## -CCECC & CRWJ Joint Venture

## Contract No. HY/2003/19

# Improvement to Tung Chung Road between Lung Tseng Tau and Cheung Sha

Monthly EM&A Report (Version 1.0)

March 2009

Certified By

(Environmental Team Leader)

REMARKS:

The information supplied and contained within this report is, to the best of our knowledge, correct at the time of printing.

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#### ABBREVIATION AND ACRONYM

AL Levels Action and Limit Levels

E / ER Engineer/Engineer's Representative

EIA Environmental Impact Assessment

EM&A Environmental Monitoring and Audit

EMIS Environmental Mitigation Implementation Schedule

EP Environmental Permit

EPD Environmental Protection Department

ET Environmental Team

HVS High Volume Sampler

HyD Highways Department

IEC Independent Environmental Checker

NOE Notification of Exceedance

QA/QC Quality Assurance / Quality Control

RE Resident Engineer

RH Relative Humidity

SLM Sound Level Meter

TSP Total Suspended Particulates

WMP Waste Management Plan

#### **EXECUTIVE SUMMARY**

#### Introduction

- 1. This is the 53<sup>rd</sup> monthly Environmental Monitoring and Audit (EM&A) Report prepared by Cinotech Consultants Limited for the project "Improvement to Tung Chung Road between Lung Tseng Tau and Cheung Sha" (the Project). This report documents the findings of EM&A Works conducted in March 2009.
- 2. The construction activities undertaken in the reporting month included:
  - Landscaping works;
  - Street furniture installation;
  - Utilities installation;
  - Construction of drainage;
  - Reinstatement works of the footpath;
  - Construction of the baffle wall and stepped channel; and
  - Construction of retaining wall.

#### **Environmental Monitoring Works**

- 3. Environmental monitoring for the Project was performed regularly as stipulated in the Updated EM&A Manual (Revision C) and the results were checked and reviewed. Site audits were conducted once per week. The implementation of the environmental mitigation measures, Event Action Plans and environmental complaint handling procedures were also checked.
- 4. Summary of exceedance of noise, air and water quality monitoring for the reporting month is tabulated in Table I.

Table I Summary Table for Exceedance Recorded in the Reporting Month

Parameter	Number of Exceedances due to the Project		Action Taken	Results of Action	
	<b>Action Level</b>	Limit Level	1 aken	Taken	
Air Quality	0	0	N.A.	N.A.	
Noise	0	0	N.A.	N.A.	
Water Quality	0	0	N.A.	N.A.	

Air Quality

5. 24-hr TSP monitoring at 3 monitoring stations, AM1, AM2 and AM4, were conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded for 24-hr TSP monitoring in the reporting month.

Construction Noise

6. Noise monitoring at 7 designated monitoring stations, namely NM1, NM2, NM3, NM4, NM5, NM6 and NM8, were conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded in the reporting month.

#### Water Quality

- 7. Water quality monitoring was conducted as scheduled at designated monitoring stations (Streams 15, 18, 21, 23, 26, 27, 40, Cheung Sha Stream, Tung Chung Stream and Tung Chung Bay) which are under the influence of the works in the reporting month. No water monitoring was conducted at the streams which were observed dry in the reporting month. As the water depth of Tung Chung Bay was less than 3m, only the mid-depth level was monitored.
- 8. Exceedances of suspended solids (SS) were recorded in the reporting month. No direct evidence demonstrated that the exceedances were caused by the Project.

#### **Environmental Licensing and Permitting**

9. License/Permits granted to the Project include Environmental Permit (License No.: EP-170/2003/C), Registration of Chemical Waste Producer (License: WPN5214-950-C1213-01), Water Discharge License (License No.: EP890/W7/XP089, EP890/W7/XP090 and EP890/W2/XG013) and Construction Noise Permit (License No.: GW-RW0439-08 and GW-RS0698-08).

## Key Information in the Reporting Month

10. Summary of key information in the reporting month is tabulated in Table II.

**Table II** Summary Table for Key Information in the Reporting Month

	Event De	tails	Action Taken	Status	Remark
Event	Number	Nature			
Complaint received	0		N.A.	N.A.	
Changes to the assumptions and key construction / operation activities recorded	0		N.A.	N.A.	
Notifications of any summons received	0		N.A.	N.A.	
Notifications of any successful prosecution received	0		N.A.	N.A.	

## Complaints and Prosecutions

- 11. No environmental complaint was received in the reporting month.
- 12. No warning and summon or notification of successful prosecution was received in the reporting month.

## Future Key Issues

- 13. Key issues to be considered in the coming month include:
  - Runoff from exposed slope;
  - Wastewater and runoff discharge from site;
  - Regular removal of silt, mud and sand along u-channels, culverts and gullies;
  - Review and implementation of temporary drainage system for the surface runoff;
  - Proper storage of construction materials near streams;
  - Noise from operation of the equipment, especially for rock-breaking activities and machinery on-site;
  - Dust generation from stockpiles of dusty materials, exposed retain wall, excavation works and rock breaking activities;
  - Storage of chemicals/fuel and chemical waste/waste oil on site;
  - Watering for rock breaking activity, soil nailing and on haul road;
  - Accumulation of general and construction waste near stream and on site;
  - Proper sorting and segregation of C&D materials in designated areas; and
  - Provide wheel washing facilities at the site entrance/exit.

#### 1. INTRODUCTION

## **Background**

- 1.1 The Project "Improvement to Tung Chung Road between Lung Tseng Tau and Cheung Sha" involves the widening and realignment of Tung Chung Road between Lung Tseng Tau in North Lantau and Cheung Sha in South Lantau. The layout plan of the Project is shown in Figure 1.
- 1.2 The scope of the Project includes:
  - a) widening and realignment of a 3.6 km section of Tung Chung Road (TCR) between Lung Tseng Tau and Pak Kung Au from a single-lane road for two-way traffic to a single two-lane road for two-way traffic with a footpath having a minimum width of 1.6 m, and construction of a 2.6 km long single two-lane road between Pak Kung Au and Cheung Sha, including elevated highway structures of a total length of 750 m, with a footpath of a minimum width of 1.6 m;
  - b) provision of 21 passing bays/bus-bays along the road and a roundabout at Cheung Sha; and
  - c) associated works including road rehabilitation, drainage, utility, environmental mitigation measures, landscaping, slope stabilization, traffic aids, road safety enhancement measures, lighting, traffic control and surveillance system, and electrical and mechanical (E&M) works.
- 1.3 The Environmental Impact Assessment (EIA) Report for the Project was approved on 4 July 2002 under the Environmental Impact Assessment Ordinance (EIAO). An Environmental Permit (EP- 170/2003) for the works was also granted on 27 June 2003. Two varied Environmental Permits (EP) (EP-170/2003/B and EP-170/2003/C) were issued in June 2006 and July 2007 respectively. Environmental Monitoring and Audit (EM&A) Manual for the Project was also included as part of the EIA reports in the register. An updated EM&A Manual (Revision C) has been issued on 28 April 2006.
- 1.4 Highways Department awarded the construction of the Project to CCECC & CRWJ Joint Venture (being a joint venture of China Civil Engineering Construction Corporation & China Railway Wuju Group Corporation) (hereinafter called "the Contractor") in June 2004. The construction works commenced on 4 November 2004 and are scheduled to be completed by September 2007.
- 1.5 Cinotech Consultants Limited (Cinotech) was commissioned by the Contractor to undertake the Environmental Team (ET) Services for the Project since 1 September 2006. All environmental and audit works were conducted by Cinotech and the laboratory testing works were conducted by a HOKLAS laboratory, Wellab Limited. This is the 53<sup>rd</sup> monthly EM&A report summarizing the EM&A works for the Project in March 2009.

#### **Project Organizations**

- 1.6 Different parties with different levels of involvement in the project organization include:
  - Project Proponent Major Works Project Management Office (MWPMO) of Highways Department (HyD)
  - Engineer (E) / Engineer's Representative (ER) Mott Connell Limited
  - Contractor CCECC & CRWJ Joint Venture
  - Environmental Team (ET) Cinotech Consultants Limited
  - Independent Environmental Checker (IEC) ENSR Asia (HK) Limited
- 1.7 The responsibilities of respective parties are detailed in Section 1.5 of the Updated EM&A Manual (Revision C, issued on 28 April 2006) of the Project. The project organization chart is presented in Figure 2.

#### **Construction Programme**

1.8 The construction activities undertaken in the reporting month were:

Northern Section

- Street furniture installation at Zone A to Zone F;
- Utilities installation at Zone A to Zone F; and
- Construction of DT and S&D Structure.

Southern Section

• Slope reinstatement works from STR010 to STR013.

## **Summary of EM&A Requirements**

- 1.9 The EM&A programme requires construction phase monitoring for air quality and construction noise, water quality and environmental site audit. The EM&A requirements for each parameter are described in the following 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 report; and
  - Environmental requirements in contract documents.
- 1.10 The advice on the implementation status of environmental protection and pollution control/mitigation measures is summarized in Section 5 of this report.
- 1.11 This report presents the environmental monitoring results, observations, locations, equipment, period, methodology and QA/QC procedures of the required monitoring parameters, namely air quality, noise levels, water quality and audit works for the Project in the reporting month.

## 2. AIR QUALITY

## **Monitoring Requirements**

2.1 Monitoring of 1-hour and 24-hour TSP was conducted to monitor the air quality. Appendix A shows the established Action/Limit Levels for the environmental monitoring works.

## **Monitoring Locations**

- 2.2 In accordance with the updated EM&A Manual, 24-hour TSP monitoring shall only be conducted at the monitoring location when there are Project related construction activities being undertaken within a radius of 500 m from the monitoring location.
- 2.3 Five designated monitoring stations, AM1 to AM5 were selected for impact dust monitoring for the Project. Table 2.1 describes the air quality monitoring locations and Figure 3 shows their locations.

**Table 2.1** Locations for Air Quality Monitoring

Monitoring Station	Description	Location
AM1	YMCA of Hong Kong Christian College	Rooftop
AM2	D 68 Leyburn Villas	House
$AM3^{(1)}$	Butterfly Crest	House
AM4	No. 31 South Lantau Road	House
AM5 <sup>(2)</sup>	YWCA	To be confirmed

#### Remarks:

## **Monitoring Equipment**

2.4 Table 2.2 summarizes the equipment used for the air quality monitoring. Copies of calibration certificates are attached in Appendix B.

**Table 2.2** Air Quality Monitoring Equipment

Equipment	Model and Make	Quantity
Calibrator	GMW25; S/N: 1536	1
HVS Sampler  Graseby GMW Model GS2310 High Volume TSP Sampler and associated equipment and shelter		3

<sup>(1)</sup> Monitoring at AM3 will be conducted when the Project related construction activities are being undertaken within a radius of 500 m from the monitoring location.

<sup>(2)</sup> Monitoring at AM5, YWCA, will be resumed when YWCA re-open.

#### Monitoring Parameters, Frequency and Duration

2.5 Table 2.3 summarizes the monitoring parameters and frequencies of impact dust monitoring for the whole construction period. The air quality monitoring schedule for the reporting period is shown in Appendix C.

Table 2.3 Impact Dust Monitoring Parameters, Frequency and Duration

Parameters	Frequency
1-hr TSP <sup>(a)</sup>	Three times / 6 days
24-hr TSP	Once / 6 days

#### Note:

(a) 1-hour TSP monitoring will be carried out in case that an exceedance of 24-hour TSP level is identified to be due to the Project.

# Monitoring Methodology and QA/QC Procedure

#### Instrumentation

2.6 Graseby GMW Model GS2310 TSP High Volume Sampler (HVS) was employed for 1-hour & 24-hour TSP monitoring. The sampler was composed of a motor, a filter holder, a flow controller and a sampling inlet and its performance specification complied with that required by USEPA Standard Title 40, Code of Federation Regulations Chapter 1 (Part 50). Moreover, the HVS also met all the requirements in Section 3.2 of the Updated EM&A Manual.

#### Operating/Analytical Procedures

- 2.7 Operating/analytical procedures for the operation of HVS were as follows:
  - A horizontal platform was provided with appropriate support to secure the samplers against gusty wind.
  - No two samplers were placed less than 2 meters apart.
  - The distance between the sampler and an obstacle, such as buildings, was at least twice the height that the obstacle protrudes above the sampler.
  - A minimum of 2 meters of separation from walls, parapets and penthouses was required for rooftop samples.
  - A minimum of 2 meters separation from any supporting structure, measured horizontally was required.
  - No furnaces or incineration flues were nearby.
  - Airflow around the sampler was unrestricted.
  - The sampler was more than 20 meters from the drip line.
  - Any wire fence and gate, to protect the sampler, should not cause any obstruction during monitoring.
- 2.8 Prior to the commencement of the dust sampling, the flow rate of the high volume sampler was properly set (between 1.1 m³/min. and 1.4 m³/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 (G810) were used.

- 2.9 The power supply was checked to ensure the sampler worked properly. On sampling, the sampler was operated for 5 minutes to establish thermal equilibrium before placing any filter media at the designated air monitoring station.
- 2.10 The filter holding frame was then removed by loosening the four nuts and a weighted and conditioned filter was carefully centered with the stamped number upwards, on a supporting screen.
- 2.11 The filter was aligned on the screen so that the gasket formed an airtight seal on the outer edges of the filter. Then the filter holding frame was tightened to the filter holder with swing bolts. The applied pressure should be sufficient to avoid air leakage at the edges.
- 2.12 The shelter lid was closed and secured with the aluminum strip. The timer was then programmed. 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 removed and sent to the laboratory for weighing. The elapsed time was also recorded.
- 2.13 Before weighing, all filters were equilibrated in a conditioning environment for 24 hours. The conditioning environment temperature should be between 25°C and 30°C and not vary by more than ±3°C; the relative humidity (RH) should be < 50% and not vary by more than ±5%. A convenient working RH is 40%.

## Maintenance/Calibration

- 2.14 The following maintenance/calibration was required for the HVS:
  - The high volume motors and their accessories were properly maintained. Appropriate maintenance such as routine motor brushes replacement and electrical wiring checking were made to ensure that the equipment and necessary power supply are in good working condition.
  - High volume samplers were calibrated at bi-monthly intervals using GMW-25 Calibration Kit throughout all stages of the air quality monitoring.

#### Wind Data

2.15 Wind data was required to be taken from the Hong Kong Observatory Weather Stations including HK International Airport and Cheung Chau.

#### **Results and Observations**

- 2.16 24-hr TSP monitoring at 3 monitoring stations, AM1, AM2 and AM4, were conducted as scheduled in the reporting month.
- 2.17 The monitoring data, graphical presentations and wind data for the reporting month are summarized in Appendix D. No Action/Limit Level exceedance was recorded for 24-hr TSP monitoring in the reporting month.

#### 3. NOISE

## **Monitoring Requirements**

- 3.1 Monitoring and audit of construction noise levels is required to be conducted, in accordance with the Updated EM&A Manual, to ensure that any unacceptable noise impacts could be readily detected and timely and appropriate action be undertaken to rectify the situation.
- 3.2 The construction noise levels shall be measured in terms of the A-weighted equivalent continuous sound pressure level (Leq). Leq (30min) shall be used as the monitoring parameter for the time period between 0700-1900 hours on normal weekdays. For all other time periods, Leq (5min) shall be employed for comparison with the Noise Control Ordinance (NCO) criteria. As supplementary information for data auditing, statistical results such as  $L_{10}$  and  $L_{90}$  shall also be obtained for reference.

#### **Monitoring Locations**

- 3.3 In accordance with the Updated EM&A Manual, noise monitoring shall only be conducted at the monitoring location when there are Project related construction activities being undertaken within a radius of 300m from the monitoring location.
- 3.4 Eight designated noise monitoring stations, NM1 to NM8 were selected for noise impact monitoring. Appendix A shows the established Action and Limit Levels for the environmental monitoring works. Table 3.1 describes the noise monitoring locations and Figure 3 shows their locations.

**Table 3.1 Noise Monitoring Stations** 

Stations	Description	Location
NM1	No. 28 Lung Tseng Tau	Ground Floor
NM2	YMCA of Hong Kong Christian College	Rooftop
NM3	No. 37 Shek Lau Po	Ground Floor
NM4	No. 1 Shek Mun Kap	Ground Floor
NM5	Tung Chung Au Country Parks Management Centre	Ground Floor
NM6	D75 Leyburn Villa	Ground Floor
NM7 <sup>(1)</sup>	House in Butterfly Crest House 22	Rooftop
NM8	No. 31 South Lantau Road	Ground Floor

Remarks:

<sup>(1)</sup> Monitoring at NM7 will be conducted when the Project related construction activities are being undertaken within a radius of 300 m from the monitoring location.

## **Monitoring Equipment**

3.5 Table 3.2 summarizes the noise monitoring equipment model being used. Copies of calibration certificates are attached in Appendix B.

**Table 3.2** Noise Monitoring Equipment

Equipment	Model and Make	Quantity
Integrating Sound Level Meter	B&K Model 2238	4
Calibrator	K 4231	3
Wind Speed Anemometer	RS232 Integral Vane Digital Anemometer	1

## **Monitoring Parameters, Frequency and Duration**

3.6 Table 3.3 summarizes the monitoring parameters, frequency and total duration of monitoring. The noise monitoring schedule is attached in Appendix C.

**Table 3.3** Noise Monitoring Parameters, Frequency and Duration

Station	Parameter	Period <sup>1</sup>	Frequency	Measurement
NM1				Façade <sup>(1)</sup>
NM2				Façade <sup>(1)</sup>
NM3		(a) 0700 1000 hms on weakdows		Façade <sup>(1)</sup>
NM4	$\begin{array}{c} L_{10}(30 \text{ min.}) dB(A) \\ L_{90}(30 \text{ min.}) dB(A) \\ L_{eq}(30 \text{ min.}) dB(A) \end{array}$	(a) 0700-1900 hrs. on weekdays (b) 1900-2300 hrs. on weekdays	Once every	Façade <sup>(1)</sup>
NM5		(c) 0700-2300 hrs. on holidays	6 working days	Façade <sup>(1)</sup>
NM6		(d) 2300-0700 hrs on any days		Façade <sup>(1)</sup>
NM7				Façade <sup>(1)</sup>
NM8				Façade <sup>(1)</sup>

#### Remarks:

# Monitoring Methodology and QA/QC Procedures

- The Sound Level Meter was generally set on a tripod at a height of 1.2 m above the ground, depending to the actual monitoring condition.
- For free field measurement (if any), the meter was positioned away from any nearby reflective surfaces. All records for free field noise levels were adjusted with a correction of +3 dB(A).
- 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:

<sup>(1)</sup> Noise measurements were taken at 1m from the exterior of the building facade.

<sup>(</sup>b), (c) and (d) will only be conducted if construction works are undertaken during these periods.

frequency weighting : Atime weighting : Fast

time measurement : 30 minutes / 5 minutes

- Prior to and after each noise measurement, the meter was calibrated using a
  Calibrator for 94.0 dB at 1000 Hz. If the difference in the calibration level before
  and after measurement was more than 1.0 dB, the measurement would be
  considered invalid and repeat of noise measurement would be required after recalibration or repair of the equipment.
- The wind speed was frequently checked with the portable wind meter.
- At the end of the monitoring period, the  $L_{eq}$ ,  $L_{90}$  and  $L_{10}$  were recorded. In addition, site conditions and noise sources were recorded on a standard record sheet.
- Noise measurement was paused during periods of high intrusive noise if possible and observation was recorded when intrusive noise was not avoided.
- Noise monitoring was cancelled in the presence of fog, rain, and wind with a steady speed exceeding 5 m/s, or wind with gusts exceeding 10 m/s.

#### **Maintenance and Calibration**

3.7 The microphone head of the sound level meter and calibrator was cleaned with soft cloth regularly. The meters were sent to the supplier to check and calibrate on a yearly interval.

#### **Results and Observations**

- Noise monitoring was conducted as scheduled at the seven designated stations NM1, NM2, NM3, NM4, NM5, NM6 and NM8, in this reporting month.
- 3.9 Noise monitoring results and graphical presentations are shown in Appendix E.
- 3.10 No Action/Limit Level exceedance was recorded in the reporting month.

## 4. WATER QUALITY

#### **Monitoring Requirements**

4.1 Water quality monitoring was conducted in accordance with the Updated EM&A Manual. Appendix A shows the established Action Limit Levels for the environmental monitoring works.

## **Monitoring Equipment**

4.2 Table 4.1 summarizes the equipment used in the impact water quality monitoring program. All the monitoring equipment complied with the specifications stipulated in the EM&A Manual. Copies of the calibration certificates of the equipment are attached in Appendix B.

**Table 4.1 Water Quality Monitoring Equipment** 

Equipment	Model and Make	Qty.
Multi-parameter Water Quality System	YSI 6820	2

## **Monitoring Parameters, Frequency and Duration**

- 4.3 Table 4.2 summarizes the monitoring parameters, monitoring period and frequencies of water quality monitoring. The water quality monitoring schedule is attached in Appendix C.
- 4.4 In-situ measurements were taken at designated monitoring stations which are under the influence of the works at least three times per week during the course of the construction period. In addition, water samples for suspended solid analysis have been collected at the designated stations and delivered to Wellab for further laboratory analysis.

**Table 4.2** Frequency and Parameters of Water Quality Monitoring

Parameters	Frequency	No. of Depth
DO Saturation (%), DO (mg/L), Turbidity (NTU), SS (mg/L), Temperature (°C), & pH	3 times per week	Sub-surface

# **Monitoring Locations**

4.5 The water quality monitoring locations are shown in Figure 3 and their details are provided in Table 4.3.

**Table 4.3 Water Quality Monitoring Locations** 

Monitoring Station (Stream No.)	Туре	Easting	Northing
Tuna Chuna Straam	Reference	811853	813289
Tung Chung Stream	Impact	811601	813716
Charry a Cha Ctuanu	Reference	812525	811980
Cheung Sha Stream	Impact	812447	811165
Stream 15	Reference	811853	813289
Stream 15	Impact	811781	813298
Stream 18	Reference	811889	813107
Sucam 10	Impact	811836	813138
Stream 19	Reference	811920	812927
Sucam 19	Impact	811858	812987
Stream 21	Reference	811994	812695
Sueam 21	Impact	811873	812723
	Reference1	811980	812589
Stream 23	Reference 2	812079	812386
	Impact	811894	812658
Stream 25	Reference	812353	812052
Stream 25	Impact	812324	812017
Stream 26	Reference	812525	811980
Sucam 20	Impact	812456	811895
Stream 27	Reference	812658	811770
Sucam 21	Impact	812604	811747
Stream 32	Reference	812980	811410
Sueam 52	Impact	812988	811327
Stream 35	Reference	813231	811275
Sucalli 33	Impact	813218	811218
Stream 40	Reference	813686	811311
Sucalli 40	Impact	813690	811211
Tung Chung Day	Reference	810679	816038
Tung Chung Bay	Impact	810787	815706

# Monitoring Methodology, Calibration Details and QA/QC Procedures

## **Instrumentation**

4.6 A multi-parameter meter (Model YSI 6820 CE-C-M-Y) was used to measure DO, turbidity, salinity, pH and temperature.

#### Operating/Analytical Procedures

- 4.7 At each monitoring location, two consecutive measurements were taken for water samples being collected on site. The probes were retrieved out of the water after the first measurement and then re-deployed for the second measurement. Where the difference in the value between the first and second readings of each set was more than 25% of the value of the first reading, the reading was discarded and further readings were taken.
- 4.8 For SS, measurement and grab samples of surface water were collected. Water samples of about 1,000 ml were collected and stored in polyethylene bottles. Following collection, water samples were stored in high density polythene bottles with preservative appropriately added, packed in ice and cooled to 4°C (without being frozen), delivered to the HOKLAS accredited laboratory, Wellab Limited and analyzed.

#### **Maintenance and Calibration**

4.9 Before each round of monitoring, a zero check in distilled water was performed with the turbidity probe of YSI 6820. The probe was then calibrated with a solution of known NTU.

#### **Results and Observations**

- 4.10 Water quality monitoring was conducted as scheduled at designated monitoring stations (Streams 15, 18, 21, 23, 26, 27, 40, Cheung Sha Stream, Tung Chung Stream and Tung Chung Bay), which are under the influence of the works, in the reporting month. As no water monitoring was conducted at the streams which were observed dry in the reporting month.
- 4.11 During monitoring, the weather conditions were generally fine. The monitoring data and graphical presentations of the monitoring results are shown in Appendix F and the Quality Control reports for the laboratory analysis are provided in Appendix G.
- 4.12 Exceedances of suspended solids (SS) were recorded in water samples in the reporting month. The exceedance reports are attached in Appendix H. The summary of exceedances for each water quality parameters are provided in Table 4.4.

