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TEST REPORT

China Harbour – China State Joint Venture

CONTRACT NO. CV/2009/02

HANDLING OF SURPLUS PUBLIC FILL

TSEUNG KWAN O AREA 137 FILL BANK

MONTHLY EM&A REPORT NO.2

(JANUARY 2010)

Prepared by:

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Checked and Approved by:

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Environmental Team Leader

Issue Date: 11 February 2010 *Report No.: ENA00107*

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ENVIRON

Ref.: CEDPFRSFEM00_0_0020L.10

22 February 2010

ETS-Testconsult Limited
8/F, Block B
Veristrong Industrial Centre
34-36 Au Pui Wan Street
Fo Tan, Hong Kong

By Post and Fax No.: 2695 3944

Attention: Mr. C. L. Lau

Dear Mr. Lau,

Re: Contract No. CV/2009/02
Handling of Surplus Public Fill – Tseung Kwan O Area 137 Fill Bank
Monthly EM&A Report No. 2 for January 2010

Reference is made to your submission of the draft Monthly EM&A Report for January 2010 for the captioned by E-mail on 12 February 2010, and the revised report by E-mail on 20 February 2010.

We are pleased to inform you that we have no further comments on the revised report received through E-mail on 20 February 2010.

Thank you very much for your attention and please do not hesitate to contact our Simon Lam or the undersigned should you have any queries.

Yours faithfully,

Tony Cheng
Independent Environmental Checker

c.c.	CEDD	Attn: Mr. C. H. So	Fax No.: 2714 0113
	CHCSJV	Attn: Mr. Albus Cheung	Fax No.: 2247 4108

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EXECUTIVE SUMMARY

This monthly Environmental Monitoring and Audit (EM&A) report No.2 was prepared by ETS-Testconsult Ltd (ET) for the "Contract No: CV/2009/02 – Handling of Surplus Public Fill – 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 January 2010.

Site Activities

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

- *Removal & delivery of public fill stockpiled material to Mainland*
- *Operation of the road water lorries and the road sweeper*
- *Maintenance of haul road within fill bank area*
- *Delivery of public fill received at the Chai Wan Public Fill Barging Point to TKO fill bank*
- *Operation of the tipping hall (A1, A2 & A3)*
- *Operation at the queuing area for public truck lorries*

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:

Concerned Parties	*Dates of Audit / Inspection*
ET Weekly site inspection	*06, 13, 20 and 27*
IEC site inspection	*20 and 27*

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

Environmental Complaints, Notification of summons and successful prosecutions

No complaints, notification of 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 – China State Joint Venture (CHCSJV) appointed Environmental Team (ET) of ETS-Testconsult Limited (ETL) to undertake the Environmental Monitoring and Audit (EM&A) for the "Contract No: CV/2009/02 –Handling of Surplus Public Fill – Tseung Kwan O Area 137 Fill Bank" (The Project).

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

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

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

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

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

This report documented the findings of EM&A Works conducted during the operation phase of Fill Bank at Tseung Kwan O Area 137 in January 2010.

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 m^3 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. P Y LU,* *Mr. Lawrence NG,* *Mr. Thomas WONG* *Mr. C H SO*	*Engineer's Representative*	*2760 5835*	*2714 0113*
*IEC (Materialab) **	*Mr Joseph POON*	*IEC*	*2450 8238*	*2450 6138*
*IEC (Environ) **	*Mr Tony Cheng*	*IEC*	*3743 0722*	*3548 6988*
Contractor (CHCSJV)	*Mr. Wah Fung Lok*	*Contractor's Agent*	*9772 7055*	*2243 4089*
ET (ETL)	*Mr C. L. Lau*	*ET Leader*	*2946 7791*	*2695 3944*

Remark (*): Materialab was being as IEC of this Project until 31 January 2010 and was replaced by Environ from 01 February 2010.

3.0 CONSTRUCTION PROGRESS IN THIS REPORTING MONTH

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

- *Removal & delivery of public fill stockpiled material to Mainland*
- *Operation of the road water lorries and the road sweeper*
- *Maintenance of haul road within fill bank area*
- *Delivery of public fill received at the Chai Wan Public Fill Barging Point to TKO fill bank*
- *Operation of the tipping hall (A1, A2 & A3)*
- *Operation at the queuing area for public truck lorries*

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

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*

4.5 Monitoring Methodology

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

Instrumentation

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

Installation

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

Operation/Analytical Procedures

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

- Prior to the commencement of the dust sampling, the flow rate of the high volume sampler was properly set (between 0.6m^3/min and 1.7m^3/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 recoded.

- Before weighting, all filters were equilibrated in a desiccator for 24 hour with the temperature of 25°C ± 3°C and the relative humidity (RH) <50% ±5%.
- All measurement procedures in Section 2.3 of the EM&A Manual were followed during the reporting month.

Maintenance & Calibration

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

Table 4.4 Action and Limit Levels for 24-hr TSP and 1-hr TSP

Monitoring Location	*24-hr TSP (μg/m³)*		*1-hr TSP (μg/m³)*	
	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

Monitoring data of both 1-hour and 24-hour TSP monitoring carried out in this reporting month are summarized 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 4.5 summarizes 1-hr TSP and 24-hr TSP monitoring results.

Table 4.5 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 ($\mu g/m^3$)	Exceedance #	Date	Start Time	Result ($\mu g/m^3$)	Exceedance #
TKO-A1	Outside CEDD Site 2ffice	06/01/10	148	X	02/01/10	13:00	293	X
					04/01/10	10:20	320	X
					06/01/10	09:00	246	X
		12/01/10	169	X	08/01/10	09:00	269	X
					11/01/10	09:00	229	X
					12/01/10	09:00	269	X
		18/01/10	143	X	13/01/10	13:50	288	X
					15/01/10	09:30	261	X
					18/01/10	11:00	239	X
		23/01/10	137	X	20/01/10	09:00	286	X
					22/01/10	14:10	261	X
					23/01/10	09:00	262	X
		29/01/10	136	X	25/01/10	09:15	270	X
					27/01/10	08:40	294	X
					29/01/10	11:00	258	X
TKO-A2	Site Egress	06/01/10	146	X	02/01/10	13:00	265	X
					04/01/10	10:28	357	X
					06/01/10	09:00	252	X
		12/01/10	159	X	08/01/10	09:05	289	X
					11/01/10	09:00	255	X
					12/01/10	09:00	281	X
		18/01/10	140	X	13/01/10	14:00	271	X
					15/01/10	09:35	281	X
					18/01/10	11:05	271	X
		23/01/10	132	X	20/01/10	09:00	269	X
					22/01/10	14:22	291	X
					23/01/10	09:00	285	X
		29/01/10	133	X	25/01/10	09:20	278	X
					27/01/10	08:54	295	X
					29/01/10	10:45	288	X

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

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

4.8.2 Observation

Generally, the Contractor implemented sufficient dust mitigation measures, including operation of the mist spraying systems at the CEDD Combined Reception Office and the site egress area, wheel washing facilities, road dampening by water bowsers and automatic water sprinklers on the main haul roads. Furthermore, 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 (Lx). 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	*Castle GA607 Acoustic Calibrator*
Portable Wind Speed Indicator	*TSI Model 8340-M Air Velocity Meter*

5.3 Monitoring Parameters, Duration and Frequency

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

Table 5.2 Duration, Frequencies and Parameters of Noise Monitoring

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

5.4 Monitoring Locations

One Noise monitoring was conducted at the noise monitoring location, TKO-N1 as shown in Figure 2 during the reporting month. Table 5.3 describes the location of the monitoring station.

Table 5.3 Noise Monitoring Locations

Monitoring station	*Location*	*Type of Measurement*
TKO-N1	*Outside site Egress along Wan Po Road*	*Free Field*

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 Leq, L10 and L90 were recorded. In addition, site conditions and noise sources were recorded on a standard record sheet.
- Free Field correction to the measurements should be made. Correction factor of +3dB(A) should be made to the free Field measurements.
- Noise monitoring would be cancelled in the presence of fog, rain, wind with a steady speed exceeding 5m/s, or wind gusts exceeding 10m/s.

Maintenance and Calibration

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

5.6 Action and Limit Levels

The Action and Limit levels for noise levels derived as illustrated in Table 5.4.

Table 5.4 Action and Limit Levels for noise monitoring

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

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}
08/01/10	*15:00*	*63.1*	*66.2*	*60.7*

Since no documented complaints on noise issue were received in this reporting month, no Action Level exceedances were recorded. 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 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 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 Locations 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

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

6.4 Monitoring Frequency

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

Table 6.3 Monitoring frequency of the marine water

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

6.5 Monitoring Methodology and Equipment Used

For Location of the monitoring stations

Global Positing 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, Salinity and Temperature Measuring Equipment
A portable, weatherproof dissolved oxygen & salinity measuring instrument, which complete with cable, sensor and DC power source (e.g. YSI 85 or equivalent) was used for measuring:

- a dissolved oxygen level in the range of 0-20 mg/L and 0-200 % saturation;
- a salinity in range 0-40 ppt; and
- a temperature of 0-45 degree Celsius

A membrane electrode with automatic temperature compensation complete with a cable was installed.

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.

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 methodbased on APHA 19th 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*	-----	-----	*ET/EW/005/01**
Dissolved Oxygen (Saturation), Temperature, Salinity	*YSI Dissolved Oxygen, Salinity & Temperature Meter, YSI 85*	*26/11/09*	*25/02/10*	*ET/EW/008/002**
Turbidity	*HACH Model 2100P Turbid Meter*	*09/11/09*	*08/02/10*	*ET/0505/006*
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)	*Surface & Middle* *<5.45 mg/L (5%-ile of baseline data)* *Bottom* *<4.72 mg/L (5%-ile of baseline data)*	*Surface & Middle* *<5.10 mg/L (1%-ile of baseline data)* *Bottom* *<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 Impact Marine Water Quality Monitoring

January 2010						
Sunday	*Monday*	*Tuesday*	*Wednesday*	*Thursday*	*Friday*	*Saturday*
					1 Holiday	*2*
3	*4* ▼	*5*	*6* ▼	*7*	*8* ▼	*9*
10	*11* ▼	*12*	*13* ▼	*14*	*15* ▼	*16*
17	*18* ▼	*19*	*20* ▼	*21*	*22* ▼	*23*
24 / 31	*25* ▼	*26*	*27* ▼	*28*	*29* ▼	*30*

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 Impact 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 two independent site audits of the Contract CV/2009/02 site (TKO Area 137 Fill Bank).

7.1.2 Findings of the site audit 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 IEC Site Audits in this reporting month

Date of Audit	Work Period	Site Audit Checklist Submitted Under IEC's Ref No.
20 January 2010	Operation of TKO Area 137 Fill Bank	MCLF 2640
27 January 2010		MCLF 2658

7.1.3 The major findings recorded during the site audit 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 this reporting month

Date	Key Findings	Action Taken recommended by IEC	Rectification Status by IEC
20 January 2010	The metal boards of Tipping Hall No.2 were damaged. (New item)	To repair the damaged part as soon as possible.	---
	Oil contaminated soil was found in Workshop Area. (New Item)	To clean the contaminated soil and dispose as chemical soil. The contractor is reminded to provided proper covering to the ground during the maintenance.	---
27 January 2010	The metal boards of Tipping Hall No.2 were damaged. (Previous item)	To repair the damaged part as soon as possible.	Outstanding
	Oil contaminated soil was found in Workshop Area. (Previous item)	To clean the contaminated soil and dispose as chemical soil. The contractor is reminded to provided proper covering to the ground during the maintenance.	Rectified

7.2 Weekly ET Site Inspections

Weekly ET site inspections were carried out by ET to monitor the timely implementation of proper environmental pollution control and mitigation measures for the Project. In this reporting month, four weekly site inspections were conducted (06, 13, 20 and 27 January 2010).

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 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;
- Unpaved haul road at stockpile area was noted to be wet and no fugitive dust was observed;
- Several automatic sprinklers served to dampen the haul roads outside the site office and on the ramp to the stockpiling area. 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;
- Tipping Hall No.2 was found damaged during the weekly site inspections on 06, 13, 20 and 27 January 2010. The Contractor was reminded to repair and maintain the tipping hall properly. Since the finding was still observed at the last weekly site inspection in this reporting month, it will be verified in the coming month;
- Water spraying system at Tipping Hall No.1 was found out of order during the weekly site inspections on 20 and 27 January 2010. The Contractor was reminded to repair and maintain the water spraying system properly. Since the finding was still observed at the last weekly site inspection in this reporting month, it will be verified in the coming month;
- 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 Reception Office;
- The dump trucks were operating below the speed limit in the Fill Bank. There were sufficient speed limit signs on site to advise the drivers;
- The fill material was usually dampened on the barge. Dust impact was minimal from the barge delivery and unloading activity at the BHA;
- Stockpile of C&D materials near workshop was noted without cover during the weekly site inspection on 06 January 2010. The Contractor was reminded to cover the stockpile by using tarpaulin sheet to avoid dust generation. During the subsequent weekly site inspection on 13 January 2010, the stockpile near workshop was collected;
- Stockpile of gravel and rock near workshop was found without cover and water during the weekly site inspection on 13 January 2010. The Contractor was reminded to water or cover the stockpile to avoid dust generation. During the next weekly site inspection on 20 January 2010, the stockpile was collected;
- No black smoke was found emitted from the Powered Mechanical Equipment (PME) in this reporting month. However, the Contractor was still reminded to maintain all PME regularly and properly in order to avoid black smoke emission; 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

- Follow up action to the outstanding finding in the previous month, the algae, mud and silt accumulated inside the nullah near the explosive storage area were noted cleaned up during the weekly site inspection on 06 January 2010;

- Follow up action to the outstanding finding in the previous month, rain water accumulated inside a drip tray of a generator at water filling station B was found cleaned up during the weekly site inspection on 20 January 2010; and
- The right-hand side of silt curtain at BHA was found loosed during the weekly site inspection on 27 January 2010. The Contractor was reminded to repair and maintain the silt curtain properly. Since the finding was observed at the last weekly site inspection in this reporting month, it will be verified in the coming month.

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 420kg chemical wastes were 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;
- The door of CWSA was found locked properly during weekly site inspections in this month; and
- Follow up action to the outstanding finding in the previous month, the drip tray at car parking area was removed and no oil leakage was noted during the weekly site inspection on 06 January 2010;
- An oil bucket was found discarded at the u-channel near fish pond during the weekly site inspection on 13 January 2010. The Contractor was reminded to collect oil bucket and store / disposed of properly. During the subsequent weekly site inspection on 20 January 2010, the oil bucket was discarded at the u-channel near fish pond was collected; and
- Oil stain was noted on the ground at workshop during the weekly site inspection on 20 January 2010. The Contractor was reminded to clean up the oil stain and treat the contaminated materials as chemical waste During the last weekly site inspection on 27 January 2010, no oil stain was noted on the ground at workshop.

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

- Follow up action to the outstanding finding in the previous month, cover was noted provided for the plastic bucket at car parking area;
- Rubbish was noted disposed of on the ground near the TVB during the weekly site inspection on 20 January 2010. The Contractor was reminded to collect and dispose of the rubbish properly. During the subsequent weekly site inspection on 27 January 2010, rubbish disposed of on the ground near the TVB was collected;
- Densely grasses were observed at the roadsides adjacent to the TVB during the weekly site inspection on 20 January 2010. The Contractor was reminded to weed out the overgrown grasses. During the next weekly site inspection on 27 January 2010, densely grasses were still observed at the roadsides adjacent to the TVB; and
- Rubbish such as used oil buckets were found discarded around the parking area during the weekly site inspection on 20 January 2010. The Contractor was reminded to collect and store / dispose the rubbish or other C&D waste properly. During the subsequent weekly site inspection on 27 January 2010, rubbish such as used oil buckets discarded around the parking area were collected.

Landfill Gas Monitoring

- Landfill gas monitoring (oxygen, carbon dioxide and methane) was carried out once per week for each site office in this reporting month;
- Equipments used in the monitoring have been calibrated for all these three parameters; and
- All the monitoring results were satisfactory.

7.3 Review of Environmental Monitoring Procedures

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

Air Quality Monitoring

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

Noise Monitoring

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

Water Quality Monitoring

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

7.4 Assessment of Environmental Monitoring Results

All monitoring results were audited against the Action and Limit levels and any exceedances would be validated.

No exceedances were recorded in water quality, air quality and noise monitoring in this 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/H*	*04/12/08*	*---*	*(Valid)* ▪ *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	*RE/D1185/ 839/2*	*29/09/08*	*31/07/12*	▪ *Wastewater arising from the wheel washing bay, Sedimentation Tank & Desilting Tank* ▪ *Wastewater arising from workshop for maintenance of site vehicles, plants and petrol interceptor.*
Chemical Waste Producer	*5123-839-C1186-05*	*04/01/07*	*---*	*Spent Lubricating oil / Spent Flammable Liquid / Spent Battery / Surplus Paint*

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

There was no complaint 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 received*	
January 2010	*Cumulative*	*January 2010*	*Cumulative*	*January 2010*	*Cumulative*
0	*0*	*0*	*0*	*0*	*0*

11.0 CONCLUSIONS AND RECOMMENDATIONS

Conclusions

Impact monitoring of air quality, noise and water quality 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 bowers;
- Erect adequate speed limit signs to advise the truck drivers of the speed limit;
- Operate mist spraying systems and automatic water sprinklers in the Fill Bank;
- Implement the dust mitigation measures for the construction activities;
- Designate proper haul roads to ensure effective water spraying; and
- Ensure all vehicles to be washed before leaving the site egress 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:

- *Removal & delivery of public fill stockpiled material to Mainland*
- *Maintenance of haul road within fill bank area.*
- *Operation of the queuing area for public truck lorries*
- *Operation of the tipping hall (A1, A2 & A3)*
- *Operation of the road water lorries and the road sweeper*
- *Delivery of public fill received at the Chai Wan Public Fill Barging Point to TKO fill bank.*

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 form 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

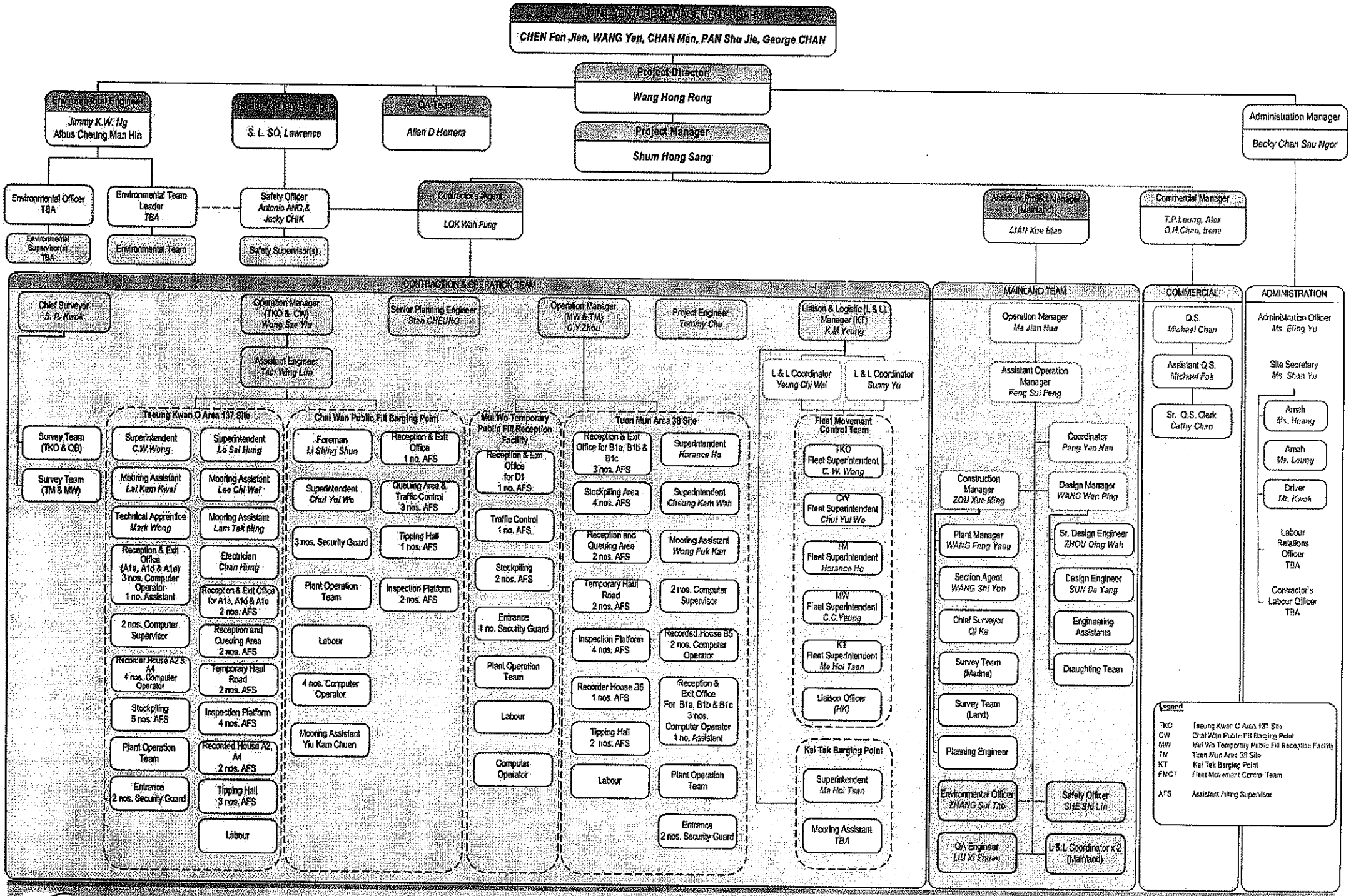
- To remove waste from the site regularly;
- To properly store and handle chemical wastes on site;
- To implement trip ticket system for all the imported public fill and general refuse disposal;
- To provide and manage sufficiently sized drip trays for diesel drums or chemical containers;
- To remove 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 L.

Appendix A

Organization Chart and Lines of Communication

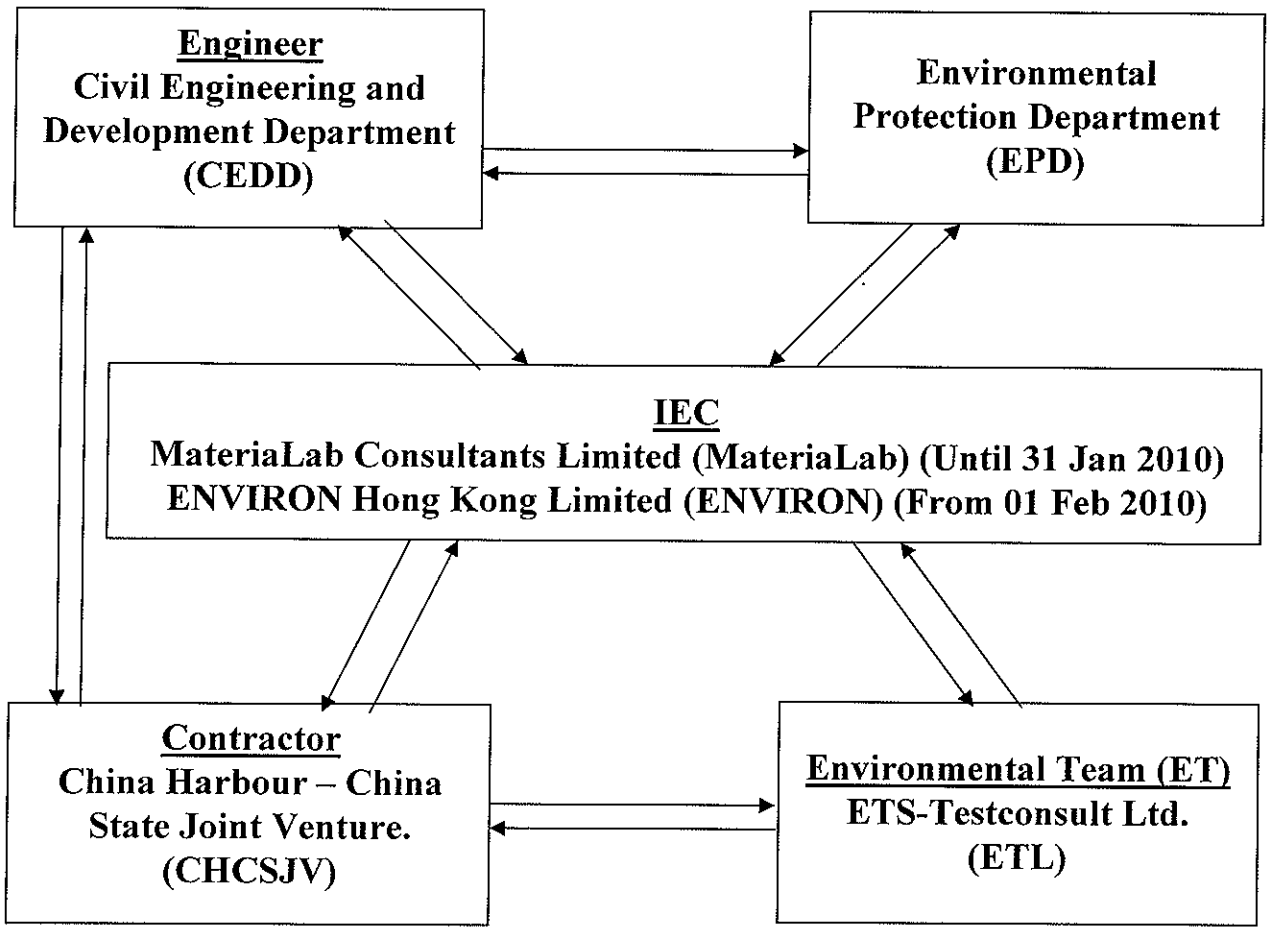


Civil Engineering and Development Department

China Harbour – China State Joint Venture

Organisation Chart
Contract No. CV/2009/02
Handling of Surplus Public Fill

Lines of Communication



Appendix B1

Calibration Certificates for Impact Air Quality Monitoring Equipment

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 : Graseby GMW

Date of Calibration : 02 December 2009

Serial No. : 10347 (ET / EA / 003 / 06)

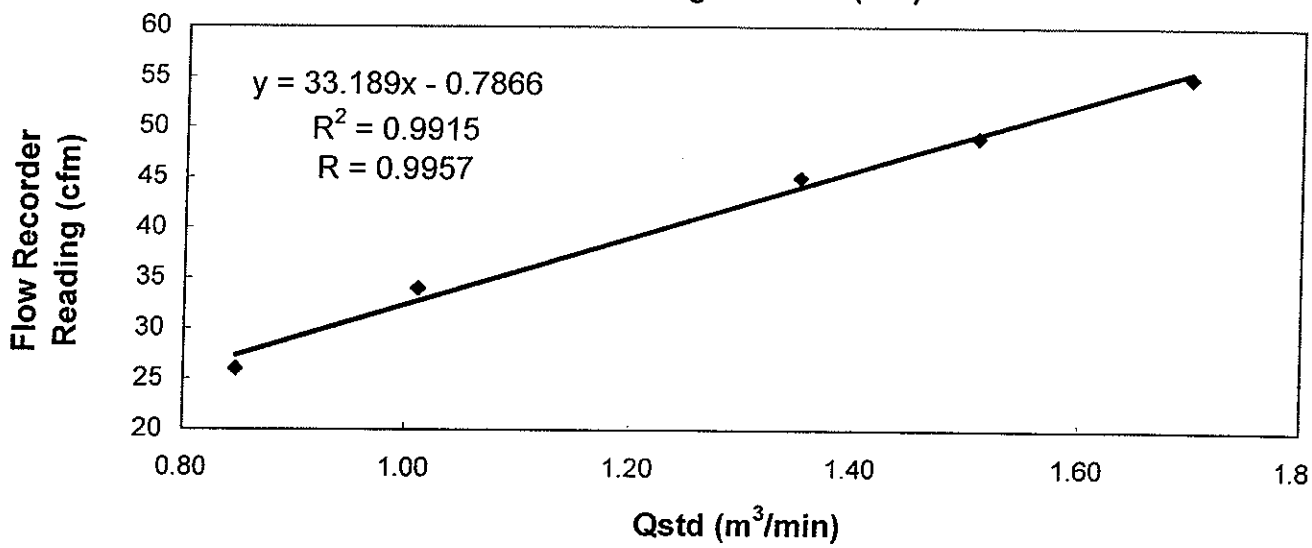
Calibration Due Date : 01 February 2010

Method : Five-point calibration by using standard calibration kit Tisch TE-5025A refer to the Operations Manual

Results :

Flow recorder reading (cfm)	55	49	45	34	26
Qstd (Actual flow rate, m^3/min)	1.70	1.51	1.35	1.01	0.85
Pressure : 756.06 mm Hg		Temp. : 298 K			

Sampler 10347 Calibration Curve
Site: Tseung Kwan O (A-1)



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 : _____
WONG, Kwong Hung
(Site Technician)

Approved by : _____
LAW, Sau Yee
(Senior 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 : Graseby GMW

Date of Calibration : 02 December 2009

Serial No. : 1176 (ET / EA / 003 / 05)

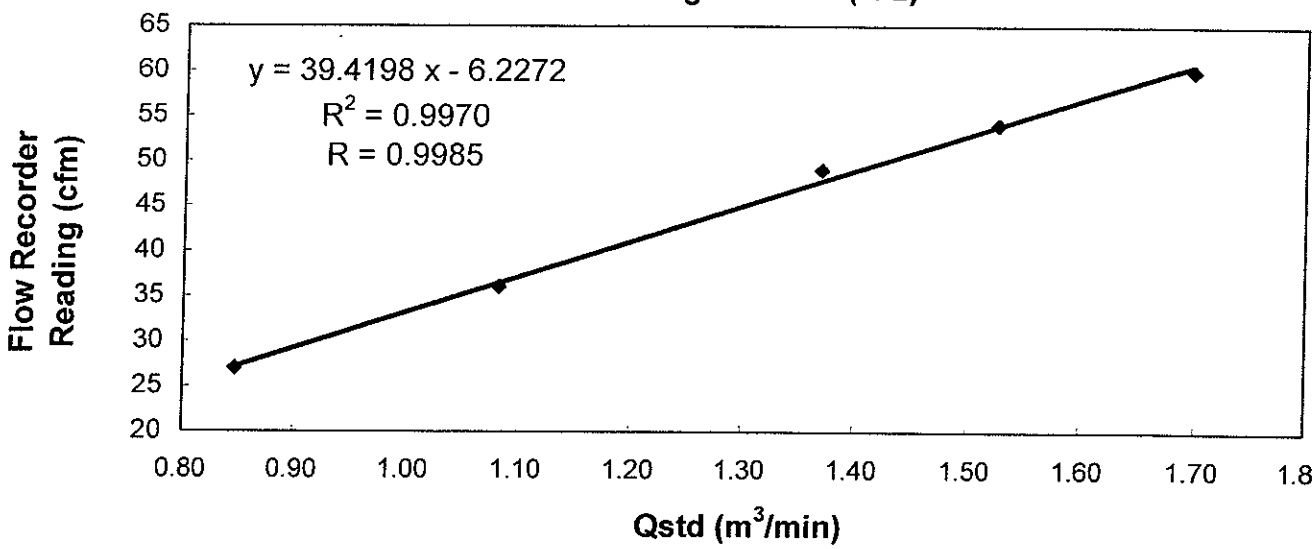
Calibration Due Date : 01 February 2010

Method : Five-point calibration by using standard calibration kit Tisch TE-5025A refer to the Operations Manual

Results :

Flow recorder reading (cfm)	60	54	49	36	27
Qstd (Actual flow rate, m^3/min)	1.70	1.53	1.37	1.08	0.85
Pressure : 756.06 mm Hg		Temp. : 298 K			

Sampler 1176 Calibration Curve
Site: Tseung Kwan O (A-2)



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 : _____
WONG, Kwong Hung
(Site Technician)

Approved by : _____
LAW, Sau Yee
(Senior Environmental Officer)

TISCH ENVIROMENTAL, INC.
145 SOUTH MIAMI AVE.
VILLAGE OF CLEVES, 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 - May 18, 2009 Rootsmeter S/N 9833620 Ta (K) - 293
Operator Tisch Orifice I.D. - 1560 Pa (mm) - 765.81

PLATE OR Run #	VOLUME START (m3)	VOLUME STOP (m3)	DIFF VOLUME (m3)	DIFF TIME (min)	METER DIFF Hg (mm)	ORFICE DIFF H2O (in.)
1	NA	NA	1.00	1.4310	3.2	2.00
2	NA	NA	1.00	1.0060	6.3	4.00
3	NA	NA	1.00	0.8990	7.9	5.00
4	NA	NA	1.00	0.8580	8.7	5.50
5	NA	NA	1.00	0.7070	12.7	8.00

DATA TABULATION

Vstd	(x axis) Qstd	(y axis)		Va	(x axis) Qa	(y axis)
1.0205	0.7132	1.4317		0.9958	0.6959	0.8748
1.0164	1.0104	2.0247		0.9918	0.9859	1.2371
1.0142	1.1281	2.2637		0.9896	1.1008	1.3831
1.0132	1.1809	2.3742		0.9886	1.1522	1.4506
1.0078	1.4255	2.8633		0.9834	1.3909	1.7495

Qstd slope (m) = 2.01170
intercept (b) = -0.00455
coefficient (r) = 0.99998

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

Qa slope (m) = 1.25969
intercept (b) = -0.00278
coefficient (r) = 0.99998

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

CALCULATIONS

Vstd = Diff. Vol[(Pa-Diff. Hg)/760](298/Ta)
Qstd = Vstd/Time

Va = Diff Vol [(Pa-Diff Hg)/Pa]
Qa = Va/Time

For subsequent flow rate calculations:

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

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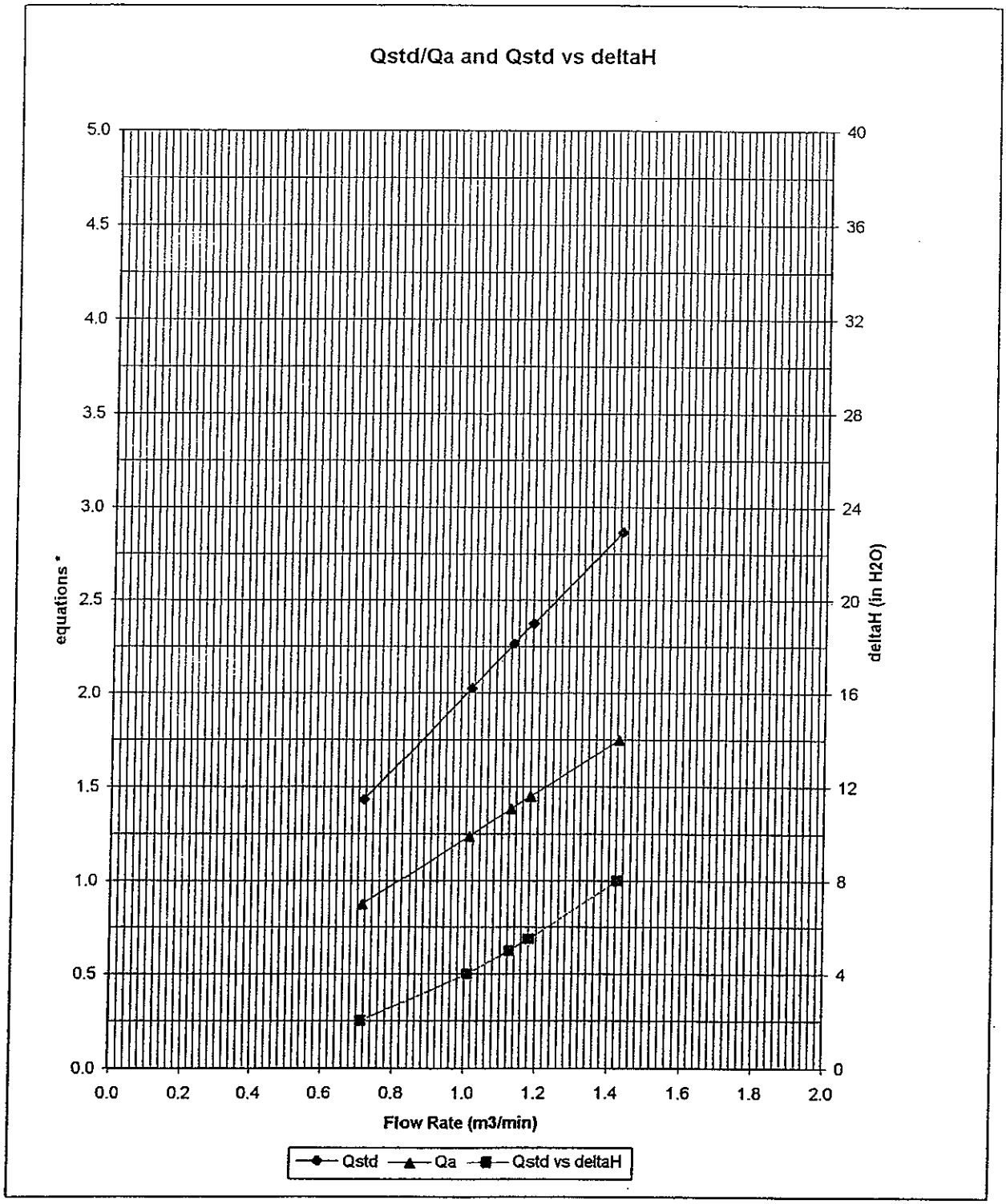
AIR POLLUTION MONITORING EQUIPMENT



*** y-axis equations:**

Qstd series: $\sqrt{\Delta H \left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)}$

Qa series: $\sqrt{(\Delta H\ (Ta\ /\ Pa))}$

1560

Appendix B2

Impact Air Quality Monitoring Results

Summary of 24-hr TSP Monitoring Results

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

Start		Finish		Elapse Time		Sampling Time (hrs)	Flow Rate (m^3/min.)		Average (m^3/min.)	Filter Weight (g)		Conc. ($\mu g/m^3$)
Date	Time	Date	Time	Initial	Final		Initial	Final		Initial	Final	
06/01/10	11:50	07/01/10	11:50	15084.54	15108.54	24.00	1.0481	1.0481	1.0481	2.8312	3.0543	148
12/01/10	13:00	13/01/10	13:00	15111.54	15135.54	24.00	1.0481	1.0481	1.0481	2.7954	3.0503	169
18/01/10	12:02	19/01/10	12:02	15138.54	15162.54	24.00	1.0481	1.0481	1.0481	2.8481	3.0636	143
23/01/10	10:30	24/01/10	10:30	15165.54	15189.54	24.00	0.9879	0.9879	0.9879	2.8450	3.0402	137
29/01/10	13:00	30/01/10	13:00	15192.54	15216.54	24.00	1.0180	1.0180	1.0180	2.8072	3.0061	136

Monitoring Station : TKO-A2
Location : Site Egress

Start		Finish		Elapse Time		Sampling Time (hrs)	Flow Rate (m^3/min.)		Average (m^3/min.)	Filter Weight (g)		Conc. ($\mu g/m^3$)
Date	Time	Date	Time	Initial	Final		Initial	Final		Initial	Final	
06/01/10	11:59	07/01/10	11:59	14608.62	14632.62	24.00	0.9444	0.9444	0.9444	2.8286	3.0275	146
12/01/10	13:05	13/01/10	13:05	14635.62	14659.62	24.00	1.0205	1.0205	1.0205	2.8006	3.0347	159
18/01/10	12:08	19/01/10	12:08	14662.62	14686.62	24.00	1.0205	1.0205	1.0205	2.8059	3.0118	140
23/01/10	10:41	24/01/10	10:41	14689.63	14713.63	24.00	0.9951	0.9951	0.9951	2.8435	3.0327	132
29/01/10	13:00	30/01/10	13:00	14716.63	14740.63	24.00	0.9951	0.9951	0.9951	2.8094	2.9994	133

