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**TEST REPORT**

**Kaden Construction Limited**

**CONTRACT NO. DC/2007/18**

**YUNG SHUE WAN AND  
SOK KWU WAN VILLAGE SEWERAGE,  
STAGE 1 WORKS**

**MONTHLY IMPACT MONITORING  
REPORT NO.6**

**(NOVEMBER 2008)**

Prepared by:

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## Scott Wilson CDM Joint Venture

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Chief Engineer/Harbour Area Treatment Scheme  
Drainage Services Department  
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2A Pok Fu Lam Road  
Hong Kong

Your reference:

Our reference: 05117/6/10/320102

Date: 16 December 2008

Attention: Mr. C.K Au

**BY FAX ONLY**

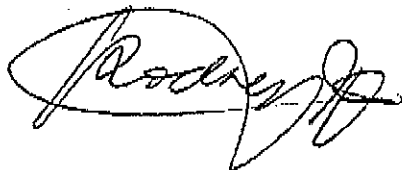
Dear Sir

Agreement No. CE20/2005 (DS)  
Outlying Islands Sewerage Stage 1 Phase 1 Part 2 and Phase 2  
Yung Shue Wan and Sok Kwu Wan Sewerage, Sewage Treatment and Disposal – Design and Construction  
Monthly Impact Monitoring Report No. 6

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I refer to the Environmental Permit (EP-281/2007) and the email from the environmental team, ETS-Testconsult Limited with the revised report, dated 16 December 2008. I do not have further comment and have verified the captioned report.

Yours faithfully  
SCOTT WILSON CDM JOINT VENTURE



Rodney Ip

ANCP/anep

cc	Kaden Construction Ltd	(Attn: Mr Stephen Leung)
	ETS-Testconsult	(Attn: Ms Linda Law)
	ER/LAMMA	(Attn: Mr Alfred Cheung)
	CDM	(Attn: Mr Mark Sin)



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## EXECUTIVE SUMMARY

The Contractor, Kaden Construction Limited (Kaden), appointed Environmental Team of ETS-Testconsult Limited (ET) to undertake the environmental impact monitoring for "Contract No. DC/2007/18 Yung Shue Wan and Sok Kwu Wan Village Sewerage, Stage 1 Works" (the Project) under the requirements and specifications of "the Environmental Permit (Application No. AEP-281/2007)" (the EP) and "the Final EM&A Manual – Outlying Islands Sewerage Stage 1 Phase 2 Package J – Sok Kwu Wan Sewage Collection, Treatment and Disposal Facilities" (the EM&A Manual).

This Monthly Impact Monitoring Report No.6 has been prepared by the ET of ETS-Testconsult Limited to document the impact monitoring works conducted for the Project in November 2008.

### Construction Progress

The major construction works in this monitoring period were as below:

- *Installation of sewer pipe*
- *Construction of manhole*

### Environmental Monitoring Progress

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

- *Noise Monitoring (Day-time): 4 Occasions at 4 designated locations;*
- *24-hour TSP Monitoring: 5 Occasions at 4 designated locations;*
- *1-hour TSP Monitoring: 15 Occasions at 4 designated locations.*

### Impact Air Quality Monitoring

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

### Impact Noise Monitoring

No exceedances of Action and Limit Levels were recorded in this reporting month.

### Waste Management

According to weekly site inspection, ET found that the Contractor followed the recommended procedures stipulated in the Waste Management Plan (WMP) on handling and disposal of wastes. In this reporting month, 13 tonnes Public Fill (e.g. mix soil and rock) was generated and disposed to Sok Kwu Wan Refuse Transfer Station (SKWRTS) properly.

### Site Inspection

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

<u>Concerned Parties</u>	<u>Dates of Audit / Inspection</u>
ET	05, 11, 17 and 27 November 2008
RE / IEC / Kaden / ET	17 November 2008

According to the summary of the weekly site inspections carried out in this month, it indicated that site practices of the Kaden were generally undertaken in an environmentally acceptable manner and the overall site environmental performance was satisfactory.

Summary of the site inspection findings in this reporting month is shown as below:



Item	Aspect	Finding	Action(s) to be taken by the Contractor	ET Verification
1	Air	Follow up action to the outstanding finding in the previous month, stockpile at S51 was found covered during the weekly site inspection on 11/11/08	Since the finding was improved, no further action is required to be taken by the Contractor.	Since the finding was improved, no further verification was required to be taken by ET.
2	Water	Debris and unused materials were found disposed of in the channel adjacent to the "Police Port" during the weekly site inspections on 05/11/08 and 11/11/08.	The Contractor replied to clean up the debris and unused materials in the channel immediately.	During the weekly site inspection on 17/11/08, the debris and unused materials were cleaned up and hence no further verification was required to be taken by ET.
3	Water	Stagnant water was noted inside the manhole at S147 and S60 during the weekly site inspection on 17/11/08.	The Contractor replied to apply insecticide to avoid mosquito breeding.	During the subsequent weekly site inspection on 27/11/08, insecticide was applied and hence no further verification was required.
4	Chemical	Some chemical oil tanks at storage area were found without drip tray and labels during the weekly site inspection on 17/11/08.	The Contractor replied to provide drip trays and labels for all chemicals.	During the next weekly site inspection on 27/11/08, appropriated drip tray and labels were provided.
5	Site Practice	Debris and rubbish were noted at the coastal area near Chung Mei during weekly site inspection on 17/11/08.	The Contractor replied to collect the rubbish immediately.	During the subsequent weekly site inspection on 27/11/08, no rubbish was observed.
6	Site Practice	Four gas cylinders were placed in the storage area improperly during the site inspection on 17/11/08.	The Contractor replied to store them in appropriate area properly especially when not in use.	During the subsequent weekly site inspection on 27/11/08, the gas cylinders were found store properly.

### **Environmental Complaints, Notifications of Summons and Successful Prosecutions**

No complaints, notifications of summons and successful prosecutions were received in this reporting period.

### **Conclusion and Recommendations**

The monitored environmental data indicated that no unacceptable environmental impacts arising from the Project had been caused to the surrounding sensitive receivers. The environmental mitigation measures had been effective in controlling potential impacts to within acceptable sensitive receivers. Besides, the Contractor was recommended to maintain good site practice in order to minimize the environmental impacts at the site.

### **Construction Programme for Coming Month**

The Construction programme for the Project is shown in Appendix E.

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

- Excavation work for installation of sewer pipe
- Construction of manhole

### **Future Key Issues**

Based on the 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; and
- Maintain good site practice to minimize environmental impacts at the site.

### **Internet Website**

The monthly EM&A report can be accessed on the web at <http://www.skwsewer.com>.



## 1.0 INTRODUCTION

The Customer, Kaden Construction Limited (Kaden), appointed Environmental Team of ETS-Testconsult Limited to undertake the environmental impact monitoring for "Contract No. DC/2007/18 Yung Shue Wan and Sok Kwu Wan Village Sewerage, Stage 1 Works" (the Project) under the requirements and specifications of "the Environmental Permit (Application No. AEP-281/2007)" (the EP) and "the Final EM&A Manual – Outlying Islands Sewerage Stage 1 Phase 2 Package J – Sok Kwu Wan Sewage Collection, Treatment and Disposal Facilities" (the EM&A Manual).

In accordance with the Section 5 of the EP, EM&A programme as set out in the EM&A Manual is required to be implemented. In accordance with the EM&A manual, environmental monitoring of air quality and noise is required for the Project. The EM&A requirement for each parameter are described in details in subsequent sections, including:

- All monitoring parameters;
- Action and Limit levels for all environmental parameters;
- Event-Action Plans;
- Environmental mitigation measures, as recommended in the project EIA study report;
- Environmental requirements in contract documents.

This monthly EM&A report summarizes the impact monitoring in November 2008. This monthly EM&A report can be accessed on the web at <http://www.skwsewer.com>.

## 2.0 PROJECT INFORMATION

### 2.1 Background

Under this Project, Kaden is required to construct village sewerage in Yung Shue Wan and Sok Kwu Wan, Lamma Island.

Village sewage works will undertake in this Project. These will comprise laying approximately 1.4km of sewerage pipes from 220mm to 350mm diameter in Sok Kwu Wan Village. These works will carry out under a conventional Design, Bid, Build (DBB) contract, entirely separate from the single Design, Build and Operate (DBO) contract for Sewage Treatment Works (STW) construction.

As the main Contractor of the captioned project contracted by, Kaden will follow the environmental monitoring recommendation stated in the EM&A Manual that was prepared with reference to the EIA Report (Register No.: AEIAR-075/2003).

According to the EP and the EM&A Manual, the environmental programme is mainly focused on the construction activities of this Project in Sok Kwu Wan. At the same time, all air quality and noise monitoring stations proposed in the EM&A Manual are located in Sok Kwu Wan. The baseline report is prepared in accordance with EP (No. EP-281/2007) for the Designated Project "Outlying Islands Sewerage Stage 1 Phase 2 – Sok Kwu Wan Sewage Collection, Treatment and Disposal Facilities" and the EM&A Manual.

### 2.2 Site Description

The general layout plan of the project in Sok Kwu Wan is shown in Drawing No. 2005/C1/2004, 2005/C1/2005 and 2005/C1/2006.

Surrounding the construction site, there are air and noise sensitive receivers at Chung Mei Village, Sok Kwu Wan and Ta Shui Wan.

### 2.3 Construction Programme

The construction programme is shown in Appendix E.



## 2.4 Project Organization and Management Structure

The organization chart 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, and construction programme are shown in table 2.1.

Table 2.1 Contact Details of Key Personnel

Organization	Project Role	Key Staff	Tel. No.	Fax No.
Scott Wilson CDM JV	Engineer Representative	Ir Ian J Jones	2982 0240	2982 4129
Scott Wilson CDM JV	Independent Environmental Checker	Mr. Rodney Ip	2410 3750	2428 9922
Kaden Construction Ltd	Contractor	Ir Stephen Leung	2454 9102	2465 1207
ETS-Testconsult Ltd	Environmental Team	Mr. C L Lau	2946 7791	2695 3944

## 2.6 Construction Progress in this reporting month

A summary of the major construction activities undertaken in this monitoring month were:

- Installation of sewer pipe
- Construction of manhole

## 3.0 IMPACT AIR QUALITY MONITORING

### 3.1 Monitoring Requirement

Both 1-hr and 24-hr TSP monitoring is required to be conducted in order to monitor the air quality of the environment during the construction period. For regular monitoring, a sampling frequency of at least one in every six days should be carried out at all designated monitoring stations.

### 3.2 Monitoring Equipment

#### 24-hour TSP Monitoring

High volume sampler, as HVS, (Greasby GMWS2310) complete with appropriate sampling inlets are employed for 24-hour TSP. 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 air sampling, the flow rate of the high volume sampler was properly set (between 0.6m<sup>3</sup>/min and 1.7m<sup>3</sup>/min.) in accordance with the manufacturer's instruction to within the range recommended in USEPA Standard Title 40, CFR Part 50.

- For TSP sampling, fiberglass filters (GA-55) were used.
- The power supply was checked to ensure the sampler worked properly.
- On sampling, the sampler was operated 5 minutes to establish thermal equilibrium before placing any filter media at designated air monitoring station.
- The filter holding frame was then removed by loosening the four nuts and carefully a weighted and conditioned filter was centered with the stamped number upwards, on a supporting screen.





- The filter was aligned on the screen so that the gasket formed an air-tight seal on the outer edges of the filter. Then the filter holder frame was tightened to the filter holder with swing bolts. The applied pressure should be sufficient to avoid air leakage at the edges.
- The programmable timer will be set for a sampling period of 24 hours. Information was recorded on the record sheet, which included the starting time, the weather condition and the filter number (the initial weight of the filter paper can be found out by using the filter number.).
- After sampling, the filter was transferred from the filter holder of the HVS to a sealed plastic bag and sent to the laboratory for weighting. The elapsed time was also recoded.
- Before weighting, all filters were equilibrated in a desiccator for 24 hour with the temperature of  $25^{\circ}\text{C} \pm 3^{\circ}\text{C}$  and the relative humidity (RH)  $<50\% \pm 5\%$ .

#### Maintenance & Calibration

- The HVS and their accessories were maintained in good working condition, such as replacing motor brushes routinely and checking electrical wiring to ensure a continuous power supply.
- The HVSs used were calibrated before the commencement of air quality monitoring, after maintenance and every two months. Five-point calibration by using calibration kit (e.g. Tisch TE-5025A) was performed to establish a relationship between the flow recorder meter reading in cfm (cubic feet per minute) and the standard flow rate, QStd, in  $\text{m}^3/\text{min}$ .

#### **1-hour TSP Monitoring**

1-hour TSP levels were measured by using 1-hour dust meter which are capable of producing comparable results as the by high volume sampling method, to indicate short event impacts.

#### Measuring Procedures

The measuring procedures of the 1-hr dust meter are in accordance with the Manufacturer's instruction Manual as follows:

- Set POWER to ON, check the battery indicator to ensure whether the power supply is enough to conduct the TSP monitoring;
- Calibrate the dust meter by zero check;
- Set the TIME CONSTANT of the dust meter;
- Press SAMPLE to start the TSP monitoring;
- Record the maximum, minimum and average reading directly from the dust meter by press STATISTICS when monitoring complete.

#### Maintenance & Calibration

- 1-hour dust meter should be checked at 6-month intervals throughout all stages of impact air quality monitoring. Through a five-point calibration by placing the dust meter and calibrated HVS under the same environmental condition, a relationship in TSP level ( $\mu\text{g}/\text{m}^3$ ) between dust meter and HVS was established.

### **3.3 Laboratory Measurement / Analysis**

Environmental Laboratory of ETS-Testconsult which is HOKLAS accredited, carried out the laboratory analysis.

A clean filter paper with no pinholes was used for each time of monitoring. Before sampling, the filter paper of size 8" x 10" was labelled and conditioned in a humidity controlled chamber for over 24 hours and pre-weighed before use for the sampling.

After sampling, the filter paper loaded with dust was kept in a clean and tightly sealed plastic bag. The filter paper then returned to the laboratory for reconditioning in the humidity controlled chamber following by accurate weighing by an electronic balance with readout down to 0.1mg. The balance was calibrated against a traceable standard.

All the analysis results and collected samples were kept in a good condition for 6 months after completion of the monitoring exercise before disposal.

### 3.4 Monitoring Parameters, Frequency and Duration

Table 3.1 summarizes the monitoring parameters, monitoring duration and frequencies of impact air quality monitoring.

Table 3.1 Monitoring parameters, duration and frequencies of impact air quality monitoring

Parameter	Duration	Frequency
24-hr TSP	24 hr (0000-2400)	One in every six days
1-hr TSP	1 hr (0700-1900)	3 times per day in every six days

### 3.5 Monitoring Locations

As the requirement in the EM&A Manual, three designated air monitoring stations were selected. Table 3.2 tabulates the air quality monitoring locations of this Project.

Table 3.2 Air monitoring stations

Air monitoring station	Description of location
AM1	Squatter house in Chung Mei Village
AM2	Squatter house in Chung Mei Village
AM3	Football Court

### 3.6 Action and Limit Levels

Action and Limit levels for 24-hr TSP and 1-hr TSP derived as illustrated in Table 3.3.

Table 3.3 Action and Limit levels for 24-hr TSP and 1-hr TSP

Monitoring Station	24-hr TSP ( $\mu\text{g}/\text{m}^3$ )		1-hr TSP ( $\mu\text{g}/\text{m}^3$ )	
	Action Level	Limit Level	Action Level	Limit Level
AM1	173	260	343	500
AM2	175	260	331	500
AM3	191	260	353	500

### 3.7 Event-Action Plans

Should the results of the monitoring parameters at any designated monitoring stations indicate that the air quality criteria are exceeded, the actions in accordance with the Event and Action Plan that summarized in Appendix D should be carried out.

### 3.8 Results

Totally 5 occasions of 24-hr TSP monitoring and 15 occasions of 1-hr TSP monitoring were carried out in this reporting period. All monitoring data of 1-hr and 24-hr TSP monitoring is provided in Appendix B2. Graphical presentation of both 1-hr and 24-hr TSP monitoring results for the reporting month is shown in Appendix B3.

No exceedances of Action and Limit Level of 1-hr and 24-hr TSP monitoring results were recorded during the reporting month. Table 3.4 summaries the 1-hr and 24-hr TSP monitoring results.



Table 3.4 Summary of 1-hr and 24-hr TSP Monitoring Results

Parameter	1-hr TSP Monitoring								
	AM1			AM2			AM3		
Station	Time	Result	Exceed*	Time	Result	Exceed*	Time	Result	Exceed*
05/11/08	13:15	191	X	13:30	184	X	09:20	182	X
05/11/08	14:15	157	X	14:30	172	X	10:20	207	X
05/11/08	15:15	168	X	15:30	156	X	11:20	201	X
11/11/08	09:15	170	X	09:18	185	X	13:00	203	X
11/11/08	10:15	180	X	10:18	205	X	14:00	192	X
11/11/08	11:15	187	X	11:18	195	X	15:00	209	X
17/11/08	13:15	182	X	13:25	177	X	09:10	200	X
17/11/08	14:15	207	X	14:25	239	X	10:10	226	X
17/11/08	15:15	177	X	15:25	214	X	11:10	221	X
21/11/08	09:00	82	X	08:55	78	X	13:15	111	X
21/11/08	10:00	89	X	09:55	84	X	14:15	128	X
21/11/08	11:00	93	X	10:55	93	X	15:15	117	X
27/11/08	09:22	156	X	09:20	157	X	13:00	155	X
27/11/08	10:22	170	X	10:20	169	X	14:00	170	X
27/11/08	11:22	140	X	11:20	138	X	15:00	150	X

Parameter	24-hr TSP Monitoring					
	AM1		AM2		AM3	
Station	Result	Exceed*	Result	Exceed*	Result	Exceed*
05/11/08	44	X	40	X	61	X
11/11/08	63	X	63	X	176	X
17/11/08	162	X	127	X	119	X
21/11/08	147	X	82	X	95	X
27/11/08	163	X	108	X	99	X

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

#### 4.0 IMPACT NOISE MONITORING

##### 4.1 Monitoring Requirements

As the requirement in the EM&A Manual, impact noise monitoring was conducted for a weekly basis at designated monitoring locations.