Table 4.4 Summary of Water Quality Exceedances in the reporting month

Station	DO	00		Turbidit	y	SS	
No.	Action	Limit	Limit	Action	Limit	Action	Limit
15_I	0	0	0	0	0	0	0
18_I	0	0	0	0	0	0	0
19_I*	0	0	0	0	0	0	0
21_I	0	0	0	0	0	0	0
23_I	0	0	0	0	0	0	0
25-I*	0	0	0	0	0	0	0
26_I	0	0	0	0	0	0	0
27_I	0	0	0	0	0	13	0
32_I*	0	0	0	0	0	0	0
35_I*	0	0	0	0	0	0	0
40_I	0	0	0	0	0	0	0
CSS_I	0	0	0	0	0	0	0
TCB_I	0	0	0	0	0	0	0
TCS_I	0	0	0	0	0	0	0

Remarks: \* indicates the stream was not sampled in the reporting month.

- 4.13 As shown in the exceedance reports attached in Appendix H, all exceedances for water quality parameters recorded in the reporting month were not due to the Project based on the following observations:
  - ♦ No construction activity was observed in the vicinity of the sampling locations.
  - ♦ No pollution discharge from construction activity was observed.
  - ♦ Measured value at the reference station was higher than at the impact monitoring stations.
- 4.14 According to the ET's investigation, no direct evidence demonstrated the exceedances of Action/Limit level for water monitoring parameters were caused by the Project.

#### 5. ENVIRONMENTAL AUDIT

#### **Site Audits**

- 5.1 Site audits were carried out on a weekly basis to monitor the timely implementation of proper environmental management practices and mitigation measures in the Project site.
- 5.2 ET site audits were conducted on 5<sup>th</sup>, 11<sup>th</sup>, 19<sup>th</sup>, 26<sup>th</sup> March 2009 in the reporting month. IEC site inspection was conducted on 11<sup>th</sup> March 2009. The summaries of site audits are attached in Appendix I.

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

5.3 The monitoring works conducted by the monitoring team were inspected regularly. The following observations were recorded for the monitoring works:

#### Air Quality Monitoring

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

#### Noise Monitoring

- The monitoring team recorded all observations around the monitoring stations, which might affect the monitoring result.
- Major noise sources were identified and recorded. Other intrusive noise attributing to the result was trimmed off by pausing the monitoring temporarily.

#### Water Quality Monitoring

- The monitoring team recorded all observations around the monitoring stations, which might affect the monitoring result.
- The monitoring team recorded the weather and river conditions on the monitoring day.

# **Status of Environmental Licensing and Permitting**

5.4 All permits/licenses obtained for the Project are summarized in Table 5.1.

 Table 5.1
 Summary of Environmental Licensing and Permit Status

Dameit No	Valid Period		Details	C4-4	
Permit No.	From To		Details	Status	
<b>Environmental Per</b>	mit (EP)				
EP-170/2003/C	31/7/07	N/A	Construction of  (a) Widening and realignment of an approximate 3.6 kilometre long section of Tung Chung Road between Lung Tseng Tau and Pak Kung Au from a single-lane road for two-way traffic to a single two-lane road with footpath; (b) Construction of an approximate 2.6 kilometre long single two-lane road between Pak Kung Au and Cheung Sha with footpath and elevated highway structures; and © Provision of passing bays/bus lay-bys along Tung Chung Road.	Valid	
Registration of Che	mical Waste				
WPN5214 – 950- C1213-01		N/A	Chemical waste types: spent Indication oil, surplus paint, spent diesel, spent thinner, mixing residue containing pesticides, spent mineral oil	Valid	
Water Discharge Li	icense	•			
EP890/W7/XP089		N/A	Discharge from Sewage Treatment System (Northern Section)	Valid	
EP890/W7/XP090		N/A	Industrial discharge (Northern Section)	Valid	
EP890/W2/XG013		N/A	Industrial discharge (Southern Section)	Valid	
<b>Construction Noise</b>	Permit (CN	<b>P</b> )	-		
GW-RW0439-08	20/09/08	19/03/09.	Construction Noise Permit for Cheung Tung Road near Sunny Bay Station, Lantau Island, H.K.	Valid	
GW-RS0698-08	10/10/08	9/04/09	Construction Noise Permit for Construction Site for Roadworks between Pak Kung Au and Cheung Sha Sheung Tsuen	Valid	

# **Status of Waste Management**

- 5.5 The waste management of the Project has to follow the requirements and procedures stated in the Waste Management Plan which was prepared by the Contractor.
- 5.6 The solid waste generated from the Project was mainly general refuse that was collected by a licensed collector on an as need basis.
- 5.7 The monthly summary of waste flow table and the timber summary for March 2009 are provided in Appendix O.

## **Implementation Status of Environmental Mitigation Measures**

5.8 During site inspections in the reporting month, no non-conformance was identified. The observations and recommendations are summarized in Table 5.2.

 Table 5.2
 Observations and Recommendations of Site Inspections

Parameters	Date	Observations and Recommendations	Follow-up
Water Quality	05/03/09	Heaps of silt were observed in culvert at Stream21, SD6-12, SD5-11 and in u-channels at near San Shek Wan, SD7-13, SD4-7. The Contractor was reminded to clear it before rainy season for avoid discharge to the streams.	the follow-up audit session. Follow-up action was needed for
	05/03/09	followings:  Properly cover/ hydroseed the exposed	This item was not rectified during the follow-up audit session. Follow-up action was needed for the outstanding item.
	05/03/09	The Contractor was reminded of the followings: - Provide drip tray for oil containers at near Stream21 and Stream6.	This item was not rectified during the follow-up audit session. Follow-up action was needed for the outstanding item.
	05/03/09	The Contractor was reminded of the followings: - Provide temporary drainage or stream diversion at <b>Stream21</b> .	This item was not rectified during the follow-up audit session. Follow-up action was needed for the outstanding item.
	11/03/09	Heaps of silt and debris were observed in culvert at SD7-13, SD6-12, in uchannels/drains at near San Shek Wan, SD7-13, SD4-7. The Contractor was reminded to clear it before rainy season.	the follow-up audit session. Follow-up action was needed for
	11/03/09	Exposed slopes were observed at underneath STR7, STR8, underneath STR12, STR14, underneath STR16, underneath STR17 and SD7-13. The Contractor was reminded to properly cover those slopes with tarpaulin and provide hydroseed as soon as possible.	the follow-up audit session. Follow-up action was needed for the outstanding item.
	11/03/09	The Contractor was reminded of the followings: - Provide drip tray for oil containers at near Stream19, SD5-11 and near Stream6.	This item was not rectified during the follow-up audit session. Follow-up action was needed for the outstanding item.
	11/03/09	The Contractor was reminded of the followings: - Provide stream diversion at <b>Stream11</b> .	This item was not rectified during the follow-up audit session. Follow-up action was needed for the outstanding item.
	11/03/09	The Contractor was reminded of the followings: - Provide concrete and sand bag bund at <b>Stream21</b> for filtering silting water discharge to Tung Chung Stream.	This item was not rectified during the follow-up audit session. Follow-up action was needed for the outstanding item.
	19/03/09	Standing water was observed at the water treatment unit at <b>Shek Mun Kap</b> . The Contractor was reminded to pump it out or spray mosquito larvicide to prevent mosquito breed.	the follow-up audit session. Follow-up action was needed for
	19/03/09	Oil leakage was observed from the generator at SD6-12. The Contractor was reminded well-maintained the plant equipment and clear the	the follow-up audit session.

Parameters	Date	Observations and Recommendations	Follow-up
		oil stains.	the outstanding item.
	19/03/09	Silty water was observed pumping out from the construction area at <b>Stream21</b> . The Contractor was reminded to provide sedimentation tank for treating the wastewater before discharging out and provide mitigation measures to prevent the silty water further discharging to Tung Chung Stream.	observed during the follow-up audit session.
	19/03/09	A pile of sediment was observed to place at the drainage channel at <b>Stream 21</b> . The Contractor was reminded to remove them as soon as possible.	observed during the follow-up
	19/03/09	The Contractor was reminded of the followings:  - Properly cover the exposed slopes along Tung Chung Road (Southern & Northern Section) with tarpaulin which are not undertaken the works and provide hydroseed immediately when the works are completed.	the outstanding item.
	19/03/09	followings: - Clear the silt, debris and construction waste	the outstanding item.
	19/03/09	The Contractor was reminded of the followings: - Clear the sediment accumulated at	This item was not rectified during the follow-up audit session. Follow-up action was needed for the outstanding item.
	19/03/09		This item was not rectified during the follow-up audit session. Follow-up action was needed for the outstanding item.
	19/03/09	The Contractor was reminded of the followings:  - Clear the silt at between the drainage channel and exposed slopes at Southern Section of Tung Chung Road. (especially STR9A and STR12-13)	the outstanding item.
	26/03/09	Standing water was observed at the water treatment unit at <b>Shek Mun Kap</b> . The Contractor was reminded to pump it out or spray mosquito larvicide to prevent mosquito breed.	observed during the follow-up audit session.
	26/03/09	Silt and sediment was observed discharging to the catchwater from the exposed slope at STR16. The Contractor was reminded to cover the exposed surface as soos as possible.	the follow-up audit session.

Parameters	Date	Observations and Recommendations	Follow-up
	26/03/09	The Contractor was reminded of the followings:  - Properly cover the exposed slopes along Tung Chung Road (Southern & Northern Section) with tarpaulin which are not undertaken the works and provide hydroseed immediately when the works are completed. (in-progress)	the outstanding item.
	26/03/09	The Contractor was reminded of the followings:  - Clear the silt, debris and construction waste in the culvert at STR17, Shan Shek Wan, near Stream 22, SD7-13, SD6-12 and SD5-11.	This item was not rectified during the follow-up audit session. Follow-up action was needed for the outstanding item.
	26/03/09	The Contractor was reminded of the followings: - Clear the sediment accumulated at the catchwater (in-progress).	Rectification/improvement was observed during the follow-up audit session.
	26/03/09	The Contractor was reminded of the followings: - Properly cover the stockpiles with tarpaulin at Pak Kung Au and Site office.	This item was not rectified during the follow-up audit session. Follow-up action was needed for the outstanding item.
	26/03/09	The Contractor was reminded of the followings: - Provide stream diversion at <b>Stream 11.</b>	This item was not rectified during the follow-up audit session. Follow-up action was needed for the outstanding item.
	26/03/09	<ul> <li>The Contractor was reminded of the followings:</li> <li>Clear the silt at between the drainage channel and exposed slopes at Southern Section of Tung Chung Road. (especially STR9A, STR12-13 and STR17)</li> </ul>	the outstanding item.
Air Quality	05/03/09	Stockpiles at <b>San Shek Wan</b> were observed dry. The contractor was reminded to provide dust suppressing measures (e.g. spray water throughout the site regularly) to prevent dust generation.	the follow-up audit session. Follow-up action was needed for
	05/03/09	The Contractor was reminded of the followings: - Properly cover/ hydroseed the exposed slopes at STR8, underneath STR12, STR14 and SD7-13.	This item was not rectified during the follow-up audit session. Follow-up action was needed for the outstanding item.
	05/03/09	The Contractor was reminded of the followings:  - Water spraying should be provided on dusty road, during loading/unloading activities.	This item was not rectified during the follow-up audit session. Follow-up action was needed for the outstanding item.
	11/03/09	Stockpiles at San Shek Wan were observed dry. The contractor was reminded to provide dust suppressing measures (e.g. spray water throughout the site regularly) to prevent dust	the follow-up audit session. Follow-up action was needed for

Parameters	Date	Observations and Recommendations	Follow-up
		generation.	
	11/03/09	Exposed slopes were observed at underneath STR7, STR8, underneath STR12, STR14, underneath STR16, underneath STR17 and SD7-13. The Contractor was reminded to properly cover those slopes with tarpaulin and provide hydroseed as soon as possible.	the follow-up audit session. Follow-up action was needed for the outstanding item.
	11/03/09	followings: - Water spraying should be provided on dusty	This item was not rectified during the follow-up audit session. Follow-up action was needed for the outstanding item.
	11/03/09	followings: - Properly cover the stockpiles with tarpaulin	This item was not rectified during the follow-up audit session. Follow-up action was needed for the outstanding item.
	19/03/09	Stockpile and unpaved area at <b>Shan Shek Wan</b> were observed dry. The Contractor was reminded to provide dust suppression measures to prevent dust generation.	observed during the follow-up
	19/03/09	The Contractor was reminded of the followings: - Provide water spray for the dust generation activities (rock breaking, excavation) at Shan Shek Wan.	This item was not rectified during the follow-up audit session. Follow-up action was needed for the outstanding item.
	19/03/09	The Contractor was reminded of the followings: - Properly cover the stockpiles with tarpaulin at underneath STR7, Pak Kung Au, near Stream 19 and SD4-7.	This item was not rectified during the follow-up audit session. Follow-up action was needed for the outstanding item.
	26/03/09	followings: - Properly cover the exposed slopes along	the outstanding item.
	26/03/09	followings: - Provide water-spray for the dust generation	
	26/03/09		Rectification/improvement was observed during the follow-up audit session.
Waste / Chemical	05/03/09	Empty oil containers were observed at San Shek Wan, near Stream21, near Stream20,	_

Parameters	Date	Observations and Recommendations	Follow-up
Management		SD6-12 and SD5-11. The contractor was reminded to remove them and sorting is necessary.	
	05/03/09		the outstanding item.
	05/03/09	The Contractor was reminded of the followings:	This item was not rectified during the follow-up audit session. Follow-up action was needed for the outstanding item.
	05/03/09	The Contractor was reminded of the followings: - Clear the general refuse at <b>Stream22</b> , in uchannel and culvert at near <b>Stream20</b> .	Rectification/improvement was observed during the follow-up audit session.
	05/03/09	The Contractor was reminded of the followings: - Provide drip tray for oil containers at near Stream21 and Stream6.	This item was not rectified during the follow-up audit session. Follow-up action was needed for the outstanding item.
	11/03/09	Empty oil containers were observed at <b>San Shek Wan</b> and <b>SD6-12.</b> The contractor was reminded to remove them and sorting is necessary.	the follow-up audit session.
	11/03/09	The Contractor was reminded of the followings:  - Clear C&D waste and/or abandoned cement bags next to the catchment water (in progress), at Stream22, Stream26, Stream30, Stream37, Stream38, near Stream21, near Stream5, in culverts at STR17, Stream20, SD4-7, in u-channels at SD6-12.	the outstanding item.
	11/03/09	followings:	This item was not rectified during the follow-up audit session. Follow-up action was needed for the outstanding item.
	11/03/09		This item was not rectified during the follow-up audit session. Follow-up action was needed for the outstanding item.
	19/03/09	Empty oil containers were observed at San Shek Wan and SD6-12. The Contractor was	

Parameters	Date	Observations and Recommendations	Follow-up
		reminded to clear them as chemical waste.	Follow-up action was needed for the outstanding item.
	19/03/09	Oil leakage was observed from the generator at SD6-12. The Contractor was reminded well-maintained the plant equipment and clear the oil stains.	the follow-up audit session
	19/03/09	The Contractor was reminded of the followings:  - Clear the vegetation waste along Southern Section of Tung Chung Road.	This item was not rectified during the follow-up audit session Follow-up action was needed fo the outstanding item.
	19/03/09	The Contractor was reminded of the followings: - Provide drip tray for oil drums at near	Hater and a second transfer and
	26/03/09	Empty oil containers were observed at San Shek Wan, SD6-12 and SD10-19. The Contractor was reminded to clear them as chemical waste.	the follow-up audit session
	26/03/09	The Contractor was reminded of the followings:  - Clear C&D waste accumulated at RW16 and underneath STR7.	This item was not rectified during the follow-up audit session Follow-up action was needed for the outstanding item.
	26/03/09	followings:	This item was not rectified during the follow-up audit session Follow-up action was needed fo the outstanding item.
	26/03/09	followings:	This item was not rectified during the follow-up audit session. Follow-up action was needed for the outstanding item.
	26/03/09	The Contractor was reminded of the followings: - Provide drip tray for the oil drums at SD7-13 and SD5-11.	observed during the follow-up
	26/03/09	The Contractor was reminded of the followings: - Properly maintain the drip tray for the air compressor at <b>SD7-13</b> .	Rectification/improvement wa observed during the follow-up audit session.
Earle	19/03/09		
Ecology	26/03/09	The Contractor was reminded of the followings: - Clear the C&D waste at Stream 22, Stream 30, Stream 34, Stream 36, Stream 37 and 38.	This item was not rectified during the follow-up audit session Follow-up action was needed for the outstanding item.

Parameters	Date	Observations and Recommendations	Follow-up
_	26/03/09		This item was not rectified during the follow-up audit session. Follow-up action was needed for the outstanding item.
General	05/03/09	Provide mitigation measures (sand bag	the outstanding item.
	05/03/09	Provide sand bag bund between drainage system and exposed slops/stockpiles and properly cover then with tarpaulin before rainy season, such as RW38, RW15, Pak Kung Au, near Sream19, SD4-7, SD5-11, SD6-12, SD7-13 and downhill slope at SD6-12.	the follow-up audit session. Follow-up action was needed for the outstanding item.
	11/03/09	Provide mitigation measures (sand bag bund/cover with tarpaulin) at between construction areas and paved roads for avoid trailing mud on public road, especially the construction areas at the entrance of Tung Chung Road near RW15, Stream19, STR6, Stream21, the site office, SD7-13, SD6-12, SD5-11, SD4-7, Pak Kung Au and San Shek Wan.	Follow-up action was needed for the outstanding item.
	11/03/09	Provide sand bag bund between drainage system and exposed slops/stockpiles and properly cover then with tarpaulin before rainy season, especially at the southern Tung Chung Road.	the follow-up audit session. Follow-up action was needed for
	19/03/09	Provide mitigation measures (sand bag bund/cover with tarpaulin) at between the construction areas and paved road to prevent any mud from carrying to the public road. (i.e.at the entrance of Tung Chung Road near RW15, Stream 19, STR6, Stream 21, SD7-13, SD6-12, SD5-11, SD4-7, Pak Kung Au and Shan Shek Wan). Wheel Washing should also be provided at site office.	Follow-up action was needed for the outstanding item.
	26/03/09	Provide mitigation measures (sand bag bund/cover with tarpaulin) at between the construction areas and paved road to prevent any mud from carrying to the public road. (i.e.at the entrance of Tung Chung Road near RW15, Stream 19, STR6, Stream 21, SD7-13, SD6-12, SD5-11, SD4-7, Pak Kung Au and Shan Shek Wan).	Follow-up action was needed for the outstanding item.

#### **Non-compliance Recorded during Site Inspections**

5.9 No non-compliance was recorded in the reporting period.

## **Summary of Mitigation Measures Implemented**

5.10 The Contractor has implemented the mitigation measures as recommended in the EIA and the Updated EM&A Manual. The mitigation measures implemented by the Contractor in the reporting month are summarized as follow:

Water Quality

- (1) Provided mitigation measures at Stream 21 to prevent silty water from discharging to Tung Chung River.
- (2) Cleared the pile of sediment at the drainage channel at Stream 21.
- (3) Cleared the standing water at the treatment unit at Shek Mun Kap.
- (4) Cleared the sediment accumulated at the catchwater.

Air Quality

(5) Provided water-spray for the stockpile and unpaved area at Shan Shek Wan.

Waste/Chemical Management

- (6) Cleared the oil drums at SD7-13 and SD5-11.
- (7) Properly maintained the drip tray for the air compressor at SD7-13.
- 5.11 According to the Updated EM&A Manual, mitigation measures are required to be implemented. An updated summary of the EMIS is provided in Appendix J.

#### Summary of Exceedances of the Environmental Quality Performance Limit

24-hr TSP Monitoring

5.12 No Action/Limit Level exceedance was recorded in the reporting month.

Construction Noise Monitoring

5.13 No Action/Limit Level exceedance was recorded in the reporting month.

Water Quality Monitoring

- 5.14 Exceedances of suspended solids (SS) were recorded in water samples in the reporting month. The summary of exceedances is provided in Table 4.4.
- 5.15 All exceedances recorded for water quality parameters in the reporting month were not considered due to the Project due to the following observations:
  - No construction activity was observed in the vicinity of the sampling locations.

- ♦ No pollution discharge from construction activity was observed.
- ♦ Measured value at the reference station was higher than at the impact monitoring stations.
- 5.16 No direct evidence demonstrated the exceedances of Action/Limit level for water monitoring parameters in the reporting month were caused by the Project.

#### **Implementation Status of Event Action Plans**

- 5.17 The Event Action Plans for air quality, noise and water quality are presented in Appendix K.
- 5.18 No valid exceedance of Action and Limit levels for air quality, noise and water quality monitoring due to the Project was recorded. No action was required to be carried out.

# Summary of Complaint, Warning, Notification of any Summons and Successful Prosecution

- 5.19 No environmental complaint was received in the reporting month.
- 5.20 No warning and summon or notification of successful prosecution was received in the reporting month.
- 5.21 There were a total of 52 environmental complaints, 13 warnings, 3 summons and 2 successful prosecutions received since the commencement of the Project.
- 5.22 The Complaint Log is attached in Appendix L and the summary of warnings issued by the EPD and prosecution is attached in Appendix M.

#### 6. FUTURE KEY ISSUES

## **Key Issues for the Coming Month**

- 6.1 Key issues to be considered in the coming month include:
  - Runoff from exposed slope;
  - Wastewater and runoff discharge from site;
  - Regular removal of silt, mud and sand along u-channels, culverts and gullies;
  - Review and implementation of temporary drainage system for the surface runoff;
  - Proper storage of construction materials near streams;
  - Noise from operation of the equipment, especially for rock-breaking activities and machinery on-site;
  - Dust generation from stockpiles of dusty materials, exposed retain wall, excavation works and rock breaking activities;
  - Storage of chemicals/fuel and chemical waste/waste oil on site;
  - Watering for rock breaking activity, soil nailing and on haul road;
  - Accumulation of general and construction waste near stream and on site;
  - Proper sorting and segregation of C&D materials in designated areas; and
  - Provide wheel washing facilities at the site entrance/exit.

#### **Monitoring Schedule for the Next Month**

6.2 The tentative monitoring schedule for the next month is given in Appendix C.

# **Construction Program for the Project (Construction Program for the Next Month)**

6.3 The major construction activities in the coming month include:

Northern Section

- Installation of street furniture at Zone A to F;
- Construction of baffle wall and stepped channel; and
- Reinstatement works of the footpath.

Southern Section

- Reinstatement works of footpath at Zone 1 to 3; and
- Street furniture installation at Zone 1 to 3.

#### 7. CONCLUSIONS AND RECOMMENDATIONS

#### **Conclusions**

- 7.1 Air quality, noise and water quality monitoring works were performed in the reporting month and all monitoring results were checked and reviewed.
- 7.2 24-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded in the reporting month.
- 7.3 Construction noise monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded in the reporting month.
- 7.4 Water quality monitoring was conducted as scheduled in the reporting month.
- 7.5 No valid Action/Limit Level exceedance for water quality was recorded in the reporting month.
- 7.6 No environmental complaint was received in the reporting month.
- 7.7 No warning and summon and notification of successful prosecution was received in the reporting month.

#### Recommendations

7.8 According to the environmental audit performed in the reporting month, the following recommendations were made:

#### **Dust Impact**

- To implement dust suppression measures on all haul roads, stockpiles and dry surfaces in dry weather.
- To implement dust control measures for the dust generation work such as cement mixing, soil nailing, excavation, piling works and rock breaking.
- To ensure water spray being applied for the dust emissive works, such as soil nail
  installation, loading and unloading of soil materials, excavation works and rock
  dowel installation.
- To cover soil stockpiles and exposed slope surface by impervious tarpaulin sheets or other means.
- To ensure that all vehicles carrying dusty material are properly covered before leaving the site.
- To maintain the machinery and vehicles in a good working condition on site.

#### Noise Impact

• To implement appropriate mitigation measures, such as cover the tip of the hammer,

in order to minimize the noise emitted during rock-breaking activities.

- To review the works sequence of site activities so as to reduce the number of noisy equipment in concurrent operation.
- To follow up any exceedance caused by the construction works.
- To employ quiet powered mechanical equipment if possible.
- To ensure compliance of CNP conditions during restricted-hour works.
- To space out noisy equipment and position as far away as possible from sensitive receivers.

