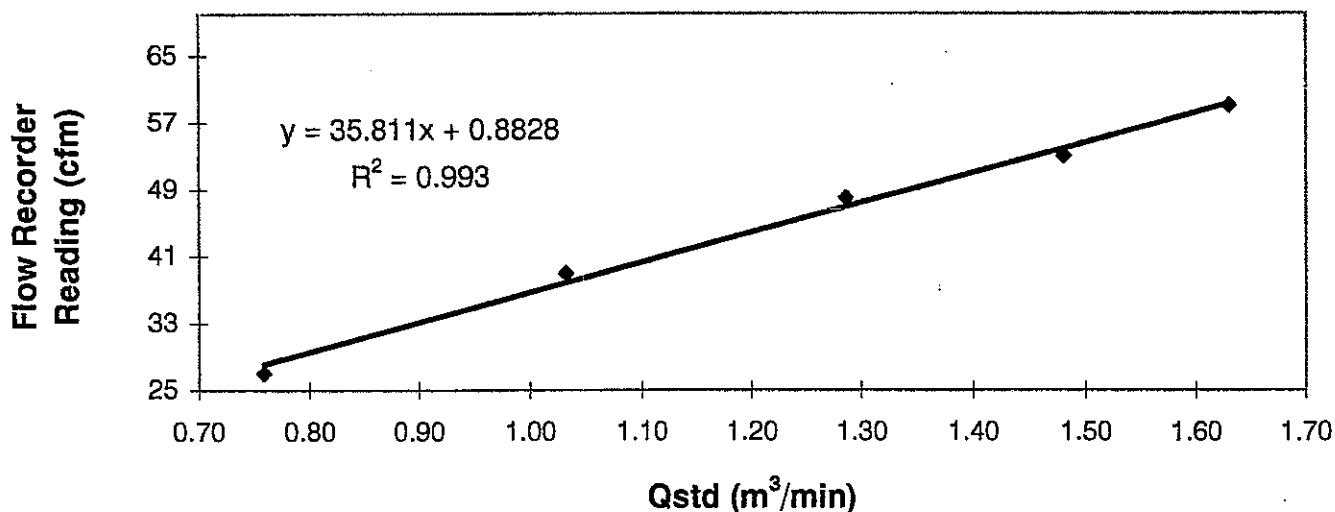
Calibration Report
of
High Volume Air Sampler

Manufacturer : Greasby GMW **Date of Calibration** : 20 September 2006
Serial No. : 10347 (ET / EA / 003 / 06) **Calibration Due Date** : 19 November 2006
Method : Based on Operations Manual for in series calibration method by TISCH
ENVIROMENTAL Model Te-5025A calibration kit

Results :

Flow recorder reading (cfm)	59	53	48	39	27
Qstd (Actual flow rate, m ³ /min)	1.63	1.48	1.20	1.03	0.76
Pressure :	751.56 mm Hg		Temp. :	301 K	

Air Sampler 10347 Calibration Curve
Site:Tseung Kwan O (AA1)
Date of Calibration: 20 September 2006



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 :
CHOW, Hoi Tat
(Asst. Environmental Officer)

Approved by :
LAW, Sau Yee
(Environmental Officer)



東業德勤測試顧問有限公司
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Fax : 2695 3944 Web site : www.ets-testconsult.com

TEST REPORT

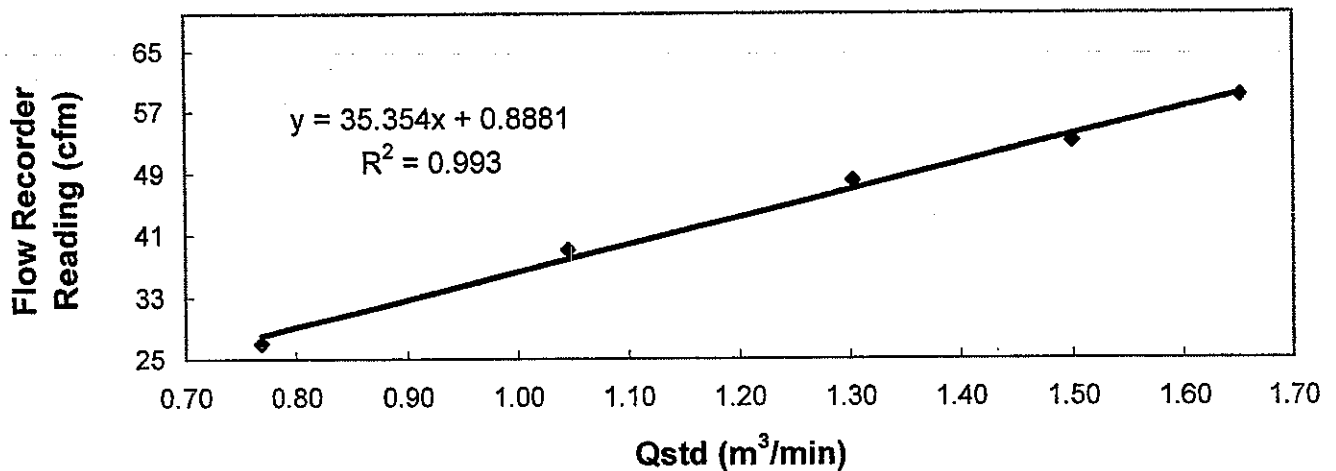
Calibration Report
of
High Volume Air Sampler

Manufacturer : Greasby GMW Date of Calibration : 24 November 2006
Serial No. : 10347 (ET / EA / 003 / 06) Calibration Due Date : 23 January 2007
Method : Based on Operations Manual for in series calibration method by TISCH
ENVIROMENTAL Model Te-5025A calibration kit

Results :

Flow recorder reading (cfm)	59	53	48	39	27
Qstd (Actual flow rate, m ³ /min)	1.65	1.50	1.30	1.05	0.77
Pressure :	758.31 mm Hg			Temp. :	296 K

Air Sampler 10347 Calibration Curve
Site: Tseung Kwan O (AA1)
Date of Calibration: 24 November 2006



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 : Danny Wong
Danny Wong
(Technician)

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



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

TEST REPORT

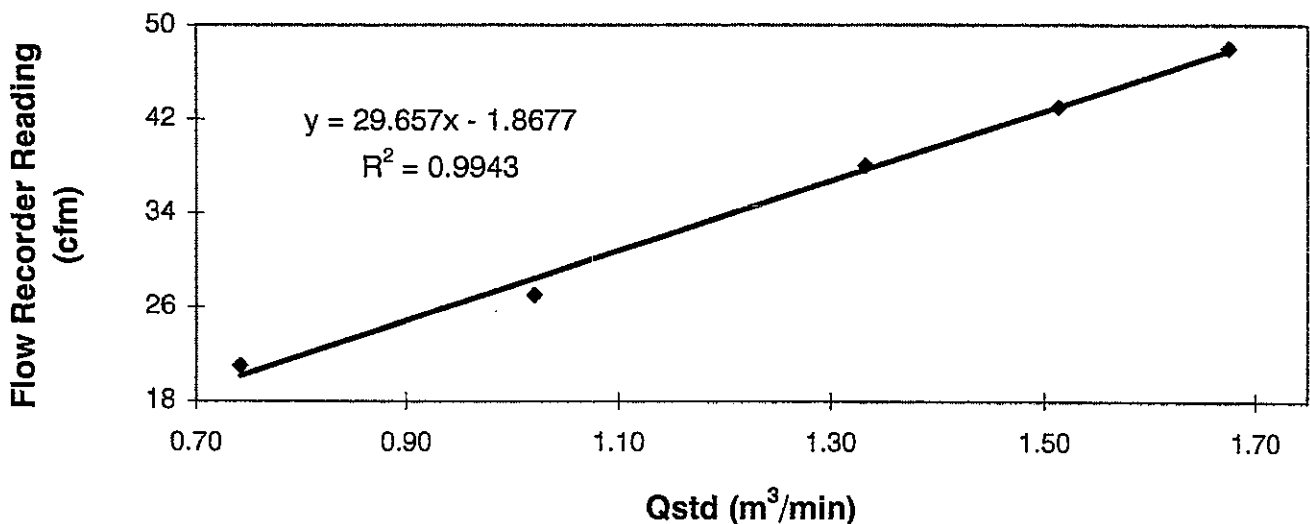
Calibration Report
of
High Volume Air Sampler

Manufacturer : Greasby GMW Date of Calibration : 20 September 2006
Serial No. : 1176 (ET / EA / 003 / 05) Calibration Due Date : 19 November 2006
Method : Based on Operations Manual for in series calibration method by TISCH
ENVIROMENTAL Model Te-5025A calibration kit

Results

Flow recorder reading (cfm)	48	43	38	27	21
Qstd (Actual flow rate, m ³ /min)	1.67	1.51	1.33	1.02	0.74
Pressure :	751.56 mm Hg		Temp. :	301 K	

Air Sampler 1176 Calibration Curve
Site: Tseung Kwan O (AA2)
Date of Calibration: 20 September 2006



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 :
CHOW, Hoi Tat
(Asst. Environmental Officer)

Approved by :
LAW, Sau Yee
(Environmental Officer)



東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

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

TEST REPORT

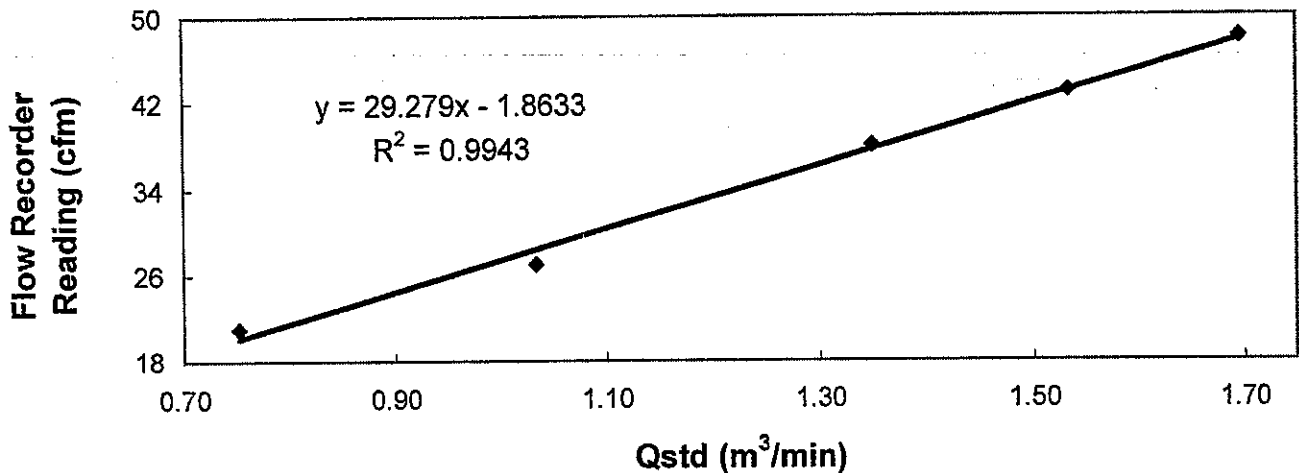
Calibration Report
of
High Volume Air Sampler

Manufacturer : Greasby GMW Date of Calibration : 24 November 2006
Serial No. : 1176 (ET / EA / 003 / 05) Calibration Due Date : 23 January 2007
Method : Based on Operations Manual for in series calibration method by TISCH
ENVIROMENTAL Model Te-5025A calibration kit

Results :

Flow recorder reading (cfm)	48	43	38	27	21
Qstd (Actual flow rate, m ³ /min)	1.70	1.53	1.35	1.03	0.75
Pressure :	758.31 mm Hg			Temp. :	296 K

Air Sampler 1176 Calibration Curve
Site: Tseung Kwan O (AA2)
Date of Calibration: 24 November 2006



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 : Danny Wong
Danny Wong
(Technician)

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



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

AIR POLLUTION MONITORING EQUIPMENT

ORIFICE TRANSFER STANDARD CERTIFICATION WORKSHEET TE-5025A

Date - Jun 16, 2006 Roots-meter S/N 9833620 Ta (K) - 296
 Operator Tisch Orifice I.D. - 1061 Pa (mm) - 753.11

PLATE OR Run #	VOLUME START (m3)	VOLUME STOP (m3)	DIFF VOLUME (m3)	DIFF TIME (min)	METER DIFF Hg (mm)	ORIFICE DIFF H2O (in.)
1	NA	NA	1.00	1.3950	3.1	2.00
2	NA	NA	1.00	0.9820	6.3	4.00
3	NA	NA	1.00	0.8770	7.8	5.00
4	NA	NA	1.00	0.8360	8.6	5.50
5	NA	NA	1.00	0.6910	12.6	8.00

DATA TABULATION

Vstd	(x axis) Qstd	(y axis)	Va	(x axis) Qa	(y axis)
0.9935	0.7122	1.4125	0.9959	0.7139	0.8866
0.9893	1.0074	1.9976	0.9916	1.0098	1.2539
0.9872	1.1256	2.2334	0.9895	1.1283	1.4019
0.9862	1.1797	2.3424	0.9885	1.1825	1.4703
0.9809	1.4195	2.8251	0.9832	1.4229	1.7732
Qstd slope (m) = 1.99638			Qa slope (m) = 1.25010		
intercept (b) = -0.01172			intercept (b) = -0.00736		
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:

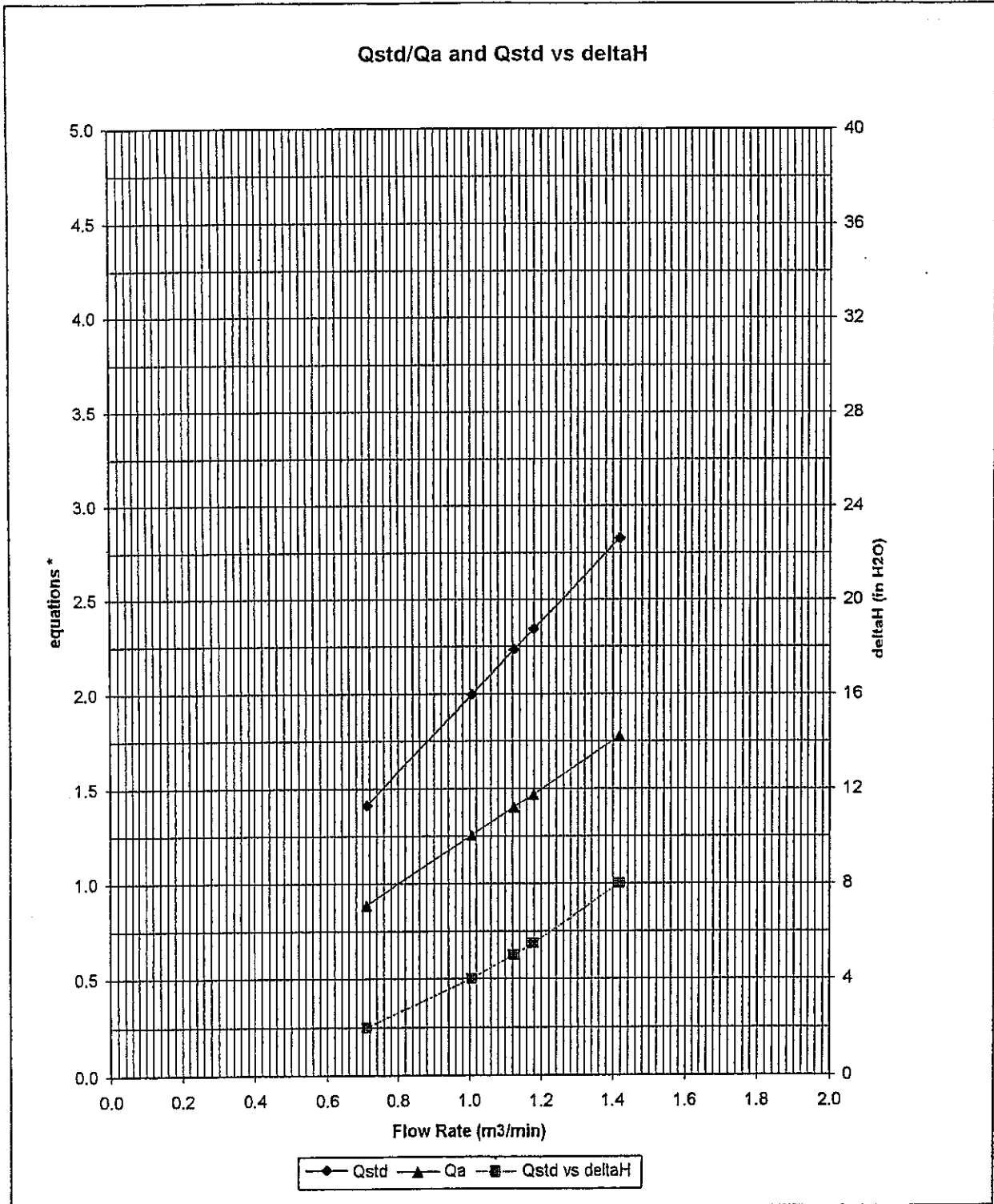
$$Qstd = 1/m \{ [\text{SQRT}(\text{H2O}(\text{Pa}/760) (298/\text{Ta}))] - b \}$$

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



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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:

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

#1061



Appendix B2

Air Quality Monitoring Results

Summary of 24-hr TSP Monitoring Results

Monitoring Station : TKO-A1
Location : Outside CEDD Site Office

Date	Start Time	Finish Date	Finish Time	Elapse Time		Sampling Time (hrs)	Flow Rate (m ³ /min.)		Average (m ³ /min.)	Filter Weight (g)		Conc. (µg/m ³)
				Initial	Final		Initial	Final		Initial	Final	
06/12/06	13:00	07/12/06	13:00	9791.33	9815.33	24.00	1.1911	1.1911	1.1911	2.8694	3.1593	169
12/12/06	16:45	13/12/06	16:45	9818.33	9842.33	24.00	1.1629	1.1629	1.1629	2.8927	3.1440	150
18/12/06	13:00	19/12/06	12:59	9845.33	9869.32	23.99	1.0780	1.0780	1.0780	2.8543	3.0932	154
23/12/06	13:00	24/12/06	13:00	9872.32	9896.32	24.00	1.0780	1.0780	1.0780	2.8552	3.0988	157
29/12/06	16:30	30/12/06	16:30	9899.32	9923.32	24.00	0.9932	0.9932	0.9932	2.8771	3.1087	162

Monitoring Station : TKO-A2
Location : Site Egress

Date	Start Time	Finish Date	Finish Time	Elapse Time		Sampling Time (hrs)	Flow Rate (m ³ /min.)		Average (m ³ /min.)	Filter Weight (g)		Conc. (µg/m ³)
				Initial	Final		Initial	Final		Initial	Final	
06/12/06	13:00	07/12/06	12:59	13084.99	13109.97	23.98	1.3957	1.3957	1.3957	2.8757	3.1649	144
12/12/06	16:45	13/12/06	16:45	13111.97	13135.97	24.00	1.3615	1.3615	1.3615	2.8930	3.1056	137
18/12/06	13:00	19/12/06	13:01	13138.97	13162.99	24.02	1.3615	1.3615	1.3615	2.8600	3.1327	139
23/12/06	13:00	24/12/06	13:01	13165.99	13189.00	24.01	1.4298	1.4298	1.4298	2.8631	3.1595	144
29/12/06	16:30	30/12/06	16:30	13192.00	13216.00	24.00	1.4981	1.4981	1.4981	2.8821	3.2034	149

Summary of 1-hr TSP Monitoring Results

Monitoring Station : TKO-A1
Location : Outside CEDD Site Office

Date	Time		Elapse Time		Sampling Time (hrs)	Flow Rate (m ³ /min.)		Average (m ³ /min.)	Filter Weight (g)		Conc. (µg/m ³)
	Start	Finish	Initial	Final		Initial	Final		Initial	Final	
06/12/06	08:30	09:30	9788.33	9789.33	1.00	1.1911	1.1911	1.1911	2.8832	2.9008	246
	09:45	10:45	9789.33	9790.33	1.00	1.1911	1.1911	1.1911	2.8493	2.8729	330
	11:00	12:00	9790.33	9791.33	1.00	1.1911	1.1911	1.1911	2.8677	2.8921	341
12/12/06	08:30	09:30	9815.33	9816.33	1.00	1.1911	1.1911	1.1911	2.8946	2.9091	203
	13:00	14:00	9816.33	9817.33	1.00	1.1911	1.1911	1.1911	2.8857	2.9061	285
	15:30	16:30	9817.33	9818.33	1.00	1.1629	1.1629	1.1629	2.8900	2.9120	315
18/12/06	08:30	09:30	9842.33	9843.33	1.00	1.1629	1.1629	1.1629	2.8741	2.8904	234
	09:45	10:45	9843.33	9844.33	1.00	1.1063	1.1063	1.1063	2.8893	2.9093	301
	11:00	12:00	9844.33	9845.33	1.00	1.0780	1.0780	1.0780	2.8921	2.9128	320
23/12/06	08:30	09:30	9869.32	9870.32	1.00	1.0780	1.0780	1.0780	2.8742	2.8901	246
	09:45	10:45	9870.32	9871.32	1.00	1.0780	1.0780	1.0780	2.8863	2.9062	308
	11:00	12:00	9871.32	9872.32	1.00	1.0780	1.0780	1.0780	2.8594	2.8810	334
29/12/06	08:30	09:30	9896.32	9897.32	1.00	1.0497	1.0497	1.0497	2.8701	2.8877	279
	13:30	14:30	9897.32	9898.32	1.00	1.0214	1.0214	1.0214	2.8842	2.9036	317
	15:00	16:00	9898.32	9899.32	1.00	0.9932	0.9932	0.9932	2.8891	2.9099	349

Monitoring Station : TKO-A2
Location : Site Egress

Date	Time		Elapse Time		Sampling Time (hrs)	Flow Rate (m ³ /min.)		Average (m ³ /min.)	Filter Weight (g)		Conc. (µg/m ³)
	Start	Finish	Initial	Final		Initial	Final		Initial	Final	
06/12/06	08:30	09:30	13081.99	13082.99	1.00	1.4298	1.4298	1.4298	2.8516	2.8709	225
	09:45	10:45	13082.99	13083.99	1.00	1.3957	1.3957	1.3957	2.8318	2.8318	296
	11:00	12:00	13083.99	13084.99	1.00	1.3957	1.3957	1.3957	2.8677	2.8677	316
12/12/06	13:00	14:00	13108.97	13109.97	1.00	1.3957	1.3957	1.3957	2.8872	2.9029	187
	14:15	15:15	13109.97	13110.97	1.00	1.3615	1.3615	1.3615	2.8761	2.8959	242
	15:30	16:30	13110.97	13111.97	1.00	1.3615	1.3615	1.3615	2.8938	2.9148	257
18/12/06	08:30	09:30	13135.97	13136.97	1.00	1.3615	1.3615	1.3615	2.8496	2.8689	236
	09:45	10:45	13136.97	13137.97	1.00	1.3615	1.3615	1.3615	2.8671	2.8911	294
	11:00	12:00	13137.97	13138.97	1.00	1.3615	1.3615	1.3615	2.8775	2.9025	306
23/12/06	08:30	09:30	13162.99	13163.99	1.00	1.4298	1.4298	1.4298	2.8678	2.8862	214
	09:45	10:45	13163.99	13164.99	1.00	1.4298	1.4298	1.4298	2.8903	2.9172	314
	11:00	12:00	13164.99	13165.99	1.00	1.4298	1.4298	1.4298	2.8855	2.9130	321
29/12/06	08:30	09:30	13189.00	13190.00	1.00	1.4298	1.4298	1.4298	2.8711	2.8912	234
	13:30	14:30	13190.00	13191.00	1.00	1.4298	1.4298	1.4298	2.8762	2.9064	352
	15:00	16:00	13191.00	13192.00	1.00	1.4298	1.4298	1.4298	2.8669	2.8850	328

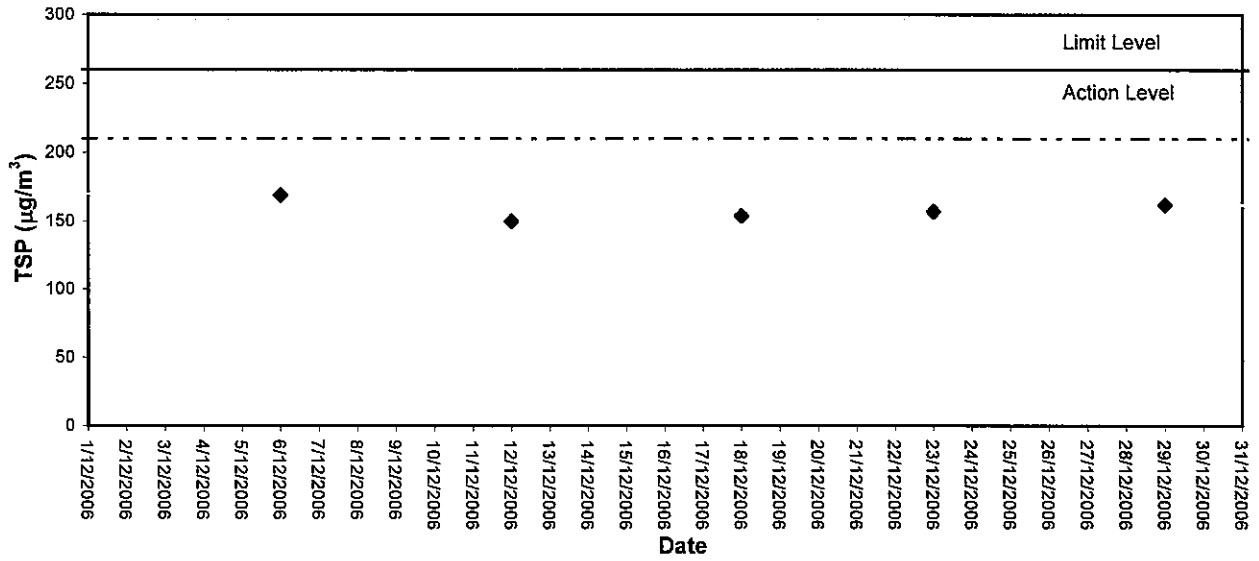


Appendix B3

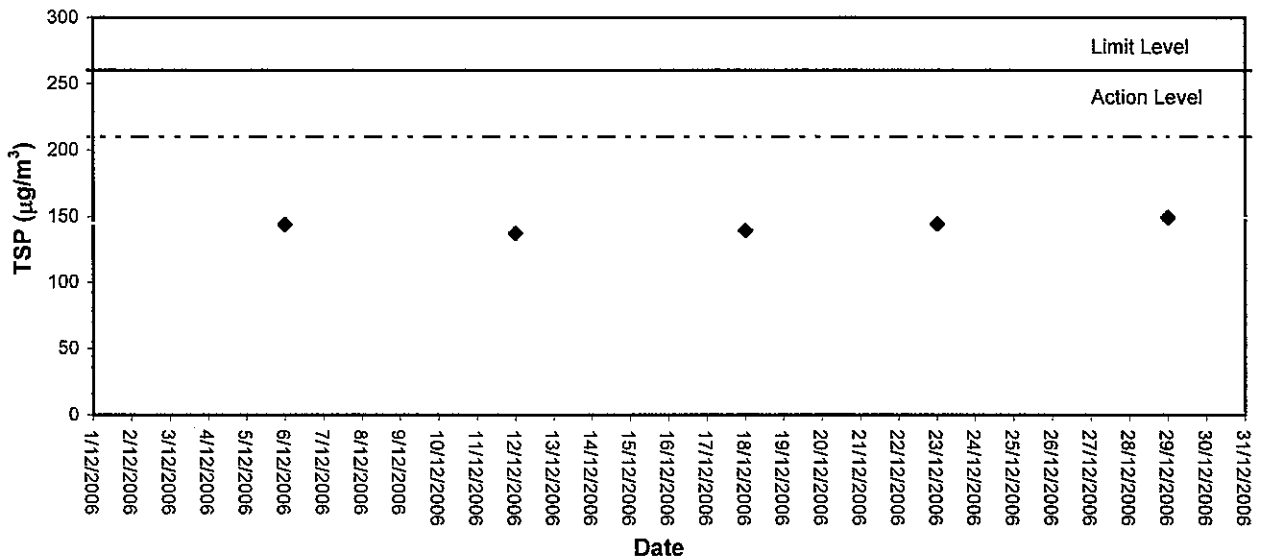
Graphical Plots of Air Quality Monitoring Data



24-hour TSP level at TKO-A1 (Outside CEDD Site Office)

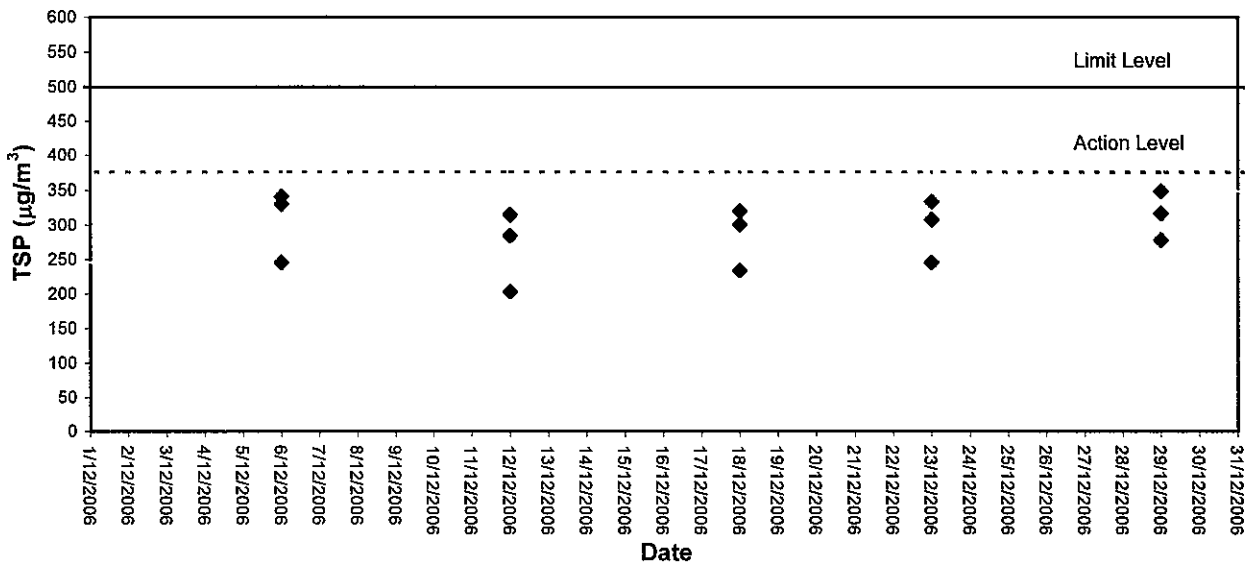


24-hour TSP level at TKO-A2 (Site Egress)

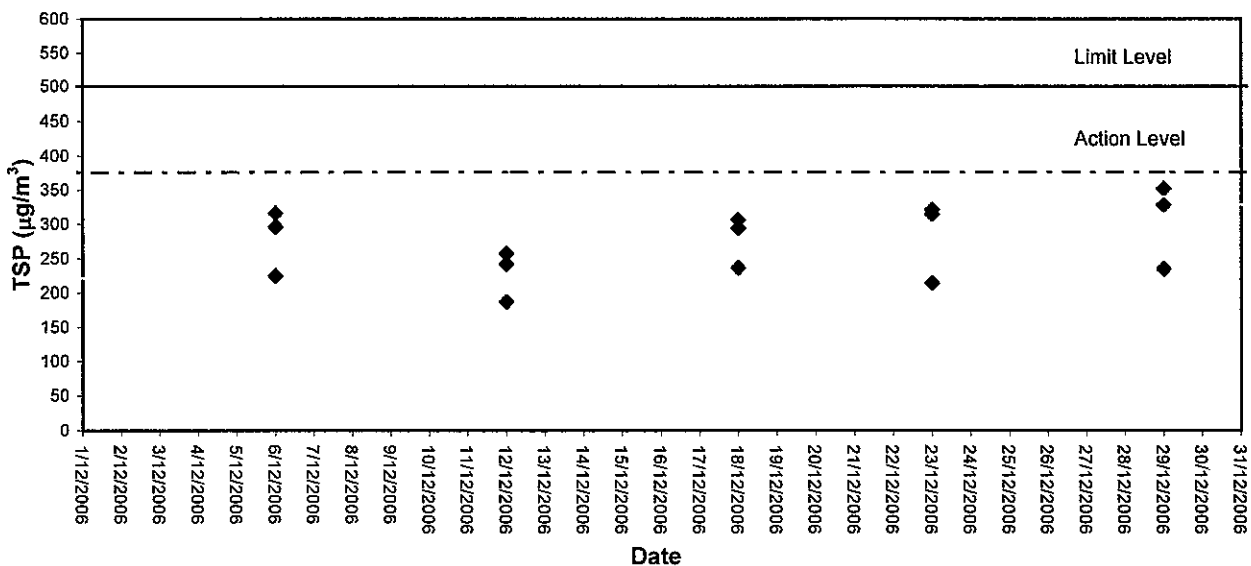




1-hour TSP level at TKO-A1 (Outside CEDD Site Office)



1-hour TSP level at TKO-A2 (Site Egress)





Appendix C1

Calibration Certificates for Noise Monitoring Equipments



Calibration Certificate

Certificate No. **61398**

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. : Q60555

Date of receipt : 29-Mar-06

Item Tested

Description : Precision Integrating Sound Level Meter

Manufacturer : Rion

Model : NL-31

Serial No. : 00110024

Test Conditions

Date of Test : 4-Apr-06

Supply Voltage : --

Ambient Temperature : (23 ± 3)°C

Relative Humidity : (50 ± 25) %

Test Specifications

Calibration check.

Calibration procedure : Z01.

Test Results

All results were within the IEC 651 Type 1 and IEC 804 Type 1 specification.

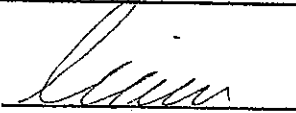
The results are shown in the attached page(s).

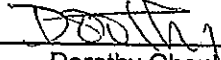
Test equipment used:

<u>Equipment No.</u>	<u>Description</u>	<u>Cert. No.</u>	<u>Due Date</u>	<u>Traceable to</u>
S017	Function Generator	C051022	21-Mar-07	HKGSCCL
S024	Calibrator	S41431	22-May-06	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 : 
P.F. Wong

Approved by : 
Dorothy Cheuk

Date: 4-Apr-06



Calibration Certificate

Certificate No. 61398

Page 2 of 3 Pages

Results :

1. SPL Accuracy

UUT Setting			Applied Value (dB)	UUT Reading (dB)
Level Range (dB)	Weight	Response		
20 – 100	L _A	Fast	94.0	93.8
		Slow		93.8
	L _C L _p	Fast		93.8
		Fast		93.8
30 – 120	L _A	Fast	94.0	93.8
		Slow		93.7
	L _C L _p	Fast		93.8
		Fast		93.8
30 – 120	L _A	Fast	113.9	113.8
		Slow		113.7
	L _C L _p	Fast		113.8
		Fast		113.8

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. 61398

Page 3 of 3 Pages

3. Frequency Weighting

A weighting

Frequency	Attenuation (dB)	IEC 651 Type 1 Spec.
31.5 Hz	- 39.5	- 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	- 8.8	- 8.6 dB, ± 1 dB
500 Hz	- 3.3	- 3.2 dB, ± 1 dB
1 kHz	0.0 (Ref.)	0 dB, ± 1 dB
2 kHz	+ 1.2	+ 1.2 dB, ± 1 dB
4 kHz	+ 1.1	+ 1.0 dB, ± 1 dB
8 kHz	- 1.2	- 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	Applied Leg Value (dB)	UUT Reading (dB)	IEC 804 Type 1 Spec.
continuous	40.0	40.0	--
1/10	40.0	39.8	± 0.5 dB
1/10 ²	40.0	40.0	
1/10 ³	40.0	40.0	± 1.0 dB
1/10 ⁴	40.0	40.0	

Uncertainty : ± 0.1 dB

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.

----- END -----



Calibration Certificate

Certificate No. 61399

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. : Q60555

Date of receipt : 29-Mar-06

Item Tested

Description : Sound Level Calibrator

Manufacturer : Rion

Model : NC-73

Serial No. : 10644871

Test Conditions

Date of Test : 4-Apr-06

Supply Voltage : --

Ambient Temperature : (23 ± 3)°C

Relative Humidity : (50 ± 25) %

Test Specifications

Calibration check.

Calibration procedure : F21, Z02.

Test Results

All results were within the manufacturer's specification.