東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

Summary of 1-hr TSP Monitoring Results

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

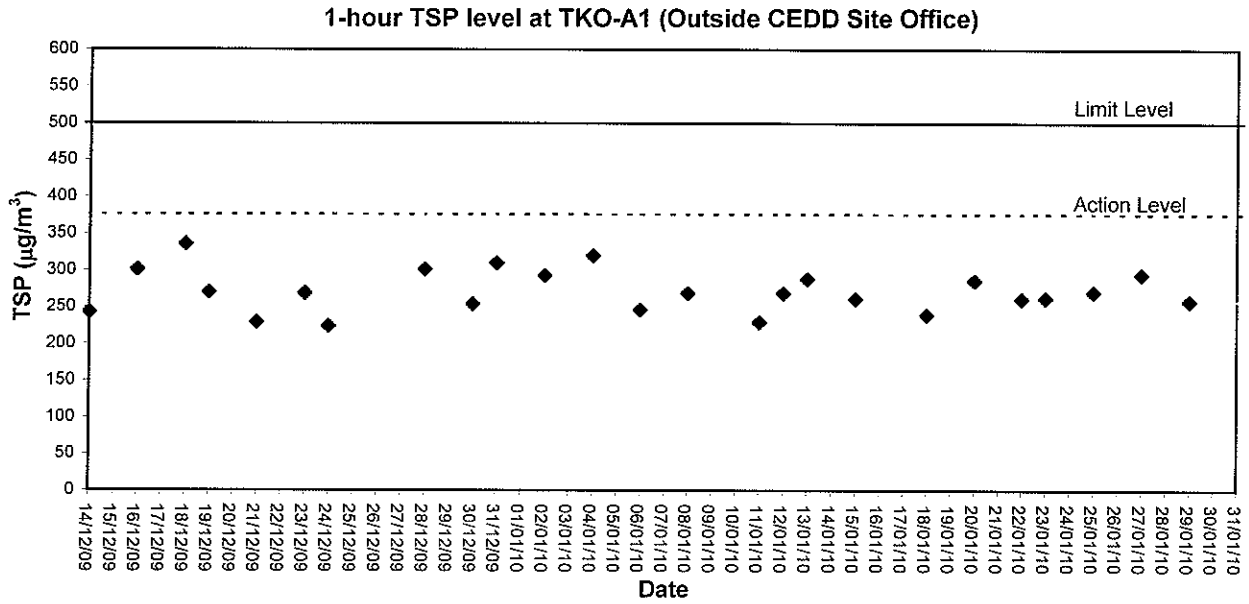
Date	Time		Elapse Time		Sampling Time (hrs)	Flow Rate (m^3/min.)		Average (m^3/min.)	Filter Weight (g)		Conc. ($\mu g/m^3$)
	Start	Finish	Initial	Final		Initial	Final		Initial	Final	
02/01/10	13:00	14:00	15081.54	15082.54	1.00	1.0481	1.0481	1.0481	2.8472	2.8656	293
04/01/10	10:20	11:20	15082.54	15083.54	1.00	1.0481	1.0481	1.0481	2.8312	2.8513	320
06/01/10	09:00	10:00	15083.54	15084.54	1.00	1.0481	1.0481	1.0481	2.8402	2.8557	246
08/01/10	09:00	10:00	15108.54	15109.54	1.00	1.0481	1.0481	1.0481	2.8209	2.8378	269
11/01/10	09:00	10:00	15109.54	15110.54	1.00	1.0481	1.0481	1.0481	2.8212	2.8356	229
12/01/10	09:00	10:00	15110.54	15111.54	1.00	1.0481	1.0481	1.0481	2.8115	2.8284	269
13/01/10	13:50	14:50	15135.54	15136.54	1.00	1.0481	1.0481	1.0481	2.8188	2.8369	288
15/01/10	09:30	10:30	15136.54	15137.54	1.00	1.0481	1.0481	1.0481	2.8238	2.8402	261
18/01/10	11:00	12:00	15137.54	15138.54	1.00	1.0481	1.0481	1.0481	2.8167	2.8317	239
20/01/10	09:00	10:00	15162.54	15163.54	1.00	1.0481	1.0481	1.0481	2.8515	2.8695	286
22/01/10	14:10	15:10	15163.54	15164.54	1.00	1.0481	1.0481	1.0481	2.8485	2.8649	261
23/01/10	09:00	10:00	15164.54	15165.54	1.00	0.9879	0.9879	0.9879	2.8385	2.8540	262
25/01/10	09:15	10:15	15189.54	15190.54	1.00	0.9879	0.9879	0.9879	2.8235	2.8395	270
27/01/10	08:40	09:40	15190.54	15191.54	1.00	1.0481	1.0481	1.0481	2.8165	2.8350	294
29/01/10	11:00	12:00	15191.54	15192.54	1.00	1.0481	1.0481	1.0481	2.8072	2.8234	258

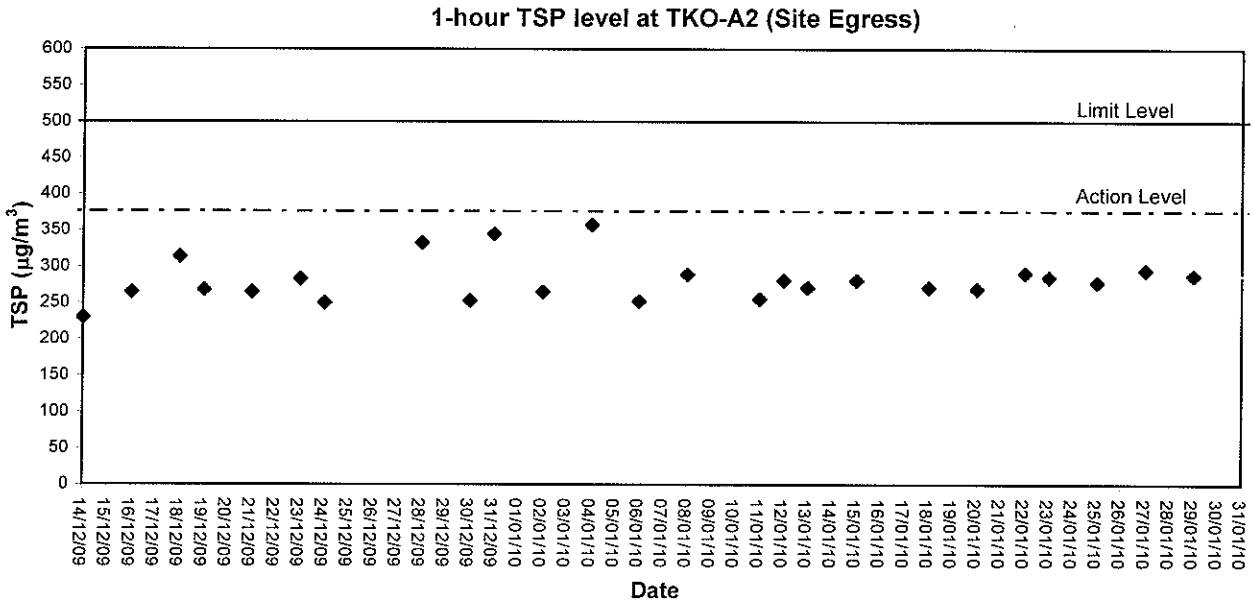
Monitoring Station : TKO-A2
Location : Site Egress

Date	Time		Elapse Time		Sampling Time (hrs)	Flow Rate (m^3/min.)		Average (m^3/min.)	Filter Weight (g)		Conc. ($\mu g/m^3$)
	Start	Finish	Initial	Final		Initial	Final		Initial	Final	
02/01/10	13:00	14:00	14605.60	14606.60	1.00	1.0205	1.0205	1.0205	2.8064	2.8226	265
04/01/10	10:28	11:28	14606.60	14607.60	1.00	0.9951	0.9951	0.9951	2.8403	2.8616	357
06/01/10	09:00	10:01	14607.60	14608.61	1.01	0.9444	0.9444	0.9444	2.8366	2.8510	252
08/01/10	09:05	10:05	14632.62	14633.62	1.00	0.9444	0.9444	0.9444	2.8313	2.8477	289
11/01/10	09:00	10:00	14633.62	14634.62	1.00	1.0205	1.0205	1.0205	2.8364	2.8520	255
12/01/10	09:00	10:00	14634.62	14635.62	1.00	1.0205	1.0205	1.0205	2.8092	2.8264	281
13/01/10	14:00	15:00	14659.62	14660.62	1.00	1.0205	1.0205	1.0205	2.8095	2.8261	271
15/01/10	09:35	10:35	14660.62	14661.62	1.00	1.0205	1.0205	1.0205	2.8117	2.8289	281
18/01/10	11:05	12:05	14661.62	14662.62	1.00	1.0205	1.0205	1.0205	2.8095	2.8261	271
20/01/10	09:00	10:00	14686.62	14687.63	1.01	0.9951	0.9951	0.9951	2.8495	2.8657	269
22/01/10	14:22	15:22	14687.63	14688.63	1.00	0.9951	0.9951	0.9951	2.8502	2.8676	291
23/01/10	09:00	10:00	14688.63	14689.63	1.00	0.9951	0.9951	0.9951	2.8555	2.8725	285
25/01/10	09:20	10:20	14713.63	14714.63	1.00	0.9951	0.9951	0.9951	2.8620	2.8786	278
27/01/10	08:54	09:54	14714.63	14715.63	1.00	0.9951	0.9951	0.9951	2.8314	2.8490	295
29/01/10	10:45	11:45	14715.63	14716.63	1.00	0.9951	0.9951	0.9951	2.8146	2.8318	288

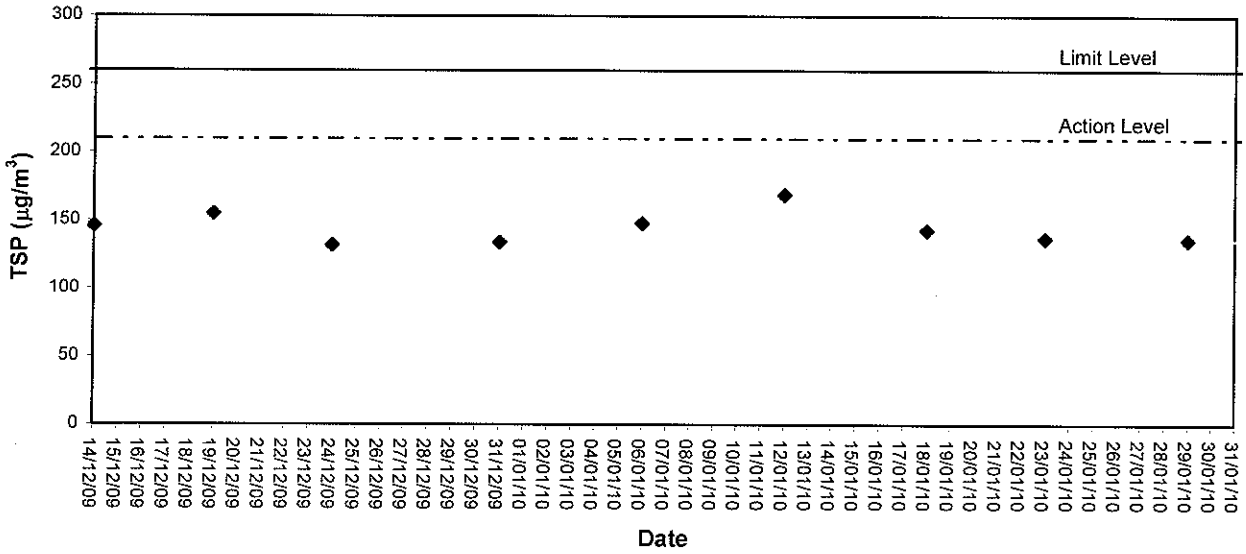
Appendix B3

Graphical Plots of Impact Air Quality Monitoring Data

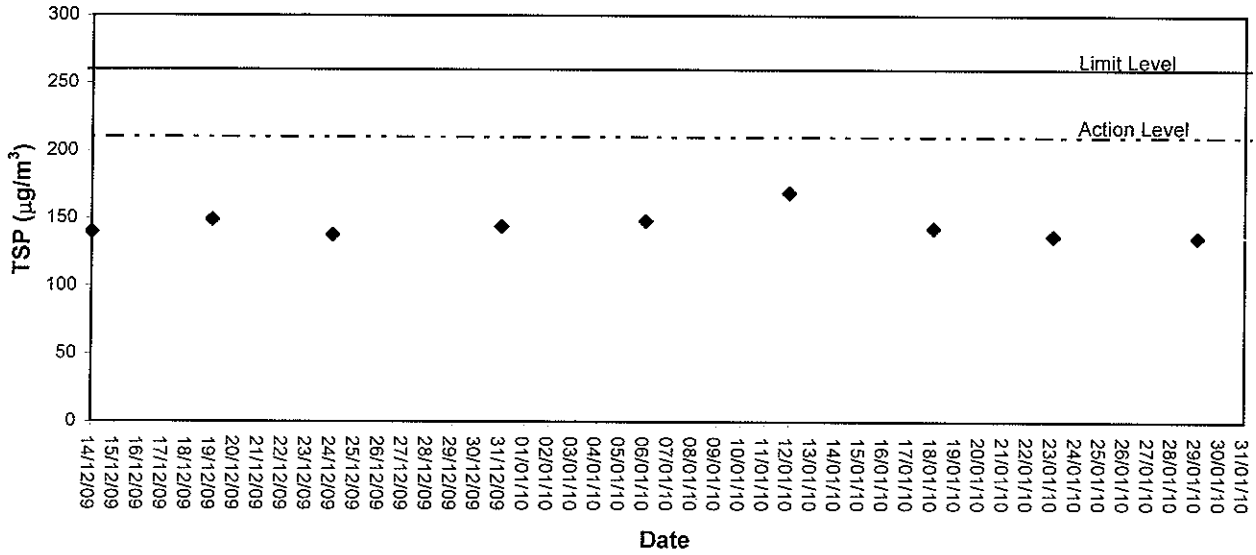

1-hour TSP level at TKO-A1 (Outside CEDD Site Office)
TSP (μg/m³)
Limit Level
Action Level
Date


1-hour TSP level at TKO-A2 (Site Egress)
TSP (μg/m³)
Limit Level
Action Level
Date

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



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



Appendix C1

Calibration Certificates for Impact Noise Monitoring Equipment

Hong Kong Calibration Ltd.
香港校正有限公司

Calibration Certificate

Certificate No. **91496**

Customer : ETS-Testconsult Limited

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

Order No. : Q90663 **Date of receipt :** 1-Apr-09

Item Tested

Description : Acoustic Calibrator
Manufacturer : Castle
Model : GA607 **Serial No.** : 038641

Test Conditions

Date of Test : 15-Apr-09 **Supply Voltage** : --
Ambient Temperature : (23 ± 3)°C **Relative Humidity :** (50 ± 25) %

Test Specifications

Calibration check.
Ref. Document/Procedure : F06, F20, Z02.

Test Results

All results were within the IEC 942 Class 1 specification.
The results are shown in the attached page(s).

Main Test equipment used:

Equipment No.	Description	Cert. No.	Due Date	Traceable to
S014	Spectrum Analyzer	83240	30-Jun-09	NIM-PRC & SCL-HKSAR
S024	Sound Level Calibrator	82926	16-Jul-09	NIM-PRC & SCL-HKSAR
S041	Universal Counter	84077	22-Aug-09	SCL-HKSAR
S206	Sound Level Meter	83964	13-Aug-09	SCL-HKSAR

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: 16-Apr-09

This Certificate is issued by:
Hong Kong Calibration Ltd.
Unit 6B, 24/F., Well Fung Industrial Centre, No. 58-76, Ta Chuen Ping Street,Kwai Chung, NT,Hong Kong.
Tel: 2425 8801 Fax: 2425 8646

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Hong Kong Calibration Ltd.
香港校正有限公司

Calibration Certificate

Certificate No. 91496

Results :

1. **Level Accuracy (at 1 kHz)**

UUT Setting (dB)	Measured Value (dB)	IEC 942 Class 1 Spec.
94	93.92	± 0.3 dB

Uncertainty : ± 0.1 dB

2. **Frequency Accuracy**

UUT Nominal Value (kHz)	Measured Value (kHz)	IEC 942 Class 1 Spec.
1	1.001	± 2 %

Uncertainty : $\pm 3.6 \times 10^{-6}$

3. **Level Stability** : 0.0 dB
IEC 942 Class 1 Spec. : ± 0.1 dB
Uncertainty : ± 0.01 dB

4. **Total Harmonic Distortion** : < 2.8 %
IEC 942 Class 1 Spec. : < 3 %
Uncertainty : ± 2.3 % of rdg.

Remark : 1. UUT : Unit-Under-Test
2. The above measured values are the mean of 3 measurements.
3. The uncertainty claimed is for a confidence probability of not less than 95%.
4. Atmospheric Pressure : 1 002 hPa

---------- END ----------

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Hong Kong Calibration Ltd.
香港校正有限公司

Calibration Certificate

Certificate No. **91495**

Customer : ETS-Testconsult Limited

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

Order No. : Q90663 **Date of receipt :** 1-Apr-09

Item Tested

Description : Precision Integrating Sound Level Meter

Manufacturer : Rion

Model : NL-31 **Serial No. :** 00110024

Test Conditions

Date of Test : 15-Apr-09 **Supply Voltage :** --

Ambient Temperature : (23 ± 3)°C **Relative Humidity :** (50 ± 25) %

Test Specifications

Calibration check.

Ref. Document/Procedure : Z01.

Test Results

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

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

Main Test equipment used:

Equipment No.	Description	Cert. No.	Due Date	Traceable to
S017A	Multi-Function Generator	86228	11-Dec-09	SCL-HKSAR
S024	Sound Level Calibrator	82926	16-Jul-09	NIM-PRC & SCL-HKSAR

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 : for Dorothy Cheuk

Date: 16-Apr-09

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

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Calibration Certificate

Results :

1. SPL Accuracy

UUT Setting			Applied Value (dB)	UUT Reading (dB)
Level Range (dB)	Weight	Response		
20 – 100	L_A	Fast	94.03	93.7
		Slow		93.7
	L_C	Fast		93.7
	Lp	Fast		93.7
30 – 120	L_A	Fast	94.03	93.6
		Slow		93.6
	L_C	Fast		93.6
	Lp	Fast		93.6
30 – 120	L_A	Fast	113.97	113.6
		Slow		113.6
	L_C	Fast		113.6
	Lp	Fast		113.6

IEC Type 1 Spec. : ± 0.7 dB
Uncertainty : ± 0.1 dB

2. **Level Stability** : 0.0 dB
IEC 651 Type 1 Spec. : ± 0.3 dB
Uncertainty : ± 0.01 dB

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Calibration Certificate

3. Linearity

3.1 Level Linearity

UUT Range (dB)	Applied Value (dB)	UUT Reading (dB)	Variation (dB)	IEC 651 Type 1 Spec. (Primary Indicator Range)
130	114.0	113.8	+0.2	± 0.7 dB
130	104.0	103.7	+0.1	
120	94.0	93.6 (Ref.)	- -	
110	84.0	83.6	0.0	
100	74.0	73.6	0.0	
90	64.0	63.7	+0.1	
80	54.0	53.8	+0.2	

Uncertainty : ± 0.1 dB

3.2 Differential level linearity

UUT Range (dB)	Applied Value (dB)	UUT Reading (dB)	Variation (dB)	IEC 651 Type 1 Spec.
120	84.0	83.7	+0.1	± 0.4 dB
	94.0	93.6 (Ref.)	- -	
	95.0	94.7	+0.1	± 0.2 dB
	104.0	103.6	0.0	± 0.3 dB
	105.0	104.6	0.0	± 1.0 dB

Uncertainty : ± 0.1 dB

4. Frequency Weighting

A weighting

Frequency	Attenuation (dB)	IEC 651 Type 1 Spec.
31.5 Hz	-39.8	- 39.4 dB, ± 1.5 dB
63 Hz	-26.5	- 26.2 dB, ± 1.5 dB
125 Hz	-16.5	- 16.1 dB, ± 1 dB
250 Hz	-8.9	- 8.6 dB, ± 1 dB
500 Hz	-3.4	- 3.2 dB, ± 1 dB
1 kHz	0.0 (Ref.)	0 dB, ± 1 dB
2 kHz	+1.5	+ 1.2 dB, ± 1 dB
4 kHz	+1.4	+ 1.0 dB ,± 1 dB
8 kHz	-0.8	- 1.1 dB, + 1.5 dB ~ - 3 dB
16 kHz	-6.4	- 6.6 dB, + 3 dB ~ - ∞

Uncertainty : ± 0.1 dB

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Calibration Certificate

5. Time Averaging

Applied Burst duty Factor	Applied Leq 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	39.8	
$1/10^3$	40.0	40.0	± 1.0 dB
$1/10^4$	40.0	40.3	

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 : 1 002 hPa.

---------- END ----------

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Appendix C2

Impact Noise Monitoring Results

Day-time Noise Monitoring

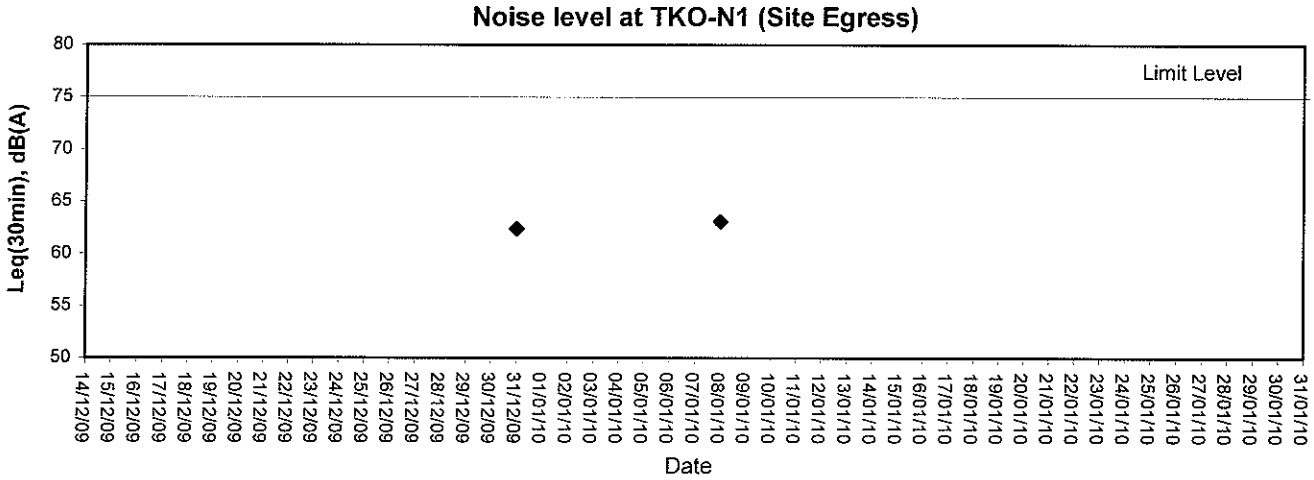
Monitoring Location: TKO-N1 (Site Egress)

Date	Start Sampling Time (hh:mm)	Noise Level dB (A)			Wind Speed (m/s)	Weather Condition
		$L_{eq(30min)}$	L_{10}	L_{90}		
08/01/10	15:00	63.1	66.2	60.7	1.2	Cloudy

Appendix C3

Graphical Plots of Impact Noise Monitoring Data

Noise Monitoring (Day-time)



Appendix D1

Calibration Certificates for Impact Marine Water Quality Monitoring Equipments

東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

Form E/CE/R/12 Issue 6 (1/1) [05/05]

Internal Calibration Report of Dissolved Oxygen Meter

Equipment Ref. No. :	ET/EW/008/002	Manufacturer :	YSI.
Model No. :	85	Serial No. :	06C 1998AD
Date of Calibration :	26/11/09	Calibration Due Date :	26/12/10.

Ref. No. of Reference Thermometer : ET0521/001

Ref. No. of Potassium Dichromate : ET0520/003/09

Temperature Verification

	Temperature (°C)
Thermometer reading	22.0
Meter reading	22.0

Lineality 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	7.91	7.88	7.90	7.77	7.75	7.76	1.79
5	6.57	6.54	6.53	6.32	6.34	6.33	3.11
10	5.06	5.04	5.05	4.91	4.93	4.92	2.61
Linear regression coefficient				0.9993			

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	7.61	7.59	7.60	7.44	7.46	7.45	1.99
30	6.84	6.82	6.83	6.66	6.64	6.65	2.67

Acceptance Criteria

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

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

* Delete as appropriate

Calibrated by : _____ Approved by : _____

CEP/012/W

東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

Performance Check of Salinity Meter

Equipment Ref. No.	: ETBW/008/002	Manufacturer	: YSI
Model No.	: 85	Serial No.	: 06C 1998 AD
Date of Calibration	: 26/11/09	Due Date	: 26/2/10

Ref. No. of Salinity Standard used (30ppt)	J351

Salinity Standard (ppt)	Measured Salinity (ppt)	Difference %
30	29.3	2.36%

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 : _____

東業綠勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

Performance Check of Turbidimeter

Equipment Ref. No. : ET/0505/006 Manufacturer : HACH

Model No. : 2100P Serial No. : 060700018334

Date of Calibration : 9/2/10 Due Date : 8/5/10

Gelex Vial Std	Theoretical Value (NTU)	Measured Value (NTU)	Difference %
0-10 NTU	5.34	5.30	0.8
10-100 NTU	56.6	56.0	1.1
100-1000 NTU	547	546	0.2

Acceptance Criteria

Difference : <5 %

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 : [illegible] Approved by : [illegible]

Appendix D2

Impact Marine Water Quality Monitoring Results

Mid-Flood Tide

東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

Monitoring Station : 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
04/01/10	0900-0915	18/Sunny	Surface	1.0	18.6	31.1	31.2	6.84	6.80	6.69	95.1	94.5	3.74	3.74	3.69	3.5	3.5	3.5
						31.2		6.75			93.8		3.73			3.5		
			Middle	10.6	18.2	31.8	31.7	6.61	6.58		91.9	91.5	3.65	3.65		3.5	3.5	
						31.6		6.55			91.0		3.64			3.5		
			Bottom	20.2	17.9	32.1	32.1	6.21	6.17	6.17	86.3	85.8	3.68	3.68		3.5	3.5	
						32.0		6.13			85.2		3.67			3.5		
06/01/10	1040-1055	15/Cloudy	Surface	1.0	16.9	28.4	28.5	6.73	6.71	6.46	91.5	91.3	4.10	4.07	3.95	4.0	4.0	3.8
						28.6		6.69			91.0		4.04			4.0		
			Middle	10.9	17.2	29.2	29.4	6.21	6.21		84.5	84.6	3.95	3.94		3.8	3.8	
						29.5		6.21			84.6		3.93			3.8		
			Bottom	20.8	16.6	29.6	29.6	5.81	5.81	5.81	79.0	78.9	3.85	3.84		3.5	3.5	
						29.5		5.80			78.8		3.83			3.5		
08/01/10	1200-1215	13/Rainy	Surface	1.0	17.2	29.4	29.4	6.39	6.38	6.25	88.1	87.9	3.67	3.66	3.48	3.5	3.5	3.3
						29.4		6.36			87.7		3.64			3.5		
			Middle	10.3	17.8	30.4	30.4	6.15	6.13		84.8	84.6	3.40	3.42		3.2	3.2	
						30.4		6.11			84.3		3.43			3.2		
			Bottom	19.6	17.9	30.6	30.7	5.98	5.97	5.97	82.5	82.3	3.39	3.38		3.2	3.2	
						30.7		5.95			82.1		3.36			3.2		
11/01/10	1430-1441	12/Drizzle	Surface	1.0	17.0	26.1	26.2	6.90	6.90	6.75	91.5	91.2	3.11	3.12	3.10	3.0	3.0	2.9
						26.2		6.90			90.9		3.12			3.0		
			Middle	10.5	16.5	26.9	26.9	6.59	6.60		90.0	89.6	3.05	3.06		2.8	2.8	
						26.8		6.60			89.2		3.07			2.8		
			Bottom	20.0	16.0	27.0	27.1	6.32	6.31	6.31	83.0	82.8	3.11	3.12		3.0	3.0	
						27.1		6.30			82.5		3.12			3.0		
13/01/10	1600-1613	11/Sunny	Surface	1.0	17.1	32.1	32.1	7.12	7.12	6.72	97.5	97.6	4.05	4.06	4.05	4.0	3.9	3.9
						32.1		7.12			97.6		4.06			3.8		
			Middle	10.4	16.5	32.0	32.1	6.32	6.33		86.6	86.7	4.12	4.12		4.0	4.0	
						32.2		6.33			86.8		4.12			4.0		
			Bottom	19.8	16.2	32.5	32.6	5.80	5.80	5.80	79.5	79.6	3.98	3.98		3.8	3.8	
						32.6		5.80			79.6		3.97			3.8		
15/01/10	0730-0745	15/Sunny	Surface	1.0	17.2	31.4	31.5	6.76	6.72	6.50	94.0	93.5	3.37	3.37	3.28	3.0	3.1	3.0
						31.5		6.68			92.9		3.36			3.2		
			Middle	10.7	16.9	31.9	31.9	6.31	6.28		87.7	87.3	3.26	3.26		3.0	3.0	
						31.8		6.25			86.9		3.26			3.0		
			Bottom	20.4	16.5	32.1	32.2	6.18	6.15	6.15	85.9	85.4	3.20	3.21		3.0	3.0	
						32.2		6.11			84.9		3.21			3.0		
18/01/10	0850-0902	16/Fine	Surface	1.0	19.2	32.1	32.1	6.67	6.68	6.60	89.0	89.1	3.27	3.25	3.16	3.0	3.0	2.9
						32.0		6.68			89.2		3.22			3.0		
			Middle	10.5	18.5	32.2	32.4	6.51	6.53		87.5	87.4	3.20	3.20		3.0	3.0	
						32.5		6.55			87.2		3.20			3.0		
			Bottom	20.0	18.1	32.3	32.3	6.42	6.41	6.41	85.1	85.2	3.05	3.04		2.7	2.7	
						32.3		6.40			85.3		3.02			2.7		
20/01/10	0850-0902	19/Fine	Surface	1.0	23.8	31.5	31.7	6.94	6.94	6.68	96.5	96.6	4.00	3.98	3.90	4.0	3.9	3.7
						31.9		6.94			96.6		3.96			3.8		
			Middle	9.9	23.6	32.1	32.2	6.43	6.43		89.4	89.4	3.78	3.80		3.5	3.5	
						32.2		6.42			89.3		3.82			3.5		
			Bottom	18.8	23.3	32.4	32.4	5.88	5.89	5.89	81.7	81.9	3.91	3.92		3.8	3.8	
						32.3		5.90			82.0		3.92			3.8		

Mid-Flood Tide

東業德勤測試顧問有限公司
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)		
						Value	Average	Value	Average	Depth-average	Value	Average	Value	Average	Depth-average	Value	Average	Depth-average
22/01/10	1020-1034	17/Drizzle	Surface	1.0	23.1	29.4	29.6	6.79	6.81	6.64	95.7	95.9	3.68	3.69	3.80	3.5	3.5	3.6
						29.8		6.83			96.1		3.69			3.5		
			Middle	10.8	22.8	30.0	29.9	6.50	6.48		91.7	91.4	3.80	3.79		3.5	3.5	
						29.8		6.45			91.0		3.78			3.5		
			Bottom	20.6	22.3	30.1	30.2	6.02	6.03	6.03	84.9	85.0	3.91	3.92		3.8	3.8	
						30.2		6.03			85.0		3.92			3.8		
25/01/10	1214-1229	18/Cloudy	Surface	1.0	21.2	31.5	31.6	6.85	6.83	6.76	90.5	90.6	3.52	3.51	3.44	3.5	3.5	3.3
						31.7		6.80			90.6		3.50			3.5		
			Middle	10.6	20.5	31.6	31.7	6.70	6.70		87.2	87.4	3.51	3.51		3.5	3.5	
						31.7		6.70			87.6		3.50			3.5		
			Bottom	20.1	20.1	31.8	31.9	6.54	6.53	6.53	81.2	81.4	3.29	3.30		3.0	3.0	
						32.0		6.52			81.5		3.30			3.0		
27/01/10	1340-1351	18/Cloudy	Surface	1.0	23.2	31.1	31.1	6.92	6.93	6.61	97.6	97.7	3.91	3.92	4.02	4.0	3.9	3.9
						31.1		6.93			97.8		3.92			3.8		
			Middle	9.8	22.7	31.5	31.5	6.29	6.29		88.7	88.6	4.05	4.06		3.8	3.8	
						31.4		6.28			88.5		4.06			3.8		
			Bottom	18.6	22.1	31.7	31.8	5.85	5.85	5.85	82.5	82.6	4.10	4.10		4.0	4.0	
						31.8		5.85			82.6		4.09			4.0		
29/01/10	1630-1644	18/Cloudy	Surface	1.0	18.2	30.0	30.0	6.81	6.82	6.70	89.2	89.4	3.06	3.08	3.16	3.0	2.9	3.0
						30.0		6.83			89.5		3.10			2.7		
			Middle	10.4	18.6	30.3	30.3	6.60	6.58		86.3	86.0	3.24	3.25		3.0	3.0	
						30.3		6.55			85.7		3.25			3.0		
			Bottom	19.8	19.0	30.5	30.5	6.40	6.39	6.39	83.3	83.2	3.16	3.16		3.0	3.0	
						30.5		6.38			83.0		3.15			3.0		

Mid-Flood Tide

東業德勤測試顧問有限公司
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
04/01/10	0943-0959	18/Sunny	Surface	1.0	18.5	31.6	31.6	6.76	6.73	6.56	94.0	93.6	3.65	3.65	3.38	3.5	3.5	3.2
						31.5		6.70			93.1		3.64			3.5		
			Middle	5.7	18.3	32.1	32.2	6.34	6.38		88.1	88.7	3.32	3.32		3.2	3.2	
						32.2		6.42			89.2		3.31			3.2		
			Bottom	10.4	18.0	32.4	32.5	6.21	6.18	6.18	86.3	85.8	3.16	3.17		3.0	3.0	
						32.5		6.14			85.3		3.18			3.0		
06/01/10	1123-1138	15/Cloudy	Surface	1.0	16.9	29.0	29.1	6.65	6.65	6.48	90.4	90.5	3.99	3.96	3.86	3.8	3.8	3.6
						29.2		6.65			90.5		3.93			3.8		
			Middle	5.6	16.8	29.3	29.3	6.31	6.32		85.8	85.9	3.85	3.85		3.5	3.5	
						29.3		6.32			85.9		3.85			3.5		
			Bottom	10.2	17.0	29.8	29.8	6.10	6.10	6.10	83.0	83.1	3.80	3.78		3.5	3.5	
						29.8		6.10			83.1		3.76			3.5		
08/01/10	1245-1300	13/Rainy	Surface	1.0	17.4	29.6	29.6	6.47	6.46	6.32	89.2	89.0	3.52	3.54	3.31	3.5	3.5	3.2
						29.6		6.44			88.8		3.55			3.5		
			Middle	4.9	17.7	30.4	30.4	6.21	6.19		85.6	85.4	3.17	3.18		3.0	3.0	
						30.4		6.17			85.1		3.19			3.0		
			Bottom	8.8	18.0	30.8	30.8	6.04	6.06	6.06	82.7	83.0	3.20	3.22		3.0	3.0	
						30.8		6.08			83.2		3.24			3.0		
11/01/10	1450-1500	12/Drizzle	Surface	1.0	17.1	26.0	26.0	6.97	6.95	6.92	92.0	92.0	2.97	2.93	2.90	2.7	2.7	2.7
						26.0		6.92			92.0		2.89			2.7		
			Middle	4.5	17.0	26.2	26.2	6.90	6.89		90.9	90.8	2.92	2.92		2.8	2.8	
						26.2		6.88			90.7		2.92			2.8		
			Bottom	8.0	17.0	26.2	26.3	6.70	6.70	6.70	90.0	90.0	2.88	2.86		2.5	2.5	
						26.4		6.70			90.0		2.84			2.5		
13/01/10	1642-1656	11/Sunny	Surface	1.0	17.2	32.5	32.4	7.06	7.08	6.82	96.7	96.9	3.85	3.83	3.79	3.5	3.5	3.5
						32.3		7.09			97.0		3.81			3.5		
			Middle	5.2	16.8	32.1	32.2	6.58	6.56		90.0	89.8	3.80	3.81		3.5	3.5	
						32.3		6.54			89.5		3.81			3.5		
			Bottom	9.4	16.5	32.6	32.6	6.10	6.09	6.09	83.6	83.5	3.75	3.75		3.5	3.5	
						32.6		6.08			83.4		3.74			3.5		
15/01/10	0816-0830	15/Sunny	Surface	1.0	17.3	31.6	31.6	6.54	6.58	6.40	90.9	91.5	3.65	3.65	3.39	3.5	3.5	3.2
						31.5		6.62			92.0		3.64			3.5		
			Middle	5.9	17.1	32.0	32.0	6.17	6.23		85.8	86.6	3.42	3.42		3.2	3.2	
						32.0		6.28			87.3		3.41			3.2		
			Bottom	10.8	16.9	32.1	32.2	5.98	6.01	6.01	83.1	83.6	3.11	3.12		3.0	3.0	
						32.2		6.04			84.0		3.12			3.0		
18/01/10	0925-0938	16/Fine	Surface	1.0	19.0	31.2	31.1	6.69	6.70	6.71	89.9	90.0	3.10	3.10	3.04	3.0	3.0	2.8
						31.0		6.71			90.0		3.10			3.0		
			Middle	4.5	19.1	31.0	31.1	6.75	6.73		88.8	88.6	3.01	3.02		2.7	2.7	
						31.2		6.70			88.4		3.02			2.7		
			Bottom	7.9	18.3	31.5	31.6	6.60	6.59	6.59	84.4	84.5	3.01	3.01		2.8	2.8	
						31.6		6.58			84.6		3.01			2.8		
20/01/10	0924-0935	19/Fine	Surface	1.0	23.7	32.0	32.1	7.02	7.03	6.81	97.6	97.7	3.84	3.85	3.90	3.5	3.5	3.6
						32.2		7.03			97.8		3.86			3.5		
			Middle	4.9	23.6	32.3	32.3	6.58	6.59		91.5	91.6	3.80	3.81		3.5	3.5	
						32.3		6.59			91.7		3.81			3.5		
			Bottom	8.8	23.6	32.6	32.6	6.45	6.46	6.46	89.7	89.8	4.03	4.04		3.8	3.8	
						32.5		6.46			89.8		4.05			3.8		

Mid-Flood Tide

東業德勤測試顧問有限公司
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
22/01/10	1105-1120	17/Drizzle	Surface	1.0	23.2	30.1	30.1	6.88	6.88	6.75	97.0	97.1	3.94	3.95	4.01	3.8	3.8	3.8
						30.1		6.88			97.1		3.95			3.8		
			Middle	5.6	23.1	30.2	30.3	6.61	6.61		93.2	93.2	4.01	4.01		3.8	3.8	
						30.4		6.61			93.1		4.01			3.8		
			Bottom	10.2	23.0	30.6	30.6	6.43	6.43	6.43	90.7	90.6	4.08	4.08		3.8	3.8	
						30.5		6.42			90.5		4.08			3.8		
25/01/10	1250-1305	18/Cloudy	Surface	1.0	21.4	31.5	31.5	6.90	6.89	6.83	90.1	90.3	3.55	3.53	3.44	3.5	3.5	3.3
						31.4		6.88			90.5		3.50			3.5		
			Middle	4.5	21.2	31.7	31.5	6.75	6.77		88.2	88.4	3.49	3.50		3.2	3.2	
						31.2		6.79			88.6		3.50			3.2		
			Bottom	8.0	21.0	31.4	31.7	6.70	6.71	6.71	87.5	87.5	3.30	3.31		3.2	3.2	
						31.9		6.71			87.5		3.32			3.2		
27/01/10	1415-1427	18/Cloudy	Surface	1.0	23.3	31.4	31.4	6.96	6.98	6.79	98.1	98.4	3.82	3.81	3.65	3.5	3.5	3.5
						31.3		6.99			98.6		3.80			3.5		
			Middle	4.2	23.1	31.2	31.2	6.60	6.61		92.9	93.1	3.54	3.55		3.5	3.5	
						31.1		6.62			93.3		3.55			3.5		
			Bottom	7.4	22.9	31.6	31.6	6.34	6.34	6.34	89.4	89.5	3.61	3.61		3.5	3.5	
						31.6		6.34			89.5		3.60			3.5		
29/01/10	1700-1717	18/Cloudy	Surface	1.0	18.1	30.0	30.0	6.80	6.81	6.68	89.1	89.2	3.14	3.17	3.11	3.0	3.0	2.9
						30.0		6.81			89.2		3.20			3.0		
			Middle	4.5	18.2	30.1	30.1	6.57	6.56		85.9	85.8	3.22	3.21		3.0	3.0	
						30.1		6.55			85.7		3.20			3.0		
			Bottom	8.0	18.3	30.3	30.3	6.39	6.37	6.37	83.1	82.9	2.96	2.96		2.8	2.8	
						30.2		6.35			82.6		2.95			2.7		

Mid-Ebb Tide

東業優勤測試顧問有限公司
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)		
						Value	Average	Value	Average	Depth-average	Value	Average	Value	Average	Depth-average	Value	Average	Depth-average
04/01/10	1430-1445	18/Sunny	Surface	1.0	18.6	31.4	31.4	6.76	6.68	6.43	94.0	92.8	3.68	3.68	3.53	3.5	3.5	3.4
						31.3		6.59			91.6		3.67			3.5		
			Middle	10.4	18.2	31.7	31.7	6.21	6.18		86.3	85.8	3.52	3.52		3.5	3.5	
						31.6		6.14			85.3		3.51			3.5		
			Bottom	19.8	17.7	32.2	32.3	6.06	6.04	6.04	84.2	84.0	3.40	3.40		3.2	3.2	
						32.3		6.02			83.7		3.39			3.2		
06/01/10	1650-1701	14/Cloudy	Surface	1.0	16.8	29.0	29.1	6.68	6.68	6.41	90.8	90.8	4.05	4.06	4.03	3.8	3.8	3.8
						29.1		6.68			90.8		4.07			3.8		
			Middle	11.3	17.0	29.9	29.8	6.12	6.14		83.2	83.5	4.09	4.11		3.8	3.8	
						29.6		6.15			83.8		4.12			3.8		
			Bottom	21.6	16.5	30.0	30.1	5.84	5.85	5.85	79.4	79.5	3.92	3.92		3.8	3.8	
						30.1		5.85			79.5		3.92			3.8		
08/01/10	1730-1745	13/Rainy	Surface	1.0	17.1	29.4	29.4	6.22	6.24	6.08	86.4	86.6	4.06	4.08	3.99	3.8	3.8	3.8
						29.4		6.25			86.8		4.09			3.8		
			Middle	9.7	17.6	30.1	30.2	5.94	5.92		81.9	81.7	3.98	3.97		3.8	3.8	
						30.2		5.90			81.4		3.95			3.8		
			Bottom	18.4	17.8	30.6	30.6	5.89	5.91	5.91	81.2	81.4	3.92	3.94		3.8	3.8	
						30.5		5.92			81.6		3.95			3.8		
11/01/10	0915-0927	13/Rainy	Surface	1.0	17.1	26.5	26.7	6.88	6.84	6.73	91.2	91.1	3.15	3.16	3.20	3.0	3.0	3.0
						26.9		6.80			91.0		3.17			3.0		
			Middle	10.1	16.2	27.5	27.5	6.60	6.61		90.0	89.9	3.20	3.20		3.0	3.0	
						27.5		6.62			89.8		3.20			3.0		
			Bottom	19.2	16.1	27.9	27.9	6.30	6.30	6.30	82.5	82.4	3.28	3.25		3.0	3.0	
						27.9		6.29			82.2		3.22			3.0		
13/01/10	1140-1155	12/Fine	Surface	1.0	16.8	31.9	31.9	7.08	7.09	6.74	97.0	97.2	3.98	3.97	3.98	3.8	3.8	3.8
						31.8		7.10			97.4		3.96			3.8		
			Middle	9.8	16.4	32.2	32.3	6.38	6.38		87.4	87.4	3.90	3.88		3.8	3.8	
						32.3		6.38			87.3		3.86			3.8		
			Bottom	18.6	16.1	32.4	32.4	5.90	5.88	5.88	80.8	80.6	4.08	4.08		3.8	3.8	
						32.4		5.86			80.3		4.08			3.8		
15/01/10	1200-1216	15/Sunny	Surface	1.0	17.4	31.4	31.4	6.68	6.62	6.44	92.9	92.1	3.62	3.62	3.42	3.5	3.5	3.2
						31.3		6.56			91.2		3.61			3.5		
			Middle	10.9	16.9	31.8	31.8	6.29	6.25		87.4	86.9	3.44	3.44		3.2	3.2	
						31.8		6.21			86.3		3.43			3.2		
			Bottom	20.8	16.5	32.0	32.1	6.10	6.06	6.06	84.8	84.3	3.21	3.21		3.0	3.0	
						32.1		6.02			83.7		3.20			3.0		
18/01/10	1505-1520	18/Fine	Surface	1.0	20.6	32.0	32.1	6.90	6.91	6.91	91.7	91.6	2.97	2.98	2.95	2.7	2.8	2.8
						32.2		6.92			91.5		2.99			2.8		
			Middle	10.1	19.2	32.0	32.3	6.90	6.90		90.1	90.1	2.92	2.92		2.8	2.8	
						32.6		6.90			90.0		2.92			2.8		
			Bottom	19.2	18.0	32.8	32.8	6.84	6.82	6.82	88.2	88.1	2.95	2.95		2.8	2.8	
						32.8		6.80			88.0		2.95			2.7		
20/01/10	1500-1513	22/Cloudy	Surface	1.0	24.0	31.1	31.2	6.90	6.88	6.62	95.9	95.6	3.95	3.95	3.92	3.8	3.8	3.7
						31.2		6.86			95.3		3.95			3.8		
			Middle	9.5	23.5	31.5	31.6	6.35	6.37		88.3	88.5	3.98	3.97		3.8	3.8	
						31.6		6.38			88.7		3.96			3.8		
			Bottom	18.0	23.2	32.2	32.2	5.81	5.81	5.81	80.8	80.9	3.84	3.84		3.5	3.5	
						32.1		5.81			80.9		3.84			3.5		