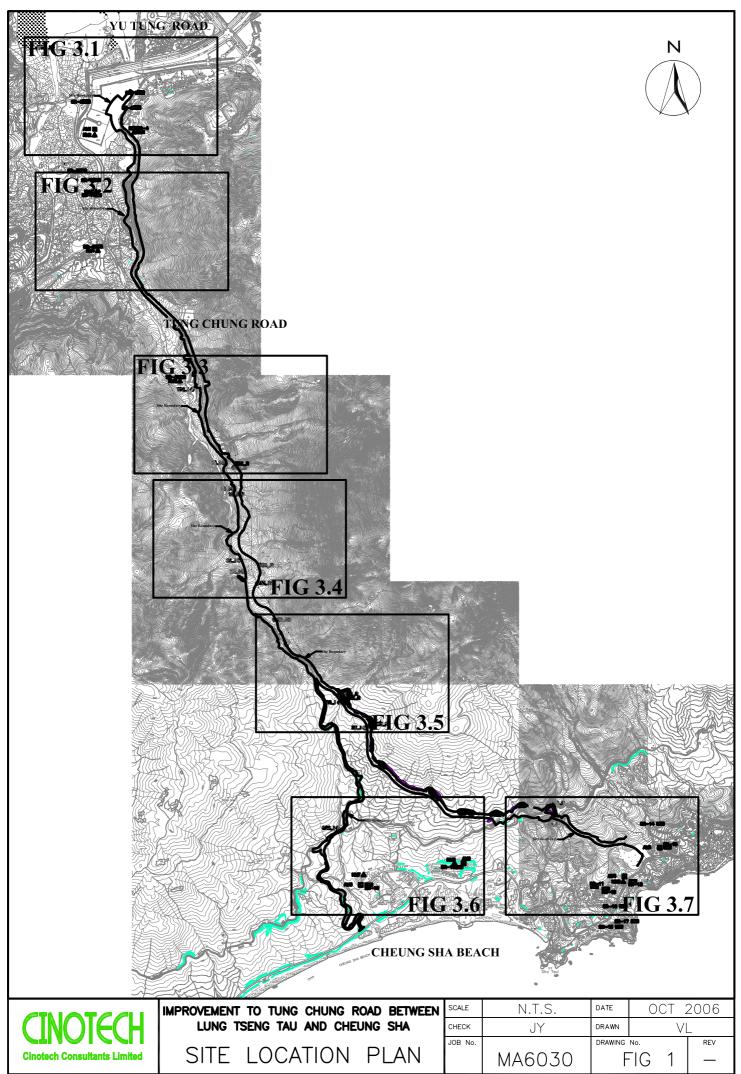
# Water Quality Impact

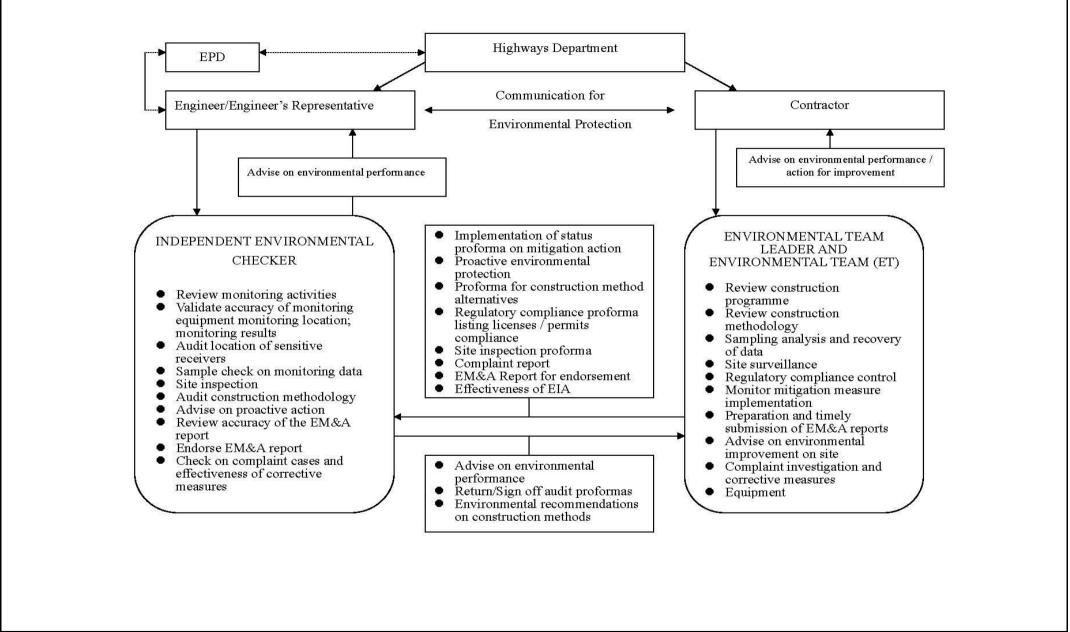
- To prevent any surface runoff discharge into any stream course.
- To avoid accumulation of stagnant and ponding water on site.
- To clear the silt and sediment in the sedimentation tanks.
- To ensure properly maintenance for de-silting facilities.
- To divert all the water generated from construction site to de-silting facilities with enough handling capacity before discharge.
- To review the capacity of de-silting facilities for discharge.
- To review and implement temporary drainage system.
- To identify any wastewater discharges from site.
- To follow up any exceedance caused by the construction works.

#### Waste / Chemical Management

- To ensure no sediment and debris in the drainage system (U-Channel, culvert, gullies and underground channel) after the rainstorm.
- To avoid any discharge or accidental spillage of chemical waste directly from the site.
- To remove ponding water regularly in drip trays on site.
- To carry out inspection of dump truck at site exit to ensure inert and non-inert C&D materials are properly segregated before removing off site.
- To ensure proper collection and disposal of rubbish generated on site.
- To avoid storage of oil container within the Country Park.
- To ensure the performance of sorting of C&D materials at source (during generation).
- To avoid storage of construction materials at any stream.
- To check for any accumulation of waste materials or rubbish on site.
- To sort and segregate C&D materials in designated areas properly.

# **FIGURES**

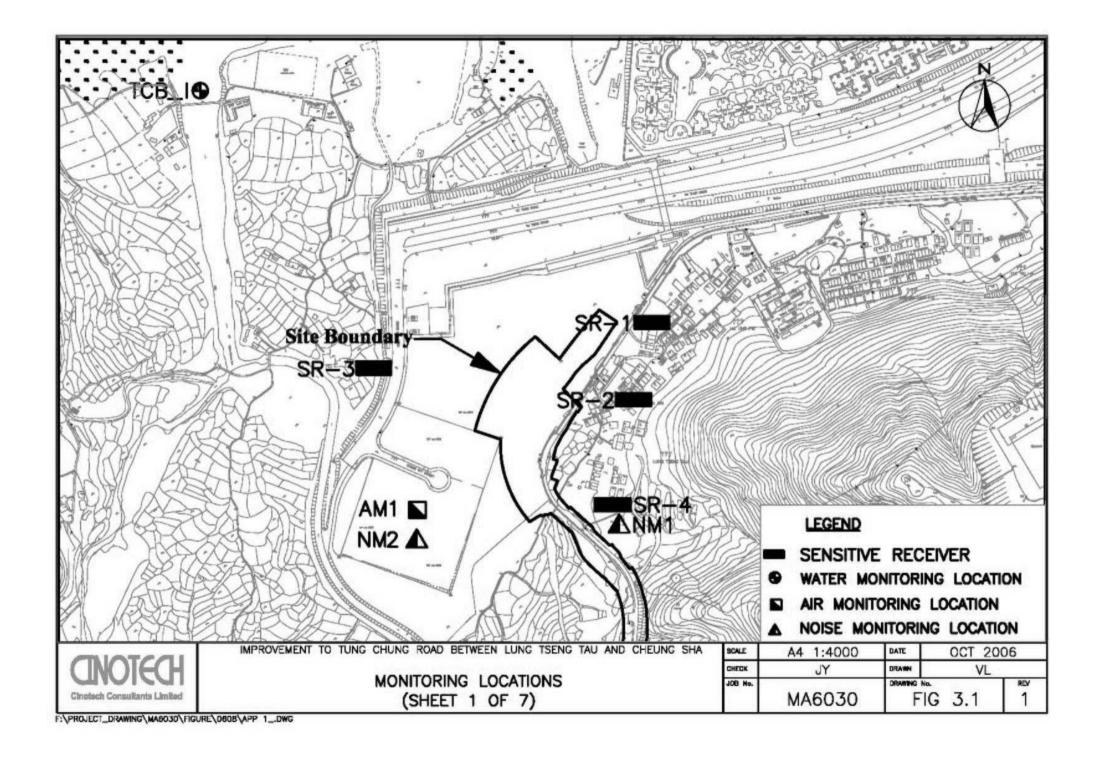


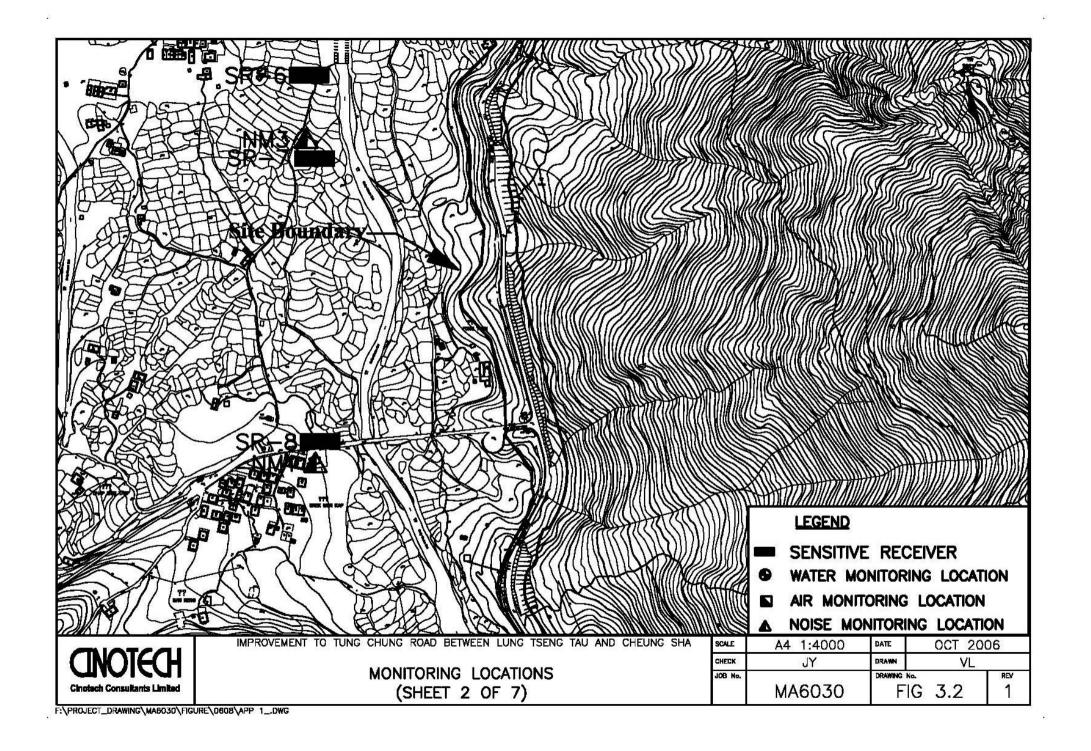


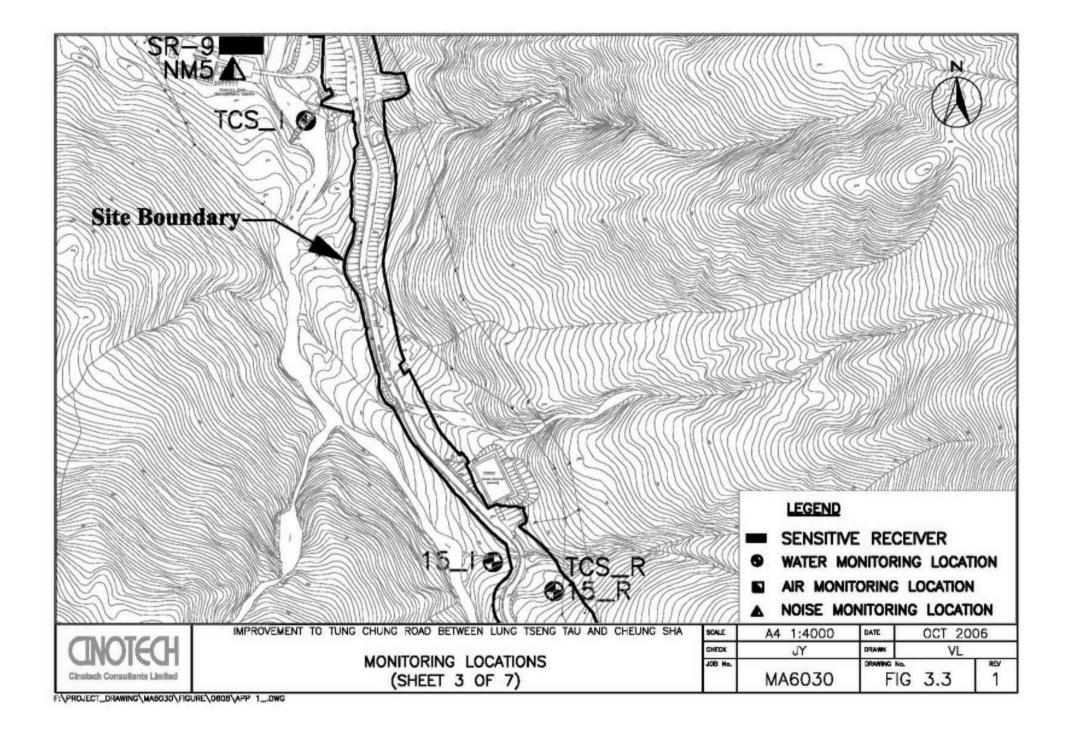
CINOTECH Cinotech Consultants Limited Improvement to Tung Chung Road between Lung Tseng Tau and Cheung Sha

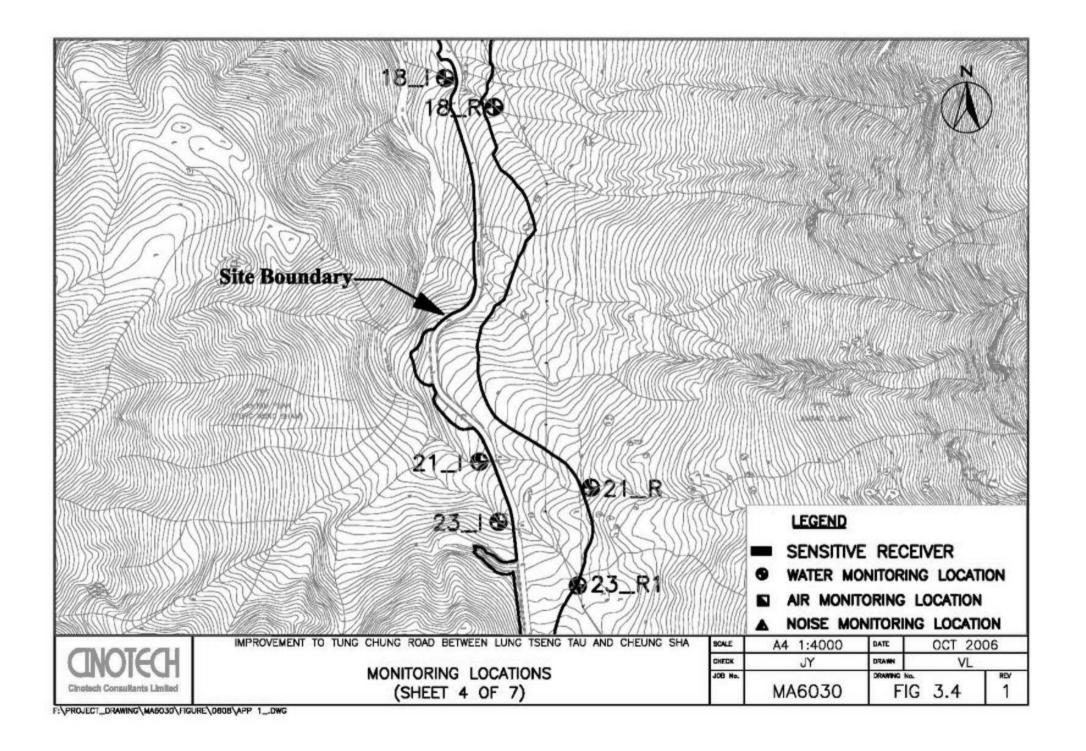
Organization Chart

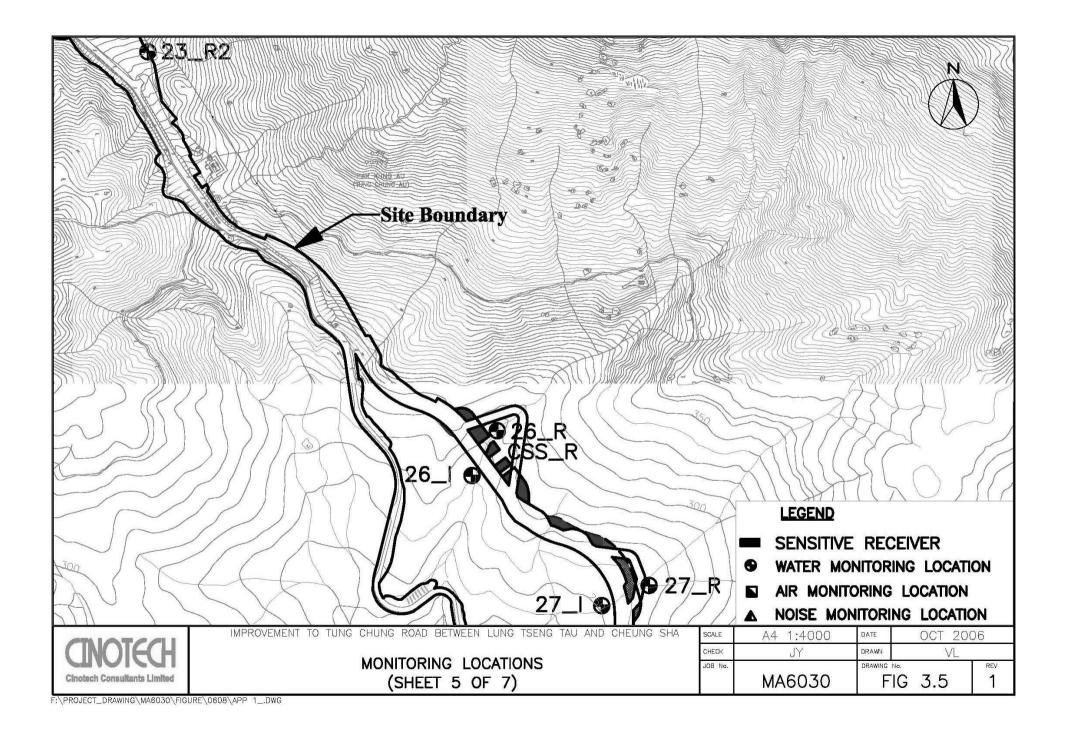
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CHECK	KL	DRAWN	FL		
JOB NO.		DRAWING	G No. Rev		
	MA6030	2		1	

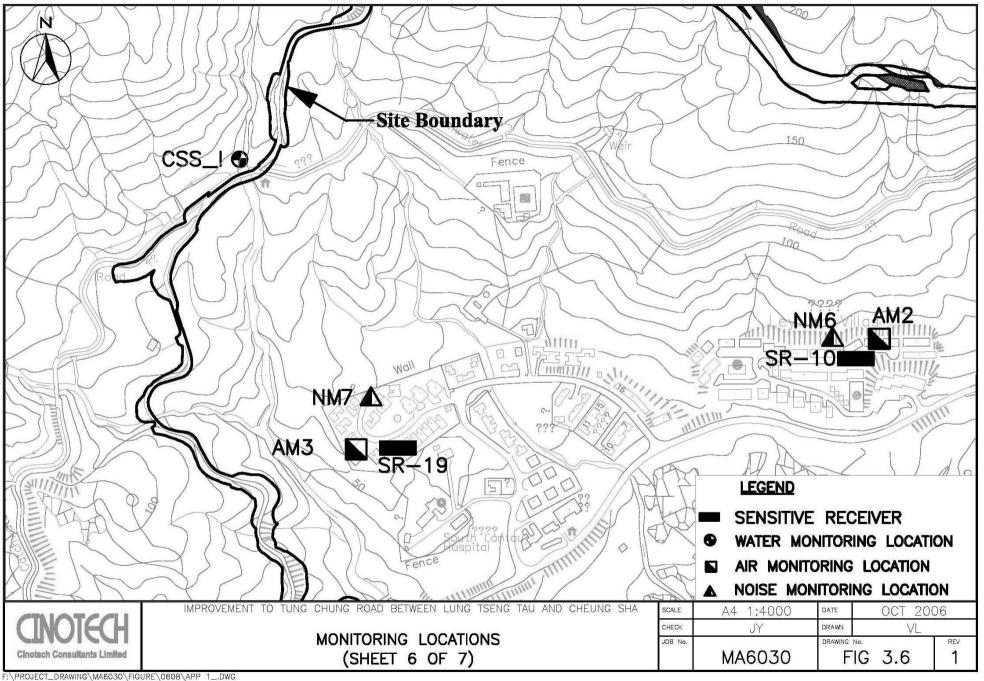


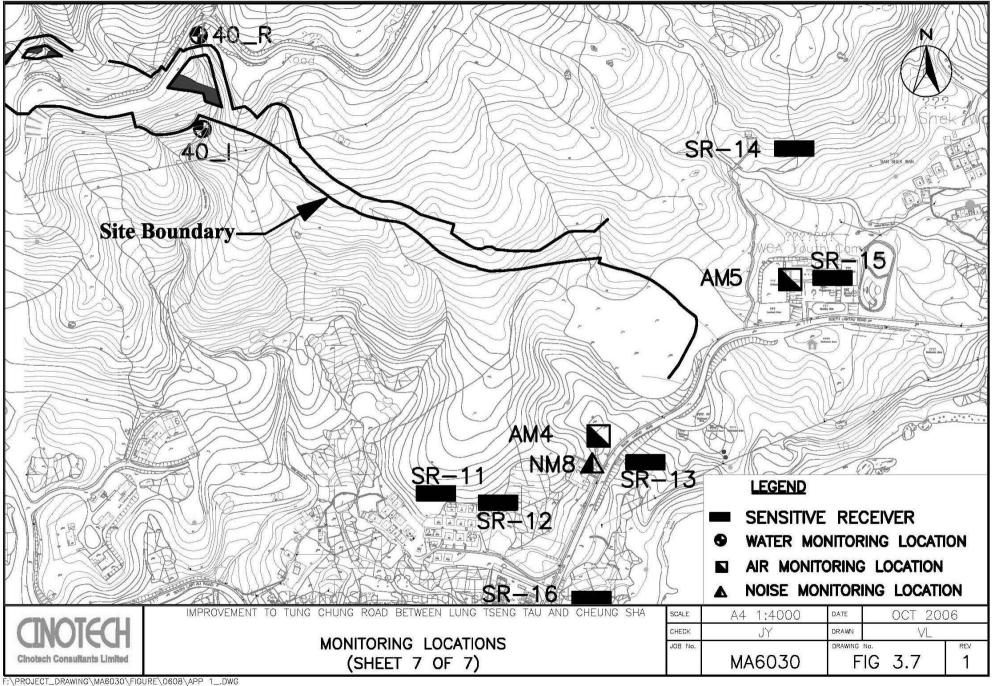












APPENDIX A
ACTION AND LIMIT LEVELS FOR AIR
QUALITY, NOISE AND WATER
QUALITY

# **Appendix A - Action and Limit Levels**

Table A-1 Action and Limit Levels for 1-Hour TSP

Location	Action Level, μg/m <sup>3</sup>	Limit Level, μg/m <sup>3</sup>
AM1	312	
AM2	328	
AM3	302	500
AM4	305	
AM5	342	

**Table A-2** Action and Limit Levels for 24-Hour TSP

Location	Action Level, μg/m <sup>3</sup>	Limit Level, µg/m <sup>3</sup>
AM1	155	
AM2	151	
AM3	141	260
AM4	145	
AM5	153	

Table A-3 Action and Limit Levels for Construction Noise

Period	Action Level (2)	Limit	Level
0700-1900 hrs on normal weekdays		75 dB(A)	70 dB(A)
1900-2300 hrs on holidays & 0700-2300 hrs on all other days	When one documented complaint is received	- '	(1)
2300-0700 hrs of next day		_ '	(1)

<sup>\*</sup>Free field noise levels were adjusted with a correction of +3 dB(A)

## Notes:

- (1) The noise limits shall be determined by EPD during the application of the construction noise permit (CNP).
- (2) Stated in the "Environmental Monitoring and Audit Guidelines for Development Projects in Hong Kong", Appendix D2, Section 2.6, Table 2.1