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

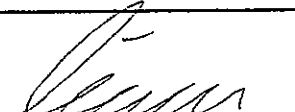
Test equipment used:

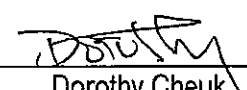
<u>Equipment No.</u>	<u>Description</u>	<u>Cert. No.</u>	<u>Due Date</u>	<u>Traceable to</u>
S014	Spectrum Analyzer	53024	7-Jul-06	PRC-NIM
S024	Calibrator	S41431	22-May-06	PRC-NIM
S041	Universal Counter	53972	26-Aug-06	HKGSC

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 : 
P.F.Wong

Approved by : 
Dorothy Cheuk

This Certificate is issued by:
Hong Kong Calibration Ltd.
Unit 8B, 24/F., Well Fung Industrial Centre, No. 58-76, Ta Chuen Ping Street, Kwei Chung, NT, Hong Kong.
Tel: 2425 8601 Fax: 2425 8646

Date: 4-Apr-06



Calibration Certificate

Certificate No. 61399

Page 2 of 2 Pages

Results :

1. Level Accuracy (at 1 kHz)

UUT Nominal Value	Measured Value		Mfr's Spec.
	Before Adjust.	After Adjust.	
94 dB	94.7	94.2	± 1 dB

Uncertainty : ± 0.2 dB

2. Frequency Accuracy

UUT Nominal Value	Measured Value	Mfr's Spec.
1 kHz	0.984 kHz	± 2 %

Uncertainty : ± 0.1 %

3. Level Stability : 0.0 dB

Uncertainty : ± 0.01 dB

4. Total Harmonic Distortion : < 0.3 %

Mfr's Spec. : < 3 %

Uncertainty : ± 2.3 % of reading

Remark : 1. UUT : Unit-Under-Test

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

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

4. Atmospheric Pressure : 1 000 hPa

----- END -----



Appendix C2

Noise Monitoring Results



Day-time Noise Monitoring

Monitoring Location: TKO-N1 (Site Egress)

Date	Start Sampling Time (hh:mm)	Noise Level dB (A)			Wind Speed (m/s)	Weather Condition
		L _{eq} (30min)	L ₁₀	L ₉₀		
06/12/06	10:15	69.5	74.7	62.3	1.40	Fine

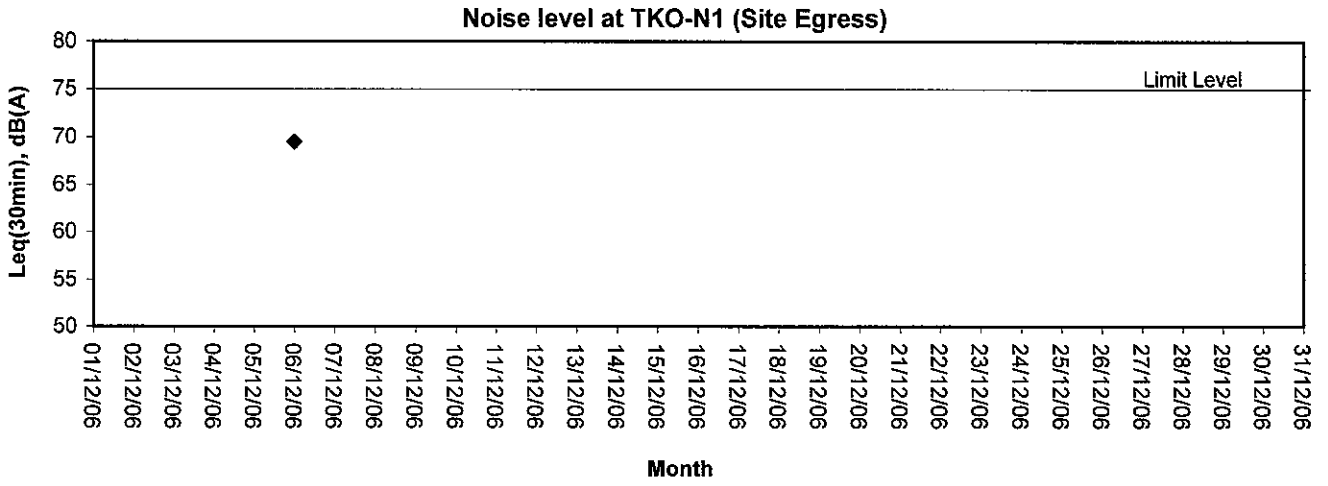


Appendix C3

Graphical Plots of Noise Monitoring Data



Noise Monitoring (Day-time)





Appendix D1

Calibration Certificates for Marine Water Quality Monitoring Equipments



Internal Calibration Report of Turbidimeter

Equipment Ref. No. : ET/0505/002

Manufacturer : HACH

Model No. : 2100 P

Serial No. : 930900 003728

Date of Calibration : 28/10/06

Calibration Due : 28/11/07

Data

(4.95)	(49.0)	(409)
0 - 10 NTU Gelex Vial	10 - 100 NTU Gelex Vial	100 - 1000 NTU Gelex Vial
4.98	49.2	411

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

* Delete as appropriate

Calibrated by : 

Approved by : 



Performance Check of Salinity Meter

Equipment Ref. No. : ET/0527/001 Manufacturer : YSI
Model No. : Model 30 Serial No. : 9961183
Date of Calibration : 26/10/06 Due Date : 26/11/07

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

J196A

Salinity Standard (ppt)	Measured Salinity (ppt)	Difference %
30	29.3	2.4%

Acceptance Criteria

Difference : <10 %

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

Checked by :  Approved by : 



Internal Calibration Report of Dissolved Oxygen Meter

Equipment Ref. No. : <u>ET/220/003/001</u>	Manufacturer : <u>- YSI</u>
Model No. : <u>95</u>	Serial No. : <u>97H 04071 AD</u>
Date of Calibration : <u>22/8/06</u>	Calibration Due Date : <u>21/11/06</u>

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

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

Temperature Verification

	Temperature (°C)
Thermometer reading	20.0
Meter reading	20.0

Linearity Checking

Purging time, min	DO meter reading, mg/L			Winkler Titration result, mg/L			Difference (%) of DO Content
	1	2	Average	1	2	Average	
2	7.64	7.66	7.65	7.58	7.60	7.59	0.79
5	5.54	5.56	5.55	5.46	5.44	5.45	1.82
10	3.14	3.16	3.15	3.27	3.29	3.28	4.04
Linear regression coefficient						0.9988	

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	7.29	7.31	7.30	7.24	7.26	7.25	0.69
30	6.99	6.97	6.98	6.89	6.87	6.88	1.44

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 : [Signature]

Approved by : [Signature]



Internal Calibration Report of Dissolved Oxygen Meter

Equipment Ref. No. : ET/EW/003/001 Manufacturer : YSI
 Model No. : 95 Serial No. : 97H 64071 AD
 Date of Calibration : 20/11/06 Calibration Due Date : 19/12/07

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

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

Temperature Verification

	Temperature (°C)
Thermometer reading	20.0
Meter reading	20.0

Linearity Checking

Purging time, min	DO meter reading, mg/L			Winkler Titration result, mg/L			Difference (%) of DO Content
	1	2	Average	1	2	Average	
2	7.51	7.53	7.52	7.48	7.49	7.49	0.40
5	5.29	5.31	5.30	5.22	5.20	5.21	1.71
10	3.56	3.54	3.55	3.61	3.59	3.60	1.40
Linear regression coefficient						0.9990	

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	6.70	6.72	6.71	6.80	6.82	6.81	1.48
30	6.25	6.23	6.24	6.38	6.36	6.37	2.06

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 : PK

Approved by : [Signature]



Appendix D2

Impact Marine Water Quality Monitoring Results

Mid-Flood Tide

Monitoring Station : TKO-M4

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Monitoring Depth (m)		Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)			Dissolved Oxygen Saturation (%)			Turbidity (NTU)			Suspended Solids (mg/L)		
			Surface	Bottom		Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
01/12/06	15:01 - 15:17	22/Fine	Surface	1.0	22.2	32.0	32.1	6.48	6.44	89.4	88.9	3.61	3.61	4.0	4.0	3.7			
			Middle	4.4	22.0	32.3	32.3	6.26	6.22	86.4	85.9	3.53	3.54	3.8	3.8				
			Bottom	7.8	21.8	32.5	32.6	5.87	5.91	81.0	81.6	3.28	3.29	3.2	3.3				
04/12/06	17:45 - 17:59	21/Sunny	Surface	1.0	22.2	31.3	31.4	6.74	6.71	91.0	90.6	3.34	3.35	3.2	3.2	2.9			
			Middle	4.4	21.9	32.4	32.4	6.26	6.23	84.5	84.1	3.18	3.18	3.0	3.0				
			Bottom	7.8	21.6	32.9	32.9	6.04	6.01	81.5	81.1	2.99	2.98	2.5	2.6				
06/12/06	07:15 - 07:30	20/Sunny	Surface	1.0	23.2	31.8	31.8	6.89	6.88	99.2	99.0	3.82	3.83	4.0	4.0	3.8			
			Middle	4.6	23.0	32.0	32.0	6.34	6.33	90.6	90.4	3.74	3.75	3.8	3.8				
			Bottom	8.2	22.9	32.4	32.4	6.10	6.12	87.2	87.5	3.93	3.93	3.5	3.5				
08/12/06	10:45 - 11:02	23/Sunny	Surface	1.0	23.7	31.6	31.6	6.68	6.64	92.2	91.7	3.65	3.65	3.2	3.2	3.5			
			Middle	4.4	23.4	32.2	32.3	6.34	6.31	87.5	87.1	3.52	3.51	3.5	3.7				
			Bottom	7.8	23.2	32.6	32.6	5.82	5.87	80.3	81.0	3.28	3.27	3.5	3.7				
11/12/06	15:45 - 16:00	20/Sunny	Surface	1.0	23.5	32.0	32.0	6.72	6.70	98.7	98.4	3.43	3.44	3.2	3.2	3.4			
			Middle	4.4	23.2	32.6	32.6	6.29	6.28	92.4	92.2	3.62	3.63	4.0	3.9				
			Bottom	7.8	22.9	33.1	33.1	6.14	6.16	90.2	90.5	2.98	2.98	3.0	3.0				
13/12/06	14:45 - 14:58	21/Cloudy	Surface	1.0	22.1	32.1	32.1	6.57	6.54	90.7	90.2	3.45	3.46	3.5	3.5	3.6			
			Middle	4.2	21.8	32.7	32.7	6.34	6.30	87.5	87.0	3.28	3.29	3.8	3.8				
			Bottom	7.4	21.6	32.9	32.9	6.18	6.14	85.3	84.8	3.08	3.10	3.5	3.4				
15/12/06	13:54 - 14:15	16/Rainy	Surface	1.0	18.2	31.4	31.4	6.46	6.43	89.1	88.7	3.45	3.46	3.5	3.5	4.1			
			Middle	4.4	17.8	31.9	31.9	6.10	6.07	84.2	83.8	3.37	3.37	4.3	4.3				
			Bottom	7.8	17.6	32.1	32.1	5.87	5.91	81.0	81.5	3.32	3.31	4.5	4.5				

Mid-Flood Tide



東業 德勤 测试 顾问 有限公司
ETS-TESTCONSULT LIMITED

Monitoring Station : TKO-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	
18/12/06	15:20 - 15:35	14/Sunny	Surface	18.6	31.8	31.9	6.62	6.59	6.42	91.4	91.0	3.55	3.56	3.5	3.5	3.8		
			Middle	18.2	32.3	32.0	6.28	6.24	86.6	86.2	3.39	3.38	3.8	3.9				
			Bottom	17.9	32.8	32.7	5.97	6.02	82.4	83.0	3.28	3.27	4.0	4.0				
20/12/06	16:05 - 16:20	18/Sunny	Surface	20.5	31.4	31.5	6.49	6.50	6.45	91.4	91.5	3.56	3.59	3.5	3.5	3.4		
			Middle	19.6	32.3	32.3	6.37	6.40	89.7	90.2	2.96	3.01	3.2	3.2				
			Bottom	19.2	32.7	32.6	6.14	6.11	86.5	86.1	3.20	3.22	3.5	3.5				
22/12/06	17:30 - 17:45	18/Fine	Surface	19.6	31.0	31.0	6.76	6.74	6.53	95.5	95.2	3.62	3.63	3.0	3.0	3.2		
			Middle	20.0	31.6	31.5	6.30	6.33	88.6	89.0	3.17	3.19	3.2	3.2				
			Bottom	20.4	32.3	32.4	6.10	6.12	85.5	85.7	3.06	3.08	3.5	3.5				
27/12/06	11:45 - 12:00	17/Sunny	Surface	20.5	32.8	32.8	6.59	6.58	6.47	87.9	87.7	2.69	2.70	3.2	3.2	2.9		
			Middle	20.2	33.0	32.9	6.38	6.37	85.4	85.3	3.02	3.03	2.8	2.9				
			Bottom	20.1	33.2	33.2	6.47	6.45	86.9	86.7	2.88	2.88	3.0	3.0				
29/12/06	13:20 - 13:31	16/Fine	Surface	21.4	31.6	31.7	6.42	6.45	6.26	86.7	87.1	3.47	3.46	2.5	2.7	3.3		
			Middle	21.2	32.0	32.1	6.48	6.06	82.4	81.9	3.45	3.25	2.8	4.0				
			Bottom	21.0	32.3	32.4	6.02	5.91	81.3	79.8	3.24	3.21	4.0	3.2				

Mid-Flood Tide



英業德 勘測 試驗 顧問 有限公司
ETS-TESTCONSULT LIMITED

Monitoring Station : TKO-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	
01/12/06	14:15 - 14:30	22/Fine	Surface	22.3	32.2	6.53	6.49	90.1	89.6	3.69	3.70	4.0	4.0	3.6				
			Middle	22.0	32.4	6.10	6.06	84.2	83.7	3.72	3.71	3.5	3.5					
			Bottom	21.6	32.7	5.74	5.78	79.2	79.8	3.56	3.55	3.2	3.2					
04/12/06	17:00 - 17:14	21/Sunny	Surface	22.1	31.5	6.61	6.65	89.2	89.8	3.26	3.26	3.5	3.5	3.3				
			Middle	21.8	32.2	6.24	6.20	84.3	83.7	3.11	3.11	3.0	3.0					
			Bottom	21.4	32.7	6.08	6.10	82.1	82.4	3.02	3.04	3.5	3.4					
06/12/06	06:30 - 06:45	20/Sunny	Surface	23.2	31.8	6.72	6.74	96.7	97.0	4.09	4.09	4.5	4.4	4.6				
			Middle	22.9	32.0	6.23	6.25	89.7	89.9	4.18	4.18	4.3	4.3					
			Bottom	22.8	32.4	6.04	6.03	86.9	86.8	4.20	4.22	5.0	5.0					
08/12/06	10:00 - 10:15	23/Sunny	Surface	23.8	31.8	6.54	6.50	90.3	89.7	3.31	3.32	3.0	3.0	3.2				
			Middle	23.4	32.4	6.11	6.14	84.3	84.7	3.20	3.21	3.2	3.2					
			Bottom	22.9	32.8	5.86	5.90	80.9	81.4	3.10	3.12	3.5	3.5					
11/12/06	15:00 - 15:15	20/Sunny	Surface	23.4	32.0	6.59	6.58	96.8	96.6	3.72	3.73	4.0	4.0	3.9				
			Middle	23.1	32.6	6.10	6.12	89.0	89.3	3.95	3.95	4.3	4.3					
			Bottom	22.8	33.1	5.99	5.98	87.4	87.2	3.49	3.49	3.5	3.5					
13/12/06	14:00 - 14:15	21/Cloudy	Surface	22.0	31.8	6.72	6.68	92.7	92.2	3.71	3.70	4.0	4.2	3.7				
			Middle	21.6	32.3	6.51	6.48	89.8	89.4	3.36	3.35	3.8	3.8					
			Bottom	21.2	32.8	6.12	6.08	84.5	84.0	3.10	3.11	3.2	3.2					
15/12/06	13:15 - 13:25	16/Rainy	Surface	18.3	31.6	6.58	6.54	90.8	90.3	3.50	3.51	5.0	5.0	4.4				
			Middle	17.9	32.1	6.16	6.13	85.0	84.5	3.38	3.37	4.3	4.3					
			Bottom	17.5	32.4	5.84	5.87	80.6	81.0	3.21	3.22	4.0	3.9					

Mid-Flood Tide



東業德勤測別試顧問有限公司
ETS-TESTCONSULT LIMITED

Monitoring Station : TKO-C1

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Monitoring Depth (m)		Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)			Dissolved Oxygen Saturation (%)			Turbidity (NTU)			Suspended Solids (mg/L)		
			Surface	Middle		Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
18/12/06	14:30 - 14:42	14/Sunny	1.0	Surface	18.5	31.6	31.7	6.74	6.72	93.0	92.8	3.42	3.41	5.0	4.8	4.2			
						31.7		6.70		92.5		3.40		4.5					
						32.1	6.28	87.1	86.6	3.26	3.26	4.3	4.4						
20/12/06	15:24 - 15:39	18/Sunny	18.2	Bottom	17.7	32.0	32.1	6.24	6.28	86.1	86.6	3.25	3.26	4.5	4.4	3.7			
						32.7	32.7	6.10	6.06	84.2	83.7	3.14	3.14	3.2	3.4				
						32.6	31.4	6.02	6.50	83.1	91.5	3.14	3.83	3.5	4.0				
						31.4	31.4	6.53	6.50	91.9	91.5	3.79	3.83	4.0	4.0				
						32.5	32.5	6.27	6.24	88.3	87.9	3.22	3.19	3.2	3.3				
						32.5	32.5	6.21	6.24	87.5	87.9	3.16	3.19	3.3	3.3				
22/12/06	16:45 - 16:57	18/Fine	18.0	Bottom	19.0	32.9	32.9	6.04	6.00	85.1	84.5	3.93	3.97	3.8	3.8	3.3			
						32.9	31.6	5.95	6.71	83.8	94.8	4.01	3.44	3.8	3.5				
						31.5	31.6	6.70	6.71	94.6	94.8	3.43	3.44	3.5	3.5				
						31.6	31.7	6.72	6.24	94.9	87.7	3.45	3.23	3.5	3.2				
						31.7	31.7	6.26	6.24	88.0	87.7	3.20	3.23	3.2	3.2				
						31.7	32.3	6.21	5.93	87.3	83.1	3.26	2.79	3.2	3.2				
27/12/06	11:00 - 11:15	17/Sunny	17.8	Bottom	20.0	32.2	32.3	5.90	5.93	82.7	83.1	2.78	2.79	3.2	3.2	3.4			
						32.2	32.6	5.95	6.32	83.4	85.1	2.80	2.91	3.2	3.0				
						32.6	32.6	6.31	6.32	84.9	85.1	2.91	2.91	3.0	3.0				
						32.6	32.9	6.33	6.42	85.3	86.0	2.90	3.16	3.0	3.5				
						32.9	32.9	6.43	6.42	86.2	86.0	3.15	3.16	3.5	3.5				
						32.9	33.4	6.40	6.60	85.7	88.3	3.17	3.41	3.5	3.8				
29/12/06	12:30 - 12:42	16/Fine	18.8	Bottom	20.0	33.5	33.4	6.61	6.60	88.5	88.3	3.40	3.41	3.8	3.8	3.4			
						33.4	31.9	6.58	6.59	88.1	88.9	3.42	3.62	3.8	3.5				
						31.9	31.8	6.61	6.59	89.2	88.9	3.61	3.62	3.5	3.5				
						31.8	32.4	6.56	6.18	88.6	83.5	3.63	3.42	3.5	3.3				
						32.4	32.5	6.16	6.18	83.2	83.5	3.43	3.42	3.3	3.3				
						32.6	32.7	6.20	5.93	83.7	80.1	3.41	3.26	3.2	3.5				
29/12/06	12:30 - 12:42	16/Fine	18.6	Bottom	20.7	32.7	32.8	5.91	5.93	79.8	80.1	3.26	3.26	3.5	3.5	3.4			
						32.9	32.8	5.95	5.93	80.3	80.1	3.25	3.26	3.5	3.5				

Mid-Ebb Tide



東業德動測試顧問有限公司
ETS-TESTCONSULT LIMITED

Monitoring Station : TKO-C1

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Monitoring Depth (m)		Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)			Dissolved Oxygen Saturation (%)			Turbidity (NTU)			Suspended Solids (mg/L)		
			Surface	Bottom		Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
01/12/06	07:45 - 07:58	22/Fine	Surface	1.0	22.4	32.0	32.1	6.48	6.44	89.4	88.9	3.81	3.81	4.0	4.0	3.6			
			Middle	9.6	22.0	32.3	32.3	6.22	6.18	85.8	85.3	3.55	3.55	3.2	3.3				
			Bottom	18.2	21.7	32.7	32.7	5.88	5.92	81.1	81.7	3.29	3.30	3.5	3.5				
04/12/06	11:30 - 11:45	21/Sunny	Surface	1.0	22.2	31.2	31.3	6.76	6.73	91.3	90.9	3.18	3.18	4.0	4.0	3.8			
			Middle	9.8	21.8	32.6	32.6	6.18	6.13	83.4	82.8	2.99	2.99	3.5	3.5				
			Bottom	18.6	21.3	32.8	32.8	6.02	5.99	81.3	80.9	2.72	2.73	3.8	3.8				
06/12/06	11:30 - 11:45	20/Sunny	Surface	1.0	23.5	31.8	31.8	6.60	6.62	95.0	95.3	3.89	3.89	4.2	4.4	4.5			
			Middle	9.4	23.2	32.4	32.5	6.17	6.16	88.2	88.0	4.09	4.10	4.5	4.6				
			Bottom	17.8	23.0	32.4	32.4	6.06	6.05	86.6	86.4	4.15	4.17	4.7	4.6				
08/12/06	14:15 - 14:31	23/Sunny	Surface	1.0	23.7	31.6	31.6	6.38	6.34	88.0	87.5	3.44	3.44	4.0	4.0	3.9			
			Middle	9.6	23.3	32.3	32.3	6.25	6.22	86.3	85.8	3.31	3.30	4.0	3.9				
			Bottom	18.2	23.0	32.7	32.7	6.02	5.99	83.1	82.7	3.16	3.17	3.8	3.8				
11/12/06	06:00 - 06:15	20/Sunny	Surface	1.0	23.2	32.0	32.1	6.70	6.72	98.4	98.7	4.15	4.16	4.3	4.3	4.4			
			Middle	9.4	22.8	32.6	32.6	6.36	6.34	93.4	93.2	4.09	4.10	4.2	4.2				
			Bottom	17.8	22.6	33.0	33.0	6.11	6.13	89.8	90.1	3.98	3.98	4.5	4.5				
13/12/06	06:40 - 06:55	21/Cloudy	Surface	1.0	22.1	31.6	31.7	6.61	6.58	91.2	90.8	3.65	3.66	4.0	4.0	3.7			
			Middle	9.8	21.8	32.1	32.1	6.32	6.29	87.2	86.8	3.41	3.42	3.8	3.7				
			Bottom	18.6	21.5	32.6	32.7	5.97	5.95	82.4	82.1	3.18	3.19	3.5	3.4				
15/12/06	06:45 - 06:58	16/Rainy	Surface	1.0	18.2	31.4	31.5	6.71	6.68	92.6	92.2	3.40	3.41	3.2	3.3	3.6			
			Middle	9.6	17.9	31.9	31.9	6.21	6.18	85.7	85.2	3.21	3.22	3.5	3.7				
			Bottom	18.2	17.4	32.2	32.2	5.96	5.94	82.2	82.0	3.17	3.18	4.0	4.0				

Mid-Ebb Tide



東榮德勤测试顾问有限公司
ETS-TESTCONSULT LIMITED

Monitoring Station : TKO-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	
18/12/06	09:30 - 09:41	14/Sunny	Surface	18.4	31.2	31.3	6.64	6.66	6.45	91.6	91.9	3.58	3.57	3.5	3.5	3.5		
					31.3	31.7	6.68	6.24	6.45	86.7	86.2	3.56	3.30	3.5	3.4			
					31.6	31.7	6.20	6.24	6.45	86.6	86.2	3.31	3.30	3.2	3.4			
20/12/06	10:45 - 10:58	18/Sunny	Bottom	17.7	32.6	32.6	6.01	5.95	5.95	82.9	82.1	3.24	3.24	3.5	3.5	3.5		
					32.5	31.9	5.89	6.65	6.43	81.3	94.4	3.23	4.18	3.5	4.3			
					31.8	31.9	6.68	6.65	6.43	94.8	94.4	4.14	4.18	4.3	4.3			
20/12/06	10:45 - 10:58	18/Sunny	Middle	19.1	32.4	32.4	6.25	6.22	6.43	88.7	88.2	3.62	3.60	3.8	3.8	4.1		
					32.4	32.4	6.18	6.22	6.43	87.7	88.2	3.57	3.60	3.8	3.8			
					32.6	32.6	5.89	5.86	5.86	83.6	83.2	3.88	3.91	4.3	4.3			
22/12/06	12:00 - 12:14	18/Fine	Bottom	17.4	32.6	32.6	5.83	5.86	5.86	82.8	83.2	3.93	3.91	4.2	4.3	4.3		
					31.8	31.8	6.62	6.61	6.41	93.5	93.4	4.20	4.22	4.3	4.3			
					31.8	31.8	6.60	6.61	6.41	93.2	93.4	4.23	4.22	4.3	4.3			
22/12/06	12:00 - 12:14	18/Fine	Surface	19.5	32.0	32.0	6.20	6.22	6.41	87.2	87.4	3.87	3.89	3.5	3.5	3.9		
					32.0	32.0	6.23	6.22	6.41	87.6	87.4	3.90	3.89	3.5	3.5			
					32.2	32.2	5.92	5.93	5.93	83.0	83.2	3.65	3.65	4.0	4.0			
27/12/06	17:20 - 17:35	17/Sunny	Surface	19.4	33.1	33.0	6.50	6.48	6.51	85.7	85.5	2.39	2.40	2.5	2.5	2.5		
					32.9	33.0	6.46	6.48	6.51	85.3	85.5	2.40	2.40	2.5	2.5			
					33.2	33.2	6.55	6.53	6.51	87.0	86.8	2.60	2.59	2.8	2.8			
27/12/06	17:20 - 17:35	17/Sunny	Middle	19.5	33.2	33.2	6.51	6.53	6.51	86.6	86.8	2.57	2.59	2.8	2.8	2.8		
					33.2	33.2	6.51	6.53	6.51	86.6	86.8	2.57	2.59	2.8	2.8			
					33.5	33.5	6.64	6.66	6.66	88.2	88.4	3.45	3.44	3.5	3.5			
27/12/06	17:20 - 17:35	17/Sunny	Bottom	19.3	33.5	33.5	6.67	6.66	6.66	88.6	88.4	3.42	3.44	3.5	3.5	3.5		
					33.5	33.5	6.67	6.66	6.66	88.6	88.4	3.42	3.44	3.5	3.5			
					31.8	31.8	6.68	6.65	6.65	92.1	91.7	3.74	3.73	4.0	4.0			
29/12/06	07:00 - 07:11	16/Fine	Surface	21.4	31.7	31.8	6.61	6.65	6.41	91.2	91.7	3.71	3.73	4.0	4.0	4.0		
					32.0	32.1	6.21	6.18	6.41	85.7	85.3	3.36	3.35	3.2	3.2			
					32.1	32.1	6.15	6.18	6.41	84.9	85.3	3.34	3.35	3.2	3.2			
29/12/06	07:00 - 07:11	16/Fine	Middle	21.1	32.3	32.4	5.92	5.95	5.95	81.7	82.1	3.21	3.19	2.7	2.9	2.9		
					32.3	32.4	5.92	5.95	5.95	81.7	82.1	3.21	3.19	2.7	2.9			
					32.4	32.4	5.98	5.95	5.95	82.5	82.1	3.16	3.19	3.0	2.9			

Mid-Ebb Tide



東業 德 勘 測 試 驗 有 限 公 司
ETS-TESTCONSULT LIMITED

Monitoring Station : TKO-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
01/12/2006	08:38 - 08:55	22/Fine	Surface	22.3	32.1	32.2	6.61	6.58	91.2	90.8	3.48	3.47	3.2	3.1	3.2			
			Middle	22.1	32.4	6.35	6.31	90.4	87.1	3.46	3.37	3.0	3.4					
			Bottom	21.8	32.3	6.27	6.00	86.5	82.8	3.37	3.15	3.5	3.0					
04/12/2006	12:15 - 12:30	21/Sunny	Surface	22.3	32.6	32.7	5.96	6.00	82.2	91.4	3.14	3.21	3.0	3.5	3.3			
			Middle	21.0	32.2	6.26	6.30	84.5	85.1	3.15	3.08	3.0	2.9					
			Bottom	21.6	32.7	6.11	6.08	82.5	82.1	2.94	2.95	3.3	3.4					
06/12/2006	12:15 - 12:30	20/Sunny	Surface	23.5	32.0	32.0	6.58	6.56	94.7	94.4	3.67	3.67	4.3	4.2	3.9			
			Middle	23.3	32.5	6.29	6.27	89.9	89.6	3.24	3.25	4.0	3.9					
			Bottom	23.1	32.4	6.15	6.13	89.3	87.6	3.25	3.48	3.8	3.5					
08/12/2006	15:02 - 15:15	23/Sunny	Surface	23.8	31.4	31.5	6.52	6.55	90.0	90.4	3.55	3.56	3.2	3.4	3.2			
			Middle	23.3	32.3	6.31	6.35	87.1	87.7	3.41	3.42	3.0	3.0					
			Bottom	23.1	32.9	6.39	6.04	88.2	83.4	3.43	3.20	3.0	3.4					
11/12/2006	06:45 - 07:00	20/Sunny	Surface	23.1	32.1	32.1	6.89	6.88	101.2	101.0	3.74	3.76	4.0	4.0	3.8			
			Middle	22.7	32.6	6.42	6.44	94.3	94.6	3.52	3.52	4.0	3.9					
			Bottom	22.6	32.7	6.45	6.05	94.8	88.3	3.51	3.27	3.8	3.5					
13/12/2006	07:25 - 07:35	21/Cloudy	Surface	22.2	31.8	31.8	6.49	6.45	89.6	89.1	3.52	3.51	3.5	3.5	3.6			
			Middle	22.0	32.2	6.24	6.21	86.5	85.7	3.50	3.43	3.5	3.5					
			Bottom	21.8	32.3	6.18	6.00	85.2	82.8	3.41	3.30	3.5	3.8					
15/12/2006	07:26 - 07:38	16/Rainy	Surface	18.3	31.3	31.3	5.94	6.59	91.4	91.0	3.31	3.54	3.5	3.5	3.4			
			Middle	18.0	32.1	6.18	6.14	90.5	84.7	3.52	3.35	3.5	3.1					
			Bottom	17.7	32.2	6.10	5.98	84.1	82.6	3.36	3.23	3.2	3.5					

Mid-Ebb Tide

Monitoring Station : TKO-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	
18/12/2006	10:11 - 10:27	14/Sunny	Surface	18.3	31.3	31.3	6.55	6.52	6.32	90.4	90.0	3.65	3.64	3.3	3.4	3.1		
			Middle	18.0	32.2	32.2	6.16	6.13	6.32	85.0	84.5	3.42	3.41	3.0	3.0			
			Bottom	17.8	32.4	32.3	5.94	5.96	5.96	82.0	82.3	3.18	3.19	2.7	2.9			
20/12/2006	11:22 - 11:35	18/Sunny	Surface	20.3	31.8	31.8	6.32	6.36	6.25	89.7	90.2	3.29	3.32	3.5	3.5	3.6		
			Middle	19.2	32.6	32.6	6.17	6.14	6.25	87.6	87.2	3.65	3.68	4.0	4.0			
			Bottom	19.0	32.8	32.8	6.09	6.06	6.06	86.5	86.1	3.14	3.11	3.2	3.3			
22/12/2006	12:45 - 12:57	18/Fine	Surface	19.7	31.7	31.8	6.72	6.74	6.54	94.9	95.2	4.07	4.09	3.8	3.7	3.5		
			Middle	20.2	32.0	32.0	6.30	6.33	6.54	88.6	89.0	3.81	3.81	3.5	3.5			
			Bottom	20.5	32.2	32.3	6.10	6.11	6.11	85.5	85.7	3.27	3.30	3.2	3.2			
27/12/2006	16:45 - 17:00	17/Sunny	Surface	19.9	33.3	33.3	6.90	6.92	6.90	92.0	92.3	2.71	2.71	4.0	4.0	3.2		
			Middle	19.7	33.5	33.5	6.90	6.89	6.90	91.8	91.6	3.09	3.10	2.5	2.5			
			Bottom	19.4	33.4	33.6	6.87	6.71	6.71	88.8	89.1	3.11	4.03	3.0	3.0			
29/12/2006	07:42 - 07:52	16/Fine	Surface	21.3	31.5	31.6	6.53	6.56	6.35	90.1	90.5	3.58	3.57	2.5	2.5	2.7		
			Middle	21.1	31.9	31.9	6.16	6.13	6.35	85.0	84.6	3.36	3.35	2.5	2.4			
			Bottom	20.9	32.1	32.2	5.82	5.87	5.87	80.3	81.0	3.27	3.26	3.2	3.3			

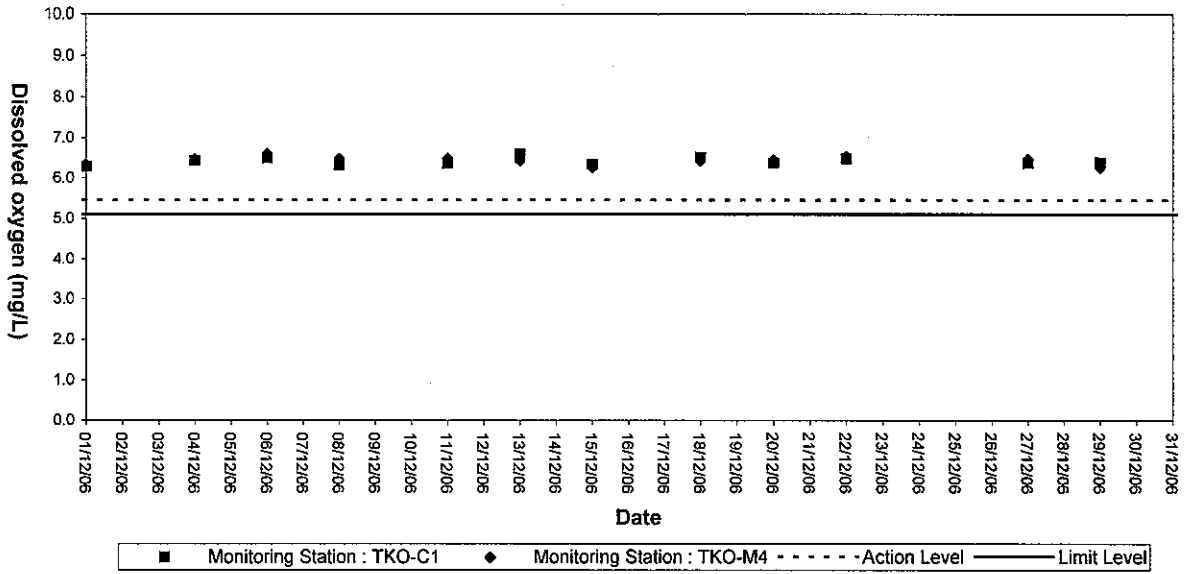


Appendix D3

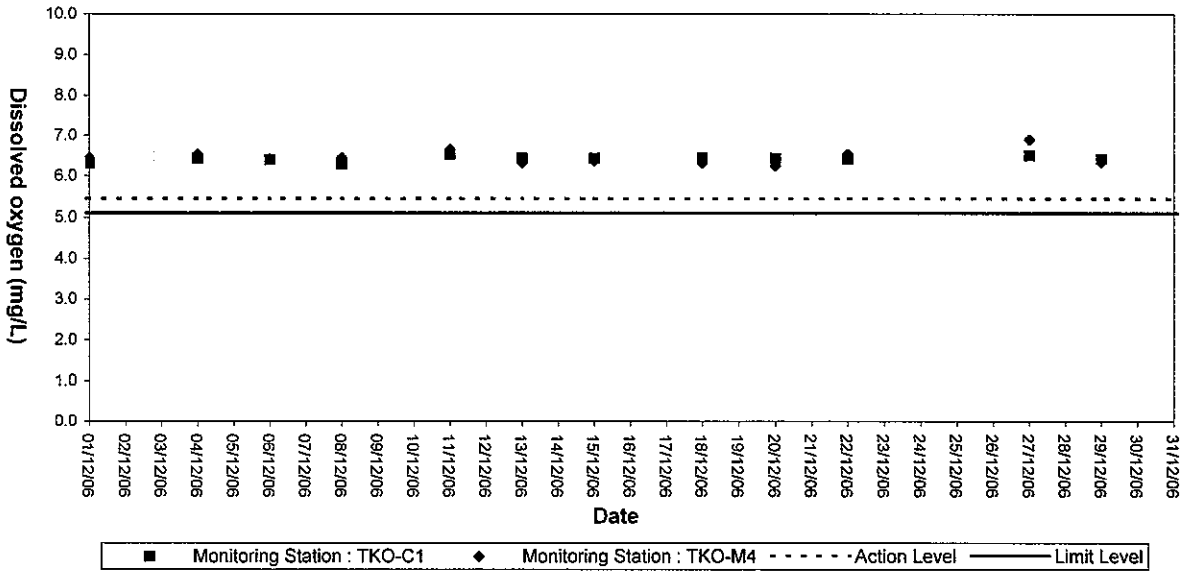
Graphical Plots of Impact Marine Water Quality Monitoring Data