##### 4.2 Monitoring Equipment

Integrating Sound Level Meters used for impact noise monitoring were Type 1 sound level meters capable of giving a continuous readout of the noise level reading including equivalent continuous sound pressure level ( $L_{eq}$ ) and percentile sound pressure level ( $L_x$ ). They complied with International Electro technical Commission Publications 651:1979 (Type1) and speed in m/s was used to monitor the wind speed. Table 4.1 summarized the noise monitoring equipment model used during the impact monitoring. Copies of calibration certificates and Calibration Summary for noise meters and calibrators used are attached in Appendix C1.

Table 4.1 Noise Monitoring Equipment

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

#### 4.3 Monitoring Parameters, duration and Frequency

Impact noise monitoring for the A-weighted levels  $L_{eq}$ ,  $L_{10}$  and  $L_{90}$  were recorded once per week. Data obtained from impact noise monitoring was processed and presented as below:

- Daytime: three sets of 30-minute noise level monitored between 0700-1900 hrs on normal weekdays;
  - Evening-time\*: three sets of 5-minute noise level monitored between 1900-2300 hrs ;
  - Night-time\*: three sets of 5-minute noise level monitored between 2300-0700 hrs of next day; and
  - Holiday\*: three sets of 5-minute noise level monitored between 0700-1900 hrs on holiday.
- (\*): Noise monitoring to be conducted only when there is construction work.

Duration, frequencies and parameters of noise measurement are presented in Table 4.2.

Table 4.2 Duration, Frequencies and Parameters of Noise Monitoring

Time period	Duration/min	Parameters
Day-time: 0700-1900 hrs on normal weekday	30	$L_{eq}$ , $L_{10}$ , $L_{90}$
Evening-time: 1900-2300 hrs	5	$L_{eq}$ , $L_{10}$ , $L_{90}$
Night-time: 2300-0700 hrs of next day	5	$L_{eq}$ , $L_{10}$ , $L_{90}$
Holiday: 0700-1900 hrs	5	$L_{eq}$ , $L_{10}$ , $L_{90}$

#### 4.4 Monitoring Locations

Since the owner of 1B Sok Kwu Wan objected to set up the noise monitoring station NM3 at 1B Sok Kwu Wan (Eastern Façade), an alternative position, Sok Kwu Wan Sitting-out Area RNM3, which is just a 3m width footpath away from house 1B for the free field noise measurement, was proposed by ET. Under the approval from ER and agreement from the IEC and EPD, both baseline and impact noise monitoring was carried out at RNM3.

Hence, there were four noise monitoring locations NM1, NM2, RNM3 and NM4 required to carry out impact noise monitoring.

The details of noise monitoring stations are summarized in Table 4.3.

Table 4.3 Noise Monitoring Stations

Noise monitoring station	Description of location	Type of Measurement
NM1	1, Chung Mei Village	Façade
NM2	20, Sok Kwu Wan	Façade
RNM3	Sok Kwu Wan Sitting-out Area	Free Field
NM4	2-storey village house at Ta Shui Wan	Façade

#### 4.5 Monitoring Methodology

##### Instrumentation

Integrating Sound Level Meters were employed for noise monitoring.

##### Operation/Analysis Procedures

- Sound Level Meter was set on a tripod at a height of 1.2m above the ground;
- For free field measurement, the meter was positioned away from any nearby reflective surfaces.
- The battery condition was checked to ensure the correct functioning of the meter:
- Parameters such as frequency weighting, the time weighting and the measurement time were set as follows:
  - Frequency weighting : A
  - Time weighting : Fast
  - Time measurement : 5 mins

- Prior to and after each noise measurement, the meter was calibrated using a Calibrator for 94 dB at 1000HZ. If the difference in the calibration level before and after measurement was more than 1.0 dB(A), the measurement would be considered invalid and repeat measurement would be required after re-calibration or repair of the equipment;
- During the monitoring period, the  $L_{eq}$ ,  $L_{10}$  and  $L_{90}$  were recorded. In addition, site conditions and noise sources were recorded on a standard record sheet;
- Noise measurement may be paused during periods of high intrusive noise (e.g. dog barking directly towards the receiver of noise level meter). If noise measurement was paused during high intrusive noise, the noise level meter would be resumed and continued the noise measurement and the observations would also be recorded. Any pause intervals were not included in the measurement time; and
- Noise monitoring would be cancelled in the presence of fog, rain, storm, 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 at quarterly intervals; and
- The meters are sent to supplier or HOKLAS laboratory to check and calibrated at yearly intervals.

#### 4.6 Actions and Limit Levels

The Action and Limit Levels (AL Levels) were established in accordance to the Clause 3.6.4 of the EM&A Manual. Table 4.4 presents the AL levels for noise monitoring.

Table 4.4 Action and Limit Levels for Noise Monitoring

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

#### 4.7 Event-Action Plans

Should the results of the monitoring parameters at any designated monitoring stations indicate that the noise level criteria are exceeded, the actions in accordance with the Event and Action Plan that summarized in Appendix D should be carried out.

#### 4.8 Results

Totally 4 occasions of Day-time noise monitoring were carried out at monitoring stations in this reporting month. No Evening-time, Night-time and Holiday noise monitoring were required since no construction works were processed during the night-time period.

No exceedances of Action Level of noise monitoring were recorded in this reporting month since no complaint on noise issue was received. Besides, no exceedances in Limit Level were recorded according to the results from Day-time noise monitoring. Table 4.5 summaries the noise daytime monitoring results in the reporting period.

Table 4.5 Summary of Noise Daytime Monitoring Results

<i>Monitoring Parameter</i>	<i>Date</i>	<i>NM1</i>		<i>NM2</i>		<i>RNM3<sup>#</sup></i>		<i>NM4</i>	
		<i>Result</i>	<i>Exceedance*</i>	<i>Result</i>	<i>Exceedance*</i>	<i>Result</i>	<i>Exceedance*</i>	<i>Result</i>	<i>Exceedance*</i>
<i>Noise Daytime Monitoring</i>	05/11/08	53.0	X	65.9	X	56.2	X	64.3	X
	11/11/08	60.1	X	64.5	X	61.1	X	58.6	X
	17/11/08	56.0	X	68.2	X	62.2	X	64.0	X
	27/11/08	60.8	X	62.9	X	74.9	X	53.2	X

Remark (X): L = Limit Level exceedance, A = Action Level exceedance and X = not an Exceedance  
(#): 3dB(A) correction had been added to the results since noise measurements at RNM3 were free-field.



## 5.0 SITE INSPECTION

During this reporting month, weekly site inspections were undertaken on 05, 11, 17 and 27 November 2008 by ET. Monthly joint site inspections at 17 November 2008 were carried out by Engineer's Representative, IEC, Kaden and ET. A summary of implementation status of mitigation measures on site inspections is presented in Appendix F.

### 5.1 Summary of the site inspection findings and Action(s) taken by Kaden and ET

According to the summary of the weekly site inspections carried out in this month, it indicated that site practices of the Kaden were generally undertaken in an environmentally acceptable manner and the overall site environmental performance was satisfactory. Summary of the site inspection findings in this reporting month is shown in Table 5.1.

Table 5.1 Summary of Site Inspection Findings and Action(s) taken by Kaden and ET

Item	Aspect	Finding	Action(s) to be taken by the Contractor	ET Verification
1	Air	Follow up action to the outstanding finding in the previous month, stockpile at S51 was found covered during the weekly site inspection on 11/11/08	Since the finding was improved, no further action is required to be taken by the Contractor.	Since the finding was improved, no further verification was required to be taken by ET.
2	Water	Debris and unused materials were found disposed of in the channel adjacent to the "Police Port" during the weekly site inspections on 05/11/08 and 11/11/08.	The Contractor replied to clean up the debris and unused materials in the channel immediately.	During the weekly site inspection on 17/11/08, the debris and unused materials were cleaned up and hence no further verification was required to be taken by ET.
3	Water	Stagnant water was noted inside the manhole at S147 and S60 during the weekly site inspection on 17/11/08.	The Contractor replied to apply insecticide to avoid mosquito breeding.	During the subsequent weekly site inspection on 27/11/08, insecticide was applied and hence no further verification was required.
4	Chemical	Some chemical oil tanks at storage area were found without drip tray and labels during the weekly site inspection on 17/11/08.	The Contractor replied to provide drip trays and labels for all chemicals.	During the next weekly site inspection on 27/11/08, appropriated drip tray and labels were provided.
5	Site Practice	Debris and rubbish were noted at the coastal area near Chung Mei during weekly site inspection on 17/11/08.	The Contractor replied to collect the rubbish immediately.	During the subsequent weekly site inspection on 27/11/08, no rubbish was observed.
6	Site Practice	Four gas cylinders were placed in the storage area improperly during the site inspection on 17/11/08.	The Contractor replied to store them in appropriate area properly especially when not in use.	During the subsequent weekly site inspection on 27/11/08, the gas cylinders were found store properly.

### 5.2 Recommendations on site inspection findings in Site Inspections of this month

Based on the site inspection findings, the recommendations are as below:

- Providing dust suppression measures (such as water spraying) during the construction works especially excavation and earth moving operation;
- Checking and maintaining all the site machines to prevent black smoke emission;
- Providing briefing to the concerned site staff on remedial actions, such as handling method of chemicals and chemical waste;
- Maintain good waste management at the site; and
- Remove all stagnant water and applied proper treatment facilities to wastewater before discharge.



## 6.0 Status of Environmental Permits

All permits/licenses obtained in this reporting month are summarized in Table 6.1.

Table 6.1 Summary of Environmental Licensing and Permit Status

Description	Permit No.	Valid Period		Section
		From	To	
Environmental Permit	EP-281/2007	29/06/07	End of Project	Valid
Water Discharge Licence	EP890/W2/XD 026	23/05/08	31/03/12	Valid Discharge of Industrial Trade Effluent arising from Construction Site to communal storm water drain
Notification under APCO	Application had been submitted to EPD on 15 April 2008			

## 7.0 WASTE MANAGEMENT

The quantities of waste for disposal from Sok Kwu Wan in this month are summarized in Table 7.1.

Table 7.1 Summary of Quantities of Waste for Disposal in this reporting month

Type of Waste		Quantity	Disposal Location	Cumulative Quantity
Inert C&D Materials	Total Quantity Generated (tonne)	33		405
	Broken Concrete (tonne)	0	N/A	0
	Reused in the Contract (tonne)	20	For Stockpile / Reuse	90
	Reused in other Projects (tonne)	0	N/A	180
	Disposal as Public Fill (tonne)	13	SKWRTS	135
C&D Waste	Metals (1000kg)	0	N/A	0
	Paper/Cardboard Packaging (1000kg)	0	N/A	0
	Plastics (1000kg)	0	N/A	0
	Chemical Waste (1000kg)	0	N/A	0
	Other, e.g. General Refuse (tonne)	0	SKWRTS	1.34

## 8.0 ENVIRONMENTAL NON-CONFORMANCE

### 8.1 Summary of Air Quality and Noise monitoring

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

No exceedances of Action Level of noise monitoring were recorded in this reporting month since no complaint on noise issue was received. Besides, no exceedances in Limit Level were recorded according to the results from Day-time noise monitoring.

No evening-time, night-time and holiday noise monitoring were required since no construction works were processed during these periods.

### 8.2 Summary of Environmental Complaints, Notifications of Summons and Successful Prosecutions

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 Table 8.1.



Table 8.1 Statistical Summary of Environmental Complaint-log

Reporting Period	Complaint logged		Summons served		Successful Prosecution	
	Frequency	Cumulative	Frequency	Cumulative	Frequency	Cumulative
June 2008	0	0	0	0	0	0
July 2008	0	0	0	0	0	0
August 2008	0	0	0	0	0	0
September 2008	0	0	0	0	0	0
October 2008	1	1	0	0	0	0
November 2008	0	1	0	0	0	0

## 9.0 IMPLEMENTATION STATUS

### 9.1 Implementation Status of Environmental Mitigation Measures

Kaden has been implementing the required environmental mitigation measures indicating in Appendix A of the EM&A manual. A summary of the implementation status of the mitigation measures is presented in Appendix F.

### 9.2 Implementation Status of Event and Action Plan

No exceedances of Action and limit Levels of noise air quality monitoring were recorded in this reporting month and hence no further actions were required to be taken.

### 9.3 Implementation Status of Environmental Complaint Handling

No complaints was received in this reporting month and hence no further actions were required to be handled.

### 9.4 Implementation Status of Notification of Summons and Prosecution

There were no notifications of summons respect to environmental issues registered in this reporting month.

## 10.0 CONCLUSION AND DISCUSSION

According to the summary of noise and air quality monitoring results, no exceedances of Action and Limit Level were recorded during the reporting period.

According to the ET weekly site inspections carried out in this reporting month, it indicated that site practices of the Kaden were generally undertaken in an environmentally acceptable manner and the overall site environmental performance was satisfactory. Summary of the site inspection findings is shown in Table 5.1.

The monitored environmental results indicated that no unacceptable environmental impacts arising from the Project had been caused to the surrounding sensitive receivers. The environmental measures had been effective in controlling potential impacts to within acceptable sensitive receivers.

No complaints, notifications of summons and successful prosecutions were received in this reporting period.





**11.0 FUTURE KEY ISSUES**

**11.1 Upcoming Environmental Monitoring Schedule in coming monitoring month**

Proposed Environmental Monitoring program in coming month is presented as following table:

**Table 11.1 Proposed Environmental Monitoring Schedule in coming month**

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1	2	3 1-hr TSP x 3 24-hr TSP NM Weekly SI	4	5	6
7	8	9 1-hr TSP x 3 24-hr TSP NM Weekly SI	10	11	12	13
14	15 1-hr TSP x 3 24-hr TSP NM Weekly SI	16	17	18	19 1-hr TSP x 3 24-hr TSP	20
21	22	23	24 1-hr TSP x 3 24-hr TSP NM Weekly SI	25 Holiday	26 Holiday	27
28	29	30 1-hr TSP x 3 24-hr TSP NM Weekly SI	31			

**11.2 Upcoming Construction Works Schedule in coming month**

Major construction works planned to be carried out in coming month are shown as below:

- Installation of sewer pipe
- Construction of manhole

**11.3 Environmental Issues for the Coming Month**

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

- Dust generated from the construction activities; and
- Noise generated from the noisy activities.

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

Air Quality Impact

- To provide adequate water spraying on roads and working platform;
- To ensure implementation of the dust mitigation measures for the construction activities; and
- To provide proper maintenance for vehicles and machines on site.

Noise

- To switch off equipment if not in use;
- To operate silent equipment;
- To identify the noise sources inside and outside of the site; and
- To re-schedule the work activities in the event of valid noise exceedance.