Mid-Ebb Tide

東業德勤測試顧問有限公司
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)		
						Value	Average	Value	Average	Depth-average	Value	Average	Value	Average	Depth-average	Value	Average	Depth-average
22/01/10	1630-1643	16/Cloudy	Surface	1.0	22.5	29.1	29.1	6.70	6.70	6.57	94.5	94.5	3.84	3.82	3.80	3.5	3.5	3.5
						29.1		6.70			94.5		3.80			3.5		
			Middle	10.4	22.6	29.4	29.4	6.43	6.44		90.5	90.6	3.72	3.74		3.5	3.5	
						29.3		6.44			90.6		3.76			3.5		
			Bottom	19.8	22.3	29.5	29.5	5.95	5.96	5.96	83.9	84.0	3.84	3.84		3.5	3.5	
						29.5		5.96			84.0		3.84			3.5		
25/01/10	1650-1705	18/Cloudy	Surface	1.0	20.9	31.5	31.6	6.84	6.83	6.77	89.7	89.5	3.29	3.30	3.30	3.0	3.0	3.1
						31.7		6.82			89.2		3.30			3.0		
			Middle	10.3	20.0	31.6	31.5	6.71	6.72		85.3	85.6	3.31	3.32		3.2	3.2	
						31.4		6.72			85.9		3.32			3.2		
			Bottom	19.6	20.1	31.5	31.5	6.55	6.54	6.54	81.1	81.1	3.30	3.30		3.2	3.2	
						31.5		6.52			81.0		3.30			3.2		
27/01/10	0940-0953	17/Cloudy	Surface	1.0	23.0	30.9	31.0	6.85	6.86	6.59	96.6	96.7	3.95	3.95	3.95	3.8	3.8	3.8
						31.0		6.86			96.7		3.94			3.8		
			Middle	10.1	22.8	31.3	31.4	6.35	6.33		89.5	89.2	3.90	3.89		3.8	3.8	
						31.4		6.30			88.8		3.88			3.8		
			Bottom	19.2	22.0	31.5	31.5	5.89	5.88	5.88	83.0	82.7	4.02	4.03		3.8	3.8	
						31.5		5.86			82.4		4.03			3.8		
29/01/10	1100-1120	18/Cloudy	Surface	1.0	18.2	30.0	30.0	6.72	6.74	6.62	88.0	88.2	2.72	2.73	2.97	2.5	2.5	2.7
						30.0		6.75			88.4		2.74			2.5		
			Middle	10.3	18.5	30.2	30.2	6.51	6.51		85.1	85.1	3.11	3.12		3.0	3.0	
						30.2		6.50			85.0		3.13			3.0		
			Bottom	19.5	19.0	30.5	30.5	6.37	6.36	6.36	82.9	82.8	3.06	3.07		2.7	2.7	
						30.5		6.35			82.6		3.07			2.7		

Mid-Ebb Tide

東業德勤測試顧問有限公司
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
04/01/10	1515-1530	18/Sunny	Surface	1.0	18.4	31.6	31.7	6.59	6.55	6.39	91.6	91.1	3.56	3.55	3.43	3.5	3.5	3.3
						31.7		6.51			90.5		3.54			3.5		
			Middle	5.8	18.1	31.9	32.0	6.20	6.23		86.2	86.6	3.41	3.42		3.0	3.1	
						32.0		6.26			87.0		3.42			3.2		
			Bottom	10.6	17.8	32.4	32.4	6.02	6.05	6.05	83.7	84.1	3.32	3.32		3.3	3.2	
						32.3		6.08			84.5		3.31			3.0		
06/01/10	1730-1745	14/Cloudy	Surface	1.0	16.9	28.7	28.8	7.00	6.96	6.65	94.2	93.8	3.95	3.96	3.88	3.8	3.9	3.6
						28.8		6.92			93.4		3.96			4.0		
			Middle	5.7	16.9	29.1	29.1	6.34	6.34		86.2	86.1	3.89	3.88		3.5	3.5	
						29.1		6.33			86.0		3.86			3.5		
			Bottom	10.4	17.1	29.2	29.4	6.05	6.08	6.08	82.3	82.7	3.81	3.82		3.5	3.5	
						29.6		6.10			83.0		3.82			3.5		
08/01/10	1815-1830	13/Rainy	Surface	1.0	17.0	29.5	29.6	6.10	6.12	6.09	84.7	85.0	3.87	3.89	3.75	3.5	3.5	3.5
						29.6		6.14			85.3		3.90			3.5		
			Middle	4.4	17.7	30.3	30.4	6.03	6.05		83.2	83.5	3.64	3.66		3.5	3.5	
						30.4		6.07			83.7		3.67			3.5		
			Bottom	7.8	17.8	30.6	30.7	5.96	5.95	5.95	82.2	82.0	3.70	3.72		3.5	3.5	
						30.7		5.93			81.8		3.73			3.5		
11/01/10	0948-1000	13/Rainy	Surface	1.0	17.2	25.9	25.9	6.90	6.91	6.86	91.5	91.6	3.00	3.01	2.98	2.7	2.9	2.9
						25.9		6.92			91.7		3.02			3.0		
			Middle	4.4	17.0	26.8	26.8	6.79	6.80		90.5	90.6	3.00	3.00		3.0	2.9	
						26.8		6.81			90.6		2.99			2.7		
			Bottom	7.8	17.0	27.7	27.6	6.80	6.75	6.75	90.2	90.1	2.92	2.95		2.7	2.9	
						27.5		6.70			90.0		2.97			3.0		
13/01/10	1220-1233	12/Fine	Surface	1.0	16.9	31.4	31.5	6.98	6.98	6.75	95.6	95.6	3.91	3.92	3.81	3.8	3.9	3.6
						31.5		6.98			95.5		3.92			4.0		
			Middle	4.4	16.7	31.8	31.8	6.52	6.53		89.3	89.4	3.78	3.79		3.5	3.5	
						31.7		6.53			89.4		3.80			3.5		
			Bottom	7.8	16.5	32.0	32.0	6.08	6.08	6.08	83.3	83.3	3.72	3.73		3.5	3.5	
						32.0		6.08			83.2		3.74			3.5		
15/01/10	1245-1300	15/Sunny	Surface	1.0	17.3	31.5	31.6	6.61	6.58	6.40	91.9	91.5	3.54	3.55	3.55	3.5	3.5	3.5
						31.6		6.55			91.0		3.55			3.5		
			Middle	6.0	17.1	31.9	32.0	6.26	6.22		87.0	86.5	3.59	3.60		3.5	3.5	
						32.0		6.18			85.9		3.60			3.5		
			Bottom	11.0	16.8	32.1	32.1	6.05	6.01	6.01	84.1	83.6	3.51	3.51		3.5	3.5	
						32.1		5.97			83.0		3.50			3.5		
18/01/10	1544-1558	18/Fine	Surface	1.0	20.4	31.9	31.9	6.71	6.71	6.67	91.5	91.3	3.01	3.01	3.02	2.7	2.9	2.9
						31.9		6.70			91.1		3.01			3.0		
			Middle	4.0	20.2	31.0	31.3	6.66	6.63		90.9	90.6	3.00	3.00		3.0	2.9	
						31.6		6.60			90.2		3.00			2.8		
			Bottom	7.0	19.9	31.7	31.5	6.62	6.61	6.61	90.0	90.0	3.05	3.05		3.0	3.0	
						31.2		6.59			90.0		3.05			3.0		
20/01/10	1540-1553	22/Cloudy	Surface	1.0	24.1	31.4	31.5	7.06	7.05	6.78	98.2	98.0	3.88	3.87	3.85	3.5	3.5	3.6
						31.5		7.03			97.8		3.86			3.5		
			Middle	4.8	23.7	31.3	31.3	6.51	6.51		90.5	90.5	3.75	3.73		3.5	3.5	
						31.2		6.51			90.4		3.71			3.5		
			Bottom	8.6	23.5	32.1	32.2	6.42	6.42	6.42	89.2	89.1	3.94	3.94		3.8	3.9	
						32.2		6.41			89.0		3.94			4.0		

Mid-Ebb Tide

東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

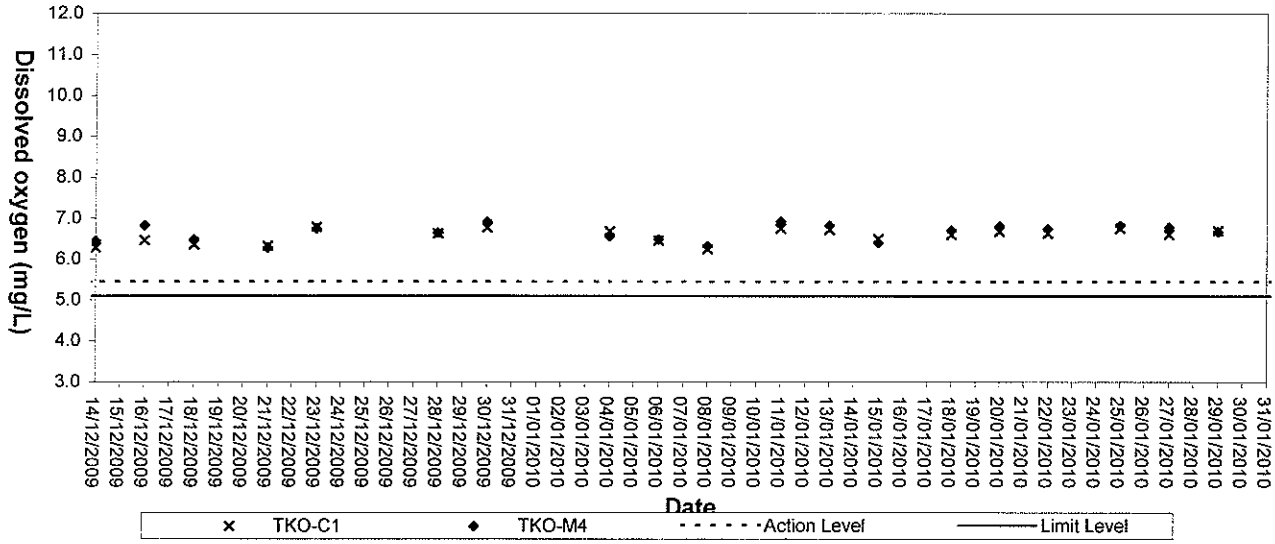
Monitoring Station : TKO-M4

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
22/01/10	1712-1726	16/Cloudy	Surface	1.0	23.0	29.6	29.6	6.90	6.91	6.82	97.5	97.6	4.00	4.01	4.00	3.8	3.9	3.9
						29.6		6.91			97.6		4.02			4.0		
			Middle	5.2	22.8	29.8	29.8	6.75	6.74		95.2	95.0	3.94	3.95		4.0	3.9	
						29.8		6.73			94.8		3.95			3.8		
			Bottom	9.4	22.8	30.2	30.3	6.48	6.48	6.48	91.2	91.2	4.04	4.04		3.8	3.9	
						30.3		6.47			91.1		4.04			4.0		
25/01/10	1729-1742	18/Cloudy	Surface	1.0	21.1	31.6	31.4	6.88	6.84	6.77	89.9	89.9	3.15	3.16	3.16	3.0	3.0	3.0
						31.2		6.80			89.9		3.17			3.0		
			Middle	4.2	20.5	31.5	31.6	6.69	6.70		89.0	88.7	3.11	3.11		3.0	3.0	
						31.7		6.71			88.3		3.11			3.0		
			Bottom	7.4	20.2	31.9	31.9	6.60	6.63	6.63	84.1	84.1	3.20	3.20		3.0	3.0	
						31.9		6.66			84.0		3.19			3.0		
27/01/10	1020-1031	17/Cloudy	Surface	1.0	23.1	31.5	31.5	7.01	7.02	6.78	98.8	98.9	3.86	3.86	3.74	3.5	3.5	3.5
						31.5		7.02			98.9		3.85			3.5		
			Middle	4.4	23.2	31.2	31.3	6.54	6.55		92.2	92.3	3.62	3.64		3.5	3.5	
						31.4		6.56			92.4		3.66			3.5		
			Bottom	7.8	22.9	31.8	31.9	6.41	6.42	6.42	90.4	90.6	3.73	3.74		3.5	3.5	
						31.9		6.43			90.8		3.74			3.5		
29/01/10	1138-1154	18/Cloudy	Surface	1.0	18.1	30.0	30.0	6.77	6.76	6.66	88.7	88.6	2.91	2.93	3.11	2.8	2.9	3.0
						30.0		6.75			88.4		2.94			3.0		
			Middle	4.3	18.2	30.1	30.1	6.57	6.56		85.1	85.4	3.16	3.18		3.0	3.0	
						30.1		6.55			85.7		3.20			3.0		
			Bottom	7.6	18.3	30.2	30.2	6.41	6.43	6.43	83.4	83.6	3.21	3.21		3.0	3.0	
						30.2		6.44			83.8		3.21			3.0		

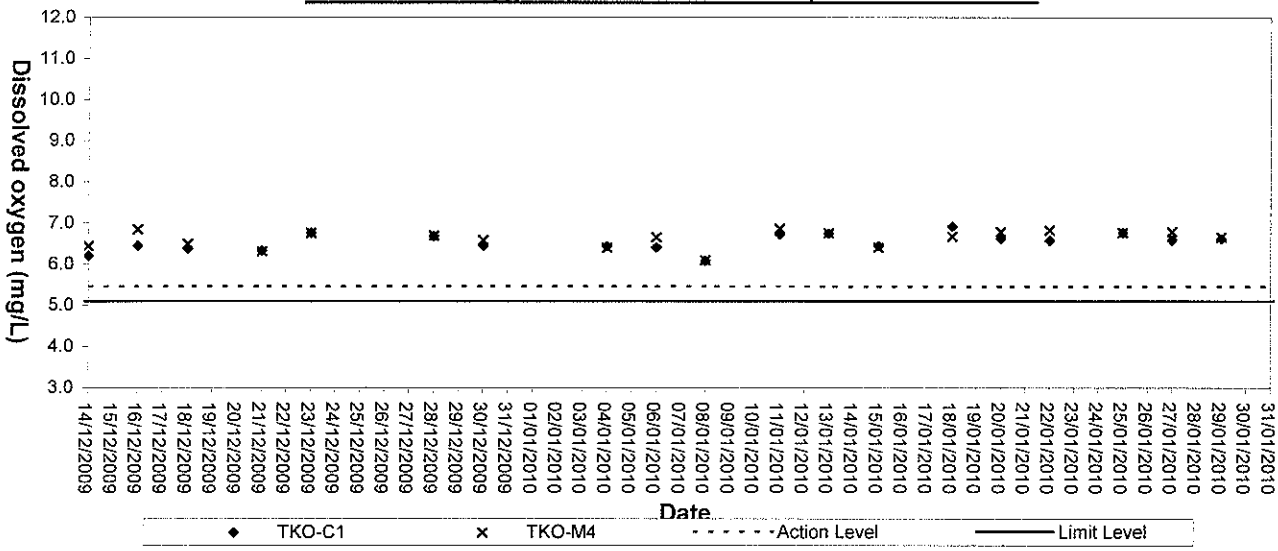
Appendix D3

Graphical Plots of Impact Marine Water Quality Monitoring Data

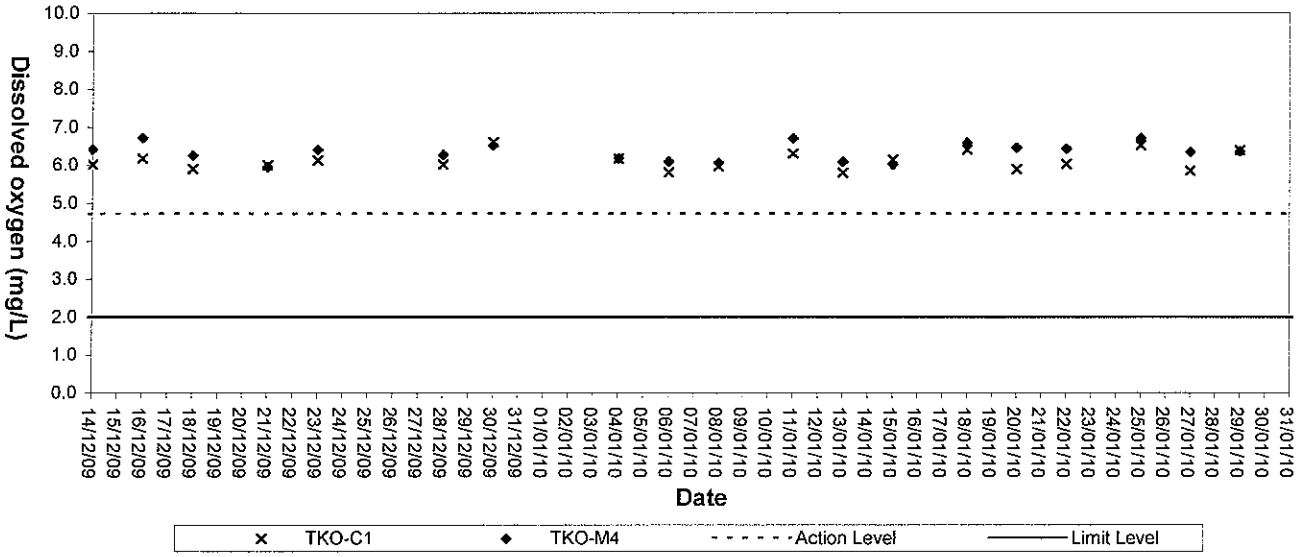
Dissolved Oxygen (Surface & Middle) at Mid-Flood Tide



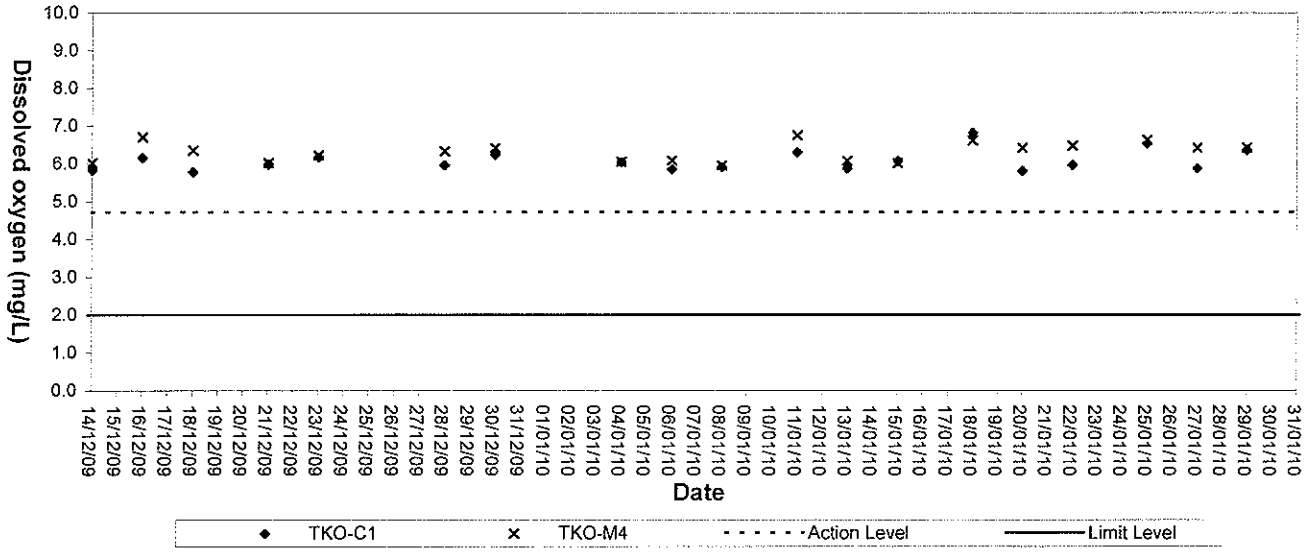
Dissolved Oxygen (Surface & Middle) at Mid-Ebb Tide



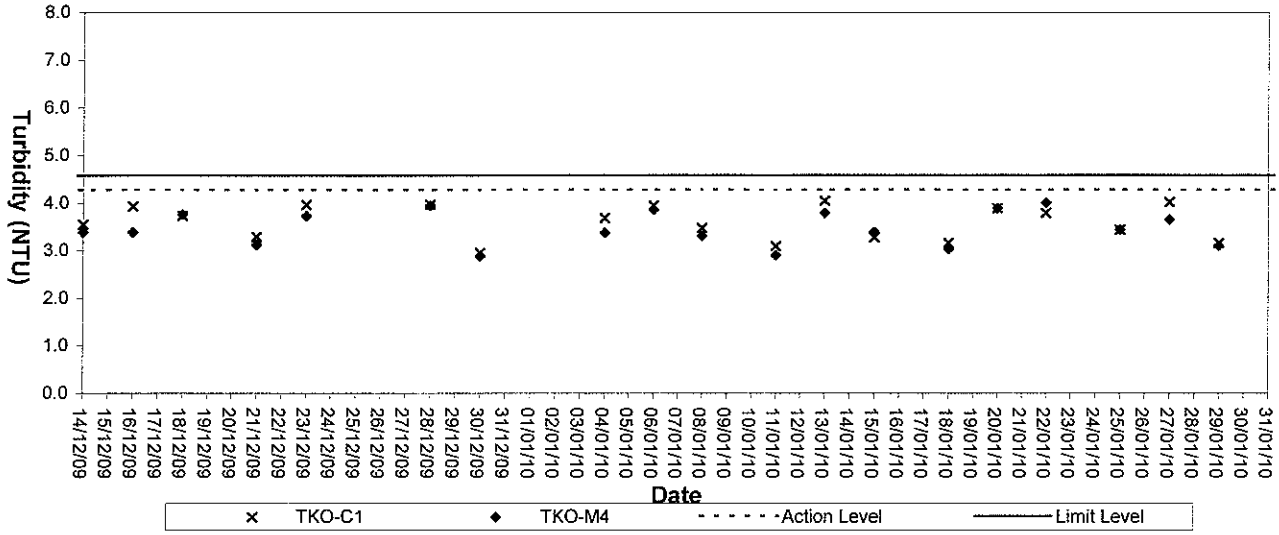
Dissolved Oxygen (Bottom) at Mid-Flood Tide



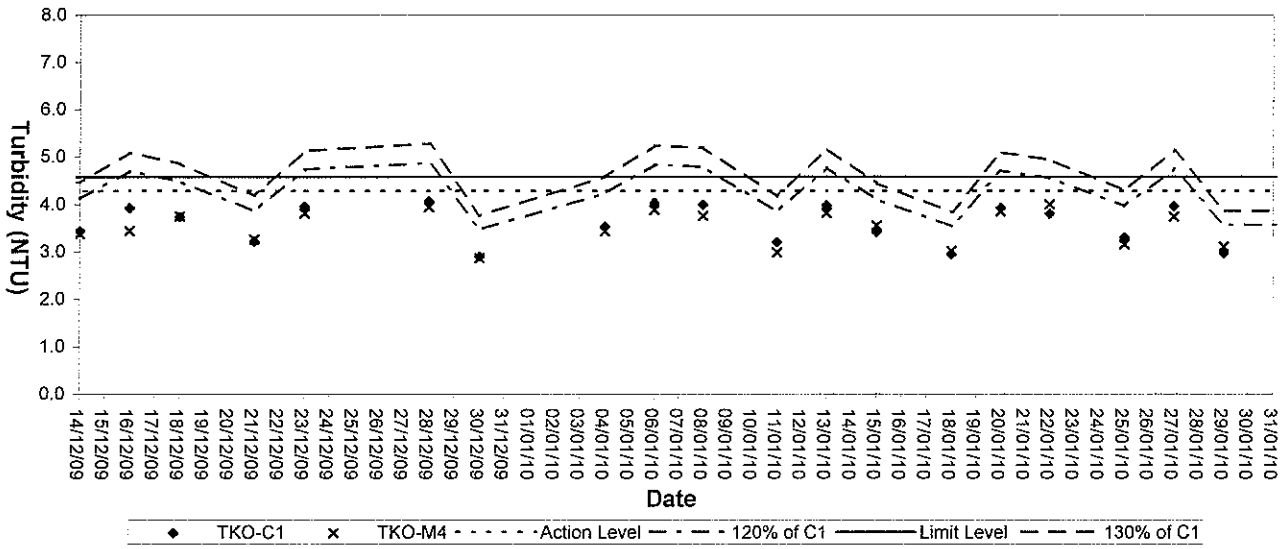
Dissolved Oxygen (Bottom) at Mid-Ebb Tide



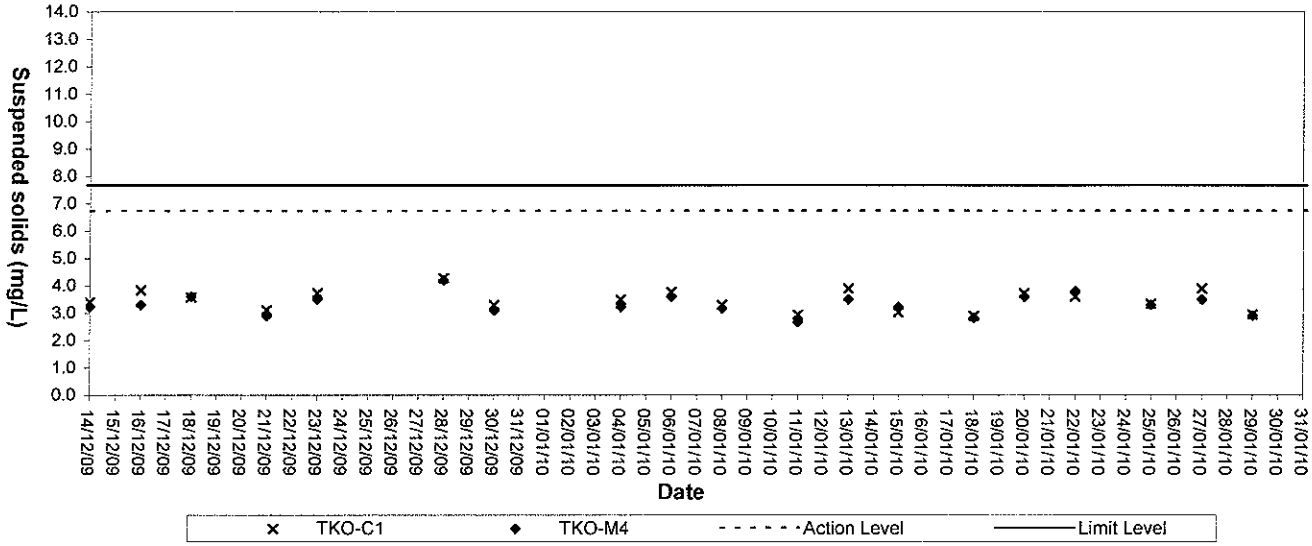
Turbidity (Depth-average) at Mid-Flood Tide



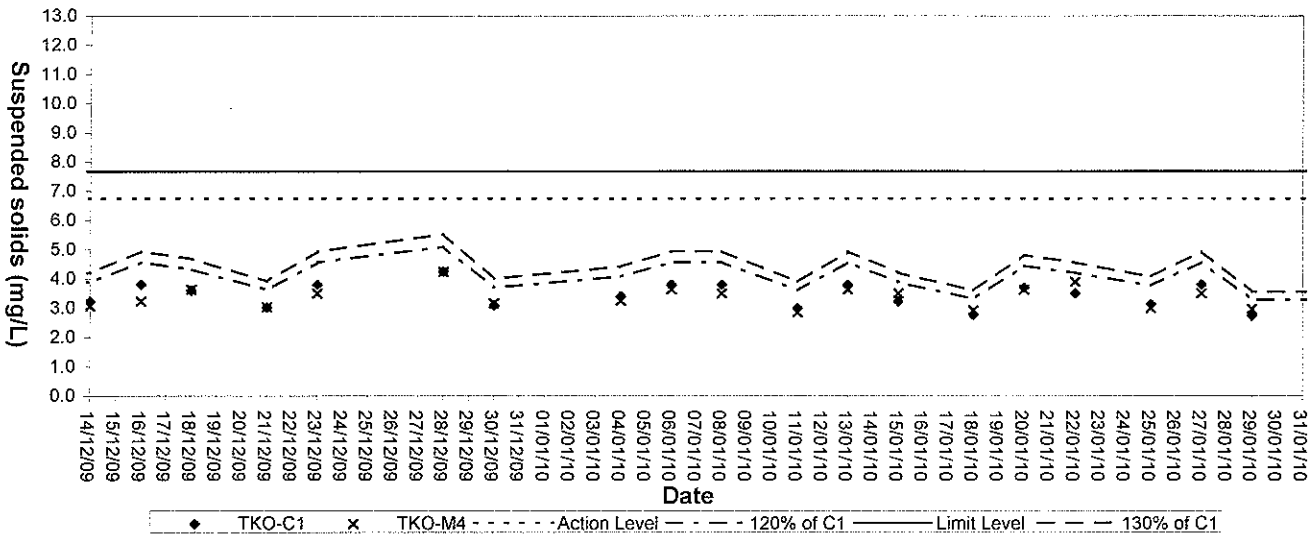
Turbidity(Depth-average) at Mid-Ebb Tide



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



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



Appendix E

Weather Condition

東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

Weather information in January 2010

Date (DMY)	Time	Average Temp	Hi Temp	Low Temp	Wind Speed (m/s) Average	Wind Speed (m/s) Hi	Wind Direction	Period
01/01/2010	12:00 AM	15.9	16.3	15.8	2.3	3.0	SES	30
01/01/2010	12:30 AM	15.8	16.1	15.6	2.6	4.5	NEN	30
01/01/2010	1:00 AM	15.8	16.2	15.7	2.7	3.8	N	30
01/01/2010	1:30 AM	15.7	16.1	15.6	1.6	2.7	NE	30
01/01/2010	2:00 AM	15.5	15.6	15.3	3.3	3.4	E	30
01/01/2010	2:30 AM	15.5	15.6	15.4	2.8	4.6	NEE	30
01/01/2010	3:00 AM	15.2	15.4	15.2	3.2	5.0	NEE	30
01/01/2010	3:30 AM	15.0	15.0	14.9	3.9	5.2	NEE	30
01/01/2010	4:00 AM	15.0	15.4	14.9	2.3	4.4	NEE	30
01/01/2010	4:30 AM	14.9	15.1	14.9	2.2	3.1	SEE	30
01/01/2010	5:00 AM	14.8	15.2	14.7	3.0	4.5	NE	30
01/01/2010	5:30 AM	14.9	15.0	14.7	2.3	3.3	NEE	30
01/01/2010	6:00 AM	14.9	15.2	14.8	3.0	4.4	NEE	30
01/01/2010	6:30 AM	14.9	15.3	14.6	2.8	3.3	NEE	30
01/01/2010	7:00 AM	14.9	15.0	14.8	2.7	3.6	NEE	30
01/01/2010	7:30 AM	14.8	15.0	14.6	1.8	2.7	NE	30
01/01/2010	8:00 AM	14.5	14.5	14.3	3.4	5.3	NEN	30
01/01/2010	8:30 AM	14.5	14.7	14.4	3.4	4.2	NEN	30
01/01/2010	9:00 AM	14.7	14.8	14.7	2.7	2.8	NEN	30
01/01/2010	9:30 AM	15.0	15.1	14.7	3.2	3.8	NEE	30
01/01/2010	10:00 AM	15.1	15.4	15.1	2.7	5.0	NEE	30
01/01/2010	10:30 AM	15.1	15.3	14.8	1.8	4.0	NEE	30
01/01/2010	11:00 AM	15.1	15.2	14.8	3.3	4.3	NEN	30
01/01/2010	11:30 AM	15.8	15.9	15.5	1.7	3.8	NWN	30
01/01/2010	12:00 PM	15.9	16.0	15.7	2.7	3.6	NEE	30
01/01/2010	12:30 PM	16.6	16.6	16.5	3.3	5.4	NEE	30
01/01/2010	1:00 PM	17.0	17.2	16.9	2.9	3.2	NEN	30
01/01/2010	1:30 PM	17.1	17.3	16.9	3.3	5.6	SEE	30
01/01/2010	2:00 PM	16.6	16.7	16.5	2.8	4.0	SEE	30
01/01/2010	2:30 PM	16.8	17.1	16.6	2.8	3.5	SEE	30
01/01/2010	3:00 PM	16.9	17.1	16.8	2.3	2.6	NEE	30
01/01/2010	3:30 PM	16.1	16.5	15.8	3.3	5.5	NEE	30
01/01/2010	4:00 PM	16.1	16.4	16.0	1.6	2.1	NEE	30
01/01/2010	4:30 PM	16.0	16.3	15.9	2.2	3.7	NEN	30
01/01/2010	5:00 PM	16.0	16.3	15.7	2.0	3.5	NEE	30
01/01/2010	5:30 PM	16.0	16.3	15.8	1.6	1.7	NEE	30
01/01/2010	6:00 PM	16.0	16.3	15.8	2.0	2.2	SEE	30
01/01/2010	6:30 PM	15.8	16.0	15.6	2.3	3.5	NEN	30
01/01/2010	7:00 PM	15.6	16.0	15.5	2.7	4.9	NEN	30
01/01/2010	7:30 PM	15.7	16.1	15.5	2.4	4.5	NEN	30
01/01/2010	8:00 PM	15.8	16.1	15.6	2.5	4.0	NEN	30
01/01/2010	8:30 PM	16.0	16.1	15.8	2.2	4.0	NEN	30
01/01/2010	9:00 PM	16.0	16.0	15.8	1.8	2.5	NEE	30
01/01/2010	9:30 PM	16.0	16.3	15.9	1.1	2.6	NE	30
01/01/2010	10:00 PM	16.0	16.2	15.8	1.6	3.3	NEN	30
01/01/2010	10:30 PM	16.1	16.2	15.9	1.7	3.5	NEN	30
01/01/2010	11:00 PM	16.0	16.3	15.7	2.7	3.5	NEN	30
01/01/2010	11:30 PM	16.0	16.3	15.8	1.6	2.1	SES	30
02/01/2010	12:00 AM	16.0	16.3	15.9	2.2	2.6	NEE	30
02/01/2010	12:30 AM	16.0	16.0	16.0	1.4	3.7	NEN	30
02/01/2010	1:00 AM	16.0	16.1	16.0	1.6	1.8	NEE	30
02/01/2010	1:30 AM	16.0	16.3	15.8	1.7	1.9	E	30
02/01/2010	2:00 AM	16.0	16.1	15.7	1.6	2.1	N	30
02/01/2010	2:30 AM	16.0	16.1	16.0	1.6	2.9	NE	30
02/01/2010	3:00 AM	15.9	16.2	15.9	1.4	2.5	NEN	30
02/01/2010	3:30 AM	15.9	16.2	15.8	1.1	1.9	NEN	30
02/01/2010	4:00 AM	15.9	16.2	15.7	0.3	0.5	NEE	30
02/01/2010	4:30 AM	15.9	16.0	15.7	1.2	3.3	NEN	30
02/01/2010	5:00 AM	15.9	15.9	15.7	1.1	1.4	NEN	30
02/01/2010	5:30 AM	15.9	16.3	15.9	0.6	1.2	NWN	30
02/01/2010	6:00 AM	15.9	16.0	15.8	1.1	2.3	NEE	30
02/01/2010	6:30 AM	15.9	16.2	15.8	0.5	1.5	NEN	30
02/01/2010	7:00 AM	15.9	16.0	15.9	0.1	0.5	N	30
02/01/2010	7:30 AM	15.9	16.1	15.8	0.7	2.1	NEN	30
02/01/2010	8:00 AM	16.0	16.0	15.8	0.7	2.9	NEN	30
02/01/2010	8:30 AM	16.1	16.1	15.9	1.0	1.3	NEN	30
02/01/2010	9:00 AM	16.7	16.9	16.6	1.2	3.2	NEE	30
02/01/2010	9:30 AM	17.1	17.4	17.1	1.6	1.6	NEE	30
02/01/2010	10:00 AM	17.1	17.3	17.1	1.6	3.1	NEE	30
02/01/2010	10:30 AM	17.2	17.4	16.9	2.2	4.4	NE	30
02/01/2010	11:00 AM	17.5	17.7	17.5	1.8	3.6	NEE	30
02/01/2010	11:30 AM	17.9	18.1	17.7	1.6	3.6	NEN	30
02/01/2010	12:00 PM	18.1	18.5	17.9	1.6	3.3	NEE	30
02/01/2010	12:30 PM	18.2	18.3	18.1	1.6	3.5	NEE	30
02/01/2010	1:00 PM	18.2	18.2	18.1	1.2	1.3	NEE	30
02/01/2010	1:30 PM	18.8	18.8	18.7	1.1	1.6	NEN	30
02/01/2010	2:00 PM	19.0	19.1	18.7	0.6	1.4	SEE	30
02/01/2010	2:30 PM	19.1	19.5	19.0	0.5	1.5	SEE	30
02/01/2010	3:00 PM	19.1	19.4	19.1	1.6	3.5	NEE	30
02/01/2010	3:30 PM	19.0	19.3	18.7	1.0	2.2	E	30
02/01/2010	4:00 PM	19.0	19.4	18.9	2.1	4.1	NEE	30
02/01/2010	4:30 PM	18.4	18.5	18.3	2.2	3.6	NEE	30
02/01/2010	5:00 PM	18.2	18.5	18.1	1.2	3.0	NEN	30
02/01/2010	5:30 PM	17.9	18.1	17.6	2.7	3.0	NEE	30
02/01/2010	6:00 PM	17.2	17.3	17.0	2.3	2.6	NEE	30
02/01/2010	6:30 PM	17.0	17.3	16.8	1.1	1.7	NEN	30
02/01/2010	7:00 PM	16.9	17.3	16.9	0.5	1.9	NEE	30
02/01/2010	7:30 PM	16.9	17.3	16.8	0.5	2.1	NWN	30
02/01/2010	8:00 PM	16.8	17.1	16.8	1.1	2.3	N	30
02/01/2010	8:30 PM	16.0	16.4	15.9	2.3	2.4	NEE	30
02/01/2010	9:00 PM	16.0	16.4	15.9	1.5	1.5	NEN	30
02/01/2010	9:30 PM	15.9	16.2	15.8	1.8	4.0	NEE	30
02/01/2010	10:00 PM	15.8	16.1	15.6	2.4	3.6	NEE	30
02/01/2010	10:30 PM	15.8	15.9	15.6	2.2	2.3	NEE	30
02/01/2010	11:00 PM	15.8	15.8	15.7	2.2	2.4	NEE	30
02/01/2010	11:30 PM	15.8	16.2	15.7	2.7	2.7	NEE	30