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

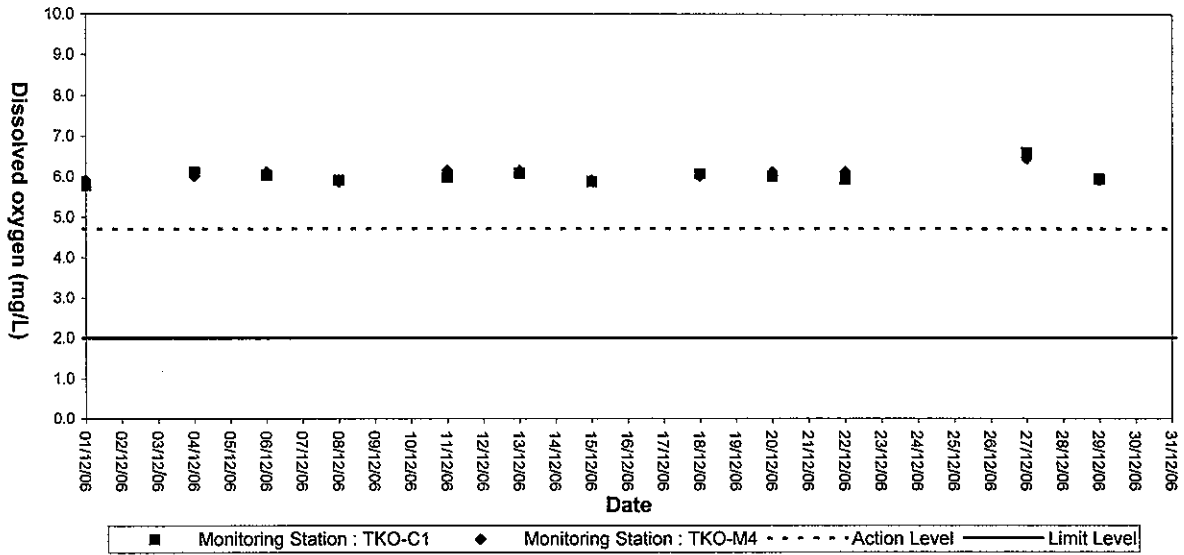


Dissolved Oxygen (Surface & Middle) at Mid-Ebb Tide

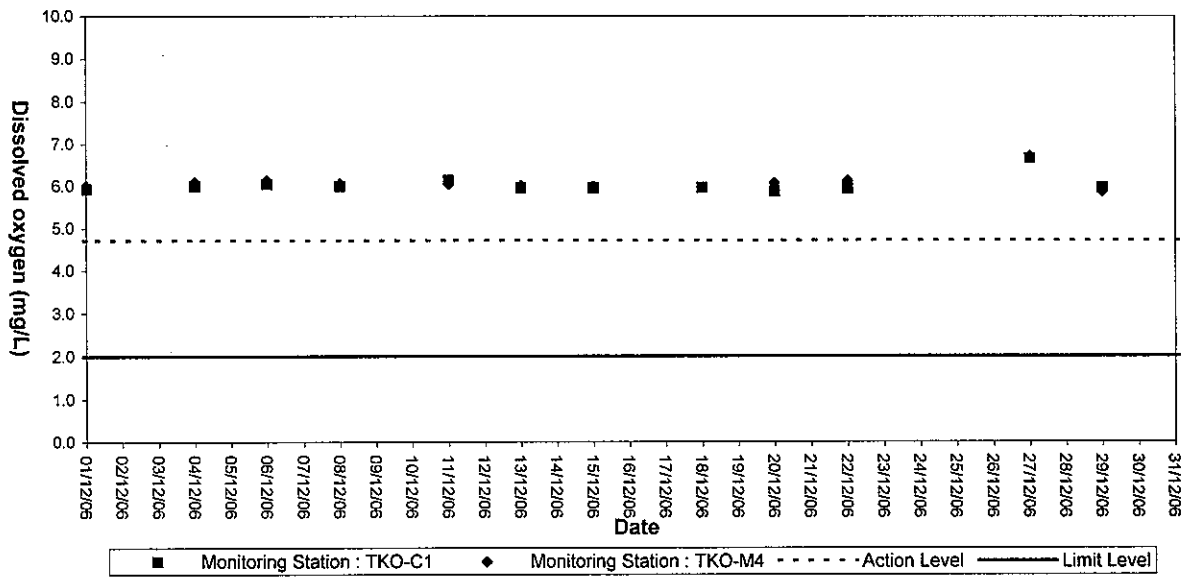




Dissolved Oxygen (Bottom) at Mid-Flood Tide

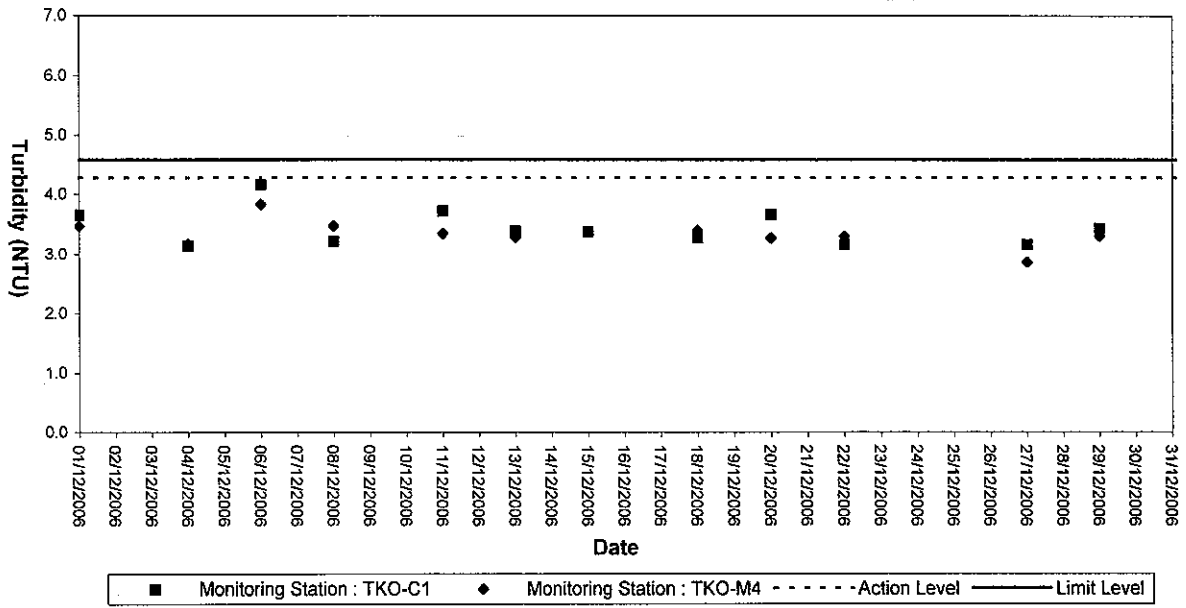


Dissolved Oxygen (Bottom) at Mid-Ebb Tide

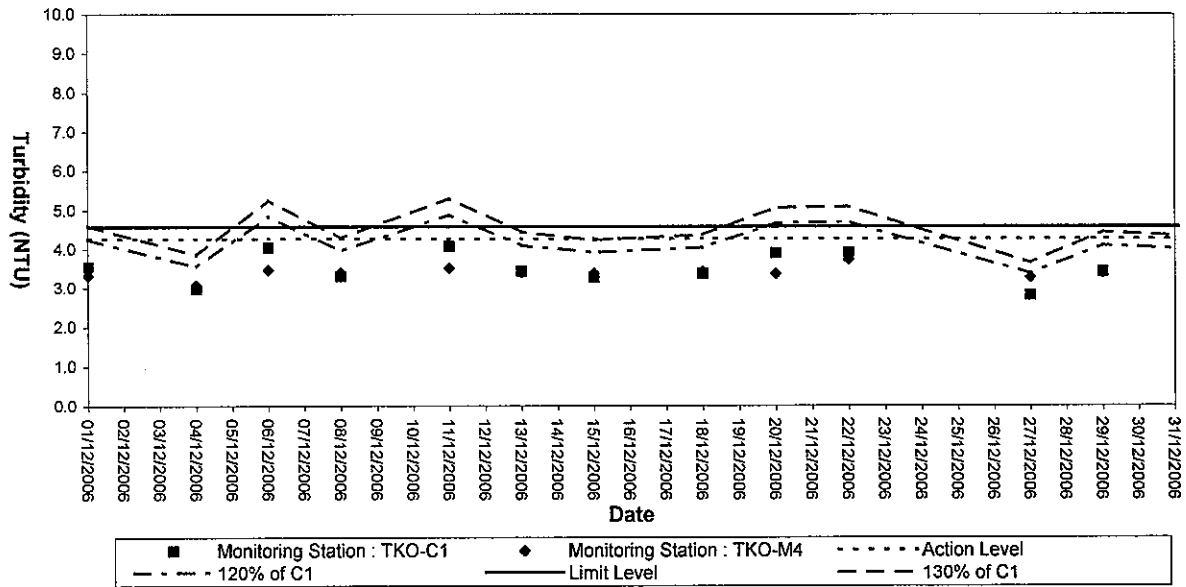




Turbidity (Depth-average) at Mid-Flood Tide

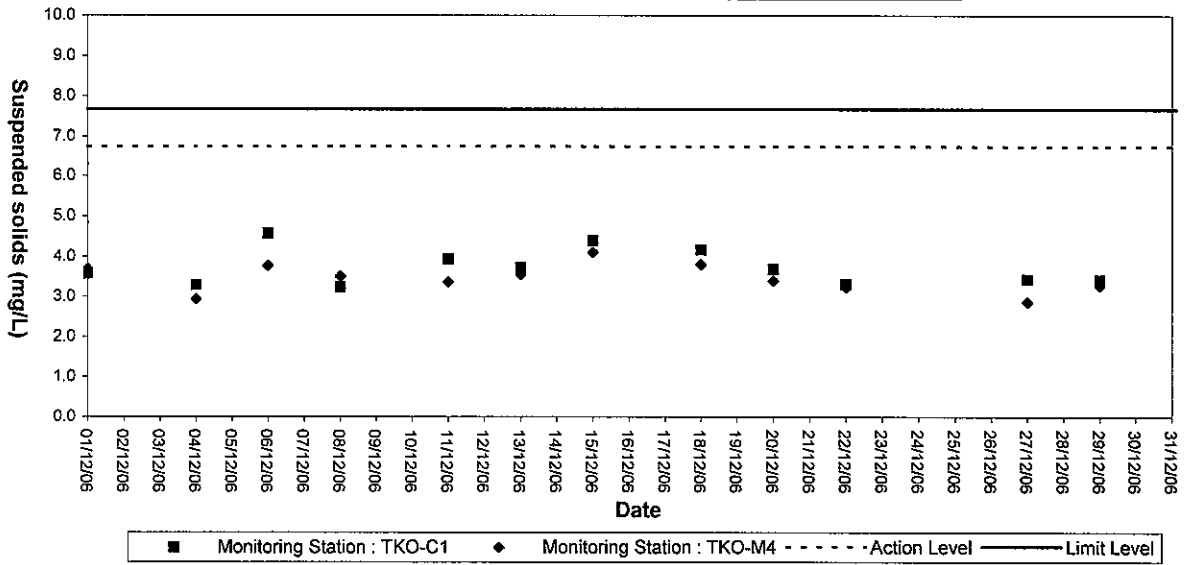


Turbidity (Depth-average) at Mid-Ebb Tide

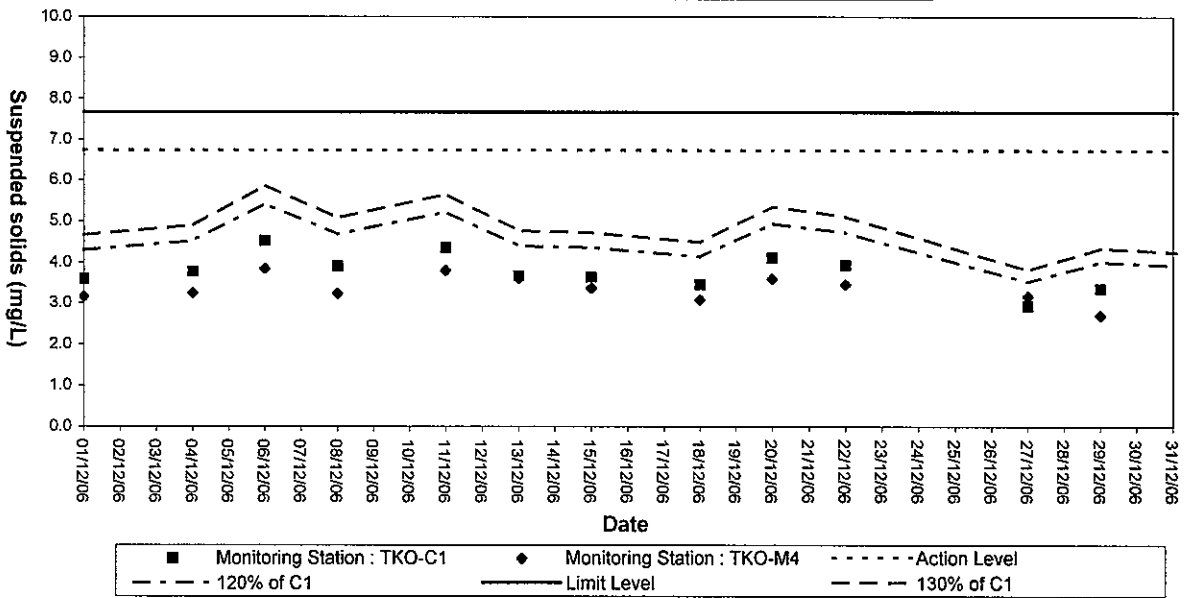




Suspended solids (Depth-average) at Mid-Flood Tide



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





Appendix E

Weather Condition



Weather information in December 2006

Date (DMY)	Time	Average	Hi	Low	Wind Speed (m/s)		Wind	Period
		Temp	Temp	Temp	Average	Hi	Direction	
01/12/2006	12:00 AM	18.0	18.2	17.9	3.3	5.5	NEE	30
01/12/2006	12:30 AM	18.0	18.0	17.8	3.0	4.4	NE	30
01/12/2006	1:00 AM	18.0	18.1	18.0	4.0	4.9	NE	30
01/12/2006	1:30 AM	17.5	17.7	17.4	2.5	2.9	NE	30
01/12/2006	2:00 AM	17.5	17.7	17.5	3.5	5.2	NE	30
01/12/2006	2:30 AM	16.0	16.1	15.8	3.5	4.3	NE	30
01/12/2006	3:00 AM	16.0	16.1	15.8	3.3	3.6	NEE	30
01/12/2006	3:30 AM	16.0	16.1	16.0	3.8	5.8	NNE	30
01/12/2006	4:00 AM	16.0	16.2	15.9	4.2	6.1	NNE	30
01/12/2006	4:30 AM	15.5	15.7	15.3	4.2	5.9	N	30
01/12/2006	5:00 AM	15.5	15.8	15.2	4.0	4.1	N	30
01/12/2006	5:30 AM	15.5	15.7	15.5	4.2	5.6	NE	30
01/12/2006	6:00 AM	15.5	15.8	15.3	4.9	6.4	NNE	30
01/12/2006	6:30 AM	15.5	15.6	15.3	3.4	5.3	NNE	30
01/12/2006	7:00 AM	16.0	16.3	15.8	4.2	5.7	NNE	30
01/12/2006	7:30 AM	16.5	16.8	16.4	4.2	6.3	NNE	30
01/12/2006	8:00 AM	17.0	17.2	16.7	4.5	5.6	NNE	30
01/12/2006	8:30 AM	17.5	17.9	17.3	4.0	5.3	NE	30
01/12/2006	9:00 AM	18.0	18.2	17.9	4.8	4.9	NE	30
01/12/2006	9:30 AM	18.8	18.8	18.7	4.1	4.2	NNE	30
01/12/2006	10:00 AM	19.0	19.0	18.8	5.0	6.6	NNE	30
01/12/2006	10:30 AM	19.5	19.7	19.3	3.9	4.2	NNE	30
01/12/2006	11:00 AM	19.8	20.0	19.5	3.3	4.1	N	30
01/12/2006	11:30 AM	20.0	20.3	19.9	4.1	4.2	NE	30
01/12/2006	12:00 PM	20.5	20.8	20.5	4.4	5.3	NE	30
01/12/2006	12:30 PM	20.8	20.9	20.6	4.2	5.4	NNE	30
01/12/2006	1:00 PM	21.0	21.4	20.8	4.1	6.4	NNE	30
01/12/2006	1:30 PM	22.0	22.4	21.8	4.4	6.4	NNE	30
01/12/2006	2:00 PM	22.5	22.5	22.2	3.9	5.5	NE	30
01/12/2006	2:30 PM	22.8	22.8	22.7	4.4	5.2	NEE	30
01/12/2006	3:00 PM	23.0	23.4	22.9	3.3	4.7	N	30
01/12/2006	3:30 PM	22.5	22.6	22.3	4.1	5.4	NNE	30
01/12/2006	4:00 PM	21.5	21.7	21.3	4.0	4.7	NE	30
01/12/2006	4:30 PM	21.0	21.1	20.8	3.0	4.6	N	30
01/12/2006	5:00 PM	20.0	20.2	19.9	3.5	4.8	NE	30
01/12/2006	5:30 PM	19.8	19.9	19.8	5.0	5.6	NNE	30
01/12/2006	6:00 PM	19.5	19.7	19.3	3.8	4.2	NNW	30
01/12/2006	6:30 PM	18.0	18.1	17.9	3.3	5.5	N	30
01/12/2006	7:00 PM	17.5	17.9	17.4	4.1	5.9	N	30
01/12/2006	7:30 PM	16.8	17.0	16.7	4.4	6.1	N	30
01/12/2006	8:00 PM	16.5	16.6	16.3	4.3	4.3	N	30
01/12/2006	8:30 PM	17.5	17.6	17.2	4.1	5.0	N	30
01/12/2006	9:00 PM	17.3	17.7	17.3	4.0	5.0	NNE	30
01/12/2006	9:30 PM	16.5	16.7	16.2	3.9	5.7	NE	30
01/12/2006	10:00 PM	16.0	16.1	15.8	3.8	5.8	N	30
01/12/2006	10:30 PM	16.3	16.3	16.1	3.3	3.3	NNE	30
01/12/2006	11:00 PM	16.2	16.6	16.1	3.8	4.3	N	30
01/12/2006	11:30 PM	16.3	16.6	16.2	3.9	5.5	N	30
02/12/2006	12:00 AM	16.2	16.4	16.0	2.8	4.1	N	30
02/12/2006	12:30 AM	16.2	16.5	16.2	3.3	5.1	NNE	30
02/12/2006	1:00 AM	15.5	15.5	15.3	3.3	4.1	NNE	30
02/12/2006	1:30 AM	15.5	15.7	15.3	3.0	5.0	NE	30
02/12/2006	2:00 AM	15.0	15.2	14.8	3.3	4.7	N	30
02/12/2006	2:30 AM	14.5	14.9	14.4	3.7	5.0	NNE	30
02/12/2006	3:00 AM	14.5	14.5	14.2	3.9	4.9	NNE	30
02/12/2006	3:30 AM	14.0	14.3	13.7	3.3	4.8	NNE	30
02/12/2006	4:00 AM	13.0	13.2	12.7	3.4	4.1	NNE	30
02/12/2006	4:30 AM	13.2	13.3	13.2	3.3	4.5	N	30
02/12/2006	5:00 AM	13.5	13.7	13.3	2.9	5.1	N	30
02/12/2006	5:30 AM	14.0	14.0	13.9	3.3	4.6	NNE	30
02/12/2006	6:00 AM	14.5	14.5	14.2	2.8	4.7	N	30
02/12/2006	6:30 AM	14.3	14.7	14.2	4.3	5.6	NE	30
02/12/2006	7:00 AM	14.5	14.6	14.3	3.0	3.1	N	30
02/12/2006	7:30 AM	15.0	15.4	14.9	3.8	5.9	NE	30
02/12/2006	8:00 AM	16.5	16.8	16.4	2.8	2.9	NNE	30
02/12/2006	8:30 AM	17.0	17.1	16.8	3.9	4.3	NNE	30
02/12/2006	9:00 AM	18.5	18.9	18.2	3.5	5.2	NEE	30
02/12/2006	9:30 AM	19.0	19.2	18.9	2.9	4.0	NNE	30
02/12/2006	10:00 AM	19.5	19.8	19.4	3.9	4.7	NE	30
02/12/2006	10:30 AM	20.0	20.3	20.0	3.4	5.2	NNE	30
02/12/2006	11:00 AM	15.5	15.8	15.3	2.8	4.1	NNW	30
02/12/2006	11:30 AM	16.0	16.4	15.7	3.3	3.9	NE	30
02/12/2006	12:00 PM	16.5	16.8	16.5	3.3	3.4	NEE	30
02/12/2006	12:30 PM	17.0	17.2	16.8	3.3	5.0	NEE	30
02/12/2006	1:00 PM	17.5	17.6	17.2	1.3	2.7	NNW	30
02/12/2006	1:30 PM	18.0	18.2	17.9	3.0	4.0	N	30
02/12/2006	2:00 PM	18.8	19.2	18.7	2.2	2.8	N	30
02/12/2006	2:30 PM	19.0	19.1	18.8	1.7	3.0	NNW	30
02/12/2006	3:00 PM	19.5	19.7	19.4	1.6	2.7	N	30
02/12/2006	3:30 PM	19.8	20.1	19.6	2.0	3.2	NNW	30
02/12/2006	4:00 PM	20.0	20.4	20.0	1.4	3.7	N	30
02/12/2006	4:30 PM	20.5	20.9	20.3	0.8	0.8	NEE	30
02/12/2006	5:00 PM	20.8	20.9	20.8	1.1	1.9	E	30
02/12/2006	5:30 PM	21.0	21.1	20.8	1.7	3.5	NEE	30
02/12/2006	6:00 PM	22.0	22.2	22.0	1.8	2.3	NEE	30
02/12/2006	6:30 PM	22.5	22.6	22.5	1.1	1.7	NE	30
02/12/2006	7:00 PM	22.8	23.0	22.5	2.2	3.1	E	30
02/12/2006	7:30 PM	23.0	23.0	22.8	1.6	2.3	N	30
02/12/2006	8:00 PM	22.5	22.6	22.3	1.7	4.0	NE	30
02/12/2006	8:30 PM	21.5	21.6	21.3	1.9	2.0	NE	30
02/12/2006	9:00 PM	21.0	21.2	20.7	2.0	3.7	SEE	30
02/12/2006	9:30 PM	20.0	20.1	19.9	2.2	4.2	E	30
02/12/2006	10:00 PM	19.8	20.2	19.7	1.6	2.2	N	30
02/12/2006	10:30 PM	19.5	19.7	19.4	1.7	3.2	NNE	30
02/12/2006	11:00 PM	18.0	18.3	17.9	3.0	3.1	NE	30
02/12/2006	11:30 PM	17.5	17.7	17.4	0.8	1.8	NNW	30



Weather information in December 2006

Date (DMY)	Time	Average	Hi	Low	Wind Speed (m/s)		Wind Direction	Period
		Temp	Temp	Temp	Average	Hi		
03/12/2006	12:00 AM	16.8	17.0	16.5	1.3	1.5	NW	30
03/12/2006	12:30 AM	16.5	16.5	16.2	0.8	1.1	NW	30
03/12/2006	1:00 AM	17.5	17.6	17.5	0.6	2.6	NNW	30
03/12/2006	1:30 AM	17.3	17.5	17.2	1.7	2.2	NNW	30
03/12/2006	2:00 AM	16.5	16.8	16.4	1.6	2.4	E	30
03/12/2006	2:30 AM	16.0	16.3	15.7	0.6	1.9	N	30
03/12/2006	3:00 AM	16.3	16.6	16.2	0.6	2.0	NEE	30
03/12/2006	3:30 AM	16.2	16.3	16.1	0.7	2.1	NNW	30
03/12/2006	4:00 AM	16.3	16.3	16.0	1.2	3.3	N	30
03/12/2006	4:30 AM	16.2	16.5	16.0	1.7	3.5	NE	30
03/12/2006	5:00 AM	16.2	16.3	16.2	2.2	2.5	E	30
03/12/2006	5:30 AM	15.5	15.6	15.4	1.8	3.2	NNE	30
03/12/2006	6:00 AM	15.5	15.8	15.2	3.2	4.7	NNE	30
03/12/2006	6:30 AM	15.0	15.3	14.9	2.0	2.9	NNE	30
03/12/2006	7:00 AM	14.5	14.6	14.3	2.2	4.4	NNE	30
03/12/2006	7:30 AM	14.5	14.6	14.3	0.6	1.8	NNE	30
03/12/2006	8:00 AM	14.0	14.3	14.0	1.4	3.6	NE	30
03/12/2006	8:30 AM	13.0	13.3	13.0	1.7	3.5	N	30
03/12/2006	9:00 AM	13.2	13.3	13.2	1.3	3.2	NNW	30
03/12/2006	9:30 AM	13.5	13.6	13.5	2.3	3.9	NNW	30
03/12/2006	10:00 AM	14.0	14.1	13.7	1.2	1.8	NEE	30
03/12/2006	10:30 AM	14.5	14.7	14.3	2.7	5.0	NE	30
03/12/2006	11:00 AM	14.3	14.4	14.1	2.2	2.8	NEE	30
03/12/2006	11:30 AM	14.5	14.8	14.4	2.8	5.0	NE	30
03/12/2006	12:00 PM	15.0	15.2	14.8	2.9	3.8	E	30
03/12/2006	12:30 PM	16.5	16.7	16.4	2.2	2.8	NEE	30
03/12/2006	1:00 PM	17.0	17.3	16.8	2.2	2.5	NEE	30
03/12/2006	1:30 PM	18.5	18.6	18.4	2.2	2.8	NEE	30
03/12/2006	2:00 PM	19.0	19.3	18.7	1.7	3.3	SE	30
03/12/2006	2:30 PM	19.5	19.8	19.2	3.3	5.5	NNE	30
03/12/2006	3:00 PM	20.0	20.1	19.7	2.2	2.9	E	30
03/12/2006	3:30 PM	15.5	15.5	15.2	1.7	3.8	E	30
03/12/2006	4:00 PM	16.0	16.0	15.8	2.1	2.5	E	30
03/12/2006	4:30 PM	16.5	16.6	16.3	0.8	2.8	SE	30
03/12/2006	5:00 PM	17.0	17.2	17.0	1.9	2.8	E	30
03/12/2006	5:30 PM	17.5	17.7	17.4	1.1	2.1	E	30
03/12/2006	6:00 PM	18.0	18.1	17.8	1.4	3.0	NEE	30
03/12/2006	6:30 PM	18.8	18.9	18.8	2.2	3.2	NNE	30
03/12/2006	7:00 PM	19.0	19.3	18.8	2.2	2.9	NNE	30
03/12/2006	7:30 PM	19.5	19.8	19.2	2.1	3.7	NNE	30
03/12/2006	8:00 PM	19.8	20.2	19.5	1.6	3.1	NNE	30
03/12/2006	8:30 PM	20.0	20.0	19.9	2.2	3.3	NNE	30
03/12/2006	9:00 PM	20.5	20.6	20.3	1.7	3.4	NNE	30
03/12/2006	9:30 PM	20.8	21.1	20.7	0.2	1.8	NNW	30
03/12/2006	10:00 PM	21.0	21.1	20.9	0.7	2.3	NE	30
03/12/2006	10:30 PM	22.0	22.1	21.7	1.1	1.8	NNW	30
03/12/2006	11:00 PM	22.5	22.5	22.3	1.2	3.0	N	30
03/12/2006	11:30 PM	22.8	22.8	22.6	0.6	1.3	NNW	30
04/12/2006	12:00 AM	23.0	23.3	22.8	0.5	2.1	N	30
04/12/2006	12:30 AM	22.5	22.8	22.4	1.4	2.9	NNW	30
04/12/2006	1:00 AM	21.5	21.7	21.4	1.1	1.1	N	30
04/12/2006	1:30 AM	21.0	21.1	20.7	0.6	1.2	NNW	30
04/12/2006	2:00 AM	20.0	20.2	19.9	0.6	2.0	NNW	30
04/12/2006	2:30 AM	19.8	20.0	19.7	1.1	1.9	NW	30
04/12/2006	3:00 AM	19.5	19.5	19.3	0.2	2.5	NW	30
04/12/2006	3:30 AM	18.0	18.2	17.7	0.2	2.4	NW	30
04/12/2006	4:00 AM	17.5	17.8	17.3	0.2	1.5	N	30
04/12/2006	4:30 AM	16.8	17.2	16.7	0.3	0.6	N	30
04/12/2006	5:00 AM	16.5	16.7	16.4	0.6	1.3	N	30
04/12/2006	5:30 AM	17.5	17.6	17.4	0.6	1.7	N	30
04/12/2006	6:00 AM	17.3	17.5	17.0	0.9	1.9	N	30
04/12/2006	6:30 AM	16.5	16.8	16.3	1.1	2.6	NNE	30
04/12/2006	7:00 AM	16.0	16.2	15.7	0.3	1.6	E	30
04/12/2006	7:30 AM	16.3	16.4	16.1	0.3	0.5	NEE	30
04/12/2006	8:00 AM	16.2	16.4	16.0	1.6	2.2	NEE	30
04/12/2006	8:30 AM	16.3	16.5	16.2	1.1	3.3	NEE	30
04/12/2006	9:00 AM	16.2	16.4	16.0	2.2	2.5	NEE	30
04/12/2006	9:30 AM	16.2	16.4	16.1	1.8	3.0	NNE	30
04/12/2006	10:00 AM	15.5	15.6	15.3	2.0	3.2	NEE	30
04/12/2006	10:30 AM	15.5	15.9	15.3	2.2	3.8	NEE	30
04/12/2006	11:00 AM	21.0	21.2	20.8	2.2	3.8	NNE	30
04/12/2006	11:30 AM	21.0	21.3	21.0	2.0	2.8	NEE	30
04/12/2006	12:00 PM	22.0	22.0	21.8	2.9	3.2	E	30
04/12/2006	12:30 PM	21.0	21.2	21.0	2.0	2.1	SEE	30
04/12/2006	1:00 PM	21.0	21.3	20.8	2.9	3.5	NE	30
04/12/2006	1:30 PM	21.0	21.2	20.9	2.0	3.0	NEE	30
04/12/2006	2:00 PM	21.0	21.2	20.7	2.2	3.3	E	30
04/12/2006	2:30 PM	21.0	21.2	20.9	2.5	2.6	SE	30
04/12/2006	3:00 PM	21.5	21.7	21.2	2.1	2.7	NNE	30
04/12/2006	3:30 PM	22.0	22.0	21.9	2.8	3.4	SEE	30
04/12/2006	4:00 PM	21.0	21.0	20.7	1.6	2.7	NEE	30
04/12/2006	4:30 PM	20.5	20.5	20.3	1.1	2.3	E	30
04/12/2006	5:00 PM	20.0	20.1	19.8	2.2	2.3	SE	30
04/12/2006	5:30 PM	20.0	20.1	19.7	3.3	3.7	SEE	30
04/12/2006	6:00 PM	20.0	20.1	19.8	1.5	2.1	E	30
04/12/2006	6:30 PM	20.0	20.0	19.8	1.5	1.9	NE	30
04/12/2006	7:00 PM	20.0	20.3	19.8	2.2	2.7	NE	30
04/12/2006	7:30 PM	20.0	20.3	19.8	2.2	4.4	NE	30
04/12/2006	8:00 PM	20.0	20.2	20.0	2.2	4.5	NNE	30
04/12/2006	8:30 PM	20.0	20.2	20.0	0.8	3.1	NNE	30
04/12/2006	9:00 PM	20.0	20.4	19.8	2.2	2.3	NNE	30
04/12/2006	9:30 PM	20.0	20.3	19.9	0.7	2.5	NNE	30
04/12/2006	10:00 PM	20.0	20.2	19.8	0.5	1.2	NNE	30
04/12/2006	10:30 PM	20.0	20.3	20.0	0.8	3.1	N	30
04/12/2006	11:00 PM	20.0	20.3	19.8	1.7	2.2	NNE	30
04/12/2006	11:30 PM	9.0	9.4	8.9	0.5	1.5	NNE	30



Weather information in December 2006

Date (DMY)	Time	Average	Hi	Low	Wind Speed (m/s)		Wind	Period
		Temp	Temp	Temp	Average	Hi	Direction	
05/12/2006	12:00 AM	8.0	8.1	8.0	1.6	3.0	NNE	30
05/12/2006	12:30 AM	19.0	19.3	18.9	1.2	1.2	N	30
05/12/2006	1:00 AM	19.0	19.1	18.7	1.5	2.0	NNE	30
05/12/2006	1:30 AM	19.0	19.2	18.9	1.1	2.8	N	30
05/12/2006	2:00 AM	19.2	19.6	19.2	0.8	0.8	N	30
05/12/2006	2:30 AM	19.0	19.4	18.7	0.0	1.3	N	30
05/12/2006	3:00 AM	19.0	19.0	18.9	0.3	1.8	N	30
05/12/2006	3:30 AM	18.8	19.0	18.6	0.0	0.6	N	30
05/12/2006	4:00 AM	18.6	18.7	18.4	0.4	2.6	N	30
05/12/2006	4:30 AM	17.5	17.8	17.4	1.1	3.2	NE	30
05/12/2006	5:00 AM	17.5	17.6	17.4	0.8	1.2	NE	30
05/12/2006	5:30 AM	17.6	18.0	17.4	0.8	3.0	NNE	30
05/12/2006	6:00 AM	17.4	17.6	17.1	0.3	1.0	NNE	30
05/12/2006	6:30 AM	17.3	17.6	17.1	1.1	2.0	E	30
05/12/2006	7:00 AM	16.5	16.6	16.4	0.3	1.9	NEE	30
05/12/2006	7:30 AM	16.5	16.7	16.4	1.7	3.8	NEE	30
05/12/2006	8:00 AM	16.3	16.6	16.2	0.9	2.6	NEE	30
05/12/2006	8:30 AM	18.0	18.1	17.8	1.9	2.3	N	30
05/12/2006	9:00 AM	20.0	20.3	19.7	1.7	1.9	N	30
05/12/2006	9:30 AM	21.0	21.2	20.8	1.8	1.9	NE	30
05/12/2006	10:00 AM	22.0	22.3	21.8	2.2	2.6	NE	30
05/12/2006	10:30 AM	22.0	22.3	21.7	2.0	4.1	NEE	30
05/12/2006	11:00 AM	22.2	22.3	21.9	2.2	4.0	E	30
05/12/2006	11:30 AM	22.5	22.7	22.3	2.5	3.7	SE	30
05/12/2006	12:00 PM	23.0	23.3	22.7	2.1	3.0	NNE	30
05/12/2006	12:30 PM	23.5	23.8	23.2	2.8	4.4	SEE	30
05/12/2006	1:00 PM	24.0	24.4	23.8	1.6	1.8	NEE	30
05/12/2006	1:30 PM	24.0	24.4	23.8	1.1	3.3	E	30
05/12/2006	2:00 PM	24.0	24.1	23.9	2.2	3.0	SE	30
05/12/2006	2:30 PM	24.0	24.3	23.8	3.3	3.8	SEE	30
05/12/2006	3:00 PM	24.0	24.3	23.9	1.5	2.6	E	30
05/12/2006	3:30 PM	23.5	23.5	23.3	1.5	3.6	SE	30
05/12/2006	4:00 PM	23.6	23.7	23.5	2.2	2.6	SEE	30
05/12/2006	4:30 PM	23.8	24.2	23.6	2.2	4.3	SSE	30
05/12/2006	5:00 PM	22.0	22.2	21.9	2.2	4.1	SEE	30
05/12/2006	5:30 PM	21.8	22.0	21.7	0.8	2.7	SE	30
05/12/2006	6:00 PM	21.5	21.9	21.3	2.2	2.8	SE	30
05/12/2006	6:30 PM	21.0	21.3	20.8	0.7	2.7	NNE	30
05/12/2006	7:00 PM	21.0	21.4	20.9	0.5	1.3	NNE	30
05/12/2006	7:30 PM	21.0	21.1	20.9	0.8	1.4	N	30
05/12/2006	8:00 PM	21.2	21.2	21.1	1.7	3.1	NNE	30
05/12/2006	8:30 PM	20.8	20.9	20.5	0.5	0.7	NNE	30
05/12/2006	9:00 PM	20.5	20.5	20.3	1.6	2.1	NNE	30
05/12/2006	9:30 PM	20.0	20.4	19.8	1.2	1.7	N	30
05/12/2006	10:00 PM	20.0	20.3	19.7	1.5	3.0	NNE	30
05/12/2006	10:30 PM	19.8	20.0	19.7	1.1	2.4	N	30
05/12/2006	11:00 PM	19.5	19.6	19.2	0.8	2.4	N	30
05/12/2006	11:30 PM	19.0	19.0	18.9	0.0	1.7	N	30
06/12/2006	12:00 AM	20.0	20.3	20.0	0.3	2.5	N	30
06/12/2006	12:30 AM	20.0	20.1	19.8	0.0	1.0	N	30
06/12/2006	1:00 AM	20.5	20.6	20.4	0.4	1.8	N	30
06/12/2006	1:30 AM	20.3	20.4	20.1	1.1	3.0	NE	30
06/12/2006	2:00 AM	20.3	20.4	20.0	0.8	1.0	NE	30
06/12/2006	2:30 AM	20.0	20.3	19.8	0.8	1.5	NNE	30
06/12/2006	3:00 AM	20.0	20.2	19.8	0.3	2.0	NNE	30
06/12/2006	3:30 AM	20.0	20.3	19.9	1.1	2.0	E	30
06/12/2006	4:00 AM	19.5	19.6	19.2	0.3	1.2	NEE	30
06/12/2006	4:30 AM	19.5	19.6	19.4	1.7	3.5	NEE	30
06/12/2006	5:00 AM	19.0	19.3	18.9	0.9	3.2	NEE	30
06/12/2006	5:30 AM	19.0	19.3	18.8	1.9	3.8	N	30
06/12/2006	6:00 AM	19.5	19.6	19.3	1.7	3.8	N	30
06/12/2006	6:30 AM	20.0	20.3	20.0	1.8	4.0	NE	30
06/12/2006	7:00 AM	20.5	20.7	20.4	2.2	2.7	NE	30
06/12/2006	7:30 AM	20.5	20.8	20.4	3.7	4.3	NEE	30
06/12/2006	8:00 AM	20.1	20.5	19.9	3.9	4.8	NEE	30
06/12/2006	8:30 AM	21.5	21.5	21.4	3.3	4.7	NEE	30
06/12/2006	9:00 AM	21.5	21.8	21.5	3.4	5.2	NEE	30
06/12/2006	9:30 AM	21.5	21.5	21.2	3.3	3.7	NEE	30
06/12/2006	10:00 AM	21.0	21.0	20.7	2.9	4.7	NEE	30
06/12/2006	10:30 AM	21.5	21.7	21.3	3.3	4.4	NEE	30
06/12/2006	11:00 AM	22.0	22.3	21.9	2.8	3.0	NEE	30
06/12/2006	11:30 AM	22.5	22.9	22.2	4.3	5.4	NEE	30
06/12/2006	12:00 PM	22.0	22.1	21.9	3.0	4.4	NEE	30
06/12/2006	12:30 PM	22.5	22.7	22.4	3.8	5.0	NEE	30
06/12/2006	1:00 PM	22.0	22.0	21.9	3.3	5.4	NEE	30
06/12/2006	1:30 PM	22.5	22.7	22.2	2.5	2.7	NNE	30
06/12/2006	2:00 PM	22.4	22.5	22.4	0.8	2.2	NNE	30
06/12/2006	2:30 PM	22.3	22.4	22.0	2.5	4.6	N	30
06/12/2006	3:00 PM	22.5	22.6	22.5	2.4	2.7	N	30
06/12/2006	3:30 PM	22.6	22.8	22.3	0.9	3.1	NNE	30
06/12/2006	4:00 PM	22.0	22.4	21.8	1.7	1.8	N	30
06/12/2006	4:30 PM	22.0	22.3	21.8	1.5	1.6	NNE	30
06/12/2006	5:00 PM	22.0	22.2	21.9	0.7	1.2	E	30
06/12/2006	5:30 PM	22.0	22.3	22.0	0.7	2.5	SW	30
06/12/2006	6:00 PM	22.0	22.1	21.7	0.3	2.5	SW	30
06/12/2006	6:30 PM	22.0	22.2	21.9	0.1	2.2	W	30
06/12/2006	7:00 PM	21.5	21.6	21.5	0.4	2.4	NW	30
06/12/2006	7:30 PM	21.3	21.3	21.2	0.4	1.6	NNW	30
06/12/2006	8:00 PM	21.3	21.4	21.3	0.4	1.8	NNW	30
06/12/2006	8:30 PM	21.3	21.6	21.3	0.3	2.1	NNW	30
06/12/2006	9:00 PM	21.3	21.7	21.2	0.4	2.3	NNW	30
06/12/2006	9:30 PM	21.3	21.4	21.3	0.4	1.4	NNW	30
06/12/2006	10:00 PM	21.3	21.4	21.0	0.1	1.8	NNW	30
06/12/2006	10:30 PM	21.3	21.4	21.2	0.3	1.6	NNW	30
06/12/2006	11:00 PM	21.3	21.5	21.0	0.1	1.4	NNW	30
06/12/2006	11:30 PM	21.3	21.5	21.2	0.1	0.3	NNW	30