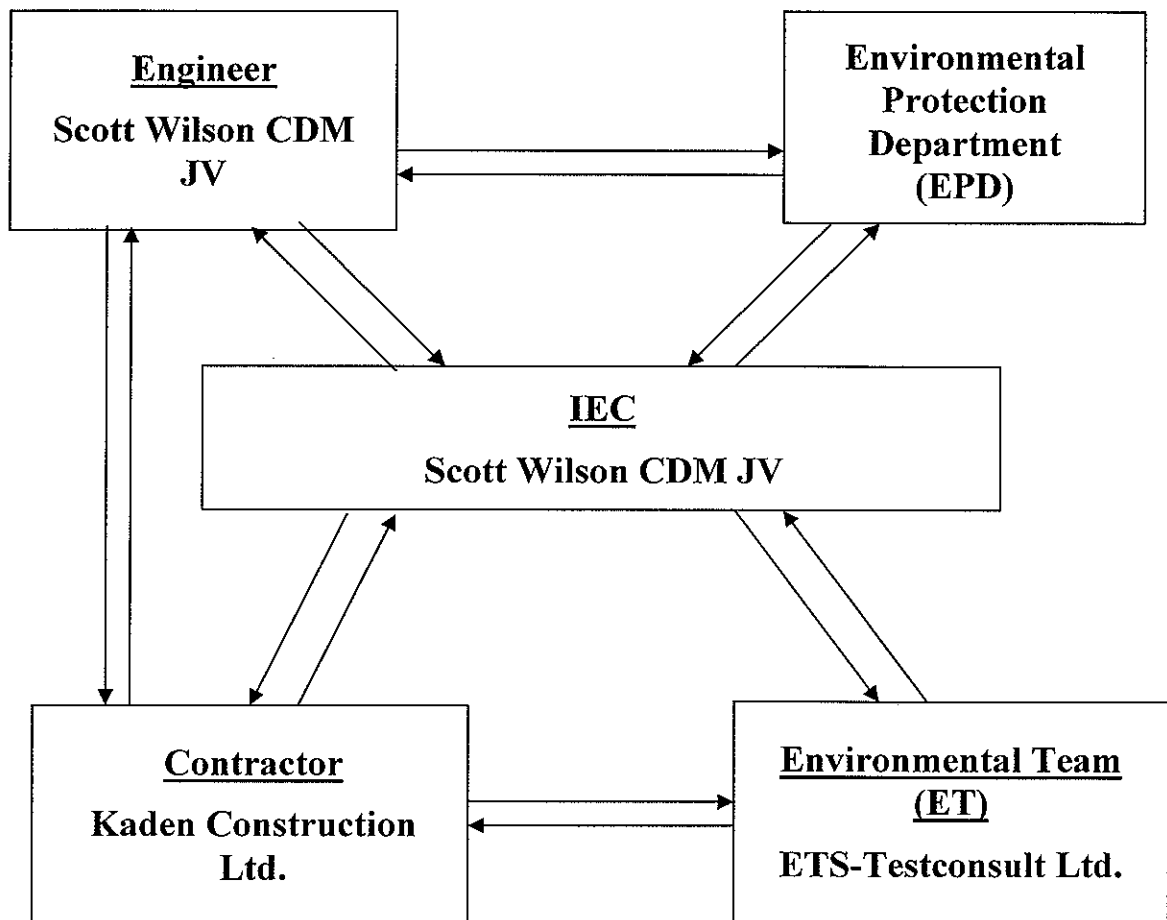
## **Appendix A**

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





# Lines of Communication





## **Appendix B1**

### **Calibration Certificates for Impact Air Quality Monitoring Equipments**



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ETS-TESTCONSULT LIMITED

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

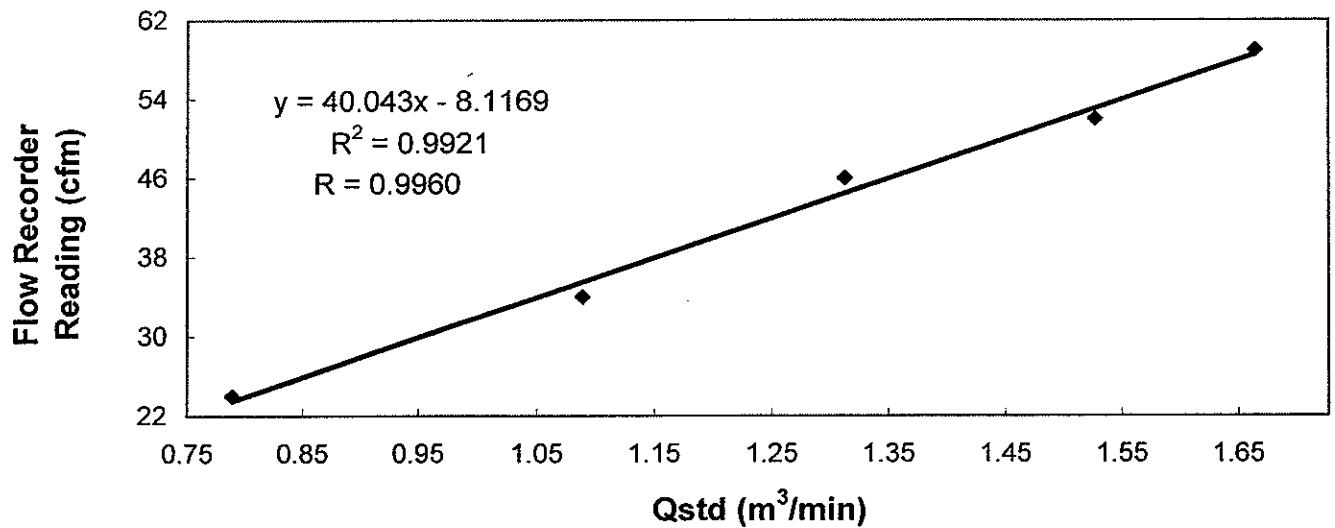
**TEST REPORT**

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

Manufacturer : Graseby GMW Date of Calibration : 14 October 2008  
Serial No. : 1173 ( ET / EA / 003 / 17 ) Calibration Due Date : 13 December 2008  
Method : Based on Operation Manual to perform 5-point calibration by using calibration kit  
Tisch TE-5025 A


Results	Flow recorder reading (cfm)	59	52	46	34	24
	Qstd (Actual flow rate, m <sup>3</sup> /min)	1.66	1.53	1.31	1.09	0.79
	Pressure : 755 mm Hg	Temp. : 303 K				

**Sampler 1173 Calibration Curve**  
Site: Sok Kwu Wan (AM-1)



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

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

Calibrated by :   
LEUNG, Ka Chun  
(Assistant Environmental Officer)

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



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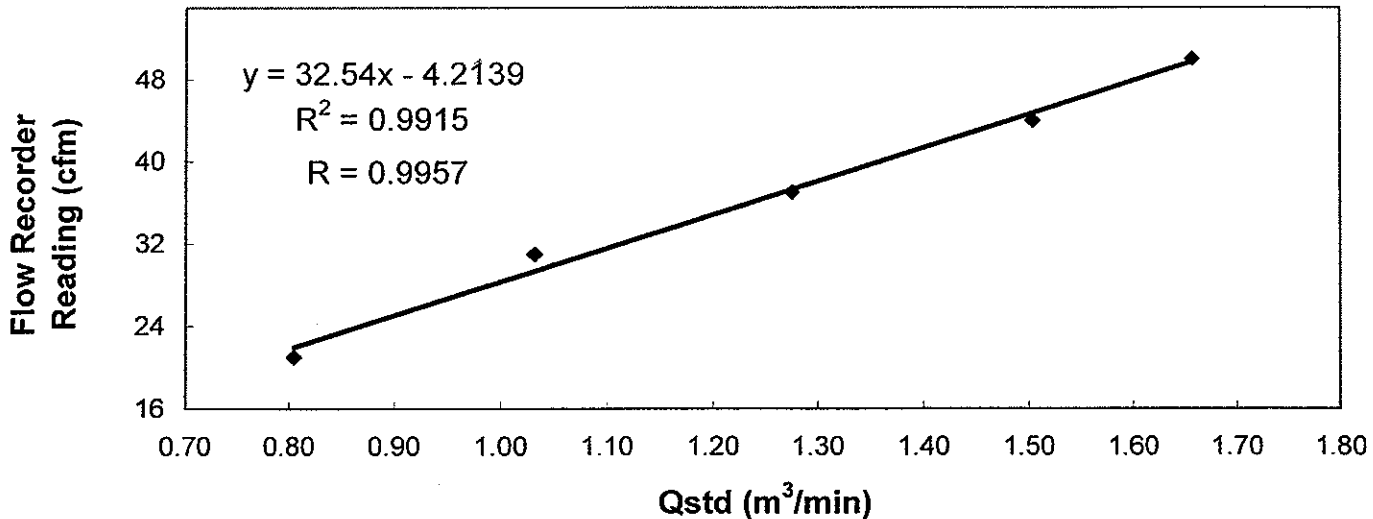
**TEST REPORT**

**Calibration Report  
of  
High Volume Air Sampler**

Manufacturer : Graseby GMW Date of Calibration : 14 October 2008  
Serial No. : 9865 (ET/EA/003/14) Calibration Due Date : 13 December 2008  
Method : Based on Operations Manual for in series calibration method by TISCH  
ENVIROMENTAL Model Te-5025A calibration kit


Results	Flow recorder reading (cfm)	50	44	37	31	21
	Qstd (Actual flow rate, m <sup>3</sup> /min)	1.66	1.50	1.27	1.03	0.80
	Pressure : 755 mm Hg	Temp. : 303 K				

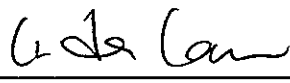
**Sampler 9865 Calibration Curve  
Site: Sok Kwu Wan (AM-2)**



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 :   
LEUNG, Ka Chun  
(Assistant Environmental Officer)

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



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**TEST REPORT**

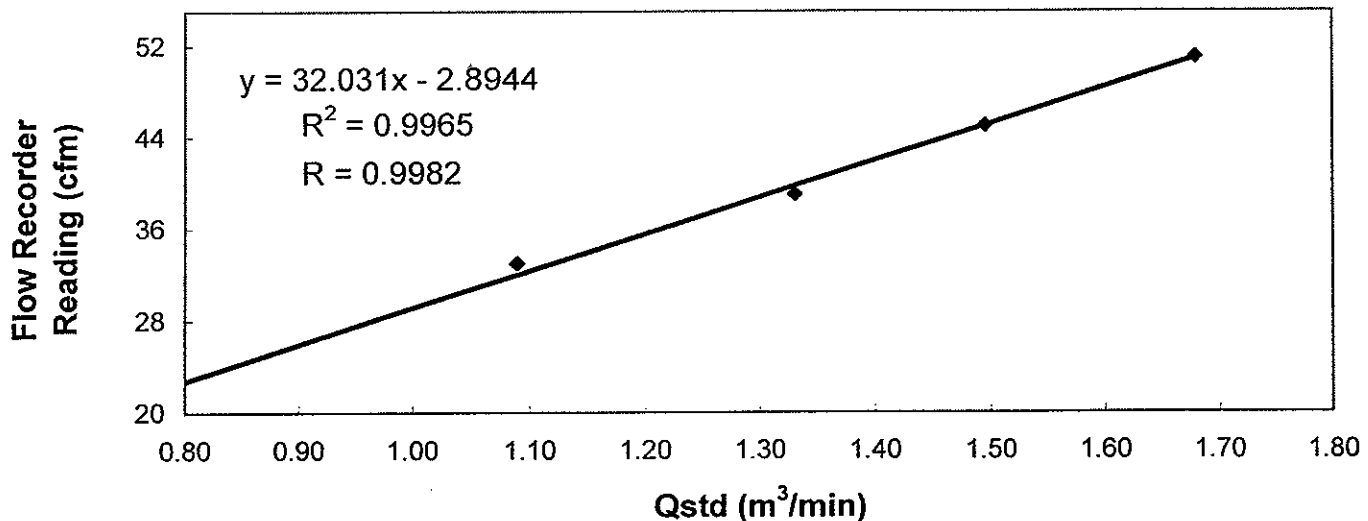
**Calibration Report**  
of  
**High Volume Air Sampler**

**Manufacturer** : Graseby GMW Date of Calibration : 14 October 2008  
**Serial No.** : 9912 (ET / EA / 003 / 15) Calibration Due Date : 13 December 2008  
**Method** : Based on Operations Manual for in series calibration method by TISCH  
ENVIROMENTAL Model Te-5025A calibration kit

**Results** :


Flow recorder reading (cfm)	51	45	39	33	22
Qstd (Actual flow rate, m <sup>3</sup> /min)	1.68	1.50	1.33	1.09	0.79
Pressure :	755 mm Hg		Temp. :	303 K	

**Sampler 9912 Calibration Curve**  
Site: Sok Kwu Wan (AM-3)



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 :   
LEUNG, Ka Chun  
(Assistant Environmental Officer)

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





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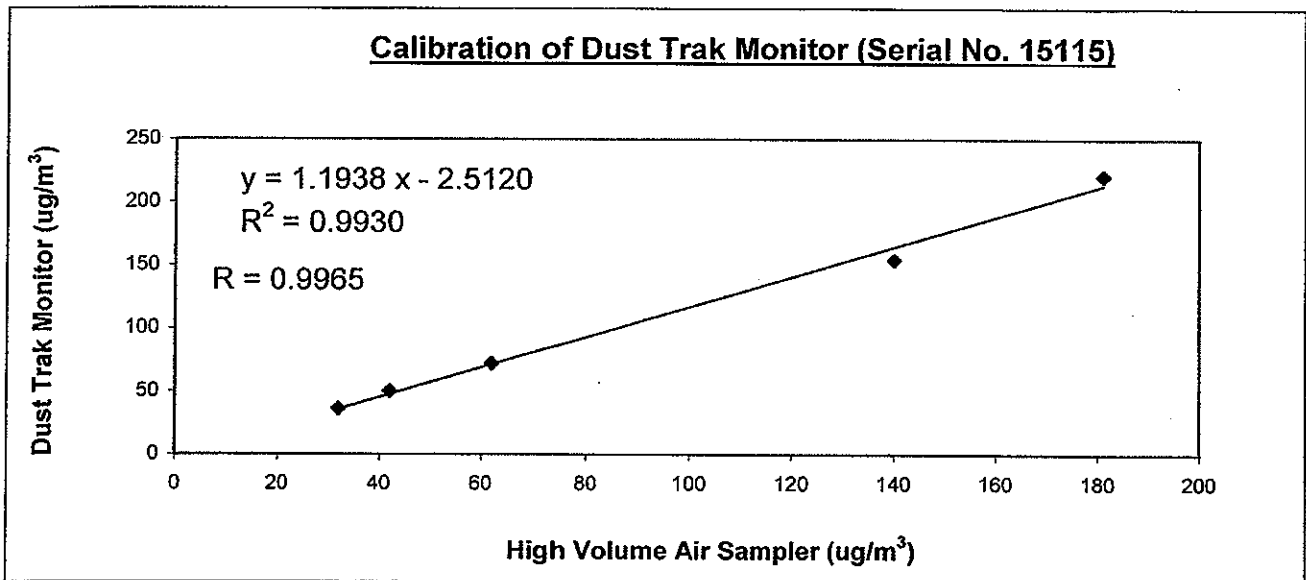
**TEST REPORT**

**Internal Calibration Report**  
of  
**Dust Trak Monitor**

**Manufacturer** : TSI - 8520 Dust Trak      **Date of Calibration** : 14 July 2008  
**Serial No.** : 15115 (ET/EA/001/02)      **Calibration Due Date** : 13 January 2009  
**Method** : Parallel measurement (five-point calibration) by placing the Dust Trak Monitor and High Volume Air Sampler together under the same environmental condition

**Results** :

Dust Trak Monitor (ug/m <sup>3</sup> )	36	50	72	154	221
High Volume Air Sampler (ug/m <sup>3</sup> )	32	42	62	140	181
Serial No of High Volume Air Sampler : 1178			Calibration Date: 01 September 2008		




Acceptance Criteria :

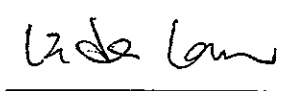
Correlation coefficient (r) of the calibration curve greater than 0.990 after a five point calibration

**The Dust Trak Monitor complies \* / does not comply \* with the internal calibration procedures and is deemed acceptable \* / unacceptable \* for use.**

Calibrated by :

  
LEUNG, Ka Ming  
(Assistant Environmental Officer)

Approved by :

  
LAW, Sau Yee  
(Senior Environmental Officer)



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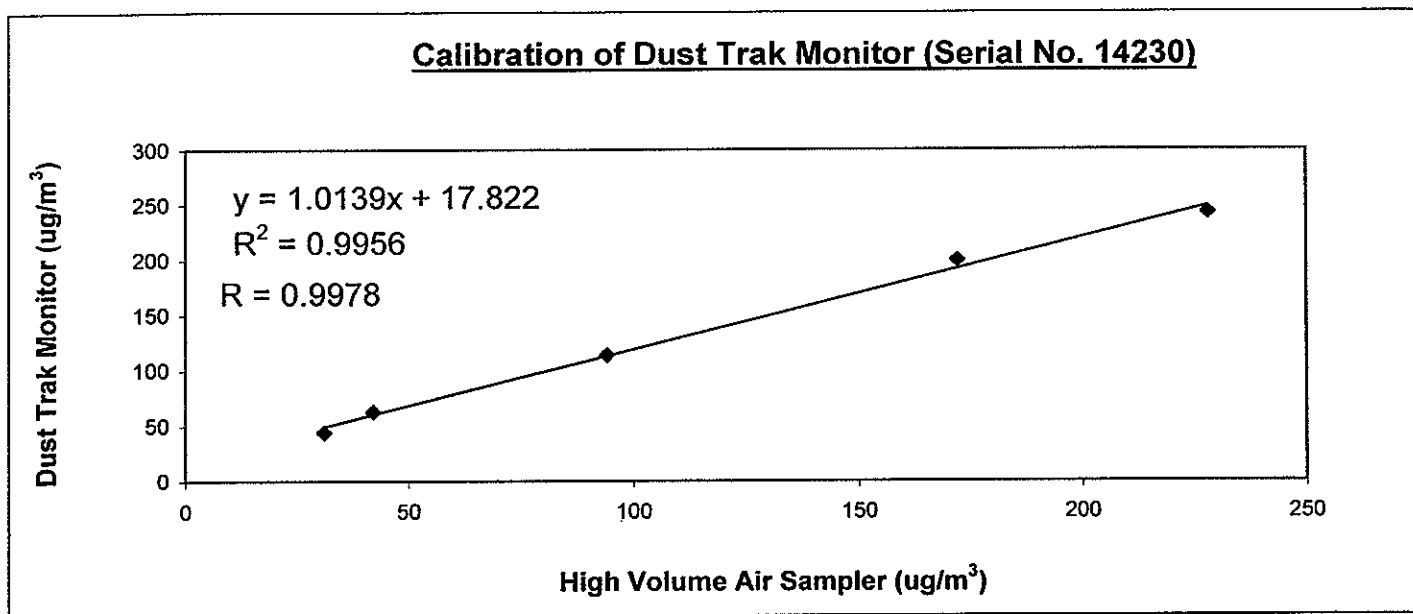
**TEST REPORT**

**Internal Calibration Report**  
of  
**Dust Trak Monitor**

**Manufacturer** : TSI - 8520 Dust Trak **Date of Calibration** : 12 July 2008  
**Serial No.** : 14230 ( ET/EA/001/04 ) **Due Date** : 11 January 2009  
**Method** : Parallel measurement (five-point calibration) by placing the Dust Trak Monitor and High Volume Air Samper together under the same environmental condition


**Results** :

Dust Trak Monitor ( $\mu\text{g}/\text{m}^3$ )	44	63	114	200	243
High Volume Air Sampler ( $\mu\text{g}/\text{m}^3$ )	31	42	94	172	228
High Volume Air Sampler Serial No.: 1178		Calibration Due Date: 01 September 2008			



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

The Dust Trak Monitor complies \* / does not comply \* with the internal calibration procedures and is deemed acceptable \* / unacceptable \* for use.