**Table A-4** Compliance Level for Water Quality

Table 11		compliance never for water Quanty										
Monitoring	DO, 1	mg/L		рН		Turbidit	ty, NTU			SS, r	ng/L	
Stations	Action	Limit	Action	Limit	A	Action	]	Limit	A	action	I	Limit
TCS_I	6.10	4.00	-	<6.5 or >8.5	5.95		13.30		10.30		12.00	
CSS_I	6.40	4.00	-	<6.5 or >8.5	7.91		10.50		9.90		16.00	
15_I	5.94	4.00	-	<6.5 or >8.5	11.00		16.10		6.10		8.20	
18_I	6.43	4.00	ı	<6.5 or >8.5	6.84	or 120% of	11.10	or 130% of	14.00	or 120% of	16.00	or 130% of
19_I	6.55	4.00	=	<6.5 or >8.5	7.52	the upstream control	9.03	the upstream control	14.00	the upstream control	18.00	the upstream control
21_I	6.73	4.00	-	<6.5 or >8.5	7.70	station's Tby	8.30	station's Tby	6.60	station's SS	20.00	station's SS
23_I	6.55	4.00	ı	<6.5 or >8.5	6.37	(at the sme tide on the	6.62	(at the sme tide on the	8.50	(at the sme tide on the	17.00	(at the sme tide on the
26_I	6.49	4.00	ı	<6.5 or >8.5	7.53	same day if	8.10	same day if	6.70	same day if	15.00	same day if
27_I	5.33	4.00	ı	<6.5 or >8.5	6.05	appropriate)	6.76	appropriate)	2.10	appropriate)	3.00	appropriate)
32_I	5.94	4.00	-	<6.5 or >8.5	10.30		14.20		15.00		18.00	
40_I	6.42	4.00	=	<6.5 or >8.5	9.38		10.60		14.00		15.00	
TCB_I	6.31	4.00	-	<6.5 or >8.5	17.10		41.40		19.00		20.00	

APPENDIX B COPIES OF CALIBRATION CERTIFCATES

# High-Volume TSP Sampler 5-POINT CALIBRATION DATA SHEET



File No. MA6030/46/0015 CH AM1 - YMCA of HK Christian College Operator: Station Next Due Date: 8-Apr-09 Date: 9-Feb-09 Serial No. 1315 Equipment No.: A-01-46 **Ambient Condition** Pressure, Pa (mmHg) Temperature, Ta (K) 296 Orifice Transfer Standard Information 0.0395 0.0575 Intercept, bc A-04-06 Slope, mc Equipment No.: me x Qstd + bc =  $[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$ Last Calibration Date: 10-Mar-08 Qstd =  $\{ [\Delta H \times (Pa/760) \times (298/Ta) \}^{1/2} -bc \} / mc$ Next Calibration Date: 9-Mar-09 Calibration of TSP Sampler HVS Orfice Calibration  $[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2} \text{ Y-}$ ΔW Qstd (CFM) ΔH (orifice), [ΔH x (Pa/760) x (298/Ta)]<sup>1/2</sup> Point (HVS), in. of oil axis X - axis in, of water 2.88 59.99 8.2 3.49 1 12.0 6.8 2.63 3.26 56.07 2 10.5 2.27 46.64 5.1 2.72 7.3 3 1.80 3.2 38.87 4 5.1 2.27 29.65 1.9 1.39 1.74 5 3.0 By Linear Regression of Y on X Intercept, bw :\_\_\_\_\_\_ -0.0616 Slope, mw = 0.0488 Correlation coefficient\* = \*If Correlation Coefficient < 0.990, check and recalibrate. Set Point Calculation From the TSP Field Calibration Curve, take Qstd = 43 CFM From the Regression Equation, the "Y" value according to mw x Qstd + bw =  $[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ Therefore, Set Point;  $W = (mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$ Remarks: Date: Conducted by: The CHING MANYSignature: Date: Checked by: Signature:

# High-Volume TSP Sampler 5-POINT CALIBRATION DATA SHEET



File No. MA6030/11/0015 CH Operator: AM2 - Leyburn Villas Station Next Due Date: \_\_\_\_ 8-Apr-09 9-Feb-09 Date: 1805 Serial No. Equipment No.: A-01-11 **Ambient Condition** 765.8 296 Pressure, Pa (mmHg) Temperature, Ta (K) Orifice Transfer Standard Information 0.0395 0.0575 Intercept, bc Slope, mc A-04-06 Equipment No.: mc x Qstd + bc =  $[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$ 10-Mar-08 Last Calibration Date: Ostd =  $\{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$ Next Calibration Date: 9-Mar-09 Calibration of TSP Sampler Orfice Calibration  $[\Delta W \times (Pa/760) \times (298/\Gamma a)]^{1/2} Y$  $\Delta W$ ΔH (orifice), Ostd (CFM) [ΔH x (Pa/760) x (298/Ta)]<sup>1/2</sup> Point (HVS), in. of oil axis in. of water X - axis 2.85 8.0 11.9 3.47 59.74 6.4 2,55 55.53 10.3 3.23 2 2.25 5.0 47.60 7.6 2.78 1.77 3.1 39.64 4 5.3 2.32 1.7 1.31 29.65 1.74 5 3.0 By Linear Regression of Y on X Intercept, bw : -0.1898Slope, mw = 0.0503Correlation coefficient\* = \*If Correlation Coefficient < 0.990, check and recalibrate. **Set Point Calculation** From the TSP Field Calibration Curve, take Qstd = 43 CFM From the Regression Equation, the "Y" value according to mw x Qstd + bw =  $[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ Therefore, Set Point;  $W = (mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$ 3.84 Remarks: Date: Conducted by: The CHING HANG Signature: Date:

# **High-Volume TSP Sampler**



5-POINT CALIBRATION DATA SHEET MA6030/AM4/0015 File No. CH Station No. 31 South Lantau Road (AM4) Operator: Next Due Date: 8-Apr-09 Date: 9-Feb-09 Equipment No.: A-01-06 10576 Serial No. **Ambient Condition** 765.8 Temperature, Ta (K) 296 Pressure, Pa (mmHg) Orifice Transfer Standard Information 0.0395 Equipment No.: 0.0575 Intercept, be A-04-06 Slope, mc me x Qstd + be =  $[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$ Last Calibration Date: 10-Mar-08 Qstd =  $\{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$ Next Calibration Date: 9-Mar-09 Calibration of TSP Sampler HVS Orfice Calibration  $[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ Qstd (CFM)  $\Delta W$ AH (orifice), [ΔH x (Pa/760) x (298/Ta)]<sup>1/2</sup> Point (HVS), in. of oil Y-axis in. of water X - axis 2.78 11.4 3.40 58.46 7.6 2.49 54.15 6.1 2 9.8 3.15 4.9 2.23 3 7.4 2.74 46.96 39.26 3.2 1.80 4 5.2 2.30 1.7 1.31 5 3.1 1.77 30.15 By Linear Regression of Y on X Slope , mw = \_\_\_\_\_ 0.0505 Intercept, bw : -0.1919 Correlation coefficient\* = \*If Correlation Coefficient < 0.990, check and recalibrate. Set Point Calculation From the TSP Field Calibration Curve, take Qstd = 43 CFM From the Regression Equation, the "Y" value according to mw x Qstd + bw =  $[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ Therefore, Set Point;  $W = (mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$ 3.87

Remarks:	-				
Conducted by: Checked by		Alg Signature: Signature:	\ cn	Date:	9 Feb 2009



Unit C, 1/F., Goldlion Holdings Center. 13-15 Yuen Shun Circuit. Shatin, NT. HK. Tel: 2898 7388 Fax: 2898 7076 Website: www.wellab.com.hk

# TEST REPORT

APPLICANT: Cinotech Consultants Limited

Room 1710, Technology Park,

18 On Lai Street,

Shatin, NT, Hong Kong

Test Report No.:	C/07/80502
Date of Issue:	2008-05-03
Date Received:	2008-05-02
Date Tested:	2008-05-02
Date Completed:	2008-05-03
Next Due Date:	2009-05-02

ATTN:

Mr. Henry Leung

Page:

1 of 1

# **Certificate of Calibration**

#### Item for calibration:

Description

: RS232 Integral Vane Digital Anemometer

Manufacturer

: AZ Instrument

Model No.

: 451104

Serial No.

: 9020746

Equipment No.

: A-03-01

#### Test conditions:

Room Temperature

: 21 degree Celsius

Relative Humidity

: 65%

Pressure

: 101.3 kPa

### Methodology:

The anemometer has been calibrated in accordance with the documented procedures and using standard(s) and instrument(s) which are recommended by the manufacturer, or equivalent.

#### Results:

The second secon	Reference Set Point	Instrument Readings
Measuring Air Velocity, m/s	2.00	2.00
Temperature, °C	21.0	21.0

PREPARED AND CHECKED BY:

For and On Behalf of WELLAB Ltd.

PATRICK TSE

Laboratory Manager

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#### AIR POLLUTION MONITORING EQUIPMENT

## ORIFICE TRANSFER STANDARD CERTIFICATION WORKSHEET TE-5025A

	*	**********	:=====================================	* <b>**</b> * <b>*</b> * * * * * * * * * * * * * *	METER	ORFICE
CLATE	VOLUME	VOLUME	DIFF	DIFF	DIFF Hg (mm)	DIFF
OR	START	STOP	VOLUME	TIME		H20
on #	(m3)	(m3)	(m3)	(min)		(in.)
1 2	AN AN	NA NA	1.00	1.3890	3.2	2,0
3	NA	NA	1.00	0.8810	7.8	5.0
4	NA	NA		0.8410	8.6	5.5
5	NA	NA		0.6950	12.5	8.0

#### DATA TABULATION

Vstd	(x axis) Qstd	(y axis)	Va	(x axis) Qa	(y axis)
0,9917 0,9876 0,9854 0,9844 0,9792	0.7139 1.0026 1.1185 1.1706 1.4090	1.4113 1.9959 2.2315 2.3405 2.8227	0.9957 0.9916 0.9894 0.9884 0.9832	0.7168 1.0067 1.1231 1.1753 -1.4147	0.8874 1.2549 1.4030 1.4715 1.7747
Cstd slop intercept coefficie	t (b) = ent (r) =	2.03154 -0.03970 0.99999 Pa/760) (298/Ta)}	Qa slop intercep coeffici	t (b) =	1.27212 -0.02496 0.99999

## CALCULATIONS

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

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

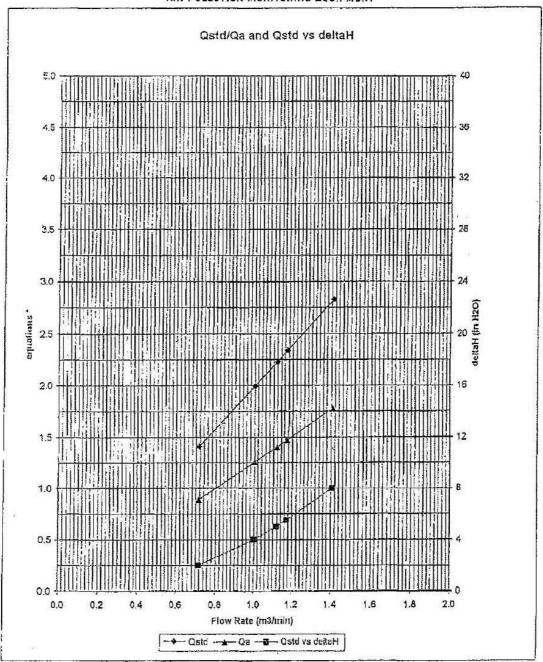
For subsequent flow rate calculations:

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



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

#### AIR POLLUTION MONITORING EQUIPMENT



y-axis equations;

Ostd series:

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

Qa series:

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



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# TEST REPORT

APPLICANT: Cinotech Consultants Limited

Room 1710, Technology Park,

18 On Lai Street,

Shatin, NT, Hong Kong

Test Report No.: C/N/81215/1
Date of Issue: 2008-12-16
Date Received: 2008-12-15
Date Tested: 2008-12-15
Date Completed: 2008-12-16
Next Due Date: 2009-12-15

ATTN:

Mr. Henry Leung

Page:

1 of 1

# **Certificate of Calibration**

### Item for calibration:

Description

: Integrating Sound Level Meter

Manufacturer Model No.

: Brüel & Kjær : B&K 2238

Serial No.
Microphone No.

: 2337665 : 2289749

Equipment No.

: N-01-01

#### Test conditions:

Room Temperatre

: 20 degree Celsius

Relative Humidity

: 60%

# **Test Specifications:**

Performance checking at 94 and 114 dB

# Methodology:

In-house method, according to manufacturer instruction manual

#### Results:

Reference Set Point, dB	Instrument Readings, dB
94	94.0
114	114.0

PREPARED AND CHECKED BY:

For and On Behalf of WELLAB Ltd.

PATRICK TSE



Room 1516 & 816, Technology Park 18 On Lai Street, Shatin, N.T., Hong Kong Tel: 2898 7338 Fay: 2898 7076 Websile http://www.wellab.com.hk E-mail: wellab@wellab.com.hk

# TEST REPORT

APPLICANT: Cinotech Consultants Limited

Room 1710, Technology Park,

18 On Lai Street,

Shatin, NT, Hong Kong

Test Report No.: C/N/80903-1

Date of Issue: 2008-09-03

Date Received: 2008-09-02 Date Tested: 2008-09-02

Date Tested: 2008-09-02

Date Completed: 2008-09-03

Next Due Date:

2008-09-03

ATTN:

Mr. Henry Leung

Page:

1 of 1

# **Certificate of Calibration**

### Item for calibration:

Description

: Integrating Sound Level Meter

Manufacturer

: Brüel & Kjær

Model No.

: B&K 2238

Serial No.

: 2359311

Microphone No.

: 2346382

Equipment No.

: N-01-03

### Test conditions:

Room Temperatre

: 21 degree Celsius

Relative Humidity

: 61%

## **Test Specifications:**

Performance checking at 94 and 114 dB

## Methodology:

In-house method, according to manufacturer instruction manual

## Results:

Reference Set Point, dB	Instrument Readings, dB
94	94.0
114	114.0

PREPARED AND CHECKED BY:

For and On Behalf of WELLAB Ltd.

PATRICK TSE



APPLICANT: Cinotech Consultants Limited

Room 1710, Technology Park,

18 On Lai Street,

Shatin, NT, Hong Kong

Test Report No.: C/N/80903-2

Date of Issue: 2008-09-03 Date Received: 2008-09-02

Date Tested: 2008-09-02

Date Completed: 2008-09-03

Next Due Date:

2009-09-02

ATTN:

Mr. Henry Leung

Page:

1 of 1

# **Certificate of Calibration**

### Item for calibration:

Description

: Integrating Sound Level Meter

Manufacturer

: Brüel & Kjær

Model No.

: B&K 2238 : 2359303

Serial No. Equipment No.

: N-01-04

## Test conditions:

Room Temperatre

: 21 degree Celsius

Relative Humidity

: 61%

# **Test Specifications:**

Performance checking at 94 and 114 dB

## Methodology:

In-house method, according to manufacturer instruction manual

#### Results:

Reference Set Point, dB	Instrument Readings, dB
94	94.0
114	114.0

PREPARED AND CHECKED BY:

For and On Behalf of WELLAB Ltd.

PATRICK TSE



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# TEST REPORT

APPLICANT: Cinotech Consultants Limited

Room 1710, Technology Park,

18 On Lai Street,

Shatin, NT, Hong Kong

Test Report No.:	C/N/81013/1
Date of Issue:	2007-10-15
Date Received:	2008-10-13
Date Tested:	2008-10-13
Date Completed:	2008-10-14
Next Due Date:	2009-10-14

ATTN:

Mr. Henry Leung

Page:

1 of 1

# **Certificate of Calibration**

### Item for calibration:

: Integrating Sound Level Meter Description

: Brüel & Kjær Manufacturer : B&K 2238 Model No. : 2394976 Serial No. Microphone No. : 2407349 Equipment No. : N-01-05

Test conditions:

: 21 degree Celsius Room Temperatre

Relative Humidity : 60%

## **Test Specifications:**

Performance checking at 94 and 114 dB

## Methodology:

In-house method, according to manufacturer instruction manual

## Results:

Reference Set Point, dB	Instrument Readings, dB
94	94.0
114	114.0

PREPARED AND CHECKED BY:

For and On Behalf of WELLAB Ltd.

Laboratory Manager

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# TEST REPORT

APPLICANT:

**Cinotech Consultants Limited** 

Room 1710, Technology Park,

18 On Lai Street,

Shatin, NT, Hong Kong

C/N/81115/1 Test Report No.: Date of Issue: 2008-11-15 Date Received: 2008-11-14 Date Tested: 2008-11-14 Date Completed: 2008-11-15

Page:

Next Due Date:

1 of 1

2009-11-14

ATTN:

Mr. Henry Leung

#### Item for calibration:

Description

: Acoustical Calibrator

Manufacturer

: Brüel & Kjær

Model No.

: 4231

Serial No.

: 2326353

Project No.

: C13

Equipment No.

: N-02-01

## Test conditions:

Room Temperatre

: 20 degree Celsius

Relative Humidity

: 59%

Pressure

: 1015.2 hPa

# Methodology:

The sound calibrator has been calibrated in accordance with the documented procedures and using standard(s) and instrument(s) which are recommended by the manufacturer, or equivalent.

## Results:

Sound Pressure Level	Measured SPL	Tolerance
At 94 dB SPL	94.0	94.0 ± 0.1 dB

PREPARED AND CHECKED BY:

For and On Behalf of WELLAB Ltd.

PATRICK TSE Laboratory Manager

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## TEST REPORT

APPLICANT: Cinotech Consultants Limited

Room 1710, Technology Park,

18 On Lai Street,

Shatin, NT, Hong Kong

Test Report No.:	C/06/80305
Date of Issue:	2008-03-05
Date Received:	2008-03-03
Date Tested:	2008-03-03
Date Completed:	2008-03-05
Next Due Date:	2009-03-04

ATTN:

Mr. Henry Leung

Page:

1 of 1

#### Item for calibration:

Description

: Acoustical Calibrator

Manufacturer

: Brüel & Kjær

Model No. Serial No. : 4231

Serial No.

: 2343007 : C13

Project No. Equipment No.

: N-02-02

#### Test conditions:

Room Temperatre

: 20 degree Celsius

Relative Humidity

: 65%

Pressure

: 1020.1hPa

## Methodology:

The sound calibrator has been calibrated in accordance with the documented procedures and using standard(s) and instrument(s) which are recommended by the manufacturer, or equivalent.

#### Results:

Sound Pressure Level	Measured SPL	Tolerance
At 94 dB SPL	94.0	94.0 ± 0.2 dB

PREPARED AND CHECKED BY:

For and On Behalf of WELLAB Ltd.

PATRICK TSE



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# TEST REPORT

APPLICANT: Cinotech Consultants Limited

Room 1710, Technology Park,

18 On Lai Street,

Shatin, NT, Hong Kong

Test Report No.:	C/06/90305
Date of Issue:	2009-03-05
Date Received:	2009-03-04
Date Tested:	2009-03-04
Date Completed:	2009-03-05
Next Due Date:	2010-03-04

ATTN:

Mr. Henry Leung

Page:

1 of 1

#### Item for calibration:

Description

: Acoustical Calibrator

Manufacturer

: Brüel & Kjær

Model No. Serial No.

: 4231 : 2343007

Project No.

: C13

Equipment No.

: N-02-02

### **Test conditions:**

Room Temperatre

: 20 degree Celsius

Relative Humidity

: 65%

Pressure

: 1020.1hPa

## Methodology:

The sound calibrator has been calibrated in accordance with the documented procedures and using standard(s) and instrument(s) which are recommended by the manufacturer, or equivalent.

#### Results:

Sound Pressure Level	Measured SPL	Tolerance
At 94 dB SPL	94.0	94.0 ± 0.2 dB

PREPARED AND CHECKED BY:

For and On Behalf of WELLAB Ltd.

PATRICK TSE

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APPLICANT:

Cinotech Consultants Limited

Room 1710, Technology Park,

18 On Lai Street,

Shatin, NT, Hong Kong

Test Report No.:	C/N/80903-3	
Date of Issue:	2008-09-03	
Date Received:	2008-09-02	
Date Tested:	2008-09-02	
Date Completed:	2008-09-03	
Next Due Date:	2009-09-02	

ATTN:

Mr. Henry Leung

Page:

1 of 1

### Item for calibration:

Description

: Acoustical Calibrator

Manufacturer

: Brüel & Kjær

Model No.

: 4231

Serial No.

: 2412367

Equipment No.

: N-02-03

### Test conditions:

Room Temperatre

: 21 degree Celsius

Relative Humidity

: 61%

# Methodology:

The Sound Level Calibrator has been calibrated in accordance with the documented procedures and using standard(s) and instrument(s) which are recommended by the manufacturer, or equivalent.

### Results:

Sound Pressure Level (1kHz)	Measured SPL	Tolerance
At 94 dB SPL	94.0	94.0 ± 0.1 dB
At 114 dB SPL	114.0	114.0 ± 0.1 dB

PREPARED AND CHECKED BY:

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## TEST REPORT

APPLICANT: Cinotech Consultants Limited

Room 1710, Technology Park,

18 On Lai Street,

Shatin, NT, Hong Kong

Test Report No.: C/W/90204-1
Date of Issue: 2009-02-05
Date Received: 2009-02-04
Date Tested: 2009-02-04
Date Completed: 2009-02-05
Next Due Date: 2009-05-04

ATTN:

Mr. Henry Leung

Page:

1 of 2

## Certificate of Calibration

## Item for calibration:

Description

: Sonde Environmental Monitoring System

Manufacturer

: YSI

Model No.

: 6820-C-M

Serial No.

: 02D0126AA

Equipment No.

: W.03.01

Project No.

: C013

# Test conditions:

Room Temperature

: 23 degree Celsius

Relative Humidity

: 63%

### **Test Specifications:**

Conductivity & Salinity Sensor, Model: 6560, S/N: 05A1209

- 1. Conductivity performance check with Potassium Chloride standard solution
- 2. Salinity performance check with Sodium Chloride standard solution

Dissolved Oxygen Sensor, Model: 6562, S/N: 04A0145

1. Performance check against Winkler titration

Turbidity Sensor, Model: 6136, S/N: 05A1610AJ

1. Calibration check with Formazin standard solution

pH Meter, Model: 6561, S/N: 01J

1. Calibration check with standard pH buffer

Depth Meter

1. Calibration check at 1m water level depth

## Methodologies:

- 1. YSI 6-Series Sonde Environmental Monitoring System Instruction Manual
- 2. In-house method with reference to APHA and ISO standards

PREPARED AND CHECKED BY:

For and On Behalf of WELLAB Ltd.

PATRICK TSE



Test Report No.: C/W/90204-1
Date of Issue: 2009-02-05
Date Received: 2009-02-04
Date Tested: 2009-02-04
Date Completed: 2009-02-05
Next Due Date: 2009-05-04

Page:

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#### Results:

1. Conductivity performance check

Specific Conductivity, µS/cm		Correction, µS/cm	Acceptable range
Salinity Meter (C1)	Theoretical Value (C2)	D = C1 - C2	2001
1421	1420	2	1420 ± 20

2. Salinity Performance check

Salinity, ppt		Correction, ppt	Acceptable range	
Instrument Reading	Theoretical Value	AND THE STATE OF T		
30.0	30.0	0.0	30.0 ± 3	

3. Dissolved Oxygen check

Oxygen level in	Dissolved Oxygen, mg O <sub>2</sub> /L		Correction, mg	Acceptable
water at 20°C	D.O. Meter	Winkler Titration	O <sub>2</sub> /L	range
Saturated	9.1	9.1	0.0	± 0.2
Half-saturated	5.6	5.6	0.0	± 0.2
Zero	0.0	0.0	0.0	± 0.2

4. Turbidity check

Turbidity value in solution, NTU	Calibration Value, NTU	Correction, NTU	Acceptable range		
0.00	0.00	0.00	$0.00 \pm 0.05$		
100	100	0	$100 \pm 5$		

5. pH Meter check

Test Parameters	Performance characteristic	Acceptable range
Liquid junction error ΔpH <sub>i</sub> , pH unit	0.01	Less than 0.05
Shift on stirring ΔpH <sub>s</sub> , pH unit	0.01	Less than 0.02
Noise ΔpH <sub>n</sub> , pH unit	0.00	Less than 0.02

6. Depth Meter check

Instrument Reading, m	Calibration Value, m	Correction, m	Acceptable range		
1.0	1.00	0.00	$1.00 \pm 0.05$		



APPLICANT: Cinotech Consultants Limited

Room 1710, Technology Park,

18 On Lai Street,

Shatin, NT, Hong Kong

Test Report No.: C/W/90204-2
Date of Issue: 2009-02-05
Date Received: 2009-02-04
Date Tested: 2009-02-04
Date Completed: 2009-02-05

Next Due Date:

2009-02-05 2009-05-04

ATTN:

Mr. Henry Leung

Page:

1 of 2

# Certificate of Calibration

### Item for calibration:

Description

: Sonde Environmental Monitoring System

Manufacturer

: YSI

Model No.