東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

Weather information in January 2010

Date (DMY)	Time	Average Temp	Hi Temp	Low Temp	Wind Speed (m/s) Average	Wind Speed (m/s) Hi	Wind Direction	Period
03/01/2010	12:00 AM	15.8	16.1	15.6	0.6	1.6	NEN	30
03/01/2010	12:30 AM	15.7	15.9	15.5	2.0	4.2	NEE	30
03/01/2010	1:00 AM	15.5	15.8	15.4	1.5	2.2	NEN	30
03/01/2010	1:30 AM	15.3	15.5	15.1	1.5	1.8	NWN	30
03/01/2010	2:00 AM	15.3	15.6	15.1	2.1	3.7	NEE	30
03/01/2010	2:30 AM	15.3	15.4	15.3	1.2	2.8	NWN	30
03/01/2010	3:00 AM	15.4	15.5	15.3	1.2	2.4	NWN	30
03/01/2010	3:30 AM	15.3	15.7	15.2	2.2	4.0	NEN	30
03/01/2010	4:00 AM	15.5	15.9	15.3	0.6	1.9	NEE	30
03/01/2010	4:30 AM	15.5	15.7	15.4	1.1	2.8	NEE	30
03/01/2010	5:00 AM	15.3	15.6	15.2	0.5	2.7	NEN	30
03/01/2010	5:30 AM	15.1	15.2	14.9	1.2	2.0	NEE	30
03/01/2010	6:00 AM	15.0	15.2	14.9	2.0	3.0	NEE	30
03/01/2010	6:30 AM	14.7	14.7	14.5	3.2	4.0	NEE	30
03/01/2010	7:00 AM	14.5	14.6	14.2	0.8	1.0	NEN	30
03/01/2010	7:30 AM	14.7	14.9	14.4	0.1	0.3	NWN	30
03/01/2010	8:00 AM	15.0	15.2	14.7	0.5	0.5	N	30
03/01/2010	8:30 AM	15.7	16.0	15.7	1.0	1.3	NEE	30
03/01/2010	9:00 AM	15.9	16.1	15.8	1.1	1.8	NEE	30
03/01/2010	9:30 AM	15.9	16.0	15.6	0.5	2.1	NEN	30
03/01/2010	10:00 AM	16.5	16.8	16.5	0.7	3.0	NEE	30
03/01/2010	10:30 AM	17.2	17.4	17.1	1.2	1.8	NEE	30
03/01/2010	11:00 AM	18.0	18.2	17.9	1.9	3.3	NEN	30
03/01/2010	11:30 AM	18.1	18.1	18.0	2.4	4.2	NEN	30
03/01/2010	12:00 PM	18.0	18.2	18.0	1.7	3.3	NEE	30
03/01/2010	12:30 PM	17.9	18.1	17.7	1.7	2.8	SEE	30
03/01/2010	1:00 PM	17.2	17.3	16.9	2.5	4.2	NEE	30
03/01/2010	1:30 PM	17.2	17.6	16.9	1.6	3.9	NEN	30
03/01/2010	2:00 PM	17.6	17.7	17.4	2.2	2.4	NEN	30
03/01/2010	2:30 PM	18.0	18.2	18.0	1.6	2.5	NEE	30
03/01/2010	3:00 PM	17.9	18.0	17.9	1.1	1.3	NEE	30
03/01/2010	3:30 PM	17.9	17.9	17.8	1.1	1.7	NEE	30
03/01/2010	4:00 PM	17.9	18.0	17.7	1.6	1.8	NEN	30
03/01/2010	4:30 PM	17.2	17.5	17.0	1.6	3.8	NEN	30
03/01/2010	5:00 PM	17.1	17.3	16.9	1.6	3.0	NEN	30
03/01/2010	5:30 PM	16.9	17.0	16.6	2.1	4.1	NWN	30
03/01/2010	6:00 PM	16.7	16.9	16.5	1.6	2.7	NEE	30
03/01/2010	6:30 PM	16.2	16.2	16.0	1.6	2.9	NEN	30
03/01/2010	7:00 PM	16.2	16.3	15.9	1.1	2.9	NWN	30
03/01/2010	7:30 PM	16.2	16.2	16.0	0.5	2.1	NEN	30
03/01/2010	8:00 PM	16.3	16.5	16.2	1.5	3.3	NEE	30
03/01/2010	8:30 PM	16.2	16.5	15.9	1.3	2.8	N	30
03/01/2010	9:00 PM	16.2	16.2	16.2	2.1	2.2	NEN	30
03/01/2010	9:30 PM	16.1	16.3	16.1	1.6	1.7	NEN	30
03/01/2010	10:00 PM	16.0	16.1	15.7	2.5	3.2	NEN	30
03/01/2010	10:30 PM	16.1	16.4	16.0	1.7	1.8	NEN	30
03/01/2010	11:00 PM	16.1	16.4	15.9	2.3	3.9	NEN	30
03/01/2010	11:30 PM	16.1	16.2	16.0	1.7	3.9	NEN	30
04/01/2010	12:00 AM	16.1	16.4	16.0	1.8	1.9	NEN	30
04/01/2010	12:30 AM	16.0	16.4	15.9	1.3	1.4	NEN	30
04/01/2010	1:00 AM	16.0	16.1	15.9	1.6	2.3	NEN	30
04/01/2010	1:30 AM	15.9	16.0	15.7	2.1	4.0	NEN	30
04/01/2010	2:00 AM	15.9	16.2	15.7	2.1	2.4	NEN	30
04/01/2010	2:30 AM	16.0	16.1	16.0	1.1	1.3	NEN	30
04/01/2010	3:00 AM	15.9	15.9	15.6	1.7	3.6	NEN	30
04/01/2010	3:30 AM	15.8	16.1	15.6	2.6	4.6	NEN	30
04/01/2010	4:00 AM	15.3	15.4	15.1	2.4	4.6	NEN	30
04/01/2010	4:30 AM	15.1	15.4	14.9	3.3	5.5	NEN	30
04/01/2010	5:00 AM	15.5	15.9	15.3	2.2	4.0	NEN	30
04/01/2010	5:30 AM	15.1	15.2	14.9	2.2	3.8	NEN	30
04/01/2010	6:00 AM	15.1	15.4	15.0	1.6	3.0	NEN	30
04/01/2010	6:30 AM	15.0	15.3	14.8	2.2	3.2	N	30
04/01/2010	7:00 AM	15.1	15.2	15.0	1.6	2.0	NEN	30
04/01/2010	7:30 AM	15.1	15.3	14.9	2.7	4.5	NEN	30
04/01/2010	8:00 AM	15.6	15.7	15.4	1.3	3.2	NWN	30
04/01/2010	8:30 AM	16.9	17.3	16.7	1.4	1.5	NEN	30
04/01/2010	9:00 AM	17.0	17.2	16.8	1.2	2.0	NEN	30
04/01/2010	9:30 AM	17.0	17.0	16.8	2.2	3.1	NEE	30
04/01/2010	10:00 AM	18.0	18.3	17.7	2.1	4.3	NEE	30
04/01/2010	10:30 AM	18.2	18.4	18.0	2.5	2.5	NEN	30
04/01/2010	11:00 AM	18.5	18.5	18.4	1.5	1.9	SES	30
04/01/2010	11:30 AM	19.7	20.0	19.4	2.6	4.0	NEE	30
04/01/2010	12:00 PM	19.3	19.3	19.3	2.8	4.7	NEE	30
04/01/2010	12:30 PM	19.8	20.2	19.7	2.8	3.1	NEN	30
04/01/2010	1:00 PM	20.3	20.5	20.2	2.3	3.1	NEE	30
04/01/2010	1:30 PM	20.0	20.3	20.0	2.7	4.0	NEE	30
04/01/2010	2:00 PM	20.5	20.9	20.2	2.7	4.0	NEN	30
04/01/2010	2:30 PM	20.4	20.5	20.1	2.2	3.0	NEN	30
04/01/2010	3:00 PM	19.9	20.2	19.7	3.2	4.2	NEN	30
04/01/2010	3:30 PM	19.1	19.2	19.1	2.7	4.9	NEN	30
04/01/2010	4:00 PM	19.0	19.3	18.8	2.0	2.6	NEE	30
04/01/2010	4:30 PM	19.0	19.3	18.8	2.2	4.5	NEN	30
04/01/2010	5:00 PM	18.7	18.8	18.5	2.1	3.1	NEN	30
04/01/2010	5:30 PM	18.0	18.1	18.0	1.6	1.8	NEN	30
04/01/2010	6:00 PM	17.9	18.3	17.7	1.6	3.8	NEN	30
04/01/2010	6:30 PM	17.5	17.8	17.4	1.1	2.3	NEN	30
04/01/2010	7:00 PM	17.5	17.5	17.4	1.2	2.8	NWN	30
04/01/2010	7:30 PM	17.6	17.6	17.5	0.8	2.9	NEN	30
04/01/2010	8:00 PM	17.5	17.8	17.3	1.6	2.5	NEE	30
04/01/2010	8:30 PM	17.5	17.6	17.3	0.1	1.8	N	30
04/01/2010	9:00 PM	17.2	17.6	17.0	0.7	3.0	NEN	30
04/01/2010	9:30 PM	17.1	17.5	17.0	0.7	1.6	NEE	30
04/01/2010	10:00 PM	17.0	17.2	16.9	0.5	1.4	NEN	30
04/01/2010	10:30 PM	17.0	17.3	17.0	0.1	0.7	NEE	30
04/01/2010	11:00 PM	17.0	17.3	17.0	1.0	1.8	NEN	30
04/01/2010	11:30 PM	17.3	17.6	17.1	1.2	3.0	NEN	30

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Weather information in January 2010

Date (DMY)	Time	Average Temp	Hi Temp	Low Temp	Wind Speed (m/s) Average	Wind Speed (m/s) Hi	Wind Direction	Period
05/01/2010	12:00 AM	17.2	17.5	17.1	1.2	2.3	NE	30
05/01/2010	12:30 AM	17.3	17.6	17.2	1.5	1.5	NEN	30
05/01/2010	1:00 AM	17.2	17.5	17.2	2.1	3.2	NE	30
05/01/2010	1:30 AM	17.2	17.2	17.0	1.3	3.5	NEE	30
05/01/2010	2:00 AM	17.1	17.5	17.0	2.0	4.1	NEN	30
05/01/2010	2:30 AM	17.1	17.4	16.9	2.7	4.0	NEN	30
05/01/2010	3:00 AM	17.1	17.5	17.1	2.4	2.7	NEN	30
05/01/2010	3:30 AM	17.1	17.3	17.0	1.1	1.4	NEE	30
05/01/2010	4:00 AM	17.4	17.7	17.2	1.8	3.6	SEE	30
05/01/2010	4:30 AM	17.1	17.2	17.1	2.8	4.1	NEN	30
05/01/2010	5:00 AM	17.0	17.0	16.8	2.2	4.2	NEN	30
05/01/2010	5:30 AM	16.9	17.2	16.7	2.3	3.0	NEE	30
05/01/2010	6:00 AM	16.7	16.7	16.4	2.5	2.8	NEN	30
05/01/2010	6:30 AM	16.5	16.7	16.4	2.7	4.3	NEN	30
05/01/2010	7:00 AM	16.4	16.7	16.3	2.3	3.2	NEN	30
05/01/2010	7:30 AM	17.0	17.1	16.9	3.2	4.6	NEE	30
05/01/2010	8:00 AM	17.1	17.2	17.0	2.7	3.7	NEE	30
05/01/2010	8:30 AM	17.1	17.3	16.9	2.2	3.8	NE	30
05/01/2010	9:00 AM	17.1	17.4	17.1	3.4	3.6	NEE	30
05/01/2010	9:30 AM	17.2	17.5	17.1	2.7	4.1	NEE	30
05/01/2010	10:00 AM	17.2	17.3	17.0	2.7	3.0	NEE	30
05/01/2010	10:30 AM	17.1	17.4	16.9	3.0	4.5	NEE	30
05/01/2010	11:00 AM	17.0	17.2	16.7	2.8	3.8	NEE	30
05/01/2010	11:30 AM	16.9	17.1	16.9	3.4	5.4	E	30
05/01/2010	12:00 PM	16.9	17.0	16.6	3.5	3.7	NEE	30
05/01/2010	12:30 PM	16.7	16.8	16.7	3.2	4.7	NE	30
05/01/2010	1:00 PM	16.6	16.8	16.3	4.4	4.8	SEE	30
05/01/2010	1:30 PM	16.6	17.0	16.4	4.0	4.9	NEE	30
05/01/2010	2:00 PM	16.5	16.7	16.4	4.0	6.3	NEE	30
05/01/2010	2:30 PM	16.5	16.6	16.4	3.4	4.8	NEE	30
05/01/2010	3:00 PM	16.6	16.7	16.6	3.5	4.1	NEE	30
05/01/2010	3:30 PM	16.5	16.6	16.2	2.8	4.8	NEE	30
05/01/2010	4:00 PM	16.5	16.7	16.3	3.6	5.0	NEE	30
05/01/2010	4:30 PM	16.3	16.3	16.0	2.7	4.0	NEE	30
05/01/2010	5:00 PM	16.3	16.6	16.1	3.7	4.3	NEE	30
05/01/2010	5:30 PM	16.3	16.6	16.1	3.4	4.1	NEE	30
05/01/2010	6:00 PM	16.3	16.6	16.2	3.3	3.4	NEE	30
05/01/2010	6:30 PM	16.3	16.3	16.2	2.3	2.8	NEE	30
05/01/2010	7:00 PM	16.2	16.6	16.1	2.7	2.8	E	30
05/01/2010	7:30 PM	16.2	16.5	16.0	2.6	4.0	NEE	30
05/01/2010	8:00 PM	16.1	16.5	15.8	3.2	3.6	NEE	30
05/01/2010	8:30 PM	16.0	16.3	16.0	2.6	2.9	NEE	30
05/01/2010	9:00 PM	15.8	15.9	15.7	2.7	3.2	NEE	30
05/01/2010	9:30 PM	15.5	15.9	15.3	2.8	5.1	NE	30
05/01/2010	10:00 PM	15.5	15.6	15.4	2.4	3.5	NE	30
05/01/2010	10:30 PM	15.4	15.5	15.3	2.7	4.2	NEE	30
05/01/2010	11:00 PM	15.4	15.5	15.3	2.7	3.0	NEE	30
05/01/2010	11:30 PM	15.3	15.6	15.2	3.7	3.9	NEE	30
06/01/2010	12:00 AM	15.2	15.4	15.0	3.5	5.7	NEE	30
06/01/2010	12:30 AM	15.2	15.3	15.1	3.9	5.6	NEE	30
06/01/2010	1:00 AM	15.1	15.5	15.1	3.5	4.7	NEE	30
06/01/2010	1:30 AM	15.0	15.3	14.8	3.2	5.2	NEN	30
06/01/2010	2:00 AM	15.0	15.2	14.7	2.6	4.2	NEE	30
06/01/2010	2:30 AM	14.9	15.2	14.7	2.6	2.9	NEN	30
06/01/2010	3:00 AM	14.9	15.0	14.7	2.3	4.3	NEN	30
06/01/2010	3:30 AM	14.8	15.0	14.5	3.2	5.2	NEN	30
06/01/2010	4:00 AM	14.8	14.9	14.7	3.2	3.5	NEN	30
06/01/2010	4:30 AM	14.6	14.6	14.4	2.8	3.0	NEN	30
06/01/2010	5:00 AM	14.6	14.7	14.6	1.4	2.4	NWW	30
06/01/2010	5:30 AM	14.8	15.2	14.5	2.1	4.3	NWN	30
06/01/2010	6:00 AM	14.9	15.2	14.9	1.8	2.2	NEN	30
06/01/2010	6:30 AM	14.9	15.1	14.7	2.7	3.7	NEN	30
06/01/2010	7:00 AM	15.0	15.2	14.9	1.6	3.3	NEN	30
06/01/2010	7:30 AM	15.0	15.4	14.8	2.7	3.7	NEN	30
06/01/2010	8:00 AM	15.1	15.5	15.1	1.5	1.9	NEE	30
06/01/2010	8:30 AM	15.2	15.4	15.0	1.7	2.1	NEE	30
06/01/2010	9:00 AM	15.5	15.6	15.3	2.3	2.3	NEE	30
06/01/2010	9:30 AM	15.8	16.1	15.6	1.3	2.2	SEE	30
06/01/2010	10:00 AM	15.8	16.0	15.7	2.7	3.9	NEE	30
06/01/2010	10:30 AM	15.9	16.3	15.7	1.6	3.5	NEE	30
06/01/2010	11:00 AM	15.9	16.0	15.9	1.5	2.3	NEN	30
06/01/2010	11:30 AM	15.9	15.9	15.7	2.2	3.1	NEN	30
06/01/2010	12:00 PM	16.1	16.2	16.0	1.5	2.7	SEE	30
06/01/2010	12:30 PM	16.0	16.1	15.7	1.7	3.5	NEE	30
06/01/2010	1:00 PM	16.0	16.2	15.9	1.1	1.5	SES	30
06/01/2010	1:30 PM	15.9	16.2	15.8	2.1	3.3	NEE	30
06/01/2010	2:00 PM	15.9	16.2	15.8	0.9	2.7	NEE	30
06/01/2010	2:30 PM	15.9	16.0	15.7	1.5	3.4	NEN	30
06/01/2010	3:00 PM	15.5	15.6	15.2	2.2	3.8	NE	30
06/01/2010	3:30 PM	15.4	15.6	15.3	2.7	4.4	NEE	30
06/01/2010	4:00 PM	15.3	15.4	15.2	2.4	3.3	NEE	30
06/01/2010	4:30 PM	15.0	15.4	14.9	2.2	2.8	NEE	30
06/01/2010	5:00 PM	15.0	15.2	14.8	2.7	4.8	NEE	30
06/01/2010	5:30 PM	14.5	14.5	14.4	1.9	2.2	NEE	30
06/01/2010	6:00 PM	14.3	14.7	14.2	1.6	2.7	NEE	30
06/01/2010	6:30 PM	14.0	14.0	13.8	3.0	5.0	NEE	30
06/01/2010	7:00 PM	13.7	14.0	13.4	1.6	2.3	NEE	30
06/01/2010	7:30 PM	13.5	13.8	13.3	1.6	3.8	NEE	30
06/01/2010	8:00 PM	13.4	13.5	13.1	1.1	2.4	NEE	30
06/01/2010	8:30 PM	13.3	13.6	13.2	1.6	2.4	NWN	30
06/01/2010	9:00 PM	13.1	13.3	12.9	2.8	4.6	NEE	30
06/01/2010	9:30 PM	13.1	13.4	12.9	2.3	2.8	NEE	30
06/01/2010	10:00 PM	13.1	13.4	12.9	1.0	2.5	NEE	30
06/01/2010	10:30 PM	13.0	13.0	12.8	1.0	1.2	NEN	30
06/01/2010	11:00 PM	13.1	13.2	13.1	2.6	3.1	E	30
06/01/2010	11:30 PM	12.9	13.3	12.7	2.2	3.2	NEE	30

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Weather information in January 2010

Date (DMY)	Time	Average Temp	Hi Temp	Low Temp	Wind Speed (m/s) Average	Wind Speed (m/s) Hi	Wind Direction	Period
07/01/2010	12:00 AM	12.8	13.0	12.6	2.2	3.7	NEE	30
07/01/2010	12:30 AM	12.6	12.7	12.4	2.2	2.6	NEE	30
07/01/2010	1:00 AM	12.5	12.8	12.3	2.2	3.7	NEE	30
07/01/2010	1:30 AM	12.3	12.7	12.1	1.9	2.1	NEN	30
07/01/2010	2:00 AM	12.2	12.3	11.9	2.2	3.2	NEE	30
07/01/2010	2:30 AM	12.1	12.2	11.8	2.1	2.2	NEE	30
07/01/2010	3:00 AM	12.1	12.3	12.1	2.3	3.4	NEE	30
07/01/2010	3:30 AM	12.1	12.3	11.8	1.1	1.1	NEN	30
07/01/2010	4:00 AM	12.0	12.3	12.0	1.6	2.1	NWN	30
07/01/2010	4:30 AM	12.1	12.5	12.1	1.6	3.2	NEE	30
07/01/2010	5:00 AM	12.1	12.2	12.0	2.2	3.4	NEE	30
07/01/2010	5:30 AM	12.0	12.1	12.0	2.2	4.5	NEN	30
07/01/2010	6:00 AM	11.7	12.0	11.4	2.7	4.9	NEN	30
07/01/2010	6:30 AM	11.6	11.7	11.5	1.6	3.8	NEN	30
07/01/2010	7:00 AM	11.6	11.6	11.5	1.6	3.4	NEN	30
07/01/2010	7:30 AM	11.7	11.8	11.6	1.7	2.5	NEE	30
07/01/2010	8:00 AM	11.9	11.9	11.7	1.6	2.6	NEE	30
07/01/2010	8:30 AM	12.0	12.3	11.9	1.6	2.9	NEN	30
07/01/2010	9:00 AM	12.3	12.6	12.0	1.5	2.1	NEN	30
07/01/2010	9:30 AM	12.5	12.5	12.3	1.3	3.1	NEE	30
07/01/2010	10:00 AM	12.7	12.8	12.7	1.1	3.3	NEE	30
07/01/2010	10:30 AM	13.0	13.3	12.8	1.7	3.5	NEN	30
07/01/2010	11:00 AM	13.2	13.3	13.1	1.5	1.5	NEN	30
07/01/2010	11:30 AM	13.4	13.7	13.4	1.6	3.6	N	30
07/01/2010	12:00 PM	13.5	13.9	13.3	1.2	2.6	E	30
07/01/2010	12:30 PM	13.7	14.0	13.4	1.2	1.4	NEN	30
07/01/2010	1:00 PM	13.5	13.5	13.4	1.9	3.0	NEN	30
07/01/2010	1:30 PM	13.6	13.8	13.6	2.1	3.7	NEN	30
07/01/2010	2:00 PM	13.8	14.0	13.6	1.9	2.0	NEE	30
07/01/2010	2:30 PM	13.7	13.9	13.6	2.5	3.5	NE	30
07/01/2010	3:00 PM	13.5	13.7	13.3	2.2	4.0	NEN	30
07/01/2010	3:30 PM	13.2	13.4	13.2	1.6	3.1	NEE	30
07/01/2010	4:00 PM	13.0	13.1	12.9	2.5	3.9	NEE	30
07/01/2010	4:30 PM	13.0	13.3	13.0	2.7	2.9	NEE	30
07/01/2010	5:00 PM	13.0	13.4	12.8	2.0	4.1	NEE	30
07/01/2010	5:30 PM	12.6	12.7	12.6	2.5	3.2	NEE	30
07/01/2010	6:00 PM	12.1	12.2	12.1	1.5	2.3	NWN	30
07/01/2010	6:30 PM	12.0	12.4	11.8	2.2	3.5	NEE	30
07/01/2010	7:00 PM	11.9	12.2	11.8	2.2	4.4	NEE	30
07/01/2010	7:30 PM	11.9	12.0	11.6	0.2	1.7	E	30
07/01/2010	8:00 PM	12.0	12.0	11.7	2.2	3.1	NEE	30
07/01/2010	8:30 PM	11.9	12.2	11.9	2.6	4.6	NEE	30
07/01/2010	9:00 PM	11.9	12.1	11.8	1.3	1.6	NEE	30
07/01/2010	9:30 PM	11.9	12.1	11.7	2.2	3.4	NEE	30
07/01/2010	10:00 PM	11.9	12.1	11.8	1.8	4.0	NEE	30
07/01/2010	10:30 PM	11.9	12.2	11.8	2.3	4.4	NEE	30
07/01/2010	11:00 PM	11.9	12.3	11.9	1.2	1.6	E	30
07/01/2010	11:30 PM	11.9	11.9	11.9	1.4	3.5	NEE	30
08/01/2010	12:00 AM	11.9	12.1	11.8	1.8	3.6	E	30
08/01/2010	12:30 AM	11.9	12.0	11.8	1.6	2.2	N	30
08/01/2010	1:00 AM	11.9	11.9	11.8	0.6	2.2	NEE	30
08/01/2010	1:30 AM	12.0	12.1	11.9	1.3	1.7	NEE	30
08/01/2010	2:00 AM	12.0	12.3	11.7	0.5	2.6	N	30
08/01/2010	2:30 AM	12.0	12.1	11.8	1.3	2.9	NEE	30
08/01/2010	3:00 AM	11.7	11.9	11.6	1.8	2.7	NWN	30
08/01/2010	3:30 AM	11.7	12.0	11.4	1.0	1.5	NEN	30
08/01/2010	4:00 AM	11.2	11.5	10.9	1.5	2.2	NWN	30
08/01/2010	4:30 AM	11.1	11.4	11.0	1.7	3.2	NEE	30
08/01/2010	5:00 AM	11.0	11.1	10.9	1.7	2.7	NEE	30
08/01/2010	5:30 AM	11.0	11.0	10.9	1.7	3.9	NEE	30
08/01/2010	6:00 AM	11.0	11.3	11.0	1.1	1.8	E	30
08/01/2010	6:30 AM	11.1	11.1	11.1	0.1	0.5	N	30
08/01/2010	7:00 AM	11.2	11.5	11.1	1.5	3.1	NEE	30
08/01/2010	7:30 AM	11.2	11.4	11.1	1.1	2.9	NEN	30
08/01/2010	8:00 AM	11.7	11.9	11.4	2.2	4.2	NEE	30
08/01/2010	8:30 AM	11.9	12.3	11.7	1.2	2.8	NWN	30
08/01/2010	9:00 AM	12.1	12.4	11.9	1.7	1.8	NEE	30
08/01/2010	9:30 AM	12.4	12.7	12.2	2.6	3.9	NEE	30
08/01/2010	10:00 AM	13.0	13.3	12.7	2.7	4.2	NEE	30
08/01/2010	10:30 AM	13.4	13.6	13.3	3.3	3.5	NEE	30
08/01/2010	11:00 AM	14.1	14.4	13.8	2.7	4.0	NEE	30
08/01/2010	11:30 AM	14.7	14.8	14.7	2.2	2.9	NE	30
08/01/2010	12:00 PM	15.1	15.4	15.0	2.4	2.5	NEE	30
08/01/2010	12:30 PM	14.8	15.0	14.5	2.7	4.0	NEE	30
08/01/2010	1:00 PM	14.9	15.0	14.7	2.8	2.9	NEE	30
08/01/2010	1:30 PM	14.9	15.2	14.6	2.7	4.3	NEE	30
08/01/2010	2:00 PM	15.0	15.4	15.0	3.3	3.8	NEE	30
08/01/2010	2:30 PM	15.0	15.2	14.7	3.2	5.3	NEE	30
08/01/2010	3:00 PM	15.0	15.3	14.8	3.4	4.8	NEE	30
08/01/2010	3:30 PM	15.0	15.3	14.9	3.3	3.8	NEE	30
08/01/2010	4:00 PM	14.9	15.1	14.9	3.3	5.5	NEE	30
08/01/2010	4:30 PM	14.2	14.6	14.1	2.1	2.2	NEE	30
08/01/2010	5:00 PM	14.2	14.4	14.1	1.8	3.3	NEE	30
08/01/2010	5:30 PM	14.0	14.3	13.9	1.6	3.9	NEE	30
08/01/2010	6:00 PM	13.4	13.6	13.3	1.7	2.1	NWN	30
08/01/2010	6:30 PM	13.2	13.5	12.9	1.6	3.5	NWN	30
08/01/2010	7:00 PM	13.1	13.3	13.0	1.2	3.2	NEN	30
08/01/2010	7:30 PM	13.0	13.4	12.9	1.2	3.3	N	30
08/01/2010	8:00 PM	13.0	13.0	12.8	2.6	3.3	NEE	30
08/01/2010	8:30 PM	13.0	13.2	13.0	1.0	2.8	NWN	30
08/01/2010	9:00 PM	13.0	13.2	12.9	0.8	2.5	NWN	30
08/01/2010	9:30 PM	13.1	13.1	12.9	0.5	0.9	NWN	30
08/01/2010	10:00 PM	13.0	13.4	13.0	1.0	2.0	NEN	30
08/01/2010	10:30 PM	13.0	13.4	12.9	1.1	2.7	NEE	30
08/01/2010	11:00 PM	13.0	13.4	12.9	1.3	3.1	NEE	30
08/01/2010	11:30 PM	13.0	13.2	12.9	1.7	2.3	NEN	30

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Weather information in January 2010

Date (DMY)	Time	Average Temp	Hi Temp	Low Temp	Wind Speed (m/s) Average	Wind Speed (m/s) Hi	Wind Direction	Period
09/01/2010	12:00 AM	12.9	13.0	12.7	2.2	2.9	NEE	30
09/01/2010	12:30 AM	12.7	12.9	12.6	1.1	2.7	NEN	30
09/01/2010	1:00 AM	12.5	12.7	12.4	1.1	2.8	NEN	30
09/01/2010	1:30 AM	12.3	12.5	12.0	1.1	3.1	NWN	30
09/01/2010	2:00 AM	12.2	12.3	11.9	1.7	1.8	NEE	30
09/01/2010	2:30 AM	12.1	12.3	11.9	1.6	2.2	NEN	30
09/01/2010	3:00 AM	12.1	12.1	11.9	1.5	1.8	NEN	30
09/01/2010	3:30 AM	12.2	12.3	12.0	1.1	3.3	NEN	30
09/01/2010	4:00 AM	12.5	12.7	12.4	1.1	2.3	NEN	30
09/01/2010	4:30 AM	12.5	12.6	12.3	1.3	1.7	NWN	30
09/01/2010	5:00 AM	12.5	12.5	12.4	2.2	3.0	NE	30
09/01/2010	5:30 AM	12.5	12.7	12.4	2.2	2.7	NEN	30
09/01/2010	6:00 AM	12.6	12.8	12.4	1.6	2.9	NEN	30
09/01/2010	6:30 AM	12.7	13.0	12.5	1.6	1.7	NWN	30
09/01/2010	7:00 AM	12.9	13.1	12.7	3.5	4.7	NEN	30
09/01/2010	7:30 AM	13.4	13.6	13.4	2.7	3.4	NEE	30
09/01/2010	8:00 AM	13.5	13.8	13.4	3.3	4.1	NEE	30
09/01/2010	8:30 AM	14.8	14.8	14.7	2.4	3.3	NEN	30
09/01/2010	9:00 AM	15.1	15.5	14.9	2.1	3.7	NEN	30
09/01/2010	9:30 AM	15.3	15.3	15.1	2.7	4.5	NEN	30
09/01/2010	10:00 AM	15.7	16.0	15.6	1.9	4.1	NEN	30
09/01/2010	10:30 AM	15.8	16.2	15.7	1.6	2.4	NEN	30
09/01/2010	11:00 AM	15.2	15.5	15.1	2.4	4.6	NE	30
09/01/2010	11:30 AM	15.0	15.2	15.0	3.1	3.6	SEE	30
09/01/2010	12:00 PM	15.2	15.5	15.0	2.3	4.1	NEE	30
09/01/2010	12:30 PM	15.9	16.3	15.7	3.2	4.5	NEN	30
09/01/2010	1:00 PM	16.3	16.4	16.1	3.0	3.7	NEE	30
09/01/2010	1:30 PM	17.2	17.2	17.1	3.3	5.3	NEE	30
09/01/2010	2:00 PM	18.2	18.5	18.1	1.9	2.7	SEE	30
09/01/2010	2:30 PM	17.9	17.9	17.6	2.1	3.8	SEE	30
09/01/2010	3:00 PM	17.3	17.4	17.0	2.3	3.7	NEE	30
09/01/2010	3:30 PM	16.8	17.0	16.5	1.0	1.8	NEE	30
09/01/2010	4:00 PM	16.5	16.6	16.3	2.0	2.4	NE	30
09/01/2010	4:30 PM	16.0	16.0	15.8	2.3	3.7	NEE	30
09/01/2010	5:00 PM	15.1	15.3	14.9	1.9	3.3	NEE	30
09/01/2010	5:30 PM	14.8	15.0	14.7	1.6	3.1	NWN	30
09/01/2010	6:00 PM	14.1	14.3	14.1	1.0	3.0	NWN	30
09/01/2010	6:30 PM	14.0	14.4	13.9	0.5	2.6	NWN	30
09/01/2010	7:00 PM	14.0	14.2	13.7	1.3	2.6	N	30
09/01/2010	7:30 PM	14.0	14.3	14.0	0.9	1.6	NEN	30
09/01/2010	8:00 PM	14.0	14.2	13.8	1.0	1.5	NWN	30
09/01/2010	8:30 PM	13.9	14.0	13.6	1.0	1.8	NEN	30
09/01/2010	9:00 PM	14.0	14.1	13.8	1.1	2.0	NWN	30
09/01/2010	9:30 PM	14.2	14.2	13.9	0.7	1.4	NWN	30
09/01/2010	10:00 PM	14.6	15.0	14.4	1.4	2.0	NEN	30
09/01/2010	10:30 PM	14.9	15.2	14.6	1.0	1.2	NEN	30
09/01/2010	11:00 PM	15.8	15.8	15.7	1.7	3.6	NEN	30
09/01/2010	11:30 PM	16.0	16.2	15.8	1.5	2.1	NEN	30
10/01/2010	12:00 AM	16.0	16.2	15.9	2.4	3.5	NEE	30
10/01/2010	12:30 AM	16.0	16.3	15.9	2.4	3.5	NEE	30
10/01/2010	1:00 AM	16.0	16.2	16.0	2.4	2.6	NEN	30
10/01/2010	1:30 AM	15.9	16.3	15.7	2.5	4.8	NEN	30
10/01/2010	2:00 AM	15.8	16.2	15.7	3.4	5.7	NEN	30
10/01/2010	2:30 AM	15.3	15.4	15.0	2.6	3.5	NEN	30
10/01/2010	3:00 AM	15.2	15.4	15.0	4.2	5.5	NEN	30
10/01/2010	3:30 AM	15.1	15.2	14.9	1.3	2.9	NEE	30
10/01/2010	4:00 AM	15.5	15.8	15.4	1.7	1.8	NEE	30
10/01/2010	4:30 AM	15.5	15.5	15.5	2.1	3.9	SEE	30
10/01/2010	5:00 AM	15.4	15.5	15.2	2.2	3.8	NEE	30
10/01/2010	5:30 AM	15.3	15.5	15.2	2.3	2.7	NEN	30
10/01/2010	6:00 AM	15.3	15.6	15.1	3.2	5.0	NEE	30
10/01/2010	6:30 AM	15.3	15.5	15.2	3.1	3.3	NEE	30
10/01/2010	7:00 AM	15.3	15.7	15.0	2.3	4.5	NEE	30
10/01/2010	7:30 AM	15.3	15.6	15.1	1.2	2.7	NWN	30
10/01/2010	8:00 AM	15.5	15.7	15.4	3.5	5.5	NEN	30
10/01/2010	8:30 AM	15.6	16.0	15.3	1.7	3.2	NEN	30
10/01/2010	9:00 AM	15.9	16.2	15.7	1.6	2.8	NEN	30
10/01/2010	9:30 AM	17.0	17.3	16.8	3.4	4.4	NEN	30
10/01/2010	10:00 AM	17.9	18.0	17.7	3.5	3.7	NEE	30
10/01/2010	10:30 AM	17.3	17.7	17.0	2.5	3.4	NEN	30
10/01/2010	11:00 AM	17.1	17.5	16.9	2.3	2.4	NEN	30
10/01/2010	11:30 AM	18.3	18.6	18.1	2.8	3.6	NEE	30
10/01/2010	12:00 PM	18.2	18.5	18.1	3.3	4.1	NEE	30
10/01/2010	12:30 PM	18.1	18.2	18.0	2.2	2.3	NEN	30
10/01/2010	1:00 PM	17.9	18.2	17.7	2.2	2.9	NEE	30
10/01/2010	1:30 PM	17.9	18.3	17.7	1.7	2.6	NEN	30
10/01/2010	2:00 PM	18.0	18.2	17.8	2.8	4.1	NEE	30
10/01/2010	2:30 PM	17.9	17.9	17.9	2.5	3.1	E	30
10/01/2010	3:00 PM	17.7	17.9	17.7	1.6	3.3	NEE	30
10/01/2010	3:30 PM	17.6	18.0	17.4	2.3	3.5	NEE	30
10/01/2010	4:00 PM	17.6	17.8	17.5	1.2	2.0	NEN	30
10/01/2010	4:30 PM	17.9	18.0	17.8	1.5	2.7	NEN	30
10/01/2010	5:00 PM	17.8	18.2	17.6	1.7	2.2	NEE	30
10/01/2010	5:30 PM	17.6	17.8	17.4	0.8	2.5	NEE	30
10/01/2010	6:00 PM	17.4	17.7	17.2	1.5	1.6	NEN	30
10/01/2010	6:30 PM	17.2	17.5	17.1	1.5	2.4	NEN	30
10/01/2010	7:00 PM	17.1	17.4	16.9	1.6	3.5	NEN	30
10/01/2010	7:30 PM	17.0	17.4	16.9	1.2	3.3	NEN	30
10/01/2010	8:00 PM	17.0	17.3	16.9	1.1	2.1	NEE	30
10/01/2010	8:30 PM	17.2	17.5	16.9	1.2	1.4	NEN	30
10/01/2010	9:00 PM	17.1	17.3	16.9	2.4	3.0	NEN	30
10/01/2010	9:30 PM	17.1	17.3	17.0	0.7	1.7	NEE	30
10/01/2010	10:00 PM	17.2	17.2	16.9	1.8	3.9	NEN	30
10/01/2010	10:30 PM	17.4	17.5	17.2	1.6	2.6	NEE	30
10/01/2010	11:00 PM	17.5	17.6	17.2	1.1	3.2	NEN	30
10/01/2010	11:30 PM	17.5	17.7	17.5	1.6	2.1	NEE	30

東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

Weather information in January 2010

Date (DMY)	Time	Average Temp	Hi Temp	Low Temp	Wind Speed (m/s) Average	Wind Speed (m/s) Hi	Wind Direction	Period
11/01/2010	12:00 AM	17.2	17.3	17.1	1.8	2.4	NWN	30
11/01/2010	12:30 AM	17.1	17.1	16.9	1.1	2.4	NWN	30
11/01/2010	1:00 AM	17.0	17.2	17.0	0.4	1.6	NEN	30
11/01/2010	1:30 AM	17.0	17.3	16.9	1.2	2.2	NEN	30
11/01/2010	2:00 AM	17.0	17.2	17.0	1.5	2.5	NWN	30
11/01/2010	2:30 AM	17.0	17.1	16.8	0.9	2.3	NWN	30
11/01/2010	3:00 AM	17.0	17.4	16.8	0.1	1.0	N	30
11/01/2010	3:30 AM	16.9	16.9	16.7	0.1	0.8	NWN	30
11/01/2010	4:00 AM	17.0	17.0	17.0	1.1	2.8	N	30
11/01/2010	4:30 AM	17.0	17.3	16.8	0.5	1.3	NW	30
11/01/2010	5:00 AM	16.9	17.2	16.7	1.1	2.3	NWN	30
11/01/2010	5:30 AM	16.6	16.7	16.5	1.8	3.8	NWW	30
11/01/2010	6:00 AM	16.6	17.0	16.4	2.2	2.4	NWW	30
11/01/2010	6:30 AM	16.1	16.5	16.0	2.3	4.6	NWW	30
11/01/2010	7:00 AM	16.0	16.4	16.0	1.1	1.6	NWN	30
11/01/2010	7:30 AM	16.1	16.2	16.0	0.2	1.8	SES	30
11/01/2010	8:00 AM	16.1	16.3	16.1	1.9	3.5	NEE	30
11/01/2010	8:30 AM	15.0	15.1	15.0	1.0	2.2	NWN	30
11/01/2010	9:00 AM	14.6	15.0	14.4	2.7	2.9	NEN	30
11/01/2010	9:30 AM	14.2	14.3	14.0	1.1	3.3	NWN	30
11/01/2010	10:00 AM	14.1	14.4	14.1	0.8	2.4	E	30
11/01/2010	10:30 AM	14.1	14.5	13.9	0.2	1.7	E	30
11/01/2010	11:00 AM	14.1	14.3	13.9	1.5	3.5	E	30
11/01/2010	11:30 AM	14.3	14.4	14.3	1.7	3.2	NEE	30
11/01/2010	12:00 PM	14.5	14.7	14.2	0.1	1.7	NE	30
11/01/2010	12:30 PM	14.0	14.2	13.9	1.6	3.4	NWN	30
11/01/2010	1:00 PM	13.9	14.1	13.9	1.1	1.8	NWN	30
11/01/2010	1:30 PM	13.9	13.9	13.9	0.7	2.9	NWW	30
11/01/2010	2:00 PM	13.8	14.0	13.5	1.7	3.0	NEE	30
11/01/2010	2:30 PM	13.8	14.0	13.6	2.7	3.7	NEE	30
11/01/2010	3:00 PM	13.8	14.1	13.7	2.5	3.8	NEE	30
11/01/2010	3:30 PM	13.4	13.5	13.3	3.0	3.5	NEE	30
11/01/2010	4:00 PM	13.1	13.3	12.9	2.8	4.4	NEE	30
11/01/2010	4:30 PM	13.1	13.3	13.1	1.7	3.4	NEN	30
11/01/2010	5:00 PM	13.0	13.4	12.8	2.4	2.4	NWN	30
11/01/2010	5:30 PM	12.9	12.9	12.7	2.6	4.1	NWN	30
11/01/2010	6:00 PM	12.7	13.1	12.5	2.6	2.6	NWN	30
11/01/2010	6:30 PM	12.5	12.8	12.3	2.2	4.4	NWN	30
11/01/2010	7:00 PM	12.5	12.5	12.5	2.1	3.9	NWN	30
11/01/2010	7:30 PM	12.3	12.5	12.0	2.4	4.6	NEE	30
11/01/2010	8:00 PM	12.3	12.4	12.3	1.5	2.3	NEN	30
11/01/2010	8:30 PM	12.1	12.4	11.9	1.6	2.4	SES	30
11/01/2010	9:00 PM	11.9	12.0	11.7	2.4	4.7	SEE	30
11/01/2010	9:30 PM	11.0	11.3	11.0	1.0	2.1	N	30
11/01/2010	10:00 PM	11.0	11.3	10.9	2.2	2.4	NEE	30
11/01/2010	10:30 PM	10.4	10.4	10.2	2.7	3.6	NEE	30
11/01/2010	11:00 PM	11.0	11.3	10.8	1.6	2.7	N	30
11/01/2010	11:30 PM	11.0	11.2	10.9	2.3	2.7	NEE	30
12/01/2010	12:00 AM	11.0	11.1	10.9	3.9	5.3	NEE	30
12/01/2010	12:30 AM	10.9	11.0	10.8	2.3	2.7	NEN	30
12/01/2010	1:00 AM	11.0	11.2	10.8	2.6	4.3	NEN	30
12/01/2010	1:30 AM	11.0	11.2	10.8	4.2	5.8	NEE	30
12/01/2010	2:00 AM	10.6	10.8	10.4	2.4	3.2	NEE	30
12/01/2010	2:30 AM	10.6	10.7	10.4	3.1	5.4	NEE	30
12/01/2010	3:00 AM	10.5	10.9	10.3	3.4	3.6	NEE	30
12/01/2010	3:30 AM	10.0	10.3	9.7	2.6	3.6	NEE	30
12/01/2010	4:00 AM	9.9	10.2	9.7	2.5	4.1	NEE	30
12/01/2010	4:30 AM	9.1	9.5	8.9	2.5	2.5	NEE	30
12/01/2010	5:00 AM	9.4	9.6	9.3	4.1	5.0	NEE	30
12/01/2010	5:30 AM	9.3	9.5	9.2	2.7	3.8	NEE	30
12/01/2010	6:00 AM	9.2	9.4	9.0	3.4	4.6	NEE	30
12/01/2010	6:30 AM	9.1	9.4	8.9	1.9	2.8	NEE	30
12/01/2010	7:00 AM	8.6	8.7	8.5	3.2	3.7	NEN	30
12/01/2010	7:30 AM	8.9	9.2	8.7	0.9	2.3	NEN	30
12/01/2010	8:00 AM	9.7	10.0	9.7	2.3	4.3	NEE	30
12/01/2010	8:30 AM	11.0	11.3	10.8	1.7	3.0	NEE	30
12/01/2010	9:00 AM	12.0	12.2	11.9	4.1	4.1	NEE	30
12/01/2010	9:30 AM	12.0	12.2	11.9	4.8	5.4	NEE	30
12/01/2010	10:00 AM	13.0	13.2	12.7	3.2	4.9	NEE	30
12/01/2010	10:30 AM	13.9	14.0	13.6	3.5	4.3	NEE	30
12/01/2010	11:00 AM	14.5	14.5	14.3	2.5	3.6	SEE	30
12/01/2010	11:30 AM	14.2	14.3	14.1	4.3	5.6	NEE	30
12/01/2010	12:00 PM	14.5	14.7	14.4	4.2	4.2	NEE	30
12/01/2010	12:30 PM	14.8	15.0	14.6	5.0	5.7	NEE	30
12/01/2010	1:00 PM	15.0	15.1	14.9	4.6	5.9	NEE	30
12/01/2010	1:30 PM	15.9	16.0	15.8	3.9	5.9	NEE	30
12/01/2010	2:00 PM	15.5	15.8	15.4	4.9	6.4	NEE	30
12/01/2010	2:30 PM	15.2	15.4	15.1	4.8	5.1	NEE	30
12/01/2010	3:00 PM	15.1	15.5	15.1	4.0	4.3	NEE	30
12/01/2010	3:30 PM	15.0	15.1	14.9	3.4	5.7	NEE	30
12/01/2010	4:00 PM	14.0	14.2	13.8	3.3	4.4	NEE	30
12/01/2010	4:30 PM	13.5	13.9	13.4	3.2	5.0	NEE	30
12/01/2010	5:00 PM	12.9	13.2	12.7	2.8	3.9	NEE	30
12/01/2010	5:30 PM	12.2	12.6	11.9	2.0	3.4	NEN	30
12/01/2010	6:00 PM	12.0	12.3	11.9	1.7	3.9	NEN	30
12/01/2010	6:30 PM	11.2	11.5	11.2	1.6	1.9	NEN	30
12/01/2010	7:00 PM	11.2	11.5	11.1	1.6	1.8	NEN	30
12/01/2010	7:30 PM	10.9	11.1	10.8	0.8	2.4	NEN	30
12/01/2010	8:00 PM	10.9	11.1	10.8	1.5	2.5	NEN	30
12/01/2010	8:30 PM	10.4	10.7	10.2	1.6	2.0	NEE	30
12/01/2010	9:00 PM	10.7	10.9	10.4	1.6	2.3	NEN	30
12/01/2010	9:30 PM	10.8	11.2	10.5	2.3	2.5	N	30
12/01/2010	10:00 PM	10.7	11.0	10.5	1.7	2.1	NWN	30
12/01/2010	10:30 PM	10.2	10.3	9.9	2.3	4.3	NEN	30
12/01/2010	11:00 PM	10.5	10.6	10.4	1.8	3.3	NEN	30
12/01/2010	11:30 PM	10.4	10.7	10.3	1.6	2.8	NWN	30