Calibrated by :   
LEUNG, Ka Chun  
(Assistant Environmental Officer)

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



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AIR POLLUTION MONITORING EQUIPMENT

ORIFICE TRANSFER STANDARD CERTIFICATION WORKSHEET TE-5025A

Date - May 14, 2008 Rootsometer S/N 9833620 Ta (K) - 295  
 Operator Tisch Orifice I.D. - 1172 Pa (mm) - 750.57

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	1.3800	3.1	2.00
2	NA	NA	1.00	0.9650	6.3	4.00
3	NA	NA	1.00	0.8630	7.9	5.00
4	NA	NA	1.00	0.8230	8.6	5.50
5	NA	NA	1.00	0.6770	12.7	8.00

DATA TABULATION

Vstd	(x axis) Qstd	(y axis)	Va	(x axis) Qa	(y axis)
0.9935	0.7199	1.4125	0.9958	0.7216	0.8866
0.9893	1.0252	1.9976	0.9916	1.0276	1.2538
0.9870	1.1437	2.2334	0.9894	1.1464	1.4018
0.9862	1.1983	2.3424	0.9885	1.2011	1.4703
0.9807	1.4486	2.8251	0.9830	1.4521	1.7732
Qstd slope (m) = 1.94106			Qa slope (m) = 1.21546		
intercept (b) = 0.01311			intercept (b) = 0.00823		
coefficient (r) = 0.99996			coefficient (r) = 0.99996		

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

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

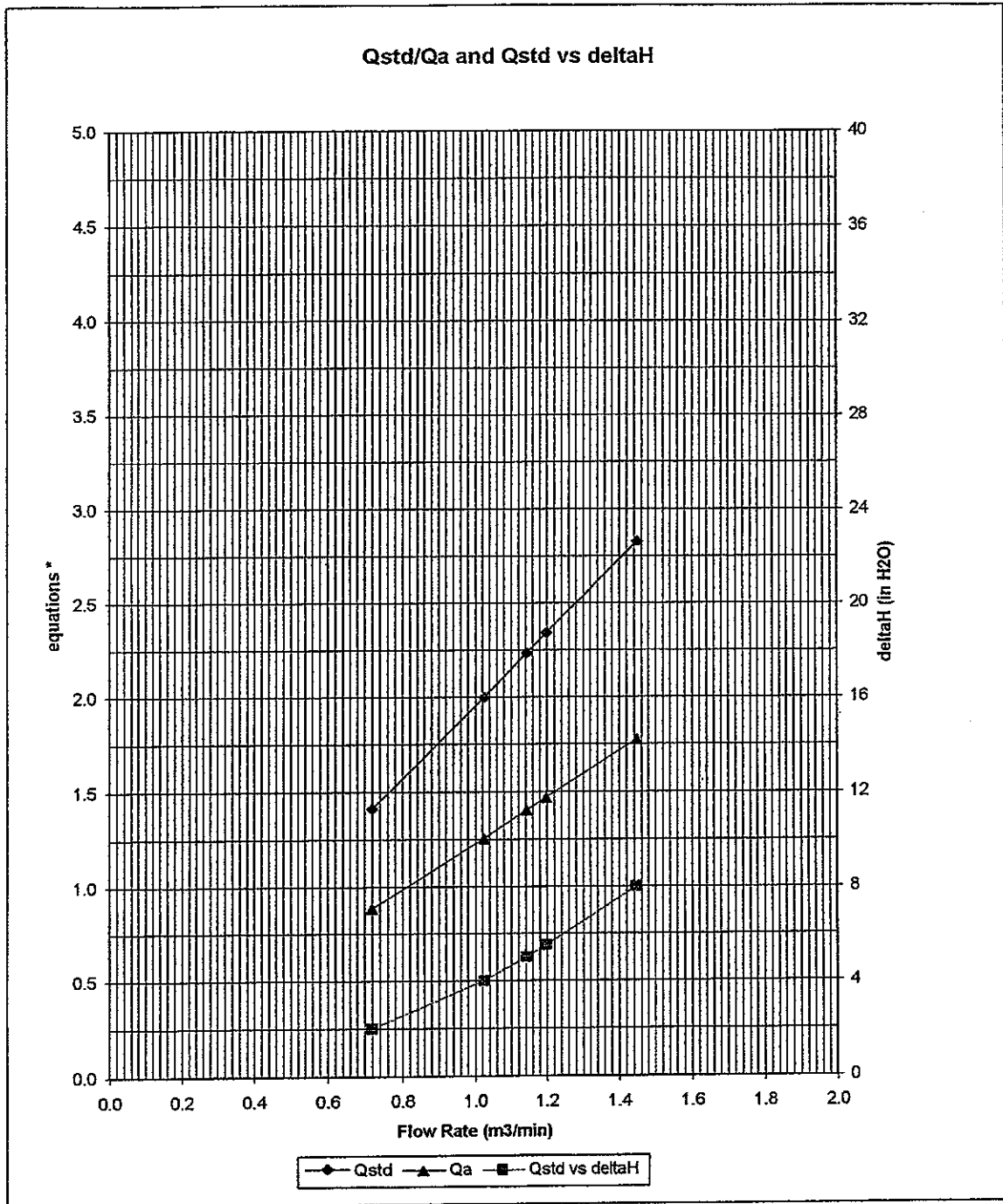
For subsequent flow rate calculations:

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

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

# 1172



## **Appendix B2**

### **Impact Air Quality Monitoring Results**

## Summary of 24-hr TSP Monitoring Results

Monitoring Station : AM1

Start Date	Start Time	Finish		Elapse Time		Sampling Time (hrs)	Flow Rate (m <sup>3</sup> /min.)		Average (m <sup>3</sup> /min.)	Filter Weight (g)		Conc. (µg/m <sup>3</sup> )	Weather Condition
		Date	Time	Initial	Final		Initial	Final		Initial	Final		
05/11/08	11:20	06/11/08	11:20	13343.25	13367.25	24.00	1.0268	1.0268	1.0268	2.7759	2.8405	44	Cloudy
11/11/08	13:20	12/11/08	13:20	13367.25	13391.25	24.00	1.0768	1.0768	1.0768	2.7512	2.8495	63	Fine
17/11/08	11:05	18/11/08	11:05	13391.25	13415.25	24.00	1.0518	1.0518	1.0518	2.7418	2.9875	162	Fine
21/11/08	14:56	22/11/08	14:56	13415.25	13439.25	24.00	1.0518	1.0518	1.0518	2.7499	2.9719	147	Sunny
27/11/08	13:00	28/11/08	13:01	13439.25	13463.26	24.01	1.1767	1.1767	1.1767	2.7353	3.0122	163	Sunny

Monitoring Station : AM2

Start Date	Start Time	Finish		Elapse Time		Sampling Time (hrs)	Flow Rate (m <sup>3</sup> /min.)		Average (m <sup>3</sup> /min.)	Filter Weight (g)		Conc. (µg/m <sup>3</sup> )	Weather Condition
		Date	Time	Initial	Final		Initial	Final		Initial	Final		
05/11/08	11:11	06/11/08	11:11	17379.02	17403.02	24.00	1.1436	1.1436	1.1436	2.7926	2.8584	40	Cloudy
11/11/08	13:20	12/11/08	13:20	17403.02	17427.02	24.00	1.2666	1.2666	1.2666	2.7461	2.8601	63	Fine
17/11/08	11:12	18/11/08	11:12	17427.03	17451.03	24.00	1.0514	1.0514	1.0514	2.7689	2.9608	127	Fine
21/11/08	15:00	22/11/08	15:00	17451.03	17475.03	24.00	1.1364	1.1364	1.1364	2.7461	2.8808	82	Sunny
27/11/08	13:00	28/11/08	13:00	17475.03	17499.03	24.00	1.1129	1.1129	1.1129	2.7635	2.9364	108	Sunny

Monitoring Station : AM3

Start Date	Start Time	Finish		Elapse Time		Sampling Time (hrs)	Flow Rate (m <sup>3</sup> /min.)		Average (m <sup>3</sup> /min.)	Filter Weight (g)		Conc. (µg/m <sup>3</sup> )	Weather Condition
		Date	Time	Initial	Final		Initial	Final		Initial	Final		
05/11/08	10:17	06/11/08	10:17	1439.51	1463.51	24.00	1.0894	1.0894	1.0894	2.7508	2.8465	61	Cloudy
11/11/08	16:05	12/11/08	16:05	1463.51	1487.51	24.00	1.0894	1.0894	1.0894	2.7807	3.0561	176	Fine
17/11/08	09:16	18/11/08	09:16	1487.51	1511.51	24.00	1.0894	1.0894	1.0894	2.7786	2.9645	119	Fine
21/11/08	14:35	22/11/08	14:35	1511.51	1535.51	24.00	1.1452	1.1452	1.1452	2.7458	2.9028	95	Sunny
27/11/08	16:00	28/11/08	16:01	1535.51	1559.52	24.01	1.3079	1.3079	1.3079	2.7745	2.9604	99	Sunny

## Summary of 1-hr TSP Monitoring Results

Monitoring Station : AM1

Date	Monitoring Period		1-hr TSP ( $\mu\text{g}/\text{m}^3$ )			Weather
	Start	Finish	Minimum	Maximum	Average	
05/11/08	13:15	14:15	68	532	191	Cloudy
05/11/08	14:15	15:15	52	406	157	Cloudy
05/11/08	15:15	16:15	57	464	168	Cloudy
11/11/08	09:15	10:15	70	462	170	Fine
11/11/08	10:15	11:15	63	443	180	Fine
11/11/08	11:15	12:15	68	372	187	Fine
17/11/08	13:15	14:15	62	345	182	Clear
17/11/08	14:15	15:15	71	428	207	Clear
17/11/08	15:15	16:15	58	386	177	Clear
21/11/08	09:00	10:00	41	358	82	Fine
21/11/08	10:00	11:00	45	371	89	Fine
21/11/08	11:00	12:00	50	434	93	Fine
27/11/08	09:22	10:22	87	492	156	Sunny
27/11/08	10:22	11:22	90	517	170	Sunny
27/11/08	11:22	12:22	75	486	140	Sunny

Monitoring Station : AM2

Date	Monitoring Period		1-hr TSP ( $\mu\text{g}/\text{m}^3$ )			Weather
	Start	Finish	Minimum	Maximum	Average	
05/11/08	13:30	14:30	60	481	184	Cloudy
05/11/08	14:30	15:30	54	435	172	Cloudy
05/11/08	15:30	16:30	48	397	156	Cloudy
11/11/08	09:18	10:18	62	458	185	Fine
11/11/08	10:18	11:18	65	465	205	Fine
11/11/08	11:18	12:18	68	359	195	Fine
17/11/08	13:25	14:25	53	390	177	Clear
17/11/08	14:25	15:25	75	455	239	Clear
17/11/08	15:25	16:25	67	413	214	Clear
21/11/08	08:55	09:55	40	354	78	Fine
21/11/08	09:55	10:55	39	366	84	Fine
21/11/08	10:55	11:55	48	441	93	Fine
27/11/08	09:20	10:20	88	509	157	Sunny
27/11/08	10:20	11:20	76	538	169	Sunny
27/11/08	11:20	12:20	89	472	138	Sunny

## Summary of 1-hr TSP Monitoring Results

Monitoring Station : AM3

Date	Monitoring Period		1-hr TSP ( $\mu\text{g}/\text{m}^3$ )			Weather
	Start	Finish	Minimum	Maximum	Average	
05/11/08	09:20	10:20	63	496	182	Cloudy
05/11/08	10:20	11:20	77	584	207	Cloudy
05/11/08	11:20	12:20	71	567	201	Cloudy
11/11/08	13:00	14:00	106	488	203	Fine
11/11/08	14:00	15:00	95	547	192	Fine
11/11/08	15:00	16:00	98	505	209	Fine
17/11/08	09:10	10:10	64	486	200	Clear
17/11/08	10:10	11:10	83	573	226	Clear
17/11/08	11:10	12:10	76	542	221	Clear
21/11/08	13:15	14:15	61	590	111	Fine
21/11/08	14:15	15:15	67	634	128	Fine
21/11/08	15:15	16:15	58	611	117	Fine
27/11/08	13:00	14:00	102	568	155	Sunny
27/11/08	14:00	15:00	99	524	170	Sunny
27/11/08	15:00	16:00	110	499	150	Sunny



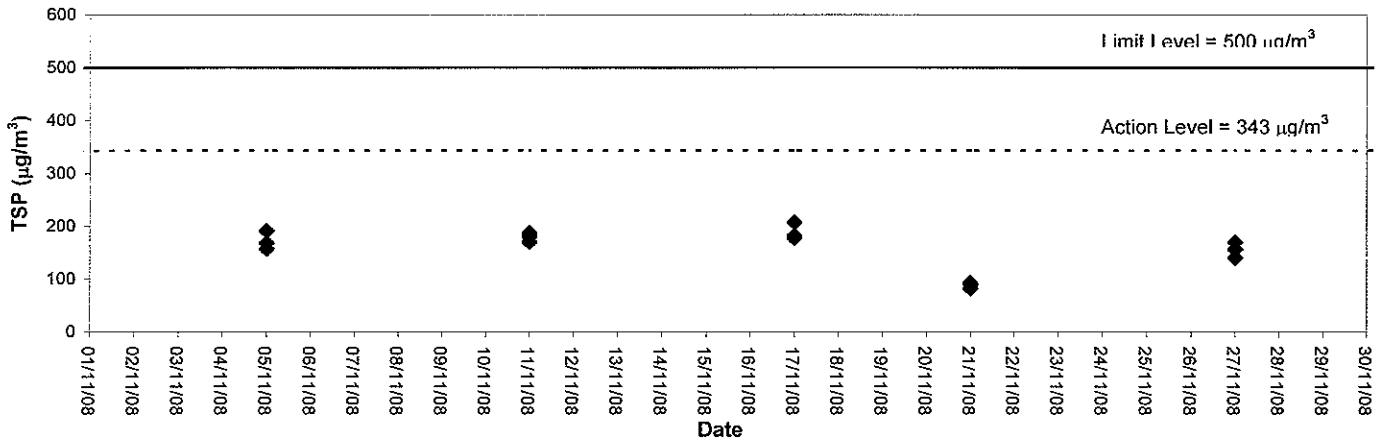


## Appendix C3

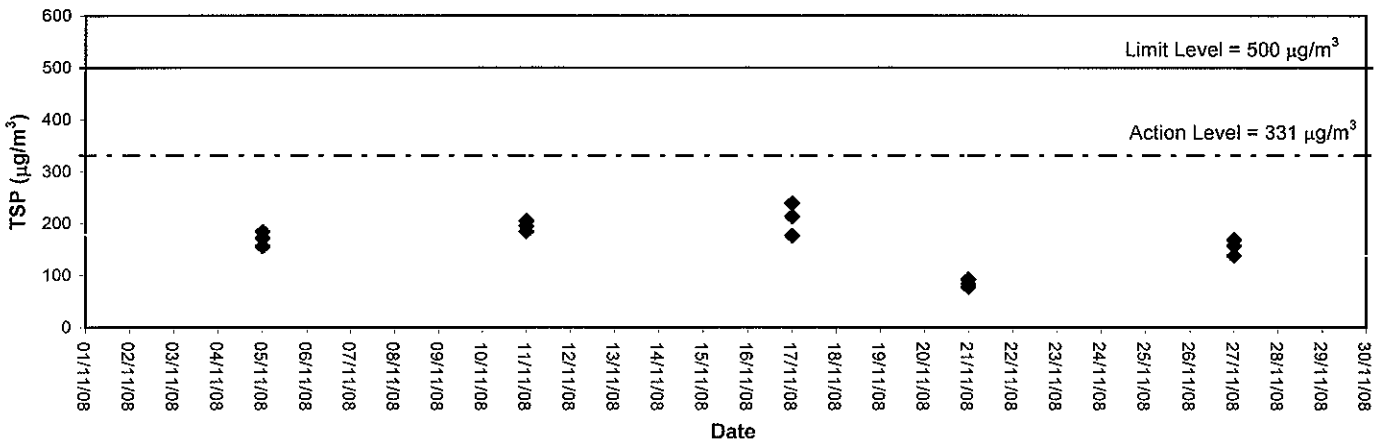
### Graphical Plots of Impact Air Quality Monitoring Data