Weather information in December 2006

Date (DMY)	Time	Average	Hi	Low	Wind Speed (m/s)		Wind	Period
		Temp	Temp	Temp	Average	Hi	Direction	
07/12/2006	12:00 AM	21.3	21.6	21.0	0.1	1.5	NNW	30
07/12/2006	12:30 AM	21.3	21.5	21.3	0.4	0.8	N	30
07/12/2006	1:00 AM	21.3	21.7	21.3	0.1	1.7	NEE	30
07/12/2006	1:30 AM	21.3	21.3	21.0	0.7	2.7	NEE	30
07/12/2006	2:00 AM	21.3	21.7	21.2	0.4	1.7	NEE	30
07/12/2006	2:30 AM	21.3	21.7	21.0	1.7	2.4	NE	30
07/12/2006	3:00 AM	21.3	21.6	21.2	0.8	1.2	N	30
07/12/2006	3:30 AM	21.3	21.7	21.0	0.0	1.3	NE	30
07/12/2006	4:00 AM	21.3	21.4	21.1	2.2	4.0	N	30
07/12/2006	4:30 AM	20.0	20.1	19.9	1.7	1.9	NE	30
07/12/2006	5:00 AM	19.5	19.7	19.3	1.9	3.6	N	30
07/12/2006	5:30 AM	19.0	19.1	18.8	1.4	2.0	NE	30
07/12/2006	6:00 AM	19.0	19.0	18.7	1.7	2.1	N	30
07/12/2006	6:30 AM	19.0	19.0	18.8	1.4	3.6	NE	30
07/12/2006	7:00 AM	19.0	19.3	18.9	2.5	4.7	N	30
07/12/2006	7:30 AM	19.0	19.3	18.7	1.3	1.9	NE	30
07/12/2006	8:00 AM	19.5	19.8	19.4	0.4	2.7	NE	30
07/12/2006	8:30 AM	19.0	19.3	19.0	1.1	1.7	N	30
07/12/2006	9:00 AM	18.0	18.3	17.8	1.7	2.3	NE	30
07/12/2006	9:30 AM	20.5	20.7	20.2	1.5	3.3	NW	30
07/12/2006	10:00 AM	21.0	21.3	20.7	0.8	1.6	N	30
07/12/2006	10:30 AM	21.5	21.6	21.2	1.7	2.0	NW	30
07/12/2006	11:00 AM	22.2	22.5	22.0	0.8	2.5	E	30
07/12/2006	11:30 AM	22.5	22.8	22.5	1.8	3.2	E	30
07/12/2006	12:00 PM	23.0	23.3	23.0	3.8	4.5	NE	30
07/12/2006	12:30 PM	23.5	23.7	23.5	1.7	3.4	NE	30
07/12/2006	1:00 PM	23.5	23.8	23.3	5.0	6.9	E	30
07/12/2006	1:30 PM	23.8	24.2	23.5	5.0	6.0	NNE	30
07/12/2006	2:00 PM	24.0	24.4	23.9	2.6	3.3	NNE	30
07/12/2006	2:30 PM	25.2	25.3	25.0	1.7	4.0	NNE	30
07/12/2006	3:00 PM	25.3	25.6	25.2	4.2	6.3	NE	30
07/12/2006	3:30 PM	25.5	25.6	25.2	4.7	6.1	NEE	30
07/12/2006	4:00 PM	24.5	24.6	24.3	3.1	4.5	NE	30
07/12/2006	4:30 PM	24.0	24.2	23.8	4.2	6.2	E	30
07/12/2006	5:00 PM	23.5	23.5	23.4	2.8	3.0	SE	30
07/12/2006	5:30 PM	22.0	22.0	21.7	1.9	2.0	SEE	30
07/12/2006	6:00 PM	21.0	21.2	20.8	1.7	3.9	SSE	30
07/12/2006	6:30 PM	20.5	20.6	20.5	0.8	2.8	SEE	30
07/12/2006	7:00 PM	20.8	20.8	20.6	1.5	2.9	NE	30
07/12/2006	7:30 PM	20.3	20.5	20.3	1.9	3.1	NE	30
07/12/2006	8:00 PM	19.2	19.5	19.1	1.8	3.3	E	30
07/12/2006	8:30 PM	19.2	19.3	19.1	1.8	2.0	E	30
07/12/2006	9:00 PM	19.2	19.2	19.2	1.4	2.8	NE	30
07/12/2006	9:30 PM	19.2	19.5	19.1	1.4	3.4	NE	30
07/12/2006	10:00 PM	19.2	19.2	18.9	1.7	2.9	NE	30
07/12/2006	10:30 PM	19.2	19.3	19.1	1.4	2.8	NE	30
07/12/2006	11:00 PM	19.2	19.5	19.0	3.2	3.7	NE	30
07/12/2006	11:30 PM	19.2	19.6	19.1	2.2	4.4	NE	30
08/12/2006	12:00 AM	19.2	19.4	19.2	3.1	5.0	NE	30
08/12/2006	12:30 AM	19.2	19.3	19.1	2.4	2.8	NE	30
08/12/2006	1:00 AM	19.2	19.2	18.9	2.8	4.1	NEE	30
08/12/2006	1:30 AM	19.0	19.3	18.8	2.8	4.7	NEE	30
08/12/2006	2:00 AM	19.0	19.2	19.0	3.1	4.1	NEE	30
08/12/2006	2:30 AM	19.0	19.0	18.9	3.1	3.3	NE	30
08/12/2006	3:00 AM	19.3	19.5	19.1	2.9	4.1	NE	30
08/12/2006	3:30 AM	19.3	19.5	19.2	2.5	4.5	NEE	30
08/12/2006	4:00 AM	19.5	19.6	19.4	3.8	6.0	E	30
08/12/2006	4:30 AM	19.6	19.6	19.5	3.1	3.7	E	30
08/12/2006	5:00 AM	19.8	20.0	19.7	2.2	3.9	NEE	30
08/12/2006	5:30 AM	19.9	20.0	19.8	1.9	2.6	NEE	30
08/12/2006	6:00 AM	20.0	20.1	19.8	2.2	2.8	E	30
08/12/2006	6:30 AM	20.0	20.2	19.8	2.5	2.6	NEE	30
08/12/2006	7:00 AM	20.0	20.2	19.7	1.9	3.2	E	30
08/12/2006	7:30 AM	20.0	20.3	20.0	1.9	2.7	NE	30
08/12/2006	8:00 AM	20.0	20.4	19.8	1.9	2.1	NEE	30
08/12/2006	8:30 AM	20.5	20.8	20.3	3.1	3.8	NEE	30
08/12/2006	9:00 AM	21.0	21.2	21.0	3.6	3.9	NEE	30
08/12/2006	9:30 AM	22.0	22.1	21.9	3.1	5.2	NEE	30
08/12/2006	10:00 AM	23.5	23.7	23.5	4.2	5.4	NEE	30
08/12/2006	10:30 AM	24.5	24.8	24.4	3.1	4.4	NEE	30
08/12/2006	11:00 AM	24.5	24.5	24.4	3.6	5.3	NEE	30
08/12/2006	11:30 AM	23.5	23.6	23.2	3.3	0.1	NEE	30
08/12/2006	12:00 PM	23.5	23.7	23.2	2.8	0.6	NNE	30
08/12/2006	12:30 PM	23.8	24.0	23.6	1.7	0.9	NE	30
08/12/2006	1:00 PM	24.0	24.2	23.9	2.5	1.7	NNE	30
08/12/2006	1:30 PM	25.2	25.6	25.0	3.3	1.9	SE	30
08/12/2006	2:00 PM	25.3	25.4	25.1	3.3	1.8	SEE	30
08/12/2006	2:30 PM	25.5	25.6	25.4	3.1	0.5	SE	30
08/12/2006	3:00 PM	24.5	24.6	24.3	2.5	1.0	SE	30
08/12/2006	3:30 PM	24.0	24.2	23.9	2.5	0.5	NE	30
08/12/2006	4:00 PM	23.5	23.5	23.5	3.3	0.5	SE	30
08/12/2006	4:30 PM	22.0	22.2	21.7	1.7	2.1	SE	30
08/12/2006	5:00 PM	21.0	21.3	20.8	3.3	0.9	SE	30
08/12/2006	5:30 PM	20.5	20.8	20.5	2.2	1.9	SE	30
08/12/2006	6:00 PM	20.8	21.1	20.6	0.9	1.8	SE	30
08/12/2006	6:30 PM	20.3	20.6	20.2	1.0	1.2	SE	30
08/12/2006	7:00 PM	20.5	20.8	20.4	2.5	1.0	SE	30
08/12/2006	7:30 PM	20.5	20.5	20.3	0.8	0.6	SE	30
08/12/2006	8:00 PM	20.3	20.4	20.1	1.7	1.4	NE	30
08/12/2006	8:30 PM	20.4	20.6	20.3	0.1	2.0	N	30
08/12/2006	9:00 PM	20.3	20.5	20.1	0.8	1.9	NNE	30
08/12/2006	9:30 PM	20.5	20.8	20.4	0.1	0.7	SE	30
08/12/2006	10:00 PM	20.5	20.8	20.5	0.8	1.7	NE	30
08/12/2006	10:30 PM	20.5	20.7	20.2	1.1	0.2	E	30
08/12/2006	11:00 PM	20.8	21.2	20.7	0.8	1.1	NW	30
08/12/2006	11:30 PM	20.8	20.8	20.7	0.6	1.3	NW	30



Weather information in December 2006

Date (DMY)	Time	Average	Hi	Low	Wind Speed (m/s)		Wind	Period
		Temp	Temp	Temp	Average	Hi	Direction	
09/12/2006	12:00 AM	20.8	20.9	20.8	0.3	0.3	SW	30
09/12/2006	12:30 AM	20.8	21.2	20.6	0.3	0.8	SW	30
09/12/2006	1:00 AM	20.8	21.0	20.6	0.3	0.7	SE	30
09/12/2006	1:30 AM	20.8	20.8	20.6	0.4	1.6	NW	30
09/12/2006	2:00 AM	20.8	21.2	20.7	0.3	0.4	NW	30
09/12/2006	2:30 AM	20.8	21.2	20.6	0.6	1.2	NW	30
09/12/2006	3:00 AM	20.8	21.0	20.5	0.6	0.0	NW	30
09/12/2006	3:30 AM	20.8	21.0	20.5	0.6	1.8	NW	30
09/12/2006	4:00 AM	20.8	21.0	20.6	0.8	0.5	N	30
09/12/2006	4:30 AM	20.8	20.8	20.7	1.1	1.7	NE	30
09/12/2006	5:00 AM	20.2	20.5	20.0	1.4	0.7	NE	30
09/12/2006	5:30 AM	20.5	20.7	20.5	1.4	1.9	NE	30
09/12/2006	6:00 AM	20.5	20.8	20.3	1.1	0.6	NW	30
09/12/2006	6:30 AM	20.5	20.9	20.4	0.6	1.4	NW	30
09/12/2006	7:00 AM	20.5	20.7	20.3	0.7	1.3	NW	30
09/12/2006	7:30 AM	20.5	20.8	20.2	1.9	2.0	NW	30
09/12/2006	8:00 AM	20.5	20.6	20.3	0.9	1.7	NW	30
09/12/2006	8:30 AM	20.5	20.7	20.5	1.4	1.7	NW	30
09/12/2006	9:00 AM	20.5	20.8	20.3	1.4	0.4	NE	30
09/12/2006	9:30 AM	20.5	20.6	20.4	1.7	1.6	NE	30
09/12/2006	10:00 AM	20.5	20.8	20.4	1.5	0.8	NE	30
09/12/2006	10:30 AM	20.5	20.6	20.3	1.7	1.9	NE	30
09/12/2006	11:00 AM	23.8	24.0	23.5	0.8	0.6	NEE	30
09/12/2006	11:30 AM	22.0	22.4	21.9	1.7	1.6	NEE	30
09/12/2006	12:00 PM	21.8	22.1	21.6	2.4	0.8	NEE	30
09/12/2006	12:30 PM	21.5	21.9	21.3	3.2	1.4	NEE	30
09/12/2006	1:00 PM	21.0	21.4	20.9	2.5	1.6	SE	30
09/12/2006	1:30 PM	21.0	21.2	21.0	3.3	1.5	E	30
09/12/2006	2:00 PM	21.0	21.3	20.8	1.7	1.0	NEE	30
09/12/2006	2:30 PM	21.2	21.3	20.9	2.8	0.7	NEE	30
09/12/2006	3:00 PM	20.8	21.0	20.8	2.8	0.2	NE	30
09/12/2006	3:30 PM	20.5	20.9	20.3	3.1	2.0	NE	30
09/12/2006	4:00 PM	20.0	20.0	19.7	1.7	2.0	NNE	30
09/12/2006	4:30 PM	20.0	20.3	19.7	3.3	1.5	NNE	30
09/12/2006	5:00 PM	19.8	19.9	19.8	3.1	2.0	NNE	30
09/12/2006	5:30 PM	19.5	19.8	19.4	4.2	1.5	NE	30
09/12/2006	6:00 PM	19.0	19.3	18.8	2.8	1.4	NE	30
09/12/2006	6:30 PM	20.0	20.1	19.9	3.1	1.7	NE	30
09/12/2006	7:00 PM	20.0	20.2	19.9	0.8	0.8	NNE	30
09/12/2006	7:30 PM	20.5	20.6	20.4	0.6	1.9	NW	30
09/12/2006	8:00 PM	20.3	20.4	20.2	1.7	0.8	NW	30
09/12/2006	8:30 PM	20.3	20.4	20.1	0.3	1.9	NW	30
09/12/2006	9:00 PM	20.0	20.3	19.9	0.1	1.5	NW	30
09/12/2006	9:30 PM	20.0	20.3	20.0	0.1	1.6	NW	30
09/12/2006	10:00 PM	20.0	20.0	19.7	0.4	2.3	NW	30
09/12/2006	10:30 PM	19.5	19.6	19.3	0.4	2.2	NW	30
09/12/2006	11:00 PM	19.5	19.9	19.2	0.6	1.3	NW	30
09/12/2006	11:30 PM	19.0	19.3	18.8	0.6	1.1	NW	30
10/12/2006	12:00 AM	19.0	19.1	18.9	0.4	1.5	NW	30
10/12/2006	12:30 AM	19.5	19.6	19.3	0.6	1.0	NW	30
10/12/2006	1:00 AM	20.0	20.0	19.8	0.5	0.1	NW	30
10/12/2006	1:30 AM	20.5	20.6	20.5	0.6	0.7	NW	30
10/12/2006	2:00 AM	19.2	19.3	18.9	0.4	1.8	NW	30
10/12/2006	2:30 AM	19.2	19.6	19.0	0.6	1.6	N	30
10/12/2006	3:00 AM	19.2	19.3	19.1	0.5	1.7	N	30
10/12/2006	3:30 AM	19.2	19.3	19.1	0.6	1.2	N	30
10/12/2006	4:00 AM	19.2	19.4	19.2	0.4	1.6	N	30
10/12/2006	4:30 AM	19.2	19.3	19.1	0.4	0.8	NW	30
10/12/2006	5:00 AM	19.2	19.3	18.9	0.6	0.8	NW	30
10/12/2006	5:30 AM	19.2	19.4	19.1	0.5	0.5	NNW	30
10/12/2006	6:00 AM	19.2	19.3	19.0	0.5	0.1	N	30
10/12/2006	6:30 AM	19.2	19.4	19.0	0.7	1.7	NNW	30
10/12/2006	7:00 AM	19.0	19.3	18.8	0.4	1.6	NW	30
10/12/2006	7:30 AM	19.0	19.2	18.9	0.4	1.7	E	30
10/12/2006	8:00 AM	19.0	19.2	19.0	0.1	2.0	SE	30
10/12/2006	8:30 AM	19.3	19.7	19.2	0.8	0.6	SEE	30
10/12/2006	9:00 AM	19.3	19.6	19.1	0.7	0.2	SE	30
10/12/2006	9:30 AM	19.5	19.7	19.5	1.1	0.9	SE	30
10/12/2006	10:00 AM	19.6	19.9	19.3	2.4	0.6	E	30
10/12/2006	10:30 AM	19.8	20.0	19.7	1.7	1.0	E	30
10/12/2006	11:00 AM	19.6	19.9	19.6	2.6	0.1	NEE	30
10/12/2006	11:30 AM	19.6	19.9	19.5	1.9	0.7	NEE	30
10/12/2006	12:00 PM	19.8	20.1	19.5	2.4	0.9	NE	30
10/12/2006	12:30 PM	20.0	20.0	19.9	2.8	1.6	E	30
10/12/2006	1:00 PM	20.0	20.1	20.0	2.8	1.9	NE	30
10/12/2006	1:30 PM	20.0	20.0	20.0	3.1	1.1	NE	30
10/12/2006	2:00 PM	19.5	19.8	19.4	3.1	0.1	NEE	30
10/12/2006	2:30 PM	19.5	19.8	19.4	2.9	1.5	NEE	30
10/12/2006	3:00 PM	19.3	19.3	19.0	2.5	1.3	NEE	30
10/12/2006	3:30 PM	19.0	19.2	18.7	3.8	1.7	NE	30
10/12/2006	4:00 PM	18.5	18.7	18.5	3.1	2.1	NE	30
10/12/2006	4:30 PM	18.0	18.1	17.8	2.2	0.4	NEE	30
10/12/2006	5:00 PM	18.0	18.3	17.7	1.9	0.8	E	30
10/12/2006	5:30 PM	18.3	18.5	18.1	2.2	1.5	E	30
10/12/2006	6:00 PM	18.2	18.4	18.0	2.5	1.5	NEE	30
10/12/2006	6:30 PM	18.0	18.2	17.7	1.9	0.8	NEE	30
10/12/2006	7:00 PM	18.0	18.3	17.9	1.9	1.5	E	30
10/12/2006	7:30 PM	17.5	17.9	17.3	1.9	0.9	NEE	30
10/12/2006	8:00 PM	17.5	17.5	17.3	3.1	1.9	E	30
10/12/2006	8:30 PM	17.5	17.7	17.4	3.6	2.0	NE	30
10/12/2006	9:00 PM	17.5	17.8	17.2	3.1	0.2	NEE	30
10/12/2006	9:30 PM	17.5	17.8	17.2	4.2	1.3	NEE	30
10/12/2006	10:00 PM	17.3	17.5	17.0	3.1	2.1	NEE	30
10/12/2006	10:30 PM	17.3	17.7	17.0	3.6	1.2	NEE	30
10/12/2006	11:00 PM	17.0	17.1	16.9	3.3	0.5	NEE	30
10/12/2006	11:30 PM	17.0	17.2	16.8	2.8	0.5	NEE	30



Weather information in December 2006

Date (DMY)	Time	Temperature			Wind Speed (m/s)		Wind Direction	Period
		Average	Hi	Low	Average	Hi		
11/12/2006	12:00 AM	17.0	17.1	16.7	1.7	0.0	NEE	30
11/12/2006	12:30 AM	17.0	17.0	16.8	2.5	0.9	NEE	30
11/12/2006	1:00 AM	16.5	16.7	16.4	3.3	1.4	NNE	30
11/12/2006	1:30 AM	16.5	16.8	16.3	3.3	0.3	NE	30
11/12/2006	2:00 AM	16.5	16.7	16.5	3.1	1.2	NNE	30
11/12/2006	2:30 AM	15.5	15.5	15.5	2.5	0.7	SE	30
11/12/2006	3:00 AM	15.5	15.7	15.2	2.5	0.0	SEE	30
11/12/2006	3:30 AM	15.3	15.5	15.2	3.3	2.2	SE	30
11/12/2006	4:00 AM	15.2	15.5	15.0	1.7	0.9	SE	30
11/12/2006	4:30 AM	15.2	15.3	15.1	3.3	1.4	NE	30
11/12/2006	5:00 AM	16.0	16.3	15.9	2.2	0.0	SE	30
11/12/2006	5:30 AM	15.5	15.8	15.4	0.9	1.7	SE	30
11/12/2006	6:00 AM	16.5	16.6	16.3	1.0	1.4	SE	30
11/12/2006	6:30 AM	17.0	17.3	16.7	2.5	1.6	SE	30
11/12/2006	7:00 AM	17.5	17.8	17.3	0.8	0.6	SE	30
11/12/2006	7:30 AM	18.0	18.3	17.8	1.7	1.2	SE	30
11/12/2006	8:00 AM	18.3	18.6	18.3	0.1	1.4	SE	30
11/12/2006	8:30 AM	18.5	18.6	18.4	0.8	0.3	SE	30
11/12/2006	9:00 AM	19.0	19.4	18.9	0.1	0.1	NE	30
11/12/2006	9:30 AM	20.0	20.3	19.8	0.8	0.5	N	30
11/12/2006	10:00 AM	20.5	20.6	20.3	1.1	2.1	NNE	30
11/12/2006	10:30 AM	20.5	20.7	20.3	0.8	0.2	SE	30
11/12/2006	11:00 AM	20.0	20.3	19.9	0.6	1.5	NE	30
11/12/2006	11:30 AM	20.0	20.0	19.9	0.3	0.5	E	30
11/12/2006	12:00 PM	20.0	20.2	19.8	0.3	1.8	NW	30
11/12/2006	12:30 PM	22.8	23.0	22.6	0.3	1.0	NW	30
11/12/2006	1:00 PM	22.8	23.2	22.6	0.4	0.6	SW	30
11/12/2006	1:30 PM	23.5	23.9	23.3	0.3	0.7	SW	30
11/12/2006	2:00 PM	23.5	23.8	23.4	3.1	1.8	SE	30
11/12/2006	2:30 PM	22.0	22.2	21.7	3.1	1.9	NW	30
11/12/2006	3:00 PM	22.0	22.3	21.9	2.8	1.7	NW	30
11/12/2006	3:30 PM	21.0	21.1	20.9	3.1	0.3	NW	30
11/12/2006	4:00 PM	22.0	22.2	22.0	3.6	1.2	NW	30
11/12/2006	4:30 PM	22.5	22.7	22.5	3.9	2.1	NW	30
11/12/2006	5:00 PM	21.5	21.9	21.2	4.2	0.9	N	30
11/12/2006	5:30 PM	21.2	21.5	21.0	3.3	1.0	NE	30
11/12/2006	6:00 PM	21.0	21.2	20.7	3.3	0.0	NE	30
11/12/2006	6:30 PM	21.0	21.4	21.0	3.1	1.2	NE	30
11/12/2006	7:00 PM	20.0	20.0	20.0	2.8	1.5	NW	30
11/12/2006	7:30 PM	19.8	20.0	19.7	1.4	0.6	NW	30
11/12/2006	8:00 PM	19.8	20.1	19.5	2.8	0.2	NW	30
11/12/2006	8:30 PM	19.5	19.9	19.4	2.5	2.1	NW	30
11/12/2006	9:00 PM	18.8	18.8	18.7	0.8	1.9	NW	30
11/12/2006	9:30 PM	18.8	18.9	18.6	3.3	1.0	NW	30
11/12/2006	10:00 PM	19.8	20.2	19.6	2.2	1.1	NE	30
11/12/2006	10:30 PM	19.5	19.6	19.3	2.8	0.3	NE	30
11/12/2006	11:00 PM	18.8	19.0	18.6	2.5	2.0	NE	30
11/12/2006	11:30 PM	18.8	18.9	18.5	2.2	0.5	NE	30
12/12/2006	12:00 AM	19.0	19.1	18.7	1.9	1.9	NEE	30
12/12/2006	12:30 AM	19.0	19.1	18.8	2.8	0.2	NEE	30
12/12/2006	1:00 AM	19.0	19.3	18.9	3.3	0.2	NEE	30
12/12/2006	1:30 AM	19.0	19.2	18.8	3.3	1.0	NEE	30
12/12/2006	2:00 AM	19.5	19.7	19.4	3.9	1.9	SE	30
12/12/2006	2:30 AM	19.5	19.7	19.3	4.2	2.2	E	30
12/12/2006	3:00 AM	19.5	19.9	19.3	2.8	0.1	NEE	30
12/12/2006	3:30 AM	19.5	19.6	19.5	3.3	1.0	NEE	30
12/12/2006	4:00 AM	18.0	18.0	18.0	3.6	0.6	NE	30
12/12/2006	4:30 AM	17.0	17.3	16.7	1.7	2.2	NE	30
12/12/2006	5:00 AM	17.0	17.4	16.7	1.9	1.6	NNE	30
12/12/2006	5:30 AM	17.0	17.0	16.9	2.8	2.0	NNE	30
12/12/2006	6:00 AM	17.0	17.2	16.8	2.2	0.5	NW	30
12/12/2006	6:30 AM	17.0	17.2	16.9	2.5	1.4	NE	30
12/12/2006	7:00 AM	18.0	18.4	17.7	2.2	2.1	NE	30
12/12/2006	7:30 AM	18.0	18.0	17.8	2.2	0.7	NE	30
12/12/2006	8:00 AM	19.0	19.2	18.8	2.5	1.2	NE	30
12/12/2006	8:30 AM	19.0	19.2	18.8	1.4	1.5	NNE	30
12/12/2006	9:00 AM	19.5	19.7	19.3	1.1	1.3	NNE	30
12/12/2006	9:30 AM	23.8	24.1	23.8	1.4	1.1	NNE	30
12/12/2006	10:00 AM	23.8	24.2	23.8	1.1	0.3	NEE	30
12/12/2006	10:30 AM	23.8	24.0	23.7	0.8	2.0	SE	30
12/12/2006	11:00 AM	23.8	24.0	23.7	1.4	0.8	E	30
12/12/2006	11:30 AM	24.0	24.2	23.8	1.7	0.3	NEE	30
12/12/2006	12:00 PM	24.0	24.2	23.8	0.8	1.4	NEE	30
12/12/2006	12:30 PM	24.2	24.5	24.0	2.2	2.2	NE	30
12/12/2006	1:00 PM	24.5	24.9	24.2	2.8	1.5	NE	30
12/12/2006	1:30 PM	23.5	23.7	23.4	2.8	0.4	NNE	30
12/12/2006	2:00 PM	23.2	23.2	23.1	3.1	0.3	NNE	30
12/12/2006	2:30 PM	23.3	23.3	23.3	2.5	1.6	NEE	30
12/12/2006	3:00 PM	23.5	23.7	23.4	1.7	1.3	SE	30
12/12/2006	3:30 PM	23.4	23.8	23.1	2.2	0.3	SE	30
12/12/2006	4:00 PM	23.0	23.1	22.8	1.9	1.4	SE	30
12/12/2006	4:30 PM	23.0	23.3	22.8	2.8	0.3	SE	30
12/12/2006	5:00 PM	23.0	23.1	22.9	1.1	1.3	SEE	30
12/12/2006	5:30 PM	22.5	22.6	22.2	1.1	1.5	SEE	30
12/12/2006	6:00 PM	22.8	22.9	22.7	1.7	0.7	SEE	30
12/12/2006	6:30 PM	21.8	22.0	21.8	1.1	0.3	SEE	30
12/12/2006	7:00 PM	21.8	21.9	21.7	1.1	1.5	SEE	30
12/12/2006	7:30 PM	21.5	21.7	21.4	1.7	1.4	SE	30
12/12/2006	8:00 PM	21.5	21.5	21.4	1.4	1.1	SE	30
12/12/2006	8:30 PM	21.5	21.8	21.3	1.9	0.2	SE	30
12/12/2006	9:00 PM	21.5	21.7	21.5	1.9	0.9	SE	30
12/12/2006	9:30 PM	21.5	21.8	21.3	1.1	1.3	SE	30
12/12/2006	10:00 PM	21.5	21.5	21.5	0.8	2.0	SEE	30
12/12/2006	10:30 PM	21.5	21.6	21.4	1.4	1.9	SEE	30
12/12/2006	11:00 PM	21.5	21.8	21.4	1.7	1.8	SEE	30
12/12/2006	11:30 PM	21.5	21.7	21.4	0.8	1.5	NE	30



Weather information in December 2006

Date (DMY)	Time	Average	Hi	Low	Wind Speed (m/s)		Wind	Period
		Temp	Temp	Temp	Average	Hi	Direction	
13/12/2006	12:00 AM	21.5	21.6	21.5	2.2	2.1	NE	30
13/12/2006	12:30 AM	21.5	21.6	21.3	2.8	2.1	NE	30
13/12/2006	1:00 AM	21.5	21.7	21.5	2.8	1.3	NE	30
13/12/2006	1:30 AM	20.0	20.3	19.7	3.1	0.1	NE	30
13/12/2006	2:00 AM	20.5	20.6	20.4	2.5	0.1	NE	30
13/12/2006	2:30 AM	20.5	20.7	20.5	1.7	0.8	NE	30
13/12/2006	3:00 AM	21.5	21.7	21.3	2.2	1.9	NE	30
13/12/2006	3:30 AM	21.5	21.9	21.3	1.9	1.1	NE	30
13/12/2006	4:00 AM	19.0	19.1	19.0	3.9	1.5	NE	30
13/12/2006	4:30 AM	19.0	19.3	19.0	4.4	1.9	NNE	30
13/12/2006	5:00 AM	19.5	19.7	19.4	3.9	2.1	NNE	30
13/12/2006	5:30 AM	19.5	19.8	19.2	4.4	0.9	NNE	30
13/12/2006	6:00 AM	19.6	19.7	19.6	3.9	2.1	NNE	30
13/12/2006	6:30 AM	19.7	20.0	19.6	4.4	0.7	NNE	30
13/12/2006	7:00 AM	19.8	20.0	19.5	3.9	0.5	NNE	30
13/12/2006	7:30 AM	19.9	20.1	19.8	4.4	0.5	E	30
13/12/2006	8:00 AM	20.0	20.2	19.9	1.7	0.4	NE	30
13/12/2006	8:30 AM	20.0	20.0	19.8	1.7	1.9	E	30
13/12/2006	9:00 AM	20.0	20.1	19.8	2.2	1.1	N	30
13/12/2006	9:30 AM	20.0	20.0	19.7	2.4	1.2	NE	30
13/12/2006	10:00 AM	20.0	20.2	19.9	2.4	0.2	NE	30
13/12/2006	10:30 AM	20.0	20.1	19.9	2.8	2.1	NE	30
13/12/2006	11:00 AM	20.0	20.1	19.9	2.8	0.6	N	30
13/12/2006	11:30 AM	20.1	20.3	20.0	2.5	2.1	N	30
13/12/2006	12:00 PM	20.5	20.9	20.3	2.2	1.6	NE	30
13/12/2006	12:30 PM	20.5	20.8	20.2	2.2	1.1	NE	30
13/12/2006	1:00 PM	21.5	21.9	21.2	2.4	2.0	NE	30
13/12/2006	1:30 PM	21.5	21.8	21.2	1.7	2.3	NE	30
13/12/2006	2:00 PM	20.5	20.5	20.4	1.8	0.4	NE	30
13/12/2006	2:30 PM	20.5	20.7	20.3	1.5	2.2	NE	30
13/12/2006	3:00 PM	21.5	21.6	21.3	1.5	2.3	E	30
13/12/2006	3:30 PM	21.5	21.9	21.5	1.4	0.5	E	30
13/12/2006	4:00 PM	19.0	19.2	18.9	1.4	1.4	E	30
13/12/2006	4:30 PM	20.5	20.5	20.3	1.8	1.2	E	30
13/12/2006	5:00 PM	20.5	20.6	20.2	1.4	1.9	E	30
13/12/2006	5:30 PM	21.5	21.6	21.2	1.3	2.3	NNE	30
13/12/2006	6:00 PM	21.5	21.8	21.5	1.3	0.9	NNE	30
13/12/2006	6:30 PM	19.0	19.1	18.8	1.8	0.0	NNE	30
13/12/2006	7:00 PM	17.5	17.6	17.4	1.7	0.3	NE	30
13/12/2006	7:30 PM	17.5	17.7	17.4	1.9	0.9	SE	30
13/12/2006	8:00 PM	17.3	17.5	17.2	1.8	1.9	E	30
13/12/2006	8:30 PM	17.4	17.5	17.4	1.8	0.5	NE	30
13/12/2006	9:00 PM	17.3	17.7	17.0	1.4	2.0	NE	30
13/12/2006	9:30 PM	17.3	17.4	17.1	1.4	1.3	NE	30
13/12/2006	10:00 PM	17.3	17.6	17.1	1.7	0.3	NE	30
13/12/2006	10:30 PM	17.0	17.1	16.8	1.4	0.4	NE	30
13/12/2006	11:00 PM	16.8	16.9	16.8	3.2	0.8	NE	30
13/12/2006	11:30 PM	16.8	16.8	16.7	2.2	2.0	SE	30
14/12/2006	12:00 AM	16.5	16.9	16.3	3.1	1.5	SE	30
14/12/2006	12:30 AM	16.5	16.8	16.2	2.4	1.2	E	30
14/12/2006	1:00 AM	16.5	16.7	16.3	2.8	1.8	NNE	30
14/12/2006	1:30 AM	16.6	16.7	16.6	2.8	1.4	NNE	30
14/12/2006	2:00 AM	16.7	16.7	16.6	3.1	0.1	E	30
14/12/2006	2:30 AM	16.6	16.6	16.6	3.1	2.2	NNE	30
14/12/2006	3:00 AM	16.6	16.6	16.4	2.9	0.0	E	30
14/12/2006	3:30 AM	16.6	16.9	16.3	2.5	2.2	E	30
14/12/2006	4:00 AM	17.5	17.6	17.3	3.8	0.6	NE	30
14/12/2006	4:30 AM	17.8	18.1	17.6	3.1	0.1	NE	30
14/12/2006	5:00 AM	17.8	18.1	17.7	2.2	0.5	NE	30
14/12/2006	5:30 AM	16.8	16.8	16.6	1.9	0.9	NE	30
14/12/2006	6:00 AM	16.5	16.7	16.2	2.2	0.8	E	30
14/12/2006	6:30 AM	16.5	16.8	16.3	2.5	0.6	SE	30
14/12/2006	7:00 AM	16.5	16.5	16.4	1.9	0.7	SE	30
14/12/2006	7:30 AM	16.5	16.7	16.5	1.9	1.5	SE	30
14/12/2006	8:00 AM	16.8	17.2	16.7	1.9	0.5	SE	30
14/12/2006	8:30 AM	16.8	17.0	16.5	3.1	0.8	NE	30
14/12/2006	9:00 AM	16.3	16.5	16.0	3.6	1.8	NE	30
14/12/2006	9:30 AM	16.3	16.6	16.0	3.1	1.8	NE	30
14/12/2006	10:00 AM	16.3	16.6	16.3	4.2	0.6	NNE	30
14/12/2006	10:30 AM	16.3	16.6	16.2	3.1	0.5	NNE	30
14/12/2006	11:00 AM	15.8	16.0	15.5	3.6	1.4	E	30
14/12/2006	11:30 AM	15.8	16.0	15.6	3.3	0.5	NE	30
14/12/2006	12:00 PM	16.0	16.0	15.9	2.8	1.8	NE	30
14/12/2006	12:30 PM	16.5	16.6	16.4	1.7	2.2	NEE	30
14/12/2006	1:00 PM	16.8	16.9	16.5	2.5	1.8	NEE	30
14/12/2006	1:30 PM	16.8	16.8	16.5	3.3	0.8	NEE	30
14/12/2006	2:00 PM	16.8	17.1	16.6	3.3	1.2	NEE	30
14/12/2006	2:30 PM	16.8	17.2	16.6	3.1	1.7	SE	30
14/12/2006	3:00 PM	16.8	16.8	16.7	2.5	1.3	E	30
14/12/2006	3:30 PM	16.8	17.2	16.6	2.5	1.3	NEE	30
14/12/2006	4:00 PM	15.8	15.8	15.7	3.3	1.8	NEE	30
14/12/2006	4:30 PM	15.5	15.8	15.5	1.7	1.6	NE	30
14/12/2006	5:00 PM	15.5	15.6	15.2	3.3	1.6	NE	30
14/12/2006	5:30 PM	15.5	15.9	15.2	2.2	0.5	NNE	30
14/12/2006	6:00 PM	14.8	15.1	14.6	0.9	2.0	NNE	30
14/12/2006	6:30 PM	14.8	15.1	14.7	1.0	0.7	NW	30
14/12/2006	7:00 PM	14.8	15.1	14.7	2.5	1.5	NE	30
14/12/2006	7:30 PM	14.8	14.9	14.7	0.8	1.7	NE	30
14/12/2006	8:00 PM	15.0	15.3	14.8	1.7	1.0	NE	30
14/12/2006	8:30 PM	15.0	15.1	14.8	0.1	0.9	NE	30
14/12/2006	9:00 PM	15.0	15.3	14.8	0.8	1.9	NEE	30
14/12/2006	9:30 PM	15.0	15.3	14.7	0.1	0.8	NEE	30
14/12/2006	10:00 PM	15.2	15.5	15.1	0.8	0.6	NEE	30
14/12/2006	10:30 PM	15.2	15.5	15.2	1.1	0.3	NEE	30
14/12/2006	11:00 PM	15.2	15.6	15.1	0.8	0.2	SE	30
14/12/2006	11:30 PM	15.2	15.4	15.0	0.6	0.8	E	30