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Weather information in January 2010

Date (DMY)	Time	Average Temp	Hi Temp	Low Temp	Wind Speed (m/s) Average	Wind Speed (m/s) Hi	Wind Direction	Period
13/01/2010	12:00 AM	10.6	10.9	10.5	2.6	4.4	NWN	30
13/01/2010	12:30 AM	10.1	10.3	10.0	1.8	3.2	NWN	30
13/01/2010	1:00 AM	10.1	10.2	10.0	1.7	2.2	NWN	30
13/01/2010	1:30 AM	10.1	10.3	10.0	1.5	2.4	NEN	30
13/01/2010	2:00 AM	10.0	10.3	9.8	1.6	3.4	NWN	30
13/01/2010	2:30 AM	9.7	10.0	9.4	1.6	2.6	NEE	30
13/01/2010	3:00 AM	9.7	10.0	9.6	1.6	1.9	NEN	30
13/01/2010	3:30 AM	9.5	9.7	9.3	1.6	3.8	NWN	30
13/01/2010	4:00 AM	9.1	9.1	8.9	0.8	2.9	SEE	30
13/01/2010	4:30 AM	9.0	9.2	8.7	1.4	2.5	NEN	30
13/01/2010	5:00 AM	8.9	9.0	8.7	1.3	1.8	N	30
13/01/2010	5:30 AM	8.7	9.1	8.6	1.6	3.4	SEE	30
13/01/2010	6:00 AM	8.0	8.1	7.9	1.0	3.2	SEE	30
13/01/2010	6:30 AM	7.1	7.1	6.9	0.7	1.1	SEE	30
13/01/2010	7:00 AM	7.0	7.2	6.9	1.6	1.7	SEE	30
13/01/2010	7:30 AM	7.8	8.1	7.5	1.7	1.8	SEE	30
13/01/2010	8:00 AM	9.3	9.7	9.1	2.5	3.0	NEE	30
13/01/2010	8:30 AM	10.2	10.3	10.0	2.8	3.1	NEE	30
13/01/2010	9:00 AM	11.7	12.0	11.7	2.5	3.6	NE	30
13/01/2010	9:30 AM	13.0	13.2	12.9	2.5	3.6	NEE	30
13/01/2010	10:00 AM	13.0	13.3	13.0	2.5	2.7	NEE	30
13/01/2010	10:30 AM	14.0	14.3	13.8	3.4	3.6	NEE	30
13/01/2010	11:00 AM	14.2	14.5	14.2	3.0	5.1	NEN	30
13/01/2010	11:30 AM	15.9	16.1	15.9	3.4	4.3	NE	30
13/01/2010	12:00 PM	16.0	16.4	15.9	2.9	4.8	NEN	30
13/01/2010	12:30 PM	15.9	16.2	15.9	3.9	5.4	NEE	30
13/01/2010	1:00 PM	16.0	16.1	15.8	2.7	4.3	E	30
13/01/2010	1:30 PM	16.0	16.3	15.8	3.0	5.2	NEE	30
13/01/2010	2:00 PM	16.0	16.1	16.0	2.5	4.7	SES	30
13/01/2010	2:30 PM	15.1	15.4	15.0	2.4	2.9	SES	30
13/01/2010	3:00 PM	15.0	15.2	14.7	1.7	2.6	SEE	30
13/01/2010	3:30 PM	15.5	15.8	15.3	1.6	2.6	SE	30
13/01/2010	4:00 PM	14.6	14.7	14.5	1.2	2.0	SEE	30
13/01/2010	4:30 PM	13.3	13.5	13.2	2.3	3.8	NEN	30
13/01/2010	5:00 PM	12.5	12.5	12.2	0.7	2.6	NEN	30
13/01/2010	5:30 PM	11.6	11.8	11.6	0.9	3.0	NWN	30
13/01/2010	6:00 PM	10.5	10.8	10.3	1.0	2.6	NEN	30
13/01/2010	6:30 PM	10.0	10.0	9.9	0.7	0.9	NWN	30
13/01/2010	7:00 PM	9.8	9.9	9.6	0.8	0.8	NW	30
13/01/2010	7:30 PM	9.8	10.1	9.6	0.4	2.5	NWW	30
13/01/2010	8:00 PM	10.0	10.1	9.9	0.3	0.9	NWN	30
13/01/2010	8:30 PM	10.7	11.0	10.6	0.3	2.1	NWN	30
13/01/2010	9:00 PM	10.9	11.2	10.8	0.2	2.4	N	30
13/01/2010	9:30 PM	11.0	11.3	10.8	0.1	0.5	NWN	30
13/01/2010	10:00 PM	10.6	10.6	10.4	0.1	1.8	N	30
13/01/2010	10:30 PM	10.0	10.0	10.0	0.6	2.8	NWN	30
13/01/2010	11:00 PM	10.0	10.1	9.8	1.5	3.1	NWN	30
13/01/2010	11:30 PM	9.7	10.1	9.5	0.6	1.2	NWN	30
14/01/2010	12:00 AM	9.1	9.3	9.0	0.3	1.2	SWW	30
14/01/2010	12:30 AM	8.9	9.2	8.7	0.8	1.7	NEE	30
14/01/2010	1:00 AM	9.0	9.1	8.8	1.1	2.9	NEE	30
14/01/2010	1:30 AM	10.1	10.2	9.9	1.5	3.6	NEE	30
14/01/2010	2:00 AM	9.2	9.2	9.0	0.3	2.1	SEE	30
14/01/2010	2:30 AM	10.1	10.4	9.9	0.8	1.9	NEE	30
14/01/2010	3:00 AM	10.9	11.0	10.8	0.4	0.8	SEE	30
14/01/2010	3:30 AM	11.0	11.1	11.0	0.8	1.5	SEE	30
14/01/2010	4:00 AM	11.4	11.8	11.4	1.3	2.0	NWN	30
14/01/2010	4:30 AM	11.9	12.1	11.9	0.8	1.9	NWN	30
14/01/2010	5:00 AM	12.0	12.3	11.8	0.7	1.1	NEN	30
14/01/2010	5:30 AM	12.0	12.3	11.9	1.3	2.7	NEE	30
14/01/2010	6:00 AM	13.1	13.4	13.0	1.3	1.7	SES	30
14/01/2010	6:30 AM	13.3	13.4	13.2	1.9	2.9	NEN	30
14/01/2010	7:00 AM	13.2	13.3	13.2	1.8	3.1	NEE	30
14/01/2010	7:30 AM	13.0	13.2	12.9	1.8	2.4	NEN	30
14/01/2010	8:00 AM	13.8	14.0	13.6	3.2	5.4	SEE	30
14/01/2010	8:30 AM	14.1	14.2	14.0	2.7	3.7	SEE	30
14/01/2010	9:00 AM	14.7	14.9	14.6	2.5	3.0	NEE	30
14/01/2010	9:30 AM	15.2	15.4	15.0	2.0	2.1	NEE	30
14/01/2010	10:00 AM	15.9	16.1	15.8	2.7	4.1	NEE	30
14/01/2010	10:30 AM	15.9	16.2	15.7	3.5	4.5	SEE	30
14/01/2010	11:00 AM	16.0	16.4	15.7	3.6	4.6	NEE	30
14/01/2010	11:30 AM	16.0	16.1	15.9	4.1	5.6	NEE	30
14/01/2010	12:00 PM	15.7	16.0	15.7	3.6	4.8	NEE	30
14/01/2010	12:30 PM	16.0	16.2	15.8	3.6	4.1	NEE	30
14/01/2010	1:00 PM	15.8	16.1	15.8	4.0	5.4	NEE	30
14/01/2010	1:30 PM	16.0	16.4	16.0	3.0	3.1	NEE	30
14/01/2010	2:00 PM	15.2	15.5	15.2	2.7	3.8	NEE	30
14/01/2010	2:30 PM	15.0	15.0	14.9	4.1	4.9	NEN	30
14/01/2010	3:00 PM	15.0	15.2	14.8	3.0	4.1	NEN	30
14/01/2010	3:30 PM	15.0	15.4	14.8	2.9	4.9	NEE	30
14/01/2010	4:00 PM	15.0	15.3	14.8	2.6	4.6	NEE	30
14/01/2010	4:30 PM	14.9	15.2	14.8	3.0	4.3	NEN	30
14/01/2010	5:00 PM	14.9	15.1	14.9	1.9	3.3	NEE	30
14/01/2010	5:30 PM	14.8	15.1	14.6	2.5	4.3	NEN	30
14/01/2010	6:00 PM	14.4	14.7	14.3	2.8	4.1	NEN	30
14/01/2010	6:30 PM	13.7	14.1	13.5	1.4	2.8	NE	30
14/01/2010	7:00 PM	13.3	13.5	13.2	2.1	2.2	NEN	30
14/01/2010	7:30 PM	14.0	14.3	13.8	1.8	3.4	NEN	30
14/01/2010	8:00 PM	14.0	14.1	13.9	1.3	1.6	NEN	30
14/01/2010	8:30 PM	13.9	14.2	13.8	2.8	3.2	NEN	30
14/01/2010	9:00 PM	13.9	13.9	13.7	2.5	4.1	NEN	30
14/01/2010	9:30 PM	13.8	13.9	13.6	1.3	1.6	NEN	30
14/01/2010	10:00 PM	14.0	14.2	13.7	2.5	2.9	NNE	30
14/01/2010	10:30 PM	14.9	15.1	14.8	1.8	3.3	NEE	30
14/01/2010	11:00 PM	15.0	15.0	14.8	2.4	3.4	NEN	30
14/01/2010	11:30 PM	14.9	15.0	14.9	2.0	3.1	N	30

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Weather information in January 2010

Date (DMY)	Time	Average Temp	Hi Temp	Low Temp	Wind Speed (m/s) Average	Wind Speed (m/s) Hi	Wind Direction	Period
15/01/2010	12:00 AM	15.0	15.2	14.8	2.6	2.7	NEE	30
15/01/2010	12:30 AM	13.9	13.9	13.7	2.4	3.6	NEN	30
15/01/2010	1:00 AM	13.9	14.2	13.9	2.0	4.1	NEN	30
15/01/2010	1:30 AM	15.0	15.3	14.9	2.5	3.8	NEE	30
15/01/2010	2:00 AM	14.5	14.7	14.3	2.6	2.7	NEN	30
15/01/2010	2:30 AM	14.3	14.4	14.2	1.8	3.6	NEN	30
15/01/2010	3:00 AM	14.0	14.2	13.9	2.7	4.6	NEN	30
15/01/2010	3:30 AM	13.7	13.7	13.5	2.6	4.7	NEN	30
15/01/2010	4:00 AM	13.7	14.0	13.4	4.6	4.8	NEN	30
15/01/2010	4:30 AM	13.3	13.6	13.3	4.0	4.6	NNE	30
15/01/2010	5:00 AM	13.3	13.5	13.2	5.1	6.4	NEN	30
15/01/2010	5:30 AM	13.3	13.5	13.1	4.1	5.8	NNE	30
15/01/2010	6:00 AM	13.4	13.6	13.4	4.0	5.5	NEN	30
15/01/2010	6:30 AM	13.3	13.3	13.2	2.7	4.3	NEN	30
15/01/2010	7:00 AM	13.0	13.1	12.9	1.8	2.4	NEN	30
15/01/2010	7:30 AM	13.1	13.3	13.0	3.5	4.1	NEN	30
15/01/2010	8:00 AM	13.8	13.8	13.5	2.9	3.6	NEN	30
15/01/2010	8:30 AM	14.9	15.1	14.8	2.5	2.9	NEN	30
15/01/2010	9:00 AM	15.5	15.6	15.3	2.3	4.3	SEE	30
15/01/2010	9:30 AM	16.0	16.1	15.9	2.3	3.8	NEE	30
15/01/2010	10:00 AM	16.6	16.8	16.6	2.8	3.9	NEN	30
15/01/2010	10:30 AM	17.0	17.2	16.9	3.2	4.3	SEE	30
15/01/2010	11:00 AM	17.2	17.3	17.2	2.9	3.2	NEE	30
15/01/2010	11:30 AM	17.9	18.2	17.7	2.7	3.7	NEE	30
15/01/2010	12:00 PM	18.0	18.4	17.8	2.7	4.9	N	30
15/01/2010	12:30 PM	18.0	18.2	18.0	3.4	4.1	NEN	30
15/01/2010	1:00 PM	18.0	18.2	18.0	3.4	5.3	NEE	30
15/01/2010	1:30 PM	18.1	18.2	17.9	2.7	4.9	NEE	30
15/01/2010	2:00 PM	18.2	18.4	18.0	2.9	5.2	NEE	30
15/01/2010	2:30 PM	18.9	18.9	18.7	1.6	3.0	NEE	30
15/01/2010	3:00 PM	18.5	18.7	18.3	2.5	4.1	NEE	30
15/01/2010	3:30 PM	18.9	19.2	18.7	2.3	3.5	NEE	30
15/01/2010	4:00 PM	17.7	17.8	17.6	2.3	3.3	NEN	30
15/01/2010	4:30 PM	17.1	17.5	17.0	0.8	2.0	SES	30
15/01/2010	5:00 PM	16.7	17.1	16.6	2.6	4.2	NEE	30
15/01/2010	5:30 PM	15.5	15.6	15.5	0.5	1.3	NEN	30
15/01/2010	6:00 PM	14.1	14.3	14.0	0.9	2.0	NEN	30
15/01/2010	6:30 PM	14.0	14.1	13.8	0.9	2.1	NEN	30
15/01/2010	7:00 PM	13.9	14.0	13.7	1.0	1.9	NWN	30
15/01/2010	7:30 PM	13.5	13.7	13.3	1.5	2.9	NEN	30
15/01/2010	8:00 PM	13.6	13.9	13.5	1.0	2.6	NEN	30
15/01/2010	8:30 PM	13.9	14.1	13.7	0.5	1.4	NEN	30
15/01/2010	9:00 PM	13.9	13.9	13.8	1.5	2.4	NWN	30
15/01/2010	9:30 PM	13.9	14.2	13.8	1.7	2.2	NEE	30
15/01/2010	10:00 PM	13.6	13.9	13.4	1.2	3.0	NEE	30
15/01/2010	10:30 PM	14.4	14.5	14.3	1.7	3.8	NEN	30
15/01/2010	11:00 PM	14.8	14.8	14.5	2.7	3.4	NE	30
15/01/2010	11:30 PM	14.1	14.4	14.0	1.6	1.9	NEN	30
16/01/2010	12:00 AM	13.9	14.2	13.8	1.4	3.3	NWN	30
16/01/2010	12:30 AM	14.0	14.1	13.8	1.0	2.9	NWN	30
16/01/2010	1:00 AM	12.9	13.0	12.8	1.1	2.8	NEN	30
16/01/2010	1:30 AM	12.2	12.3	12.0	1.1	1.7	NWN	30
16/01/2010	2:00 AM	12.5	12.8	12.2	1.1	2.8	NWN	30
16/01/2010	2:30 AM	13.1	13.1	12.9	0.1	0.5	NWN	30
16/01/2010	3:00 AM	13.1	13.4	13.0	0.1	0.8	N	30
16/01/2010	3:30 AM	12.4	12.6	12.3	0.1	1.7	NW	30
16/01/2010	4:00 AM	12.0	12.2	11.9	0.1	2.4	N	30
16/01/2010	4:30 AM	12.8	12.9	12.7	0.1	0.1	NEE	30
16/01/2010	5:00 AM	12.3	12.5	12.2	0.2	0.4	N	30
16/01/2010	5:30 AM	12.7	12.7	12.5	0.1	1.3	SES	30
16/01/2010	6:00 AM	12.0	12.1	11.7	0.1	2.1	N	30
16/01/2010	6:30 AM	11.8	11.9	11.6	0.4	1.1	NWN	30
16/01/2010	7:00 AM	12.7	13.0	12.7	1.2	2.2	NWN	30
16/01/2010	7:30 AM	12.9	13.0	12.9	0.6	0.7	NWN	30
16/01/2010	8:00 AM	13.3	13.6	13.1	1.1	2.2	NEN	30
16/01/2010	8:30 AM	14.0	14.2	13.9	0.6	1.5	NEE	30
16/01/2010	9:00 AM	15.0	15.2	15.0	0.4	0.5	NEN	30
16/01/2010	9:30 AM	15.9	16.3	15.7	1.1	2.9	NEN	30
16/01/2010	10:00 AM	17.1	17.2	16.8	0.6	1.5	NEE	30
16/01/2010	10:30 AM	17.9	17.9	17.7	1.3	1.7	SEE	30
16/01/2010	11:00 AM	18.5	18.8	18.3	2.1	2.2	NEE	30
16/01/2010	11:30 AM	18.8	19.0	18.6	2.7	4.8	SEE	30
16/01/2010	12:00 PM	19.0	19.1	18.9	1.6	3.7	NEE	30
16/01/2010	12:30 PM	19.3	19.4	19.1	2.3	4.0	NEE	30
16/01/2010	1:00 PM	19.4	19.6	19.4	1.6	2.8	NEE	30
16/01/2010	1:30 PM	19.9	19.9	19.8	2.3	3.8	SEE	30
16/01/2010	2:00 PM	20.1	20.4	19.8	2.5	4.7	SEE	30
16/01/2010	2:30 PM	20.0	20.0	19.9	2.8	4.8	NEE	30
16/01/2010	3:00 PM	19.8	19.8	19.7	3.7	5.3	NEE	30
16/01/2010	3:30 PM	19.1	19.3	19.0	1.7	2.7	SEE	30
16/01/2010	4:00 PM	18.0	18.0	17.9	1.6	2.2	SEE	30
16/01/2010	4:30 PM	17.1	17.2	17.0	2.2	2.3	NEN	30
16/01/2010	5:00 PM	16.9	17.1	16.8	1.6	3.0	NEE	30
16/01/2010	5:30 PM	16.1	16.4	15.9	1.2	2.5	NEN	30
16/01/2010	6:00 PM	15.9	16.2	15.7	1.6	2.9	NEN	30
16/01/2010	6:30 PM	15.7	15.9	15.5	2.3	2.5	NEN	30
16/01/2010	7:00 PM	15.9	16.0	15.7	3.1	5.1	NEN	30
16/01/2010	7:30 PM	15.7	15.9	15.5	2.2	3.0	NEN	30
16/01/2010	8:00 PM	15.8	16.1	15.8	1.8	3.3	NEN	30
16/01/2010	8:30 PM	15.5	15.6	15.2	0.9	1.6	NEN	30
16/01/2010	9:00 PM	15.9	15.9	15.6	2.8	2.9	NEN	30
16/01/2010	9:30 PM	15.9	16.1	15.9	2.7	3.8	NEN	30
16/01/2010	10:00 PM	15.9	16.2	15.6	2.4	2.9	NEE	30
16/01/2010	10:30 PM	15.6	15.8	15.5	1.1	1.7	SES	30
16/01/2010	11:00 PM	15.3	15.3	15.2	0.7	2.9	SEE	30
16/01/2010	11:30 PM	15.0	15.3	14.9	2.5	3.1	NEN	30

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Weather information in January 2010

Date (DMY)	Time	Average Temp	Hi Temp	Low Temp	Wind Speed (m/s) Average	Wind Speed (m/s) Hi	Wind Direction	Period
17/01/2010	12:00 AM	14.2	14.5	14.0	2.0	2.7	NEN	30
17/01/2010	12:30 AM	14.1	14.4	14.0	1.7	2.5	NEN	30
17/01/2010	1:00 AM	14.0	14.3	13.8	0.7	1.2	NWN	30
17/01/2010	1:30 AM	14.1	14.5	14.0	2.2	3.6	NEN	30
17/01/2010	2:00 AM	14.0	14.2	13.7	1.0	2.9	NEE	30
17/01/2010	2:30 AM	13.5	13.7	13.3	1.1	1.1	NEN	30
17/01/2010	3:00 AM	13.1	13.4	12.9	1.0	1.5	NEE	30
17/01/2010	3:30 AM	12.5	12.7	12.4	0.1	2.1	NEE	30
17/01/2010	4:00 AM	12.1	12.3	12.0	0.1	1.5	E	30
17/01/2010	4:30 AM	12.0	12.2	11.7	0.2	2.3	SEE	30
17/01/2010	5:00 AM	12.0	12.4	11.8	0.5	2.6	SEE	30
17/01/2010	5:30 AM	12.5	12.9	12.3	0.5	2.4	NEE	30
17/01/2010	6:00 AM	13.1	13.2	13.0	0.3	0.7	NEN	30
17/01/2010	6:30 AM	13.9	14.3	13.7	2.1	2.3	NEN	30
17/01/2010	7:00 AM	14.0	14.1	13.9	1.3	3.2	NEN	30
17/01/2010	7:30 AM	14.2	14.6	14.0	1.4	2.6	NEE	30
17/01/2010	8:00 AM	14.6	14.7	14.4	2.2	3.1	NEN	30
17/01/2010	8:30 AM	14.9	15.3	14.7	1.2	3.2	NEN	30
17/01/2010	9:00 AM	15.8	16.0	15.8	1.9	3.8	SEE	30
17/01/2010	9:30 AM	17.0	17.3	16.8	2.7	4.5	NEN	30
17/01/2010	10:00 AM	17.5	17.7	17.3	3.3	5.3	NEN	30
17/01/2010	10:30 AM	18.0	18.3	17.9	1.7	3.6	NEE	30
17/01/2010	11:00 AM	18.4	18.7	18.4	1.7	3.6	SEE	30
17/01/2010	11:30 AM	19.1	19.2	18.9	2.2	2.8	NEE	30
17/01/2010	12:00 PM	19.7	19.9	19.7	2.8	4.6	NEE	30
17/01/2010	12:30 PM	20.0	20.2	19.8	2.8	4.0	NEE	30
17/01/2010	1:00 PM	20.1	20.2	19.9	2.4	2.7	E	30
17/01/2010	1:30 PM	20.8	21.1	20.7	2.3	4.1	NEE	30
17/01/2010	2:00 PM	20.8	20.9	20.5	2.7	3.8	NEE	30
17/01/2010	2:30 PM	19.5	19.5	19.4	1.6	2.6	SEE	30
17/01/2010	3:00 PM	18.9	19.3	18.8	2.1	4.1	NEE	30
17/01/2010	3:30 PM	18.6	18.6	18.6	1.8	2.6	SES	30
17/01/2010	4:00 PM	17.6	17.8	17.4	2.2	2.8	NEE	30
17/01/2010	4:30 PM	17.1	17.4	16.9	1.5	3.7	NEN	30
17/01/2010	5:00PM	16.6	16.8	16.4	1.6	1.9	NEN	30
17/01/2010	5:30 PM	16.2	16.5	16.1	1.5	2.3	NEN	30
17/01/2010	6:00PM	15.6	15.8	15.6	2.5	4.4	NEN	30
17/01/2010	6:30 PM	15.2	15.4	14.9	1.7	3.9	NEN	30
17/01/2010	7:00PM	15.3	15.7	15.3	3.0	5.0	NEN	30
17/01/2010	7:30 PM	15.4	15.7	15.3	2.1	2.4	NEN	30
17/01/2010	8:00PM	15.5	15.7	15.3	1.3	1.4	NE	30
17/01/2010	8:30 PM	15.3	15.4	15.2	0.7	2.1	NEN	30
17/01/2010	9:00PM	15.8	16.2	15.6	2.4	4.0	NE	30
17/01/2010	9:30 PM	15.8	15.9	15.6	2.2	2.6	NEN	30
17/01/2010	10:00PM	15.9	16.1	15.8	2.1	3.3	N	30
17/01/2010	10:30 PM	16.0	16.3	15.8	2.7	2.8	NEN	30
17/01/2010	11:00PM	16.0	16.3	15.8	1.7	3.3	NEN	30
17/01/2010	11:30 PM	16.0	16.1	15.9	2.3	4.3	NEN	30
18/01/2010	12:00AM	16.0	16.1	15.9	3.0	3.3	NEE	30
18/01/2010	12:30 AM	15.8	16.0	15.6	3.3	5.2	NEN	30
18/01/2010	1:00AM	15.9	16.1	15.7	3.2	5.0	NEE	30
18/01/2010	1:30 AM	15.9	16.0	15.7	2.5	4.6	NEE	30
18/01/2010	2:00AM	15.8	16.0	15.5	2.5	4.0	NEE	30
18/01/2010	2:30 AM	15.2	15.4	14.9	3.9	6.1	NEN	30
18/01/2010	3:00AM	15.2	15.3	14.9	3.8	4.8	NEE	30
18/01/2010	3:30 AM	15.1	15.2	14.9	2.7	4.3	NEE	30
18/01/2010	4:00AM	15.1	15.4	15.1	1.8	3.2	SEE	30
18/01/2010	4:30 AM	15.1	15.5	15.1	1.7	3.8	NEN	30
18/01/2010	5:00AM	15.1	15.2	15.0	1.9	2.4	NEE	30
18/01/2010	5:30 AM	15.1	15.1	15.0	2.1	3.7	SEE	30
18/01/2010	6:00AM	15.1	15.2	15.0	2.0	2.7	NEE	30
18/01/2010	6:30 AM	15.0	15.2	14.8	1.6	1.7	NEE	30
18/01/2010	7:00AM	14.7	14.9	14.6	1.1	3.0	NEE	30
18/01/2010	7:30 AM	14.1	14.3	14.1	1.1	2.6	NEN	30
18/01/2010	8:00AM	14.9	15.2	14.6	2.2	3.6	NEN	30
18/01/2010	8:30 AM	15.8	15.8	15.6	2.3	2.5	NEN	30
18/01/2010	9:00AM	16.7	17.0	16.5	2.7	4.8	NEN	30
18/01/2010	9:30 AM	17.1	17.3	17.0	3.2	4.4	NEE	30
18/01/2010	10:00AM	17.0	17.3	16.9	2.3	3.1	NEE	30
18/01/2010	10:30 AM	18.1	18.4	18.1	1.5	2.5	NEE	30
18/01/2010	11:00AM	18.1	18.4	18.0	1.6	3.1	SEE	30
18/01/2010	11:30 AM	19.2	19.2	19.2	1.6	2.1	NEE	30
18/01/2010	12:00NN	19.9	20.0	19.8	2.7	3.2	SEE	30
18/01/2010	12:30 PM	19.1	19.4	19.0	3.0	4.9	NEE	30
18/01/2010	1:00 PM	19.9	20.2	19.7	2.5	2.6	NEE	30
18/01/2010	1:30 PM	20.0	20.1	19.9	3.2	4.2	NEE	30
18/01/2010	2:00 PM	19.3	19.7	19.3	2.4	4.1	NEN	30
18/01/2010	2:30 PM	19.1	19.3	18.8	3.8	5.3	NEN	30
18/01/2010	3:00 PM	19.1	19.3	18.9	2.5	3.1	NEN	30
18/01/2010	3:30 PM	19.0	19.3	18.8	3.0	3.1	NEE	30
18/01/2010	4:00 PM	18.0	18.2	17.9	2.3	3.4	NEE	30
18/01/2010	4:30 PM	17.8	18.1	17.7	2.6	3.9	NEE	30
18/01/2010	5:00 PM	17.0	17.2	16.8	2.7	4.6	NEE	30
18/01/2010	5:30 PM	16.8	16.9	16.8	0.7	2.5	NE	30
18/01/2010	6:00 PM	16.0	16.3	15.8	1.6	3.7	NEN	30
18/01/2010	6:30 PM	15.1	15.2	14.9	1.6	1.7	NEN	30
18/01/2010	7:00 PM	15.1	15.5	15.1	1.6	2.9	NEN	30
18/01/2010	7:30 PM	15.0	15.2	14.8	1.8	3.3	NEN	30
18/01/2010	8:00 PM	15.5	15.5	15.3	2.3	2.8	NEN	30
18/01/2010	8:30 PM	15.4	15.5	15.3	1.5	2.1	NEN	30
18/01/2010	9:00 PM	16.1	16.3	16.1	2.2	4.3	NEN	30
18/01/2010	9:30 PM	16.1	16.2	15.9	2.3	2.4	NEN	30
18/01/2010	10:00 PM	16.1	16.5	15.9	3.0	4.4	NEN	30
18/01/2010	10:30 PM	16.1	16.3	16.0	4.0	5.8	NEN	30
18/01/2010	11:00 PM	16.2	16.3	16.1	3.7	4.0	NEN	30
18/01/2010	11:30 PM	16.1	16.2	16.0	3.5	3.9	NEN	30

東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

Weather information in January 2010

Date (DMY)	Time	Average Temp	Hi Temp	Low Temp	Wind Speed (m/s) Average	Wind Speed (m/s) Hi	Wind Direction	Period
19/01/2010	12:00 AM	16.1	16.5	16.0	3.2	3.2	NEN	30
19/01/2010	12:30 AM	16.0	16.4	15.9	3.8	4.5	NEN	30
19/01/2010	1:00 AM	16.0	16.3	15.9	3.8	6.0	NEN	30
19/01/2010	1:30 AM	15.9	16.1	15.7	1.6	3.6	NEN	30
19/01/2010	2:00 AM	15.8	16.1	15.6	2.3	4.4	NEN	30
19/01/2010	2:30 AM	15.8	16.0	15.8	2.3	2.7	NEN	30
19/01/2010	3:00 AM	15.5	15.6	15.2	2.4	3.5	NEN	30
19/01/2010	3:30 AM	15.3	15.4	15.2	2.8	4.3	NEE	30
19/01/2010	4:00 AM	15.6	15.9	15.5	2.1	4.2	NEE	30
19/01/2010	4:30 AM	15.5	15.8	15.4	2.2	4.4	NEN	30
19/01/2010	5:00 AM	15.4	15.7	15.2	2.1	2.2	NEN	30
19/01/2010	5:30 AM	15.5	15.6	15.3	3.8	5.7	NEN	30
19/01/2010	6:00 AM	15.6	15.9	15.3	2.4	3.7	NEE	30
19/01/2010	6:30 AM	15.6	15.6	15.5	3.9	5.4	NEN	30
19/01/2010	7:00 AM	15.5	15.7	15.3	3.8	3.9	NEN	30
19/01/2010	7:30 AM	15.7	16.1	15.4	3.7	5.7	NEE	30
19/01/2010	8:00 AM	15.8	15.9	15.5	2.1	3.0	NEN	30
19/01/2010	8:30 AM	15.8	16.1	15.6	2.8	3.8	NEE	30
19/01/2010	9:00 AM	16.3	16.6	16.0	2.4	4.0	NEN	30
19/01/2010	9:30 AM	16.9	17.3	16.8	2.6	3.0	NEE	30
19/01/2010	10:00 AM	17.1	17.3	16.9	2.2	4.1	NEN	30
19/01/2010	10:30 AM	17.3	17.4	17.1	2.5	4.5	NEN	30
19/01/2010	11:00 AM	18.0	18.0	17.8	2.2	2.6	NEN	30
19/01/2010	11:30 AM	18.3	18.6	18.3	2.7	4.6	NEN	30
19/01/2010	12:00 PM	18.3	18.7	18.1	2.7	3.1	NEN	30
19/01/2010	12:30 PM	18.6	18.8	18.6	2.3	2.4	NEN	30
19/01/2010	1:00 PM	18.6	19.0	18.3	1.6	3.3	NEN	30
19/01/2010	1:30 PM	18.6	18.8	18.4	1.6	2.4	NEN	30
19/01/2010	2:00 PM	18.6	18.8	18.5	1.6	3.6	SEE	30
19/01/2010	2:30 PM	19.0	19.3	18.9	2.0	3.7	NEE	30
19/01/2010	3:00 PM	18.9	19.0	18.7	2.1	4.4	NEN	30
19/01/2010	3:30 PM	19.1	19.3	18.9	1.6	3.0	NEN	30
19/01/2010	4:00 PM	18.9	19.0	18.8	2.5	3.2	NEN	30
19/01/2010	4:30 PM	19.0	19.1	18.8	1.2	2.9	NEN	30
19/01/2010	5:00 PM	18.7	18.8	18.5	0.5	2.3	NWN	30
19/01/2010	5:30 PM	18.7	19.1	18.7	0.9	2.6	NE	30
19/01/2010	6:00 PM	18.4	18.7	18.3	0.6	2.6	SEE	30
19/01/2010	6:30 PM	18.1	18.3	18.0	0.5	2.5	NEE	30
19/01/2010	7:00 PM	18.1	18.4	18.0	0.5	1.0	NEE	30
19/01/2010	7:30 PM	18.0	18.1	18.0	1.6	3.3	NEE	30
19/01/2010	8:00 PM	17.9	18.1	17.9	0.1	0.4	N	30
19/01/2010	8:30 PM	17.9	18.0	17.8	0.4	1.7	NEE	30
19/01/2010	9:00 PM	17.9	18.3	17.9	1.2	1.7	NEE	30
19/01/2010	9:30 PM	17.8	18.1	17.6	0.6	1.9	NEE	30
19/01/2010	10:00 PM	17.8	18.1	17.6	0.9	2.3	NEE	30
19/01/2010	10:30 PM	17.8	17.9	17.5	0.6	2.7	NEE	30
19/01/2010	11:00 PM	17.8	18.0	17.6	0.3	0.9	SEE	30
19/01/2010	11:30 PM	17.9	18.3	17.8	0.1	2.2	N	30
20/01/2010	12:00 AM	18.0	18.2	17.8	0.5	1.2	SEE	30
20/01/2010	12:30 AM	18.3	18.4	18.3	1.0	1.7	NEN	30
20/01/2010	1:00 AM	18.9	19.2	18.7	1.6	3.6	NEN	30
20/01/2010	1:30 AM	19.1	19.1	19.0	1.5	3.4	NEN	30
20/01/2010	2:00 AM	19.1	19.1	18.9	1.7	1.8	NEN	30
20/01/2010	2:30 AM	19.2	19.4	19.1	1.7	3.0	NEN	30
20/01/2010	3:00 AM	19.2	19.5	19.0	1.3	2.8	NEN	30
20/01/2010	3:30 AM	19.3	19.3	19.3	2.5	4.7	NEN	30
20/01/2010	4:00 AM	19.3	19.7	19.0	1.1	2.7	NEN	30
20/01/2010	4:30 AM	19.3	19.4	19.0	1.1	2.1	NEN	30
20/01/2010	5:00 AM	19.3	19.6	19.3	1.3	2.9	NEN	30
20/01/2010	5:30 AM	19.7	19.8	19.5	1.5	3.1	NWN	30
20/01/2010	6:00 AM	19.7	19.8	19.7	1.6	2.8	NEN	30
20/01/2010	6:30 AM	19.6	20.0	19.5	0.9	1.7	NEE	30
20/01/2010	7:00 AM	19.5	19.5	19.5	1.3	2.1	NE	30
20/01/2010	7:30 AM	19.6	19.6	19.4	1.8	3.7	NEN	30
20/01/2010	8:00 AM	20.0	20.3	19.7	2.0	2.2	NEN	30
20/01/2010	8:30 AM	20.5	20.5	20.4	0.6	0.7	NEE	30
20/01/2010	9:00 AM	21.2	21.6	21.1	1.3	2.7	NEE	30
20/01/2010	9:30 AM	22.0	22.1	21.9	1.6	2.7	NEE	30
20/01/2010	10:00 AM	22.1	22.2	21.9	1.5	2.4	NEN	30
20/01/2010	10:30 AM	22.1	22.5	21.8	1.6	1.7	NEE	30
20/01/2010	11:00 AM	22.1	22.1	21.9	1.0	2.8	NEE	30
20/01/2010	11:30 AM	22.6	22.9	22.5	2.3	3.4	NEE	30
20/01/2010	12:00 PM	22.2	22.6	22.0	2.8	4.6	NEE	30
20/01/2010	12:30 PM	22.5	22.9	22.4	2.2	4.0	NEE	30
20/01/2010	1:00 PM	22.9	23.3	22.7	2.5	2.5	NEE	30
20/01/2010	1:30 PM	22.7	22.9	22.5	2.3	4.1	NEE	30
20/01/2010	2:00 PM	22.8	22.9	22.7	2.7	3.3	NEE	30
20/01/2010	2:30 PM	22.9	23.0	22.7	2.8	4.8	NEE	30
20/01/2010	3:00 PM	22.5	22.7	22.5	1.9	3.9	NEE	30
20/01/2010	3:30 PM	22.5	22.5	22.3	2.9	3.7	NEE	30
20/01/2010	4:00 PM	22.5	22.8	22.5	2.2	3.9	NEE	30
20/01/2010	4:30 PM	22.3	22.7	22.2	1.6	2.1	NEE	30
20/01/2010	5:00 PM	22.2	22.6	22.0	2.2	2.7	NEE	30
20/01/2010	5:30 PM	21.9	22.1	21.8	1.7	3.9	NEN	30
20/01/2010	6:00 PM	21.9	21.9	21.8	1.7	2.4	NE	30
20/01/2010	6:30 PM	21.9	22.1	21.6	2.2	3.8	NEE	30
20/01/2010	7:00 PM	21.9	22.2	21.9	2.1	3.8	NEE	30
20/01/2010	7:30 PM	21.9	22.0	21.8	0.7	1.9	SEE	30
20/01/2010	8:00 PM	21.8	21.8	21.6	1.1	2.7	E	30
20/01/2010	8:30 PM	21.6	21.8	21.5	0.6	0.8	SEE	30
20/01/2010	9:00 PM	21.5	21.6	21.4	0.9	1.0	NEE	30
20/01/2010	9:30 PM	21.3	21.5	21.3	1.1	2.2	NEN	30
20/01/2010	10:00 PM	21.3	21.5	21.2	1.1	1.8	NEN	30
20/01/2010	10:30 PM	21.2	21.3	20.9	0.4	2.5	NEE	30
20/01/2010	11:00 PM	21.2	21.5	20.9	1.2	3.4	NEE	30
20/01/2010	11:30 PM	21.1	21.1	21.1	1.5	1.6	NEN	30