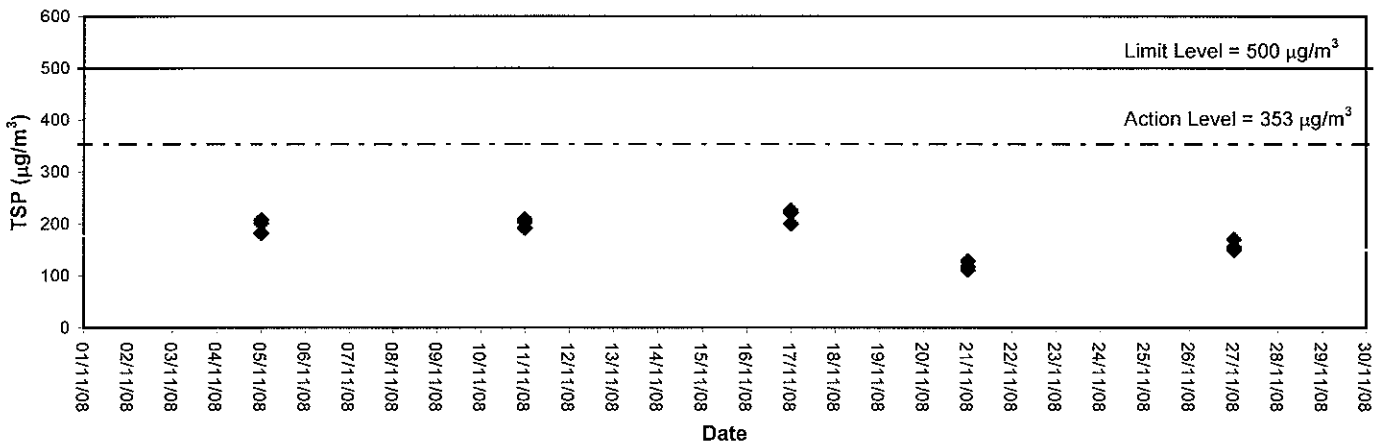
1-hour TSP level at AM1

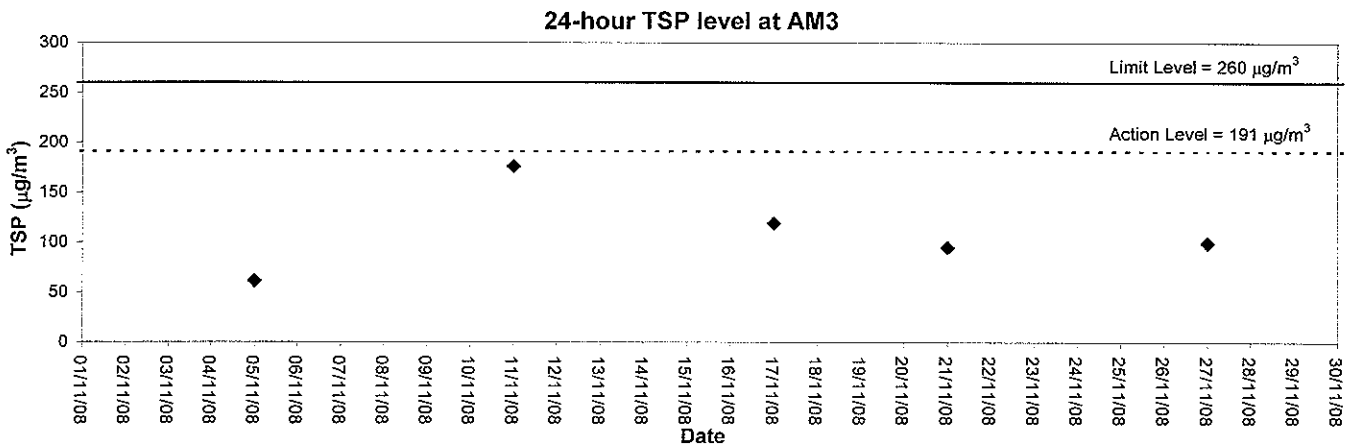
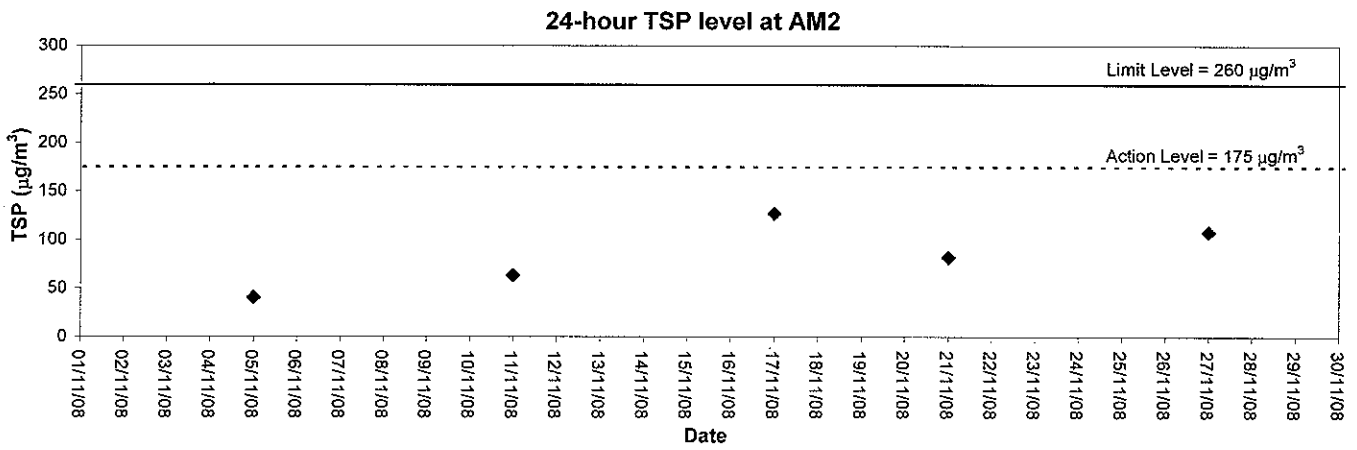
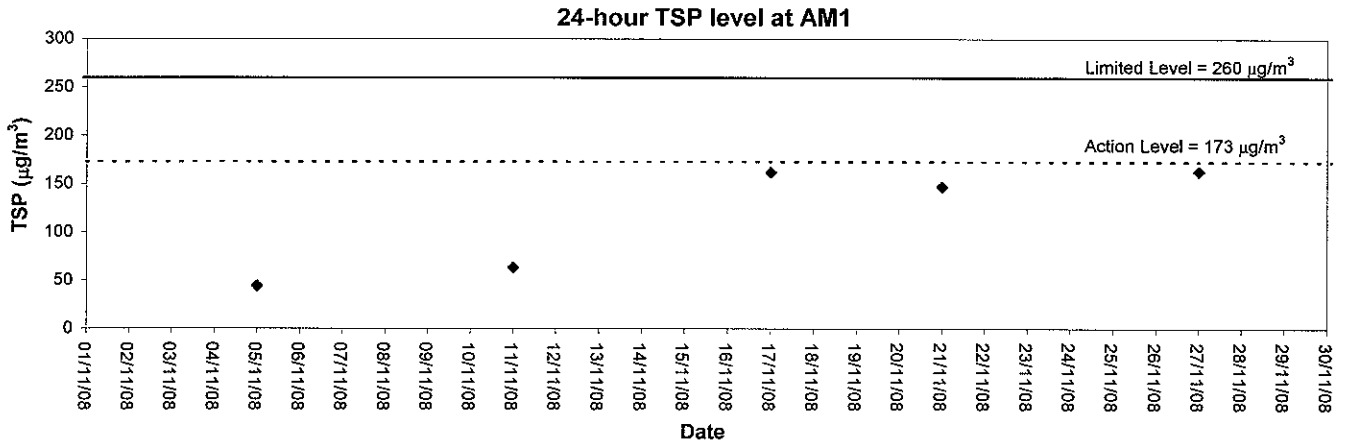


1-hour TSP level at AM2



1-hour TSP level at AM3







## **Appendix C1**

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



# Calibration Certificate

Certificate No. **81354**

Page 1 of 4 Pages

**Customer :** ETS-Testconsult Limited

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

**Order No. :** Q80566

**Date of receipt :** 1-Apr-08

## Item Tested

**Description :** Precision Integrating Sound Level Meter

**Manufacturer :** Rion

**Model :** NL-31

**Serial No. :** 00110024

## Test Conditions

**Date of Test :** 3-Apr-08

**Supply Voltage :** --

**Ambient Temperature :**  $(23 \pm 3)^{\circ}\text{C}$

**Relative Humidity :**  $(50 \pm 25) \%$

## Test Specifications

Calibration check.

Calibration procedure : Z01.

## Test Results

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

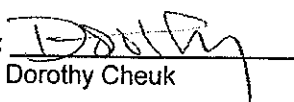
The results are shown in the attached page(s).

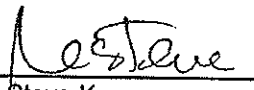
Main Test equipment used:

<u>Equipment No.</u>	<u>Description</u>	<u>Cert. No.</u>	<u>Due Date</u>	<u>Traceable to</u>
S017	Multi-Function Generator	C081456	18-Mar-09	SCL-HKSAR
S024	Sound Level Calibrator	71791	16-Jul-08	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 :   
Dorothy Cheuk

Approved by :   
Steve Kwan

Date: 3-Apr-08

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



# Calibration Certificate

Certificate No. 81354

Page 2 of 4 Pages

Results :

## 1. SPL Accuracy

UUT Setting			Applied Value (dB)	UUT Reading (dB)
Level Range (dB)	Weight	Response		
20 - 100	L <sub>A</sub>	Fast	94.03	94.0
		Slow		94.0
	L <sub>C</sub>	Fast		94.0
		L <sub>p</sub>		Fast
30 - 120	L <sub>A</sub>	Fast	94.03	94.0
		Slow		93.9
	L <sub>C</sub>	Fast		94.0
	L <sub>p</sub>	Fast		94.0
30 - 120	L <sub>A</sub>	Fast	113.97	114.0
		Slow		113.9
	L <sub>C</sub>	Fast		113.9
	L <sub>p</sub>	Fast		113.9

IEC 651 Type 1 Spec. :  $\pm 0.7$  dB  
Uncertainty :  $\pm 0.1$  dB

2. Level Stability : 0.0 dB  
IEC 651 Type 1 Spec. :  $\pm 0.3$  dB  
Uncertainty :  $\pm 0.01$  dB



# Calibration Certificate

Certificate No. 81354

Page 3 of 4 Pages

## 3. Linearity

### 3.1 Level Linearity

UUT Range	Applied Value (dB)	UUT Reading (dB)	Variation (dB)	IEC 651 Type 1 Spec. (Primary Indicator Range)
130	114.0	114.1	+ 0.1	± 0.7 dB
130	104.0	104.0	0.0	
120	94.0	94.0 (Ref.)	--	
110	84.0	84.1	+ 0.1	
100	74.0	74.0	0.0	
90	64.0	64.1	+ 0.1	
80	54.0	54.2	+ 0.2	

Uncertainty : ± 0.1 dB

### 3.2 Differential level linearity

UUT Range	Applied Value (dB)	UUT Reading (dB)	Variation (dB)	IEC 651 Type 1 Spec.
120	84.0	84.0	0.0	± 0.4 dB
	94.0	94.0 (Ref.)	--	
	95.0	95.1	+ 0.1	± 0.2 dB
	104.0	104.0	0.0	± 0.3 dB
	105.0	105.0	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	- 39.7	- 39.4 dB, ± 1.5 dB
63 Hz	- 26.3	- 26.2 dB, ± 1.5 dB
125 Hz	- 16.2	- 16.1 dB, ± 1 dB
250 Hz	- 8.7	- 8.6 dB, ± 1 dB
500 Hz	- 3.3	- 3.2 dB, ± 1 dB
1 kHz	0.0 (Ref.)	0 dB, ± 1 dB
2 kHz	+ 1.4	+ 1.2 dB, ± 1 dB
4 kHz	+ 1.2	+ 1.0 dB, ± 1 dB
8 kHz	- 1.0	- 1.1 dB, + 1.5 dB ~ - 3 dB
16 kHz	- 6.6	- 6.6 dB, + 3 dB ~ ∞

Uncertainty : ± 0.1 dB



# Calibration Certificate

Certificate No. 81354

Page 4 of 4 Pages

## 4. 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	40.0	± 0.5 dB
1/10 <sup>2</sup>	40.0	40.0	
1/10 <sup>3</sup>	40.0	40.0	± 1.0 dB
1/10 <sup>4</sup>	40.0	40.0	

Uncertainty : ± 0.1 dB

- Remark :
1. UUT : Unit-Under-Test
  2. The uncertainty claimed is for a confidence probability of not less than 95%.
  3. Atmospheric Pressure : 1 008 hPa.

----- END -----





# Calibration Certificate

Certificate No. **81355**

Page 1 of 2 Pages

**Customer :** ETS-Testconsult Limited

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

**Order No. :** Q80566

**Date of receipt :** 1-Apr-08

## Item Tested

**Description :** Sound Level Calibrator

**Manufacturer :** Rion

**Model :** NC-73

**Serial No. :** 10196943

## Test Conditions

**Date of Test :** 3-Apr-08

**Supply Voltage :** --

**Ambient Temperature :** (23 ± 3)°C

**Relative Humidity :** (50 ± 25) %

## Test Specifications

Calibration check.

Calibration procedure : F21, Z02.

## Test Results

All results were within the manufacturer's specification.

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

Main Test equipment used:

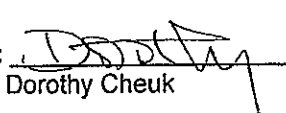
<u>Equipment No.</u>	<u>Description</u>	<u>Cert. No.</u>	<u>Due Date</u>	<u>Traceable to</u>
S014	Spectrum Analyzer	73602	7-Jul-08	NIM-PRC & SCL-HKSAR
S024	Sound Level Calibrator	71791	16-Jul-08	NIM-PRC & SCL-HKSAR
S041	Universal Counter	73453	22-Aug-08	SCL-HKSAR

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.

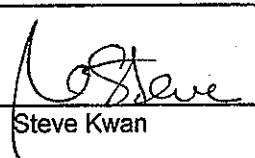
The test equipment used for calibration are traceable to International System of Units (SI).

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

**Calibrated by :**

  
Dorothy Cheuk

**Approved by :**

  
Steve Kwan

**Date:** 3-Apr-08

This Certificate is issued by:

Hong Kong Calibration Ltd.

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

Tel: 2425 8801 Fax: 2425 8646

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# Calibration Certificate

Certificate No. 81355

Page 2 of 2 Pages

Results :

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

UUT Nominal Value	Measured Value	Mfr's Spec.
94 dB	94.0 dB	$\pm 1$ dB

Uncertainty :  $\pm 0.1$  dB

**2. Frequency Accuracy**

UUT Nominal Value	Measured Value	Mfr's Spec.
1 kHz	0.990 8 kHz	$\pm 2$ %

Uncertainty :  $\pm 0.1$  %

**3. Level Stability : 0.0 dB**

Uncertainty :  $\pm 0.01$  dB

**4. Total Harmonic Distortion :  $< 0.1$  %**

Mfr's Spec. :  $< 3$  %

Uncertainty :  $\pm 2.3$  % of reading

Remark : 1. UUT : Unit-Under-Test

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

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

4. Atmospheric Pressure : 1 005 hPa

----- END -----



## **Appendix C2**

### **Impact Noise Monitoring Results**



## Day-time Noise Monitoring

### Monitoring Station: NM1

Date	Weather Condition	Start Time (hh:mm)	End Time (hh:mm)	Noise Level at the monitoring point, dB (A)			Wind Speed (m/s)
				Leq (30min)	L10	L90	
05/11/08	Cloudy	13:45	14:15	53.0	55.4	47.9	0.6
11/11/08	Fine	14:25	14:55	60.1	62.1	55.0	1.8
17/11/08	Clear	13:30	14:00	56.0	58.9	50.8	1.7
27/11/08	Sunny	11:32	12:02	60.8	32.1	48.9	2.0

### Monitoring Station: NM2

Date	Weather Condition	Start Time (hh:mm)	End Time (hh:mm)	Noise Level at the monitoring point, dB (A)			Wind Speed (m/s)
				Leq (30min)	L10	L90	
05/11/08	Cloudy	14:40	15:10	65.9	70.2	63.5	1.2
11/11/08	Fine	11:05	11:35	64.5	66.1	53.7	1.5
17/11/08	Clear	14:15	14:45	68.2	71.3	63.9	0.6
27/11/08	Sunny	09:35	10:05	62.9	63.2	52.4	2.0

### Monitoring Station: RNM3

Date	Weather Condition	Start Time (hh:mm)	End Time (hh:mm)	Noise Level at the monitoring point, dB (A)			Wind Speed (m/s)
				Leq (30min)	L10	L90	
05/11/08	Cloudy	15:30	16:00	56.2	59.35	52.1	0.8
11/11/08	Fine	10:20	10:50	61.1	62.7	54.4	2.0
17/11/08	Clear	15:05	15:35	62.2	65.3	59.4	0.9
27/11/08	Sunny	10:15	10:45	74.9	75.9	58.7	2.6

Remark: 3dB(A) correction had been added to the results since noise measurements at RNM3 were free-field.