Weather information in December 2006

Date (DMY)	Time	Average	Hi	Low	Wind Speed (m/s)		Wind Direction	Period
		Temp	Temp	Temp	Average	Hi		
15/12/2006	12:00 AM	15.0	15.2	14.8	0.3	2.2	NEE	30
15/12/2006	12:30 AM	15.2	15.3	15.2	0.3	0.6	NEE	30
15/12/2006	1:00 AM	15.0	15.1	14.8	0.3	0.0	NE	30
15/12/2006	1:30 AM	14.8	15.0	14.8	0.4	0.9	NE	30
15/12/2006	2:00 AM	14.8	14.9	14.6	0.3	1.6	NNE	30
15/12/2006	2:30 AM	14.5	14.8	14.5	0.6	1.3	NNE	30
15/12/2006	3:00 AM	14.3	14.4	14.3	0.6	0.4	NEE	30
15/12/2006	3:30 AM	14.3	14.7	14.2	0.6	0.1	SE	30
15/12/2006	4:00 AM	14.3	14.5	14.1	0.8	0.3	SE	30
15/12/2006	4:30 AM	14.0	14.3	13.7	1.1	0.6	SE	30
15/12/2006	5:00 AM	14.0	14.3	13.8	1.4	1.1	SE	30
15/12/2006	5:30 AM	14.0	14.3	13.7	1.4	0.6	SEE	30
15/12/2006	6:00 AM	14.0	14.3	14.0	1.1	0.5	SEE	30
15/12/2006	6:30 AM	14.0	14.0	14.0	0.6	1.2	SEE	30
15/12/2006	7:00 AM	14.0	14.3	14.0	0.7	1.4	SEE	30
15/12/2006	7:30 AM	14.0	14.3	14.0	1.9	2.2	NEE	30
15/12/2006	8:00 AM	14.2	14.5	14.2	0.9	0.1	NEE	30
15/12/2006	8:30 AM	14.1	14.2	13.9	1.4	2.3	NEE	30
15/12/2006	9:00 AM	14.1	14.2	13.8	1.4	1.9	NEE	30
15/12/2006	9:30 AM	14.1	14.5	14.0	1.7	0.2	SE	30
15/12/2006	10:00 AM	14.3	14.6	14.3	1.5	2.3	E	30
15/12/2006	10:30 AM	14.2	14.5	14.2	1.7	0.7	NEE	30
15/12/2006	11:00 AM	14.3	14.5	14.2	0.8	0.4	NEE	30
15/12/2006	11:30 AM	15.5	15.9	15.4	1.7	1.3	NE	30
15/12/2006	12:00 PM	14.8	14.9	14.6	2.4	0.8	NE	30
15/12/2006	12:30 PM	14.8	14.8	14.7	3.2	1.9	NNE	30
15/12/2006	1:00 PM	14.8	15.2	14.7	2.5	1.4	NNE	30
15/12/2006	1:30 PM	14.8	15.0	14.7	3.3	1.1	NW	30
15/12/2006	2:00 PM	15.0	15.2	14.9	1.7	0.9	NE	30
15/12/2006	2:30 PM	15.0	15.1	14.9	2.8	0.6	NE	30
15/12/2006	3:00 PM	15.0	15.3	14.9	2.8	0.5	NE	30
15/12/2006	3:30 PM	15.0	15.3	14.8	3.1	2.1	NE	30
15/12/2006	4:00 PM	15.2	15.3	14.9	1.7	1.1	NEE	30
15/12/2006	4:30 PM	15.2	15.2	15.2	3.3	1.3	NEE	30
15/12/2006	5:00 PM	15.2	15.4	15.1	3.1	0.6	NEE	30
15/12/2006	5:30 PM	15.2	15.3	15.0	4.2	1.6	NEE	30
15/12/2006	6:00 PM	15.0	15.4	14.8	2.8	0.4	SE	30
15/12/2006	6:30 PM	15.2	15.5	15.1	3.1	2.0	E	30
15/12/2006	7:00 PM	15.0	15.1	15.0	0.8	0.8	NEE	30
15/12/2006	7:30 PM	14.8	15.1	14.6	0.6	1.5	NEE	30
15/12/2006	8:00 PM	14.8	15.0	14.5	1.7	1.9	NE	30
15/12/2006	8:30 PM	14.5	14.9	14.3	0.3	1.0	NE	30
15/12/2006	9:00 PM	14.3	14.7	14.2	0.1	2.2	NNE	30
15/12/2006	9:30 PM	14.3	14.3	14.2	0.1	2.1	NNE	30
15/12/2006	10:00 PM	14.3	14.3	14.0	0.4	1.1	NEE	30
15/12/2006	10:30 PM	14.0	14.1	14.0	0.4	2.0	NNE	30
15/12/2006	11:00 PM	14.0	14.2	13.8	0.6	1.2	NNE	30
15/12/2006	11:30 PM	14.0	14.2	14.0	0.6	0.7	NEE	30
16/12/2006	12:00 AM	14.0	14.1	13.8	0.4	0.5	NNE	30
16/12/2006	12:30 AM	14.0	14.1	13.7	0.6	0.1	NNE	30
16/12/2006	1:00 AM	14.0	14.0	13.9	0.5	0.7	NEE	30
16/12/2006	1:30 AM	14.0	14.2	13.7	0.6	0.1	NNE	30
16/12/2006	2:00 AM	14.2	14.3	14.1	0.4	0.1	NNE	30
16/12/2006	2:30 AM	14.3	14.6	14.3	0.6	0.5	NEE	30
16/12/2006	3:00 AM	14.3	14.4	14.3	0.5	1.2	NNE	30
16/12/2006	3:30 AM	14.3	14.5	14.0	0.6	1.4	NNE	30
16/12/2006	4:00 AM	14.0	14.4	14.0	0.4	1.3	NEE	30
16/12/2006	4:30 AM	14.0	14.1	13.8	0.4	0.6	NNE	30
16/12/2006	5:00 AM	14.0	14.1	13.9	0.6	1.6	NNE	30
16/12/2006	5:30 AM	14.0	14.3	13.9	0.5	1.1	NEE	30
16/12/2006	6:00 AM	14.0	14.3	13.8	0.5	1.9	NNE	30
16/12/2006	6:30 AM	14.0	14.2	13.8	0.7	1.2	NNE	30
16/12/2006	7:00 AM	14.0	14.1	13.8	0.4	0.2	NEE	30
16/12/2006	7:30 AM	14.2	14.3	14.0	0.4	0.9	E	30
16/12/2006	8:00 AM	14.3	14.6	14.1	0.1	1.3	SE	30
16/12/2006	8:30 AM	14.5	14.7	14.2	0.8	2.1	NNE	30
16/12/2006	9:00 AM	14.5	14.8	14.2	0.7	0.7	NNE	30
16/12/2006	9:30 AM	14.5	14.8	14.4	1.1	0.8	NNE	30
16/12/2006	10:00 AM	15.0	15.3	14.8	2.4	1.2	NEE	30
16/12/2006	10:30 AM	15.3	15.6	15.0	1.7	0.8	NNE	30
16/12/2006	11:00 AM	15.5	15.5	15.4	2.6	2.1	NNE	30
16/12/2006	11:30 AM	15.5	15.8	15.4	1.9	0.0	NEE	30
16/12/2006	12:00 PM	16.0	16.3	15.7	2.4	1.7	NNE	30
16/12/2006	12:30 PM	16.0	16.3	16.0	2.8	1.0	NNE	30
16/12/2006	1:00 PM	16.5	16.9	16.2	2.8	1.7	NNE	30
16/12/2006	1:30 PM	17.0	17.3	16.9	3.1	0.6	NEE	30
16/12/2006	2:00 PM	18.0	18.2	17.8	3.1	0.2	NNE	30
16/12/2006	2:30 PM	18.5	18.6	18.2	2.9	1.5	NNE	30
16/12/2006	3:00 PM	18.5	18.6	18.3	2.5	1.6	NEE	30
16/12/2006	3:30 PM	18.3	18.6	18.2	3.8	0.8	NNE	30
16/12/2006	4:00 PM	15.0	15.4	14.8	3.1	0.9	NNE	30
16/12/2006	4:30 PM	15.0	15.0	15.0	2.2	1.8	NNE	30
16/12/2006	5:00 PM	14.5	14.7	14.4	1.9	0.7	NNE	30
16/12/2006	5:30 PM	14.3	14.4	14.0	2.2	0.6	NNE	30
16/12/2006	6:00 PM	13.0	13.3	12.8	2.5	0.2	NNE	30
16/12/2006	6:30 PM	13.0	13.4	12.8	1.9	1.9	NNE	30
16/12/2006	7:00 PM	12.8	12.9	12.7	1.9	1.8	NNE	30
16/12/2006	7:30 PM	12.5	12.8	12.3	1.9	1.1	NNE	30
16/12/2006	8:00 PM	13.5	13.6	13.5	3.1	2.2	NNE	30
16/12/2006	8:30 PM	13.5	13.5	13.4	3.6	1.4	NNE	30
16/12/2006	9:00 PM	13.5	13.7	13.2	3.1	1.9	NNE	30
16/12/2006	9:30 PM	13.5	13.7	13.4	4.2	0.9	NNE	30
16/12/2006	10:00 PM	13.3	13.3	13.1	3.1	0.5	NNE	30
16/12/2006	10:30 PM	13.3	13.7	13.1	3.6	1.1	NNE	30
16/12/2006	11:00 PM	13.2	13.4	13.0	3.3	1.9	NNE	30
16/12/2006	11:30 PM	12.8	13.0	12.8	2.8	1.3	NNE	30



Weather information in December 2006

Date (DMY)	Time	Average	Hi	Low	Wind Speed (m/s)		Wind	Period
		Temp	Temp	Temp	Average	Hi	Direction	
17/12/2006	12:00 AM	12.5	12.6	12.4	1.7	0.8	NNE	30
17/12/2006	12:30 AM	12.5	12.8	12.2	2.5	1.1	NNE	30
17/12/2006	1:00 AM	12.0	12.3	11.9	3.3	0.8	NNE	30
17/12/2006	1:30 AM	12.0	12.4	11.7	3.3	2.2	NNE	30
17/12/2006	2:00 AM	12.0	12.1	11.8	3.1	1.5	NNE	30
17/12/2006	2:30 AM	12.0	12.4	12.0	2.5	1.1	NNE	30
17/12/2006	3:00 AM	12.2	12.3	12.1	2.5	0.7	NNE	30
17/12/2006	3:30 AM	12.2	12.3	12.1	3.3	0.3	NNE	30
17/12/2006	4:00 AM	12.2	12.6	12.1	1.7	0.2	SEE	30
17/12/2006	4:30 AM	12.3	12.6	12.0	3.3	1.0	SEE	30
17/12/2006	5:00 AM	12.0	12.0	11.7	2.2	1.6	SEE	30
17/12/2006	5:30 AM	11.8	12.1	11.6	0.9	1.2	SEE	30
17/12/2006	6:00 AM	11.8	12.2	11.7	1.0	0.1	SE	30
17/12/2006	6:30 AM	11.5	11.6	11.4	2.5	2.0	SE	30
17/12/2006	7:00 AM	11.5	11.7	11.4	0.8	0.1	NE	30
17/12/2006	7:30 AM	12.0	12.4	11.8	1.7	1.1	NNE	30
17/12/2006	8:00 AM	12.5	12.6	12.3	0.1	1.0	NNE	30
17/12/2006	8:30 AM	13.0	13.3	12.8	0.8	1.0	NNE	30
17/12/2006	9:00 AM	13.5	13.7	13.4	0.1	1.8	NNE	30
17/12/2006	9:30 AM	14.0	14.0	13.9	0.8	0.6	NNE	30
17/12/2006	10:00 AM	14.5	14.6	14.4	1.1	1.5	NNE	30
17/12/2006	10:30 AM	14.8	15.2	14.6	0.8	1.1	NNE	30
17/12/2006	11:00 AM	15.0	15.1	14.8	0.6	1.0	NNE	30
17/12/2006	11:30 AM	16.0	16.0	15.8	0.3	0.1	NNE	30
17/12/2006	12:00 PM	16.0	16.3	15.9	0.3	0.9	NE	30
17/12/2006	12:30 PM	16.5	16.6	16.4	0.3	2.2	NE	30
17/12/2006	1:00 PM	17.0	17.0	16.8	0.4	2.1	NEN	30
17/12/2006	1:30 PM	18.0	18.3	17.8	0.3	0.7	NE	30
17/12/2006	2:00 PM	18.5	18.5	18.4	3.1	1.4	ENE	30
17/12/2006	2:30 PM	18.5	18.8	18.3	3.1	0.0	NE	30
17/12/2006	3:00 PM	18.3	18.5	18.1	2.8	0.1	NE	30
17/12/2006	3:30 PM	15.0	15.3	14.8	3.1	0.2	NE	30
17/12/2006	4:00 PM	15.0	15.1	14.8	3.6	1.8	NE	30
17/12/2006	4:30 PM	14.5	14.7	14.3	3.9	0.6	NE	30
17/12/2006	5:00 PM	14.3	14.6	14.2	4.2	1.4	NE	30
17/12/2006	5:30 PM	13.0	13.1	12.8	3.3	0.3	N	30
17/12/2006	6:00 PM	13.0	13.3	12.7	3.3	1.5	NE	30
17/12/2006	6:30 PM	12.8	12.9	12.6	3.1	1.2	NE	30
17/12/2006	7:00 PM	12.5	12.5	12.3	2.8	1.4	NE	30
17/12/2006	7:30 PM	13.5	13.5	13.4	1.4	0.8	E	30
17/12/2006	8:00 PM	13.5	13.7	13.3	2.8	1.5	NE	30
17/12/2006	8:30 PM	13.5	13.6	13.3	2.5	0.9	NE	30
17/12/2006	9:00 PM	13.5	13.6	13.5	0.8	1.3	N	30
17/12/2006	9:30 PM	13.3	13.6	13.2	3.3	1.9	NE	30
17/12/2006	10:00 PM	13.3	13.3	13.1	2.2	0.1	NE	30
17/12/2006	10:30 PM	13.2	13.4	13.0	2.8	1.4	NE	30
17/12/2006	11:00 PM	12.8	12.9	12.6	2.5	2.2	NNE	30
17/12/2006	11:30 PM	12.5	12.7	12.4	2.2	1.7	NNE	30
18/12/2006	12:00 AM	12.5	12.9	12.4	1.9	1.0	NE	30
18/12/2006	12:30 AM	12.0	12.1	11.7	2.8	1.4	SE	30
18/12/2006	1:00 AM	12.0	12.0	11.9	3.3	1.4	SE	30
18/12/2006	1:30 AM	12.0	12.1	11.8	3.3	0.8	SE	30
18/12/2006	2:00 AM	12.8	12.8	12.5	3.9	1.9	S	30
18/12/2006	2:30 AM	12.5	12.9	12.3	4.2	1.5	E	30
18/12/2006	3:00 AM	13.5	13.6	13.4	2.8	0.5	E	30
18/12/2006	3:30 AM	13.5	13.9	13.5	3.3	0.9	N	30
18/12/2006	4:00 AM	13.5	13.7	13.4	3.6	0.4	E	30
18/12/2006	4:30 AM	13.5	13.6	13.5	1.7	1.3	NE	30
18/12/2006	5:00 AM	13.3	13.6	13.0	1.9	2.3	N	30
18/12/2006	5:30 AM	13.3	13.7	13.2	2.8	0.1	E	30
18/12/2006	6:00 AM	13.2	13.5	13.1	2.2	1.9	NE	30
18/12/2006	6:30 AM	12.8	13.2	12.5	2.5	1.8	NE	30
18/12/2006	7:00 AM	12.5	12.7	12.3	2.2	1.7	NE	30
18/12/2006	7:30 AM	12.5	12.6	12.3	2.2	1.8	NE	30
18/12/2006	8:00 AM	12.5	12.6	12.3	2.5	2.0	NE	30
18/12/2006	8:30 AM	13.0	13.3	12.9	1.4	1.7	NE	30
18/12/2006	9:00 AM	13.5	13.6	13.3	1.1	1.8	NE	30
18/12/2006	9:30 AM	14.0	14.1	13.7	1.4	2.1	NE	30
18/12/2006	10:00 AM	14.5	14.7	14.2	1.1	1.9	NE	30
18/12/2006	10:30 AM	15.0	15.1	14.8	0.8	0.0	NE	30
18/12/2006	11:00 AM	19.5	19.6	19.5	1.4	1.6	NE	30
18/12/2006	11:30 AM	19.5	19.6	19.4	1.7	1.8	NEE	30
18/12/2006	12:00 NN	19.5	19.9	19.4	0.8	1.3	SE	30
18/12/2006	12:30 PM	19.8	20.0	19.8	2.2	1.7	E	30
18/12/2006	1:00 PM	19.8	19.8	19.8	2.8	1.2	NEE	30
18/12/2006	1:30 PM	19.8	20.2	19.5	2.8	0.4	NEE	30
18/12/2006	2:00 PM	19.5	19.7	19.2	3.1	1.4	NE	30
18/12/2006	2:30 PM	19.5	19.9	19.4	2.5	0.2	NE	30
18/12/2006	3:00 PM	19.5	19.7	19.3	1.7	2.2	NNE	30
18/12/2006	3:30 PM	20.2	20.5	20.0	2.2	1.7	NNE	30
18/12/2006	4:00 PM	20.2	20.3	20.1	1.9	2.3	NW	30
18/12/2006	4:30 PM	20.2	20.5	20.2	2.8	1.6	NE	30
18/12/2006	5:00 PM	20.3	20.5	20.3	1.1	1.5	NE	30
18/12/2006	5:30 PM	20.5	20.5	20.4	1.1	1.3	NE	30
18/12/2006	6:00 PM	19.8	20.0	19.7	1.7	2.2	NE	30
18/12/2006	6:30 PM	17.0	17.2	16.8	1.1	1.2	NEE	30
18/12/2006	7:00 PM	15.0	15.2	14.8	1.1	1.0	NEE	30
18/12/2006	7:30 PM	14.0	14.2	13.9	1.7	1.9	NEE	30
18/12/2006	8:00 PM	13.0	13.3	12.7	1.4	2.1	NEE	30
18/12/2006	8:30 PM	13.0	13.0	12.9	1.9	0.7	SE	30
18/12/2006	9:00 PM	14.0	14.2	13.9	1.9	0.8	E	30
18/12/2006	9:30 PM	14.0	14.1	13.9	1.1	0.8	NEE	30
18/12/2006	10:00 PM	14.0	14.3	13.8	0.8	2.0	NEE	30
18/12/2006	10:30 PM	14.5	14.6	14.4	1.4	1.0	NE	30
18/12/2006	11:00 PM	15.0	15.4	14.8	1.7	0.7	NE	30
18/12/2006	11:30 PM	13.0	13.1	13.0	0.8	0.1	NNE	30



Weather information in December 2006

Date (DMY)	Time	Average	Hi	Low	Wind Speed (m/s)		Wind	Period
		Temp	Temp	Temp	Average	Hi	Direction	
19/12/2006	12:00 AM	13.0	13.3	12.9	2.2	1.4	NNE	30
19/12/2006	12:30 AM	14.0	14.3	13.7	2.8	0.8	NEE	30
19/12/2006	1:00 AM	14.0	14.4	13.8	2.8	1.9	NNE	30
19/12/2006	1:30 AM	14.0	14.1	13.9	3.1	0.9	NNE	30
19/12/2006	2:00 AM	14.5	14.6	14.5	2.5	0.3	NEE	30
19/12/2006	2:30 AM	15.0	15.3	14.8	1.7	0.6	NNE	30
19/12/2006	3:00 AM	16.3	16.4	16.3	2.2	2.1	NNE	30
19/12/2006	3:30 AM	16.3	16.4	16.0	1.9	1.7	NEE	30
19/12/2006	4:00 AM	13.0	13.1	12.9	3.9	1.5	NNE	30
19/12/2006	4:30 AM	13.0	13.0	12.9	4.4	1.8	NNE	30
19/12/2006	5:00 AM	13.5	13.9	13.5	3.9	0.2	NEE	30
19/12/2006	5:30 AM	13.5	13.6	13.3	4.4	2.1	NNE	30
19/12/2006	6:00 AM	14.0	14.1	13.9	3.9	1.1	NNE	30
19/12/2006	6:30 AM	14.0	14.4	13.9	4.4	1.8	NEE	30
19/12/2006	7:00 AM	13.5	13.6	13.5	3.9	1.8	NNE	30
19/12/2006	7:30 AM	13.5	13.6	13.5	4.4	1.4	NNE	30
19/12/2006	8:00 AM	12.0	12.2	11.8	1.7	0.1	NEE	30
19/12/2006	8:30 AM	12.0	12.2	11.8	1.7	0.7	SE	30
19/12/2006	9:00 AM	12.0	12.4	12.0	2.2	1.5	SE	30
19/12/2006	9:30 AM	12.0	12.1	11.9	2.4	0.6	SE	30
19/12/2006	10:00 AM	12.0	12.3	11.9	2.4	1.5	S	30
19/12/2006	10:30 AM	12.0	12.3	11.8	2.8	0.4	E	30
19/12/2006	11:00 AM	11.2	11.2	11.0	2.8	1.0	E	30
19/12/2006	11:30 AM	16.5	16.8	16.3	2.5	1.3	N	30
19/12/2006	12:00 PM	16.5	16.6	16.3	2.2	0.1	E	30
19/12/2006	12:30 PM	16.6	16.8	16.5	2.2	0.8	SE	30
19/12/2006	1:00 PM	16.7	17.1	16.6	2.4	2.0	SE	30
19/12/2006	1:30 PM	16.6	16.7	16.3	1.7	0.4	SE	30
19/12/2006	2:00 PM	16.6	16.7	16.6	1.8	1.8	S	30
19/12/2006	2:30 PM	16.6	17.0	16.4	1.5	1.5	E	30
19/12/2006	3:00 PM	17.5	17.9	17.3	1.5	2.2	E	30
19/12/2006	3:30 PM	17.8	17.9	17.6	1.4	1.3	NNE	30
19/12/2006	4:00 PM	17.8	17.9	17.6	1.4	2.0	NNE	30
19/12/2006	4:30 PM	16.8	16.9	16.8	1.8	0.5	NNE	30
19/12/2006	5:00 PM	16.5	16.7	16.3	1.4	1.1	NNE	30
19/12/2006	5:30 PM	16.5	16.5	16.2	0.8	0.3	NEE	30
19/12/2006	6:00 PM	16.5	16.8	16.2	1.3	0.9	NNE	30
19/12/2006	6:30 PM	16.5	16.9	16.3	1.8	1.3	NNE	30
19/12/2006	7:00 PM	16.8	17.0	16.7	1.7	1.2	NNE	30
19/12/2006	7:30 PM	16.8	17.0	16.7	2.2	1.2	NNE	30
19/12/2006	8:00 PM	16.3	16.7	16.3	1.1	1.3	E	30
19/12/2006	8:30 PM	16.3	16.3	16.2	1.7	0.6	NEE	30
19/12/2006	9:00 PM	16.3	16.3	16.2	1.9	2.2	NEE	30
19/12/2006	9:30 PM	16.3	16.3	16.3	0.8	1.3	NEE	30
19/12/2006	10:00 PM	15.8	16.0	15.7	2.2	2.1	NEE	30
19/12/2006	10:30 PM	15.8	16.1	15.5	1.7	0.7	NEE	30
19/12/2006	11:00 PM	16.0	16.1	15.8	2.2	0.9	NEE	30
19/12/2006	11:30 PM	16.5	16.6	16.4	2.4	1.9	NEE	30
20/12/2006	12:00 AM	16.8	17.2	16.6	2.4	2.2	NEE	30
20/12/2006	12:30 AM	16.8	17.0	16.7	2.8	0.1	NEE	30
20/12/2006	1:00 AM	16.8	16.8	16.7	2.8	1.6	NNE	30
20/12/2006	1:30 AM	16.8	17.0	16.6	2.5	0.2	NNE	30
20/12/2006	2:00 AM	16.8	17.0	16.7	2.2	1.1	NNE	30
20/12/2006	2:30 AM	16.8	17.2	16.7	2.2	0.6	NNE	30
20/12/2006	3:00 AM	15.8	15.9	15.6	2.4	1.1	NNE	30
20/12/2006	3:30 AM	15.5	15.6	15.5	1.7	2.2	NNE	30
20/12/2006	4:00 AM	15.5	15.6	15.4	1.8	0.6	NNE	30
20/12/2006	4:30 AM	15.5	15.8	15.2	1.5	1.7	NNE	30
20/12/2006	5:00 AM	14.8	15.1	14.7	1.5	0.7	NNE	30
20/12/2006	5:30 AM	14.8	15.0	14.7	1.4	1.9	NNE	30
20/12/2006	6:00 AM	14.8	14.9	14.7	1.4	1.2	NNE	30
20/12/2006	6:30 AM	14.8	14.9	14.8	1.8	0.1	SEE	30
20/12/2006	7:00 AM	15.0	15.2	14.9	1.4	2.1	SEE	30
20/12/2006	7:30 AM	15.0	15.0	14.8	2.8	1.2	SEE	30
20/12/2006	8:00 AM	15.0	15.0	14.7	3.1	1.7	SEE	30
20/12/2006	8:30 AM	15.0	15.2	14.9	3.2	0.2	SE	30
20/12/2006	9:00 AM	15.2	15.5	15.1	3.3	1.8	SE	30
20/12/2006	9:30 AM	15.2	15.6	15.1	2.5	0.1	NE	30
20/12/2006	10:00 AM	15.2	15.4	15.0	2.6	1.4	NNE	30
20/12/2006	10:30 AM	15.2	15.3	14.9	0.0	1.2	NNE	30
20/12/2006	11:00 AM	15.0	15.0	14.9	1.7	2.2	NNE	30
20/12/2006	11:30 AM	15.2	15.3	15.1	1.8	0.2	NNE	30
20/12/2006	12:00 PM	15.0	15.2	14.8	1.8	1.3	NNE	30
20/12/2006	12:30 PM	14.8	15.1	14.7	2.2	0.4	NNE	30
20/12/2006	1:00 PM	14.8	14.8	14.7	1.9	1.6	NNE	30
20/12/2006	1:30 PM	14.5	14.6	14.2	2.1	1.3	NNE	30
20/12/2006	2:00 PM	14.3	14.4	14.3	2.1	1.8	NNE	30
20/12/2006	2:30 PM	14.3	14.6	14.2	2.2	2.3	NE	30
20/12/2006	3:00 PM	14.3	14.7	14.2	3.1	1.8	NE	30
20/12/2006	3:30 PM	14.0	14.2	14.0	3.3	1.3	NEN	30
20/12/2006	4:00 PM	14.0	14.0	13.9	3.1	0.1	NE	30
20/12/2006	4:30 PM	14.0	14.1	14.0	1.9	0.9	FNE	30
20/12/2006	5:00 PM	14.0	14.2	13.8	3.1	0.8	NE	30
20/12/2006	5:30 PM	14.0	14.3	13.8	2.2	1.8	NE	30
20/12/2006	6:00 PM	14.0	14.2	13.9	2.9	1.3	NE	30
20/12/2006	6:30 PM	14.0	14.2	13.8	1.1	1.3	NE	30
20/12/2006	7:00 PM	14.2	14.3	14.0	2.9	1.2	NE	30
20/12/2006	7:30 PM	14.1	14.3	14.0	1.7	0.5	NE	30
20/12/2006	8:00 PM	14.1	14.4	13.9	2.5	0.1	N	30
20/12/2006	8:30 PM	14.1	14.2	14.0	1.4	0.2	NE	30
20/12/2006	9:00 PM	14.3	14.4	14.3	3.1	0.7	NE	30
20/12/2006	9:30 PM	14.2	14.5	13.9	3.2	1.4	NE	30
20/12/2006	10:00 PM	14.3	14.4	14.1	3.5	1.0	E	30
20/12/2006	10:30 PM	13.2	13.3	12.9	1.9	1.9	NE	30
20/12/2006	11:00 PM	13.0	13.0	12.7	1.1	0.4	NE	30
20/12/2006	11:30 PM	13.0	13.0	12.8	2.9	1.2	N	30



Weather information in December 2006

Date (DMY)	Time	Average	Hi	Low	Wind Speed (m/s)		Wind	Period
		Temp	Temp	Temp	Average	Hi	Direction	
21/12/2006	12:00 AM	13.0	13.3	12.8	1.7	0.3	NE	30
21/12/2006	12:30 AM	13.2	13.6	13.1	2.5	2.2	NE	30
21/12/2006	1:00 AM	13.3	13.7	13.2	1.4	0.4	NE	30
21/12/2006	1:30 AM	13.4	13.6	13.3	3.1	0.9	NNE	30
21/12/2006	2:00 AM	13.5	13.7	13.4	3.2	0.1	NNE	30
21/12/2006	2:30 AM	14.0	14.2	13.8	3.5	0.8	NE	30
21/12/2006	3:00 AM	14.5	14.6	14.5	1.9	1.6	SE	30
21/12/2006	3:30 AM	13.0	13.2	12.8	1.1	1.5	SE	30
21/12/2006	4:00 AM	14.0	14.2	13.9	2.9	1.6	SE	30
21/12/2006	4:30 AM	14.0	14.2	13.7	1.7	1.2	S	30
21/12/2006	5:00 AM	14.0	14.1	13.7	2.5	1.1	E	30
21/12/2006	5:30 AM	13.0	13.2	12.7	1.4	0.1	E	30
21/12/2006	6:00 AM	13.0	13.4	12.7	3.1	0.9	N	30
21/12/2006	6:30 AM	13.5	13.8	13.3	3.2	2.1	E	30
21/12/2006	7:00 AM	13.5	13.8	13.2	3.5	1.0	NE	30
21/12/2006	7:30 AM	14.0	14.1	13.9	1.9	1.0	N	30
21/12/2006	8:00 AM	14.0	14.1	13.9	2.5	1.5	E	30
21/12/2006	8:30 AM	17.0	17.2	16.9	0.0	0.5	NE	30
21/12/2006	9:00 AM	17.0	17.2	16.8	3.1	0.5	NE	30
21/12/2006	9:30 AM	18.0	18.3	17.7	2.8	0.7	NE	30
21/12/2006	10:00 AM	18.5	18.7	18.4	3.3	1.7	NE	30
21/12/2006	10:30 AM	19.0	19.2	18.8	3.1	0.4	NE	30
21/12/2006	11:00 AM	19.5	19.5	19.4	3.6	1.0	NE	30
21/12/2006	11:30 AM	19.8	19.8	19.6	3.1	2.1	NE	30
21/12/2006	12:00 PM	19.8	20.0	19.7	3.9	0.5	NE	30
21/12/2006	12:30 PM	20.0	20.2	19.9	2.5	1.4	NE	30
21/12/2006	1:00 PM	20.0	20.0	19.8	2.8	2.1	NE	30
21/12/2006	1:30 PM	20.8	21.0	20.6	3.6	2.2	NE	30
21/12/2006	2:00 PM	20.8	21.1	20.5	3.1	0.3	NEE	30
21/12/2006	2:30 PM	20.9	21.3	20.7	3.6	1.1	NNE	30
21/12/2006	3:00 PM	20.9	21.2	20.6	3.1	0.7	NEE	30
21/12/2006	3:30 PM	20.8	21.1	20.6	3.6	0.8	NNE	30
21/12/2006	4:00 PM	20.8	21.0	20.6	3.6	1.8	NNE	30
21/12/2006	4:30 PM	20.9	21.0	20.9	1.9	0.4	NEE	30
21/12/2006	5:00 PM	19.5	19.5	19.2	3.1	0.4	NNE	30
21/12/2006	5:30 PM	18.5	18.8	18.5	2.8	1.1	NNE	30
21/12/2006	6:00 PM	18.0	18.0	17.8	3.1	0.2	NNE	30
21/12/2006	6:30 PM	17.5	17.7	17.5	3.3	1.6	NEE	30
21/12/2006	7:00 PM	17.0	17.1	16.9	3.6	0.4	NEE	30
21/12/2006	7:30 PM	16.5	16.6	16.4	3.1	0.4	NEE	30
21/12/2006	8:00 PM	15.0	15.0	14.9	3.9	0.9	NNE	30
21/12/2006	8:30 PM	14.3	14.6	14.1	4.2	2.2	NNE	30
21/12/2006	9:00 PM	14.3	14.4	14.3	2.5	2.3	NNE	30
21/12/2006	9:30 PM	14.2	14.5	14.1	1.9	2.3	NEE	30
21/12/2006	10:00 PM	14.2	14.6	14.1	1.7	0.8	NEE	30
21/12/2006	10:30 PM	14.2	14.4	14.1	3.1	1.5	NEE	30
21/12/2006	11:00 PM	14.3	14.4	14.1	3.6	0.9	NEE	30
21/12/2006	11:30 PM	14.3	14.7	14.1	2.8	2.1	NEE	30
22/12/2006	12:00 AM	12.0	12.2	11.9	3.1	0.8	NEE	30
22/12/2006	12:30 AM	12.0	12.3	11.8	1.9	0.7	NEE	30
22/12/2006	1:00 AM	12.0	12.2	12.0	2.2	2.1	NEE	30
22/12/2006	1:30 AM	12.0	12.1	11.9	2.2	0.4	NEE	30
22/12/2006	2:00 AM	12.5	12.8	12.2	1.9	0.2	NEE	30
22/12/2006	2:30 AM	12.3	12.5	12.2	1.9	0.4	NEE	30
22/12/2006	3:00 AM	13.0	13.2	13.0	1.7	0.2	NEE	30
22/12/2006	3:30 AM	13.5	13.8	13.4	1.7	0.2	NEE	30
22/12/2006	4:00 AM	13.5	13.8	13.2	4.2	1.4	NEE	30
22/12/2006	4:30 AM	15.4	15.7	15.1	0.8	1.7	NEE	30
22/12/2006	5:00 AM	15.5	15.9	15.2	1.1	1.1	NEE	30
22/12/2006	5:30 AM	15.6	15.8	15.5	1.1	0.4	NEE	30
22/12/2006	6:00 AM	15.6	15.8	15.5	0.8	2.2	NEE	30
22/12/2006	6:30 AM	16.0	16.2	15.8	1.1	0.3	NEE	30
22/12/2006	7:00 AM	16.0	16.0	15.8	1.4	0.8	NEE	30
22/12/2006	7:30 AM	15.6	15.9	15.4	0.6	1.4	NEE	30
22/12/2006	8:00 AM	17.0	17.3	16.9	0.8	1.2	NEE	30
22/12/2006	8:30 AM	17.5	17.8	17.3	1.4	0.6	NEE	30
22/12/2006	9:00 AM	17.8	17.9	17.7	1.1	2.0	NEE	30
22/12/2006	9:30 AM	18.0	18.3	17.9	1.4	1.9	NEE	30
22/12/2006	10:00 AM	18.5	18.7	18.2	0.8	0.3	NEE	30
22/12/2006	10:30 AM	19.0	19.2	18.8	0.8	0.7	NEE	30
22/12/2006	11:00 AM	19.0	19.3	18.9	0.6	2.3	NEE	30
22/12/2006	11:30 AM	20.5	20.6	20.2	0.6	1.0	NEE	30
22/12/2006	12:00 PM	20.5	20.9	20.4	1.4	1.1	NEE	30
22/12/2006	12:30 PM	21.5	21.9	21.4	1.4	1.0	NEE	30
22/12/2006	1:00 PM	21.5	21.6	21.4	0.8	0.5	NEE	30
22/12/2006	1:30 PM	19.0	19.3	19.0	0.8	1.0	NEE	30
22/12/2006	2:00 PM	17.5	17.5	17.4	1.4	1.0	NEE	30
22/12/2006	2:30 PM	17.5	17.8	17.5	0.6	2.0	NEE	30
22/12/2006	3:00 PM	17.3	17.4	17.1	1.7	0.8	NEE	30
22/12/2006	3:30 PM	17.4	17.8	17.2	0.6	1.9	NEE	30
22/12/2006	4:00 PM	17.3	17.4	17.3	0.6	1.2	NEE	30
22/12/2006	4:30 PM	17.3	17.6	17.1	0.6	2.2	NEE	30
22/12/2006	5:00 PM	17.3	17.6	17.3	1.1	0.4	NEE	30
22/12/2006	5:30 PM	17.0	17.1	17.0	1.4	0.8	NEE	30
22/12/2006	6:00 PM	16.8	16.8	16.7	2.2	1.0	NEE	30
22/12/2006	6:30 PM	16.8	17.2	16.5	1.4	0.4	NEE	30
22/12/2006	7:00 PM	16.5	16.7	16.4	1.9	2.0	N	30
22/12/2006	7:30 PM	16.5	16.7	16.3	0.6	1.9	NW	30
22/12/2006	8:00 PM	16.5	16.6	16.5	1.1	1.2	NNE	30
22/12/2006	8:30 PM	16.6	16.9	16.5	0.8	2.2	NNE	30
22/12/2006	9:00 PM	16.7	16.7	16.6	0.8	0.4	N	30
22/12/2006	9:30 PM	16.6	16.8	16.3	1.4	0.9	N	30
22/12/2006	10:00 PM	16.6	16.8	16.4	1.4	0.9	N	30
22/12/2006	10:30 PM	16.6	16.8	16.5	1.7	0.2	N	30
22/12/2006	11:00 PM	17.5	17.6	17.5	1.9	2.0	NEE	30
22/12/2006	11:30 PM	17.8	18.0	17.6	2.2	0.3	SE	30