: 6820-C-M : 02D0293AA

Serial No. Equipment No.

: W.03.02

Project No.

: C013

### Test conditions:

Room Temperature

: 23 degree Celsius

Relative Humidity

: 63%

## **Test Specifications:**

Conductivity & Salinity Sensor, Model: 6560, S/N: 02C0886

- 1. Conductivity performance check with Potassium Chloride standard solution
- 2. Salinity performance check with Sodium Chloride standard solution

Dissolved Oxygen Sensor, Model: 6562, S/N: 0261137

1. Performance check against Winkler titration

Turbidity Sensor, Model: 6136, S/N: 05F2030AQ

1. Calibration check with Formazin standard solution

pH Meter, Model: 6561, S/N: 02A

1. Calibration check with standard pH buffer

Depth Meter

1. Calibration check at 1m water level depth

#### Methodologies:

- 1. YSI 6-Series Sonde Environmental Monitoring System Instruction Manual
- 2. In-house method with reference to APHA and ISO standards

PREPARED AND CHECKED BY:

For and On Behalf of WELLAB Ltd.

PATRICK TSE



Test Report No.: C/W/90204-2
Date of Issue: 2009-02-05
Date Received: 2009-02-04
Date Tested: 2009-02-04
Date Completed: 2009-02-05
Next Due Date: 2009-05-04

Page:

2 of 2

## Results:

1. Conductivity performance check

Specific (	Conductivity, µS/cm	Correction, µS/cm	Acceptable range		
Salinity Meter (C1)	Theoretical Value (C2)	D = C1 - C2			
1420	1420	0	1420 ± 20		

2. Salinity Performance check

Salini	ty, ppt	Correction, ppt	Acceptable range		
Instrument Reading	Theoretical Value				
30.1	30.0	0.1	30.0 ± 3		

3. Dissolved Oxygen check

Oxygen level in	Dissolved C	xygen, mg O <sub>2</sub> /L	Correction, mg	Acceptable range ± 0.2 ± 0.2	
water at 20°C	D.O. Meter	Winkler Titration	O <sub>2</sub> /L		
Saturated	9.0	9.0	0.0		
Half-saturated	5.8	5.8	0.0		
Zero	0.0	0.0	0.0	± 0.2	

4. Turbidity check

Turbidity value in solution, NTU	Calibration Value, NTU	Correction, NTU	Acceptable range	
0.00	0.00	0.00	$0.00 \pm 0.05$	
100	100	0	100 ± 5	

5. pH Meter check

Test Parameters	Performance characteristic	Acceptable range
Liquid junction error ΔpH <sub>i</sub> , pH unit	0.01	Less than 0.05
Shift on stirring ∆pH <sub>s</sub> , pH unit	0.01	Less than 0.02
Noise ΔpH <sub>n</sub> , pH unit	0.01	Less than 0.02

6. Depth Meter check

Instrument Reading, m	Calibration Value, m	Correction, m	Acceptable range		
1.0	1.00	0.00	1.00 ± 0.05		

# APPENDIX C ENVIRONMENTAL MONITORING SCHEDULES

# Contract No. HY/2003/19 - Improvement to Tung chung Road between Lung Tseng Tau and Cheung Sha Air, Noise and Water Quality Monitoring Schedule for March 2009

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1-Mar	2-Mar	3-Mar	4-Mar	5-Mar	6-Mar	7-Mar
	Water Quality		Water Quality Noise	24 hr TSP	Water Quality	
8-Mar	9-Mar	10-Mar	11-Mar	12-Mar	13-Mar	14-Mar
	Water Quality		Water Quality Noise 24 hr TSP		Water Quality	
15-Mar	16-Mar	17-Mar	18-Mar	19-Mar	20-Mar	21-Mar
	Water Quality	24 hr TSP	Water Quality Noise		Water Quality	
22-Mar	23-Mar	24-Mar	25-Mar	26-Mar	27-Mar	28-Mar
	Water Quality 24 hr TSP		Water Quality Noise		Water Quality	24 hr TSP
29-Mar	30-Mar	31-Mar	1-Apr	2-Apr	3-Apr	4-Apr
	Water Quality		Water Quality Noise	24 hr TSP	Water Quality	

The schedule may be changed due to unforeseen circumstances (adverse weather, etc)

*Remarks*: \* Construction Noise Levels will be monitored when construction works perform at 19:00 - 23:00 and within a radius of 300m from the noise monitoring locaitons.

# Contract No. HY/2003/19 - Improvement to Tung chung Road between Lung Tseng Tau and Cheung Sha Tentative Air, Noise and Water Quality Monitoring Schedule for April 2009

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
29-Mar	30-Mar	31-Mar	1-Apr	2-Apr	3-Apr	4-Apr
	Water Quality		Water Quality Noise	24 hr TSP	Water Quality	
5-Apr	6-Apr	7-Apr	8-Apr	9-Apr	10-Apr	11-Apr
	Water Quality		Water Quality Noise 24 hr TSP	Water Quality		
12-Apr	13-Apr	14-Apr	15-Apr	16-Apr	17-Apr	18-Apr
		Water Quality 24 hr TSP	Water Quality Noise		Water Quality	
19-Apr	20-Apr	21-Apr	22-Apr	23-Apr	24-Apr	25-Apr
	Water Quality  24 hr TSP		Water Quality Noise		Water Quality	24 hr TSP
26-Apr	27-Apr	28-Apr	29-Apr	30-Apr	1-May	2-May
	Water Quality		Water Quality Noise	Water Quality 24 hr TSP		

The schedule may be changed due to unforeseen circumstances (adverse weather, etc)

Remarks: \* Construction Noise Levels will be monitored when construction works perform at 19:00 - 23:00 and within a radius of 300m from the noise monitoring locaitons.

APPENDIX D 24-HOUR TSP MONITORING RESULTS ,GRAPHICAL PRESENTATION AND WIND DATA

# **Appendix D - 24-hour TSP Monitoring Results**

# **Location AM1 - YMCA of Hong Kong Christian College**

Date	Filter W	eight (g)	Flow Rate	e (m³/min.)	Elaps	se Time	Sampling	Conc.	Weather	Air	Atmospheric	Particulate	Av. flow	Total vol.
	Initial	Final	Initial	Final	Initial	Final	Time(hrs.)	(µg/m <sup>3</sup> )	Condition	Temp. (K)	Pressure(Pa)	weight(g)	(m <sup>3</sup> /min)	(m <sup>3</sup> )
5-Mar-09	2.9109	2.9714	1.22	1.22	4805.7	4829.7	24.0	34.3	Cloudy	291.5	761.5	0.0605	1.22	1762.7
11-Mar-09	2.8690	2.9309	1.23	1.23	4829.7	4853.7	24.0	35.1	Cloudy	292.1	765.4	0.0619	1.23	1765.4
17-Mar-09	2.8830	2.9852	1.22	1.22	4853.7	4877.7	24.0	58.1	Sunny	293.6	764.8	0.1022	1.22	1760.5
23-Mar-09	2.8467	2.9690	1.22	1.22	4877.7	4901.7	24.0	69.9	Cloudy	296.2	762.6	0.1223	1.22	1750.3
28-Mar-09	2.8327	2.9316	1.22	1.22	4901.7	4925.7	24.0	56.2	Cloudy	293.4	763.1	0.0989	1.22	1759.0
	-		-				Min	34.3						
							Max	69.9						
							Average	50.7						

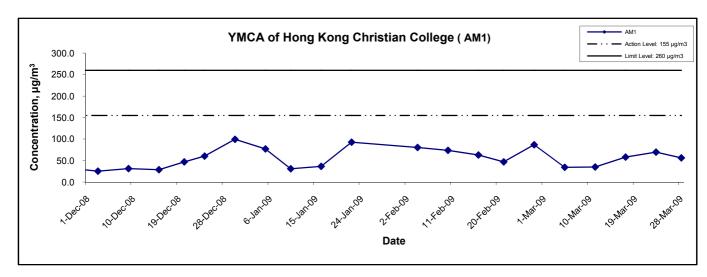
# Location AM2 - House in Leyburn Villas

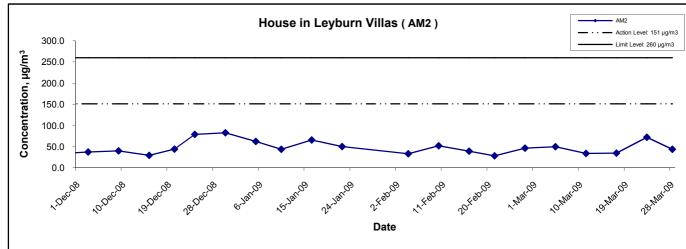
Date	Filter W	eight (g)	Flow Rate (m <sup>3</sup> /min.)		Elapse Time		Sampling	Conc.	Weather	Air	Atmospheric	Particulate	Av. flow	Total vol.
	Initial	Final	Initial	Final	Initial	Final	Time(hrs.)	$(\mu g/m^3)$	Condition	Temp. (K)	Pressure(Pa)	weight(g)	(m <sup>3</sup> /min)	(m <sup>3</sup> )
5-Mar-09	2.8740	2.9612	1.22	1.22	9599.3	9623.3	24.0	49.8	Cloudy	291.5	761.5	0.0872	1.22	1752.1
11-Mar-09	2.8541	2.9141	1.22	1.22	9623.3	9647.3	24.0	34.2	Cloudy	292.1	765.4	0.0600	1.22	1754.6
17-Mar-09	2.8618	2.9224	1.22	1.22	9647.3	9671.3	24.0	34.6	Sunny	293.6	764.8	0.0606	1.22	1750.0
23-Mar-09	4.1896	4.3154	1.21	1.21	9671.3	9695.3	24.0	72.3	Cloudy	296.2	762.6	0.1258	1.21	1740.6
28-Mar-09	2.8966	2.9733	1.21	1.21	9695.3	9719.3	24.0	43.9	Cloudy	293.4	763.1	0.0767	1.21	1748.6
							Min	34.2						
							Max	72.3						
							Average	46.9						

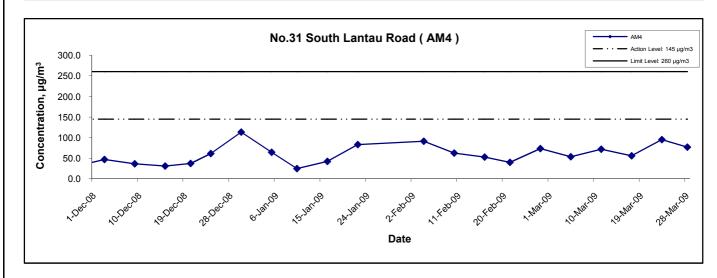
## Location AM4 - No.31 South Lantau Road

Date	Filter W	eight (g)	Flow Rate (m³/min.) Elapse Time		Sampling	Conc.	Weather	Air	Atmospheric	Particulate	Av. flow	Total vol.		
	Initial	Final	Initial	Final	Initial	Final	Time(hrs.)	(µg/m³)	Condition	Temp. (K)	Pressure(Pa)	weight(g)	(m <sup>3</sup> /min)	(m <sup>3</sup> )
5-Mar-09	2.8555	2.9504	1.23	1.23	9454.5	9478.5	24.0	53.7	Cloudy	291.5	761.5	0.0949	1.23	1767.7
11-Mar-09	2.8942	3.0213	1.23	1.23	9478.5	9502.5	24.0	71.8	Cloudy	292.1	765.4	0.1271	1.23	1770.2
17-Mar-09	2.8669	2.9658	1.23	1.23	9502.5	9526.5	24.0	56.0	Sunny	293.6	764.8	0.0989	1.23	1765.6
23-Mar-09	4.1996	4.3670	1.22	1.22	9526.5	9550.5	24.0	95.3	Cloudy	296.2	762.6	0.1674	1.22	1756.0
28-Mar-09	2.8574	2.9930	1.23	1.22	9550.5	9574.5	24.0	76.9	Cloudy	293.4	763.1	0.1356	1.23	1764.2
			_				Min	53.7						-
							Max	95.3						
							Average	70.7						

## 24-hour TSP Levels



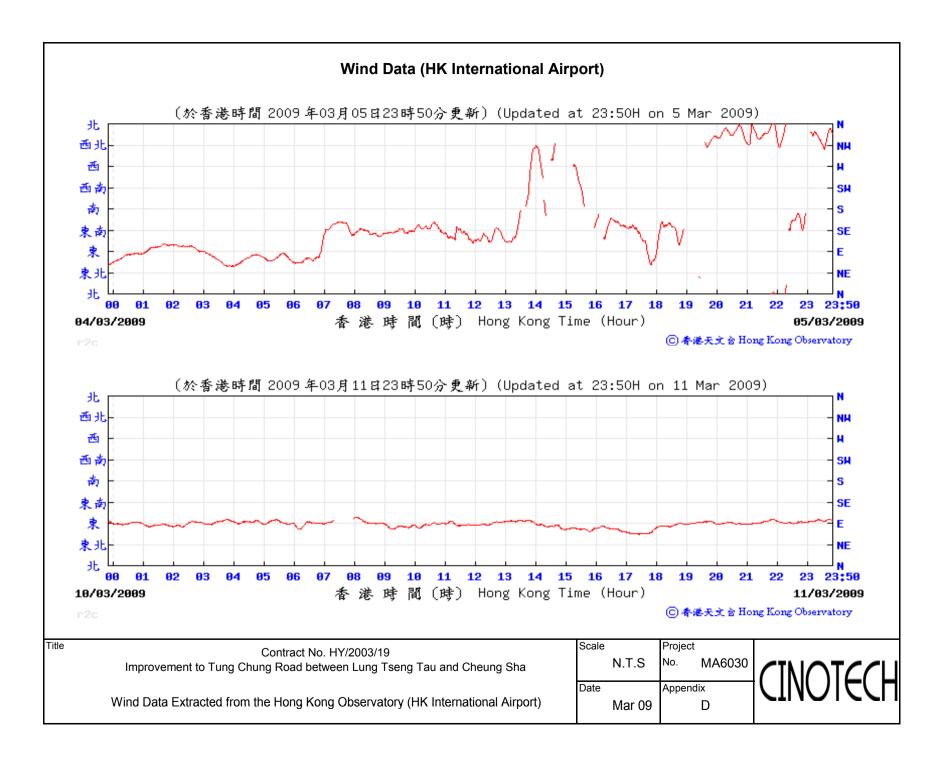


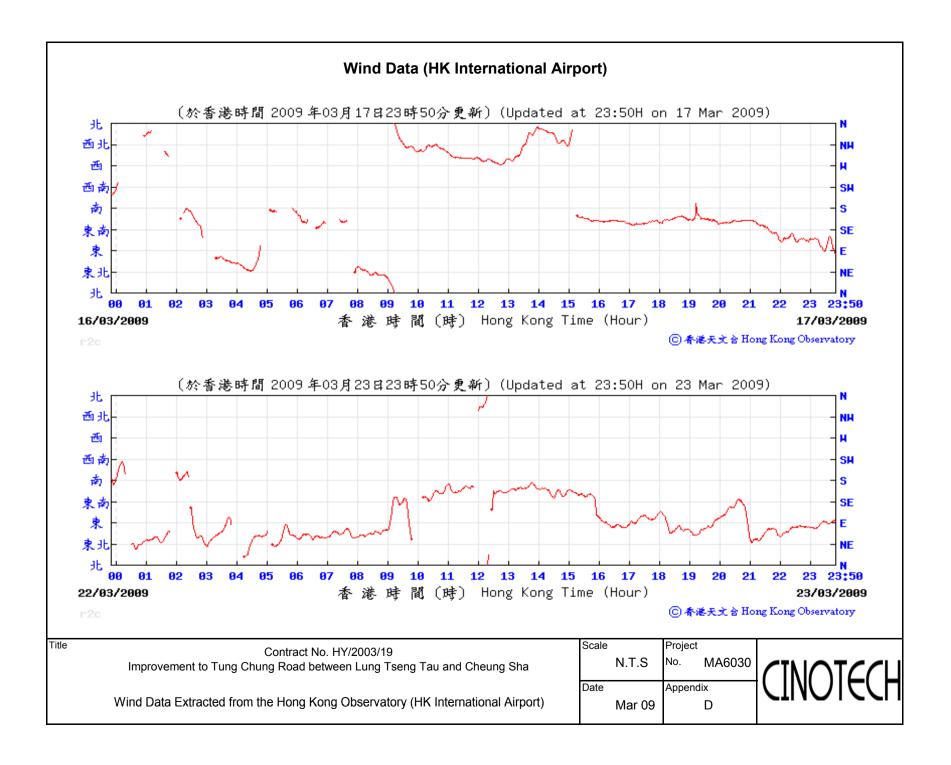


Title	Contract No. HY/2003/19
	Improvement to Tung Chung Road between Lung Tseng Tau and Cheung Sha
	Graphical Presentation of 24-hour TSP Monitoring Results

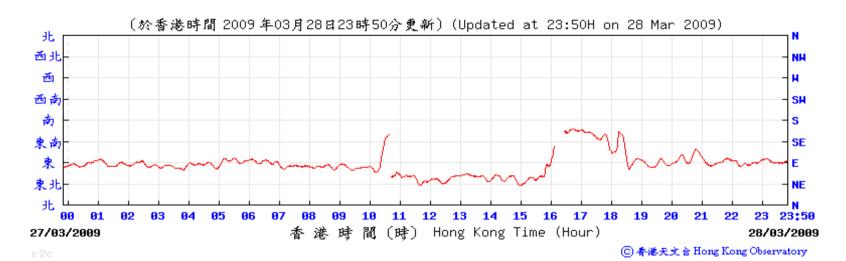
Scale		Project				
	N.T.S	No. MA6030				
Date		Appendix				
	Mar 09	D				







## **Wind Data (HK International Airport)**



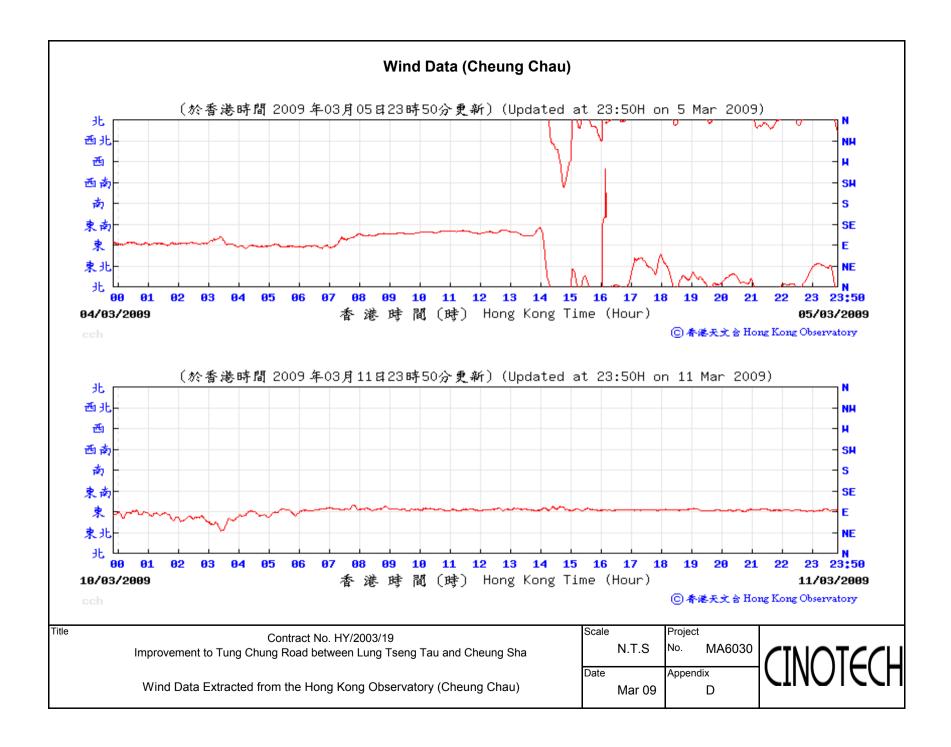
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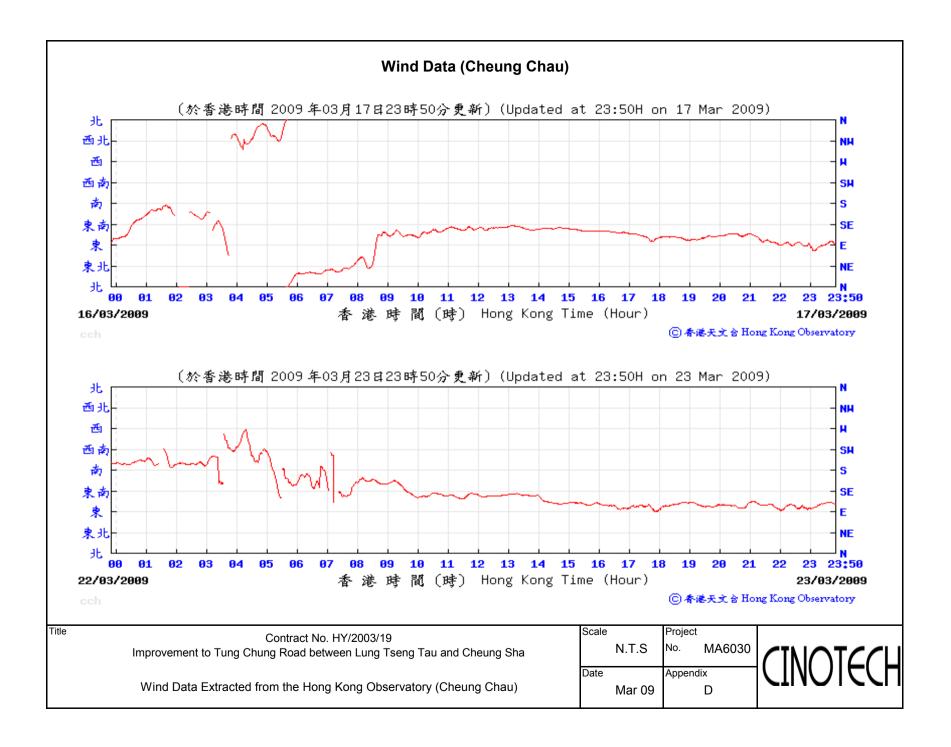
Contract No. HY/2003/19
Improvement to Tung Chung Road between Lung Tseng Tau and Cheung Sha

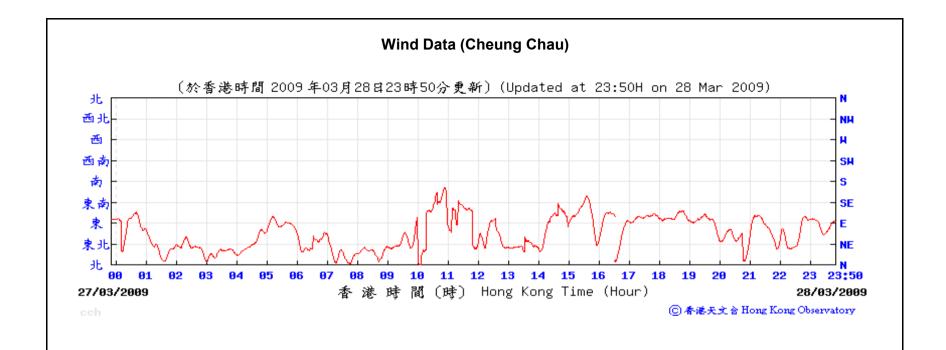
Wind Data Extracted from the Hong Kong Observatory (HK International Airport)

Project
No. MA6030
Appendix
D









Title

Contract No. HY/2003/19
Improvement to Tung Chung Road between Lung Tseng Tau and Cheung Sha

Wind Data Extracted from the Hong Kong Observatory (Cheung Chau)

Scale		Project	
	N.T.S	No.	MA6030
Date		Append	ix
	Mar 09		D



APPENDIX E NOISE MONITORING RESULTS AND GRAPHICAL PRESENTATION

# Appendix E - Noise Monitoring Results

Location NM1	- No. 28 Lun	g Tseng Tau							
Dete	Times	\A/a ath ar	dB (A) (30-min)						
Date	Time	Weather	L <sub>eq</sub>	L <sub>10</sub>	L 90				
4-Mar-09	09:40	Cloudy	63.9	66.0	61.0				
11-Mar-09	09:40	Fine	63.2	65.5	60.5				
18-Mar-09	09:40	Fine	64.2 66.5		61.0				
25-Mar-09	09:40	Cloudy	63.8	66.0	61.0				
		Average	63.8	66.0	60.9				
		Minimum	63.2	65.5	60.5				
		Maximum	64.2	66.5	61.0				