### Monitoring Station: NM4

Date	Weather Condition	Start Time (hh:mm)	End Time (hh:mm)	Noise Level at the monitoring point, dB (A)			Wind Speed (m/s)
				Leq (30min)	L10	L90	
05/11/08	Cloudy	09:32	10:02	64.3	65.8	60.4	1.5
11/11/08	Fine	09:45	10:15	58.6	60.6	51.9	1.5
17/11/08	Clear	15:45	16:15	64.0	66.8	63.7	1.8
27/11/08	Sunny	10:55	11:25	53.2	53.6	49.0	4.0

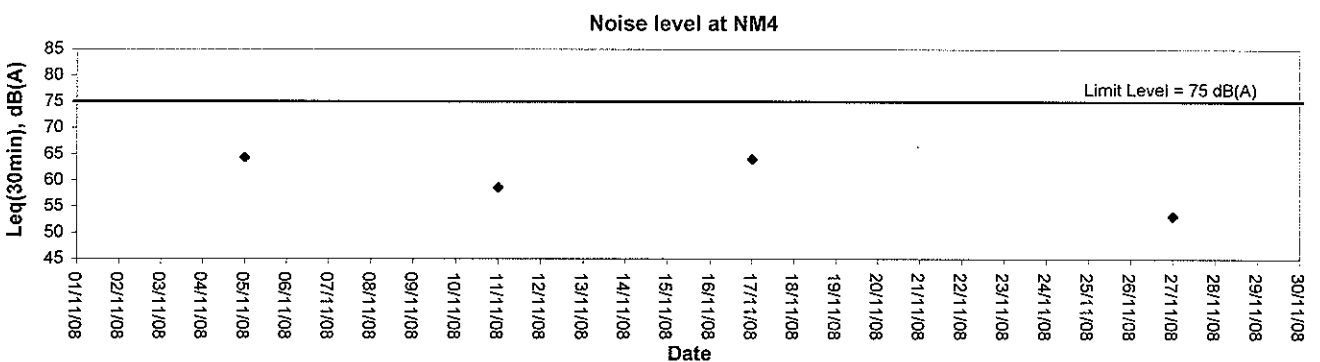
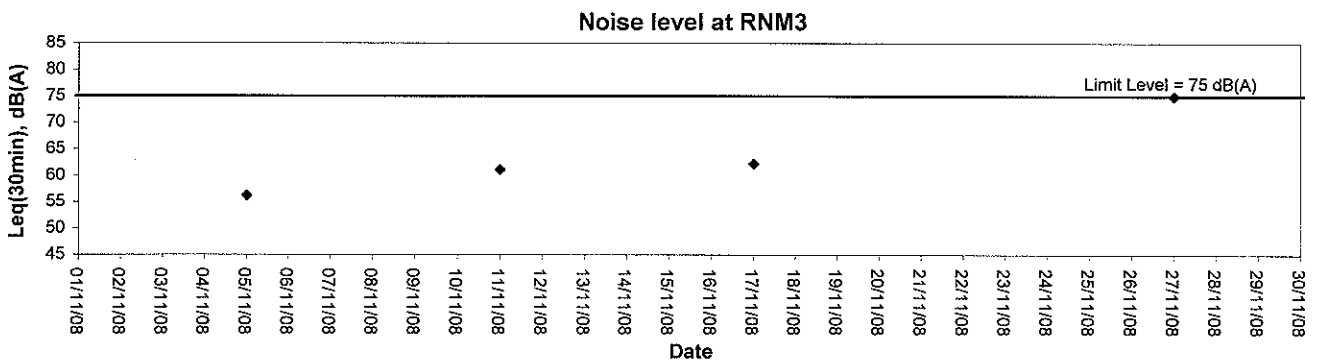
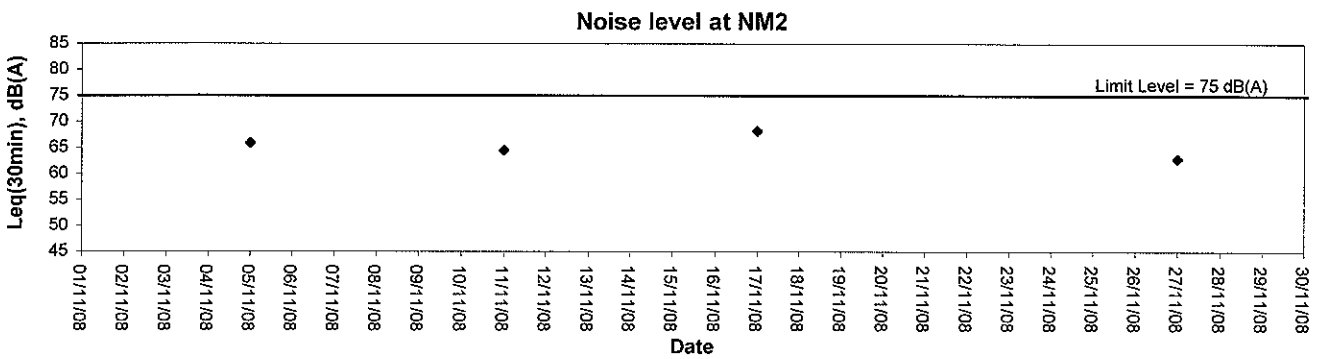
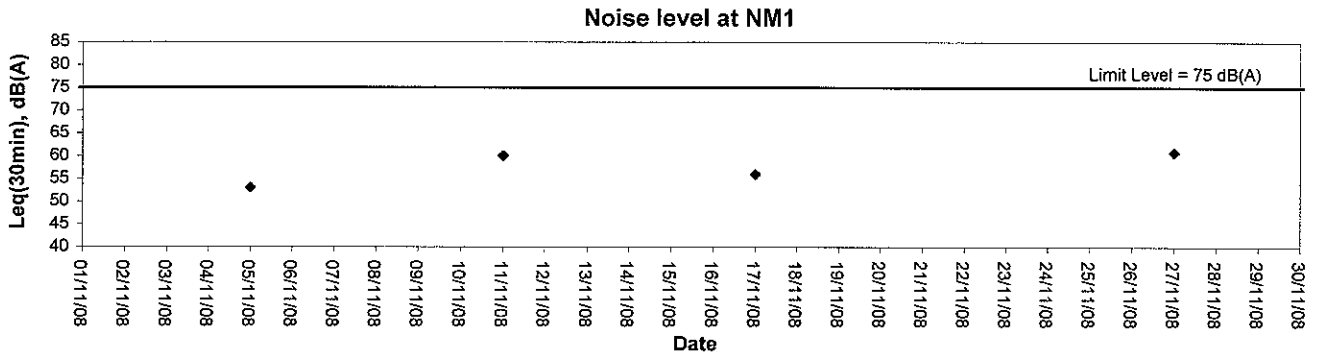


## **Appendix C3**

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



### Noise Monitoring (Day-time)





## **Appendix D**

### **Event-Action Plans**



**Event / Action Plan for Air Quality**

EVENT	ACTION			CONTRACTOR
	ET	IC(E)	ER	
<b>Action Level</b>				
Action Level being exceeded for one sample	<ol style="list-style-type: none"> <li>Identify source, investigate the causes of Exceedance and propose remedial measures;</li> <li>Inform IC(E) and ER;</li> <li>Repeat measurement to confirm finding;</li> <li>Increase monitoring frequency to daily</li> </ol>	<ol style="list-style-type: none"> <li>Check monitoring data submitted by ET;</li> <li>Check Contractor's working method.</li> </ol>	<ol style="list-style-type: none"> <li>Notify Contractor.</li> </ol>	<ol style="list-style-type: none"> <li>Rectify any unacceptable practice;</li> <li>Amend working methods if appropriate.</li> </ol>
Action Level being exceeded for two or more consecutive samples	<ol style="list-style-type: none"> <li>Same as the above;</li> <li>Advise the ER on the effectiveness of the proposed remedial measures;</li> <li>Discuss with IC(E) and Contractor on remedial actions required;</li> <li>If exceedance continues, arrange meeting with IC(E) and ER;</li> <li>If exceedance stops, cease additional monitoring.</li> </ol>	<ol style="list-style-type: none"> <li>Same as the above;</li> <li>Discuss with ET and Contractor on possible remedial measures;</li> <li>Advise the ET on the effectiveness of the proposed remedial measures;</li> <li>Supervise implementation of remedial measures.</li> </ol>	<ol style="list-style-type: none"> <li>Same as the above;</li> <li>Confirm receipt of notification of failure in writing;</li> <li>Ensure remedial measures properly implemented.</li> </ol>	<ol style="list-style-type: none"> <li>Submit proposals for remedial actions to ER within 3 working days of notification;</li> <li>Implement the agreed proposals;</li> <li>Amend proposal if appropriate.</li> </ol>
<b>Limit Level</b>				
Limit Level being exceeded for one sample	<ol style="list-style-type: none"> <li>Identify source;</li> <li>Inform ER, Contractor and EPD;</li> <li>Repeat measurement to confirm finding;</li> <li>Increase monitoring frequency to daily;</li> <li>Assess effectiveness of Contractor's remedial actions and keep IC(E), EPD and ER informed of the results.</li> </ol>	<ol style="list-style-type: none"> <li>Checking monitoring data submitted by ET;</li> <li>Check Contractor's working method;</li> <li>Discuss with ET and Contractor on the possible remedial measures;</li> <li>Advise the ER on the effectiveness of the proposed remedial measures;</li> <li>Supervise the implementation of remedial measures.</li> </ol>	<ol style="list-style-type: none"> <li>Confirm receipt of notification of failure in writing;</li> <li>Notify Contractor;</li> <li>Ensure remedial actions properly implemented.</li> </ol>	<ol style="list-style-type: none"> <li>Take immediate action to avoid further exceedance;</li> <li>Submit proposals for remedial actions to IC(E) within 3 working days of notification;</li> <li>Implement the agreed proposals;</li> <li>Amend proposal if appropriate.</li> </ol>
Limit Level being exceeded for two or more consecutive samples	<ol style="list-style-type: none"> <li>Same as the above;</li> <li>Carry our analysis of Contractor's working procedures to determine possible mitigation to be implemented;</li> <li>Arrange meeting with IC(E) and ER to discuss the remedial actions to be taken;</li> <li>If exceedance stops, cease additional monitoring.</li> </ol>	<ol style="list-style-type: none"> <li>Discuss with ER, ET and Contractor on the potential remedial actions;</li> <li>Review Contractor's remedial actions whenever necessary to assume their effectiveness and advise the ER accordingly;</li> <li>Supervise the implementation of remedial measures.</li> </ol>	<ol style="list-style-type: none"> <li>Same as the above;</li> <li>In consolidation with the IC(E), agree with the Contractor on the remedial measures to be implemented;</li> <li>If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated.</li> </ol>	<ol style="list-style-type: none"> <li>Same as the above;</li> <li>Resubmit proposals if problem still not under control;</li> <li>Stop the relevant portion of works as determined by the ER until the exceedance is abated.</li> </ol>





### Event / Action Plan for Construction Noise

EVENT	ACTION				CONTRACTOR
	ET	IC(E)	ER	ER	
<b>Action level</b>	<ol style="list-style-type: none"> <li>1. Notify IC(E) and Contractor;</li> <li>2. Carry out investigation;</li> <li>3. Report the results of investigation to the IC(E), ER and Contractor;</li> <li>4. Discuss with the Contractor and formulate remedial measures ;</li> <li>5. Increase monitoring frequency to check mitigation effectiveness.</li> </ol>	<ol style="list-style-type: none"> <li>1. Review and investigation results submitted by the ET;</li> <li>2. Review the proposed remedial measures by the Contractor and advise the ER accordingly;</li> <li>3. Supervise the implementation of remedial measures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of failure in writing;</li> <li>2. Notify Contractor;</li> <li>3. Require Contractor to propose remedial measures for the analysed noise problem;</li> <li>4. Ensure proper implementation of remedial measures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Submit noise mitigation proposal to IC(E);</li> <li>2. Implement noise mitigation proposals.</li> </ol>	
<b>Limit level</b>	<ol style="list-style-type: none"> <li>1. Identify source;</li> <li>2. Inform IC(E), ER, EPD and Contractor;</li> <li>3. Repeat measurement to confirm findings;</li> <li>4. Increase monitoring frequency;</li> <li>5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented;</li> <li>6. Inform IC(E), ER and EPD the causes and actions taken for the exceedances;</li> <li>7. Assess the effectiveness of Contractor's remedial actions and keep IC(E), EPD and ER informed of the results;</li> <li>8. If exceedance stops, cease additional monitoring.</li> </ol>	<ol style="list-style-type: none"> <li>1. Discuss amongst ER, ET, and Contractor on the potential remedial actions;</li> <li>2. Review Contractor's remedial actions to ensure their effectiveness and advise the ER accordingly;</li> <li>3. Supervise the implementation of remedial measures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Same as above;</li> <li>2. If exceedances continue, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated.</li> </ol>	<ol style="list-style-type: none"> <li>1. Take immediate action to avoid further exceedance;</li> <li>2. Submit proposals for remedial actions to IC(E);</li> <li>3. Implement the agreed proposals;</li> <li>4. Resubmit proposals if problem still out of control;</li> <li>5. Stop the relevant portion of works as determined by ER, until the exceedance is abated.</li> </ol>	



## **Appendix E**

### **Construction Programme**



Act ID	Activity Description	Run Start	Run End	Early Start	Early Finish	Late Start	Late Finish	Logic	Total Float
SS5220	S122-123	17	08 JUN 08	27	JUN 08	09	JUN 08	17 JUN 08	0
SS5230	S122-113	14	26 JUN 08	14	JUL 08	29	JUN 08	14 JUL 08	0
SS7-S60	Inspection Pit / Liaison with UU / UU Diversion	14	15 JUL 08	30	JUL 08	15	JUL 08	30 JUL 08	0
CM5859	S37-38	12	31 JUL 08	27	AUG 08	31	JUL 08	13 AUG 08	0
CM5970	S38-39	12	14 AUG 08	27	AUG 08	14	AUG 08	13 AUG 08	0
CM5980	S39-40	12	28 AUG 08	10	SEP 08	28	AUG 08	10 SEP 08	0
CM5990	S40-167	12	11 SEP 08	24	SEP 08	11	SEP 08	24 SEP 08	0
CM5990	S167-168	12	25 SEP 08	08	OCT 08	25	SEP 08	08 OCT 08	0
CM5910	S168-41	12	09 OCT 08	22	OCT 08	09	OCT 08	22 OCT 08	0
CM5920	S41-42	12	23 OCT 08	05	NOV 08	23	OCT 08	05 NOV 08	0
CM5930	S42-43	12	05 NOV 08	19	NOV 08	05	NOV 08	19 NOV 08	0
CM5940	S43-44	12	20 NOV 08	03	DEC 08	20	NOV 08	03 DEC 08	0
CM5950	S44-45	12	04 DEC 08	17	DEC 08	04	DEC 08	17 DEC 08	0
CM5960	S45-46	12	18 DEC 08	31	DEC 08	18	DEC 08	31 DEC 08	0
CM5970	S46-171	12	02 JAN 08	15	JAN 08	02	JAN 08	15 JAN 08	0
CM5980	S171-50	12	16 JAN 08	02	FEB 08	16	JAN 08	02 FEB 08	0
CM5981	S56-51	32	03 FEB 08	11	MAR 08	03	FEB 08	11 MAR 08	0
CM5982	S51-52	32	12 MAR 08	08	APR 08	12	MAR 08	08 APR 08	0
CM5983	S52-53	21	07 APR 08	03	MAY 08	07	APR 08	03 MAY 08	0
CM5984	S54-55	21	07 MAY 08	07	JUN 08	07	MAY 08	07 JUN 08	0
CM5989	S54-55	12	03 JUN 08	16	JUN 08	03	JUN 08	16 JUN 08	0
CM6000	S55-56	12	17 JUN 08	30	JUN 08	17	JUN 08	30 JUN 08	0
CM6010	S55-60	12	01 JUL 08	14	JUL 08	01	JUL 08	14 JUL 08	0
SS7-S60 & Clearance of Squattered Huts									
CM6008	Inspection Pit / Liaison with UU / UU Diversion	57	15 JUL 08	18	SEP 08	15	JUL 08	18 SEP 08	0
CM6070	S57-169	21	19 SEP 08	13	OCT 08	19	SEP 08	13 OCT 08	0
CM6080	S169-170	21	14 OCT 08	06	NOV 08	14	OCT 08	06 NOV 08	0
CM6090	S170-58	20	07 NOV 08	26	NOV 08	07	NOV 08	26 NOV 08	0
CM6100	S58-59	21	01 DEC 08	24	DEC 08	01	DEC 08	24 DEC 08	0
CM6110	S59-60	30	26 DEC 08	02	FEB 08	26	DEC 08	02 FEB 08	0
SS5-S83, S36A-S63A (Trenchless)									
CM6208	Inspection Pit / Liaison with UU	14	01 SEP 08	16	SEP 08	01	SEP 08	16 SEP 08	0
CM6210	S83 Temporary working platform	30	17 SEP 08	21	OCT 08	17	SEP 08	21 OCT 08	0
CM6212	S83 (Jacking Pit Construction)	48	22 OCT 08	16	DEC 08	22	OCT 08	16 DEC 08	0
CM6220	S84-53 (Excavation)	70	17 DEC 08	12	MAR 08	17	DEC 08	12 MAR 08	0
CM6270	S84-S83 (Pipe Laying)	21	13 MAR 08	07	APR 08	07	APR 08	07 APR 08	170d
CM6280	Manhole Construction (S16 - S63)	48	08 APR 08	10	MAY 08	08	APR 08	10 MAY 08	0
S64-S70 (Trenchless)									
CM6229	Inspection Pit / Liaison with UU	14	13 MAR 08	28	MAR 08	13	MAR 08	28 MAR 08	0
CM6230	S64-70 (Excavation)	21	30 MAR 08	27	APR 08	30	MAR 08	27 APR 08	0
CM6240	S64-70 (Excavation)	140	28 APR 08	14	OCT 08	28	APR 08	14 OCT 08	0
CM6250	S64-S64-S70 (Pipe Laying)	21	15 OCT 08	09	NOV 08	15	OCT 08	09 NOV 08	0
CM6300	S64-S70 Manholes Construction	43	10 NOV 08	31	DEC 08	10	NOV 08	31 DEC 08	0
SS10-S132									
S64-S70	Inspection Pit / Liaison with UU / UU Diversion	30	04 DEC 08	05	JAN 08	04	DEC 08	05 JAN 08	0
SS480	S110-111	14	06 JAN 08	21	JAN 08	06	JAN 08	21 JAN 08	0
SS490	S111-113	14	22 JAN 08	10	FEB 08	22	JAN 08	10 FEB 08	0
SS500	S113-114	14	11 FEB 08	26	FEB 08	11	FEB 08	26 FEB 08	0
SS510	S114-123	14	27 FEB 08	14	MAR 08	27	FEB 08	14 MAR 08	0
SS520	S123-124	14	16 MAR 08	31	MAR 08	16	MAR 08	31 MAR 08	0
SS530	S124-125	14	01 APR 08	01	APR 08	01	APR 08	01 APR 08	0
SS540	S125-126	14	22 APR 08	09	MAY 08	22	APR 08	09 MAY 08	0
SS550	S126-128	14	11 MAY 08	26	MAY 08	11	MAY 08	26 MAY 08	0
SS560	S127-128	14	27 MAY 08	13	JUN 08	27	MAY 08	13 JUN 08	0
SS570	S128-131	14	15 JUN 08	30	JUN 08	15	JUN 08	30 JUN 08	0
SS580	S129-130	14	01 JUL 08	16	JUL 08	01	JUL 08	16 JUL 08	0
SS590	S130-131	14	17 JUL 08	01	AUG 08	17	JUL 08	01 AUG 08	0
SS600	S131-132	14	03 AUG 08	18	AUG 08	03	AUG 08	18 AUG 08	0
SS7-S60									
AW6260	Inspection Pit / Liaison with UU / UU Diversion	17	11 JAN 10	29	JAN 10	11	JAN 10	29 JAN 10	0
AW6270	S67-172	9	09 JAN 10	09	FEB 10	09	JAN 10	09 FEB 10	0
AW6280	S172-173	7	19 FEB 10	17	FEB 10	19	FEB 10	17 FEB 10	0
AW6290	S173-48	7	19 FEB 10	25	FEB 10	19	FEB 10	25 FEB 10	0
AW6300	S48-49	7	28 FEB 10	05	MAR 10	28	FEB 10	05 MAR 10	0
AW6310	S49-50	10	08 MAR 10	17	MAR 10	08	MAR 10	17 MAR 10	0
S16-S36									