Weather information in December 2006

Date (DMY)	Time	Average	Hi	Low	Wind Speed (m/s)		Wind	Period
		Temp	Temp	Temp	Average	Hi	Direction	
23/12/2006	12:00 AM	17.8	17.8	17.6	2.2	0.2	SE	30
23/12/2006	12:30 AM	16.8	17.0	16.7	2.2	1.8	E	30
23/12/2006	1:00 AM	16.5	16.9	16.4	2.5	1.2	E	30
23/12/2006	1:30 AM	16.5	16.9	16.3	2.5	0.3	E	30
23/12/2006	2:00 AM	16.5	16.7	16.5	0.3	1.1	SE	30
23/12/2006	2:30 AM	16.5	16.8	16.5	0.3	1.5	SE	30
23/12/2006	3:00 AM	16.8	17.0	16.5	1.1	2.0	SE	30
23/12/2006	3:30 AM	16.8	17.2	16.6	1.4	1.8	SW	30
23/12/2006	4:00 AM	16.3	16.7	16.2	1.7	1.2	SW	30
23/12/2006	4:30 AM	16.3	16.6	16.3	2.2	2.1	SW	30
23/12/2006	5:00 AM	16.3	16.6	16.3	2.2	0.2	NW	30
23/12/2006	5:30 AM	16.3	16.7	16.2	2.8	0.5	NW	30
23/12/2006	6:00 AM	15.8	16.1	15.7	1.1	0.7	NW	30
23/12/2006	6:30 AM	15.8	15.8	15.6	0.3	0.0	NW	30
23/12/2006	7:00 AM	16.0	16.4	16.0	0.6	1.4	NW	30
23/12/2006	7:30 AM	16.5	16.8	16.2	0.8	0.4	NW	30
23/12/2006	8:00 AM	16.8	17.1	16.6	1.1	0.2	NW	30
23/12/2006	8:30 AM	16.8	17.0	16.6	1.4	0.8	NW	30
23/12/2006	9:00 AM	16.8	17.0	16.6	0.8	0.1	NW	30
23/12/2006	9:30 AM	16.8	17.1	16.6	0.3	1.0	NW	30
23/12/2006	10:00 AM	16.8	17.0	16.6	0.8	0.3	E	30
23/12/2006	10:30 AM	16.8	16.9	16.7	0.3	0.7	NNE	30
23/12/2006	11:00 AM	15.8	15.9	15.7	1.1	0.9	NEE	30
23/12/2006	11:30 AM	15.5	15.6	15.4	1.4	0.0	E	30
23/12/2006	12:00 PM	15.5	15.8	15.4	1.7	1.4	NNE	30
23/12/2006	12:30 PM	15.5	15.6	15.4	2.2	0.1	NEE	30
23/12/2006	1:00 PM	14.8	15.0	14.6	2.8	1.2	E	30
23/12/2006	1:30 PM	14.8	14.9	14.6	1.1	1.8	NNE	30
23/12/2006	2:00 PM	14.8	15.1	14.6	0.3	0.4	NEE	30
23/12/2006	2:30 PM	14.8	15.1	14.6	0.6	2.1	N	30
23/12/2006	3:00 PM	15.0	15.3	14.8	0.8	1.3	NEE	30
23/12/2006	3:30 PM	15.0	15.3	14.8	1.1	2.2	N	30
23/12/2006	4:00 PM	15.0	15.3	14.8	1.4	0.7	NEE	30
23/12/2006	4:30 PM	15.0	15.2	15.0	0.8	1.3	E	30
23/12/2006	5:00 PM	15.2	15.4	15.0	0.3	0.9	NEE	30
23/12/2006	5:30 PM	15.2	15.4	15.0	0.8	2.2	NEE	30
23/12/2006	6:00 PM	15.2	15.2	15.2	0.3	0.8	N	30
23/12/2006	6:30 PM	15.2	15.5	15.0	1.1	1.6	NEE	30
23/12/2006	7:00 PM	15.0	15.4	14.8	1.4	0.6	NEE	30
23/12/2006	7:30 PM	15.2	15.3	15.1	1.7	2.2	E	30
23/12/2006	8:00 PM	15.0	15.2	14.9	1.4	1.9	E	30
23/12/2006	8:30 PM	14.8	15.1	14.6	0.8	0.9	NEE	30
23/12/2006	9:00 PM	14.8	15.1	14.6	0.3	0.8	NEE	30
23/12/2006	9:30 PM	14.5	14.5	14.4	0.8	1.5	N	30
23/12/2006	10:00 PM	14.3	14.6	14.2	0.3	0.6	NNE	30
23/12/2006	10:30 PM	14.3	14.3	14.2	1.1	1.3	NEE	30
23/12/2006	11:00 PM	14.3	14.5	14.2	1.4	1.8	NEE	30
23/12/2006	11:30 PM	14.0	14.0	13.7	1.7	0.7	N	30
24/12/2006	12:00 AM	14.0	14.1	13.7	2.2	2.3	NNE	30
24/12/2006	12:30 AM	14.0	14.2	13.9	2.8	1.7	NEE	30
24/12/2006	1:00 AM	14.0	14.3	13.9	1.1	1.0	NNE	30
24/12/2006	1:30 AM	14.0	14.1	13.9	0.3	1.8	N	30
24/12/2006	2:00 AM	14.0	14.2	14.0	0.6	1.9	NEE	30
24/12/2006	2:30 AM	14.0	14.3	13.9	0.8	1.9	NNE	30
24/12/2006	3:00 AM	14.2	14.5	14.1	1.1	1.6	NNE	30
24/12/2006	3:30 AM	14.1	14.2	14.1	1.4	0.6	NW	30
24/12/2006	4:00 AM	14.1	14.3	14.1	0.8	0.3	NW	30
24/12/2006	4:30 AM	14.1	14.5	14.1	0.3	1.2	NW	30
24/12/2006	5:00 AM	14.3	14.7	14.2	0.8	0.4	NW	30
24/12/2006	5:30 AM	14.2	14.3	14.0	0.3	1.8	NNW	30
24/12/2006	6:00 AM	14.3	14.7	14.2	1.1	2.0	NNW	30
24/12/2006	6:30 AM	15.5	15.7	15.4	1.4	1.2	NN	30
24/12/2006	7:00 AM	14.8	15.1	14.8	1.7	1.0	N	30
24/12/2006	7:30 AM	14.8	14.8	14.7	2.2	0.2	NE	30
24/12/2006	8:00 AM	14.8	15.0	14.7	2.8	0.6	NE	30
24/12/2006	8:30 AM	14.8	14.9	14.7	3.1	0.5	NE	30
24/12/2006	9:00 AM	15.0	15.1	14.8	3.3	1.8	NEE	30
24/12/2006	9:30 AM	15.0	15.3	14.8	2.8	0.4	NEE	30
24/12/2006	10:00 AM	15.0	15.1	14.8	3.1	1.0	NE	30
24/12/2006	10:30 AM	15.0	15.2	15.0	3.3	1.5	E	30
24/12/2006	11:00 AM	15.2	15.3	15.1	2.2	0.9	NE	30
24/12/2006	11:30 AM	15.2	15.3	15.1	1.1	2.0	N	30
24/12/2006	12:00 PM	16.5	16.7	16.3	2.8	1.6	NE	30
24/12/2006	12:30 PM	16.6	16.7	16.4	2.8	0.3	E	30
24/12/2006	1:00 PM	16.7	17.1	16.6	3.3	0.3	NE	30
24/12/2006	1:30 PM	16.6	16.9	16.4	3.1	0.7	N	30
24/12/2006	2:00 PM	16.6	16.6	16.6	3.3	1.2	NE	30
24/12/2006	2:30 PM	16.6	16.8	16.4	2.8	0.4	E	30
24/12/2006	3:00 PM	17.5	17.7	17.5	1.1	1.6	N	30
24/12/2006	3:30 PM	17.8	18.1	17.5	0.3	1.4	NE	30
24/12/2006	4:00 PM	17.8	17.9	17.7	0.6	0.6	NE	30
24/12/2006	4:30 PM	16.8	17.0	16.5	0.8	0.6	E	30
24/12/2006	5:00 PM	16.5	16.8	16.4	1.1	0.7	E	30
24/12/2006	5:30 PM	16.5	16.9	16.3	1.4	1.9	N	30
24/12/2006	6:00 PM	16.5	16.7	16.2	0.8	0.6	N	30
24/12/2006	6:30 PM	16.5	16.9	16.3	0.3	0.1	E	30
24/12/2006	7:00 PM	16.8	17.0	16.8	0.8	1.8	NE	30
24/12/2006	7:30 PM	16.8	16.9	16.8	0.3	0.3	NE	30
24/12/2006	8:00 PM	16.3	16.6	16.1	1.1	1.9	N	30
24/12/2006	8:30 PM	16.3	16.6	16.2	1.4	1.0	N	30
24/12/2006	9:00 PM	16.3	16.5	16.1	1.7	1.1	NE	30
24/12/2006	9:30 PM	16.3	16.4	16.2	2.2	0.2	NE	30
24/12/2006	10:00 PM	15.8	16.0	15.5	2.8	0.1	NE	30
24/12/2006	10:30 PM	15.8	16.2	15.6	3.1	1.4	NE	30
24/12/2006	11:00 PM	16.0	16.0	15.9	3.3	0.1	N	30
24/12/2006	11:30 PM	16.5	16.7	16.2	2.8	2.0	N	30



Weather information in December 2006

Date (DMY)	Time	Average	Hi	Low	Wind Speed (m/s)		Wind	Period
		Temp	Temp	Temp	Average	Hi	Direction	
25/12/2006	12:00 AM	16.8	17.2	16.7	3.1	0.6	E	30
25/12/2006	12:30 AM	16.8	16.9	16.7	3.3	2.0	E	30
25/12/2006	1:00 AM	16.8	16.8	16.5	2.2	0.8	NE	30
25/12/2006	1:30 AM	16.8	17.0	16.6	1.1	0.1	N	30
25/12/2006	2:00 AM	16.8	17.2	16.6	2.8	2.2	E	30
25/12/2006	2:30 AM	16.8	17.1	16.5	2.8	2.2	NE	30
25/12/2006	3:00 AM	15.8	15.9	15.7	3.3	0.2	NE	30
25/12/2006	3:30 AM	15.5	15.5	15.3	3.1	0.4	N	30
25/12/2006	4:00 AM	15.5	15.5	15.2	3.3	0.1	N	30
25/12/2006	4:30 AM	15.5	15.7	15.4	2.8	2.1	E	30
25/12/2006	5:00 AM	14.8	15.2	14.7	1.1	0.7	NE	30
25/12/2006	5:30 AM	14.8	15.1	14.7	0.3	0.6	NE	30
25/12/2006	6:00 AM	14.8	14.9	14.6	0.6	0.8	NE	30
25/12/2006	6:30 AM	14.8	15.0	14.6	0.8	2.3	NE	30
25/12/2006	7:00 AM	15.0	15.0	15.0	1.1	1.8	N	30
25/12/2006	7:30 AM	15.0	15.4	14.8	1.4	1.5	N	30
25/12/2006	8:00 AM	15.0	15.2	14.9	0.8	1.3	E	30
25/12/2006	8:30 AM	15.0	15.2	15.0	0.3	0.7	E	30
25/12/2006	9:00 AM	15.2	15.2	15.0	0.8	0.9	NE	30
25/12/2006	9:30 AM	15.2	15.3	14.9	0.3	0.2	N	30
25/12/2006	10:00 AM	15.2	15.3	15.0	1.1	1.8	E	30
25/12/2006	10:30 AM	15.2	15.6	15.2	1.4	0.4	NE	30
25/12/2006	11:00 AM	15.0	15.1	14.7	1.7	1.8	NE	30
25/12/2006	11:30 AM	15.2	15.4	14.9	2.2	0.5	N	30
25/12/2006	12:00 PM	15.0	15.0	15.0	2.8	0.8	N	30
25/12/2006	12:30 PM	14.8	15.0	14.6	3.1	0.5	E	30
25/12/2006	1:00 PM	14.8	15.1	14.8	3.3	0.9	NE	30
25/12/2006	1:30 PM	14.5	14.5	14.2	2.8	0.6	NE	30
25/12/2006	2:00 PM	14.3	14.3	14.2	3.1	0.6	NEE	30
25/12/2006	2:30 PM	14.3	14.7	14.0	3.3	1.6	NE	30
25/12/2006	3:00 PM	14.3	14.4	14.3	2.2	1.4	E	30
25/12/2006	3:30 PM	14.0	14.3	13.9	1.1	1.5	NE	30
25/12/2006	4:00 PM	14.0	14.3	13.7	2.8	0.5	N	30
25/12/2006	4:30 PM	14.0	14.1	13.7	2.8	1.6	NE	30
25/12/2006	5:00 PM	14.0	14.4	13.7	3.3	1.4	E	30
25/12/2006	5:30 PM	14.0	14.1	13.7	3.1	2.0	NE	30
25/12/2006	6:00 PM	14.0	14.2	13.9	3.3	0.7	N	30
25/12/2006	6:30 PM	14.0	14.4	13.9	0.1	0.9	NE	30
25/12/2006	7:00 PM	14.2	14.4	14.1	1.3	2.5	E	30
25/12/2006	7:30 PM	14.1	14.3	13.8	2.3	3.1	N	30
25/12/2006	8:00 PM	14.1	14.4	14.0	1.1	2.8	NE	30
25/12/2006	8:30 PM	14.1	14.5	14.0	1.1	2.6	NE	30
25/12/2006	9:00 PM	14.3	14.5	14.0	2.0	3.7	E	30
25/12/2006	9:30 PM	14.2	14.5	14.1	2.0	2.4	E	30
25/12/2006	10:00 PM	14.3	14.7	14.2	1.3	3.6	N	30
25/12/2006	10:30 PM	13.2	13.2	13.0	1.1	2.3	N	30
25/12/2006	11:00 PM	13.0	13.3	13.0	1.2	2.9	E	30
25/12/2006	11:30 PM	13.0	13.2	12.9	1.1	1.6	NE	30
26/12/2006	12:00 AM	13.0	13.1	12.9	1.1	2.1	NE	30
26/12/2006	12:30 AM	13.2	13.4	13.0	1.1	2.3	N	30
26/12/2006	1:00 AM	13.3	13.5	13.1	2.0	3.2	N	30
26/12/2006	1:30 AM	13.4	13.7	13.3	1.3	1.9	NE	30
26/12/2006	2:00 AM	13.5	13.8	13.4	2.2	3.9	NE	30
26/12/2006	2:30 AM	14.0	14.3	13.9	1.7	1.8	NE	30
26/12/2006	3:00 AM	14.5	14.9	14.2	1.7	3.2	NE	30
26/12/2006	3:30 AM	13.0	13.2	13.0	2.1	2.8	N	30
26/12/2006	4:00 AM	14.0	14.2	13.7	0.8	2.9	N	30
26/12/2006	4:30 AM	14.0	14.3	13.8	1.7	1.7	E	30
26/12/2006	5:00 AM	14.0	14.2	13.8	2.5	3.8	E	30
26/12/2006	5:30 AM	13.0	13.0	12.7	1.5	1.6	NE	30
26/12/2006	6:00 AM	13.0	13.4	12.7	2.1	2.4	N	30
26/12/2006	6:30 AM	13.5	13.8	13.3	1.7	2.4	E	30
26/12/2006	7:00 AM	13.5	13.8	13.4	1.1	1.7	NE	30
26/12/2006	7:30 AM	14.0	14.4	14.0	1.7	3.7	NE	30
26/12/2006	8:00 AM	14.0	14.2	14.0	1.0	1.9	N	30
26/12/2006	8:30 AM	17.0	17.3	16.8	1.7	3.2	N	30
26/12/2006	9:00 AM	17.0	17.4	17.0	1.4	2.4	E	30
26/12/2006	9:30 AM	18.0	18.2	17.8	1.7	2.2	NE	30
26/12/2006	10:00 AM	18.5	18.8	18.3	1.9	2.4	NE	30
26/12/2006	10:30 AM	19.0	19.3	18.9	2.2	2.3	NE	30
26/12/2006	11:00 AM	19.5	19.7	19.4	2.2	2.5	SE	30
26/12/2006	11:30 AM	19.8	20.0	19.6	1.7	3.4	S	30
26/12/2006	12:00 PM	19.8	19.8	19.7	2.5	4.2	S	30
26/12/2006	12:30 PM	20.0	20.3	19.7	2.1	4.1	E	30
26/12/2006	1:00 PM	20.0	20.2	20.0	2.4	2.9	E	30
26/12/2006	1:30 PM	20.8	21.0	20.8	2.7	3.8	SE	30
26/12/2006	2:00 PM	20.8	20.8	20.8	3.3	5.4	S	30
26/12/2006	2:30 PM	20.9	21.0	20.9	4.0	4.3	E	30
26/12/2006	3:00 PM	20.9	21.3	20.8	2.5	3.3	SE	30
26/12/2006	3:30 PM	20.8	21.1	20.5	2.9	4.8	SE	30
26/12/2006	4:00 PM	20.8	20.9	20.6	2.9	3.4	S	30
26/12/2006	4:30 PM	20.9	21.2	20.7	3.3	4.2	S	30
26/12/2006	5:00 PM	19.5	19.8	19.2	1.7	2.2	E	30
26/12/2006	5:30 PM	18.5	18.9	18.2	1.7	2.2	SE	30
26/12/2006	6:00 PM	18.0	18.2	17.7	2.2	2.9	SE	30
26/12/2006	6:30 PM	17.5	17.9	17.2	2.5	4.2	SSW	30
26/12/2006	7:00 PM	17.0	17.4	16.9	0.4	1.4	SSW	30
26/12/2006	7:30 PM	16.5	16.8	16.3	0.4	2.5	SW	30
26/12/2006	8:00 PM	15.0	15.4	14.9	0.8	2.8	SW	30
26/12/2006	8:30 PM	14.3	14.4	14.2	1.7	3.8	SW	30
26/12/2006	9:00 PM	14.3	14.4	14.3	2.1	2.1	SW	30
26/12/2006	9:30 PM	14.2	14.3	14.1	1.6	2.4	W	30
26/12/2006	10:00 PM	14.2	14.3	14.2	0.4	2.1	S	30
26/12/2006	10:30 PM	14.2	14.5	14.0	0.1	1.3	N	30
26/12/2006	11:00 PM	14.3	14.4	14.1	0.1	2.3	E	30
26/12/2006	11:30 PM	14.3	14.6	14.2	0.1	0.6	S	30



Weather information in December 2006

Date (DMY)	Time	Average	Hi	Low	Wind Speed (m/s)		Wind	Period
		Temp	Temp	Temp	Average	Hi	Direction	
27/12/2006	12:00 AM	12.0	12.3	11.9	0.1	1.8	E	30
27/12/2006	12:30 AM	12.0	12.1	11.7	0.0	1.7	NW	30
27/12/2006	1:00 AM	12.0	12.3	11.8	0.2	2.2	NW	30
27/12/2006	1:30 AM	12.0	12.3	11.8	0.3	2.5	NW	30
27/12/2006	2:00 AM	12.5	12.6	12.4	0.2	0.3	NW	30
27/12/2006	2:30 AM	12.3	12.5	12.2	0.2	1.5	NW	30
27/12/2006	3:00 AM	13.0	13.3	12.9	0.0	0.9	NW	30
27/12/2006	3:30 AM	13.5	13.5	13.2	0.2	1.7	NW	30
27/12/2006	4:00 AM	13.5	13.8	13.3	0.3	0.5	NW	30
27/12/2006	4:30 AM	15.4	15.7	15.3	0.2	1.4	NW	30
27/12/2006	5:00 AM	15.5	15.7	15.3	0.2	2.3	NW	30
27/12/2006	5:30 AM	15.6	15.9	15.4	0.0	1.5	NW	30
27/12/2006	6:00 AM	15.6	15.9	15.4	0.2	2.2	N	30
27/12/2006	6:30 AM	16.0	16.3	15.8	0.3	2.5	NE	30
27/12/2006	7:00 AM	16.0	16.3	15.9	0.2	2.5	NE	30
27/12/2006	7:30 AM	15.6	15.8	15.3	0.5	1.6	NE	30
27/12/2006	8:00 AM	17.0	17.3	16.7	0.5	2.1	NE	30
27/12/2006	8:30 AM	17.5	17.7	17.3	1.1	1.2	NE	30
27/12/2006	9:00 AM	17.8	18.0	17.7	1.3	3.4	NE	30
27/12/2006	9:30 AM	20.0	20.4	19.8	0.6	2.7	NE	30
27/12/2006	10:00 AM	20.0	20.4	19.8	2.6	3.7	NE	30
27/12/2006	10:30 AM	20.8	21.0	20.7	3.1	3.2	E	30
27/12/2006	11:00 AM	20.8	21.0	20.6	2.5	3.5	NE	30
27/12/2006	11:30 AM	20.9	21.1	20.7	2.0	2.3	E	30
27/12/2006	12:00 PM	20.9	20.9	20.7	2.3	2.5	NE	30
27/12/2006	12:30 PM	20.8	21.0	20.6	2.1	3.7	NE	30
27/12/2006	1:00 PM	20.8	20.9	20.7	2.4	4.3	E	30
27/12/2006	1:30 PM	20.9	21.1	20.9	2.5	3.2	NE	30
27/12/2006	2:00 PM	19.5	19.5	19.5	1.5	1.9	E	30
27/12/2006	2:30 PM	18.5	18.8	18.2	2.1	3.1	NE	30
27/12/2006	3:00 PM	18.0	18.3	17.8	2.6	4.6	E	30
27/12/2006	3:30 PM	17.5	17.6	17.2	2.6	2.8	NE	30
27/12/2006	4:00 PM	17.0	17.1	16.7	1.8	2.8	NE	30
27/12/2006	4:30 PM	16.5	16.8	16.3	1.1	2.0	E	30
27/12/2006	5:00 PM	15.0	15.3	14.9	1.8	3.4	NE	30
27/12/2006	5:30 PM	14.3	14.5	14.2	2.1	2.8	E	30
27/12/2006	6:00 PM	14.3	14.4	14.1	1.1	2.5	NE	30
27/12/2006	6:30 PM	14.2	14.5	14.2	1.5	3.0	SE	30
27/12/2006	7:00 PM	14.2	14.3	14.2	2.5	4.3	S	30
27/12/2006	7:30 PM	14.2	14.3	14.1	0.5	1.5	SE	30
27/12/2006	8:00 PM	14.3	14.3	14.1	1.6	3.4	S	30
27/12/2006	8:30 PM	14.3	14.5	14.1	2.5	3.5	E	30
27/12/2006	9:00 PM	12.0	12.0	11.8	2.0	3.6	E	30
27/12/2006	9:30 PM	12.0	12.0	11.9	2.5	2.5	SE	30
27/12/2006	10:00 PM	12.0	12.3	12.0	2.0	3.3	SE	30
27/12/2006	10:30 PM	12.0	12.2	11.8	2.5	2.7	E	30
27/12/2006	11:00 PM	12.5	12.8	12.2	2.0	3.9	E	30
27/12/2006	11:30 PM	12.3	12.5	12.2	2.0	2.4	SE	30
28/12/2006	12:00 AM	13.0	13.1	12.7	2.0	2.1	SE	30
28/12/2006	12:30 AM	13.5	13.5	13.3	2.5	4.7	NE	30
28/12/2006	1:00 AM	13.5	13.6	13.3	3.5	5.5	NE	30
28/12/2006	1:30 AM	15.4	15.5	15.2	1.5	2.4	NW	30
28/12/2006	2:00 AM	15.5	15.8	15.4	3.5	5.6	NW	30
28/12/2006	2:30 AM	15.6	15.6	15.4	1.5	2.3	NW	30
28/12/2006	3:00 AM	15.6	15.6	15.3	3.5	3.7	NW	30
28/12/2006	3:30 AM	16.0	16.3	15.7	1.5	2.6	NE	30
28/12/2006	4:00 AM	16.0	16.2	15.7	3.5	3.9	NW	30
28/12/2006	4:30 AM	15.6	15.6	15.5	1.5	2.2	NE	30
28/12/2006	5:00 AM	17.0	17.2	16.8	2.0	4.2	NW	30
28/12/2006	5:30 AM	17.5	17.7	17.4	2.5	3.7	NE	30
28/12/2006	6:00 AM	17.4	17.5	17.4	2.0	4.0	NW	30
28/12/2006	6:30 AM	17.3	17.3	17.0	2.0	3.3	NE	30
28/12/2006	7:00 AM	17.3	17.4	17.1	2.0	3.0	NW	30
28/12/2006	7:30 AM	17.8	17.8	17.5	2.5	4.3	NET	30
28/12/2006	8:00 AM	18.0	18.0	17.7	3.5	3.8	NW	30
28/12/2006	8:30 AM	18.5	18.7	18.3	2.0	4.0	NW	30
28/12/2006	9:00 AM	19.0	19.3	19.0	2.5	4.3	E	30
28/12/2006	9:30 AM	19.0	19.0	18.7	2.0	3.7	NE	30
28/12/2006	10:00 AM	20.5	20.5	20.4	2.0	2.4	E	30
28/12/2006	10:30 AM	20.5	20.8	20.5	2.0	2.5	SE	30
28/12/2006	11:00 AM	21.5	21.7	21.5	2.5	3.3	SE	30
28/12/2006	11:30 AM	21.5	21.5	21.2	3.5	5.5	E	30
28/12/2006	12:00 PM	20.5	20.5	20.3	0.4	1.1	SW	30
28/12/2006	12:30 PM	20.5	20.8	20.4	0.1	1.2	W	30
28/12/2006	1:00 PM	21.5	21.8	21.2	0.1	0.7	NEE	30
28/12/2006	1:30 PM	21.5	21.6	21.2	0.1	0.1	NEE	30
28/12/2006	2:00 PM	21.0	21.0	20.9	0.1	1.4	NEE	30
28/12/2006	2:30 PM	21.0	21.1	20.8	0.0	0.9	NEE	30
28/12/2006	3:00 PM	21.0	21.2	20.9	0.2	1.0	NEE	30
28/12/2006	3:30 PM	20.8	21.0	20.7	0.3	0.9	NEE	30
28/12/2006	4:00 PM	20.5	20.5	20.4	0.2	1.0	NEE	30
28/12/2006	4:30 PM	20.5	20.9	20.3	0.2	2.1	NEE	30
28/12/2006	5:00 PM	20.3	20.5	20.0	0.0	1.1	NEE	30
28/12/2006	5:30 PM	19.0	19.1	18.9	0.2	0.7	NEE	30
28/12/2006	6:00 PM	18.0	18.1	17.8	0.3	1.1	NEE	30
28/12/2006	6:30 PM	17.5	17.5	17.3	0.2	1.8	NEE	30
28/12/2006	7:00 PM	17.0	17.0	17.0	0.2	1.7	NEE	30
28/12/2006	7:30 PM	17.0	17.0	16.7	0.0	2.0	NEE	30
28/12/2006	8:00 PM	17.0	17.3	17.0	0.2	1.6	NEE	30
28/12/2006	8:30 PM	16.8	17.0	16.7	0.3	1.2	NEE	30
28/12/2006	9:00 PM	16.5	16.6	16.4	0.2	0.3	NEE	30
28/12/2006	9:30 PM	16.5	16.6	16.4	0.5	1.6	NE	30
28/12/2006	10:00 PM	16.5	16.6	16.5	0.5	0.6	N	30
28/12/2006	10:30 PM	16.5	16.6	16.4	1.1	1.6	NE	30
28/12/2006	11:00 PM	16.5	16.6	16.3	1.3	1.9	N	30
28/12/2006	11:30 PM	16.5	16.7	16.3	0.6	2.4	NE	30



Weather information in December 2006

Date (DMY)	Time	Average	Hi	Low	Wind Speed (m/s)		Wind	Period
		Temp	Temp	Temp	Average	Hi	Direction	
29/12/2006	12:00 AM	16.5	16.8	16.2	2.6	2.6	N	30
29/12/2006	12:30 AM	15.0	15.3	14.9	3.1	3.9	NE	30
29/12/2006	1:00 AM	14.8	14.9	14.5	2.5	4.3	N	30
29/12/2006	1:30 AM	14.5	14.8	14.3	2.0	3.5	NE	30
29/12/2006	2:00 AM	14.3	14.6	14.1	2.3	2.7	NE	30
29/12/2006	2:30 AM	13.8	14.1	13.6	2.1	3.8	N	30
29/12/2006	3:00 AM	13.5	13.8	13.3	2.4	3.5	NE	30
29/12/2006	3:30 AM	13.5	13.5	13.5	2.5	4.4	N	30
29/12/2006	4:00 AM	13.6	13.6	13.3	1.5	1.8	NE	30
29/12/2006	4:30 AM	13.4	13.8	13.3	2.1	2.8	NE	30
29/12/2006	5:00 AM	13.2	13.2	13.1	2.6	3.0	N	30
29/12/2006	5:30 AM	12.0	12.3	12.0	2.6	3.6	NE	30
29/12/2006	6:00 AM	12.0	12.1	11.9	1.8	3.3	N	30
29/12/2006	6:30 AM	12.5	12.5	12.5	1.1	2.0	NE	30
29/12/2006	7:00 AM	12.0	12.0	11.9	1.8	3.6	NE	30
29/12/2006	7:30 AM	12.0	12.4	11.8	2.1	2.7	N	30
29/12/2006	8:00 AM	12.0	12.0	11.9	1.1	3.4	NE	30
29/12/2006	8:30 AM	12.0	12.3	11.9	1.5	2.2	NNE	30
29/12/2006	9:00 AM	12.5	12.5	12.3	2.5	2.8	NNE	30
29/12/2006	9:30 AM	13.0	13.0	12.8	0.5	2.5	NNE	30
29/12/2006	10:00 AM	13.5	13.7	13.3	1.6	2.1	NNE	30
29/12/2006	10:30 AM	13.5	13.9	13.4	2.5	3.4	NNE	30
29/12/2006	11:00 AM	14.0	14.1	13.9	2.0	3.8	NNE	30
29/12/2006	11:30 AM	14.0	14.3	13.7	2.5	4.4	N	30
29/12/2006	12:00 PM	14.5	14.7	14.2	2.0	3.3	NE	30
29/12/2006	12:30 PM	15.0	15.2	14.9	2.5	3.9	N	30
29/12/2006	1:00 PM	15.5	15.8	15.5	2.0	2.5	NE	30
29/12/2006	1:30 PM	15.6	15.9	15.4	2.0	4.2	NE	30
29/12/2006	2:00 PM	16.0	16.4	15.9	2.0	3.2	N	30
29/12/2006	2:30 PM	16.0	16.0	15.8	2.5	3.5	NE	30
29/12/2006	3:00 PM	16.5	16.6	16.2	3.5	3.9	N	30
29/12/2006	3:30 PM	15.8	16.0	15.8	1.5	2.6	NE	30
29/12/2006	4:00 PM	15.8	16.0	15.6	3.5	5.7	NE	30
29/12/2006	4:30 PM	15.8	15.9	15.7	1.5	2.9	N	30
29/12/2006	5:00 PM	15.8	15.9	15.7	3.5	3.6	NE	30
29/12/2006	5:30 PM	15.8	16.0	15.6	1.5	3.7	N	30
29/12/2006	6:00 PM	15.5	15.8	15.3	3.5	4.2	NE	30
29/12/2006	6:30 PM	15.5	15.6	15.4	1.5	3.2	N	30
29/12/2006	7:00 PM	15.3	15.5	15.0	2.0	3.7	NE	30
29/12/2006	7:30 PM	15.3	15.6	15.2	2.5	3.6	NE	30
29/12/2006	8:00 PM	15.2	15.5	14.9	2.0	3.5	N	30
29/12/2006	8:30 PM	15.5	15.8	15.3	2.0	2.5	NE	30
29/12/2006	9:00 PM	15.5	15.9	15.4	2.0	2.4	N	30
29/12/2006	9:30 PM	51.0	51.1	50.9	2.5	2.5	NE	30
29/12/2006	10:00 PM	14.5	14.6	14.2	3.5	4.9	NE	30
29/12/2006	10:30 PM	14.5	14.8	14.4	2.0	4.2	N	30
29/12/2006	11:00 PM	14.0	14.3	13.7	2.5	3.0	NE	30
29/12/2006	11:30 PM	13.8	13.9	13.6	2.0	3.2	N	30
30/12/2006	12:00 AM	13.8	13.8	13.5	2.0	3.5	NE	30
30/12/2006	12:30 AM	13.7	13.9	13.5	2.0	3.4	N	30
30/12/2006	1:00 AM	13.6	13.9	13.4	2.5	3.5	NE	30
30/12/2006	1:30 AM	15.0	15.1	14.8	3.5	5.6	NE	30
30/12/2006	2:00 AM	13.0	13.1	12.7	2.5	2.6	N	30
30/12/2006	2:30 AM	12.8	13.1	12.5	1.6	3.6	NE	30
30/12/2006	3:00 AM	12.5	12.8	12.3	1.8	4.1	N	30
30/12/2006	3:30 AM	12.5	12.6	12.4	3.2	4.5	NE	30
30/12/2006	4:00 AM	12.3	12.4	12.2	2.4	4.1	NE	30
30/12/2006	4:30 AM	12.5	12.9	12.3	2.6	4.2	N	30
30/12/2006	5:00 AM	11.8	12.0	11.8	1.6	3.9	NE	30
30/12/2006	5:30 AM	11.8	12.1	11.6	0.8	2.1	N	30
30/12/2006	6:00 AM	12.0	12.1	11.7	0.5	2.4	NE	30
30/12/2006	6:30 AM	12.5	12.7	12.4	0.5	1.8	N	30
30/12/2006	7:00 AM	12.8	13.1	12.6	0.8	2.2	NE	30
30/12/2006	7:30 AM	13.0	13.2	12.7	2.4	3.5	NE	30
30/12/2006	8:00 AM	14.0	14.1	13.8	1.6	3.0	N	30
30/12/2006	8:30 AM	14.5	14.5	14.5	2.4	4.6	NE	30
30/12/2006	9:00 AM	15.0	15.3	14.9	2.6	4.5	N	30
30/12/2006	9:30 AM	16.0	16.2	15.8	1.4	3.0	NE	30
30/12/2006	10:00 AM	17.0	17.2	16.7	3.2	3.9	NE	30
30/12/2006	10:30 AM	17.5	17.5	17.4	1.6	3.2	N	30
30/12/2006	11:00 AM	20.0	20.3	19.8	2.6	2.7	NE	30
30/12/2006	11:30 AM	20.5	20.9	20.3	2.0	3.4	N	30
30/12/2006	12:00 PM	21.0	21.2	20.8	3.3	3.9	NE	30
30/12/2006	12:30 PM	21.5	21.7	21.3	1.6	1.7	N	30
30/12/2006	1:00 PM	21.0	21.3	20.8	2.6	3.1	NE	30
30/12/2006	1:30 PM	21.5	21.7	21.3	1.6	1.8	NE	30
30/12/2006	2:00 PM	22.0	22.1	22.0	1.6	2.1	N	30
30/12/2006	2:30 PM	21.8	21.8	21.5	2.6	2.7	NE	30
30/12/2006	3:00 PM	22.5	22.6	22.4	1.6	2.4	N	30
30/12/2006	3:30 PM	22.0	22.1	21.8	1.8	3.6	NE	30
30/12/2006	4:00 PM	22.0	22.3	21.7	3.0	3.8	NE	30
30/12/2006	4:30 PM	21.5	21.6	21.4	3.4	5.7	N	30
30/12/2006	5:00 PM	21.0	21.0	20.9	1.8	3.5	NE	30
30/12/2006	5:30 PM	21.0	21.1	20.9	2.6	3.6	N	30
30/12/2006	6:00 PM	21.0	21.4	20.9	1.6	2.7	NE	30
30/12/2006	6:30 PM	20.8	20.9	20.6	2.4	3.9	N	30
30/12/2006	7:00 PM	20.5	20.6	20.3	1.0	3.1	NE	30
30/12/2006	7:30 PM	20.5	20.7	20.4	2.8	4.5	NE	30
30/12/2006	8:00 PM	20.1	20.3	19.9	1.6	1.9	N	30
30/12/2006	8:30 PM	20.0	20.2	19.8	3.0	3.9	NE	30
30/12/2006	9:00 PM	20.0	20.1	19.8	1.0	1.1	N	30
30/12/2006	9:30 PM	18.5	18.7	18.4	1.6	2.1	NE	30
30/12/2006	10:00 PM	18.5	18.8	18.2	1.6	2.5	NE	30
30/12/2006	10:30 PM	18.5	18.7	18.3	1.4	1.8	N	30
30/12/2006	11:00 PM	18.0	18.2	18.0	1.5	2.8	NE	30
30/12/2006	11:30 PM	18.0	18.1	17.9	1.1	2.0	NNE	30