Location NM2	- YMCA of H	IK Christian C	ollege		
Dete	Times	\\/aathar	dB	)	
Date	Time	Weather	L <sub>eq</sub>	L <sub>10</sub>	L 90
4-Mar-09	09:00	Cloudy	52.7	54.5	50.0
11-Mar-09	09:00	Fine	52.2	52.2 53.5	
18-Mar-09	09:00	Fine	Fine 51.8 53.5 Cloudy 53.4 55.5		49.5
25-Mar-09	09:00	Cloudy			49.5
		Average	52.6	54.3	49.4
		Minimum	51.8	53.5	48.5
		Maximum	53.4	55.5	50.0

Location NM3	- No. 37 She	k Lau Po								
Dete	Time	\A/a atla an	dB (A) (30-min)							
Date	Time	Weather	L <sub>eq</sub>	L <sub>10</sub>	L 90					
4-Mar-09	10:20	Cloudy	39.8	41.0	39.0					
11-Mar-09	10:20	Fine	40.2	41.0	39.0					
18-Mar-09	10:20	Fine	40.1	41.0	39.0					
25-Mar-09	10:20	Cloudy	40.0	41.5	38.5					
		Average	40.0	41.1	38.9					
		Minimum	39.8	41.0	38.5					
		Maximum	40.2	41.5	39.0					

Location NM4	- No.1 Shek	Mun Kap			
Data	Ti	\\/ + l	dE	)	
Date	Time	Weather	L <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>
4-Mar-09	11:00	Cloudy	51.8	53.5	49.0
11-Mar-09	11:00	Fine	51.5	53.5	49.5
18-Mar-09	11:00	Fine	51.2	53.5	48.5
25-Mar-09	11:00	Cloudy	51.6	53.5	48.5
		Average	51.5	53.5	48.9
		Minimum	51.2	53.5	48.5
		Maximum	51.8	53.5	49.5

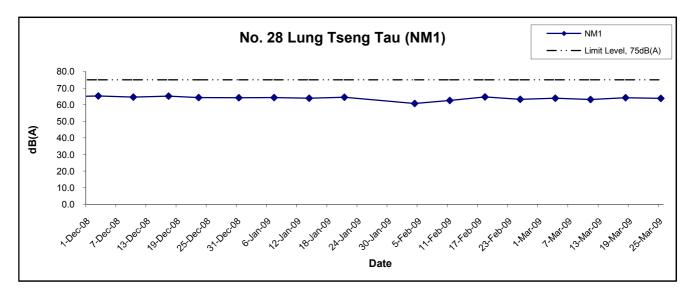
# Appendix E - Noise Monitoring Results

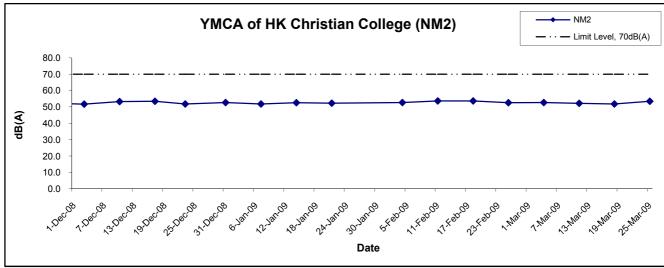
Location NM5	- Tung Chui	ng Au Country	Parks Manag	ement Centı	re				
Data	Time	\A/a atla an	dB (A) (30-min)						
Date	Time	Weather	L <sub>eq</sub>	L <sub>10</sub>	L 90				
4-Mar-09	13:00	Cloudy	49.6	51.5	47.5				
11-Mar-09	13:00	Fine	51.1	52.5	48.5				
18-Mar-09	13:00	Fine	50.9	52.0	48.0				
25-Mar-09	13:00	Cloudy	51.2	52.5	48.0				
		Average	50.7	52.1	48.0				
		Minimum	49.6	51.5	47.5				
		Maximum	51.2	52.5	48.5				

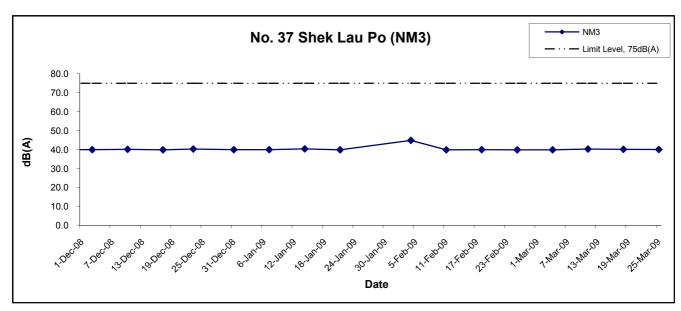
Location NM6	- D75 Leybu	ırn Villa								
Dete	Ti	\A/a atla an	dB (A) (30-min)							
Date	Time	Weather	L <sub>eq</sub>	L <sub>10</sub>	L 90					
4-Mar-09	13:45	Cloudy	40.0	41.5	39.0					
11-Mar-09	13:45	Fine	39.9	41.0	39.0					
18-Mar-09	13:45	Fine	40.2	41.5	38.5					
25-Mar-09	13:45	Cloudy	40.3	41.5	38.5					
		Average	40.1	41.4	38.8					
		Minimum	39.9	41.0	38.5					
		Maximum	40.3	41.5	39.0					

Location NM8	- No. 31 Soι	ıth Lantau Roa	ad							
Data	Time	\A/a atla an	dB (A) (30-min)							
Date	Time	Weather	L <sub>eq</sub>	L <sub>10</sub>	L 90					
4-Mar-09	14:25	Cloudy	62.1	64.5	59.5					
11-Mar-09	14:25	Fine	61.9	63.5	59.5					
18-Mar-09	14:25	Fine	61.6	64.0	58.5					
25-Mar-09	14:25	Cloudy	61.7	63.5	58.5					
		Average	61.8	63.9	59.0					
		Minimum	61.6	63.5	58.5					
		Maximum	62.1	64.5	59.5					

#### **Noise Levels**







Title Contract No. HY/2003/19
Improvement to Tung Chung Road between Lung Tseng Tau and Cheung Sha
Graphical Presentation of Construction Noise Monitoring

Results

 Scale
 Project

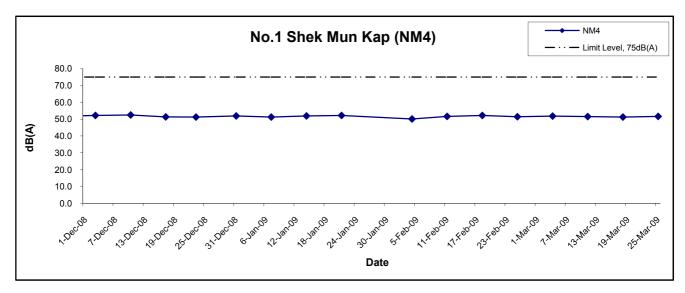
 N.T.S
 MA6030

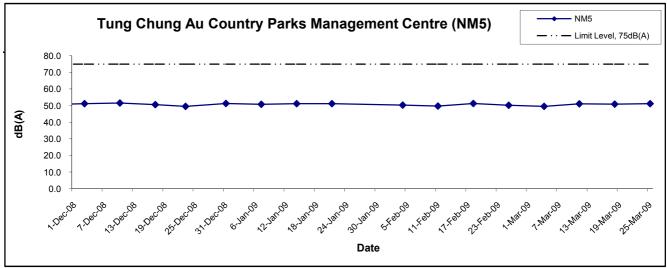
 Date
 Appendix

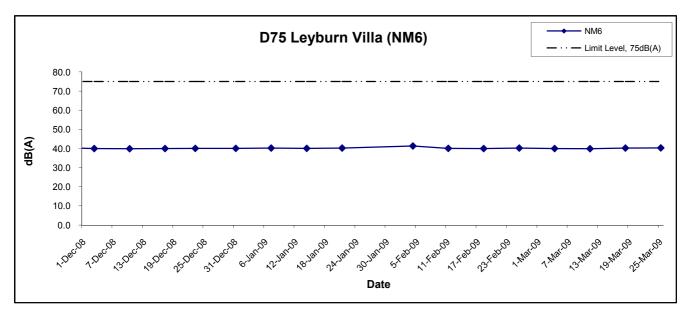
Mar 09

CINOTECH

#### **Noise Levels**







Title Contract No. HY/2003/19
Improvement to Tung Chung Road between Lung Tseng Tau and Cheung Sha
Graphical Presentation of Construction Noise Monitoring

Results

 Scale
 Project

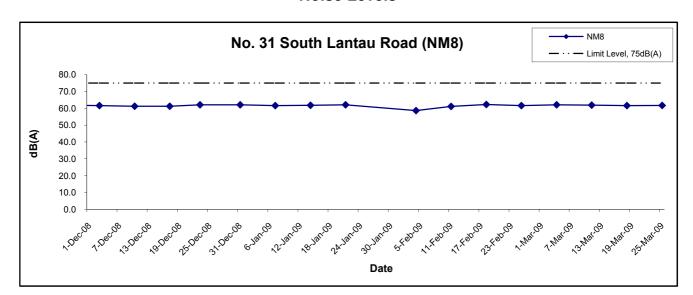
 N.T.S
 MA6030

 Date
 Appendix

Mar 09

CINOTECH

## **Noise Levels**



Title Contract No. HY/2003/19
Improvement to Tung Chung Road between Lung Tseng Tau and Cheung Sha

Graphical Presentation of Construction Noise Monitoring Results

Scale Project No. MA6030

Date Appendix Mar 09 E



APPENDIX F
WATER QUALITY MONITORING
RESULTS AND GRAPHICAL
PRESENTATION

### Water Quality Monitoring Results at 15\_I

Date	Weather	Sea	Sampling	Dept	h (m)	Tempera	ature (°C)	ŗ	Н	Salin	ity ppt	DO Satu	ration (%)	Dissolved O	xygen (mg/L)	Turbidi	ty(NTU)	Suspended Solids (mg/L	
Date	Condition	Condition*	Time	БСРІ	()	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
2-Mar-09	Fine	Calm	13:50	Middle	0.09	19.3 19.3	19.3	7.5 7.5	7.5	0.02 0.02	0.02	90.8 90.6	90.7	7.1 7.0	7.1	1.3 1.4	1.4	<2.5 <2.5	<2.5
4-Mar-09	Fine	Calm	12:06	Middle	0.09	19.3 19.3	19.3	7.5 7.5	7.5	0.02 0.02	0.02	92.1 91.9	92	7.4 7.4	7.4	1.4 1.5	1.5	<2.5 <2.5	<2.5
6-Mar-09	Fine	Calm	12:06	Middle	0.09	19.0 19.0	19	7.5 7.5	7.5	0.02 0.02	0.02	91.8 91.6	91.7	7.4 7.4	7.4	1.5 1.6	1.6	<2.5 <2.5	<2.5
9-Mar-09	Fine	Calm	12:00	Middle	0.09	18.9 18.9	18.9	7.5 7.5	7.5	0.02 0.02	0.02	91.7 91.4	91.6	7.5 7.5	7.5	1.4 1.5	1.5	<2.5 <2.5	<2.5
11-Mar-09	Fine	Calm	12:12	Middle	0.09	19.0 19.0	19	7.6 7.5	7.6	0.02 0.02	0.02	92.0 91.7	91.9	7.5 7.5	7.5	1.5 1.6	1.6	<2.5 <2.5	<2.5
13-Mar-09	Fine	Calm	11:45	Middle	0.09	18.9 19.0	19	7.6 7.6	7.6	0.02 0.02	0.02	92.6 92.3	92.5	7.5 7.5	7.5	1.3 1.4	1.4	<2.5 <2.5	<2.5
16-Mar-09	Sunny	Calm	12:09	Middle	0.09	18.9 18.9	18.9	7.7 7.7	7.7	0.02 0.02	0.02	92.1 91.8	92	7.5 7.5	7.5	1.4 1.5	1.5	<2.5 <2.5	<2.5
18-Mar-09	Sunny	Calm	11:39	Middle	0.09	19.5 19.5	19.5	7.6 7.6	7.6	0.02 0.02	0.02	92.7 92.4	92.6	7.5 7.5	7.5	1.5 1.6	1.6	<2.5 <2.5	<2.5
20-Mar-09	Sunny	Calm	11:49	Middle	0.09	19.5 19.5	19.5	7.7 7.6	7.7	0.02 0.02	0.02	92.4 92.1	92.3	7.5 7.5	7.5	1.7 1.8	1.8	<2.5 <2.5	<2.5
23-Mar-09	Cloudy	Calm	12:07	Middle	0.09	19.6 19.6	19.6	7.6 7.6	7.6	0.02 0.02	0.02	90.6 90.4	90.5	7.4 7.4	7.4	1.5 1.6	1.6	<2.5 <2.5	<2.5
25-Mar-09	Cloudy	Calm	12:23	Middle	0.09	19.6 19.6	19.6	7.5 7.5	7.5	0.02 0.02	0.02	92.5 92.3	92.4	7.5 7.4	7.5	1.4 1.5	1.5	<2.5 <2.5	<2.5
27-Mar-09	Cloudy	Calm	12:01	Middle	0.09	19.6 19.6	19.6	7.6 7.6	7.6	0.02 0.02	0.02	96.1 95.9	96	7.6 7.6	7.6	1.6 1.7	1.7	<2.5 <2.5	<2.5
30-Mar-09	Sunny	Calm	12:31	Middle	0.09	19.5 19.5	19.5	7.5 7.5	7.5	0.02 0.02	0.02	95.3 95.1	95.2	7.6 7.6	7.6	1.4 1.5	1.5	<2.5 <2.5	<2.5

### Water Quality Monitoring Results at 15\_R

Date	Weather	Sea	Sampling	Dent	h (m)	Tempera	ature (°C)	ŗ	Н	Salin	ity ppt	DO Satu	ration (%)	Dissolved O	xygen (mg/L)	Turbidit	ty(NTU)	Suspended	Solids (mg/L
Date	Condition	Condition*	Time	БСРІ	()	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
2-Mar-09	Fine	Calm	13:44	Middle	0.08	19.3 19.3	19.3	7.5 7.5	7.5	0.02 0.02	0.02	91.3 91.1	91.2	7.1 7.1	7.1	1.4 1.5	1.5	<2.5 <2.5	<2.5
4-Mar-09	Fine	Calm	11:59	Middle	0.08	19.2 19.3	19.3	7.4 7.4	7.4	0.02 0.02	0.02	92.6 92.4	92.5	7.5 7.5	7.5	1.5 1.6	1.6	<2.5 <2.5	<2.5
6-Mar-09	Fine	Calm	11:59	Middle	0.08	18.9 18.9	18.9	7.5 7.5	7.5	0.02 0.02	0.02	92.3 92.1	92.2	7.5 7.4	7.5	1.6 1.7	1.7	<2.5 <2.5	<2.5
9-Mar-09	Fine	Calm	11:53	Middle	0.08	18.9 18.9	18.9	7.6 7.6	7.6	0.02 0.02	0.02	81.4 81.2	81.3	6.5 6.5	6.5	1.5 1.6	1.6	<2.5 <2.5	<2.5
11-Mar-09	Fine	Calm	12:05	Middle	0.08	18.9 18.9	18.9	7.7 7.7	7.7	0.02 0.02	0.02	81.7 81.5	81.6	6.5 6.5	6.5	1.6 1.7	1.7	<2.5 <2.5	<2.5
13-Mar-09	Fine	Calm	11:38	Middle	0.08	18.9 18.9	18.9	7.7 7.7	7.7	0.02 0.02	0.02	82.3 82.1	82.2	6.5 6.5	6.5	1.4 1.5	1.5	<2.5 <2.5	<2.5
16-Mar-09	Sunny	Calm	12:03	Middle	0.08	18.9 18.9	18.9	7.8 7.8	7.8	0.02 0.02	0.02	81.8 81.6	81.7	6.5 6.5	6.5	1.5 1.6	1.6	<2.5 <2.5	<2.5
18-Mar-09	Sunny	Calm	11:32	Middle	0.08	19.5 19.5	19.5	7.7 7.7	7.7	0.02 0.02	0.02	82.4 82.2	82.3	6.5 6.5	6.5	1.6 1.7	1.7	<2.5 <2.5	<2.5
20-Mar-09	Sunny	Calm	11:42	Middle	0.08	19.5 19.5	19.5	7.8 7.8	7.8	0.02 0.02	0.02	82.1 81.9	82	6.5 6.5	6.5	1.8 1.9	1.9	<2.5 <2.5	<2.5
23-Mar-09	Cloudy	Calm	12:00	Middle	0.08	19.5 19.5	19.5	7.7 7.7	7.7	0.02 0.02	0.02	85.4 85.3	85.4	6.9 6.9	6.9	1.6 1.7	1.7	<2.5 <2.5	<2.5
25-Mar-09	Cloudy	Calm	12:16	Middle	0.08	19.6 19.6	19.6	7.6 7.6	7.6	0.02 0.02	0.02	87.3 87.2	87.3	7.0 7.0	7	1.5 1.6	1.6	<2.5 <2.5	<2.5
27-Mar-09	Cloudy	Calm	11:54	Middle	0.08	19.5 19.5	19.5	7.7 7.7	7.7	0.02 0.02	0.02	90.9 90.8	90.9	7.1 7.1	7.1	1.7 1.8	1.8	<2.5 <2.5	<2.5
30-Mar-09	Sunny	Calm	12:25	Middle	0.08	19.5 19.5	19.5	7.6 7.6	7.6	0.02 0.02	0.02	90.1 90.0	90.1	7.1 7.1	7.1	1.5 1.6	1.6	<2.5 <2.5	<2.5

### Water Quality Monitoring Results at 18\_I

Date	Weather	Sea	Sampling	Dent	h (m)	Tempera	ature (°C)	р	Н	Salin	ity ppt	DO Satu	ration (%)	Dissolved Ox	xygen (mg/L)	Turbidi	ty(NTU)	Suspended	Solids (mg/L
Date	Condition	Condition*	Time	Бері	11 (111)	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
2-Mar-09	Fine	Calm	13:36	Middle	0.1	19.2 19.2	19.2	7.7 7.7	7.7	0.02 0.02	0.02	90.5 90.4	90.5	7.1 7.0	7.1	1.3 1.4	1.4	<2.5 <2.5	<2.5
4-Mar-09	Fine	Calm	11:51	Middle	0.1	19.1 19.1	19.1	7.6 7.6	7.6	0.02 0.02	0.02	91.8 91.7	91.8	7.4 7.4	7.4	1.4 1.5	1.5	<2.5 <2.5	<2.5
6-Mar-09	Fine	Calm	11:51	Middle	0.1	18.8 18.8	18.8	7.7 7.7	7.7	0.02 0.02	0.02	91.5 91.4	91.5	7.4 7.4	7.4	1.5 1.6	1.6	<2.5 <2.5	<2.5
9-Mar-09	Fine	Calm	11:45	Middle	0.1	18.8 18.8	18.8	7.8 7.8	7.8	0.02 0.02	0.02	88.6 89.1	88.9	7.2 7.3	7.3	1.4 1.5	1.5	<2.5 <2.5	<2.5
11-Mar-09	Fine	Calm	11:57	Middle	0.1	18.8 18.8	18.8	7.9 7.9	7.9	0.02 0.02	0.02	88.9 89.4	89.2	7.2 7.3	7.3	1.6 1.7	1.7	<2.5 <2.5	<2.5
13-Mar-09	Fine	Calm	11:30	Middle	0.1	18.8 18.8	18.8	8.0 8.0	8	0.02 0.02	0.02	89.5 90.0	89.8	7.3 7.3	7.3	1.5 1.6	1.6	<2.5 <2.5	<2.5
16-Mar-09	Sunny	Calm	11:54	Middle	0.1	18.8 18.8	18.8	8.0 8.0	8	0.02 0.02	0.02	89.0 89.5	89.3	7.3 7.3	7.3	1.6 1.7	1.7	<2.5 <2.5	<2.5
18-Mar-09	Sunny	Calm	11:24	Middle	0.1	19.3 19.3	19.3	8.0 7.9	8	0.02 0.02	0.02	89.6 90.1	89.9	7.3 7.3	7.3	1.6 1.7	1.7	<2.5 <2.5	<2.5
20-Mar-09	Sunny	Calm	11:34	Middle	0.1	19.4 19.4	19.4	8.0 8.0	8	0.02 0.02	0.02	89.3 89.8	89.6	7.3 7.3	7.3	1.7 1.8	1.8	<2.5 <2.5	<2.5
23-Mar-09	Cloudy	Calm	11:52	Middle	0.1	19.4 19.4	19.4	7.9 7.9	7.9	0.02 0.02	0.02	89.0 89.3	89.2	7.2 7.3	7.3	1.6 1.7	1.7	<2.5 <2.5	<2.5
25-Mar-09	Cloudy	Calm	12:08	Middle	0.1	19.4 19.4	19.4	7.9 7.9	7.9	0.02 0.02	0.02	90.9 91.2	91.1	7.3 7.4	7.4	1.6 1.7	1.7	<2.5 <2.5	<2.5
27-Mar-09	Cloudy	Calm	11:46	Middle	0.1	19.4 19.4	19.4	7.9 7.9	7.9	0.02 0.02	0.02	94.5 94.8	94.7	7.5 7.5	7.5	1.7 1.8	1.8	<2.5 <2.5	<2.5
30-Mar-09	Sunny	Calm	12:16	Middle	0.1	19.4 19.4	19.4	7.8 7.8	7.8	0.02 0.02	0.02	93.7 94.0	93.9	7.5 7.5	7.5	1.5 1.6	1.6	<2.5 <2.5	<2.5

### Water Quality Monitoring Results at 18\_R

Date	Weather	Sea	Sampling	Dept	h (m)	Tempera	ature (°C)	ŗ	Н	Salin	ity ppt	DO Satu	ration (%)	Dissolved O	xygen (mg/L)	Turbidi	ty(NTU)	Suspended	Solids (mg/L)
Date	Condition	Condition*	Time	Всрі	11 (111)	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
2-Mar-09	Fine	Calm	13:32	Middle	0.175	19.1 19.1	19.1	7.7 7.7	7.7	0.02 0.02	0.02	90.8 90.4	90.6	7.1 7.0	7.1	1.4 1.4	1.4	<2.5 <2.5	<2.5
4-Mar-09	Fine	Calm	11:47	Middle	0.175	19.1 19.1	19.1	7.7 7.6	7.7	0.02 0.02	0.02	92.1 91.7	91.9	7.5 7.4	7.5	1.5 1.5	1.5	<2.5 <2.5	<2.5
6-Mar-09	Fine	Calm	11:47	Middle	0.175	18.8 18.8	18.8	7.7 7.7	7.7	0.02 0.02	0.02	91.8 91.4	91.6	7.4 7.4	7.4	1.6 1.6	1.6	<2.5 <2.5	<2.5
9-Mar-09	Fine	Calm	11:41	Middle	0.175	18.7 18.7	18.7	7.8 7.8	7.8	0.02 0.02	0.02	88.1 88.3	88.2	7.2 7.2	7.2	1.6 1.6	1.6	<2.5 <2.5	<2.5
11-Mar-09	Fine	Calm	11:53	Middle	0.175	18.8 18.8	18.8	7.9 7.9	7.9	0.02 0.02	0.02	88.4 88.6	88.5	7.2 7.2	7.2	1.8 1.8	1.8	<2.5 <2.5	<2.5
13-Mar-09	Fine	Calm	11:26	Middle	0.175	18.8 18.8	18.8	8.0 8.0	8	0.02 0.02	0.02	89.0 89.2	89.1	7.2 7.3	7.3	1.7 1.7	1.7	<2.5 <2.5	<2.5
16-Mar-09	Sunny	Calm	11:50	Middle	0.175	18.7 18.7	18.7	8.0 8.0	8	0.02 0.02	0.02	88.5 88.7	88.6	7.2 7.2	7.2	1.8 1.8	1.8	<2.5 <2.5	<2.5
18-Mar-09	Sunny	Calm	11:20	Middle	0.175	19.3 19.3	19.3	8.0 8.0	8	0.02 0.02	0.02	89.1 89.3	89.2	7.2 7.3	7.3	1.8 1.8	1.8	<2.5 <2.5	<2.5
20-Mar-09	Sunny	Calm	11:30	Middle	0.175	19.3 19.3	19.3	8.0 8.0	8	0.02 0.02	0.02	88.8 89.0	88.9	7.2 7.2	7.2	1.9 1.9	1.9	<2.5 <2.5	<2.5
23-Mar-09	Cloudy	Calm	11:48	Middle	0.175	19.4 19.4	19.4	7.9 7.9	7.9	0.02 0.02	0.02	88.8 88.9	88.9	7.2 7.2	7.2	1.8 1.8	1.8	<2.5 <2.5	<2.5
25-Mar-09	Cloudy	Calm	12:04	Middle	0.175	19.4 19.4	19.4	7.9 7.9	7.9	0.02 0.02	0.02	90.7 90.8	90.8	7.3 7.3	7.3	1.8 1.8	1.8	<2.5 <2.5	<2.5
27-Mar-09	Cloudy	Calm	11:42	Middle	0.175	19.4 19.4	19.4	7.9 7.9	7.9	0.02 0.02	0.02	94.3 94.4	94.4	7.5 7.5	7.5	1.9 1.9	1.9	<2.5 <2.5	<2.5
30-Mar-09	Sunny	Calm	12:13	Middle	0.175	19.3 19.3	19.3	7.9 7.8	7.9	0.02 0.02	0.02	93.5 93.6	93.6	7.5 7.5	7.5	1.7 1.7	1.7	<2.5 <2.5	<2.5