Weather information in January 2010

Date (DMY)	Time	Average Temp	Hi Temp	Low Temp	Wind Speed (m/s) Average	Wind Speed (m/s) Hi	Wind Direction	Period
21/01/2010	12:00 AM	21.3	21.6	21.1	2.1	3.1	NE	30
21/01/2010	12:30 AM	21.1	21.1	21.1	1.6	1.6	NEN	30
21/01/2010	1:00 AM	21.1	21.2	20.9	1.3	3.0	NEN	30
21/01/2010	1:30 AM	21.1	21.5	21.0	1.3	3.4	NEN	30
21/01/2010	2:00 AM	21.0	21.0	20.8	1.6	2.6	NEN	30
21/01/2010	2:30 AM	21.1	21.4	21.1	1.7	2.9	NEN	30
21/01/2010	3:00 AM	21.0	21.0	21.0	1.1	2.9	NE	30
21/01/2010	3:30 AM	21.0	21.0	21.0	0.7	2.6	NEE	30
21/01/2010	4:00 AM	20.9	21.2	20.8	1.0	2.1	NEN	30
21/01/2010	4:30 AM	20.9	21.0	20.8	0.7	1.8	NEN	30
21/01/2010	5:00 AM	20.8	21.0	20.6	1.1	1.2	NEN	30
21/01/2010	5:30 AM	20.8	21.1	20.7	1.2	1.8	NEN	30
21/01/2010	6:00 AM	20.9	21.0	20.7	1.1	2.5	NEN	30
21/01/2010	6:30 AM	20.9	20.9	20.7	1.1	1.5	NEN	30
21/01/2010	7:00 AM	21.0	21.1	21.0	0.5	2.7	NEE	30
21/01/2010	7:30 AM	21.0	21.1	20.8	1.2	1.6	NEE	30
21/01/2010	8:00 AM	21.1	21.5	20.9	1.6	2.4	NE	30
21/01/2010	8:30 AM	21.3	21.5	21.1	1.2	2.2	NEN	30
21/01/2010	9:00 AM	22.3	22.5	22.3	1.6	1.7	NEN	30
21/01/2010	9:30 AM	22.8	23.0	22.5	1.0	2.6	NEE	30
21/01/2010	10:00 AM	22.8	23.0	22.7	2.4	4.4	NEE	30
21/01/2010	10:30 AM	22.5	22.6	22.5	2.4	4.4	NEE	30
21/01/2010	11:00 AM	23.4	23.8	23.2	2.2	4.1	NEE	30
21/01/2010	11:30 AM	24.0	24.3	23.7	3.2	4.0	NEE	30
21/01/2010	12:00 PM	24.0	24.1	23.8	2.8	4.0	NEE	30
21/01/2010	12:30 PM	23.8	24.1	23.7	3.4	3.7	NEE	30
21/01/2010	1:00 PM	23.9	24.3	23.8	3.4	3.9	NEE	30
21/01/2010	1:30 PM	23.2	23.4	23.0	3.2	5.2	NEE	30
21/01/2010	2:00 PM	23.2	23.5	22.9	2.0	3.3	NEE	30
21/01/2010	2:30 PM	23.6	23.9	23.3	1.6	3.6	NEN	30
21/01/2010	3:00 PM	23.6	23.9	23.5	2.3	2.8	NE	30
21/01/2010	3:30 PM	23.9	24.2	23.8	1.6	3.3	E	30
21/01/2010	4:00 PM	23.8	24.1	23.6	1.4	2.1	SEE	30
21/01/2010	4:30 PM	23.4	23.4	23.4	1.0	3.0	NEE	30
21/01/2010	5:00 PM	23.0	23.1	23.0	2.2	4.2	NEN	30
21/01/2010	5:30 PM	22.5	22.6	22.3	2.4	2.9	NEN	30
21/01/2010	6:00 PM	22.1	22.4	21.9	2.1	2.9	NEN	30
21/01/2010	6:30 PM	22.0	22.2	21.8	1.1	1.9	NEN	30
21/01/2010	7:00 PM	21.8	21.8	21.6	0.7	1.0	NEN	30
21/01/2010	7:30 PM	21.6	21.7	21.6	1.6	2.8	NEE	30
21/01/2010	8:00 PM	21.0	21.2	20.8	0.8	1.4	NEE	30
21/01/2010	8:30 PM	20.1	20.4	19.9	0.8	2.0	E	30
21/01/2010	9:00 PM	20.1	20.2	20.0	0.2	0.9	NWW	30
21/01/2010	9:30 PM	20.2	20.3	19.9	0.1	0.8	N	30
21/01/2010	10:00 PM	20.0	20.0	19.9	0.1	1.5	N	30
21/01/2010	10:30 PM	20.0	20.4	19.8	0.1	2.1	N	30
21/01/2010	11:00 PM	20.1	20.2	20.0	1.7	1.9	NEE	30
21/01/2010	11:30 PM	20.3	20.5	20.0	0.1	2.2	N	30
22/01/2010	12:00 AM	20.5	20.8	20.4	0.7	0.8	NEE	30
22/01/2010	12:30 AM	20.6	20.8	20.6	1.0	3.0	SES	30
22/01/2010	1:00 AM	20.2	20.4	20.2	0.9	2.9	NEN	30
22/01/2010	1:30 AM	20.3	20.4	20.1	1.1	2.7	SEE	30
22/01/2010	2:00 AM	19.3	19.4	19.2	3.4	3.5	NEE	30
22/01/2010	2:30 AM	18.2	18.6	18.1	3.6	4.0	NEN	30
22/01/2010	3:00 AM	18.0	18.3	17.7	4.1	5.8	NEN	30
22/01/2010	3:30 AM	17.6	17.7	17.4	3.5	4.1	NEN	30
22/01/2010	4:00 AM	17.2	17.4	16.9	3.3	3.7	NEN	30
22/01/2010	4:30 AM	17.1	17.2	16.9	4.1	4.5	NEE	30
22/01/2010	5:00 AM	17.1	17.3	17.0	3.6	5.8	NEN	30
22/01/2010	5:30 AM	17.1	17.4	16.8	3.0	4.7	NEN	30
22/01/2010	6:00 AM	17.1	17.3	16.8	3.1	3.5	NEE	30
22/01/2010	6:30 AM	17.1	17.4	17.0	4.1	4.6	NEN	30
22/01/2010	7:00 AM	17.1	17.3	17.0	3.3	3.3	NEE	30
22/01/2010	7:30 AM	17.1	17.4	17.1	3.0	4.7	NEE	30
22/01/2010	8:00 AM	17.0	17.0	16.8	3.3	5.2	NEE	30
22/01/2010	8:30 AM	17.2	17.2	17.1	2.8	4.6	NEE	30
22/01/2010	9:00 AM	17.3	17.5	17.0	2.3	3.3	NEE	30
22/01/2010	9:30 AM	17.4	17.6	17.2	2.2	2.7	NEE	30
22/01/2010	10:00 AM	17.2	17.4	17.1	3.5	5.8	NEE	30
22/01/2010	10:30 AM	17.0	17.1	16.7	3.1	4.5	NEE	30
22/01/2010	11:00 AM	17.0	17.3	16.9	2.1	4.4	NEE	30
22/01/2010	11:30 AM	17.0	17.0	16.8	2.7	3.2	NEE	30
22/01/2010	12:00 PM	17.1	17.3	17.0	3.2	3.7	NEE	30
22/01/2010	12:30 PM	17.9	18.1	17.7	3.9	5.7	NEE	30
22/01/2010	1:00 PM	18.4	18.7	18.3	4.2	4.2	NEE	30
22/01/2010	1:30 PM	18.3	18.3	18.3	2.3	3.6	E	30
22/01/2010	2:00 PM	18.0	18.1	17.7	3.8	4.1	NEE	30
22/01/2010	2:30 PM	18.0	18.3	17.9	3.1	3.4	NEE	30
22/01/2010	3:00 PM	18.0	18.2	17.9	2.1	2.5	NEN	30
22/01/2010	3:30 PM	17.9	18.0	17.8	2.1	4.1	NE	30
22/01/2010	4:00 PM	17.9	17.9	17.8	2.2	4.1	NEE	30
22/01/2010	4:30 PM	17.8	17.9	17.7	2.8	3.4	NEE	30
22/01/2010	5:00 PM	17.5	17.6	17.5	3.2	3.3	NEE	30
22/01/2010	5:30 PM	17.2	17.5	16.9	2.3	2.8	NEE	30
22/01/2010	6:00 PM	17.0	17.2	16.9	2.6	3.7	NEE	30
22/01/2010	6:30 PM	17.0	17.4	16.8	2.7	4.9	NEN	30
22/01/2010	7:00 PM	17.0	17.3	16.9	2.6	4.4	NEN	30
22/01/2010	7:30 PM	16.9	17.1	16.9	2.5	3.6	NEN	30
22/01/2010	8:00 PM	16.8	17.1	16.7	2.3	3.1	NEE	30
22/01/2010	8:30 PM	16.4	16.5	16.3	2.2	2.9	NEN	30
22/01/2010	9:00 PM	16.0	16.3	15.7	3.3	4.0	NEN	30
22/01/2010	9:30 PM	15.8	16.0	15.6	3.3	4.9	NEN	30
22/01/2010	10:00 PM	15.6	15.8	15.6	3.3	5.3	NEN	30
22/01/2010	10:30 PM	15.2	15.5	15.1	3.8	4.0	NEN	30
22/01/2010	11:00 PM	15.1	15.3	14.9	3.3	5.3	NEN	30
22/01/2010	11:30 PM	15.0	15.2	14.7	3.4	4.9	NEN	30

Weather information in January 2010

Date (DMY)	Time	Average Temp	Hi Temp	Low Temp	Wind Speed (m/s) Average	Wind Speed (m/s) Hi	Wind Direction	Period
23/01/2010	12:00 AM	15.0	15.2	14.8	2.9	3.4	NEN	30
23/01/2010	12:30 AM	15.2	15.5	15.0	3.7	4.0	NEN	30
23/01/2010	1:00 AM	15.0	15.3	14.8	2.2	4.3	NEN	30
23/01/2010	1:30 AM	14.9	14.9	14.8	2.8	4.3	NE	30
23/01/2010	2:00 AM	14.8	14.8	14.7	1.7	3.3	NWN	30
23/01/2010	2:30 AM	14.6	14.8	14.4	1.6	2.4	NEE	30
23/01/2010	3:00 AM	14.4	14.5	14.3	1.7	1.8	NEE	30
23/01/2010	3:30 AM	14.1	14.2	14.0	1.2	3.4	NEE	30
23/01/2010	4:00 AM	14.0	14.3	13.9	2.2	3.8	NEE	30
23/01/2010	4:30 AM	14.0	14.3	13.8	1.3	3.2	NEE	30
23/01/2010	5:00 AM	14.0	14.3	13.8	0.5	0.7	N	30
23/01/2010	5:30 AM	13.7	13.8	13.6	1.1	2.1	NWN	30
23/01/2010	6:00 AM	13.8	13.9	13.6	2.0	2.3	N	30
23/01/2010	6:30 AM	13.8	13.9	13.7	1.3	1.5	NEN	30
23/01/2010	7:00 AM	13.7	13.8	13.6	2.0	2.7	NWN	30
23/01/2010	7:30 AM	13.2	13.4	13.0	1.2	1.6	NEN	30
23/01/2010	8:00 AM	13.2	13.3	13.0	1.2	2.0	NWN	30
23/01/2010	8:30 AM	13.5	13.6	13.3	1.5	2.9	NWN	30
23/01/2010	9:00 AM	13.6	14.0	13.6	2.0	2.5	NEE	30
23/01/2010	9:30 AM	14.0	14.3	13.7	2.9	5.2	NEN	30
23/01/2010	10:00 AM	14.2	14.5	14.1	2.8	5.1	NEN	30
23/01/2010	10:30 AM	14.3	14.4	14.1	3.4	3.5	NEN	30
23/01/2010	11:00 AM	14.4	14.8	14.4	3.4	3.6	NEN	30
23/01/2010	11:30 AM	14.5	14.7	14.5	3.0	4.9	NEN	30
23/01/2010	12:00 PM	14.9	15.3	14.8	2.3	3.4	NE	30
23/01/2010	12:30 PM	14.8	14.9	14.6	2.7	3.4	NEN	30
23/01/2010	1:00 PM	14.9	15.1	14.9	2.7	2.7	NEN	30
23/01/2010	1:30 PM	14.9	15.2	14.6	2.4	2.6	NE	30
23/01/2010	2:00 PM	15.0	15.0	14.7	2.7	3.8	NEN	30
23/01/2010	2:30 PM	15.2	15.4	15.1	1.5	3.4	NE	30
23/01/2010	3:00 PM	15.4	15.6	15.1	2.6	2.8	NEE	30
23/01/2010	3:30 PM	15.5	15.5	15.3	2.2	4.4	NEN	30
23/01/2010	4:00 PM	15.9	16.3	15.8	1.0	1.7	SEE	30
23/01/2010	4:30 PM	16.1	16.2	15.8	1.2	3.1	NEN	30
23/01/2010	5:00 PM	16.1	16.3	15.9	0.3	1.4	E	30
23/01/2010	5:30 PM	16.0	16.3	15.8	1.1	1.6	NEE	30
23/01/2010	6:00 PM	15.9	16.0	15.8	1.1	2.7	NEN	30
23/01/2010	6:30 PM	15.8	15.8	15.8	1.0	2.5	NEE	30
23/01/2010	7:00 PM	15.9	16.0	15.8	2.0	2.5	NWN	30
23/01/2010	7:30 PM	16.1	16.2	16.0	1.7	3.0	NEN	30
23/01/2010	8:00 PM	16.1	16.2	15.9	1.2	1.3	NEN	30
23/01/2010	8:30 PM	16.1	16.5	16.0	0.2	2.0	NWN	30
23/01/2010	9:00 PM	16.1	16.4	16.0	0.6	1.6	NWN	30
23/01/2010	9:30 PM	16.1	16.4	15.8	1.6	1.9	NEE	30
23/01/2010	10:00 PM	16.4	16.7	16.3	0.6	1.2	NEN	30
23/01/2010	10:30 PM	16.3	16.7	16.1	1.6	2.3	NEN	30
23/01/2010	11:00PM	16.3	16.5	16.2	1.7	3.3	NEN	30
23/01/2010	11:30PM	16.3	16.5	16.0	1.6	2.8	NEN	30
24/01/2010	12:00 AM	16.3	16.3	16.1	1.6	2.8	NEE	30
24/01/2010	12:30AM	16.3	16.7	16.2	1.4	3.0	NEE	30
24/01/2010	1:00 AM	16.2	16.3	16.2	0.9	1.3	NEE	30
24/01/2010	1:30 AM	16.2	16.3	16.0	0.4	0.6	NWN	30
24/01/2010	2:00 AM	16.2	16.4	15.9	0.1	0.2	N	30
24/01/2010	2:30 AM	16.2	16.6	15.9	0.4	1.6	SEE	30
24/01/2010	3:00 AM	16.3	16.6	16.2	0.1	0.9	NWN	30
24/01/2010	3:30 AM	16.4	16.7	16.2	0.1	0.5	NWW	30
24/01/2010	4:00 AM	16.7	17.0	16.6	0.8	2.3	NEN	30
24/01/2010	4:30 AM	16.1	16.2	16.0	0.1	1.4	SES	30
24/01/2010	5:00 AM	16.3	16.4	16.2	0.7	1.3	NWW	30
24/01/2010	5:30 AM	16.3	16.3	16.2	0.1	0.2	NEE	30
24/01/2010	6:00 AM	16.2	16.5	16.1	0.2	0.5	NEN	30
24/01/2010	6:30 AM	16.0	16.3	15.8	0.6	1.8	NEE	30
24/01/2010	7:00 AM	15.9	15.9	15.7	0.4	2.4	NEE	30
24/01/2010	7:30 AM	15.9	15.9	15.7	0.2	0.9	NEE	30
24/01/2010	8:00 AM	16.3	16.7	16.1	0.1	0.8	N	30
24/01/2010	8:30 AM	17.9	18.1	17.8	1.0	1.8	NEE	30
24/01/2010	9:00 AM	16.9	17.0	16.8	0.9	2.2	NEE	30
24/01/2010	9:30 AM	17.0	17.3	16.8	1.2	1.4	NEE	30
24/01/2010	10:00 AM	17.3	17.4	17.1	1.1	2.8	NE	30
24/01/2010	10:30 AM	17.2	17.3	17.0	1.4	2.5	NEE	30
24/01/2010	11:00 AM	17.5	17.5	17.4	0.9	1.0	NEE	30
24/01/2010	11:30 AM	17.8	18.1	17.5	0.7	1.3	NE	30
24/01/2010	12:00 PM	17.7	17.7	17.5	0.8	2.1	NEE	30
24/01/2010	12:30 PM	17.5	17.6	17.4	1.1	1.2	NEE	30
24/01/2010	1:00 PM	17.6	17.6	17.4	1.3	1.8	NEE	30
24/01/2010	1:30 PM	17.2	17.6	17.0	0.8	2.9	N	30
24/01/2010	2:00 PM	17.1	17.5	16.8	1.3	2.7	NEE	30
24/01/2010	2:30 PM	16.9	17.1	16.7	1.2	1.8	NEN	30
24/01/2010	3:00 PM	16.9	17.2	16.7	0.5	2.1	NE	30
24/01/2010	3:30 PM	16.7	16.8	16.7	0.4	0.7	NEE	30
24/01/2010	4:00 PM	16.8	17.1	16.5	1.0	2.4	NEE	30
24/01/2010	4:30 PM	16.7	16.9	16.6	1.3	1.7	NEE	30
24/01/2010	5:00 PM	16.5	16.6	16.3	0.8	2.2	NEE	30
24/01/2010	5:30 PM	16.6	16.6	16.4	1.2	3.4	NWW	30
24/01/2010	6:00 PM	16.4	16.5	16.2	0.9	1.8	NW	30
24/01/2010	6:30 PM	16.2	16.4	15.9	0.8	2.1	N	30
24/01/2010	7:00 PM	16.1	16.4	16.1	1.0	3.1	NE	30
24/01/2010	7:30 PM	15.9	16.1	15.7	1.2	1.7	NEE	30
24/01/2010	8:00 PM	16.0	16.1	15.8	1.5	3.4	NEE	30
24/01/2010	8:30 PM	16.0	16.0	15.9	1.3	1.4	NEE	30
24/01/2010	9:00 PM	16.1	16.3	15.8	0.8	2.4	NEE	30
24/01/2010	9:30 PM	15.9	16.2	15.6	1.0	1.3	NE	30
24/01/2010	10:00 PM	15.8	15.9	15.6	0.6	2.9	NEE	30
24/01/2010	10:30 PM	15.9	15.9	15.6	0.8	1.2	NEE	30
24/01/2010	11:00 PM	15.7	15.9	15.6	0.7	1.1	NEE	30
24/01/2010	11:30 PM	15.7	15.7	15.5	0.8	3.1	NEE	30

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Weather information in January 2010

Date (DMY)	Time	Average Temp	Hi Temp	Low Temp	Wind Speed (m/s) Average	Wind Speed (m/s) Hi	Wind Direction	Period
25/01/2010	12:00 AM	15.8	15.9	15.6	1.2	2.3	NEE	30
25/01/2010	12:30 AM	15.7	15.9	15.7	0.9	1.7	NEE	30
25/01/2010	1:00 AM	15.8	15.9	15.6	1.1	2.7	N	30
25/01/2010	1:30 AM	15.8	15.9	15.6	1.6	2.7	N	30
25/01/2010	2:00 AM	15.9	16.2	15.6	1.3	2.1	NEN	30
25/01/2010	2:30 AM	15.8	16.2	15.7	0.8	1.0	NEE	30
25/01/2010	3:00 AM	15.8	15.8	15.5	0.9	1.3	NEE	30
25/01/2010	3:30 AM	15.7	15.9	15.6	1.1	2.2	NEN	30
25/01/2010	4:00 AM	15.7	15.8	15.7	1.3	3.3	NEN	30
25/01/2010	4:30 AM	15.7	15.9	15.6	1.2	2.0	NEE	30
25/01/2010	5:00 AM	15.8	16.0	15.7	0.8	2.8	NEN	30
25/01/2010	5:30 AM	15.7	16.1	15.7	0.7	2.7	N	30
25/01/2010	6:00 AM	15.9	16.1	15.7	0.9	2.9	NEE	30
25/01/2010	6:30 AM	16.0	16.3	15.8	1.1	2.8	NEE	30
25/01/2010	7:00 AM	16.2	16.5	16.1	1.5	2.4	NEE	30
25/01/2010	7:30 AM	16.4	16.6	16.3	1.3	2.7	NEE	30
25/01/2010	8:00 AM	16.9	17.2	16.8	1.9	3.4	NEE	30
25/01/2010	8:30 AM	17.5	17.9	17.2	0.8	2.2	NEE	30
25/01/2010	9:00 AM	18.1	18.5	18.0	1.6	2.9	NEE	30
25/01/2010	9:30 AM	19.0	19.2	18.8	2.1	3.4	NEE	30
25/01/2010	10:00 AM	19.7	19.8	19.5	1.7	3.0	NEE	30
25/01/2010	10:30 AM	20.0	20.3	19.8	0.3	1.7	NWN	30
25/01/2010	11:00 AM	20.8	21.0	20.7	1.1	1.7	NWN	30
25/01/2010	11:30 AM	20.6	20.9	20.4	1.7	2.7	NWN	30
25/01/2010	12:00 PM	20.2	20.2	20.1	1.6	2.2	NEE	30
25/01/2010	12:30 PM	19.9	20.3	19.8	3.3	3.3	NEE	30
25/01/2010	1:00 PM	20.2	20.3	19.9	3.2	4.5	NEE	30
25/01/2010	1:30 PM	20.4	20.6	20.3	1.6	2.8	NEE	30
25/01/2010	2:00 PM	20.8	21.1	20.7	2.5	4.3	NEE	30
25/01/2010	2:30 PM	20.9	20.9	20.7	0.9	2.2	NEN	30
25/01/2010	3:00 PM	21.0	21.0	20.9	3.1	4.3	NEN	30
25/01/2010	3:30 PM	21.1	21.4	20.8	2.6	3.5	NWN	30
25/01/2010	4:00 PM	21.0	21.2	20.8	2.0	2.6	NWN	30
25/01/2010	4:30 PM	21.0	21.0	20.8	2.6	3.6	NWN	30
25/01/2010	5:00 PM	20.1	20.4	20.0	2.0	4.1	NWN	30
25/01/2010	5:30 PM	19.3	19.5	19.1	2.5	3.1	NEE	30
25/01/2010	6:00 PM	18.7	19.1	18.5	2.6	4.5	NEE	30
25/01/2010	6:30 PM	18.9	19.0	18.8	2.5	4.5	NEE	30
25/01/2010	7:00 PM	18.2	18.4	18.0	1.7	3.4	NEE	30
25/01/2010	7:30 PM	18.8	19.1	18.8	2.0	2.7	NEN	30
25/01/2010	8:00 PM	18.6	18.8	18.5	2.5	3.4	NEE	30
25/01/2010	8:30 PM	18.1	18.2	18.0	3.7	5.8	NEE	30
25/01/2010	9:00 PM	18.1	18.3	18.0	4.1	5.8	NEE	30
25/01/2010	9:30 PM	17.9	18.0	17.8	4.1	5.7	NEE	30
25/01/2010	10:00 PM	17.1	17.3	17.0	2.6	4.1	NE	30
25/01/2010	10:30 PM	17.0	17.4	16.7	2.4	3.8	NEE	30
25/01/2010	11:00 PM	16.7	16.8	16.5	1.6	2.5	N	30
25/01/2010	11:30 PM	16.7	16.8	16.5	1.3	2.9	NWN	30
26/01/2010	12:00 AM	16.7	16.8	16.6	1.0	2.7	NWN	30
26/01/2010	12:30 AM	16.7	16.9	16.6	0.7	1.6	NWN	30
26/01/2010	1:00 AM	16.2	16.3	16.2	1.5	2.4	NEE	30
26/01/2010	1:30 AM	16.1	16.4	15.9	2.7	3.4	NEE	30
26/01/2010	2:00 AM	15.9	16.2	15.7	3.0	4.6	NEE	30
26/01/2010	2:30 AM	15.1	15.1	14.8	2.0	2.4	NEE	30
26/01/2010	3:00 AM	15.1	15.3	14.8	1.5	3.5	NWN	30
26/01/2010	3:30 AM	15.1	15.3	15.0	0.3	1.5	NEE	30
26/01/2010	4:00 AM	15.0	15.1	14.9	2.2	2.7	NEE	30
26/01/2010	4:30 AM	14.9	15.0	14.7	1.4	2.6	NEN	30
26/01/2010	5:00 AM	14.9	15.2	14.8	2.4	3.6	NEE	30
26/01/2010	5:30 AM	14.5	14.9	14.5	1.5	2.8	NEE	30
26/01/2010	6:00 AM	14.2	14.4	14.2	2.3	2.8	NEE	30
26/01/2010	6:30 AM	14.2	14.5	14.2	1.6	3.8	NWN	30
26/01/2010	7:00 AM	14.1	14.2	13.8	2.8	2.8	NEE	30
26/01/2010	7:30 AM	14.0	14.1	14.0	1.6	2.0	NEE	30
26/01/2010	8:00 AM	14.1	14.1	13.9	1.1	2.2	NWN	30
26/01/2010	8:30 AM	14.0	14.1	14.0	1.7	3.7	NEE	30
26/01/2010	9:00 AM	14.2	14.4	14.1	2.1	3.9	NEE	30
26/01/2010	9:30 AM	14.5	14.7	14.2	1.4	2.9	NEE	30
26/01/2010	10:00 AM	14.7	14.9	14.4	2.3	3.4	NEE	30
26/01/2010	10:30 AM	14.8	14.9	14.6	2.1	2.1	NEN	30
26/01/2010	11:00 AM	14.9	15.0	14.9	2.4	4.5	NEE	30
26/01/2010	11:30 AM	15.0	15.0	14.8	2.7	3.7	NEN	30
26/01/2010	12:00 PM	14.3	14.6	14.1	2.8	4.6	NEN	30
26/01/2010	12:30 PM	14.4	14.6	14.4	2.4	3.1	NEN	30
26/01/2010	1:00 PM	14.5	14.9	14.3	2.7	3.4	NEN	30
26/01/2010	1:30 PM	14.9	15.0	14.6	2.8	4.8	E	30
26/01/2010	2:00 PM	15.0	15.3	14.9	2.2	2.9	N	30
26/01/2010	2:30 PM	15.1	15.4	14.9	1.6	3.0	NEE	30
26/01/2010	3:00 PM	15.0	15.1	14.7	2.7	3.7	SEE	30
26/01/2010	3:30 PM	15.2	15.2	15.0	2.8	4.4	NEN	30
26/01/2010	4:00 PM	15.5	15.5	15.3	3.0	3.1	NEN	30
26/01/2010	4:30 PM	15.5	15.8	15.4	2.2	2.5	NEE	30
26/01/2010	5:00 PM	15.4	15.7	15.2	2.4	4.5	NEN	30
26/01/2010	5:30 PM	15.1	15.5	14.9	2.4	3.2	NEN	30
26/01/2010	6:00 PM	15.1	15.3	14.8	2.3	3.6	NEN	30
26/01/2010	6:30 PM	15.1	15.3	15.1	2.0	3.5	NEE	30
26/01/2010	7:00 PM	15.2	15.2	15.2	2.2	2.8	N	30
26/01/2010	7:30 PM	15.2	15.3	15.0	2.2	3.7	NEE	30
26/01/2010	8:00 PM	15.1	15.2	15.0	2.8	4.8	NEN	30
26/01/2010	8:30 PM	15.1	15.1	15.0	3.1	4.7	NEN	30
26/01/2010	9:00 PM	15.4	15.4	15.4	2.7	4.6	NEE	30
26/01/2010	9:30 PM	15.5	15.7	15.4	1.7	3.9	NEN	30
26/01/2010	10:00 PM	15.4	15.6	15.1	2.8	3.2	NEE	30
26/01/2010	10:30 PM	15.5	15.9	15.3	2.6	3.6	NEN	30
26/01/2010	11:00 PM	15.4	15.5	15.2	1.8	2.8	NEE	30
26/01/2010	11:30 PM	15.3	15.6	15.2	2.5	3.9	SEE	30

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Date (DMY)	Time	Average Temp	Hi Temp	Low Temp	Wind Speed (m/s) Average	Wind Speed (m/s) Hi	Wind Direction	Period
27/01/2010	12:00 AM	15.2	15.5	15.2	2.3	4.2	NEN	30
27/01/2010	12:30 AM	15.2	15.3	15.0	2.6	2.7	E	30
27/01/2010	1:00 AM	15.1	15.4	14.9	1.7	1.9	NEN	30
27/01/2010	1:30 AM	15.2	15.3	15.0	1.5	3.0	NEN	30
27/01/2010	2:00 AM	15.1	15.2	14.8	2.7	4.2	NEN	30
27/01/2010	2:30 AM	15.1	15.4	15.0	2.3	3.0	NEE	30
27/01/2010	3:00 AM	15.0	15.1	14.9	2.2	2.7	NEE	30
27/01/2010	3:30 AM	15.0	15.2	14.9	2.1	3.4	NEN	30
27/01/2010	4:00 AM	15.1	15.4	14.8	1.2	2.4	E	30
27/01/2010	4:30 AM	15.1	15.5	14.9	1.4	3.1	NEN	30
27/01/2010	5:00 AM	15.1	15.5	14.9	1.6	3.5	N	30
27/01/2010	5:30 AM	15.2	15.3	14.9	2.3	2.7	NEN	30
27/01/2010	6:00 AM	15.2	15.3	15.1	2.2	2.8	NEE	30
27/01/2010	6:30 AM	15.1	15.2	14.9	2.3	4.3	NEE	30
27/01/2010	7:00 AM	15.3	15.7	15.1	1.8	2.0	SEE	30
27/01/2010	7:30 AM	15.4	15.8	15.2	2.0	3.6	NEN	30
27/01/2010	8:00 AM	15.5	15.6	15.4	1.3	1.5	NEN	30
27/01/2010	8:30 AM	15.9	16.3	15.9	1.6	1.7	NEN	30
27/01/2010	9:00 AM	15.9	16.0	15.7	1.8	1.9	NEE	30
27/01/2010	9:30 AM	15.9	16.0	15.8	1.5	2.0	NEN	30
27/01/2010	10:00 AM	16.1	16.1	16.0	1.7	1.7	NEE	30
27/01/2010	10:30 AM	16.2	16.2	16.1	1.6	2.3	NEN	30
27/01/2010	11:00 AM	16.5	16.7	16.3	1.6	3.4	NWN	30
27/01/2010	11:30 AM	16.8	17.1	16.6	1.8	2.9	NEE	30
27/01/2010	12:00 PM	17.0	17.3	16.7	1.7	2.0	NEN	30
27/01/2010	12:30 PM	17.0	17.0	16.9	1.6	3.9	NEN	30
27/01/2010	1:00 PM	16.9	17.3	16.6	2.2	2.6	NEN	30
27/01/2010	1:30 PM	17.0	17.1	17.0	1.6	2.2	NEE	30
27/01/2010	2:00 PM	17.0	17.2	16.7	1.9	4.2	E	30
27/01/2010	2:30 PM	17.1	17.3	16.8	1.1	2.4	SEE	30
27/01/2010	3:00 PM	17.2	17.4	17.1	2.1	2.2	NEE	30
27/01/2010	3:30 PM	17.3	17.4	17.2	1.0	2.2	NEN	30
27/01/2010	4:00 PM	17.3	17.7	17.0	2.2	3.1	NEE	30
27/01/2010	4:30 PM	17.2	17.5	17.0	1.1	2.7	NEN	30
27/01/2010	5:00 PM	17.1	17.1	16.8	1.7	1.9	NEN	30
27/01/2010	5:30 PM	16.9	17.2	16.6	1.3	3.0	NEN	30
27/01/2010	6:00 PM	16.9	17.0	16.6	1.9	2.1	NEN	30
27/01/2010	6:30 PM	16.9	17.2	16.6	2.5	2.7	NEN	30
27/01/2010	7:00 PM	16.9	16.9	16.7	2.7	3.5	NEN	30
27/01/2010	7:30 PM	17.0	17.3	16.8	2.6	4.2	NE	30
27/01/2010	8:00 PM	16.9	16.9	16.9	2.1	3.7	NEN	30
27/01/2010	8:30 PM	16.7	16.8	16.5	1.6	2.7	NWN	30
27/01/2010	9:00 PM	16.7	16.8	16.4	1.3	3.4	NWN	30
27/01/2010	9:30 PM	16.8	17.0	16.8	0.9	3.2	NEN	30
27/01/2010	10:00 PM	16.9	17.1	16.9	1.5	1.9	NEN	30
27/01/2010	10:30 PM	16.9	17.0	16.8	1.3	3.1	NEN	30
27/01/2010	11:00 PM	16.9	17.2	16.8	1.1	1.4	NEN	30
27/01/2010	11:30 PM	17.0	17.0	16.7	1.2	2.4	NWN	30
28/01/2010	12:00 AM	17.0	17.0	16.9	0.6	1.0	NWN	30
28/01/2010	12:30 AM	17.0	17.4	16.9	1.2	1.4	NEN	30
28/01/2010	1:00 AM	17.0	17.3	16.7	0.9	1.7	NEN	30
28/01/2010	1:30 AM	17.0	17.1	16.7	0.2	1.5	NWN	30
28/01/2010	2:00 AM	17.0	17.1	16.8	0.1	2.3	N	30
28/01/2010	2:30 AM	17.1	17.3	17.0	0.7	1.3	N	30
28/01/2010	3:00 AM	17.1	17.5	17.1	0.8	2.9	NEN	30
28/01/2010	3:30 AM	17.1	17.2	17.0	0.6	1.8	NEN	30
28/01/2010	4:00 AM	17.1	17.4	16.9	0.6	1.2	NEN	30
28/01/2010	4:30 AM	17.1	17.2	17.0	0.5	2.4	NEE	30
28/01/2010	5:00 AM	17.1	17.3	16.9	1.0	2.2	NEN	30
28/01/2010	5:30 AM	17.1	17.3	16.9	0.3	1.7	NEE	30
28/01/2010	6:00 AM	17.1	17.3	16.9	0.2	0.8	NEE	30
28/01/2010	6:30 AM	17.2	17.4	17.0	0.2	0.5	NE	30
28/01/2010	7:00 AM	17.2	17.3	17.1	0.5	0.9	SEE	30
28/01/2010	7:30 AM	17.4	17.8	17.1	0.1	0.7	SES	30
28/01/2010	8:00 AM	17.8	18.2	17.6	0.2	1.9	N	30
28/01/2010	8:30 AM	18.0	18.4	18.0	0.2	1.3	SEE	30
28/01/2010	9:00 AM	18.1	18.2	17.8	0.3	2.3	NEN	30
28/01/2010	9:30 AM	18.5	18.9	18.4	0.3	0.8	SE	30
28/01/2010	10:00 AM	19.0	19.3	18.7	0.9	2.5	NEE	30
28/01/2010	10:30 AM	20.0	20.2	19.9	1.0	1.9	NEE	30
28/01/2010	11:00 AM	20.6	20.8	20.3	1.5	2.7	NEE	30
28/01/2010	11:30 AM	22.0	22.1	21.9	2.4	2.6	NEE	30
28/01/2010	12:00 PM	21.9	22.3	21.9	2.4	2.8	NEE	30
28/01/2010	12:30 PM	22.0	22.2	21.7	2.4	3.8	NEE	30
28/01/2010	1:00 PM	22.7	22.9	22.6	1.7	2.6	NEE	30
28/01/2010	1:30 PM	22.0	22.1	21.9	2.3	3.8	NEN	30
28/01/2010	2:00 PM	21.2	21.5	21.1	0.8	2.7	SEE	30
28/01/2010	2:30 PM	21.1	21.3	21.1	0.6	0.7	SWS	30
28/01/2010	3:00 PM	21.2	21.3	20.9	0.2	2.2	SES	30
28/01/2010	3:30 PM	21.1	21.3	20.8	0.3	1.8	SES	30
28/01/2010	4:00 PM	21.0	21.1	21.0	0.2	1.4	SES	30
28/01/2010	4:30 PM	21.0	21.1	20.7	0.1	0.2	SEE	30
28/01/2010	5:00 PM	20.9	21.3	20.8	0.5	2.6	SEE	30
28/01/2010	5:30 PM	20.8	21.0	20.7	0.1	0.2	N	30
28/01/2010	6:00 PM	20.5	20.6	20.4	0.2	2.3	N	30
28/01/2010	6:30 PM	20.1	20.1	19.9	0.1	0.8	N	30
28/01/2010	7:00 PM	19.8	20.1	19.5	0.1	0.6	N	30
28/01/2010	7:30 PM	18.3	18.6	18.2	0.1	1.9	N	30
28/01/2010	8:00 PM	18.0	18.1	17.8	0.1	0.9	N	30
28/01/2010	8:30 PM	17.9	18.3	17.8	0.1	1.2	SWS	30
28/01/2010	9:00 PM	17.9	18.1	17.9	0.1	1.4	N	30
28/01/2010	9:30 PM	17.7	17.8	17.5	0.1	0.9	N	30
28/01/2010	10:00 PM	17.7	17.8	17.4	0.6	2.6	NWW	30
28/01/2010	10:30 PM	17.8	17.8	17.7	0.1	1.3	N	30
28/01/2010	11:00 PM	17.7	18.0	17.7	0.1	2.2	N	30
28/01/2010	11:30 PM	17.5	17.7	17.4	0.1	1.1	N	30

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Weather information in January 2010