Weather information in December 2006

Date (DMY)	Time	Average	Hi	Low	Wind Speed (m/s)		Wind	Period
		Temp	Temp	Temp	Average	Hi	Direction	
31/12/2006	12:00 AM	18.0	18.3	17.8	2.0	3.7	NE	30
31/12/2006	12:30 AM	18.0	18.1	18.0	2.0	3.6	N	30
31/12/2006	1:00 AM	17.5	17.9	17.4	2.5	4.8	NE	30
31/12/2006	1:30 AM	17.5	17.8	17.5	3.5	4.6	NE	30
31/12/2006	2:00 AM	17.5	17.7	17.3	2.5	3.0	N	30
31/12/2006	2:30 AM	17.8	17.9	17.7	1.6	2.4	NE	30
31/12/2006	3:00 AM	17.3	17.3	17.0	1.8	3.5	N	30
31/12/2006	3:30 AM	16.5	16.9	16.3	3.2	4.2	NE	30
31/12/2006	4:00 AM	16.0	16.3	15.7	2.4	4.1	NE	30
31/12/2006	4:30 AM	15.8	16.0	15.7	2.6	3.8	N	30
31/12/2006	5:00 AM	18.8	19.0	18.6	1.6	1.7	NE	30
31/12/2006	5:30 AM	15.8	15.9	15.6	0.8	2.8	N	30
31/12/2006	6:00 AM	16.0	16.4	15.9	0.5	2.6	NE	30
31/12/2006	6:30 AM	16.0	16.0	15.9	0.5	0.9	N	30
31/12/2006	7:00 AM	15.8	16.0	15.7	0.8	2.7	NE	30
31/12/2006	7:30 AM	15.8	16.0	15.8	2.4	4.1	NE	30
31/12/2006	8:00 AM	16.0	16.3	15.8	1.6	1.7	N	30
31/12/2006	8:30 AM	16.5	16.9	16.3	2.4	2.7	NE	30
31/12/2006	9:00 AM	16.7	16.7	16.6	2.6	4.0	N	30
31/12/2006	9:30 AM	16.7	17.0	16.7	1.4	1.5	NE	30
31/12/2006	10:00 AM	14.0	14.4	13.9	3.2	4.0	NE	30
31/12/2006	10:30 AM	14.5	14.7	14.4	1.6	1.8	N	30
31/12/2006	11:00 AM	15.0	15.4	14.9	2.6	3.5	NE	30
31/12/2006	11:30 AM	19.5	19.5	19.4	2.0	3.2	N	30
31/12/2006	12:00 PM	19.5	19.7	19.4	3.3	3.9	NE	30
31/12/2006	12:30 PM	19.5	19.9	19.4	1.6	3.2	N	30
31/12/2006	1:00 PM	19.4	19.6	19.3	2.6	3.0	NE	30
31/12/2006	1:30 PM	19.2	19.3	19.1	1.6	2.4	NE	30
31/12/2006	2:00 PM	19.3	19.4	19.3	1.6	3.2	N	30
31/12/2006	2:30 PM	19.2	19.6	18.9	2.6	4.2	NE	30
31/12/2006	3:00 PM	19.3	19.7	19.3	1.6	2.4	N	30
31/12/2006	3:30 PM	19.1	19.4	18.9	1.8	3.5	NE	30
31/12/2006	4:00 PM	19.0	19.4	19.0	3.0	4.4	NE	30
31/12/2006	4:30 PM	18.8	19.1	18.5	3.4	3.5	N	30
31/12/2006	5:00 PM	18.7	18.9	18.5	1.8	2.4	NE	30
31/12/2006	5:30 PM	18.5	18.8	18.4	2.6	3.8	N	30
31/12/2006	6:00 PM	18.5	18.8	18.4	1.6	2.4	NE	30
31/12/2006	6:30 PM	18.1	18.2	18.0	2.4	4.5	N	30
31/12/2006	7:00 PM	18.0	18.2	17.8	1.0	1.1	NE	30
31/12/2006	7:30 PM	17.9	18.1	17.8	2.8	4.0	NE	30
31/12/2006	8:00 PM	17.8	18.2	17.5	1.6	2.2	N	30
31/12/2006	8:30 PM	17.9	18.0	17.8	3.0	3.6	NE	30
31/12/2006	9:00 PM	17.7	18.0	17.7	1.0	1.3	N	30
31/12/2006	9:30 PM	17.6	17.7	17.4	1.6	2.6	NE	30
31/12/2006	10:00 PM	17.4	17.5	17.3	1.6	3.7	NE	30
31/12/2006	10:30 PM	17.2	17.5	17.0	1.4	2.4	N	30
31/12/2006	11:00 PM	17.2	17.5	17.2	1.5	2.4	NE	30
31/12/2006	11:30 PM	17.1	17.4	17.1	1.1	1.8	NNE	30



Appendix F

Event-Action Plans

EVENT/ACTION PLAN FOR AIR QUALITY EXCEEDANCE

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

EVENT/ACTION PLAN FOR NOISE EXCEEDANCE

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

EVENT/ACTION PLAN FOR AIR QUALITY EXCEEDANCE

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

EVENT AND ACTION PLAN FOR WATER QUALITY EXCEEDANCE

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

EVENT AND ACTION PLAN FOR WATER QUALITY

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

EVENT AND ACTION PLAN FOR WATER QUALITY EXCEEDANCE

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

EVENT AND ACTION PLAN FOR WATER QUALITY EXCEEDANCE

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



Appendix G

Construction Programme

Activity ID	Activity Description	Orig Dur	Rem Dur	%	Early Start	Early Finish	2006	2007						
							NOV	JAN	FEB	MAR				
							30	1	5	12	19	26	5	12
							4	8	15	22	29	5	12	19
							11	18	25	1	8	15	22	29
							27	4	11	18	25	1	8	15
Tsuing Kwan O														
Possession of Portion														
POPA1000	Possession of Portion A1	0	0	100	23/11/06A									
POPA2000	Possession of Portion A2	0	0	100	23/11/06A									
POPA3000	Possession of Portion A3	0	0	0	22/02/07									
POPA4000	Possession of Portion A4	0	0	100	30/11/06A									
POPA5000	Possession of Portion A5	0	0	100	30/11/06A									
POPA6000	Possession of Portion A6	0	0	100	30/11/06A									
Design of RealTime Tracking/Monitor														
TS018000	Design of RealTime Tracking/Monitor submission	0	0	0	30/12/06*									
TS018100	Design of RealTime Tracking/Monitor Approval	0	0	0	13/01/07									
Design of Crushing Plant														
TS022000	Crushing Plant Technical Submission	0	0	100	06/12/06A									
TS022100	Crushing Plant Approval of Submission	0	0	0	20/12/06									
Principal Office Erection														
SOA10100	RE Principal Office Erection (A1)	60	60	0	21/12/06	18/02/07								
SOA10200	RE Principal Office Servicing (A1) 23mths	701	701	0	19/02/07	19/01/09								
Contractors Office at Portion A														
TACA0100	Erection	24	24	0	26/12/06*	18/01/07								
TACA0200	Servicing 24mths	731	711	3	01/12/06A	30/11/08								
Combined Reception & Exit Office A1														
EOA1A100	A1a takeover	0	0	100	30/11/06A									
EOA1A200	A1a Servicing 24mths	731	711	3	01/12/06A	30/11/08								
EOA1A400	Measurement System O&M for A1a 104wks	728	708	3	01/12/06A	27/11/08								
Combined Reception & Exit Office A1b														
EOA1B100	A1b takeover	0	0	100	30/11/06A									
EOA1B200	A1b Servicing 2mths	61	41	33	01/12/06A	30/01/07								
EOA1B900	A1b Dismantle	30	30	0	31/01/07	01/03/07								
Combined Reception & Exit Office A1c														
EOA1C100	A1c takeover	0	0	100	30/11/06A									
EOA1C200	A1c Servicing 2mths	61	41	33	01/12/06A	30/01/07								
EOA1C400	Measurement System O&M for A1c 10wks	70	50	29	01/12/06A	08/02/07								
EOA1C900	A1c Dismantle	30	30	0	09/02/07	10/03/07								
Combined Reception & Exit Office A1d														
EOA1D100	A1d erection	30	30	0	01/01/07	30/01/07								
EOA1D120	Surveillance System A1d modify	30	30	0	03/01/07	01/02/07								

Sheet 1 of 3

China Harbour Engineering Company Limited
Delivery of Reclamation Material to Mainland
3Mths Rolling Programme for EP - 21/12/06

Start Date: 10/11/06

Finish Date: 30/01/08

Data Date: 21/12/06

Run Date: 04/01/07 17:41

1A01

Early Bar

Progress Bar

Critical Activity

Date

Revision

Checked

Approved

?Primavera Systems, Inc.

Activity ID	Activity Description	Orig Dur	Rem Dur	%	Early Start	Early Finish	2007																
							NOV	DEC	JAN	FEB	MAR												
Section of the Works							20	27	4	11	18	25	1	8	15	22	29	5	12	19	26	5	12
HK030200	Sorting of Stockpiled Public Fill	731	711		3/01/12/06A	30/11/08																	
HK030300	Removal of Stockpiled Public Fill (contractor's)	731	711		3/01/12/06A	30/11/08																	
HK030400	Removal of Sotckpiled Public Fill (Others)	731	711		3/01/12/06A	30/11/08																	
HK030500	Disposal of Unsuitable Material	731	711		3/01/12/06A	30/11/08																	
HK030600	Compaction of Public Fill	731	711		3/01/12/06A	30/11/08																	
Section of the Works																							
HK110200	TKO Tipping Halls Operation 260hr-wks	731	711		3/01/12/06A	30/11/08																	

Start Date		10/11/06	Early Bar		1A01		Sheet 3 of 3	
Finish Date		30/01/08	Progress Bar		China Harbour Engineering Company Limited		Revision	
Data Date		21/12/06	Critical Activity		Delivery of Reclamation Material to Mainland		Checked	
Run Date		04/01/07 17:41			3Mths Rolling Programme for EP - 21/12/06		Approved	
?Primavera Systems, Inc.								



Appendix H

IEC's Site Audit Records

MATERIALAB CONSULTANTS LIMITED

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MaterialLab**Agreement No.: CE 9/2005 (EP) Tseung Kwan O Area 137 Fill Bank – Investigation****Site Audit Checklist**

Date of Site Audit:	12/12/2006	Time of Site Audit:	10:45		
Site Auditor:	Arthur Cheng	Phase of Works:	Operation		
Weather Condition:	Sunny	Temperature:	27 °C	Wind:	Light

Description	N.A.	Yes	No	Remarks
Fugitive Dust Emission				
Have the dust control/mitigation measures been implemented to ensure full protection of the nearby ASRs?		✓		
Are all installed air pollution control systems and measures operated and/or implemented in accordance with their design merits?		✓		
Have frequent mist spraying been applied on dusty areas and without over-watering?		✓		
Have all delivery trucks entering or leaving the fill bank followed the paved haul roads?		✓		
Have water lorries and/or road sweepers being used for dust suppression?		✓		
Is the frequency of watering at least 4 times a day in the reception and queuing areas, access roads and haul road of each Public Fill Reception Facilities?		✓		
Are the public roads around the site entrance kept clean and free from dust?		✓		
Is the designated main haul roads kept sufficiently dampened?		✓		
Is truck speed limited within 10 km/hr?		✓		
Do the trucks using the fill bank have a valid dumping license?		✓		
Are all dusty fill material sprayed with water or a dust suppression chemical prior to loading, unloading or transfer? (Except for situations where the moisture content of the dusty material is a matter of concern).		✓		
Have the work sites with active dusty operations been frequently watered (at least three times per day)? And has frequency been increased when the weather is dry?		✓		
To minimise dust emission from dry material, are the materials landing points sprayed with water when public fills are delivered by barges to the site?	✓			Not observed.
To ensure dust control measures are being used, are the vehicle washing facilities equipped with a high-pressure water jet and maintained and operated by designated staff?		✓		
Has every vehicle been washed to remove any dusty materials from its body and wheels before leaving?		✓		
Is a water sprinkler provided for vehicles entering the site?		✓		
Has a buffer zone of at least 100 m been maintained between the edge of the public fill stockpiling area of the fill bank and the nearest air sensitive receivers at the TKO Industrial Estate?		✓		
Are there any dusty materials stockpiled or loading/unloading or similar activities being conducted in the above buffer zone?			✓	
Have public fills at the stockpiling area been handled to avoid segregation, deterioration, erosion or instability of the material, especially for the stockpiling surface facing to the ASRs?			✓	
Have the temporary slope surfaces been covered with tarpaulin sheeting or other impermeable sheeting, or sprayed with water or a dust suppression chemical or protected by other methods as approved by CEDD?		✓		Finished slopes in Portions A, B, G, H and I have been hydroseeded.

MATERIALAB CONSULTANTS LIMITED

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MaterialLab

Description	N.A.	Yes	No	Remarks
Are final slope surfaces treated by compaction, followed by hydroseeding, vegetation planting or other suitable surface stabiliser approved by CEDD to prevent the washing away of stockpiled material?		✓		Finished slopes in Portions A, B, G, H and I have been hydroseeded.
Are belt conveyor systems used for transfer of dusty materials provided a 3-sided roofed enclosure?	✓			
Is every transfer point between two conveyors totally enclosed?	✓			
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 reducing carrying back of fine particles on the return belt?	✓			
Fixed Noise Impact				
Have the noise standards specified in the Technical Memorandum for the Assessment of Noise From Places Other Than Domestic Premises, Public Places or Construction Sites been met?	✓			
Have the approved method of working, equipment and sound-reducing measures (e.g. use of silenced type of equipment, etc.) been adopted?	✓			
Water Quality				
Have trapezoidal surface channels used for intercepting polluted surface runoff been equipped with sand / de-silting traps?		✓		
Is stockpiling of fill material at least 100 m away from the waterfront?		✓		
Does the effluent discharged from the site meet the relevant discharge limits specified in the Technical Memorandum Standards for Effluents Discharged into Drainage and Sewerage Systems, Inland and Coastal Waters?	✓			
Are wastewater collected from canteen kitchens, including that from basins, sinks and floor drains discharged into public sewers via grease traps?	✓			
Has the pathway of loading and unloading of public fill to and from barges been prevented from being directly on top of marine water?	✓			
Have sand and silt in the wheel washing bay been settled out or removed before reused or discharged into storm drains?		✓		
Is sewage being discharged into foul sewer or chemical toilets?		✓		
If chemical toilets are used, are they provided by a licensed contractor, who will be responsible for disposal and maintenance of these facilities?		✓		
Are materials properly covered when there is any chance for the materials to be washed away?	✓			
Are temporary slope surfaces covered as far as practicable with tarpaulin sheets or other impermeable sheeting or protected by other methods approved by CEDD especially when a rainstorm is imminent or forecast?		✓		Finished slopes in Portions A, B, G, H and I have been hydroseeded.
Have the catchpits, sand and silt removal facilities and intercepting channels provided onsite been maintained to ensure proper functioning?		✓		
Have the deposited silt and grit been removed weekly at the onset of and after each rainstorm to ensure that these facilities are functioning at all times?	✓			

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Description	N.A.	Yes	No	Remarks
Is the section of construction road between the wheel washing bay and the public road paved with concrete, bituminous materials or hardcores to reduce vehicle tracking of soil and to prevent site runoff from entering public road drains?		✓		
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?		✓		The silt removal facility shall be modified.
Has disturbance to seabed sediments and undue turbidity from vessel movement or propeller wash been minimised?	✓			
Are barges filled to a level to prevent any overflow of material during loading or transportation?	✓			
Are barge effluents properly collected and treated before disposal?	✓			
Is foam, oil, grease, scum, litter or other objectionable matters presented on the water in the vicinity of the barging point? Are these due to work activities?			✓	
Have silt curtain 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.		✓		The location of silt curtain shall follow the proposal on provision of the silt curtain.
Has a waste collection vessel been deployed to remove floating debris on the sea near the fill bank for proper disposal?	✓			
Landfill Gas Hazard				
Are gas detection equipment and appropriate breathing apparatus available and used when workers entering confined spaces or trenches deeper than 2 m?	✓			
Has the Safety Officer/Supervisor been provided with an intrinsically safe portable instrument(s), appropriately calibrated and capable of measuring the gases in the ranges as recommended in the project profile / contractor's contract Particular Specification?		✓		
Has a LFG monitoring programme been formulated by the Safety Officer/Supervisor or by a qualified person?	✓			
Has periodic/routine monitoring been conducted during ground-works, in all excavations, and works at confined spaces, if any?	✓			
Landscape and Visual				
Are hydroseeding or coloured geo-textile matting (dark green/brown) provided on the slopes of the fill bank along the eastern, northern and western sides of the fill bank as the slopes of each layer of platform are formed?		✓		
Are the surface colour of structures at fill bank an earthy tone with strong natural qualities in green, grey or brown colour and the use of bold colour schemes been avoided?		✓		
Is the maximum stockpiling height at the fill bank limited to a maximum of +35.2 mPD?		✓		
Are Government approved landscape contractors hired to undertake and maintain the hydroseeding and tree planting works?	✓			
Is existing 2.4 m high site hoarding located along the entire boundary of the site to help screening of the fill bank?		✓		
Except the southern portion of stockpiling area, is the fill bank operated between 11:00 p.m. and 8:00 a.m. on the following day?			✓	

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MaterialLab**Other Main Observations**

Issue	Action
1. Equipment maintenance areas were found at various locations.	To designate an area / areas for equipment maintenance with proper protection to prevent soil from contamination due to spillage of chemicals.
2. Stagnant water was observed at desilting chambers.	To implement mosquito controls regularly.
3. Oil tank near AA1 was placed on bare ground.	To provide drip trays for all chemical drums.

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Materialab

Agreement No.: CE 9/2005 (EP) Tseung Kwan O Area 137 Fill Bank – Investigation

Site Audit Checklist

Date of Site Audit:	21/12/2006	Time of Site Audit:	10:00		
Site Auditor:	Arthur Cheng	Phase of Works:	Operation		
Weather Condition:	Sunny	Temperature:	18 °C	Wind:	Light

Description	N.A.	Yes	No	Remarks
Fugitive Dust Emission				
Have the dust control/mitigation measures been implemented to ensure full protection of the nearby ASRs?		✓		
Are all installed air pollution control systems and measures operated and/or implemented in accordance with their design merits?		✓		
Have frequent mist spraying been applied on dusty areas and without over-watering?		✓		
Have all delivery trucks entering or leaving the fill bank followed the paved haul roads?		✓		
Have water lorries and/or road sweepers being used for dust suppression?		✓		
Is the frequency of watering at least 4 times a day in the reception and queuing areas, access roads and haul road of the Public Fill Reception Facility?		✓		
Are the public roads around the site entrance kept clean and free from dust?		✓		
Is the designated main haul roads kept sufficiently dampened?		✓		
Is truck speed limited within 10 km/hr?			✓	
Do the trucks using the fill bank have a valid dumping license?		✓		
Are all dusty fill material sprayed with water or a dust suppression chemical prior to loading, unloading or transfer? (Except for situations where the moisture content of the dusty material is a matter of concern).		✓		
Have the work sites with active dusty operations been frequently watered (at least three times per day)? And has frequency been increased when the weather is dry?		✓		Other Main Observations 1
To minimise dust emission from dry material, are the materials landing points sprayed with water when public fills are delivered by barges to the site?	✓			Not observed.
To ensure dust control measures are being used, are the vehicle washing facilities equipped with a high-pressure water jet and maintained and operated by designated staff?		✓		
Has every vehicle been washed to remove any dusty materials from its body and wheels before leaving?		✓		
Is a water sprinkler provided for vehicles entering the site?		✓		
Has a buffer zone of at least 100 m been maintained between the edge of the public fill stockpiling area of the fill bank and the nearest air sensitive receivers at the TKO Industrial Estate?		✓		
Are there any dusty materials stockpiled or loading/unloading or similar activities being conducted in the above buffer zone?			✓	
Have public fills at the stockpiling area been handled to avoid segregation, deterioration, erosion or instability of the material, especially for the stockpiling surface facing to the ASRs?		✓		On-going.
Have the temporary slope surfaces been covered with tarpaulin sheeting or other impermeable sheeting, or sprayed with water or a dust suppression chemical or protected by other methods as approved by CEDD?		✓		Finished slopes in Portions A, B, G, H and I have been hydroseeded.

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Materialab

Description	N.A.	Yes	No	Remarks
Are final slope surfaces treated by compaction, followed by hydroseeding, vegetation planting or other suitable surface stabiliser approved by CEDD to prevent the washing away of stockpiled material?		✓		Finished slopes in Portions A, B, G, H and I have been hydroseeded.
Are belt conveyor systems used for transfer of dusty materials provided a 3-sided roofed enclosure?	✓			
Is every transfer point between two conveyors totally enclosed?	✓			
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 reducing carrying back of fine particles on the return belt?	✓			
Fixed Noise Impact				
Have the noise standards specified in the Technical Memorandum for the Assessment of Noise From Places Other Than Domestic Premises, Public Places or Construction Sites been met?	✓			
Have the approved method of working, equipment and sound-reducing measures (e.g. use of silenced type of equipment, etc.) been adopted?			✓	Other Main Observations 2.
Water Quality				
Have trapezoidal surface channels used for intercepting polluted surface runoff been equipped with sand / de-silting traps?		✓		
Is stockpiling of fill material at least 100 m away from the waterfront?		✓		
Does the effluent discharged from the site meet the relevant discharge limits specified in the Technical Memorandum Standards for Effluents Discharged into Drainage and Sewerage Systems, Inland and Coastal Waters?	✓			
Are wastewater collected from canteen kitchens, including that from basins, sinks and floor drains discharged into public sewers via grease traps?	✓			
Has the pathway of loading and unloading of public fill to and from barges been prevented from being directly on top of marine water?	✓			
Have sand and silt in the wheel washing bay been settled out or removed before reused or discharged into storm drains?		✓		
Is sewage being discharged into foul sewer or chemical toilets?		✓		
If chemical toilets are used, are they provided by a licensed contractor, who will be responsible for disposal and maintenance of these facilities?		✓		
Are materials properly covered when there is any chance for the materials to be washed away?	✓			
Are temporary slope surfaces covered as far as practicable with tarpaulin sheets or other impermeable sheeting or protected by other methods approved by CEDD especially when a rainstorm is imminent or forecast?		✓		Finished slopes in Portions A, B, G, H and I have been hydroseeded.
Have the catchpits, sand and silt removal facilities and intercepting channels provided onsite been maintained to ensure proper functioning?		✓		
Have the deposited silt and grit been removed weekly at the onset of and after each rainstorm to ensure that these facilities are functioning at all times?		✓		

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MaterialLab

Description	N.A.	Yes	No	Remarks
Is the section of construction road between the wheel washing bay and 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?		✓		
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?		✓		
Has disturbance to seabed sediments and undue turbidity from vessel movement or propeller wash been minimised?	✓			
Are barges filled to a level to prevent any overflow of material during loading or transportation?	✓			
Are barge effluents properly collected and treated before disposal?	✓			
Is foam, oil, grease, scum, litter or other objectionable matters presented on the water in the vicinity of the barging point? Are these due to work activities?			✓	
Have silt curtain 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.		✓		
Has a waste collection vessel been deployed to remove floating debris on the sea near the fill bank for proper disposal?	✓			
Landfill Gas Hazard				
Are gas detection equipment and appropriate breathing apparatus available and used when workers entering confined spaces or trenches deeper than 2 m?	✓			
Has the Safety Officer/Supervisor been provided with an intrinsically safe portable instrument(s), appropriately calibrated and capable of measuring the gases in the ranges as recommended in the project profile / contractor's contract Particular Specification?		✓		
Has a LFG monitoring programme been formulated by the Safety Officer/Supervisor or by a qualified person?	✓			
Has periodic/routine monitoring been conducted during ground-works, in all excavations, and works at confined spaces, if any?	✓			
Landscape and Visual				
Are hydroseeding or coloured geo-textile matting (dark green/ brown) provided on the slopes of the fill bank along the eastern, northern and western sides of the fill bank as the slopes of each layer of platform are formed?		✓		
Are the surface colour of structures at fill bank an earthy tone with strong natural qualities in green, grey or brown colour and the use of bold colour schemes been avoided?		✓		
Is the maximum stockpiling height at the fill bank limited to a maximum of +35.2 mPD?		✓		
Are Government approved landscape contractors hired to undertake and maintain the hydroseeding and tree planting works?	✓			
Is existing 2.4 m high site hoarding located along the entire boundary of the site to help screening of the fill bank?		✓		
Except the southern portion of stockpiling area, is the fill bank operated between 11:00 p.m. and 8:00 a.m. on the following day?			✓	

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Materialab**Other Main Observations**

Issue	Action
1. Dust emission was observed during unloading of fill materials from dump trucks and traffic on unpaved area on top of the Fill Bank.	To coordinate the works and deploy water trucks to dampen the area with dust generation activities.
2. Engine covers of some excavators were opened during operation.	To keep engine covers closed to reduce noise emission.
3. Oil stains were observed at various locations.	To clean up and dispose of the contaminated soil properly.



Appendix I

Weekly ET's Site Inspection Record

CEDD Contract No.: CV/2005/01
Project: Delivery of Reclamation of Material to Mainland - Tseung Kwun O Fill Bank

Inspection Date : 6 December 2006
Time : 11:00
Weather : Sunny / Fine / Cloudy / Overcast / Drizzle / Rain / Storm / Hazy
Wind : Calm / Light / Breeze / Strong
Temperature : 23°C
Humidity : High / Moderate / Low

Environmental Checklist	Implementation Stages*			Remark
	Yes	No	N/A	
Fugitive Dust Emission				
Dust control / mitigation measures shall be provided to prevent dust nuisance.	√			
A buffer zone of at least 100m shall be maintained between the edge of the stockpiling area and the nearest ASRs at the TKO Industrial Estate. Within the buffer zone, no dusty material shall be stockpiled and no loading / unloading and similar activities should be allowed.	√			
Water sprays shall be provided and used to dampen materials.	√			
Regular cleaning and watering the site shall be provided to minimize the fugitive dust emissions.	√			
All vehicles shall be restrict to a maximum speed of 10 km per hour.	√			
Any vehicle with open load carrying area used for moving materials which has the potential to create dust shall have properly fitting side and tail boards. Material having the potential to create dust shall not be loaded to a level higher than the side and tail boards, and shall be covered by a clean tarpaulin.	√			
The designated site main haul 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.	√			
Noise Impact				
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.	√			

CEDD Contract No.: CV/2005/01
Project: Delivery of Reclamation of Material to Mainland - Tseung Kwan O Fill Bank

Implementation Stages*		Remark
Water Quality		
✓	✓	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 seafloor.
✓	✓	The stormwater intercepting system shall be effective to collect of runoff and remove suspended solids before discharge.
✓	✓	The material shall be properly covered to prevent washed away especially before rainstorm.
✓	✓	The temporary slope surfaces, especially those facing to the north of the site shall be covered with impermeable sheet or sprayed with water or protected by other method approved by CEDD.
✓	✓	Final slope surfaces, especially those facing to the north of the site shall be treated by compaction, followed by hydroseeding, vegetation planting or sealing with shotcrete, latex, vinyl, bitumen, or other suitable surface stabilizer approved by CEDD.
✓	✓	Existing and newly constructed Catchpits, sand and silt removal facilities and intercepting channels shall be maintained, and the deposited silt and grit shall be removed weekly and on a need basis especially at the onset of and after each rainstorm to ensure that these facilities are functioning properly at all times.
✓	✓	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 hardcores 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.

C

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CEDD Contract No.: CV/2005/01
Project: Delivery of Reclamation of Material to Mainland - Tseung Kwun O Fill Bank

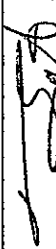

Landscape and Visual			
▪ The design of the fill bank and platform heights adopted should allow the fill bank to fit into the general topography of the surrounding land. Straight edged slopes should be avoided.	√		
▪ The maximum stockpiling height at the fill bank shall be limited to a maximum of +35.2mPD.	√		
▪ 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.	√		
Other Environmental Factors			
▪ C&D waste sorted from mixed C&D material at the C&DMSF shall be removed from the temporary buffer storage area on a daily basis and transfer to SENT landfill for disposal.	√		
▪ Plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste.	√		
▪ Any unused materials or those with remaining functional capacity should be recycled.	√		
▪ All generators, fuel and oil storage are within bundle areas.	√		
▪ Oil leakage from machinery, vehicle and plant is prevented.	√		

Summary of the Weekly Site Inspection:

Item	Details of defective works or observations	Photo Ref.	Further Action Required (Yes/No)
1	Wastewater discharge was spotted directly from broken sand trap at contractor's site office.	Photo 061206_001	Yes
2	Tarpaulin sheet should be provided for spare tires lying outside 'water truck's filling station'.	Photo 061206_002	Yes

Remark

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	Name	Signature	Date
Inspected by	H. T. Chow		06 December 2006
Checked by	Louisa Fung		06 December 2006

Photos



Photo 061206_002



Photo 061206_001

CEDD Contract No.: CV/2005/01
Project: Delivery of Reclamation of Material to Mainland - Tseung Kwan O Fill Bank

Inspection Date : 12 December 2006
Time : 10:45

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

Temperature : 24°C
Humidity : High / Moderate / Low

Environmental Checklist	Implementation Stages*			Remark
	Yes	No	N/A	
Fugitive Dust Emission				
▪ 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.	√			
Noise Impact				
▪ 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.	√			

CEDD Contract No.: CV/2005/01
Project: Delivery of Reclamation of Material to Mainland - Tseung Kwan O Fill Bank

Implementation Stages*		Remark
Water Quality		
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	The existing / realigned intercepting channels and the sand / silt removal facilities shall be used and maintained.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Temporary intercepting drains should be used at the stockpiling area to divert polluted stormwater to the intercepting channels. Earth bunds and sand bay barriers shall be used to assist the diversion of polluted stormwater to the intercepting channels.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	A buffer distance of at least 100m shall be maintained between the boundary of the public fill stockpiling area and the sea front.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	A buffer distance of at least 20m shall be maintained between the boundary of the C&DMSF and the seafront.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	The stormwater intercepting system shall be effective to collect of runoff and remove suspended solids before discharge.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	The material shall be properly covered to prevent washed away especially before rainstorm.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	The temporary slope surfaces, especially those facing to the north of the site shall be covered with impermeable sheet or sprayed with water or protected by other method approved by CEDD.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Final slope surfaces, especially those facing to the north of the site shall be treated by compaction, followed by hydroseeding, vegetation planting or sealing with shotconcrete, latex, vinyl, bitumen, or other suitable surface stabilizer approved by CEDD.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Existing and newly constructed Catchpits, sand and silt removal facilities and intercepting channels shall be maintained, and the deposited silt and grit shall be removed weekly and on a need basis especially at the onset of and after each rainstorm to ensure that these facilities are functioning properly at all times.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	A wheel washing bay shall be provided at the site exit and wash-water shall have sand and silt settled out or removed before being discharged into storm drains.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	The section of construction road between wheel washing bay and the public road shall be paved with concrete, bituminous materials or hardcore to reduce vehicle tracking of soil and to prevent site run-off from entering public road 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.


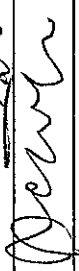
Landscape and Visual			
▪	The design of the fill bank and platform heights adopted should allow the fill bank to fit into the general topography of the surrounding land. Straight edged slopes should be avoided.	✓	
▪	The maximum stockpiling height at the fill bank shall be limited to a maximum of +35.2mPD.	✓	
▪	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.	✓	
Other Environmental Factors			
▪	C&D waste sorted from mixed C&D material at the C&DMSF shall be removed from the temporary buffer storage area on a daily basis and transfer to SENT landfill for disposal.	✓	
▪	Plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste.	✓	
▪	Any unused materials or those with remaining functional capacity should be recycled.	✓	
▪	All generators, fuel and oil storage are within bundle areas.	✓	
▪	Oil leakage from machinery, vehicle and plant is prevented.	✓	

Summary of the Weekly Site Inspection:

Item	Details of defective works or observations	Photo Ref.	Further Action Required (Yes/No)
1	Follow up action to previous item 1 on 06/12/06, direct wastewater discharge was observed spotted from broken sand trap at contractor's site office.	Photo 121206_001	Yes
2	Follow up action to previous item 2 on 06/12/06, tarpaulin sheet has been provided for spare tires lying outside 'water truck's filling station'. No further action was required.	Photo 121206_002	No
3	Silt curtain at BHA was loosen. The contractor was advised to retighten the loosen part immediately	Photo 121206_003	Yes
4	Mist sprayer at the site entrance was found not in use. Contractor was advised to keep it in proper operation all the time especially in dry seasOn.	Photo 121206_004	Yes

Remark

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Inspected by	Name	Signature	Date
	H. T. Chow		12 December 2006
Checked by	Louisa Fung		12 December 2006

Photos



Photo 12 1206_001



Photo 121206_002

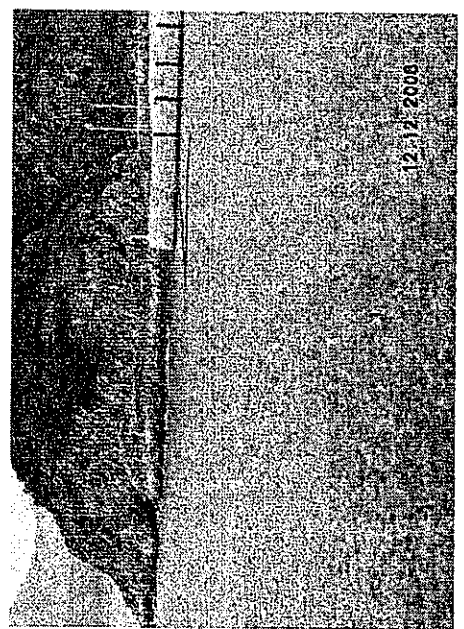


Photo121206_003

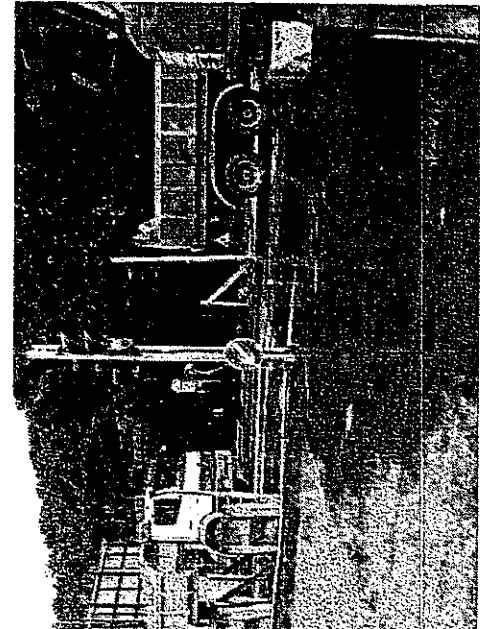


Photo121206_004

CEDD Contract No.: CV2005/01
Project: Delivery of Reclamation of Material to Mainland - Tseung Kwun O Fill Bank

Inspection Date : 18 December 2006
Time : 10:00
Weather : Sunny / Fine / Cloudy / Overcast / Drizzle / Rain / Storm / Hazy
Wind : Calm / Light / Breeze / Strong
Inspected by : Gary TSE (Contractor)
HT CHOW (ET)
Temperature : 14°C
Humidity : High / Moderate / Low

Environmental Checklist	Implementation Stages*		Remark
	Yes	No / N/A	
Fugitive Dust Emission			
▪ Dust control / mitigation measures shall be provided to prevent dust nuisance.	✓		
▪ A buffer zone of at least 100m shall be maintained between the edge of the stockpiling area and the nearest ASRs at the TKO Industrial Estate. Within the buffer zone, no dusty material shall be stockpiled and no loading / unloading and similar activities should be allowed.	✓		
▪ Water sprays shall be provided and used to dampen materials.	✓		
▪ Regular cleaning and watering the site shall be provided to minimize the fugitive dust emissions.	✓		
▪ All vehicles shall be restrict to a maximum speed of 10 km per hour.	✓		
▪ Any vehicle with open load carrying area used for moving materials which has the potential to create dust shall have properly fitting side and tail boards. Material having the potential to create dust shall not be loaded to a level higher than the side and tail boards, and shall be covered by a clean tarpaulin.	✓		
▪ The designated site main haul 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.	✓		
Noise Impact			
▪ 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.	✓		

CEDD Contract No.: CV/2005/01
Project: Delivery of Reclamation of Material to Mainland - Tseung Kwun O Fill Bank

Implementation Stages*		Remark
Water Quality		
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	The existing / realigned intercepting channels and the sand / silt removal facilities shall be used and maintained.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Temporary intercepting drains should be used at the stockpiling area to divert polluted stormwater to the intercepting channels. Earth bunds and sand bay barriers shall be used to assist the diversion of polluted stormwater to the intercepting channels.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	A buffer distance of at least 100m shall be maintained between the boundary of the public fill stockpiling area and the sea front.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	A buffer distance of at least 20m shall be maintained between the boundary of the C&DMSF and the seafront.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	The stormwater intercepting system shall be effective to collect of runoff and remove suspended solids before discharge.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	The material shall be properly covered to prevent washed away especially before rainstorm.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	The temporary slope surfaces, especially those facing to the north of the site shall be covered with impermeable sheet or sprayed with water or protected by other method approved by CEDD.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Final slope surfaces, especially those facing to the north of the site shall be treated by compaction, followed by hydroseeding, vegetation planting or sealing with shotconcrete, latex, vinyl, bitumen, or other suitable surface stabilizer approved by CEDD.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Existing and newly constructed Catchpits, sand and silt removal facilities and intercepting channels shall be maintained, and the deposited silt and grit shall be removed weekly and on a need basis especially at the onset of and after each rainstorm to ensure that these facilities are functioning properly at all times.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	A wheel washing bay shall be provided at the site exit and wash-water shall have sand and silt settled out or removed before being discharged into storm drains.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	The section of construction road between wheel washing bay and the public road shall be paved with concrete, bituminous materials or hardcore to reduce vehicle tracking of soil and to prevent site run-off from entering public road 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 1.66. 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.