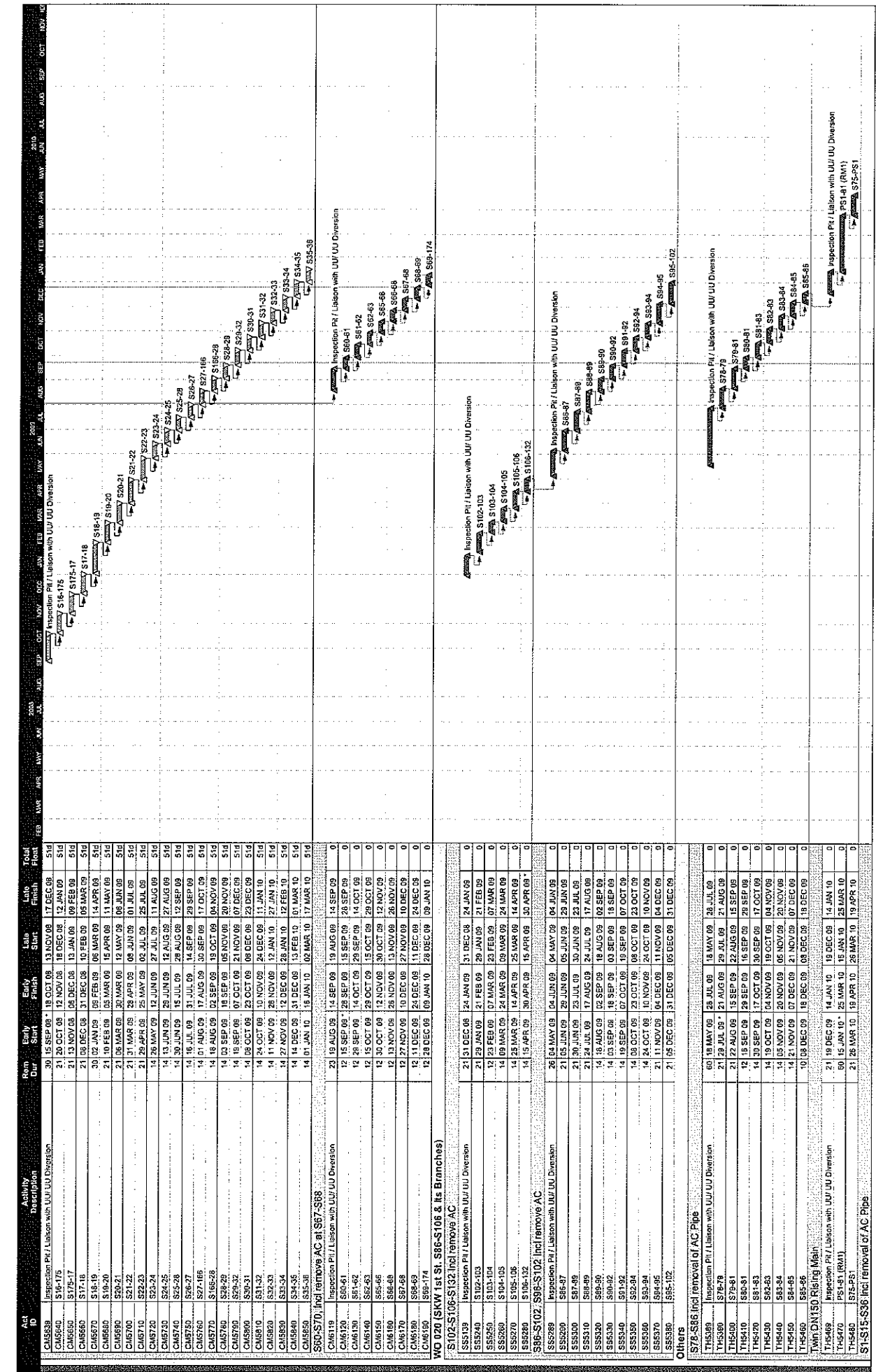
Start Date: 31 JAN 08  
 Finish Date: 19 APR 10

Progress point  
 Critical point  
 Summary point  
 Start milestone point  
 Finish milestone point

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Date	Revision	Checked	Approved
02 MAY 08	Revision 1	SIL	KYS
16 JUN 08	Revision 2	SIL	KYS
03 SEP 08	Revision 3	SIL	KYS
31 OCT 08	Revision 4	SIL	KYS



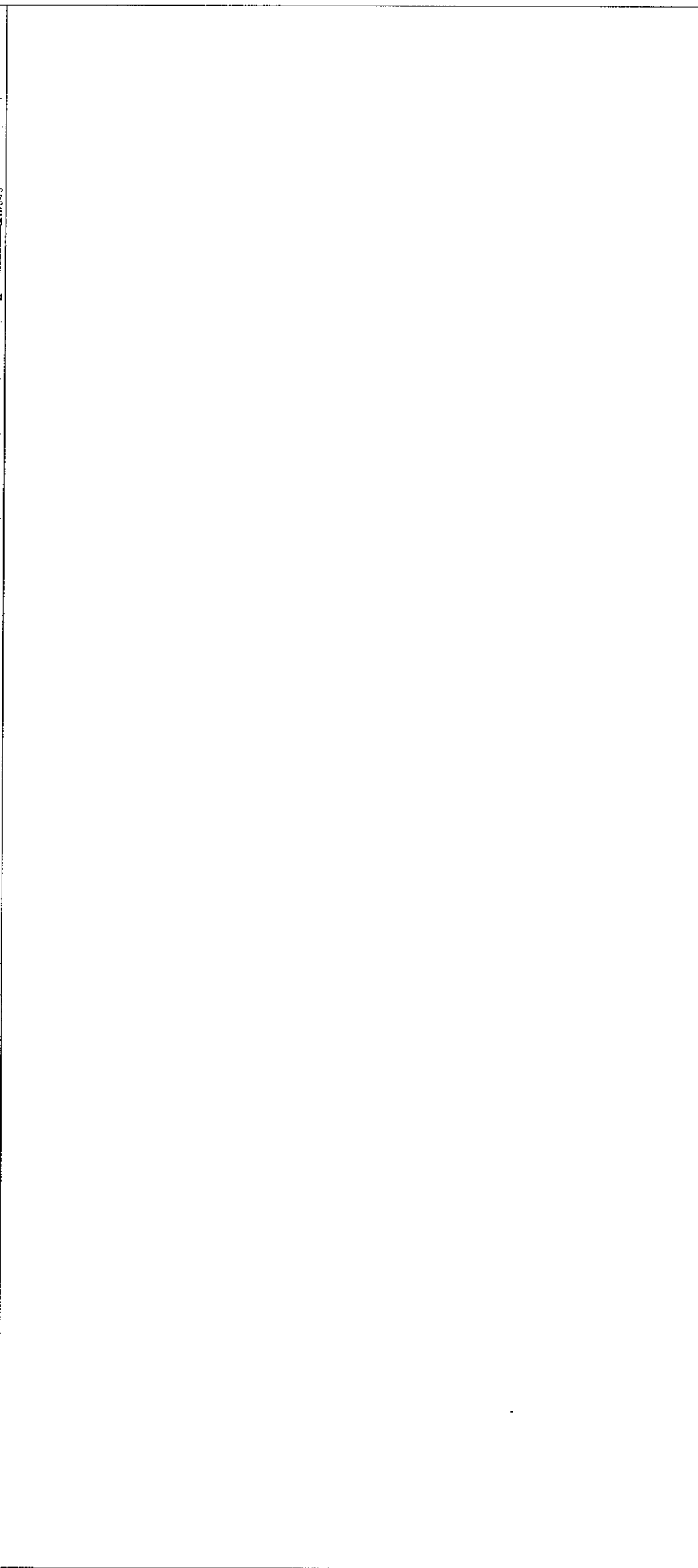
Act ID	Activity Description	Run Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float
CA5638	Inspection P1 / Liaison with UUI UU Diverston	30	15 SEP 08	18 OCT 08	13 NOV 08	17 DEC 08	51d
CA5639	S16-175	21	20 OCT 08	12 NOV 08	18 DEC 08	12 JAN 09	51d
CA5640	S175-17	21	13 NOV 08	06 DEC 08	13 JAN 09	09 FEB 09	51d
CA5650	S174-16	21	08 DEC 08	31 DEC 08	10 FEB 09	09 MAR 09	51d
CA5670	S16-18	30	02 JAN 09	06 FEB 09	06 MAR 09	14 APR 09	51d
CA5680	S16-20	21	10 FEB 09	03 MAR 09	12 APR 09	11 MAY 09	51d
CA5690	S21-21	21	08 MAR 09	20 MAR 09	12 APR 09	06 JUN 09	51d
CA5700	S21-22	21	31 MAR 09	29 APR 09	08 JUN 09	01 JUL 09	51d
CA5710	S22-23	21	29 APR 09	25 MAY 09	02 JUN 09	25 JUL 09	51d
CA5720	S24-24	14	26 MAY 09	12 JUN 09	27 JUL 09	11 AUG 09	51d
CA5730	S24-25	14	13 JUN 09	29 JUN 09	12 AUG 09	27 AUG 09	51d
CA5740	S25-26	14	30 JUN 09	15 JUL 09	28 AUG 09	12 SEP 09	51d
CA5750	S26-27	14	16 JUL 09	31 JUL 09	14 SEP 09	28 SEP 09	51d
CA5760	S27-166	14	01 AUG 09	17 AUG 09	30 SEP 09	17 OCT 09	51d
CA5770	S165-28	14	18 AUG 09	02 SEP 09	19 OCT 09	04 NOV 09	51d
CA5780	S28-22	14	03 SEP 09	18 SEP 09	05 NOV 09	20 NOV 09	51d
CA5790	S29-32	14	18 SEP 09	07 OCT 09	21 NOV 09	07 DEC 09	51d
CA5800	S30-31	14	08 OCT 09	23 OCT 09	08 DEC 09	23 DEC 09	51d
CA5810	S31-32	14	24 OCT 09	10 NOV 09	24 DEC 09	11 JAN 10	51d
CA5820	S32-33	14	11 NOV 09	26 NOV 09	12 JAN 10	27 JAN 10	51d
CA5830	S33-34	14	27 NOV 09	12 DEC 09	28 JAN 10	12 FEB 10	51d
CA5840	S34-35	14	14 DEC 09	31 DEC 09	13 FEB 10	07 MAR 10	51d
CA5850	S35-36	14	01 JAN 10	18 JAN 10	02 MAR 10	17 MAR 10	51d
CA5860	S35-38	23	19 AUG 09	14 SEP 09	19 AUG 09	14 SEP 09	0
CA5870	Inspection P1 / Liaison with UUI UU Diverston	12	15 SEP 09	28 SEP 09	15 SEP 09	28 SEP 09	0
CA5880	S60-61	12	28 SEP 09	14 OCT 09	29 SEP 09	14 OCT 09	0
CA5890	S61-62	12	15 OCT 09	29 OCT 09	15 OCT 09	29 OCT 09	0
CA5900	S62-63	12	03 NOV 09	12 NOV 09	30 OCT 09	12 NOV 09	0
CA5910	S63-64	12	13 NOV 09	26 NOV 09	13 NOV 09	26 NOV 09	0
CA5920	S64-65	12	27 NOV 09	10 DEC 09	27 NOV 09	10 DEC 09	0
CA5930	S65-66	12	11 DEC 09	24 DEC 09	11 DEC 09	24 DEC 09	0
CA5940	S66-67	12	28 DEC 09	09 JAN 10	28 DEC 09	09 JAN 10	0
CA5950	S67-68	12	09 JAN 10	23 JAN 10	09 JAN 10	23 JAN 10	0
CA5960	S68-69	12	23 JAN 10	06 FEB 10	23 JAN 10	06 FEB 10	0
CA5970	S69-70	12	06 FEB 10	20 FEB 10	06 FEB 10	20 FEB 10	0
CA5980	S70-71	12	20 FEB 10	07 MAR 10	20 FEB 10	07 MAR 10	0
CA5990	S71-72	12	07 MAR 10	24 MAR 10	07 MAR 10	24 MAR 10	0
CA6000	S72-73	12	24 MAR 10	09 APR 10	24 MAR 10	16 APR 10	0
CA6010	S73-74	12	09 APR 10	30 APR 10	15 APR 10	30 APR 10	0
CA6020	S74-75	26	04 MAY 09	04 JUN 09	04 MAY 09	04 JUN 09	0
CA6030	S75-76	21	05 JUN 09	29 JUN 09	05 JUN 09	29 JUN 09	0
CA6040	S76-77	21	30 JUN 09	23 JUL 09	30 JUN 09	23 JUL 09	0
CA6050	S77-78	21	24 JUL 09	17 AUG 09	24 JUL 09	17 AUG 09	0
CA6060	S78-79	14	18 AUG 09	02 SEP 09	18 AUG 09	02 SEP 09	0
CA6070	S79-80	14	03 SEP 09	18 SEP 09	03 SEP 09	18 SEP 09	0
CA6080	S80-81	14	19 SEP 09	07 OCT 09	19 SEP 09	07 OCT 09	0
CA6090	S81-82	14	08 OCT 09	23 OCT 09	08 OCT 09	23 OCT 09	0
CA6100	S82-83	14	24 OCT 09	10 NOV 09	24 OCT 09	10 NOV 09	0
CA6110	S83-84	21	11 NOV 09	04 DEC 09	11 NOV 09	04 DEC 09	0
CA6120	S84-85	21	05 DEC 09	31 DEC 09	05 DEC 09	31 DEC 09	0
CA6130	S85-102	60	18 MAY 09	28 JUL 09	18 MAY 09	28 JUL 09	0
CA6140	Inspection P1 / Liaison with UUI UU Diverston	21	28 JUL 09	21 AUG 09	29 JUL 09	21 AUG 09	0
CA6150	S79-81	21	22 AUG 09	15 SEP 09	22 AUG 09	15 SEP 09	0
CA6160	S80-82	12	15 SEP 09	28 SEP 09	16 SEP 09	28 SEP 09	0
CA6170	S81-83	14	30 SEP 09	17 OCT 09	30 SEP 09	17 OCT 09	0
CA6180	S82-84	14	19 OCT 09	04 NOV 09	19 OCT 09	04 NOV 09	0
CA6190	S83-85	14	05 NOV 09	20 NOV 09	05 NOV 09	20 NOV 09	0
CA6200	S84-86	14	21 NOV 09	07 DEC 09	21 NOV 09	07 DEC 09	0
CA6210	S85-86	10	08 DEC 09	18 DEC 09	08 DEC 09	18 DEC 09	0
CA6220	Inspection P1 / Liaison with UUI UU Diverston	21	19 DEC 09	14 JAN 10	19 DEC 09	14 JAN 10	0
CA6230	PS1-51 (RM1)	60	15 JAN 10	25 MAR 10	15 JAN 10	25 MAR 10	0
CA6240	S75-81	21	26 MAR 10	19 APR 10	26 MAR 10	19 APR 10	0

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Act ID	Description	Plan	Start	Early Start	Early Finish	Late Start	Late Finish	Total Float
CM5488	Inspection PH / Lubson with UUI Diversion	48	02 MAR 09	30 APR 09	24 MAR 09	25 MAY 09	18d	
CM5490	S1-2	21	04 MAY 09	27 MAY 09	20 JUN 09	15d		
CM5500	S2-3	21	29 MAY 09	23 JUN 09	16 JUL 09	18d		
CM5510	S3-4	21	24 JUN 09	17 JUL 09	09 AUG 09	16d		
CM5520	S4-5	21	18 JUL 09	11 AUG 09	02 SEP 09	15d		
CM5530	S5-6	21	12 AUG 09	04 SEP 09	26 SEP 09	14d		
CM5540	S6-7	21	05 SEP 09	29 SEP 09	23 OCT 09	18d		
CM5550	S7-8	21	30 SEP 09	24 OCT 09	18 NOV 09	19d		
CM5560	S8-9	14	28 OCT 09	12 NOV 09	04 DEC 09	19d		
CM5570	S9-10	14	13 NOV 09	28 NOV 09	05 DEC 09	19d		
CM5580	S10-11	14	30 NOV 09	15 DEC 09	22 DEC 09	19d		
CM5590	S11-12	14	16 DEC 09	02 JAN 10	09 JAN 10	25 JAN 10	19d	
CM5600	S12-13	14	04 JAN 10	19 JAN 10	26 JAN 10	10 FEB 10	19d	
CM5610	S13-14	14	20 JAN 10	04 FEB 10	11 FEB 10	26 FEB 10	19d	
CM5620	S14-15	14	05 FEB 10	20 FEB 10	27 FEB 10	15 MAR 10	19d	
CM5630	S15-16	14	22 FEB 10	09 MAR 10	16 MAR 10	31 MAR 10	19d	
CM5650	S70-73	87	15 OCT 08	27 JAN 10	15 OCT 08	27 JAN 10	0	
CM5660	S74-75	70	28 JAN 10	19 APR 10	28 JAN 10	19 APR 10	0	



Start Date: 31 JAN 08 Finish Date: 19 APR 10	DC/2007/18 Yung Shue Wan and Sok Kwo Wan Village Sewerage, Stage 1 Works Project Programme Rev. 4	<table border="1"> <tr> <th>Date</th> <th>Revision</th> <th>Checked / Approved</th> </tr> <tr> <td>02 MAY 08</td> <td>Revision 1</td> <td>SIL / KYS</td> </tr> <tr> <td>16 JUN 08</td> <td>Revision 2</td> <td>SIL / KYS</td> </tr> <tr> <td>03 SEP 08</td> <td>Revision 3</td> <td>SIL / KC</td> </tr> <tr> <td>31 OCT 08</td> <td>Revision 4</td> <td>SIL / KYS</td> </tr> </table>	Date	Revision	Checked / Approved	02 MAY 08	Revision 1	SIL / KYS	16 JUN 08	Revision 2	SIL / KYS	03 SEP 08	Revision 3	SIL / KC	31 OCT 08	Revision 4	SIL / KYS
Date	Revision	Checked / Approved															
02 MAY 08	Revision 1	SIL / KYS															
16 JUN 08	Revision 2	SIL / KYS															
03 SEP 08	Revision 3	SIL / KC															
31 OCT 08	Revision 4	SIL / KYS															