Date (DMY)	Time	Average Temp	Hi Temp	Low Temp	Wind Speed (m/s) Average	Wind Speed (m/s) Hi	Wind Direction	Period
29/01/2010	12:00 AM	17.1	17.5	16.9	0.1	1.6	N	30
29/01/2010	12:30 AM	17.1	17.5	16.8	0.4	1.9	NEN	30
29/01/2010	1:00 AM	17.0	17.2	16.8	0.1	1.7	NWN	30
29/01/2010	1:30 AM	17.0	17.1	16.8	0.4	1.1	N	30
29/01/2010	2:00 AM	17.3	17.4	17.2	0.1	1.7	N	30
29/01/2010	2:30 AM	17.8	18.2	17.7	0.1	2.2	N	30
29/01/2010	3:00 AM	17.9	18.1	17.8	0.1	0.2	N	30
29/01/2010	3:30 AM	18.0	18.2	17.9	0.6	1.6	NEN	30
29/01/2010	4:00 AM	18.1	18.1	18.1	0.3	1.0	NEN	30
29/01/2010	4:30 AM	18.0	18.2	17.9	1.5	2.5	NEE	30
29/01/2010	5:00 AM	18.0	18.0	17.8	1.6	3.6	NEN	30
29/01/2010	5:30 AM	17.8	18.1	17.7	2.5	2.9	NEE	30
29/01/2010	6:00 AM	17.0	17.1	16.9	4.1	6.1	NEN	30
29/01/2010	6:30 AM	16.8	17.1	16.7	4.0	4.1	NEN	30
29/01/2010	7:00 AM	16.5	16.8	16.2	3.0	3.7	NEN	30
29/01/2010	7:30 AM	16.5	16.9	16.2	2.5	4.2	NEN	30
29/01/2010	8:00 AM	16.5	16.9	16.5	3.5	3.8	NEN	30
29/01/2010	8:30 AM	16.3	16.4	16.2	4.2	5.7	NEN	30
29/01/2010	9:00 AM	16.5	16.6	16.3	3.4	4.5	NEN	30
29/01/2010	9:30 AM	16.6	16.6	16.5	4.5	5.5	NEN	30
29/01/2010	10:00 AM	16.6	16.8	16.4	4.1	4.6	NEN	30
29/01/2010	10:30 AM	16.7	17.0	16.4	2.7	2.8	NEN	30
29/01/2010	11:00 AM	16.8	16.8	16.7	3.5	3.9	NEN	30
29/01/2010	11:30 AM	16.8	16.9	16.7	3.2	5.0	NEN	30
29/01/2010	12:00 PM	17.0	17.3	16.9	2.9	4.0	NEN	30
29/01/2010	12:30 PM	17.2	17.6	17.1	2.5	4.2	NEE	30
29/01/2010	1:00 PM	17.1	17.1	16.9	2.2	3.3	NEN	30
29/01/2010	1:30 PM	17.1	17.4	17.1	3.3	5.6	NEN	30
29/01/2010	2:00 PM	17.1	17.2	16.9	3.7	4.2	NEN	30
29/01/2010	2:30 PM	17.2	17.3	17.2	1.5	2.5	NEN	30
29/01/2010	3:00 PM	17.4	17.8	17.2	2.3	4.4	NEE	30
29/01/2010	3:30 PM	17.5	17.5	17.3	1.7	2.9	N	30
29/01/2010	4:00 PM	17.5	17.8	17.3	1.6	1.7	NEN	30
29/01/2010	4:30 PM	17.7	17.8	17.5	3.4	4.4	NEN	30
29/01/2010	5:00 PM	17.3	17.6	17.2	3.1	3.9	NEN	30
29/01/2010	5:30 PM	17.2	17.2	17.2	2.8	4.1	NEN	30
29/01/2010	6:00 PM	17.1	17.5	16.9	3.3	4.5	NEN	30
29/01/2010	6:30 PM	17.1	17.1	16.9	1.9	2.7	NEE	30
29/01/2010	7:00 PM	17.0	17.3	17.0	1.0	2.7	NEN	30
29/01/2010	7:30 PM	17.0	17.1	16.8	0.4	2.2	NEE	30
29/01/2010	8:00 PM	17.0	17.3	17.0	1.8	2.2	NE	30
29/01/2010	8:30 PM	17.0	17.3	16.7	0.8	2.8	NEE	30
29/01/2010	9:00 PM	17.0	17.0	16.8	0.8	0.9	NEE	30
29/01/2010	9:30 PM	16.8	16.9	16.7	2.2	3.7	NEN	30
29/01/2010	10:00 PM	16.7	17.1	16.5	1.6	1.9	NEN	30
29/01/2010	10:30 PM	16.8	17.0	16.7	1.8	3.7	NEE	30
29/01/2010	11:00 PM	16.9	17.0	16.8	1.7	3.5	NEN	30
29/01/2010	11:30 PM	16.8	17.2	16.7	1.6	1.6	NEE	30
30/01/2010	12:00 AM	16.7	17.0	16.5	0.2	1.6	NEE	30
30/01/2010	12:30 AM	16.7	16.8	16.5	1.6	2.2	NEN	30
30/01/2010	1:00 AM	16.9	16.9	16.8	1.6	2.5	NEN	30
30/01/2010	1:30 AM	16.9	17.1	16.7	1.6	3.9	NWN	30
30/01/2010	2:00 AM	17.0	17.1	16.8	2.4	4.7	NWN	30
30/01/2010	2:30 AM	17.0	17.3	16.7	1.4	3.4	NWN	30
30/01/2010	3:00 AM	17.0	17.3	16.8	2.3	3.4	NEE	30
30/01/2010	3:30 AM	16.9	17.2	16.7	2.5	2.5	NEN	30
30/01/2010	4:00 AM	16.8	17.0	16.6	2.5	4.6	NEN	30
30/01/2010	4:30 AM	16.6	16.7	16.4	2.5	3.9	NEE	30
30/01/2010	5:00 AM	16.6	16.7	16.4	3.3	5.3	NEN	30
30/01/2010	5:30 AM	16.6	16.7	16.4	2.5	2.5	NEN	30
30/01/2010	6:00 AM	16.6	16.8	16.5	1.6	2.8	NEN	30
30/01/2010	6:30 AM	16.4	16.6	16.2	2.0	3.3	NEN	30
30/01/2010	7:00 AM	16.4	16.6	16.3	1.4	3.1	NWN	30
30/01/2010	7:30 AM	16.5	16.7	16.3	1.4	1.5	NWN	30
30/01/2010	8:00 AM	16.6	16.6	16.5	1.5	1.7	NEN	30
30/01/2010	8:30 AM	16.9	17.0	16.8	1.7	3.3	NEE	30
30/01/2010	9:00 AM	17.2	17.4	16.9	1.1	3.4	NEE	30
30/01/2010	9:30 AM	17.5	17.5	17.4	1.3	3.3	NEE	30
30/01/2010	10:00 AM	18.0	18.0	17.8	1.5	2.6	NEE	30
30/01/2010	10:30 AM	18.4	18.7	18.1	1.9	1.9	NEN	30
30/01/2010	11:00 AM	18.9	19.3	18.7	1.4	2.5	NEN	30
30/01/2010	11:30 AM	19.0	19.2	18.7	1.2	3.0	NEN	30
30/01/2010	12:00 PM	19.2	19.6	19.1	1.0	1.4	NEE	30
30/01/2010	12:30 PM	19.1	19.5	19.1	1.7	2.3	NEE	30
30/01/2010	1:00 PM	19.0	19.3	19.0	1.5	1.8	NWW	30
30/01/2010	1:30 PM	19.2	19.3	19.0	1.9	3.2	NWW	30
30/01/2010	2:00 PM	19.0	19.2	18.7	1.3	2.0	NEN	30
30/01/2010	2:30 PM	18.9	18.9	18.7	1.3	2.7	N	30
30/01/2010	3:00 PM	19.0	19.3	18.7	1.4	2.5	NEN	30
30/01/2010	3:30 PM	18.8	18.9	18.5	1.2	3.0	NEN	30
30/01/2010	4:00 PM	18.5	18.8	18.3	0.9	1.8	NEN	30
30/01/2010	4:30 PM	18.6	18.7	18.6	1.3	3.3	N	30
30/01/2010	5:00 PM	18.4	18.4	18.2	1.8	3.9	NEN	30
30/01/2010	5:30 PM	18.3	18.5	18.0	2.1	2.8	NEE	30
30/01/2010	6:00 PM	18.0	18.2	17.8	1.5	3.3	NEE	30
30/01/2010	6:30 PM	17.9	18.0	17.8	1.2	2.7	NEE	30
30/01/2010	7:00 PM	18.0	18.1	17.9	2.2	4.1	NWW	30
30/01/2010	7:30 PM	18.0	18.2	17.9	1.8	2.3	N	30
30/01/2010	8:00 PM	17.9	18.0	17.8	2.7	3.8	NEN	30
30/01/2010	8:30 PM	18.0	18.2	18.0	2.4	4.5	NEN	30
30/01/2010	9:00 PM	18.1	18.3	17.9	1.9	2.7	NEE	30
30/01/2010	9:30 PM	18.0	18.4	17.9	2.1	3.9	NEE	30
30/01/2010	10:00 PM	18.0	18.0	17.8	1.8	2.8	NEN	30
30/01/2010	10:30 PM	18.0	18.3	18.0	1.2	3.3	NE	30
30/01/2010	11:00 PM	17.9	18.2	17.8	1.7	1.8	NEE	30
30/01/2010	11:30 PM	18.0	18.2	17.9	1.7	2.7	NEE	30

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Weather information in January 2010

Date (DMY)	Time	Average Temp	Hi Temp	Low Temp	Wind Speed (m/s) Average	Wind Speed (m/s) Hi	Wind Direction	Period
31/01/2010	12:00 AM	18.0	18.0	17.8	1.4	2.7	NEE	30
31/01/2010	12:30 AM	17.9	18.1	17.7	1.5	1.9	NE	30
31/01/2010	1:00 AM	17.9	17.9	17.6	0.9	0.9	NEE	30
31/01/2010	1:30 AM	18.0	18.3	17.8	1.5	2.3	NEE	30
31/01/2010	2:00 AM	17.9	18.1	17.8	2.3	3.9	NEN	30
31/01/2010	2:30 AM	17.8	18.1	17.6	1.5	1.8	NEE	30
31/01/2010	3:00 AM	17.9	18.1	17.7	1.9	2.6	NEE	30
31/01/2010	3:30 AM	17.9	17.9	17.8	1.4	3.1	NEE	30
31/01/2010	4:00 AM	17.8	18.1	17.7	1.3	2.4	NEE	30
31/01/2010	4:30 AM	17.9	18.3	17.7	1.9	3.8	NEN	30
31/01/2010	5:00 AM	17.8	17.9	17.7	2.2	4.4	NEE	30
31/01/2010	5:30 AM	18.0	18.4	18.0	2.1	2.6	NEE	30
31/01/2010	6:00 AM	18.3	18.6	18.0	1.8	2.7	NE	30
31/01/2010	6:30 AM	18.8	19.2	18.7	1.4	1.9	NE	30
31/01/2010	7:00 AM	19.3	19.5	19.1	1.6	2.5	NEE	30
31/01/2010	7:30 AM	19.9	20.0	19.7	2.4	2.4	NEE	30
31/01/2010	8:00 AM	20.4	20.6	20.1	1.8	3.9	NEE	30
31/01/2010	8:30 AM	21.4	21.6	21.3	2.1	2.4	NE	30
31/01/2010	9:00 AM	21.8	22.0	21.7	1.4	2.9	NEE	30
31/01/2010	9:30 AM	22.8	22.9	22.6	1.7	1.7	NEE	30
31/01/2010	10:00 AM	23.1	23.3	23.0	2.7	3.5	NEE	30
31/01/2010	10:30 AM	24.0	24.1	24.0	2.2	3.8	NE	30
31/01/2010	11:00 AM	24.9	25.0	24.7	1.6	2.4	NE	30
31/01/2010	11:30 AM	25.0	25.2	24.8	2.2	3.4	NEE	30
31/01/2010	12:00 PM	25.2	25.3	25.0	1.2	2.9	SES	30
31/01/2010	12:30 PM	25.7	26.0	25.7	2.4	2.9	SWS	30
31/01/2010	1:00 PM	25.1	25.2	25.1	1.7	2.0	SWS	30
31/01/2010	1:30 PM	25.2	25.3	25.0	1.3	2.8	S	30
31/01/2010	2:00 PM	25.8	26.1	25.6	1.6	2.7	SWS	30
31/01/2010	2:30 PM	25.8	26.0	25.5	1.5	2.3	SES	30
31/01/2010	3:00 PM	25.0	25.1	24.8	1.2	1.6	SWS	30
31/01/2010	3:30 PM	25.2	25.3	25.0	1.4	3.3	S	30
31/01/2010	4:00 PM	24.0	24.2	23.9	1.6	2.2	SWS	30
31/01/2010	4:30 PM	23.0	23.4	22.8	1.2	2.1	SWS	30
31/01/2010	5:00 PM	22.7	23.0	22.6	1.5	1.8	SWS	30
31/01/2010	5:30 PM	21.8	22.0	21.5	1.9	3.5	SWS	30
31/01/2010	6:00 PM	21.1	21.2	20.9	1.9	3.8	SWS	30
31/01/2010	6:30 PM	20.9	21.1	20.9	1.5	2.2	SWS	30
31/01/2010	7:00 PM	20.2	20.4	19.9	1.1	2.7	SWS	30
31/01/2010	7:30 PM	20.0	20.3	20.0	1.2	1.5	SWW	30
31/01/2010	8:00 PM	19.8	20.1	19.6	0.4	1.9	SWS	30
31/01/2010	8:30 PM	19.0	19.2	18.9	1.1	1.9	SWW	30
31/01/2010	9:00 PM	19.0	19.0	18.9	0.1	2.0	SEE	30
31/01/2010	9:30 PM	18.8	19.2	18.7	0.1	2.2	NWW	30
31/01/2010	10:00 PM	19.7	19.7	19.7	0.1	1.8	N	30
31/01/2010	10:30 PM	20.0	20.2	19.7	0.2	0.5	SWS	30
31/01/2010	11:00 PM	20.0	20.1	19.8	0.2	0.6	SWW	30
31/01/2010	11:30 PM	20.0	20.4	19.7	0.2	1.2	SWW	30

Appendix F

Event-Action Plans

EVENT	EVENT/ACTION PLAN FOR AIR QUALITY EXCEEDANCE			
	ACTION			
	ET Leader	IC(E)	ER	Contractor
	ACTION LEVEL			
1. Exceedance for one sample	1. Identify source, investigate the causes of exceedance and propose remedial measures 2. Inform ER, IC(E) and Contractor 3. Repeat measurement to confirm finding 4. Increase monitoring frequency to daily	1. Check monitoring data submitted by the ET 2. Check contractor's working method	1. Notify Contractor	1. Rectify any unacceptable practise 2. Amend working methods if appropriate
2. Exceedance for two or more consecutive samples	1. Identify source, investigate the causes of exceedance and propose remedial measures 2. Inform IC(E) and Contractor 3. Repeat measurements to confirm finding 4. Increase monitoring frequency to daily 5. Discuss with IC(E) and Contractor on remedial actions 6. If exceedance continues, arrange meeting with IC(E) and ER. 7. If exceedance stops, cease additional monitoring	1. Check monitoring data submitted by the ET Leader 2. Check the Contractor's working method 3. Discuss with ET and Contractor on possible remedial measures 4. Advise the ER on the effectiveness of the proposed remedial measures 5. Supervise implementation of remedial measures	1. Confirm receipt of notification of failure in writing 2. Notify the Contractor 3. Ensure remedial measures properly implemented	1. Submit proposals for remedial actions to IC(E) within 3 working days of notification 2. Implement the agreed proposals 3. Amend proposal if appropriate
	LIMIT LEVEL			
1. Exceedance for one sample	1. Identify source, investigate the causes of exceedance and propose remedial measures 2. Inform ER, Contractor and EPD 3. Repeat measurement to confirm finding 4. Increase monitoring frequency to daily 5. Assess the effectiveness of Contractor's remedial actions and keep IC(E), EPD and ER informed of the results	1. Check monitoring data submitted by the ET Leader 2. Check Contractor's working method 3. Discuss with ET and Contractor on possible remedial measures 4. Advise the ER on the effectiveness of the proposed remedial measures 5. Supervise implementation of remedial measures	1. Confirm receipt of notification of failure in writing 2. Notify the Contractor 3. Ensure remedial measures properly implemented	1. Take immediate action to avoid further exceedance 2. Submit proposals for remedial actions to IC(E) within 3 working days of notification 3. Implement the agreed proposals 4. Amend proposal if appropriate.

EVENT	EVENT/ACTION PLAN FOR AIR QUALITY EXCEEDANCE			
	ACTION			
	ET Leader	IC(E)	ER	Contractor
2. Exceedance for two or more consecutive samples	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	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	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	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	EVENT/ACTION PLAN FOR NOISE EXCEEDANCE			
	ACTION			
	ET Leader	IC(E)	ER	Contractor
Action Level	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	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.	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.	1. Submit noise mitigation proposals to IC(E). 2. Implement noise mitigation proposals.
Limit Level	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	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.	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.	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	EVENT AND ACTION PLAN FOR WATER QUALITY EXCEEDANCE			
	ACTION			
	ET Leader	Contractor	ER	IEC
Action level being exceeded by one sampling day	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	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	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	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	EVENT AND ACTION PLAN FOR WATER QUALITY			
	ACTION			
	ET Leader	Contractor	ER	IEC
Action level being exceeded by more than one consecutive sampling days	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.	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	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	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	EVENT AND ACTION PLAN FOR WATER QUALITY EXCEEDANCE			
	ACTION			
	ET Leader	Contractor	ER	IEC
Limit level being exceeded by one sampling day	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.	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	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.	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	EVENT AND ACTION PLAN FOR WATER QUALITY EXCEEDANCE			
	ACTION			
	ET Leader	Contractor	ER	IEC
Limit Level being exceeded by more than one consecutive sampling days	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.	1. Notify ER and IEC in writing within 24 hours of the identification of the exceedance and 2. Rectify unacceptable practice; 3. Check all plant and equipment; 4. Consider changes of working methods; 8. Submit the results of the investigation to IEC and ER within 3 working days of the identification of an exceedance 5. Discuss with ET, IEC and ER and propose mitigation measures to IEC and ER within 4 working days; 6. Implement the agreed mitigation measures within reasonable time scale 7. As directed by the Engineer, to slow down or to stop all or part of the marine work or construction actives.	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.	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

Project Activities at Tseung Kwan O Area 137 January to March 2010)

Activity ID	Activity description	Original duration	Start	Finish
EOA1A200	A1a Servicing	1127	16/11/06A	31/12/2009
EOA1A400	Measurement System O&M for A1a	1124	01/12/06A	31/12/2009
EOA1D200	A1b Servicing 22mths stg 2	1066	01/02/07A	31/12/2009
EOA1E200	A1e Servicing 22mths	976	21/04/07A	31/12/2009
EOA1E400	Measurement System O&M for A1e	976	21/04/07A	31/12/2009
HK021000	Maintenance of RealTime Tracking	788	03/07/07A	31/12/2009
HK030200	Sorting of Stockpiled Public Fill	1127	01/12/06A	31/12/2009
HK030300	Removal of Stockpiled Public Fill	1127	01/12/06A	31/12/2009
HK030500	Disposal of Unsuitable Material	1127	01/12/06A	31/12/2009
HK030600	Compaction of Public Fill	1127	01/12/06A	31/12/2009
HK110200	TKO Tipping Halls Operation	1127	10/12/06A	31/12/2009
RHA20200	Record House A2 Servicing	1127	01/12/06A	31/12/2009
RHA40200	Record House A4 Servicing	1035	01/03/07A	31/12/2009
SOA10200	RE Principal Office Servicing (A1)	1096	01/02/07A	31/12/2009
TACA0200	Servicing	1127	01/12/06A	31/12/2009

Appendix H

IEC's Site Audit Records

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MaterialLab

FAX MESSAGE

Priority	☐ normal / ☐ urgent		
To	Civil Engineering and Development Department (CEDD)	Ref. No.	MCLF2640
Country		Fax No.	2714 0113
Attn.	Mr C. H. So / Mr P. Y. Lu	Date	21 January 2010
From	Joseph Poon	No. of Pages	5 (incl. this page)
C.c. To	Mr S. K. Cheung (CEDD)	Fax No.	2623 9122
	Mr W. F. Lok / Mr Albus Cheung (China Habour Engineering Co. Ltd.)	Fax No.	2247 4108
	Mr C. L. Lau / Ms Linda Law (ETS – Testconsult Ltd.)	Fax No.	2695 3944
Subject	**Agreement No. CE 9/2005 (EP) Tseung Kwan O Area 137 Fill Bank – Site Audit**		

A site audit was jointly conducted with representatives of the Engineer, the ET and the Contractor on 20th January 2010 for the captioned project site. Please find enclosed herewith our site audit findings for your reference.

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

Best regards,

Joseph Poon
Independent Environmental Checker

JP/by

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Agreement No.: CE 9/2005 (EP) Independent Environmental Checker for Public Fill Reception Facilities and Construction Waste Sorting Facilities – Investigation

Site Audit Checklist - Tseung Kwan O Area 137 Fill Bank

Date of Site Audit:	20/01/2010	**Time of Site Audit:**		10:30 A.M.	
Site Auditor:	Yu Lap Bong	**Phase of Works:**		Operation	
Weather Condition:	Smoggy	**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?		✓		
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?		✓		
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?		✓		

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Site Audit Checklist - Tseung Kwan O Area 137 Fill Bank

Description	N.A.	Yes	No	Remarks
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.
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?	✓			Not observed during site audit.
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.

Date of Audit: 20 Jan 2010

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Site Audit Checklist - Tseung Kwan O Area 137 Fill Bank

Description	N.A.	Yes	No	Remarks
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?		✓		
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?	✓			Not observed during site audit.
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?	✓			Not observed during site audit.
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?	✓			Not observed during site audit.
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?	✓			Not observed during site audit.
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?		✓		

Date of Audit: 20 Jan 2010

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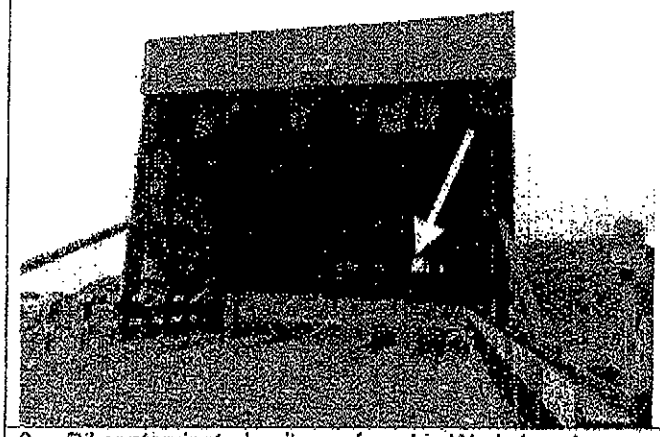
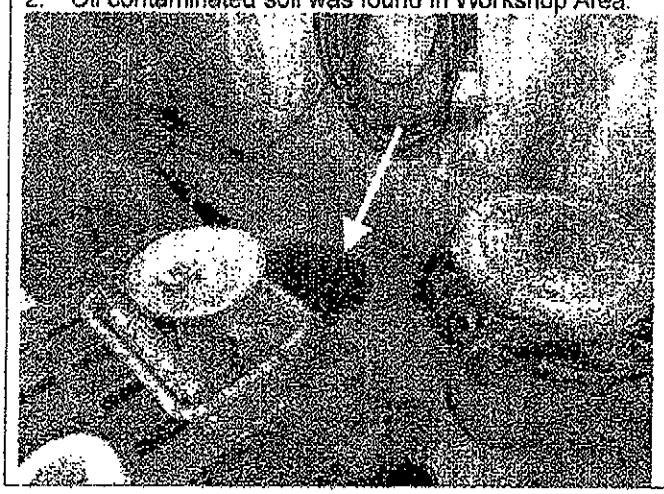
Site Audit Checklist - Tseung Kwan O Area 137 Fill Bank

Description	N.A.	Yes	No	Remarks
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?			✓	

Other Main Observations

Issue	Action
Previous Observations	
NIL	NIL
New Observations	
1. The metal boards of Tipping Hall No. 2 were damaged. 	1. To repair the damaged part as soon as possible.
2. Oil contaminated soil was found in Workshop Area. 	2. To clean the contaminated soil and dispose as chemical soil. The contractor is reminded to provide proper covering to the ground during maintenance.

Date of Audit: 20 Jan 2010

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FAX MESSAGE

Priority	☐ normal / ☐ urgent		
To	Civil Engineering and Development Department (CEDD)	Ref. No.	MCLF2658
Country		Fax No.	2714 0113
Attn.	Mr C. H. So / Mr P. Y. Lu	Date	30 January 2010
From	Joseph Poon	No. of Pages	5 (Incl. this page)
C.c. To	Mr S. K. Cheung (CEDD)	Fax No.	2623 9122
	Mr W. F. Lok / Mr Albus Cheung (China Harbour – China State Joint Venture)	Fax No.	2247 4108
	Mr C. L. Lau / Ms Linda Law (ETS – Testconsult Ltd.)	Fax No.	2695 3944
Subject	**Agreement No. CE 9/2005 (EP) Tseung Kwan O Area 137 Fill Bank – Site Audit**		

A site audit was jointly conducted with representatives of the Engineer, the ET and the Contractor on 27th January 2010 for the captioned project site. Please find enclosed herewith our site audit findings for your reference.

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

Best regards,

Joseph Poon
Independent Environmental Checker

JP/by

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Agreement No.: CE 9/2005 (EP) Independent Environmental Checker for Public Fill Reception Facilities and Construction Waste Sorting Facilities – Investigation

Site Audit Checklist - Tseung Kwan O Area 137 Fill Bank

Date of Site Audit:	27/01/2010	**Time of Site Audit:**		3:00 P.M.	
Site Auditor:	Yu Lap Bong	**Phase of Works:**		Operation	
Weather Condition:	Foggy	**Temperature:**	20°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?		✓		
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?		✓		
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?		✓		

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Site Audit Checklist - Tseung Kwan O Area 137 Fill Bank

Description	N.A.	Yes	No	Remarks
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.
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?	✓			Not observed during site audit.
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.

Date of Audit: 27 Jan 2010

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Site Audit Checklist - Tseung Kwan O Area 137 Fill Bank

Description	N.A.	Yes	No	Remarks
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?		✓		
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?	✓			Not observed during site audit.
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?	✓			Not observed during site audit.
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?	✓			Not observed during site audit.
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?	✓			Not observed during site audit.
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?		✓		

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Site Audit Checklist - Tseung Kwan O Area 137 Fill Bank

Description	N.A.	Yes	No	Remarks
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?			✓	

Other Main Observations

Issue	Action
Previous Observations	
1. The metal boards of Tipping Hall No. 2 were damaged (Outstanding).	1. To repair the damaged part as soon as possible.
2. Oil contaminated soil was found in Workshop Area (Rectified).	2. To clean the contaminated soil and dispose as chemical soil. The contractor is reminded to provide proper covering to the ground during maintenance.
New Observations	
NIL	NIL

Date of Audit: 27 Jan 2010

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Appendix I

Weekly ET's Site Inspection Record

東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

Inspection Date : 6 January 2010

Time : 14:50

Weather : Sunny / Fine / (Cloudy) / Overcast / Drizzle / Rain / Storm / Hazy

Wind : Calm / Light / (Breeze) / Strong

Temperature : 15°C

Humidity : High / (Moderate) / Low

Inspected by	CEDD	Contractor / Sub-Contactor	ET
Signature:			
Name:	NG TIM LOY	M H Cheung	W.L.Li
Title	IOW/P3	Env Engineer S.S	E.T.

Environmental Checklist	Implementation Stages*			Remark
	Yes	No	N/A	
Fugitive Dust Emission				
▪ Dust control / mitigation measures shall be provided to prevent dust nuisance.		√		Item 5 and 6
▪ 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.	√			
▪ All plant and equipment should be well maintained e.g. without black smoke emission.	√			
▪ Open burning should be prohibited.	√			
▪ 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.	√			

Environmental Checklist	Implementation Stages*			Remark
	Yes	No	N/A	
Water Quality				
▪ Drainage system should be adequate and well maintained to prevent flooding and overflow, especially after rain storms.	√			
▪ The permanent drainage channels should have sediment basin, traps and baffles and maintain properly.	√			
▪ 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.	√			
▪ Manholes should be covered and sealed.	√			
▪ Unnecessary water retained in receptacles and standing water should be avoided to prevent mosquito breeding.		√		Item 1
▪ 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 temporary slope surfaces, especially those facing to the north of the site shall be covered with impermeable sheet or sprayed with water or protected by other method approved by CEDD.	√			
▪ Final slope surfaces, especially those facing to the north of the site shall be treated by compaction, followed by hydroseeding, vegetation planting or sealing with shotconcrete, latex, vinyl, bitumen, or other suitable surface stabilizer approved by CEDD.	√			
▪ Existing and newly constructed Catchpits, sand and silt removal facilities and intercepting channels shall be maintained, and the deposited silt and grit shall be removed weekly and on a need basis especially at the onset of and after each rainstorm to ensure that these facilities are functioning properly at all times.	√			
▪ A wheel washing bay shall be provided at the site exit and wash-water shall have sand and silt settled out or removed before being discharged into storm drains.	√			
▪ The section of construction road between wheel washing bay and the public road shall be paved with concrete, bituminous materials or 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.	√			
▪ Oil intercept in addition of sand / silt removal facilities shall be provided at the car parking areas.	√			
▪ Oil interceptor shall be provided at work shop.	√			
▪ Tipping halls enclosed with top and 3-side to prevent spillage of material into marine water.		√		Item 6
▪ The barges shall be in right size such that adequate clearance in maintained between the vessels and the seabed at all states of the tide to ensure the undue turbidity is not generated by turbulence from vessel movement or propeller wash.	√			
▪ All vessels used for transportation of fill material shall have tight fitting seals to their bottom openings to prevent leakage of material during transport.	√			
▪ Adequate environmental control measures shall be provided to prevent / avoid dropping of fill material into the sea during the transfer.	√			
▪ Barges shall not be filled to a level which may cause the overflow of material during loading or transportation. Barge effluents shall be properly collected and treated before disposal.	√			
▪ The work activities shall not cause any visible foam, oil, grease, scum, litter or other objectionable matters to be present on the water in the vicinity of the barging facilities.	√			
▪ Existing silt curtain at the outward side of the basin near the Barging Handling Area throughout the period shall be repair, maintain and service when there is public fill intake by barges to the Fill Bank in accordance with PS Clause 1.68. The total length of the silt curtains shall not be less than 160m, and a gap of about 80m shall be left open for access of barges. The silt curtain shall be properly maintained such that it can also serve the function of refuse containment boom to confine floating refuse.	√			
▪ A waste collection vessel shall be deployed to remove floating debris.	√			

Environmental Checklist	Implementation Stages*			Remark
	Yes	No	N/A	
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 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 and stored properly.	√			
▪ All generators, fuel and oil storage are within bundle areas.	√			
▪ Oil leakage from machinery, vehicle and plant is prevented.		√		Item 1
▪ The Environmental Permit should be displaced conspicuously on site.	√			
▪ Good site practices should be adopted to clean the rubbish and litter on a regular basis so as to prevent the rubbish and litter from dropping into the nearby environment.	√			
▪ To encourage collection of aluminium cans by individual collectors, separate labelled bins should be provided to segregate this waste from other general refuse generated by the workforce.	√			

Summary of the Weekly Site Inspection:

Item	Details of defective works or observations	Proposed Follow Up Action	Photo Ref.	Further Action Required (Yes/No)	Target Completion Date
1	Follow up action to the previous site inspection item 1 on 30/12/09, oily water accumulated inside the drip tray was noted.	To drain and treat the rain water as chemical waste. Besides, cover the drip tray by using generator dress to avoid accumulation of rain water.	100106_001	Yes	13/01/10
2	Follow up action to the previous site inspection item 2 on 30/12/09, the drip tray at car parking area was removed.	---	100106_002	No	---
3	Follow up action to the previous site inspection item 3 on 30/12/09, cover was noted provided for the plastic bucket at car parking area.	---	100106_003	No	---
4	Follow up action to the previous site inspection item 4 on 30/12/09, algae, mud and silt accumulated inside the nullah near explosive storage area were cleaned up.	---	100106_004	No	---
5	A stockpile of C&D material near workshop was found without cover.	To cover the stockpile of C&D material by using tarpaulin sheets especially not in use.	100106_005	Yes	13/01/10
6	Tipping hall No.2 was found damaged.	To repair the damaged part of Tipping Hall properly.	100106_006	Yes	13/01/10

Remark

	Name	Title	Signature	Date
Checked by	Linda Law	Senior Environmental Officer	Linda Law	06 January 2010

Photos

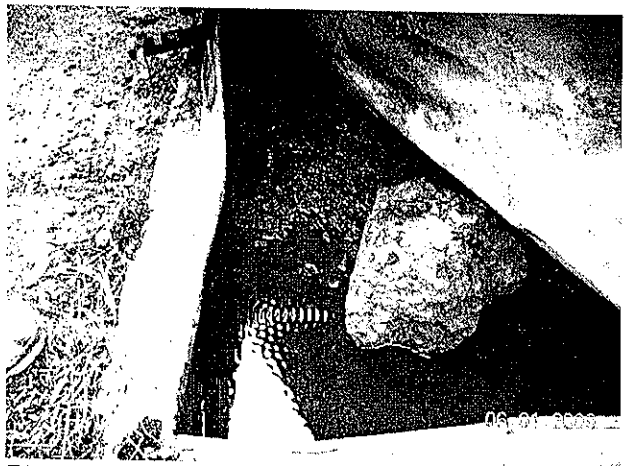


Photo 100106_001

Photo 100106_002

Photo 100106_003

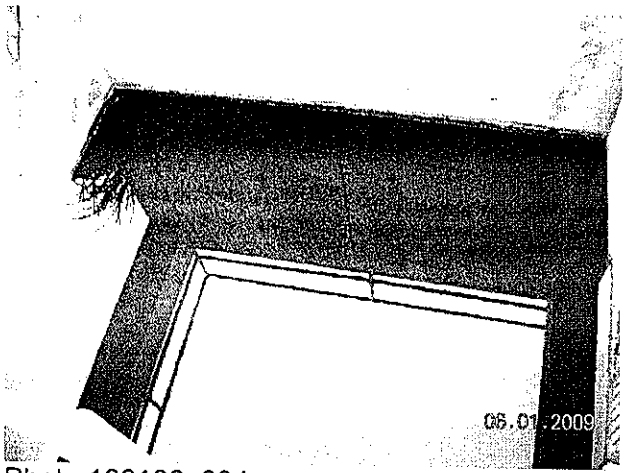


Photo 100106_004

Photo 100106_005

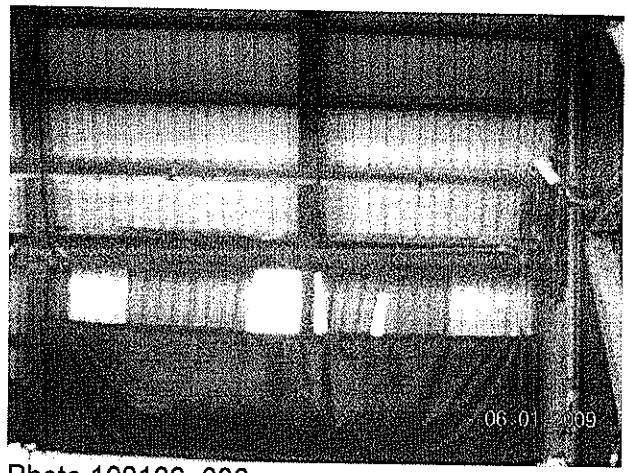


Photo 100106_006

東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

Inspection Date : 13 January 2010

Time : 10:00

Weather : Sunny / (Fine) / Cloudy / Overcast / Drizzle / Rain / Storm / Hazy

Wind : Calm / Light / (Breeze) / Strong

Temperature : 13°C

Humidity : High / Moderate / (Low)

Inspected by	CEDD	Contractor / Sub-Contactor	ET
Signature:		Wong Chi Wai	
Name:	C. K. Woo	SY Wong MH Cheung Wong Chi Wai	W. L. Li
Title	AOW/P3	Operation Manager. Env Engineer CHEC GF Dong	E.T.

Environmental Checklist	Implementation Stages*			Remark
	Yes	No	N/A	
Fugitive Dust Emission				
▪ Dust control / mitigation measures shall be provided to prevent dust nuisance.		√		Item 2 and item 3
▪ 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.	√			
▪ All plant and equipment should be well maintained e.g. without black smoke emission.	√			
▪ Open burning should be prohibited.	√			
▪ 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.	√			

Environmental Checklist	Implementation Stages*			Remark
	Yes	No	N/A	
Water Quality				
▪ Drainage system should be adequate and well maintained to prevent flooding and overflow, especially after rain storms.	√			
▪ The permanent drainage channels should have sediment basin, traps and baffles and maintain properly.	√			
▪ 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.	√			
▪ Manholes should be covered and sealed.	√			
▪ Unnecessary water retained in receptacles and standing water should be avoided to prevent mosquito breeding.		√		Item 1
▪ 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 temporary slope surfaces, especially those facing to the north of the site shall be covered with impermeable sheet or sprayed with water or protected by other method approved by CEDD.	√			
▪ Final slope surfaces, especially those facing to the north of the site shall be treated by compaction, followed by hydroseeding, vegetation planting or sealing with shotconcrete, latex, vinyl, bitumen, or other suitable surface stabilizer approved by CEDD.	√			
▪ Existing and newly constructed Catchpits, sand and silt removal facilities and intercepting channels shall be maintained, and the deposited silt and grit shall be removed weekly and on a need basis especially at the onset of and after each rainstorm to ensure that these facilities are functioning properly at all times.	√			
▪ A wheel washing bay shall be provided at the site exit and wash-water shall have sand and silt settled out or removed before being discharged into storm drains.	√			
▪ The section of construction road between wheel washing bay and the public road shall be paved with concrete, bituminous materials or 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.	√			
▪ Oil intercept in addition of sand / silt removal facilities shall be provided at the car parking areas.	√			
▪ Oil interceptor shall be provided at work shop.	√			
▪ Tipping halls enclosed with top and 3-side to prevent spillage of material into marine water.		√		Item 3
▪ The barges shall be in right size such that adequate clearance in maintained between the vessels and the seabed at all states of the tide to ensure the undue turbidity is not generated by turbulence from vessel movement or propeller wash.	√			
▪ All vessels used for transportation of fill material shall have tight fitting seals to their bottom openings to prevent leakage of material during transport.	√			
▪ Adequate environmental control measures shall be provided to prevent / avoid dropping of fill material into the sea during the transfer.	√			
▪ Barges shall not be filled to a level which may cause the overflow of material during loading or transportation. Barge effluents shall be properly collected and treated before disposal.	√			
▪ The work activities shall not cause any visible foam, oil, grease, scum, litter or other objectionable matters to be present on the water in the vicinity of the barging facilities.	√			
▪ Existing silt curtain at the outward side of the basin near the Barging Handling Area throughout the period shall be repair, maintain and service when there is public fill intake by barges to the Fill Bank in accordance with PS Clause 1.68. The total length of the silt curtains shall not be less than 160m, and a gap of about 80m shall be left open for access of barges. The silt curtain shall be properly maintained such that it can also serve the function of refuse containment boom to confine floating refuse.	√			
▪ A waste collection vessel shall be deployed to remove floating debris.	√			

Environmental Checklist	Implementation Stages*			Remark
	Yes	No	N/A	
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 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 and stored properly.	√			
▪ All generators, fuel and oil storage are within bundle areas.	√			
▪ Oil leakage from machinery, vehicle and plant is prevented.		√		Item 1
▪ The Environmental Permit should be displaced conspicuously on site.	√			
▪ Good site practices should be adopted to clean the rubbish and litter on a regular basis so as to prevent the rubbish and litter from dropping into the nearby environment.	√			
▪ To encourage collection of aluminium cans by individual collectors, separate labelled bins should be provided to segregate this waste from other general refuse generated by the workforce.	√			

Summary of the Weekly Site Inspection:

Item	Details of defective works or observations	Proposed Follow Up Action	Photo Ref.	Further Action Required (Yes/No)	Target Completion Date
1	Follow up action to the previous site inspections item 1 on 30/12/09 and item 1 on 06/01/10, oily water accumulated inside the drip tray was still noted.	To drain and treat the rain water as chemical waste. Besides, cover the drip tray by using generator dress to avoid accumulation of rain water.	100113_001	Yes	20/01/10
2	Follow up action to the previous site inspection item 5 on 06/01/10, stockpile of C&D material near workshop was collected. However, another stockpile of gravel and rock was found on the ground nearby.	To cover the stockpile of C&D materials by using tarpaulin sheets especially not in use.	100113_002 & 100113_003	Yes	20/01/10
3	Follow up action to the previous site inspection item 5 on 06/01/10, Tipping hall No.2 was still found damaged.	To repair the damaged part of Tipping Hall properly.	100113_004	Yes	20/01/10
4	An oil bucket was found discarded at the u-channel near fish pond.	To collect oil bucket and store / disposed of properly.	100113_005	Yes	20/01/10

Remark

	Name	Title	Signature	Date
Checked by	Linda Law	Senior Environmental Officer	Linda Law	13 January 2010

Photos

Photo 100113_001

Photo 100113_002

Photo 100113_003

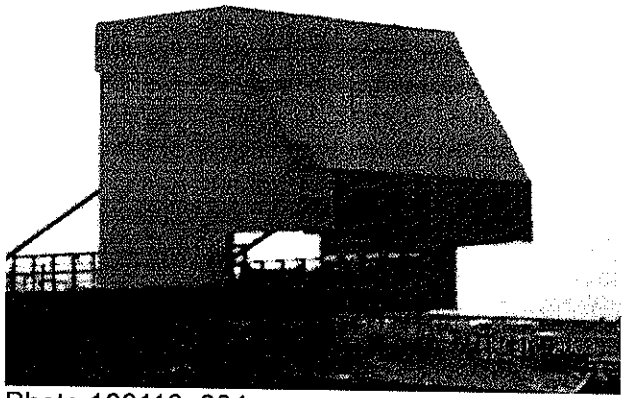


Photo 100113_004

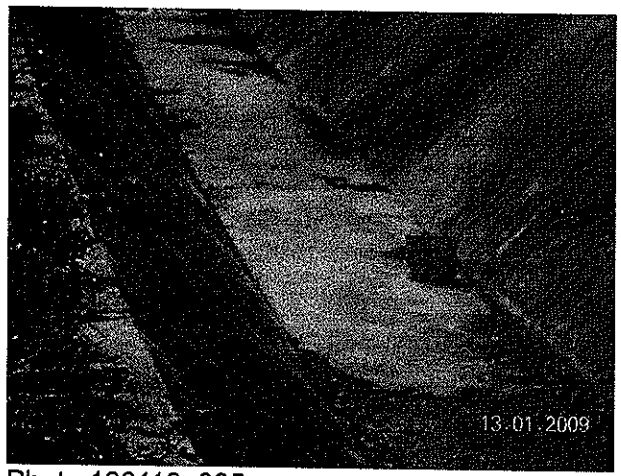


Photo 100113_005

東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

Inspection Date : 20 January 2010

Time : 10:25

Weather : Sunny / (Fine) / Cloudy / Overcast / Drizzle / Rain / Storm / Hazy

Wind : Calm / (Light) / Breeze / Strong

Temperature : 22°C

Humidity : High / (Moderate) / Low

Inspected by	CEDD	Contractor / Sub-Contactor	ET
Signature:		Dee Wong	
Name:	C. K. Woo	m H cheung Dee Wong	W. L. Li
Title	A/ow/P3	Env. Engineer S.S. CHEC S.S.	E.T.