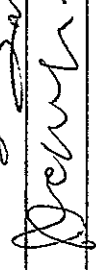
Landscape and Visual			
<ul style="list-style-type: none"> ▪ The design of the fill bank and platform heights adopted should allow the fill bank to fit into the general topography of the surrounding land. Straight edged slopes should be avoided. 	√		
<ul style="list-style-type: none"> ▪ The maximum stockpiling height at the fill bank shall be limited to a maximum of +35.2mPD. 	√		
<ul style="list-style-type: none"> ▪ 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. 	√		
<ul style="list-style-type: none"> ▪ 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. 	√		
Other Environmental Factors			
<ul style="list-style-type: none"> ▪ 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. 	√		
<ul style="list-style-type: none"> ▪ Plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste. 	√		
<ul style="list-style-type: none"> ▪ Any unused materials or those with remaining functional capacity should be recycled. 	√		
<ul style="list-style-type: none"> ▪ All generators, fuel and oil storage are within bundle areas. 	√		
<ul style="list-style-type: none"> ▪ 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	20 L oil drum was spotted sitting outside water truck filling station.	Photo 181206_001	Yes
2	Water pond was marked sitting next to the pier.	Photo 181206_002	Yes
3	Follow up action to the previous item 3 on 12/12/06, silt curtain was still found to be loosened. Contractor was reminded to retighten the silt curtain in place as soon as possible.	Photo 181206_003	Yes
4	Follow up action to the previous item 4 on 12/12/06, mist sprayer was still found not in use. Contractor was advised to keep it in proper operation all the time.	Photo 181206_004	Yes
5	Follow up action to the previous item 1 on 06/12/06 and item 1 on 12/12/06, broken sand trap was still unfixed. Contractor was reminded to seal up all burst immediately and maintain the sand trap function properly all the time.	Photo 181206_005	Yes

Remark

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	Name	Signature	Date
Inspected by	H. T. Chow		18 December 2006
Checked by	Louisa Fung		18 December 2006

Photos

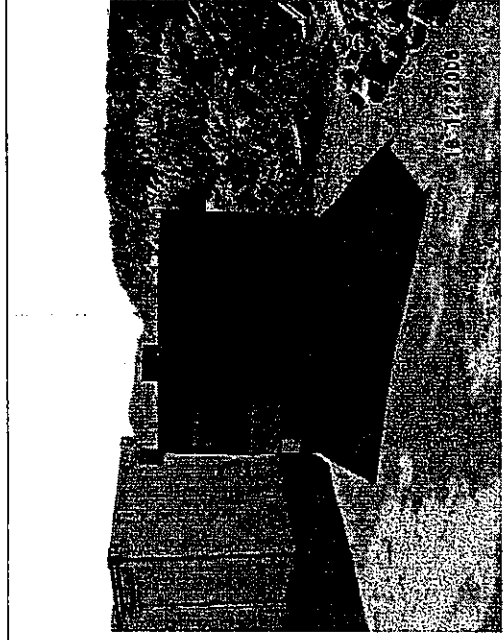


Photo 181206_001



Photo 181206_002

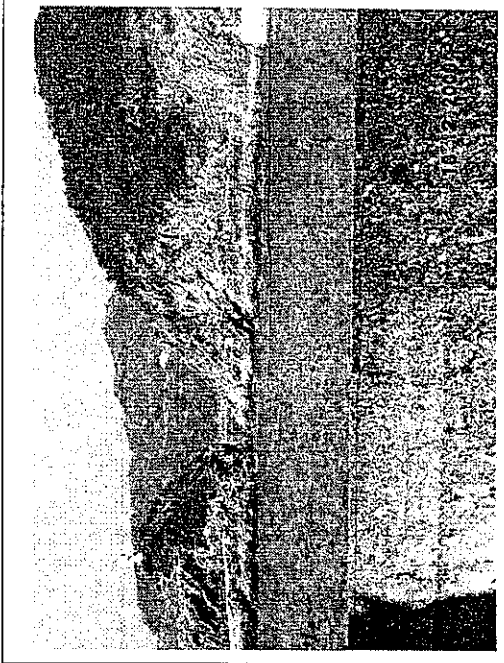


Photo181206_003



Photo181206_004

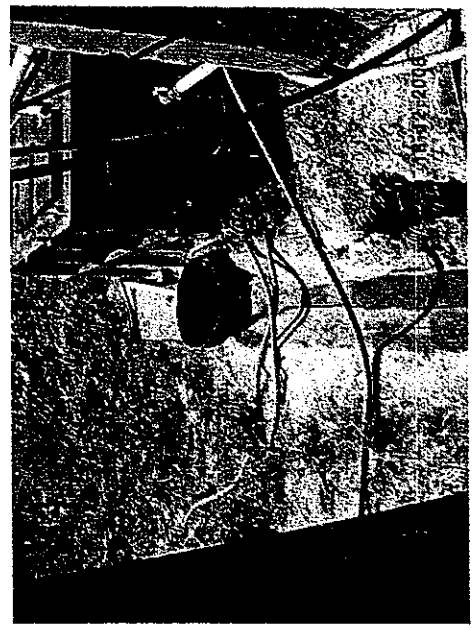


Photo 181206_005

CEDD Contract No.: CV/2005/01
 Project: Delivery of Reclamation of Material to Mainland - Tseung Kwun O Fill Bank

Inspection Date : 29 December 2006
 Time : 14:30
 Weather : Sunny / Fine / Cloudy / Overcast / Drizzle / Rain / Storm / Hazy
 Wind : Calm / Light / Breeze / Strong
 Inspected by : Gary TSE (Contractor)
 HT CHOW (ET)
 Temperature : 17°C
 Humidity : High / Moderate / Low

Environmental Checklist	Implementation Stages*			Remark
	Yes	No	N/A	
Fugitive Dust Emission				
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.	√			Item 3
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.	√			Item 3
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.	√			
Noise Impact				
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 sited away from NSRs.	√			

		Implementation Stages*			Remark
Water Quality					
	▪ 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 shotcrete, latex, vinyl, bitumen, or other suitable surface stabilizer approved by CEDD.	√			
	▪ Existing and newly constructed Catchpits, sand and silt removal facilities and intercepting channels shall be maintained, and the deposited silt and grit shall be removed weekly and on a need basis especially at the onset of and after each rainstorm to ensure that these facilities are functioning properly at all times.	√			
	▪ 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.				√


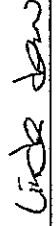
Landscape and Visual			
▪ The design of the fill bank and platform heights adopted should allow the fill bank to fit into the general topography of the surrounding land. Straight edged slopes should be avoided.	√		
▪ The maximum stockpiling height at the fill bank shall be limited to a maximum of +35.2mPD.	√		
▪ 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.	√		
Other Environmental Factors			
▪ C&D waste sorted from mixed C&D material at the C&DMSF shall be removed from the temporary buffer storage area on a daily basis and transfer to SENT landfill for disposal.	√		
▪ Plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste.	√		
▪ Any unused materials or those with remaining functional capacity should be recycled.	√		
▪ All generators, fuel and oil storage are within bundle areas.	√		
▪ Oil leakage from machinery, vehicle and plant is prevented.	√		

Summary of the Weekly Site Inspection:

Item	Details of defective works or observations	Photo Ref.	Further Action Required (Yes/No)
1	Follow up action to previous item 2 (18/12/06), the ground next to the pier was backfilled by materials.	291206_001	No
2	The unpaved area at Portion I was found dry. The Contractor was reminded to water the unpaved area regularly to avoid dust generation.	291206_002	Yes
3	Follow up action to previous item 3 (18/12/06), the silt curtain at BHA was observed to be tight in buoy.	291206_003	No
4	The tipping hall at BHA was found partly damaged. The Contractor was recommended to repair immediately.	291206_004	Yes
5	Follow up action to previous item 1(18/12/06), 20L oil drum at Workshop was relocated to chemical waste storage area.	291206_005	No
6	Some plastic buckets were found on the ground at Workshop without drip tray. The Contractor was reminded to place them in an appropriate area.	291206_006	Yes
7	Follow up action to previous site inspection item 5 (18/12/06), the sand trap next to the CEDD site office was repaired.	291206_007	No

Remark

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	Name	Signature	Date
Inspected by	H. T. Chow		03 January 2007
Checked by	Linda Law		03 January 2007

Photos

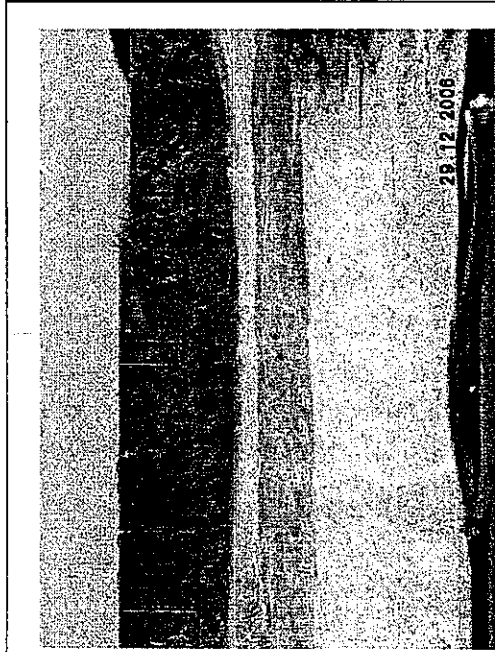


Photo 291206_001

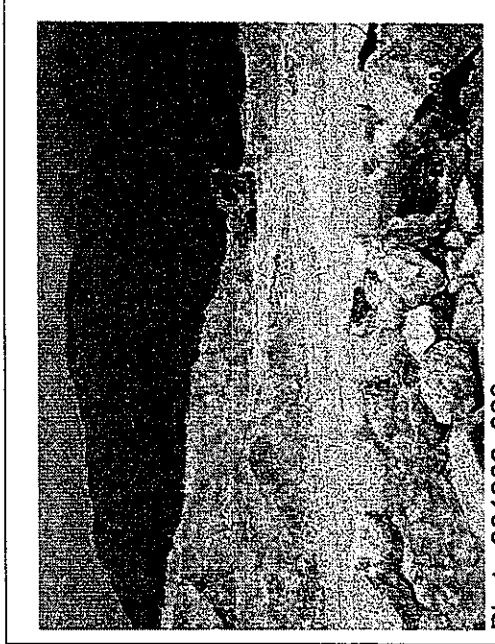


Photo 291206_002

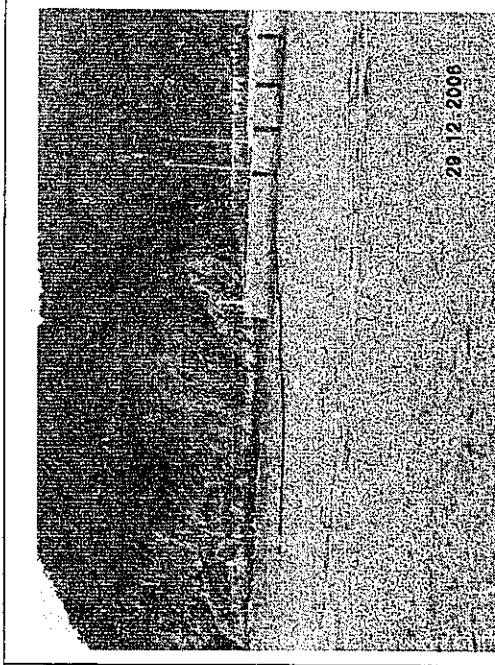


Photo 291206_003

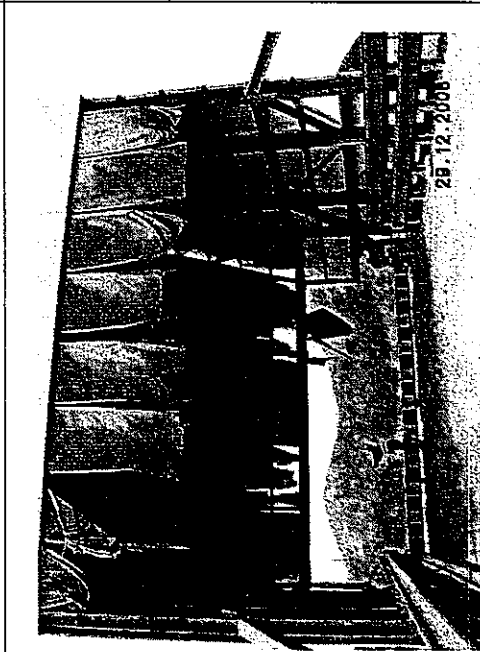


Photo 291206_004

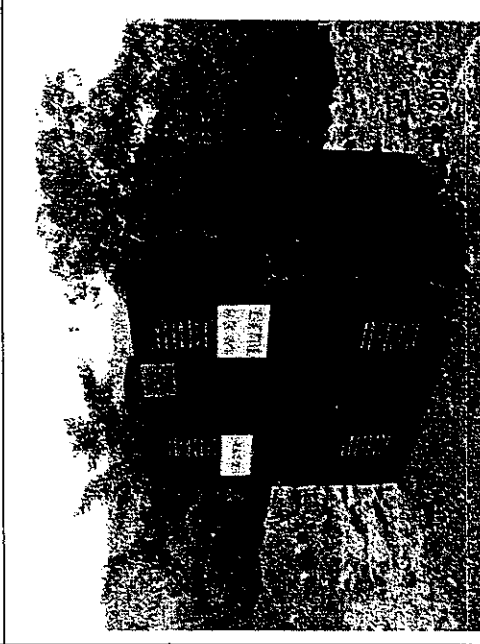


Photo 291206_005

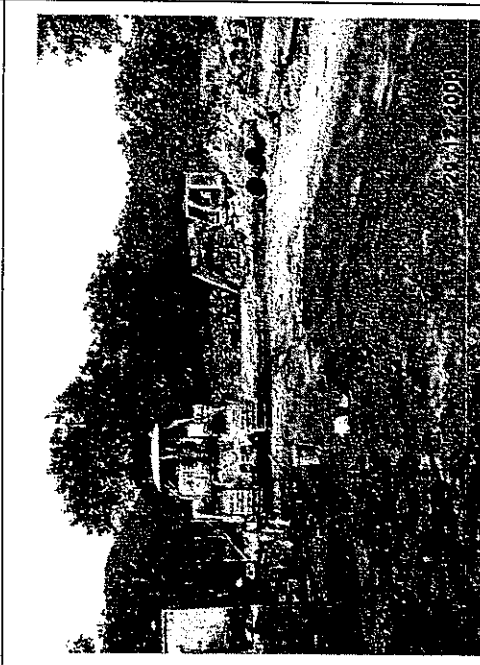
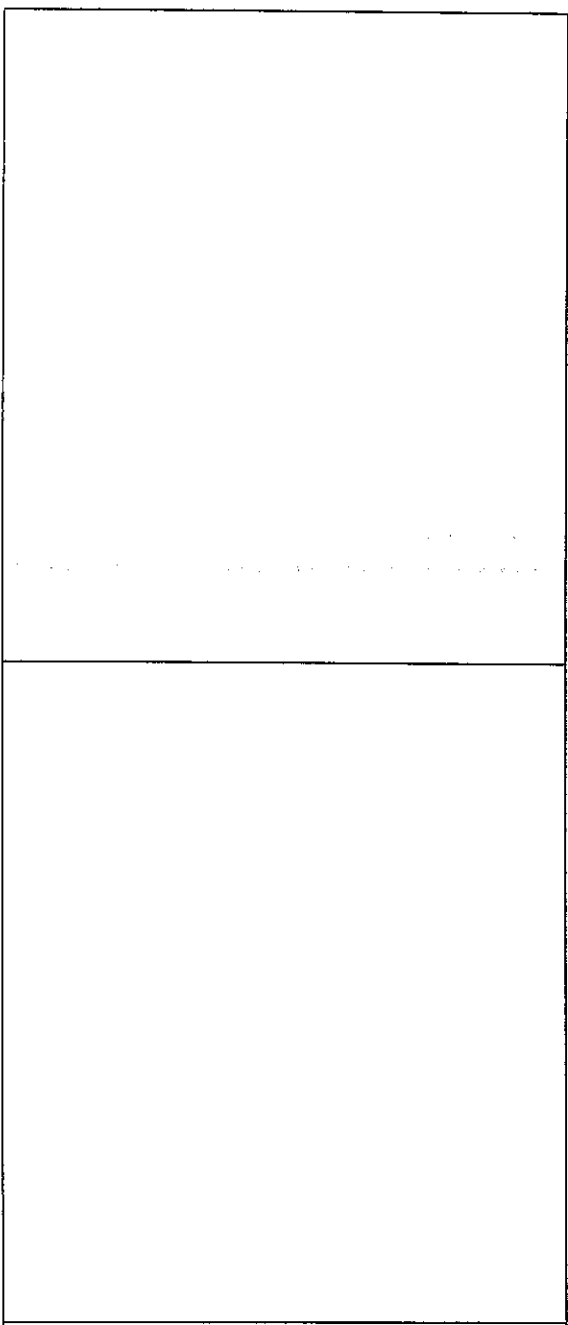
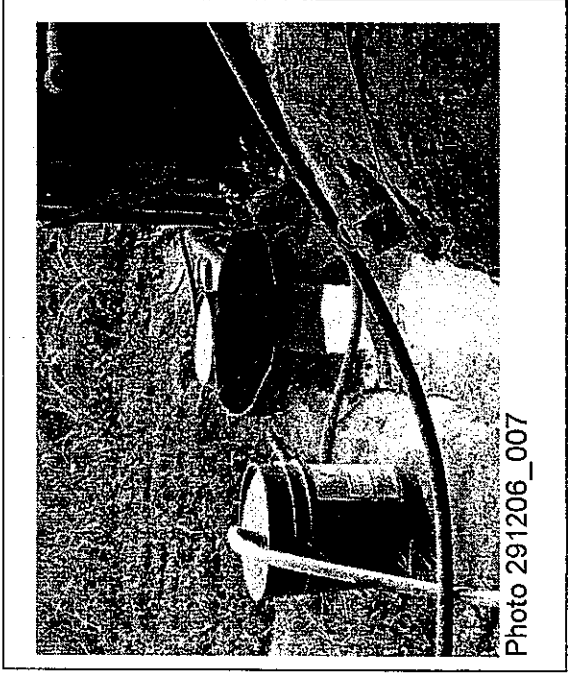


Photo 291206_006

Photos





Appendix J

Implementation Schedule of Mitigation Measures



Appendix K

Site General Layout plan

- NOTES**
1. ALL DIMENSIONS REFER TO CENTERLINE UNLESS OTHERWISE NOTED.
 2. ALL DIMENSIONS REFER TO CENTERLINE UNLESS OTHERWISE NOTED.
 3. ALL DIMENSIONS REFER TO CENTERLINE UNLESS OTHERWISE NOTED.
 4. ALL DIMENSIONS REFER TO CENTERLINE UNLESS OTHERWISE NOTED.
 5. ALL DIMENSIONS REFER TO CENTERLINE UNLESS OTHERWISE NOTED.
 6. ALL DIMENSIONS REFER TO CENTERLINE UNLESS OTHERWISE NOTED.
 7. ALL DIMENSIONS REFER TO CENTERLINE UNLESS OTHERWISE NOTED.
 8. ALL DIMENSIONS REFER TO CENTERLINE UNLESS OTHERWISE NOTED.
 9. ALL DIMENSIONS REFER TO CENTERLINE UNLESS OTHERWISE NOTED.
 10. ALL DIMENSIONS REFER TO CENTERLINE UNLESS OTHERWISE NOTED.

- LEGEND**
- EXISTING BOUNDARY
 - EXISTING BOUNDARY WITH 10% SLOPE
 - EXISTING BOUNDARY WITH 5% SLOPE
 - EXISTING BOUNDARY WITH 2% SLOPE
 - EXISTING BOUNDARY WITH 1% SLOPE
 - EXISTING BOUNDARY WITH 0% SLOPE
 - EXISTING BOUNDARY WITH 10% SLOPE
 - EXISTING BOUNDARY WITH 5% SLOPE
 - EXISTING BOUNDARY WITH 2% SLOPE
 - EXISTING BOUNDARY WITH 1% SLOPE
 - EXISTING BOUNDARY WITH 0% SLOPE

- KEY PLAN**
- SCALE 1:10,000
-

Contractor No.
CV/2005/01

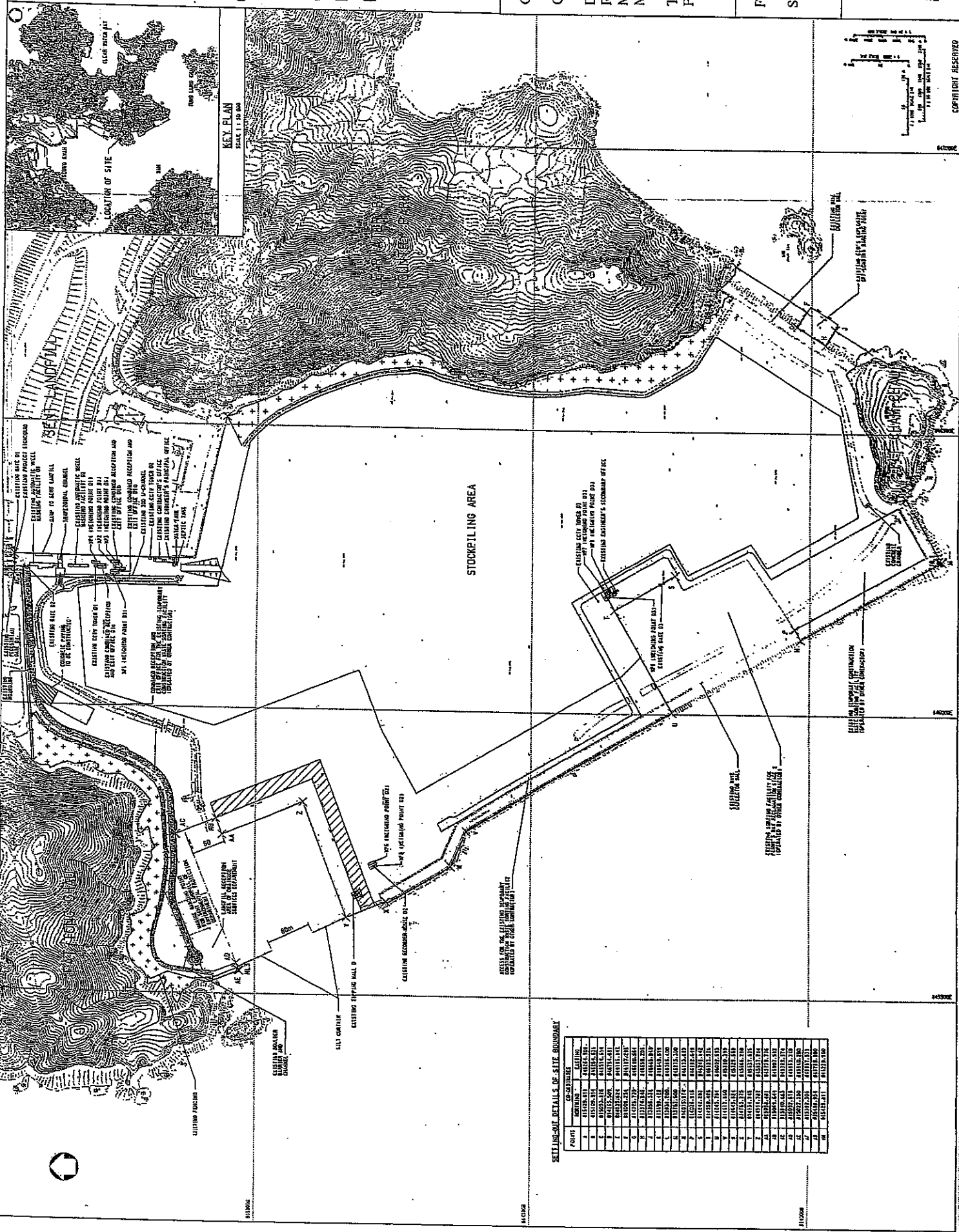
Delivery of Reclamation Material to Mainland

Tseung Kwan O Fill Bank

Figure A
Site Layout Plan



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ETB-1651 (2004/05)



SETTLING-SITE DETAILS OF SITE BOUNDARY

POINTS	COORDINATES	STATUS
1	115109.411	EXISTING
2	115109.411	EXISTING
3	115109.411	EXISTING
4	115109.411	EXISTING
5	115109.411	EXISTING
6	115109.411	EXISTING
7	115109.411	EXISTING
8	115109.411	EXISTING
9	115109.411	EXISTING
10	115109.411	EXISTING
11	115109.411	EXISTING
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22	115109.411	EXISTING
23	115109.411	EXISTING
24	115109.411	EXISTING
25	115109.411	EXISTING
26	115109.411	EXISTING
27	115109.411	EXISTING
28	115109.411	EXISTING
29	115109.411	EXISTING
30	115109.411	EXISTING

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ETB-1651 (2004/05)



Appendix M

Monitoring Schedule for the Coming Month



CEDD Contract No. CV/2005/01
Delivery of Reclamation of Material to Mainland – Environmental
Monitoring and Audit

Tseung Kwan O Area137

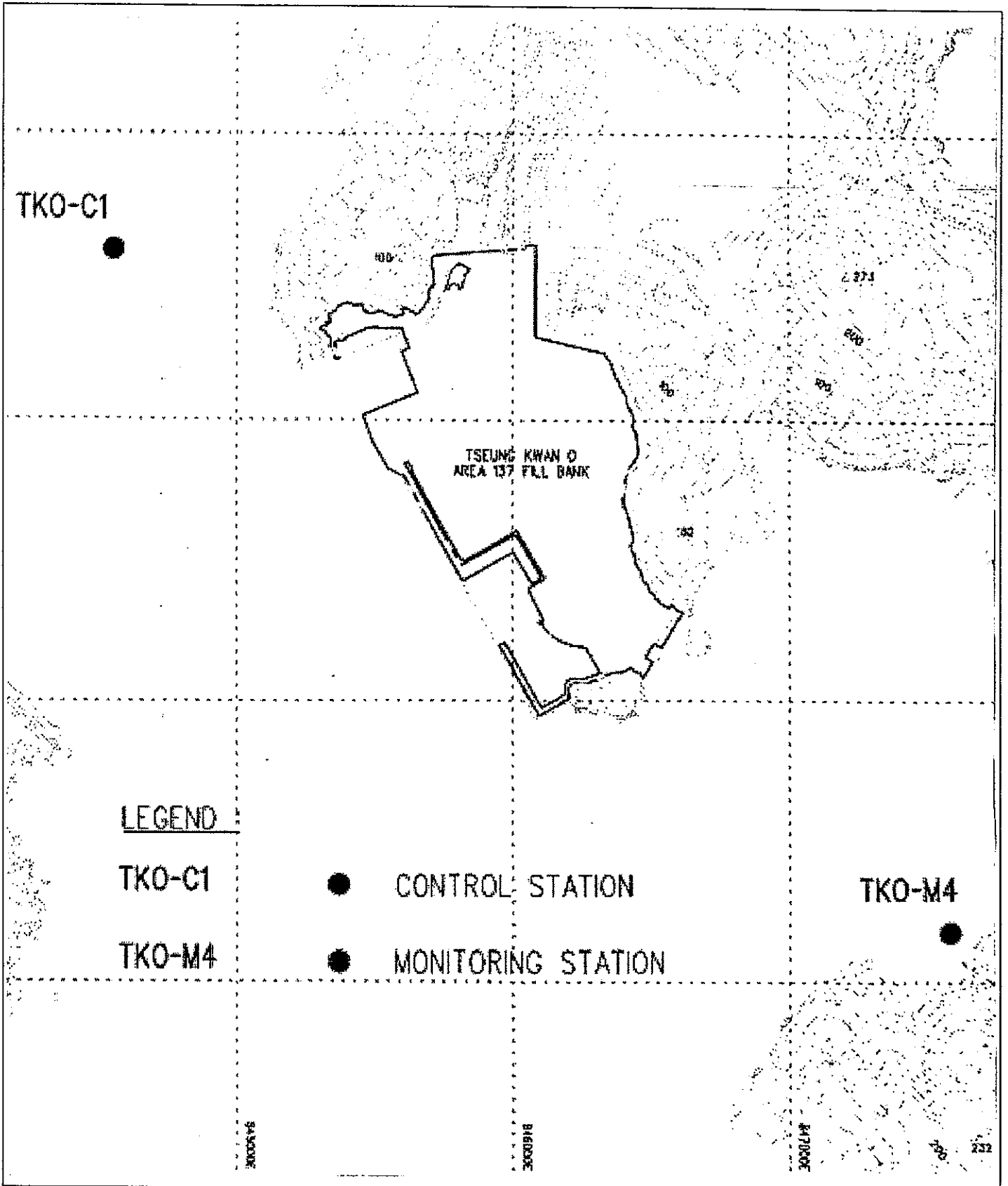
**Time Schedule for Water Quality Impact Monitoring (WQM), Impact Noise Monitoring (NM),
Impact Air Monitoring (1-hr TSP & 24-hr TSP) and Weekly Site Inspection (Weekly SI)**

January 2007

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1 Public Holiday	2	3 WQM Mid-ebb (11:00-12:00) Mid-flood (15:45-16:45)	4 Weekly SI 1-24 hr TSP NM	5 1-hr TSP WQM Mid-flood (07:30-08:30) Mid-ebb (12:15-13:15)	6
7	8 1-hr TSP WQM Mid-flood (09:00-10:00) Mid-ebb (14:15-15:15)	9	10 Weekly SI 1-24 hr TSP WQM Mid-flood (10:15-11:15) Mid-ebb (15:45-16:45)	11	12 1-hr TSP WQM Mid-ebb (06:00-07:00) Mid-flood (11:15-12:15)	13
14	15 1-hr TSP WQM Mid-flood (08:45-09:45) Mid-ebb (17:00-18:00)	16 Weekly SI 1-24 hr TSP	17 1-hr TSP WQM Mid-ebb (10:00-11:00) Mid-flood (14:30-15:30)	18	19 1-hr TSP WQM Mid-ebb (11:30-12:30) Mid-flood (16:15-17:15)	20
21	22 Weekly SI 1-24 hr TSP WQM Mid-flood (08:00-09:00) Mid-ebb (13:45-14:45)	23	24 1-hr TSP WQM Mid-flood (09:15-10:15) Mid-ebb (15:15-16:15)	25	26 1-hr TSP WQM Mid-flood (10:45-11:45) Mid-ebb (17:30-18:30)	27 1-24hr TSP
28	29 1-hr TSP WQM Mid-flood (08:45-09:45) Mid-ebb (18:30-19:30)	30	31 1-hr TSP WQM Mid-ebb (10:15-11:15) Mid-flood (15:00-16:00)			



Figures



Contract No. CV/2005/01

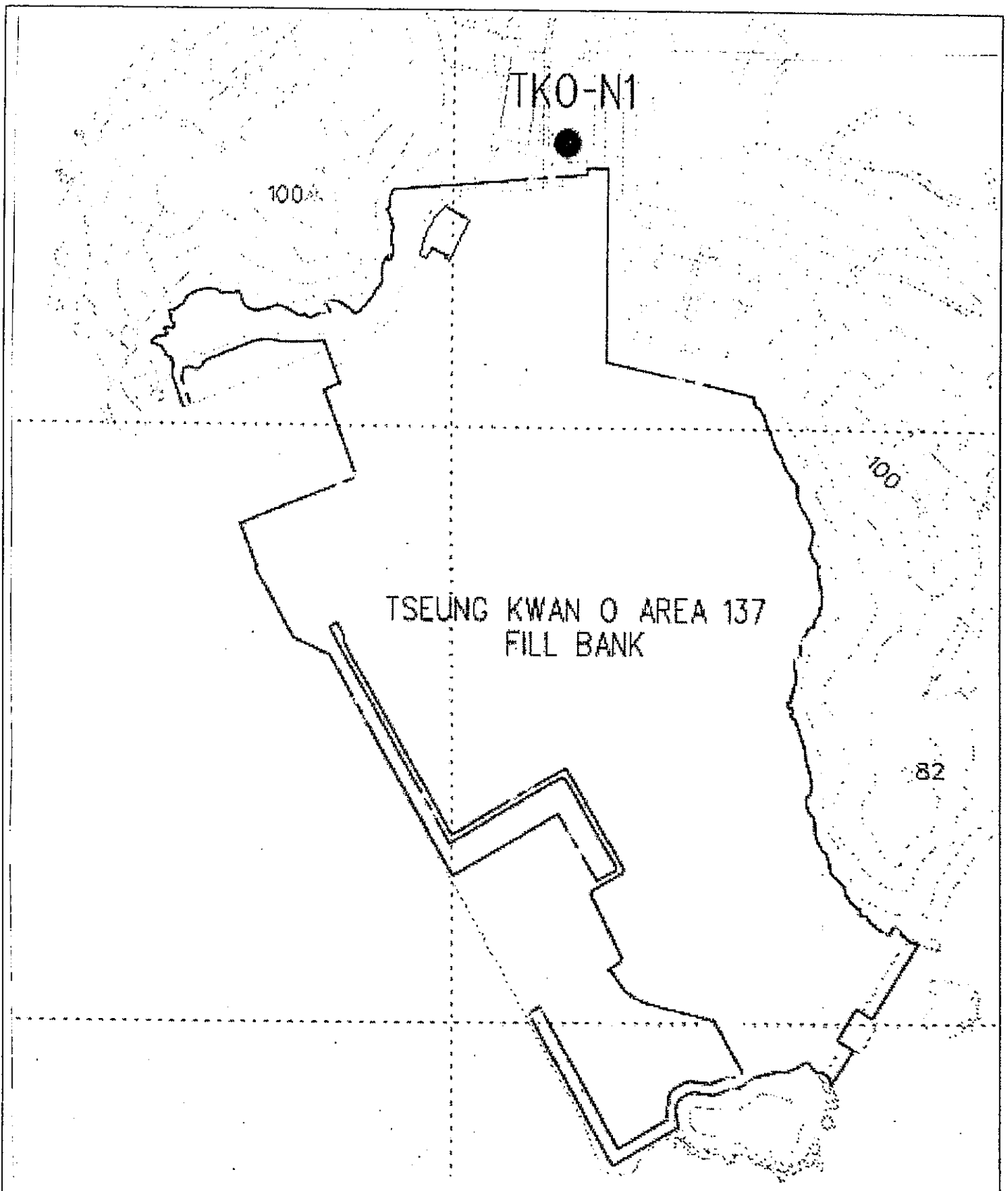
Delivery of Reclamation Material to Mainland – Tseung Kwan O Fill Bank

Figure 1

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



東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED



Contract No. CV/2005/01

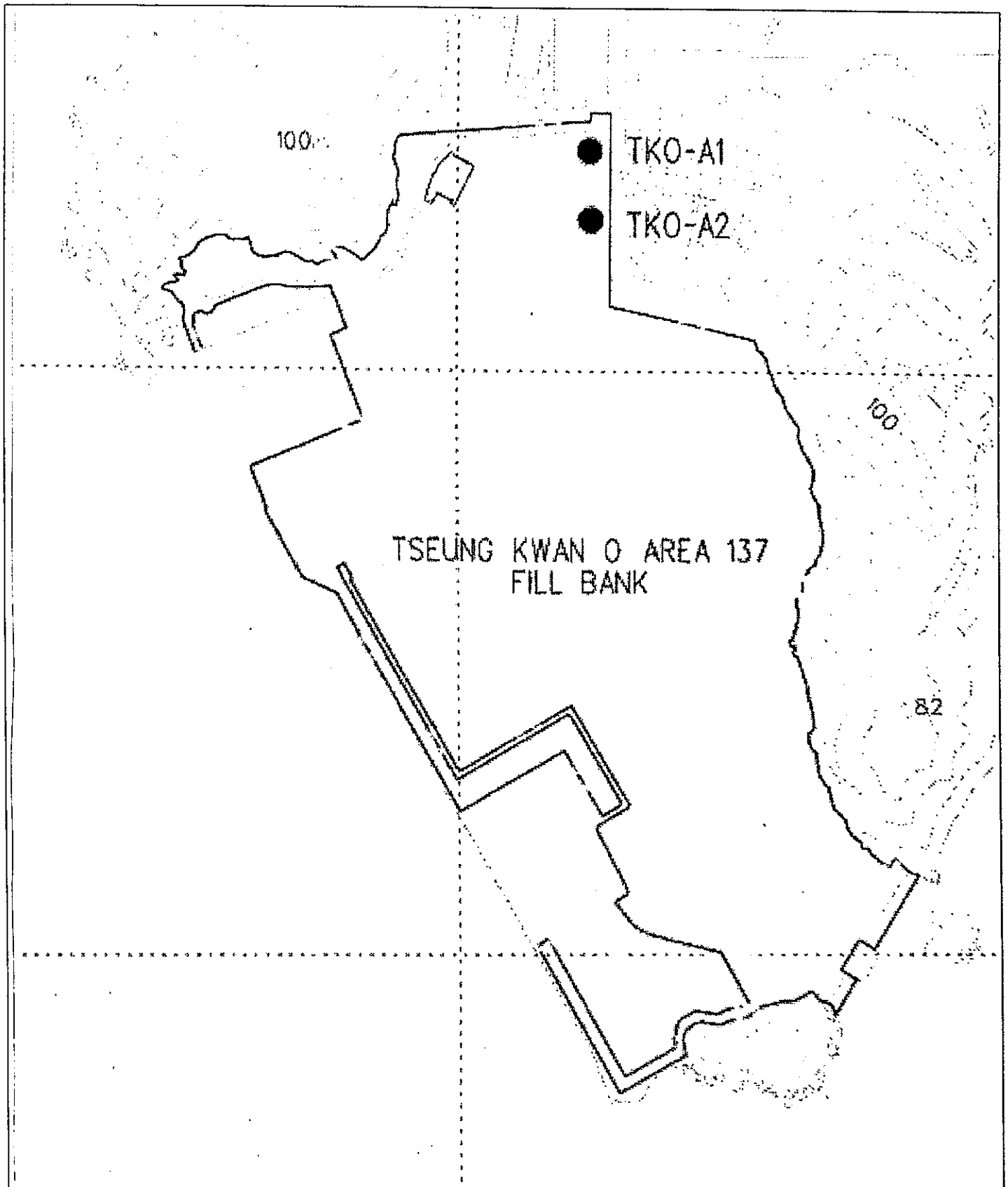
Delivery of Reclamation Material to Mainland – Tseung Kwan O Fill Bank

Figure 2

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



東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED



Contract No. CV/2005/01
 Delivery of Reclamation Material to Mainland – Tseung Kwan O Fill Bank

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



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