### Water Quality Monitoring Results at 21\_I

Date	Weather	Sea	Sampling	Dent	h (m)	Tempera	ature (°C)	р	Н	Salin	ity ppt	DO Satu	ration (%)	Dissolved Ox	xygen (mg/L)	Turbidi	ty(NTU)	Suspended	Solids (mg/L
Date	Condition	Condition*	Time	БСР	11 (111)	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
2-Mar-09	Fine	Calm	13:28	Middle	0.14	19.1 19.1	19.1	7.7 7.7	7.7	0.02 0.02	0.02	90.9 91.2	91.1	7.1 7.2	7.2	1.4 1.5	1.5	<2.5 <2.5	<2.5
4-Mar-09	Fine	Calm	11:43	Middle	0.14	19.1 19.1	19.1	7.6 7.7	7.7	0.02 0.02	0.02	92.2 92.5	92.4	7.5 7.5	7.5	1.4 1.5	1.5	<2.5 <2.5	<2.5
6-Mar-09	Fine	Calm	11:43	Middle	0.14	18.7 18.7	18.7	7.7 7.7	7.7	0.02 0.02	0.02	91.9 92.2	92.1	7.5 7.5	7.5	1.6 1.7	1.7	<2.5 <2.5	<2.5
9-Mar-09	Fine	Calm	11:37	Middle	0.14	18.7 18.7	18.7	7.6 7.6	7.6	0.02 0.02	0.02	91.9 92.0	92	7.6 7.6	7.6	1.5 1.6	1.6	<2.5 <2.5	<2.5
11-Mar-09	Fine	Calm	11:49	Middle	0.14	18.7 18.8	18.8	7.7 7.7	7.7	0.02 0.02	0.02	92.2 92.3	92.3	7.6 7.6	7.6	1.7 1.8	1.8	<2.5 <2.5	<2.5
13-Mar-09	Fine	Calm	11:22	Middle	0.14	18.7 18.7	18.7	7.7 7.8	7.8	0.02 0.02	0.02	92.8 92.9	92.9	7.6 7.6	7.6	1.5 1.6	1.6	<2.5 <2.5	<2.5
16-Mar-09	Sunny	Calm	11:46	Middle	0.14	18.7 18.7	18.7	7.8 7.8	7.8	0.02 0.02	0.02	92.3 92.4	92.4	7.6 7.6	7.6	1.6 1.7	1.7	<2.5 <2.5	<2.5
18-Mar-09	Sunny	Calm	11:16	Middle	0.14	19.3 19.3	19.3	7.7 7.7	7.7	0.02 0.02	0.02	92.9 93.0	93	7.6 7.6	7.6	1.7 1.8	1.8	<2.5 <2.5	<2.5
20-Mar-09	Sunny	Calm	11:26	Middle	0.14	19.3 19.3	19.3	7.8 7.8	7.8	0.02 0.02	0.02	92.6 92.7	92.7	7.6 7.6	7.6	1.8 1.9	1.9	<2.5 <2.5	<2.5
23-Mar-09	Cloudy	Calm	11:44	Middle	0.14	19.3 19.3	19.3	7.7 7.7	7.7	0.02 0.02	0.02	90.7 90.7	90.7	7.4 7.4	7.4	1.7 1.8	1.8	<2.5 <2.5	<2.5
25-Mar-09	Cloudy	Calm	12:00	Middle	0.14	19.4 19.4	19.4	7.7 7.7	7.7	0.02 0.02	0.02	92.6 92.6	92.6	7.5 7.5	7.5	1.7 1.8	1.8	<2.5 <2.5	<2.5
27-Mar-09	Cloudy	Calm	11:38	Middle	0.14	19.3 19.3	19.3	7.7 7.7	7.7	0.02 0.02	0.02	96.2 96.2	96.2	7.7 7.7	7.7	1.8 1.9	1.9	<2.5 <2.5	<2.5
30-Mar-09	Sunny	Calm	12:09	Middle	0.14	19.3 19.3	19.3	7.6 7.6	7.6	0.02 0.02	0.02	95.4 95.4	95.4	7.6 7.6	7.6	1.6 1.7	1.7	<2.5 <2.5	<2.5

### Water Quality Monitoring Results at 21\_R

Date	Weather	Sea	Sampling	Depti	h (m)	Tempera	ature (°C)	ŗ	Н	Salin	ity ppt	DO Satu	ration (%)	Dissolved O	xygen (mg/L)	Turbidit	ty(NTU)	Suspended	Solids (mg/L
Date	Condition	Condition*	Time	Вери	(111)	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
2-Mar-09	Fine	Calm	13:23	Middle	0.1	19.1 19.1	19.1	7.7 7.7	7.7	0.02 0.02	0.02	92.0 91.4	91.7	7.2 7.2	7.2	1.5 1.5	1.5	<2.5 <2.5	<2.5
4-Mar-09	Fine	Calm	11:39	Middle	0.1	19.0 19.0	19	7.7 7.6	7.7	0.02 0.02	0.02	93.3 92.7	93	7.6 7.6	7.6	1.5 1.5	1.5	<2.5 <2.5	<2.5
6-Mar-09	Fine	Calm	11:39	Middle	0.1	18.7 18.7	18.7	7.7 7.7	7.7	0.02 0.02	0.02	93.0 92.4	92.7	7.6 7.5	7.6	1.7 1.7	1.7	<2.5 <2.5	<2.5
9-Mar-09	Fine	Calm	11:33	Middle	0.1	18.7 18.7	18.7	7.6 7.6	7.6	0.02 0.02	0.02	92.8 92.3	92.6	7.6 7.6	7.6	1.6 1.6	1.6	<2.5 <2.5	<2.5
11-Mar-09	Fine	Calm	11:45	Middle	0.1	18.7 18.7	18.7	7.7 7.7	7.7	0.02 0.02	0.02	93.1 92.6	92.9	7.6 7.6	7.6	1.8 1.8	1.8	<2.5 <2.5	<2.5
13-Mar-09	Fine	Calm	11:18	Middle	0.1	18.7 18.7	18.7	7.8 7.8	7.8	0.02 0.02	0.02	93.7 93.2	93.5	7.7 7.6	7.7	1.6 1.6	1.6	<2.5 <2.5	<2.5
16-Mar-09	Sunny	Calm	11:42	Middle	0.1	18.7 18.7	18.7	7.8 7.8	7.8	0.02 0.02	0.02	93.2 92.7	93	7.7 7.6	7.7	1.7 1.7	1.7	<2.5 <2.5	<2.5
18-Mar-09	Sunny	Calm	11:12	Middle	0.1	19.2 19.3	19.3	7.7 7.7	7.7	0.02 0.02	0.02	93.8 93.3	93.6	7.7 7.6	7.7	1.8 1.8	1.8	<2.5 <2.5	<2.5
20-Mar-09	Sunny	Calm	11:22	Middle	0.1	19.3 19.3	19.3	7.8 7.8	7.8	0.02 0.02	0.02	93.5 93.0	93.3	7.7 7.6	7.7	1.9 1.9	1.9	<2.5 <2.5	<2.5
23-Mar-09	Cloudy	Calm	11:40	Middle	0.1	19.3 19.3	19.3	7.7 7.7	7.7	0.02 0.02	0.02	91.1 90.9	91	7.4 7.4	7.4	1.8 1.8	1.8	<2.5 <2.5	<2.5
25-Mar-09	Cloudy	Calm	11:56	Middle	0.1	19.3 19.4	19.4	7.7 7.7	7.7	0.02 0.02	0.02	93.0 92.8	92.9	7.5 7.5	7.5	1.8 1.8	1.8	<2.5 <2.5	<2.5
27-Mar-09	Cloudy	Calm	11:34	Middle	0.1	19.3 19.3	19.3	7.7 7.7	7.7	0.02 0.02	0.02	96.6 96.4	96.5	7.7 7.7	7.7	1.9 1.9	1.9	<2.5 <2.5	<2.5
30-Mar-09	Sunny	Calm	12:04	Middle	0.1	19.3 19.3	19.3	7.6 7.6	7.6	0.02 0.02	0.02	95.8 95.6	95.7	7.7 7.7	7.7	1.7 1.7	1.7	<2.5 <2.5	<2.5

### Water Quality Monitoring Results at 23\_I

Date	Weather	Sea	Sampling	Dent	h (m)	Tempera	ature (°C)	р	Н	Salin	ity ppt	DO Satu	ration (%)	Dissolved O	xygen (mg/L)	Turbidi	ty(NTU)	Suspended	Solids (mg/L
Date	Condition	Condition*	Time	БСРІ	11 (111)	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
2-Mar-09	Fine	Calm	13:17	Middle	0.09	19.2 19.2	19.2	7.6 7.6	7.6	0.03 0.03	0.03	91.8 91.4	91.6	7.2 7.2	7.2	1.3 1.4	1.4	<2.5 <2.5	<2.5
4-Mar-09	Fine	Calm	11:33	Middle	0.09	19.2 19.2	19.2	7.6 7.6	7.6	0.03 0.03	0.03	93.1 92.7	92.9	7.6 7.6	7.6	1.2 1.3	1.3	<2.5 <2.5	<2.5
6-Mar-09	Fine	Calm	11:33	Middle	0.09	18.9 18.9	18.9	7.6 7.6	7.6	0.03 0.03	0.03	92.8 92.4	92.6	7.6 7.5	7.6	1.5 1.5	1.5	<2.5 <2.5	<2.5
9-Mar-09	Fine	Calm	11:27	Middle	0.09	18.8 18.8	18.8	7.5 7.5	7.5	0.02 0.02	0.02	92.0 91.5	91.8	7.6 7.5	7.6	1.5 1.5	1.5	<2.5 <2.5	<2.5
11-Mar-09	Fine	Calm	11:39	Middle	0.09	18.9 18.9	18.9	7.5 7.6	7.6	0.02 0.02	0.02	92.3 91.8	92.1	7.6 7.5	7.6	1.6 1.6	1.6	<2.5 <2.5	<2.5
13-Mar-09	Fine	Calm	11:12	Middle	0.09	18.8 18.8	18.8	7.6 7.6	7.6	0.02 0.02	0.02	92.9 92.4	92.7	7.6 7.6	7.6	1.3 1.3	1.3	<2.5 <2.5	<2.5
16-Mar-09	Sunny	Calm	11:36	Middle	0.09	18.8 18.8	18.8	7.7 7.7	7.7	0.02 0.02	0.02	92.4 91.9	92.2	7.6 7.6	7.6	1.3 1.3	1.3	<2.5 <2.5	<2.5
18-Mar-09	Sunny	Calm	11:06	Middle	0.09	19.4 19.4	19.4	7.6 7.6	7.6	0.02 0.02	0.02	93.0 92.5	92.8	7.6 7.6	7.6	1.4 1.4	1.4	<2.5 <2.5	<2.5
20-Mar-09	Sunny	Calm	11:15	Middle	0.09	19.4 19.4	19.4	7.6 7.7	7.7	0.02 0.02	0.02	92.7 92.2	92.5	7.6 7.6	7.6	1.5 1.5	1.5	<2.5 <2.5	<2.5
23-Mar-09	Cloudy	Calm	11:34	Middle	0.09	19.5 19.5	19.5	7.6 7.6	7.6	0.02 0.02	0.02	90.7 90.5	90.6	7.4 7.4	7.4	1.4 1.4	1.4	<2.5 <2.5	<2.5
25-Mar-09	Cloudy	Calm	11:50	Middle	0.09	19.5 19.5	19.5	7.5 7.5	7.5	0.02 0.02	0.02	92.6 92.4	92.5	7.5 7.5	7.5	1.5 1.5	1.5	<2.5 <2.5	<2.5
27-Mar-09	Cloudy	Calm	11:27	Middle	0.09	19.5 19.5	19.5	7.6 7.6	7.6	0.02 0.02	0.02	96.2 96.0	96.1	7.7 7.7	7.7	1.6 1.6	1.6	<2.5 <2.5	<2.5
30-Mar-09	Sunny	Calm	11:58	Middle	0.09	19.4 19.4	19.4	7.5 7.5	7.5	0.02 0.02	0.02	95.4 95.2	95.3	7.6 7.6	7.6	1.6 1.6	1.6	<2.5 <2.5	<2.5

### Water Quality Monitoring Results at 23\_R1

Date	Weather	Sea	Sampling	Dent	h (m)	Tempera	ature (°C)		Н	Salin	ity ppt	DO Satu	ration (%)	Dissolved O	xygen (mg/L)	Turbidit	ty(NTU)	Suspended	Solids (mg/L
Date	Condition	Condition*	Time	Вері	()	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
2-Mar-09	Fine	Calm	13:04	Middle	0.09	19.1 19.2	19.2	7.6 7.6	7.6	0.03 0.03	0.03	93.8 92.9	93.4	7.4 7.3	7.4	1.6 1.5	1.6	<2.5 <2.5	<2.5
4-Mar-09	Fine	Calm	11:20	Middle	0.09	19.1 19.1	19.1	7.6 7.6	7.6	0.03 0.03	0.03	95.1 94.2	94.7	7.8 7.7	7.8	1.5 1.4	1.5	<2.5 <2.5	<2.5
6-Mar-09	Fine	Calm	11:20	Middle	0.09	18.8 18.8	18.8	7.6 7.6	7.6	0.03 0.03	0.03	94.8 93.9	94.4	7.8 7.7	7.8	1.7 1.6	1.7	<2.5 <2.5	<2.5
9-Mar-09	Fine	Calm	11:14	Middle	0.09	18.7 18.8	18.8	7.4 7.4	7.4	0.02 0.02	0.02	92.8 92.2	92.5	7.7 7.6	7.7	1.7 1.6	1.7	<2.5 <2.5	<2.5
11-Mar-09	Fine	Calm	11:26	Middle	0.09	18.8 18.8	18.8	7.5 7.5	7.5	0.02 0.02	0.02	93.1 92.5	92.8	7.7 7.6	7.7	1.8 1.7	1.8	<2.5 <2.5	<2.5
13-Mar-09	Fine	Calm	10:59	Middle	0.09	18.8 18.8	18.8	7.6 7.6	7.6	0.02 0.02	0.02	93.7 93.1	93.4	7.7 7.6	7.7	1.5 1.4	1.5	<2.5 <2.5	<2.5
16-Mar-09	Sunny	Calm	11:23	Middle	0.09	18.7 18.8	18.8	7.6 7.6	7.6	0.02 0.02	0.02	93.2 92.6	92.9	7.7 7.6	7.7	1.5 1.4	1.5	<2.5 <2.5	<2.5
18-Mar-09	Sunny	Calm	10:53	Middle	0.09	19.3 19.3	19.3	7.6 7.6	7.6	0.02 0.02	0.02	93.8 93.2	93.5	7.7 7.6	7.7	1.6 1.5	1.6	<2.5 <2.5	<2.5
20-Mar-09	Sunny	Calm	11:02	Middle	0.09	19.3 19.4	19.4	7.6 7.6	7.6	0.02 0.02	0.02	93.5 92.9	93.2	7.7 7.6	7.7	1.7 1.6	1.7	<2.5 <2.5	<2.5
23-Mar-09	Cloudy	Calm	11:21	Middle	0.09	19.4 19.4	19.4	7.5 7.6	7.6	0.02 0.02	0.02	91.1 90.8	91	7.5 7.4	7.5	1.6 1.5	1.6	<2.5 <2.5	<2.5
25-Mar-09	Cloudy	Calm	11:37	Middle	0.09	19.4 19.4	19.4	7.5 7.5	7.5	0.02 0.02	0.02	93.0 92.7	92.9	7.5 7.5	7.5	1.7 1.6	1.7	<2.5 <2.5	<2.5
27-Mar-09	Cloudy	Calm	11:14	Middle	0.09	19.4 19.4	19.4	7.5 7.5	7.5	0.02 0.02	0.02	96.6 96.3	96.5	7.7 7.7	7.7	1.7 1.6	1.7	<2.5 <2.5	<2.5
30-Mar-09	Sunny	Calm	11:45	Middle	0.09	19.3 19.4	19.4	7.5 7.5	7.5	0.02 0.02	0.02	95.8 95.5	95.7	7.7 7.7	7.7	1.7 1.6	1.7	<2.5 <2.5	<2.5

### Water Quality Monitoring Results at 23\_R2

Date	Weather	Sea	Sampling	Dept	h (m)	Tempera	ature (°C)	ŗ	Н	Salin	ity ppt	DO Satu	ration (%)	Dissolved O	xygen (mg/L)	Turbidit	ty(NTU)	Suspended	Solids (mg/L)
Date	Condition	Condition*	Time	БСРІ	()	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
2-Mar-09	Fine	Calm	13:10	Middle	0.1	19.2 19.2	19.2	7.6 7.6	7.6	0.03 0.03	0.03	93.2 92.9	93.1	7.3 7.3	7.3	1.5 1.5	1.5	<2.5 <2.5	<2.5
4-Mar-09	Fine	Calm	11:26	Middle	0.1	19.1 19.1	19.1	7.6 7.6	7.6	0.03 0.03	0.03	94.5 94.2	94.4	7.7 7.7	7.7	1.4 1.4	1.4	<2.5 <2.5	<2.5
6-Mar-09	Fine	Calm	11:26	Middle	0.1	18.8 18.8	18.8	7.6 7.6	7.6	0.03 0.03	0.03	94.2 93.9	94.1	7.7 7.7	7.7	1.6 1.6	1.6	<2.5 <2.5	<2.5
9-Mar-09	Fine	Calm	11:20	Middle	0.1	18.8 18.8	18.8	7.5 7.5	7.5	0.02 0.02	0.02	93.2 92.9	93.1	7.7 7.7	7.7	1.6 1.6	1.6	<2.5 <2.5	<2.5
11-Mar-09	Fine	Calm	11:32	Middle	0.1	18.8 18.8	18.8	7.5 7.5	7.5	0.02 0.02	0.02	93.5 93.2	93.4	7.7 7.7	7.7	1.7 1.7	1.7	<2.5 <2.5	<2.5
13-Mar-09	Fine	Calm	11:05	Middle	0.1	18.8 18.8	18.8	7.6 7.6	7.6	0.02 0.02	0.02	94.1 93.8	94	7.7 7.7	7.7	1.4 1.4	1.4	<2.5 <2.5	<2.5
16-Mar-09	Sunny	Calm	11:29	Middle	0.1	18.8 18.8	18.8	7.6 7.6	7.6	0.02 0.02	0.02	93.6 93.3	93.5	7.7 7.7	7.7	1.4 1.4	1.4	<2.5 <2.5	<2.5
18-Mar-09	Sunny	Calm	10:59	Middle	0.1	19.3 19.4	19.4	7.6 7.6	7.6	0.02 0.02	0.02	94.2 93.9	94.1	7.7 7.7	7.7	1.5 1.5	1.5	<2.5 <2.5	<2.5
20-Mar-09	Sunny	Calm	11:08	Middle	0.1	19.4 19.4	19.4	7.6 7.6	7.6	0.02 0.02	0.02	93.9 93.6	93.8	7.7 7.7	7.7	1.6 1.6	1.6	<2.5 <2.5	<2.5
23-Mar-09	Cloudy	Calm	11:27	Middle	0.1	19.4 19.4	19.4	7.6 7.6	7.6	0.02 0.02	0.02	91.3 91.2	91.3	7.5 7.5	7.5	1.5 1.5	1.5	<2.5 <2.5	<2.5
25-Mar-09	Cloudy	Calm	11:43	Middle	0.1	19.4 19.5	19.5	7.5 7.5	7.5	0.02 0.02	0.02	93.2 93.1	93.2	7.6 7.6	7.6	1.6 1.6	1.6	<2.5 <2.5	<2.5
27-Mar-09	Cloudy	Calm	11:20	Middle	0.1	19.4 19.4	19.4	7.5 7.5	7.5	0.02 0.02	0.02	96.8 96.7	96.8	7.7 7.7	7.7	1.6 1.6	1.6	<2.5 <2.5	<2.5
30-Mar-09	Sunny	Calm	11:51	Middle	0.1	19.4 19.4	19.4	7.5 7.5	7.5	0.02 0.02	0.02	96.0 95.9	96	7.7 7.7	7.7	1.6 1.6	1.6	<2.5 <2.5	<2.5

### Water Quality Monitoring Results at 26\_I

Date	Weather	Sea	Sampling	Dent	h (m)	Tempera	ature (°C)	р	Н	Salin	ity ppt	DO Satu	ration (%)	Dissolved O	xygen (mg/L)	Turbidi	ty(NTU)	Suspended	Solids (mg/L
Date	Condition	Condition*	Time	БСРІ	()	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
2-Mar-09	Fine	Calm	12:30	Middle	0.14	19.1 19.1	19.1	7.9 7.9	7.9	0.03 0.03	0.03	93.2 93.1	93.2	7.3 7.2	7.3	1.6 1.5	1.6	<2.5 <2.5	<2.5
4-Mar-09	Fine	Calm	10:45	Middle	0.14	19.1 19.1	19.1	7.8 7.8	7.8	0.03 0.03	0.03	94.5 94.4	94.5	7.7 7.6	7.7	1.6 1.6	1.6	<2.5 <2.5	<2.5
6-Mar-09	Fine	Calm	10:45	Middle	0.14	18.8 18.8	18.8	7.9 7.9	7.9	0.03 0.03	0.03	94.2 94.1	94.2	7.7 7.6	7.7	1.9 1.8	1.9	<2.5 <2.5	<2.5
9-Mar-09	Fine	Calm	10:39	Middle	0.14	18.7 18.7	18.7	7.7 7.7	7.7	0.03 0.03	0.03	93.4 93.1	93.3	7.6 7.6	7.6	1.7 1.6	1.7	<2.5 <2.5	<2.5
11-Mar-09	Fine	Calm	10:51	Middle	0.14	18.8 18.8	18.8	7.8 7.8	7.8	0.03 0.03	0.03	93.7 93.4	93.6	7.7 7.6	7.7	1.8 1.7	1.8	<2.5 <2.5	<2.5
13-Mar-09	Fine	Calm	10:24	Middle	0.14	18.7 18.7	18.7	7.9 7.9	7.9	0.03 0.03	0.03	94.3 94.0	94.2	7.7 7.6	7.7	1.7 1.7	1.7	<2.5 <2.5	<2.5
16-Mar-09	Sunny	Calm	10:49	Middle	0.14	18.7 18.7	18.7	7.9 7.9	7.9	0.03 0.03	0.03	93.8 93.5	93.7	7.7 7.6	7.7	1.8 1.7	1.8	<2.5 <2.5	<2.5
18-Mar-09	Sunny	Calm	10:18	Middle	0.14	19.3 19.3	19.3	7.8 7.8	7.8	0.03 0.03	0.03	94.4 94.1	94.3	7.7 7.6	7.7	1.8 1.7	1.8	<2.5 <2.5	<2.5
20-Mar-09	Sunny	Calm	10:28	Middle	0.14	19.3 19.3	19.3	7.9 7.9	7.9	0.03 0.03	0.03	94.1 93.8	94	7.7 7.6	7.7	1.7 1.6	1.7	<2.5 <2.5	<2.5
23-Mar-09	Cloudy	Calm	10:46	Middle	0.14	19.4 19.4	19.4	7.8 7.8	7.8	0.03 0.03	0.03	91.4 91.3	91.4	7.5 7.4	7.5	1.5 1.4	1.5	<2.5 <2.5	<2.5
25-Mar-09	Cloudy	Calm	11:02	Middle	0.14	19.4 19.4	19.4	7.8 7.8	7.8	0.03 0.03	0.03	93.3 93.2	93.3	7.5 7.5	7.5	1.6 1.5	1.6	<2.5 <2.5	<2.5
27-Mar-09	Cloudy	Calm	10:40	Middle	0.14	19.4 19.4	19.4	7.8 7.8	7.8	0.03 0.03	0.03	96.9 96.8	96.9	7.7 7.7	7.7	1.7 1.6	1.7	<2.5 <2.5	<2.5
30-Mar-09	Sunny	Calm	11:11	Middle	0.14	19.3 19.3	19.3	7.7 7.7	7.7	0.03 0.03	0.03	96.1 96.0	96.1	7.7 7.7	7.7	1.6 1.5	1.6	<2.5 <2.5	<2.5