**Appendix F**

**Summary of Implementation Status**

**of**

**Mitigation Measures during Site Inspection**



## Environmental Mitigation Implementation Schedule

Environmental Protection Measures	Location	Implementation Status		
		Implemented	Partially implemented	Not implemented Not Applicable
<b>Air Quality</b>				
<ul style="list-style-type: none"> <li>Stockpiles of imported material kept on site should be contained within hoarding, dampened and / or covered during dry and windy weather.</li> </ul>	All areas		√	
<ul style="list-style-type: none"> <li>Material stockpiled alongside trenches should be covered with tarpaulins whenever works are close to village houses.</li> </ul>	All areas	√		
<ul style="list-style-type: none"> <li>Water sprays should be used during the delivery and handling of cement, sands, aggregates and the like.</li> </ul>	All areas	√		
<ul style="list-style-type: none"> <li>Any vehicle used for moving sands, aggregates and construction waste should have properly fitting side and tail boards. Materials should not be loaded to a level higher than the side and tail boards, and should be covered by a clean tarpaulin.</li> </ul>	All areas	√		
<ul style="list-style-type: none"> <li>Unpaved areas should be watered regularly to avoid dust generation.</li> </ul>	Site Egress	√		
<ul style="list-style-type: none"> <li>The enclosures should be around the main dust-generating activities.</li> </ul>	All areas	√		
<ul style="list-style-type: none"> <li>All plant and equipment should be well maintained e.g. without black smoke emission.</li> </ul>	All areas	√		
<ul style="list-style-type: none"> <li>Open burning should be prohibited.</li> </ul>	All areas	√		
<b>Noise Impact</b>				
<ul style="list-style-type: none"> <li>Quite powered mechanical equipment (PME) or method should be used.</li> </ul>	All areas	√		
<ul style="list-style-type: none"> <li>The number plant should be restricted (1 item for each type of plant).</li> </ul>	All areas	√		
<ul style="list-style-type: none"> <li>Only well maintained plant should be operated on-site and plant should be serviced regularly during the construction works.</li> </ul>	All areas	√		
<ul style="list-style-type: none"> <li>Mobile plant, if any, should be sited as far away from NSRs as possible.</li> </ul>	All areas	√		
<ul style="list-style-type: none"> <li>Machines and plants that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum.</li> </ul>	All areas	√		
<ul style="list-style-type: none"> <li>Plant known to emit noise strongly should be orientated so that the noise is directed away from nearby NSRs.</li> </ul>	All areas	√		
<ul style="list-style-type: none"> <li>The constructions works should be scheduled to minimize noise nuisance.</li> </ul>	All areas	√		
<ul style="list-style-type: none"> <li>Air compressors and hand held breakers should have noise labels.</li> </ul>	All areas			√
<ul style="list-style-type: none"> <li>Compressors and generators should operate with door closed.</li> </ul>	All areas	√		
<b>Water Quality</b>				
<b>General Construction Works</b>				
<ul style="list-style-type: none"> <li>Debris and rubbish generated on-site should be collected, handled and disposed of properly to avoid entering the nearby coastal water and stormwater drains.</li> </ul>	All areas		√	
<ul style="list-style-type: none"> <li>All fuel tanks and storage areas should be provided with locks and be sited on sealed area, within bunds of a capacity equal to 110% of the storage capacity of the largest tank.</li> </ul>	All areas		√	
<ul style="list-style-type: none"> <li>Open drainage channels and culverts near the works areas should be covered to block the entrance of large debris and refuse.</li> </ul>	All areas	√		





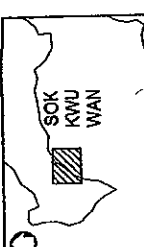
Environmental Protection Measures	Location	Implementation Status			
		Implemented	Partially implemented	Not implemented	Not Applicable
<b>Waste Management</b>					
<b>General Site Wastes</b>					
<ul style="list-style-type: none"> <li>Appropriate measures, such as transporting wastes in enclosed containers, should be taken to minimize windblown litter and dust to nearby environment.</li> </ul>	All areas	√			
<ul style="list-style-type: none"> <li>Sufficient waste disposal points and regular waste collection for disposal should be provided.</li> </ul>	All areas	√			
<ul style="list-style-type: none"> <li>A collection area for construction site waste should be provided where waste can be stored prior to removal from site.</li> </ul>	All areas	√			
<ul style="list-style-type: none"> <li>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.</li> </ul>	All areas	√			
<ul style="list-style-type: none"> <li>Records of the quantities of waste generated, recycled and disposed should be kept and maintained.</li> </ul>	All areas	√			
<ul style="list-style-type: none"> <li>Different types of waste should be segregated and stored in different container, skips or stockpiles to enhance reuse or recycling of material and their proper disposal.</li> </ul>	All areas	√			
<b>Chemical Wastes</b>					
<ul style="list-style-type: none"> <li>After use, chemical waste should be handled according to the Code of Practice on the Package, Labelling and Storage of Chemical Wastes.</li> </ul>	All areas	√			
<ul style="list-style-type: none"> <li>Any unused chemicals or those with remaining functional capacity should be recycled.</li> </ul>	All areas	√			
<ul style="list-style-type: none"> <li>Waste should be properly stored on site within suitably designed containers and should be collected by an approved licensed waste collectors for disposal at the Chemical Waste Treatment Facility or other licensed facility in accordance with the Waste Disposal (Chemical Waste) (General) Regulation under the Waste Disposal Ordinance.</li> </ul>	All areas	√			
<ul style="list-style-type: none"> <li>Any service shop and minor maintenance facilities should be located on hard standing within a bunded area, and surps and oil interceptors should be provided.</li> </ul>	All areas	√			
<ul style="list-style-type: none"> <li>Maintenance of vehicles and equipment involving activities with potential for leakage and spillage should be undertaken within the designated areas equipped control these discharges.</li> </ul>	All areas	√			
<b>Construction and Demolition (C&amp;D) Wastes</b>					
<ul style="list-style-type: none"> <li>C&amp;D waste should be separated on site before disposal.</li> </ul>	All areas	√			
<ul style="list-style-type: none"> <li>Inert material, such as concrete and rubble, should be re-used on site.</li> </ul>	All areas	√			
<ul style="list-style-type: none"> <li>Steel and other metals should be separated for re-use and / or recycling prior to disposal of C&amp;D material.</li> </ul>	All areas	√			
<b>Ecological Impact</b>					
<ul style="list-style-type: none"> <li>Labelling and fencing of the uncommon tree species.</li> </ul>	All areas	√			
<ul style="list-style-type: none"> <li>Avoidance of use of woodland habitats as Works Area, in particular where trees located.</li> </ul>	All areas	√			



Environmental Protection Measures	Location	Implementation Status			
		Implemented	Partially implemented	Not implemented	Not Applicable
<b>Landscape and Visual Impact</b>					
• Existing trees should be retained.	All areas	√			
• Damage to vegetation should be minimized by close coordination and on site alignment adjusted of rising main and gravity sewer pipelines.	All areas	√			
• Short excavation and immediate backfilling section upon completion of works should be performed to reduce active site area.	All areas	√			
<b>Site Practice</b>					
• The Contractor assigned worker is responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site.	All areas	√			
• Proper storage and site practices to minimise the potential for damage or contamination of construction materials.	All areas	√			
• All generators, fuel and oil storage are within bundle areas.	All areas		√		
• Oil leakage from machinery, vehicle and plant should be prevented.	All areas	√			
• The Environmental Permit should be displaced conspicuously on site.	All areas	√			



## Figures



NOTES :

1. FOR GENERAL NOTES AND LEGEND, REFER TO DRAWING NO. 2005/C1/0001.

2. THE CONTRACTOR BE RESPONSIBLE AND TAKE ALL NECESSARY MEASURES TO PROTECT THE EXISTING UTILITIES FOR ANY INTERFERING WORKS OF THEIR WORKS.

DATE	DESCRIPTION	BY	CHK
10/01/06	ISSUED FOR CONSTRUCTION	J. W.	W.E.
10/01/06	REVISED	J. W.	W.E.
10/01/06	REVISED	J. W.	W.E.
10/01/06	REVISED	J. W.	W.E.

The Department of the Hong Kong Special Administrative Region  
Drainage Services Department

CONTRACT NO. DC/2007/16  
YUNG SHUE WAN AND SOK KWU WAN  
VILLAGE SEWERAGE, STAGE 1 WORKS

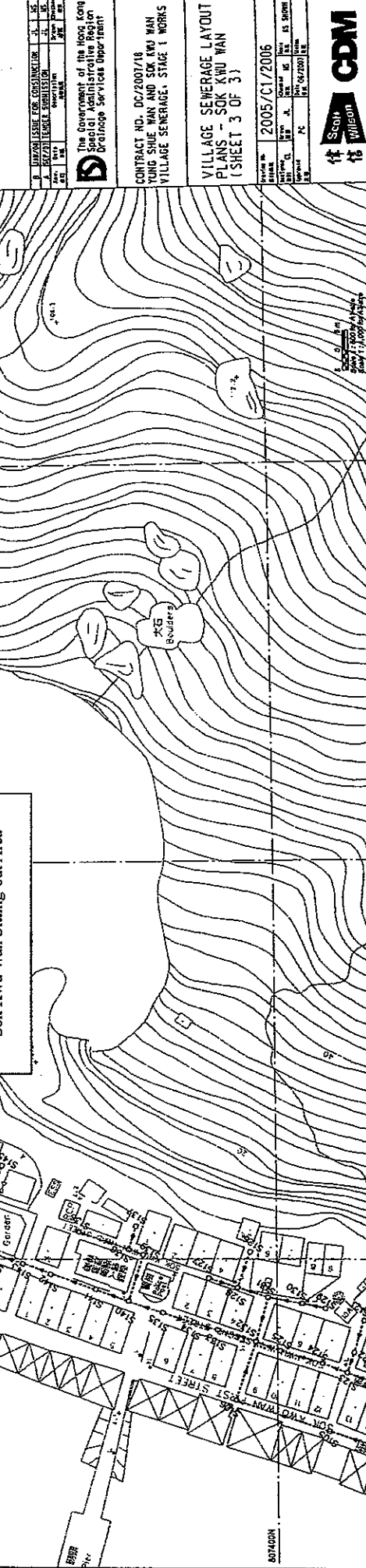
VILLAGE SEWERAGE LAYOUT  
PLANS - SOK KWU WAN  
(SHEET 3 OF 3)

DATE	DESCRIPTION	BY	CHK
10/01/06	ISSUED FOR CONSTRUCTION	J. W.	W.E.
10/01/06	REVISED	J. W.	W.E.
10/01/06	REVISED	J. W.	W.E.
10/01/06	REVISED	J. W.	W.E.

2005/C1/2006

SCOTT WILSON CDM JIA PARTNERSHIP

SCOTT WILSON CDM JIA PARTNERSHIP



Noise Monitoring Station (NM4)  
2-story village house at Tai Shui Wan

TO BE CONNECTED TO EXISTING PIPE OF SILEX TANKING STATION #21 CONSTRUCTED UNDER CONTRACT NO. DC/2007/16.

Dust Monitoring Station (AM3)  
Football Court

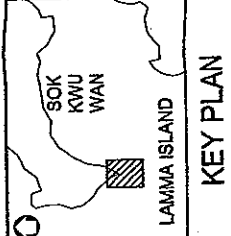
Noise Monitoring Station (RNM3)  
Sok Kwu Wan Sitting-out Area

SOK KWU WAN

807600N

807600E

807400N



**NOTES :**  
 1. FOR GENERAL NOTES AND LEGEND, REFER TO DRAWING NO. DC2007/18.

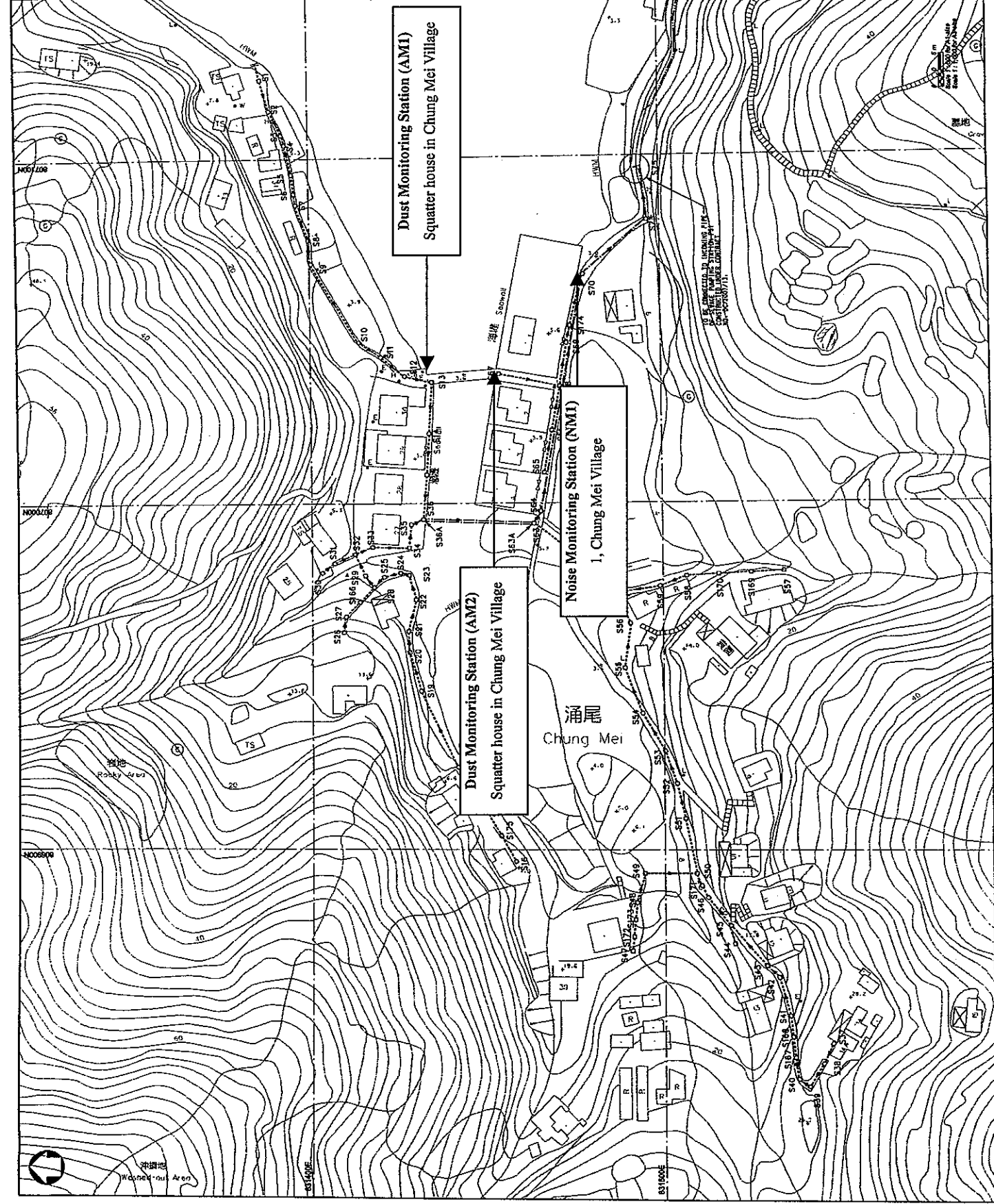
**THE GOVERNMENT OF THE HONG KONG SPECIAL ADMINISTRATIVE REGION**  
 Drainage Services Department

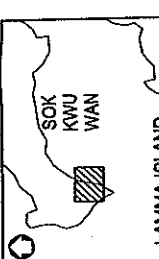
CONTRACT NO. DC2007/18  
 YUNG SHUE WAN AND SOK KWU WAN  
 VILLAGE SEWERAGE, STAGE 1 WORKS

VILLAGE SEWERAGE LAYOUT  
 PLANS - SOK KWU WAN  
 (SHEET 1 OF 3)

REVISIONS		DATE	BY	CHKD
1	ISSUED FOR CONSTRUCTION	11/01/05	...	...
2	ISSUED FOR SUBMISSION	11/01/05	...	...

SCOTT WILSON CDM  
 SCOTT WILSON CDM JOINT VENTURE





**KEY PLAN**

NOTES 1  
 1. FOR GENERAL NOTES AND LEGEND, REFER TO SHEETING NO. 105/517/2005.

CONTRACT NO. DC/2007/18  
 YUNG SHUE WAN AND SOK KWU WAN  
 VILLAGE SEWERAGE, STAGE 1 WORKS

VILLAGE SEWERAGE LAYOUT  
 PLANS - SOK KWU WAN  
 (SHEET 2 OF 3)

Revision: 2005/C.1/2005  
 DRAWN BY: [Name] CHECKED BY: [Name] AS SHOWN  
 DATE: [Date] PROJECT NO.: DC/2007/18



The Government of the Hong Kong Special Administrative Region  
 Drainage Services Department

NO.	REVISION	DATE	BY	CHECKED
1	ISSUED FOR CONSTRUCTION	11/02/07	[Name]	[Name]
2	FOR LAYOUT	11/02/07	[Name]	[Name]
3	FOR LAYOUT	11/02/07	[Name]	[Name]
4	FOR LAYOUT	11/02/07	[Name]	[Name]
5	FOR LAYOUT	11/02/07	[Name]	[Name]