Environmental Checklist	Implementation Stages*			Remark
	Yes	No	N/A	
Fugitive Dust Emission				
▪ Dust control / mitigation measures shall be provided to prevent dust nuisance.		√		Item 3 and item 8
▪ 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.	√			
▪ All plant and equipment should be well maintained e.g. without black smoke emission.	√			
▪ Open burning should be prohibited.	√			
▪ 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.	√			

Environmental Checklist	Implementation Stages*			Remark
	Yes	No	N/A	
Water Quality				
▪ Drainage system should be adequate and well maintained to prevent flooding and overflow, especially after rain storms.	√			
▪ The permanent drainage channels should have sediment basin, traps and baffles and maintain properly.	√			
▪ 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.	√			
▪ Manholes should be covered and sealed.	√			
▪ Unnecessary water retained in receptacles and standing water should be avoided to prevent mosquito breeding.	√			
▪ 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 temporary slope surfaces, especially those facing to the north of the site shall be covered with impermeable sheet or sprayed with water or protected by other method approved by CEDD.	√			
▪ Final slope surfaces, especially those facing to the north of the site shall be treated by compaction, followed by hydroseeding, vegetation planting or sealing with shotconcrete, latex, vinyl, bitumen, or other suitable surface stabilizer approved by CEDD.	√			
▪ Existing and newly constructed Catchpits, sand and silt removal facilities and intercepting channels shall be maintained, and the deposited silt and grit shall be removed weekly and on a need basis especially at the onset of and after each rainstorm to ensure that these facilities are functioning properly at all times.	√			
▪ A wheel washing bay shall be provided at the site exit and wash-water shall have sand and silt settled out or removed before being discharged into storm drains.	√			
▪ The section of construction road between wheel washing bay and the public road shall be paved with concrete, bituminous materials or 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.	√			
▪ Oil intercept in addition of sand / silt removal facilities shall be provided at the car parking areas.	√			
▪ Oil interceptor shall be provided at work shop.	√			
▪ Tipping halls enclosed with top and 3-side to prevent spillage of material into marine water.		√		Item 3
▪ The barges shall be in right size such that adequate clearance in maintained between the vessels and the seabed at all states of the tide to ensure the undue turbidity is not generated by turbulence from vessel movement or propeller wash.	√			
▪ All vessels used for transportation of fill material shall have tight fitting seals to their bottom openings to prevent leakage of material during transport.	√			
▪ Adequate environmental control measures shall be provided to prevent / avoid dropping of fill material into the sea during the transfer.	√			
▪ Barges shall not be filled to a level which may cause the overflow of material during loading or transportation. Barge effluents shall be properly collected and treated before disposal.	√			
▪ The work activities shall not cause any visible foam, oil, grease, scum, litter or other objectionable matters to be present on the water in the vicinity of the barging facilities.	√			
▪ Existing silt curtain at the outward side of the basin near the Barging Handling Area throughout the period shall be repair, maintain and service when there is public fill intake by barges to the Fill Bank in accordance with PS Clause 1.68. The total length of the silt curtains shall not be less than 160m, and a gap of about 80m shall be left open for access of barges. The silt curtain shall be properly maintained such that it can also serve the function of refuse containment boom to confine floating refuse.	√			
▪ A waste collection vessel shall be deployed to remove floating debris.	√			

Environmental Checklist	Implementation Stages*			Remark
	Yes	No	N/A	
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 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 and stored properly.	√			
▪ All generators, fuel and oil storage are within bundle areas.	√			
▪ Oil leakage from machinery, vehicle and plant is prevented.		√		Item 7
▪ The Environmental Permit should be displaced conspicuously on site.	√			
▪ Good site practices should be adopted to clean the rubbish and litter on a regular basis so as to prevent the rubbish and litter from dropping into the nearby environment.		√		Item 5 and item 9
▪ To encourage collection of aluminium cans by individual collectors, separate labelled bins should be provided to segregate this waste from other general refuse generated by the workforce.	√			

Summary of the Weekly Site Inspection:

Item	Details of defective works or observations	Proposed Follow Up Action	Photo Ref.	Further Action Required (Yes/No)	Target Completion Date
1	Follow up action to the previous site inspections item 1 on 30/12/09, item 1 on 06/01/10 and item 1 on 13/01/10, another new drip tray was used and the old drip tray was discarded near the generator (No. 13) at water filling station B although no stagnant water was noted.	To collect and treat the oil-contaminated materials inside the old drip tray as chemical waste and store the old drip tray properly.	100120_001	Yes	27/01/10
2	Follow up action to the previous site inspections item 5 on 06/01/10 and item 2 on 13/01/10, stockpile of gravel and rock near workshop was collected.	---	100120_002	No	---
3	Follow up action to the previous site inspections item 5 on 06/01/10 and item 3 on 13/01/10, Tipping hall No.2 was still found damaged.	To repair the damaged part of Tipping Hall properly.	100120_003	Yes	27/01/10
4	Follow up action to the previous site inspection item 4 on 13/01/10, the oil bucket was discarded at the u-channel near fish pond was collected.	---	100120_004	No	---
5	Rubbish was noted disposed of on the ground near the TVB.	To collect and dispose of the rubbish properly.	100120_005	Yes	27/01/10
6	Densely grasses were observed at the roadsides adjacent to the TVB.	To weed out the overgrown grasses.	100120_006	Yes	27/01/10
7	Oil stain was noted on the ground at workshop.	To clean up the oil stain and treat the contaminated materials as chemical waste.	100120_007	Yes	27/01/10
8	Water spraying system at Tipping Hall No.1 was found out of order.	To repair the defect water spraying system as soon as possible.	100120_008	Yes	27/01/10
9	Rubbish such as used oil buckets were found discarded around the parking area.	To collect and store / dispose the rubbish or other C&D waste properly.	100120_009	Yes	27/01/10

Remark

	Name	Title	Signature	Date
Checked by	Linda Law	Senior Environmental Officer	Lida Law	20 January 2010

Photos

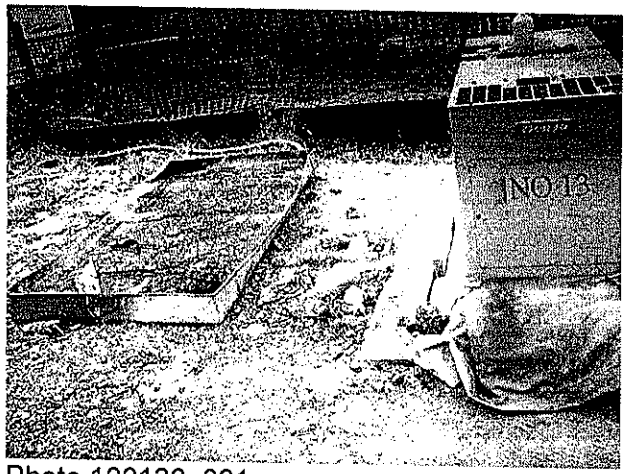


Photo 100120_001

Photo 100120_002

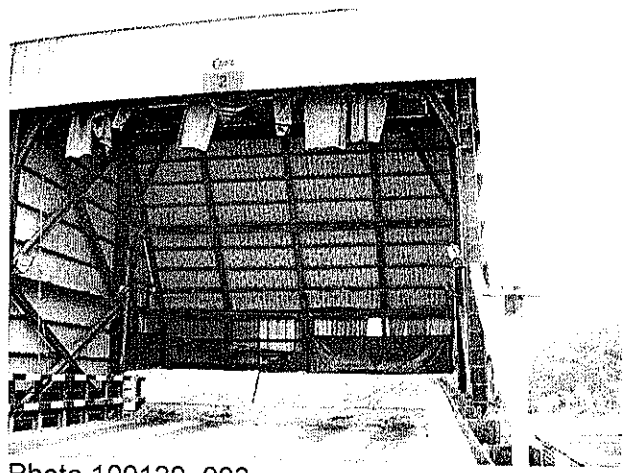


Photo 100120_003

Photo 100120_004

Photo 100120_005

Photo 100120_006

Photos

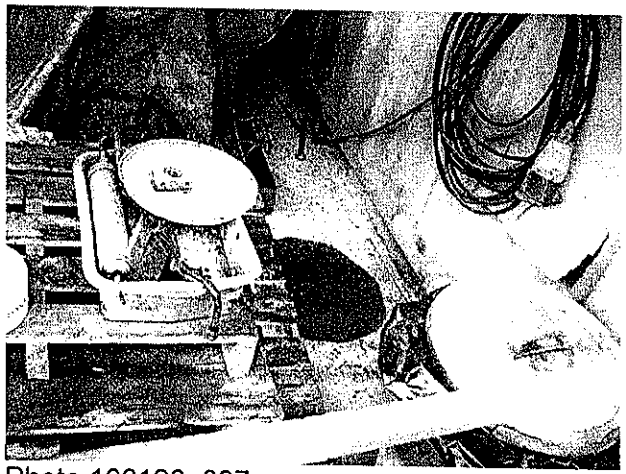


Photo 100120_007

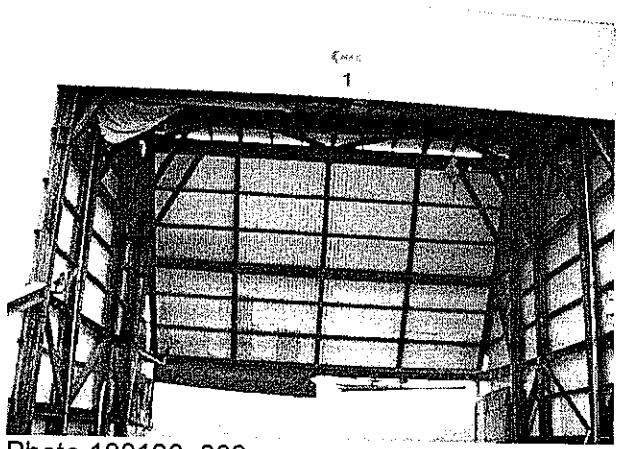


Photo 100120_008

Photo 100120_009

東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

Inspection Date : 27 January 2010

Time : 15:25

Weather : Sunny / Fine / (Cloudy) / Overcast / Drizzle / Rain / Storm / Hazy

Wind : Calm / Light / (Breeze) / Strong

Temperature : 18°C

Humidity : High / (Moderate) / Low

Inspected by	CEDD	Contractor / Sub-Contactor	ET
Signature:			
Name:	NG TIM LOY	M H Cheung Li Kam Hung	W. L. Li
Title	IOW/P3.	Env. Engineer S.S	E.T.

Environmental Checklist	Implementation Stages*			Remark
	Yes	No	N/A	
Fugitive Dust Emission				
▪ Dust control / mitigation measures shall be provided to prevent dust nuisance.		√		Item 2 and item 6
▪ 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.	√			
▪ All plant and equipment should be well maintained e.g. without black smoke emission.	√			
▪ Open burning should be prohibited.	√			
▪ 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.	√			

Environmental Checklist	Implementation Stages*			Remark
	Yes	No	N/A	
Water Quality				
▪ Drainage system should be adequate and well maintained to prevent flooding and overflow, especially after rain storms.	√			
▪ The permanent drainage channels should have sediment basin, traps and baffles and maintain properly.	√			
▪ 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.	√			
▪ Manholes should be covered and sealed.	√			
▪ Unnecessary water retained in receptacles and standing water should be avoided to prevent mosquito breeding.	√			
▪ 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 temporary slope surfaces, especially those facing to the north of the site shall be covered with impermeable sheet or sprayed with water or protected by other method approved by CEDD.	√			
▪ Final slope surfaces, especially those facing to the north of the site shall be treated by compaction, followed by hydroseeding, vegetation planting or sealing with shotconcrete, latex, vinyl, bitumen, or other suitable surface stabilizer approved by CEDD.	√			
▪ Existing and newly constructed Catchpits, sand and silt removal facilities and intercepting channels shall be maintained, and the deposited silt and grit shall be removed weekly and on a need basis especially at the onset of and after each rainstorm to ensure that these facilities are functioning properly at all times.	√			
▪ A wheel washing bay shall be provided at the site exit and wash-water shall have sand and silt settled out or removed before being discharged into storm drains.	√			
▪ The section of construction road between wheel washing bay and the public road shall be paved with concrete, bituminous materials or 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.	√			
▪ Oil intercept in addition of sand / silt removal facilities shall be provided at the car parking areas.	√			
▪ Oil interceptor shall be provided at work shop.	√			
▪ Tipping halls enclosed with top and 3-side to prevent spillage of material into marine water.		√		Item 2
▪ The barges shall be in right size such that adequate clearance in maintained between the vessels and the seabed at all states of the tide to ensure the undue turbidity is not generated by turbulence from vessel movement or propeller wash.	√			
▪ All vessels used for transportation of fill material shall have tight fitting seals to their bottom openings to prevent leakage of material during transport.	√			
▪ Adequate environmental control measures shall be provided to prevent / avoid dropping of fill material into the sea during the transfer.	√			
▪ Barges shall not be filled to a level which may cause the overflow of material during loading or transportation. Barge effluents shall be properly collected and treated before disposal.	√			
▪ The work activities shall not cause any visible foam, oil, grease, scum, litter or other objectionable matters to be present on the water in the vicinity of the barging facilities.	√			
▪ Existing silt curtain at the outward side of the basin near the Barging Handling Area throughout the period shall be repair, maintain and service when there is public fill intake by barges to the Fill Bank in accordance with PS Clause 1.68. The total length of the silt curtains shall not be less than 160m, and a gap of about 80m shall be left open for access of barges. The silt curtain shall be properly maintained such that it can also serve the function of refuse containment boom to confine floating refuse.		√		Item 8
▪ A waste collection vessel shall be deployed to remove floating debris.	√			

Environmental Checklist	Implementation Stages*			Remark
	Yes	No	N/A	
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 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 and stored properly.	√			
▪ All generators, fuel and oil storage are within bundle areas.	√			
▪ Oil leakage from machinery, vehicle and plant is prevented.	√			
▪ The Environmental Permit should be displaced conspicuously on site.	√			
▪ Good site practices should be adopted to clean the rubbish and litter on a regular basis so as to prevent the rubbish and litter from dropping into the nearby environment.	√			
▪ To encourage collection of aluminium cans by individual collectors, separate labelled bins should be provided to segregate this waste from other general refuse generated by the workforce.	√			

Summary of the Weekly Site Inspection:

Item	Details of defective works or observations	Proposed Follow Up Action	Photo Ref.	Further Action Required (Yes/No)	Target Completion Date
1	Follow up action to the previous site inspections item 1 on 30/12/09, item 1 on 06/01/10, item 1 on 13/01/10 and item 1 on 20/01/10, the old drip tray at water filling station B was collected.	---	100127_001	No	---
2	Follow up action to the previous site inspections item 5 on 06/01/10, item 3 on 13/01/10 and item 3 on 20/01/10, Tipping hall No.2 was still found damaged.	To repair the damaged part of Tipping Hall properly.	100127_002	Yes	03/02/10
3	Follow up action to the previous site inspection item 5 on 20/01/10, rubbish disposed of on the ground near the TVB was collected.	---	100127_003	No	---
4	Follow up action to the previous site inspection item 6 on 20/01/10, densely grasses were still observed at the roadsides adjacent to the TVB.	To weed out the overgrown grasses.	100127_004	Yes	03/02/10
5	Follow up action to the previous site inspection item 7 on 20/01/10, no oil stain was noted on the ground at workshop.	---	100127_005	No	---
6	Follow up action to the previous site inspection item 8 on 20/01/10, water spraying system at Tipping Hall No.1 was still found out of order.	To repair the defect water spraying system as soon as possible.	100127_006	Yes	03/02/10
7	Follow up action to the previous site inspection item 9 on 20/01/10, rubbish such as used oil buckets discarded around the parking area were collected.	---	100127_007	No	---
8	The right-hand side of silt curtain at BHA was found loosed.	To fix the right-hand side of silt curtain at the designated position.	100127_008	Yes	03/02/10

Remark

	Name	Title	Signature	Date
Checked by	Linda Law	Senior Environmental Officer	Linda Law	27 January 2010

Photos

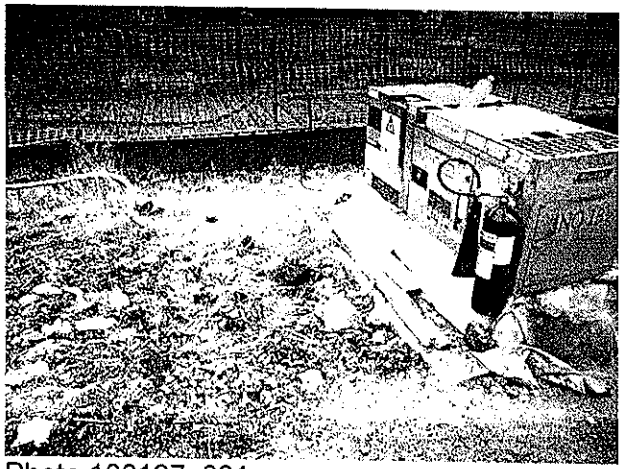
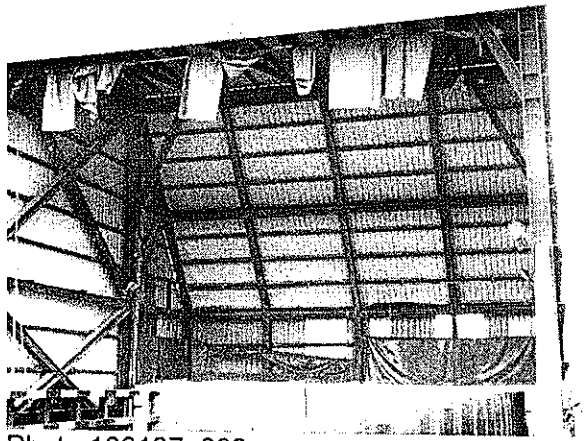


Photo 100127_001



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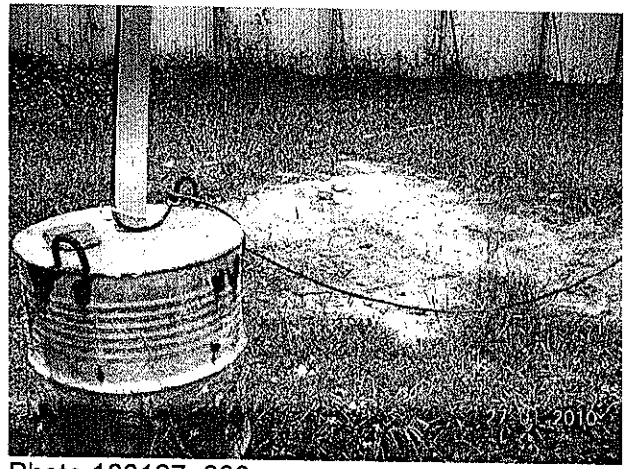
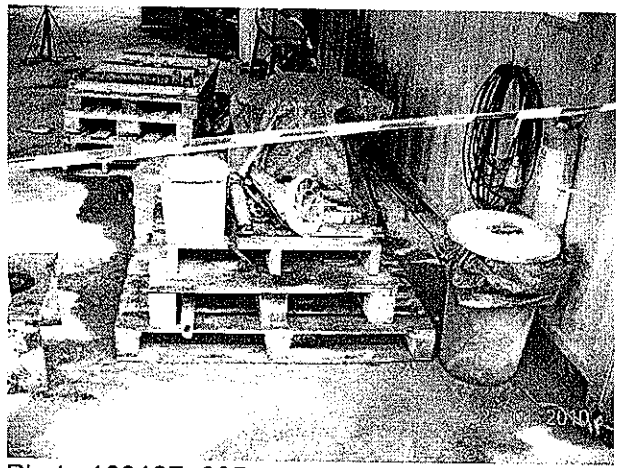


Photo 100127_003

Photo 100127_004



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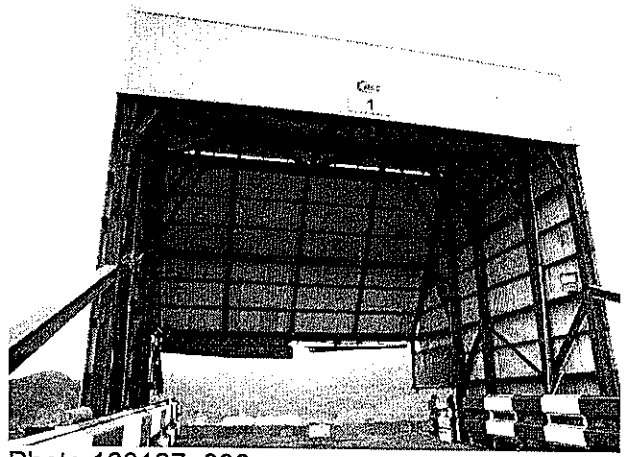


Photo 100127_006

Photos

Photo 100127_007

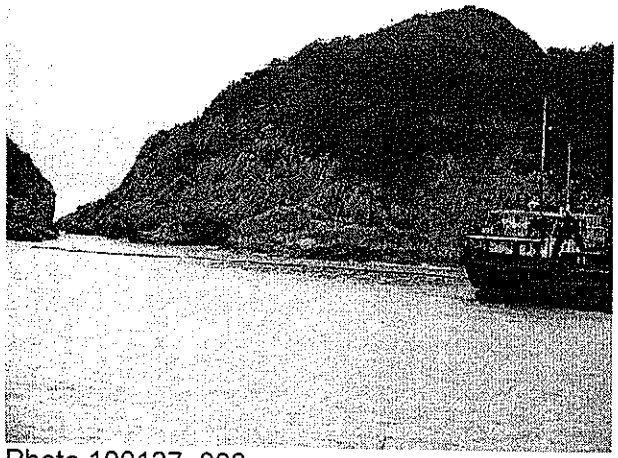


Photo 100127_008

Appendix J

Implementation Schedule of Mitigation Measures

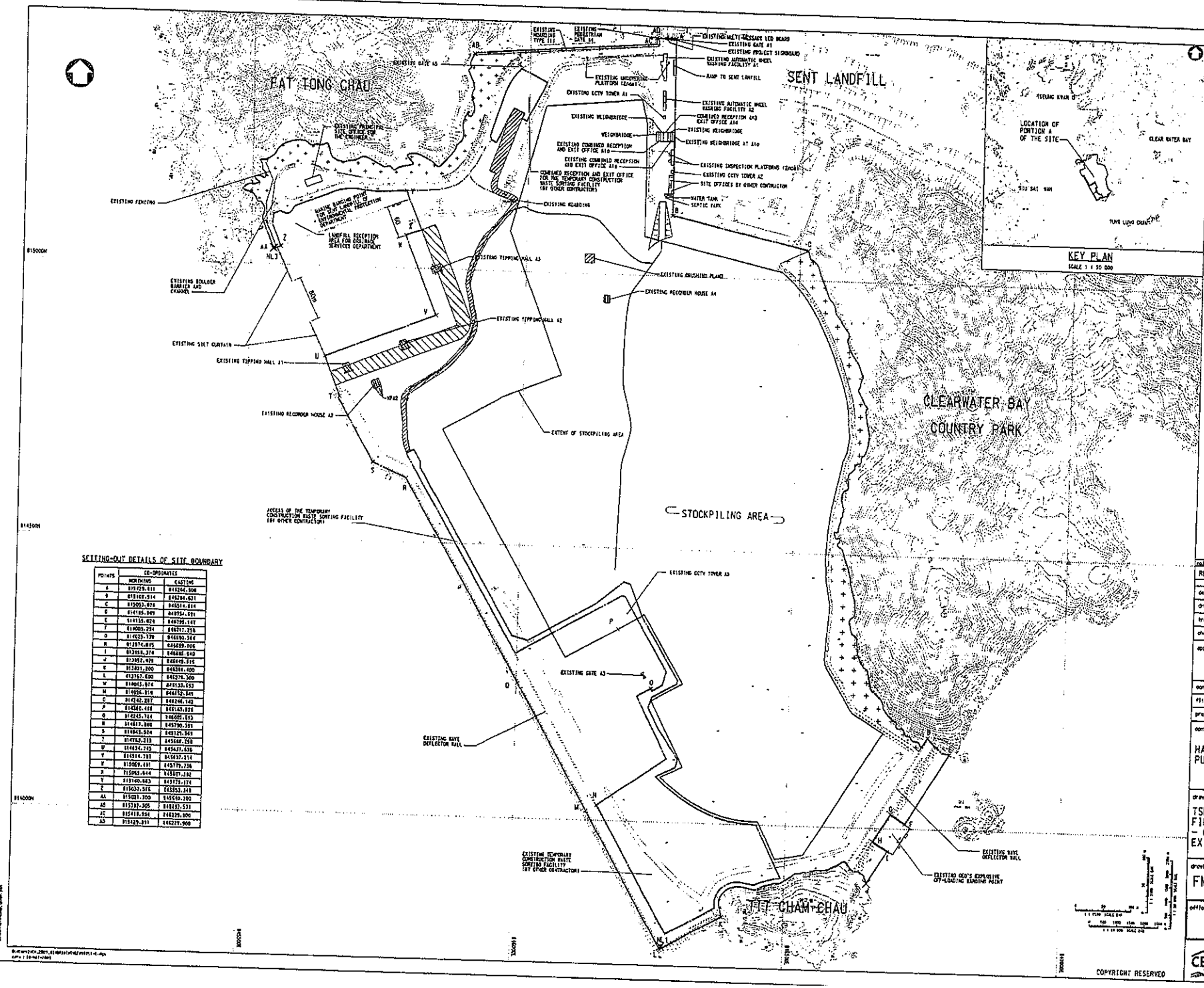
Environmental Mitigation Implementation Schedule

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

Environmental Protection Measures	Location	Implementation Status			
		Implemented	Partially implemented	Not implemented	Not Applicable
Water Quality					
▪ Drainage system should be adequate and well maintained to prevent flooding and overflow, especially after rain storms.	All areas		√		
▪ Unnecessary water retained in receptacles and standing water should be avoided to prevent mosquito breeding.	All areas	√			
▪ The existing / realigned intercepting channels and the sand / silt removal facilities shall be used and maintained regularly.	All areas	√			
▪ A buffer distance of at least 100m shall be maintained between the boundary of the public fill stockpiling area and the sea front.	Along the seafront	√			
▪ A buffer distance of at least 20m shall be maintained between the boundary of the C&DMSF and the seafront.	C&DMFS				√
▪ The stormwater intercepting system shall be effective to collect of runoff and remove suspended solids before discharge.	All areas	√			
▪ The material shall be properly covered to prevent washed away especially before rainstorm.	All areas	√			
▪ 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.	Temporary Slopes	√			
▪ 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.	Wheel Washing facility	√			
▪ Obtain Discharge License	Site Office	√			
▪ Adequate environmental control measures shall be provided to prevent / avoid dropping of fill material into the sea during the transfer.	Barge Handling Area (BHA)	√			
▪ 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.	Barge Handling Area (BHA)	√			
▪ A waste collection vessel shall be deployed to remove floating debris.	Barge Handling Area (BHA)	√			
Landscape and Visual					
• Construction of lighting to avoid spillage and glare	All areas	√			
• Hydroseeding	Completed slopes	√			
• Hoarding erection	Site boundary	√			
• Damage to surrounding area avoided	All areas	√			
Other Environmental Factors					
• C&D waste sorted from mixed C&D material shall be transfer to SENT landfill for disposal.	All areas	√			
• Plan and stock construction materials carefully to minimise generation of waste.	All areas	√			
• Any unused materials or those with remaining functional capacity should be recycled.	All areas	√			
• All generators, fuel and oil storage are within bunded areas.	All areas	√			
• Oil leakage from machinery, vehicle and plant is prevented.	All areas		√		
• Bund chemical storage area to 110% capacity.	All areas	√			
• Prevent disposal of hazardous materials to air, soil and water body.	All areas	√			
• Provide rubbish skips at all work areas	All areas	√			
• Good site practices should be adopted to clean the rubbish and litter on a regular basis so as to prevent the rubbish and litter from dropping into the nearby environment.	All areas	√			

Appendix K

Site General Layout plan


FAT TONG CHAU
SENT LANDFILL
CLEARWATER BAY COUNTRY PARK
STOCKPILING AREA
TIT CHAM CHAU
EXISTING FENCING
EXISTING BOULDER BARRIER AND CHANNEL
EXISTING SILT CURTAIN
EXISTING TIPPING HALL A1
EXISTING TIPPING HALL A2
EXISTING TIPPING HALL A3
EXISTING RECORDER HOUSE A2
EXISTING RECORDER HOUSE A4
EXISTING CRUSHING PLANT
EXTENT OF STOCKPILING AREA
EXISTING CCTV TOWER A3
EXISTING GATE A3
EXISTING WAVE DEFLECTOR WALL
EXISTING CCTV TOWER A1
EXISTING CCTV TOWER A2
EXISTING WEIGHBRIDGE
EXISTING WASHING FACILITY A1
EXISTING WASHING FACILITY A2
EXISTING INSPECTION PLATFORMS (2NOS)
EXISTING MESSAGE LED BOARD
EXISTING GATE A1
EXISTING PROJECT SIGNBOARD
RAMP TO SENT LANDFILL
EXISTING HOARDING
EXISTING GATE A5
EXISTING PRINCIPAL SITE OFFICE FOR THE ENGINEER
LANDFILL RECEPTION AREA FOR DESIGNATED SERVICES DEPARTMENT
ACCESS OF THE TEMPORARY CONSTRUCTION WASTE SORTING FACILITY (BY OTHER CONTRACTOR)
EXISTING TEMPORARY CONSTRUCTION WASTE SORTING FACILITY (BY OTHER CONTRACTOR)
EXISTING GCO'S EXPLOSIVE OFF-LOADING BANDING POINT
LOCATION OF PORTION A OF THE SITE
TSEUNG KWAN O
CLEAR WATER BAY
SIU SAI WAN
TUNG LUNG CHAU
KEY PLAN
SCALE 1 : 50 000
NOTES:
1. ALL CO-ORDINATES REFER TO HONG KONG GEODETIC DATUM 1980 AND IN METRES.
2. ALL LEVELS REFER TO HONG KONG PRINCIPAL DATUM (P.D.) AND IN METRES.
3. ALL DIMENSIONS ARE IN METRES.
4. EXISTING BARGE HANDLING AREA PAVED WITH CONCRETE. FOR DETAILS OF CONCRETE SURFACING, REFER TO DRAWING No. 8110/4.
5. EXISTING DRAINAGE CHANNELS AND OUTFALLS REFER TO DRAWING No. FM10056-14.
6. ALL EXISTING FEATURES SHOWN ARE INDICATIVE ONLY. THE LINES, LEVELS, DIMENSIONS AND DETAILS OF THESE FEATURES DEPEND ON THE ACTUAL CONDITION AT THE TIME WHEN THE CONTRACTOR IS GIVEN POSSESSION OF THE SITE.
LEGEND :
SITE BOUNDARY
BARGE HANDLING AREA
EXISTING NAVIGATION LIGHT
BUFFER ZONE
EXISTING CONCRETE ACCESS ROAD
EXISTING FENCING
SETTING-OUT DETAILS OF SITE BOUNDARY
POINTS
CO-ORDINATES
NORTHING
EASTING
A 815125.811 815264.508
B 815103.914 815241.621
C 815053.076 815214.814
D 814185.909 814754.891
E 814135.824 814738.147
F 814005.294 814717.756
G 814029.139 814690.364
H 813974.815 814659.906
I 813958.374 814648.140
J 813952.429 814649.515
K 813831.200 814384.400
L 813767.600 814278.300
M 814013.974 814133.153
N 814026.814 814152.849
O 814142.287 814246.142
P 814366.418 814143.826
Q 814245.714 814085.553
R 814613.800 814290.385
S 814843.974 814129.349
T 814762.215 814588.250
U 814834.715 814437.636
V 815514.781 814537.314
W 815069.481 814779.236
X 815063.644 814827.182
Y 815140.663 814775.174
Z 815037.515 814553.348
AA 815021.300 814510.700
AB 815387.505 814187.531
AC 815418.934 814329.100
AD 815429.811 814227.900
REVISION
designed L. NG SIGNED 20.8.2008
drawn C.F. LAM SIGNED 20.8.2009
traced C.F. LAM SIGNED 20.8.2009
checked K.T. CHENG SIGNED 20.8.2009
approved
SIGNED
"TRUOFE C.S." CHUNT
Chief Engineer
Date 20.8.2009
contract no. CV/2009/02
file no.
project no.
contract
HANDLING OF SURPLUS PUBLIC FILL
drawing title
TSEUNG KWAN O AREA 137 FILL BANK - GENERAL LAYOUT OF EXISTING FACILITIES
drawing no.
FM10056-6
scale
1 : 2500 OR AS SHOWN
office
FILL MANAGEMENT DIVISION
CIVIL ENGINEERING OFFICE
CEDD CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
COPYRIGHT RESERVED
B1 1000 x 707

Appendix L

Monitoring Schedule for the Coming Month

東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

Contract No. CV/2009/02
Handing of Surplus Public Fill

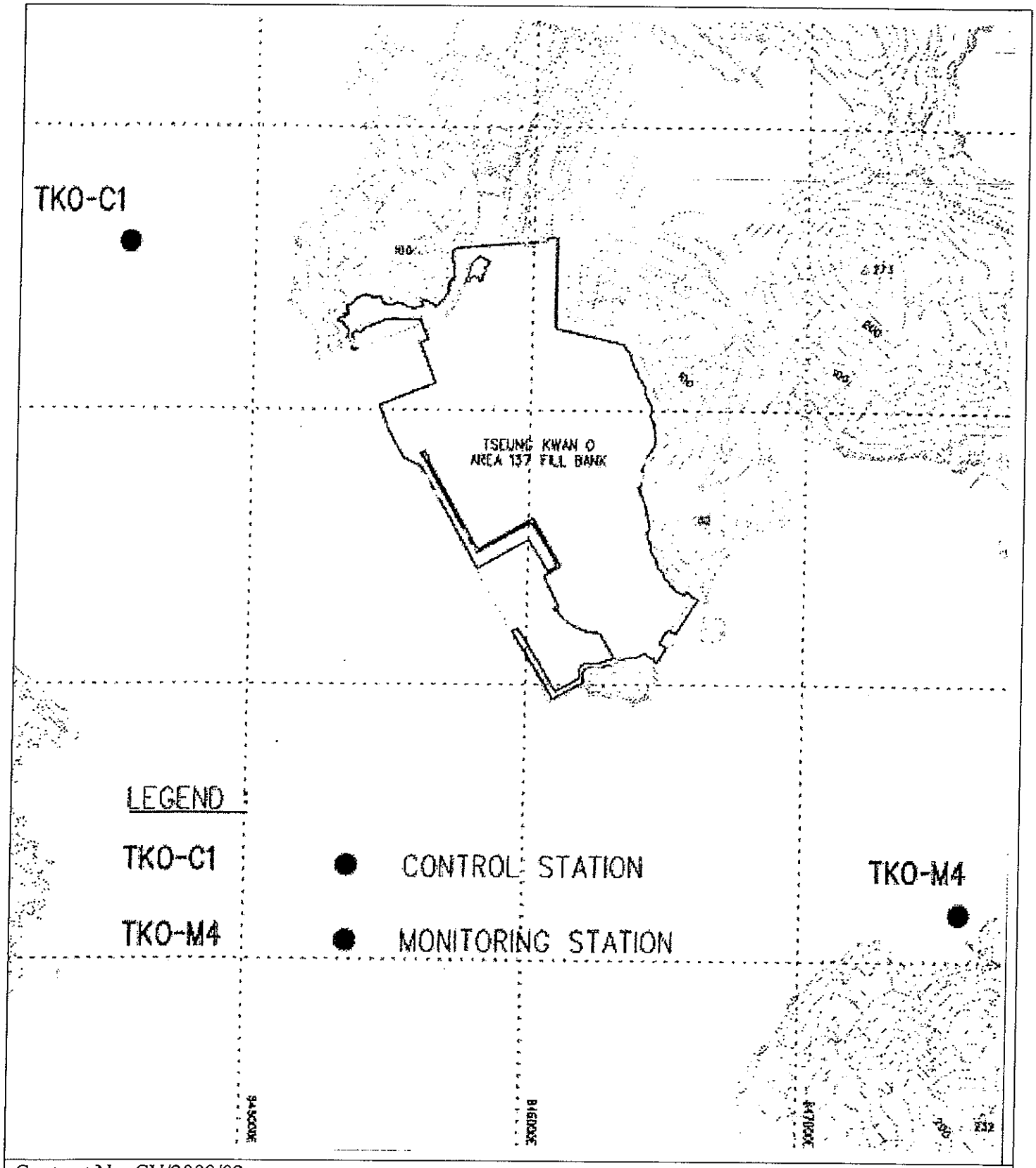
Tseung Kwan O Area137

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

February 2010

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

Figures

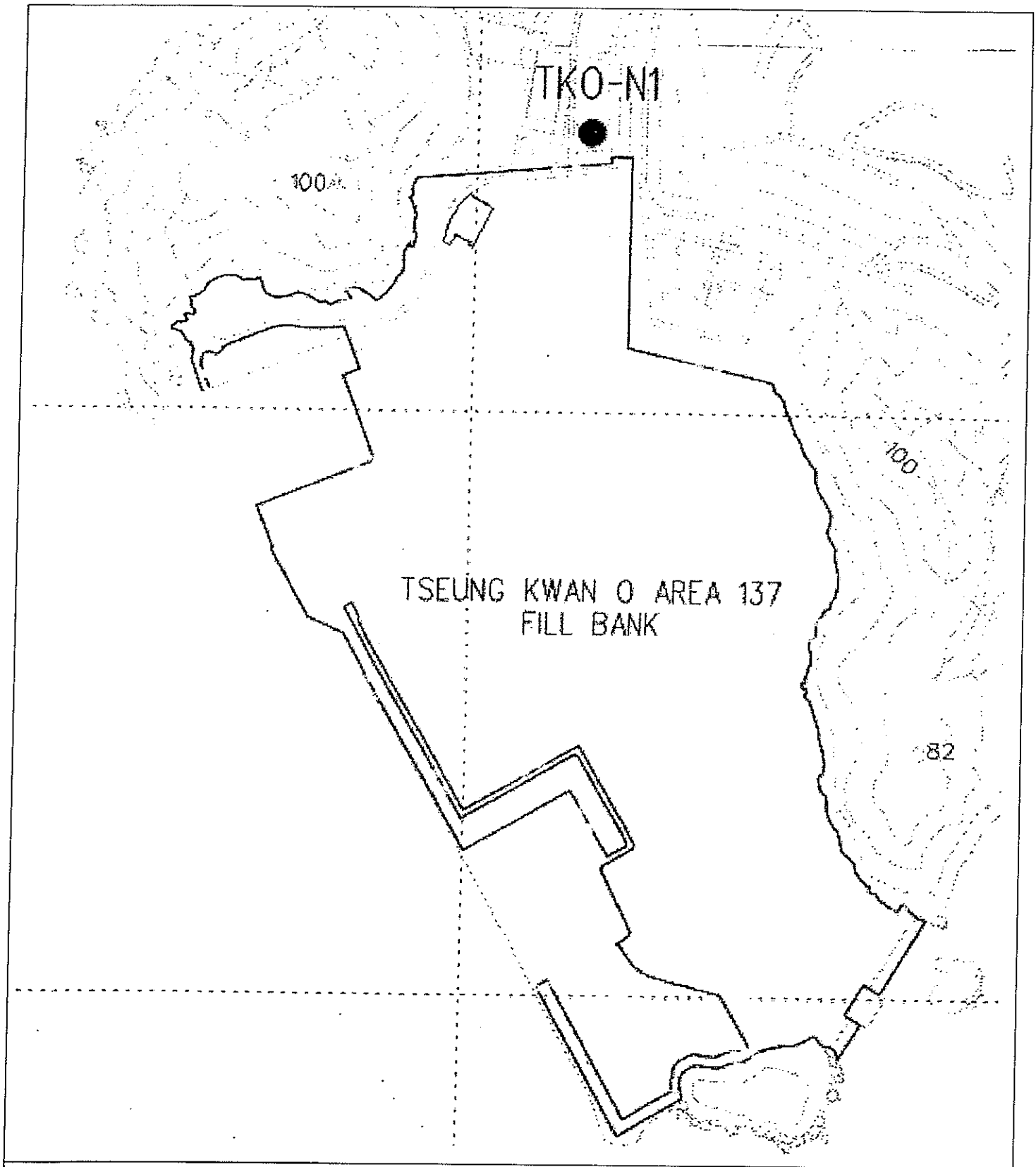


Contract No. CV/2009/02
Handling of Surplus Public Fill

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

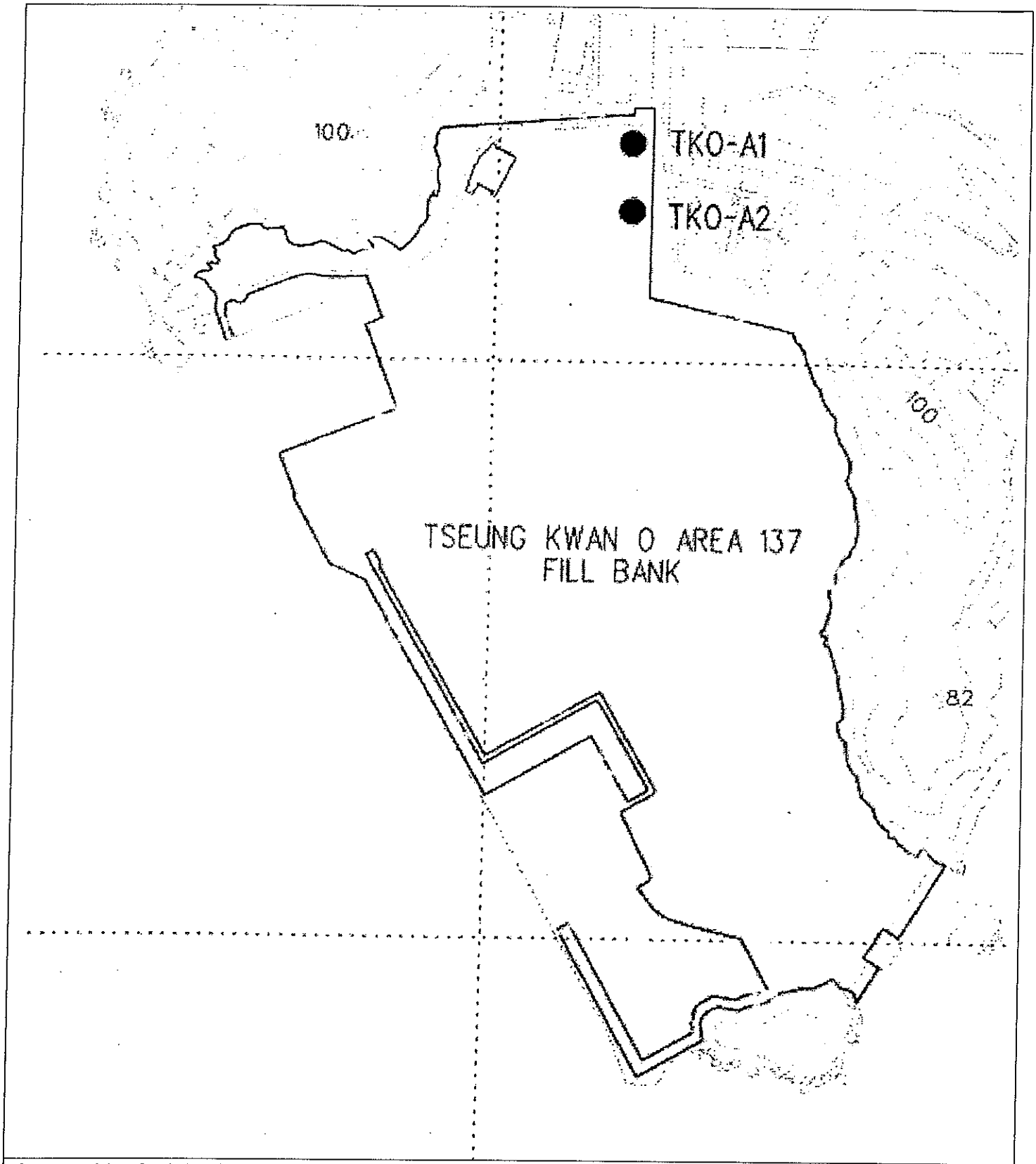


Contract No. CV/2009/02
Handling of Surplus Public Fill

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/2009/02
Handling of Surplus Public Fill

Figure 3

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

東業環動測試顧問有限公司
ETS-TESTCONSULT LIMITED