### Water Quality Monitoring Results at 26\_R

Date	Weather	Sea	Sampling	Dept	h (m)	Tempera	ature (°C)	ŗ	Н	Salin	ity ppt	DO Satu	ration (%)	Dissolved O	xygen (mg/L)	Turbidi	ty(NTU)	Suspended	Solids (mg/L)
Date	Condition	Condition*	Time	Вері	()	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
2-Mar-09	Fine	Calm	12:54	Middle	0.09	19.2 19.2	19.2	7.8 7.8	7.8	0.03 0.03	0.03	92.3 91.8	92.1	7.2 7.2	7.2	1.6 1.6	1.6	<2.5 <2.5	<2.5
4-Mar-09	Fine	Calm	11:10	Middle	0.09	19.2 19.2	19.2	7.8 7.8	7.8	0.03 0.03	0.03	93.6 93.1	93.4	7.6 7.6	7.6	1.7 1.8	1.8	<2.5 <2.5	<2.5
6-Mar-09	Fine	Calm	11:10	Middle	0.09	18.8 18.9	18.9	7.8 7.8	7.8	0.03 0.03	0.03	93.3 92.8	93.1	7.6 7.6	7.6	1.9 1.9	1.9	<2.5 <2.5	<2.5
9-Mar-09	Fine	Calm	11:04	Middle	0.09	18.8 18.8	18.8	7.6 7.6	7.6	0.02 0.02	0.02	93.2 92.7	93	7.7 7.6	7.7	1.7 1.7	1.7	<2.5 <2.5	<2.5
11-Mar-09	Fine	Calm	11:15	Middle	0.09	18.9 18.9	18.9	7.7 7.7	7.7	0.02 0.02	0.02	93.5 93.0	93.3	7.7 7.6	7.7	1.8 1.8	1.8	<2.5 <2.5	<2.5
13-Mar-09	Fine	Calm	10:49	Middle	0.09	18.8 18.8	18.8	7.8 7.8	7.8	0.02 0.02	0.02	94.1 93.6	93.9	7.7 7.7	7.7	1.8 1.9	1.9	<2.5 <2.5	<2.5
16-Mar-09	Sunny	Calm	11:13	Middle	0.09	18.8 18.8	18.8	7.8 7.8	7.8	0.02 0.02	0.02	93.6 93.1	93.4	7.7 7.7	7.7	1.8 1.8	1.8	<2.5 <2.5	<2.5
18-Mar-09	Sunny	Calm	10:43	Middle	0.09	19.4 19.4	19.4	7.7 7.7	7.7	0.02 0.02	0.02	94.2 93.7	94	7.7 7.7	7.7	1.8 1.8	1.8	<2.5 <2.5	<2.5
20-Mar-09	Sunny	Calm	10:52	Middle	0.09	19.4 19.4	19.4	7.8 7.8	7.8	0.02 0.02	0.02	93.9 93.4	93.7	7.7 7.7	7.7	1.8 1.8	1.8	<2.5 <2.5	<2.5
23-Mar-09	Cloudy	Calm	11:11	Middle	0.09	19.4 19.5	19.5	7.7 7.7	7.7	0.02 0.02	0.02	91.3 91.1	91.2	7.5 7.4	7.5	1.5 1.6	1.6	<2.5 <2.5	<2.5
25-Mar-09	Cloudy	Calm	11:26	Middle	0.09	19.5 19.5	19.5	7.7 7.7	7.7	0.02 0.02	0.02	93.2 93.0	93.1	7.6 7.5	7.6	1.7 1.7	1.7	<2.5 <2.5	<2.5
27-Mar-09	Cloudy	Calm	11:04	Middle	0.09	19.4 19.5	19.5	7.7 7.7	7.7	0.02 0.02	0.02	96.8 96.6	96.7	7.7 7.7	7.7	1.8 1.8	1.8	<2.5 <2.5	<2.5
30-Mar-09	Sunny	Calm	11:35	Middle	0.09	19.4 19.4	19.4	7.6 7.6	7.6	0.02 0.02	0.02	96.0 95.8	95.9	7.7 7.7	7.7	1.7 1.8	1.8	<2.5 <2.5	<2.5

### Water Quality Monitoring Results at 27\_I

Date	Weather	Sea	Sampling	Dent	h (m)	Tempera	ature (°C)	р	Н	Salin	ity ppt	DO Satu	ration (%)	Dissolved O	xygen (mg/L)	Turbidi	ty(NTU)	Suspended	Solids (mg/L
Date	Condition	Condition*	Time	Бері	11 (111)	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
2-Mar-09	Fine	Calm	12:48	Middle	0.08	19.1 19.2	19.2	7.8 7.8	7.8	0.03 0.03	0.03	93.6 93.5	93.6	7.4 7.4	7.4	1.7 1.8	1.8	<2.5 <2.5	<2.5
4-Mar-09	Fine	Calm	11:03	Middle	0.08	19.1 19.1	19.1	7.8 7.8	7.8	0.03 0.03	0.03	94.9 94.8	94.9	7.8 7.8	7.8	1.8 1.9	1.9	<2.5 <2.5	<2.5
6-Mar-09	Fine	Calm	11:03	Middle	0.08	18.8 18.8	18.8	7.8 7.8	7.8	0.03 0.03	0.03	94.6 94.5	94.6	7.7 7.7	7.7	2.1 2.2	2.2	<2.5 <2.5	<2.5
9-Mar-09	Fine	Calm	10:58	Middle	0.08	18.7 18.8	18.8	7.6 7.6	7.6	0.02 0.02	0.02	93.1 92.8	93	7.7 7.6	7.7	1.9 2.0	2	<2.5 <2.5	<2.5
11-Mar-09	Fine	Calm	11:09	Middle	0.08	18.8 18.8	18.8	7.7 7.7	7.7	0.02 0.02	0.02	93.4 93.1	93.3	7.7 7.6	7.7	2.0 2.1	2.1	<2.5 <2.5	<2.5
13-Mar-09	Fine	Calm	10:43	Middle	0.08	18.7 18.8	18.8	7.8 7.8	7.8	0.02 0.02	0.02	94.0 93.7	93.9	7.7 7.7	7.7	1.7 1.8	1.8	<2.5 <2.5	<2.5
16-Mar-09	Sunny	Calm	11:07	Middle	0.08	18.7 18.8	18.8	7.8 7.8	7.8	0.02 0.02	0.02	93.5 93.2	93.4	7.7 7.7	7.7	1.8 1.9	1.9	<2.5 <2.5	<2.5
18-Mar-09	Sunny	Calm	10:37	Middle	0.08	19.3 19.3	19.3	7.8 7.8	7.8	0.02 0.02	0.02	94.1 93.8	94	7.7 7.7	7.7	1.7 1.8	1.8	<2.5 <2.5	<2.5
20-Mar-09	Sunny	Calm	10:46	Middle	0.08	19.3 19.4	19.4	7.8 7.8	7.8	0.02 0.02	0.02	93.8 93.5	93.7	7.7 7.7	7.7	1.6 1.7	1.7	<2.5 <2.5	<2.5
23-Mar-09	Cloudy	Calm	11:05	Middle	0.08	19.4 19.4	19.4	7.7 7.7	7.7	0.02 0.02	0.02	91.3 91.1	91.2	7.5 7.4	7.5	1.4 1.5	1.5	<2.5 <2.5	<2.5
25-Mar-09	Cloudy	Calm	11:20	Middle	0.08	19.4 19.4	19.4	7.7 7.7	7.7	0.02 0.02	0.02	93.2 93.0	93.1	7.5 7.5	7.5	1.7 1.8	1.8	<2.5 <2.5	<2.5
27-Mar-09	Cloudy	Calm	10:58	Middle	0.08	19.4 19.4	19.4	7.7 7.7	7.7	0.02 0.02	0.02	96.8 96.6	96.7	7.7 7.7	7.7	1.6 1.7	1.7	<2.5 <2.5	<2.5
30-Mar-09	Sunny	Calm	11:29	Middle	0.08	19.3 19.4	19.4	7.7 7.6	7.7	0.02 0.02	0.02	96.0 95.8	95.9	7.7 7.7	7.7	1.6 1.7	1.7	<2.5 <2.5	<2.5

### Water Quality Monitoring Results at 27\_R

Date	Weather	Sea	Sampling	Dept	h (m)	Tempera	ature (°C)	ŗ	Н	Salin	ity ppt	DO Satu	ration (%)	Dissolved O	xygen (mg/L)	Turbidit	ty(NTU)	Suspended	Solids (mg/L)
Date	Condition	Condition*	Time	БСРІ	11 (111)	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
2-Mar-09	Fine	Calm	12:38	Middle	0.13	19.1 19.1	19.1	7.8 7.8	7.8	0.03 0.03	0.03	94.5 95.0	94.8	7.5 7.5	7.5	1.8 1.8	1.8	<2.5 <2.5	<2.5
4-Mar-09	Fine	Calm	10:54	Middle	0.13	19.1 19.1	19.1	7.8 7.8	7.8	0.03 0.03	0.03	96.3 95.8	96.1	7.9 7.9	7.9	1.9 1.9	1.9	<2.5 <2.5	<2.5
6-Mar-09	Fine	Calm	10:54	Middle	0.13	18.8 18.7	18.8	7.8 7.8	7.8	0.03 0.03	0.03	96.0 95.5	95.8	7.9 7.8	7.9	2.2 2.2	2.2	<2.5 <2.5	<2.5
9-Mar-09	Fine	Calm	10:48	Middle	0.13	18.7 18.7	18.7	7.6 7.6	7.6	0.02 0.02	0.02	94.9 94.3	94.6	7.8 7.8	7.8	2.0 2.0	2	<2.5 <2.5	<2.5
11-Mar-09	Fine	Calm	11:00	Middle	0.13	18.8 18.8	18.8	7.7 7.7	7.7	0.02 0.02	0.02	95.2 94.6	94.9	7.9 7.8	7.9	2.1 2.1	2.1	<2.5 <2.5	<2.5
13-Mar-09	Fine	Calm	10:33	Middle	0.13	18.7 18.7	18.7	7.8 7.8	7.8	0.02 0.02	0.02	95.8 95.2	95.5	7.9 7.8	7.9	1.8 1.8	1.8	<2.5 <2.5	<2.5
16-Mar-09	Sunny	Calm	10:57	Middle	0.13	18.7 18.7	18.7	7.8 7.8	7.8	0.02 0.02	0.02	95.3 94.7	95	7.9 7.8	7.9	1.9 1.9	1.9	<2.5 <2.5	<2.5
18-Mar-09	Sunny	Calm	10:27	Middle	0.13	19.3 19.3	19.3	7.8 7.8	7.8	0.02 0.02	0.02	95.9 95.3	95.6	7.9 7.8	7.9	1.8 1.8	1.8	<2.5 <2.5	<2.5
20-Mar-09	Sunny	Calm	10:36	Middle	0.13	19.3 19.3	19.3	7.8 7.8	7.8	0.02 0.02	0.02	95.6 95.0	95.3	7.9 7.8	7.9	1.7 1.7	1.7	<2.5 <2.5	<2.5
23-Mar-09	Cloudy	Calm	10:55	Middle	0.13	19.4 19.3	19.4	7.8 7.8	7.8	0.02 0.02	0.02	92.2 91.9	92.1	7.6 7.5	7.6	1.5 1.5	1.5	<2.5 <2.5	<2.5
25-Mar-09	Cloudy	Calm	11:11	Middle	0.13	19.4 19.4	19.4	7.7 7.7	7.7	0.02 0.02	0.02	94.1 93.8	94	7.6 7.6	7.6	1.8 1.8	1.8	<2.5 <2.5	<2.5
27-Mar-09	Cloudy	Calm	10:48	Middle	0.13	19.4 19.3	19.4	7.7 7.7	7.7	0.02 0.02	0.02	97.7 97.4	97.6	7.8 7.8	7.8	1.7 1.7	1.7	<2.5 <2.5	<2.5
30-Mar-09	Sunny	Calm	11:19	Middle	0.13	19.3 19.3	19.3	7.7 7.7	7.7	0.02 0.02	0.02	96.9 96.6	96.8	7.8 7.8	7.8	1.7 1.7	1.7	<2.5 <2.5	<2.5

### Water Quality Monitoring Results at 40\_I

Date	Weather	Sea	Sampling	Dent	h (m)	Tempera	ature (°C)	p	Н	Salin	ity ppt	DO Satu	ıration (%)	Dissolved O	xygen (mg/L)	Turbidi	ty(NTU)	Suspended	Solids (mg/L
Date	Condition	Condition*	Time	Всрі	11 (111)	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
2-Mar-09	Fine	Calm	12:10	Middle	0.09	19.3 19.4	19.4	7.8 7.8	7.8	0.05 0.05	0.05	98.8 98.6	98.7	7.5 7.5	7.5	1.7 1.7	1.7	<2.5 <2.5	<2.5
4-Mar-09	Fine	Calm	10:25	Middle	0.09	19.3 19.3	19.3	7.7 7.7	7.7	0.05 0.05	0.05	100.1 99.9	100	7.9 7.9	7.9	1.8 1.8	1.8	<2.5 <2.5	<2.5
6-Mar-09	Fine	Calm	10:25	Middle	0.09	19.0 19.0	19	7.8 7.8	7.8	0.05 0.05	0.05	99.8 99.6	99.7	7.9 7.9	7.9	2.1 2.1	2.1	<2.5 <2.5	<2.5
9-Mar-09	Fine	Calm	10:20	Middle	0.09	18.9 19.0	19	7.6 7.6	7.6	0.06 0.06	0.06	94.7 94.4	94.6	7.5 7.5	7.5	1.9 1.9	1.9	<2.5 <2.5	<2.5
11-Mar-09	Fine	Calm	10:31	Middle	0.09	19.0 19.0	19	7.7 7.7	7.7	0.06 0.06	0.06	95.0 94.7	94.9	7.6 7.5	7.6	2.0 2.0	2	<2.5 <2.5	<2.5
13-Mar-09	Fine	Calm	10:05	Middle	0.09	19.0 19.0	19	7.8 7.8	7.8	0.06 0.06	0.06	95.6 95.3	95.5	7.6 7.6	7.6	1.9 1.9	1.9	<2.5 <2.5	<2.5
16-Mar-09	Sunny	Calm	10:29	Middle	0.09	18.9 19.0	19	7.8 7.8	7.8	0.06 0.06	0.06	95.1 94.8	95	7.6 7.6	7.6	2.0 2.0	2	<2.5 <2.5	<2.5
18-Mar-09	Sunny	Calm	9:59	Middle	0.09	19.5 19.5	19.5	7.8 7.7	7.8	0.06 0.06	0.06	95.7 95.4	95.6	7.6 7.6	7.6	2.0 2.0	2	<2.5 <2.5	<2.5
20-Mar-09	Sunny	Calm	10:08	Middle	0.09	19.5 19.6	19.6	7.8 7.8	7.8	0.06 0.06	0.06	95.4 95.1	95.3	7.6 7.6	7.6	1.9 1.9	1.9	<2.5 <2.5	<2.5
23-Mar-09	Cloudy	Calm	10:27	Middle	0.09	19.6 19.6	19.6	7.7 7.7	7.7	0.06 0.06	0.06	92.1 91.9	92	7.4 7.4	7.4	1.8 1.8	1.8	<2.5 <2.5	<2.5
25-Mar-09	Cloudy	Calm	10:42	Middle	0.09	19.6 19.6	19.6	7.7 7.7	7.7	0.06 0.06	0.06	94.0 93.8	93.9	7.5 7.5	7.5	2.0 2.0	2	<2.5 <2.5	<2.5
27-Mar-09	Cloudy	Calm	10:20	Middle	0.09	19.6 19.6	19.6	7.7 7.7	7.7	0.06 0.06	0.06	97.6 97.4	97.5	7.7 7.7	7.7	2.1 2.1	2.1	<2.5 <2.5	<2.5
30-Mar-09	Sunny	Calm	10:51	Middle	0.09	19.5 19.6	19.6	7.6 7.6	7.6	0.06 0.06	0.06	96.8 96.6	96.7	7.6 7.6	7.6	2.0 2.0	2	<2.5 <2.5	<2.5

### Water Quality Monitoring Results at 40\_R

Date	Weather	Sea	Sampling	Dept	h (m)	Tempera	ature (°C)	ŗ	Н	Salir	ity ppt	DO Satu	ration (%)	Dissolved O	xygen (mg/L)	Turbidit	ty(NTU)	Suspended	Solids (mg/L
Date	Condition	Condition*	Time	БСРІ	()	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
2-Mar-09	Fine	Calm	12:05	Middle	0.2	19.3 19.3	19.3	7.8 7.8	7.8	0.05 0.05	0.05	98.1 98.3	98.2	7.6 7.6	7.6	1.8 1.7	1.8	<2.5 <2.5	<2.5
4-Mar-09	Fine	Calm	10:20	Middle	0.2	19.3 19.3	19.3	7.8 7.7	7.8	0.05 0.05	0.05	99.4 99.6	99.5	8.0 8.0	8	1.9 1.8	1.9	<2.5 <2.5	<2.5
6-Mar-09	Fine	Calm	10:20	Middle	0.2	19.0 19.0	19	7.8 7.8	7.8	0.05 0.05	0.05	99.1 99.3	99.2	7.9 7.9	7.9	2.2 2.1	2.2	<2.5 <2.5	<2.5
9-Mar-09	Fine	Calm	10:14	Middle	0.2	18.9 18.9	18.9	7.7 7.7	7.7	0.07 0.07	0.07	95.7 95.8	95.8	7.7 7.7	7.7	2.0 1.9	2	<2.5 <2.5	<2.5
11-Mar-09	Fine	Calm	10:26	Middle	0.2	19.0 19.0	19	7.8 7.8	7.8	0.07 0.07	0.07	96.0 96.1	96.1	7.7 7.7	7.7	2.1 2.0	2.1	<2.5 <2.5	<2.5
13-Mar-09	Fine	Calm	9:59	Middle	0.2	19.0 19.0	19	7.9 7.9	7.9	0.07 0.07	0.07	96.6 96.7	96.7	7.7 7.7	7.7	2.0 1.9	2	<2.5 <2.5	<2.5
16-Mar-09	Sunny	Calm	10:23	Middle	0.2	18.9 18.9	18.9	7.9 7.9	7.9	0.07 0.07	0.07	96.1 96.2	96.2	7.7 7.7	7.7	2.1 2.0	2.1	<2.5 <2.5	<2.5
18-Mar-09	Sunny	Calm	9:53	Middle	0.2	19.5 19.5	19.5	7.8 7.8	7.8	0.07 0.07	0.07	96.7 96.8	96.8	7.7 7.7	7.7	2.1 2.0	2.1	<2.5 <2.5	<2.5
20-Mar-09	Sunny	Calm	10:03	Middle	0.2	19.5 19.5	19.5	7.9 7.9	7.9	0.07 0.07	0.07	96.4 96.5	96.5	7.7 7.7	7.7	2.0 1.9	2	<2.5 <2.5	<2.5
23-Mar-09	Cloudy	Calm	10:21	Middle	0.2	19.6 19.6	19.6	7.8 7.8	7.8	0.07 0.07	0.07	92.6 92.6	92.6	7.5 7.5	7.5	1.9 1.8	1.9	<2.5 <2.5	<2.5
25-Mar-09	Cloudy	Calm	10:37	Middle	0.2	19.6 19.6	19.6	7.8 7.8	7.8	0.07 0.07	0.07	94.5 94.5	94.5	7.6 7.6	7.6	2.1 2.0	2.1	<2.5 <2.5	<2.5
27-Mar-09	Cloudy	Calm	10:15	Middle	0.2	19.6 19.6	19.6	7.8 7.8	7.8	0.07 0.07	0.07	98.1 98.1	98.1	7.7 7.7	7.7	2.2 2.1	2.2	<2.5 <2.5	<2.5
30-Mar-09	Sunny	Calm	10:45	Middle	0.2	19.5 19.5	19.5	7.7 7.7	7.7	0.07 0.07	0.07	97.3 97.3	97.3	7.7 7.7	7.7	2.0 2.0	2	<2.5 <2.5	<2.5

### Water Quality Monitoring Results at CSS\_I

Date	Weather	Sea	Sampling	Depth (m)		Tempera	ature (°C)	р	Н	Salin	ity ppt	DO Satu	ration (%)	Dissolved Ox	xygen (mg/L)	Turbidity(NTU)		Suspended Solids (mg/L	
Date	Condition	Condition*	Time	Бері	Deput (III)		Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
2-Mar-09	Fine	Calm	12:17	Middle	0.19	19.2 19.2	19.2	7.8 7.8	7.8	0.03 0.03	0.03	97.7 97.8	97.8	7.5 7.5	7.5	1.9 1.9	1.9	<2.5 <2.5	<2.5
4-Mar-09	Fine	Calm	10:32	Middle	0.19	19.2 19.2	19.2	7.8 7.8	7.8	0.03 0.03	0.03	99.0 99.1	99.1	7.9 7.9	7.9	2.0 2.1	2.1	<2.5 <2.5	<2.5
6-Mar-09	Fine	Calm	10:32	Middle	0.19	18.8 18.8	18.8	7.8 7.8	7.8	0.03 0.03	0.03	98.7 98.8	98.8	7.9 7.9	7.9	2.2 2.2	2.2	<2.5 <2.5	<2.5
9-Mar-09	Fine	Calm	10:26	Middle	0.19	18.8 18.8	18.8	7.6 7.6	7.6	0.02 0.02	0.02	95.2 95.1	95.2	7.7 7.7	7.7	2.0 2.0	2	<2.5 <2.5	<2.5
11-Mar-09	Fine	Calm	10:38	Middle	0.19	18.8 18.9	18.9	7.7 7.7	7.7	0.02 0.02	0.02	95.5 95.4	95.5	7.7 7.7	7.7	2.1 2.1	2.1	<2.5 <2.5	<2.5
13-Mar-09	Fine	Calm	10:11	Middle	0.19	18.8 18.8	18.8	7.8 7.8	7.8	0.02 0.02	0.02	96.1 96.0	96.1	7.8 7.8	7.8	2.1 2.1	2.1	<2.5 <2.5	<2.5
16-Mar-09	Sunny	Calm	10:35	Middle	0.19	18.8 18.8	18.8	7.8 7.8	7.8	0.02 0.02	0.02	95.6 95.5	95.6	7.8 7.7	7.8	2.1 2.1	2.1	<2.5 <2.5	<2.5
18-Mar-09	Sunny	Calm	10:05	Middle	0.19	19.4 19.4	19.4	7.8 7.8	7.8	0.02 0.02	0.02	96.2 96.1	96.2	7.8 7.8	7.8	2.1 2.1	2.1	<2.5 <2.5	<2.5
20-Mar-09	Sunny	Calm	10:15	Middle	0.19	19.4 19.4	19.4	7.8 7.8	7.8	0.02 0.02	0.02	95.9 95.8	95.9	7.8 7.8	7.8	2.1 2.1	2.1	<2.5 <2.5	<2.5
23-Mar-09	Cloudy	Calm	10:33	Middle	0.19	19.4 19.4	19.4	7.7 7.8	7.8	0.02 0.02	0.02	92.3 92.3	92.3	7.5 7.5	7.5	1.7 1.8	1.8	<2.5 <2.5	<2.5
25-Mar-09	Cloudy	Calm	10:49	Middle	0.19	19.5 19.5	19.5	7.7 7.7	7.7	0.02 0.02	0.02	94.2 94.2	94.2	7.6 7.6	7.6	2.0 2.0	2	<2.5 <2.5	<2.5
27-Mar-09	Cloudy	Calm	10:27	Middle	0.19	19.4 19.4	19.4	7.7 7.7	7.7	0.02 0.02	0.02	97.8 97.8	97.8	7.8 7.8	7.8	2.0 2.1	2.1	<2.5 <2.5	<2.5
30-Mar-09	Sunny	Calm	10:57	Middle	0.19	19.4 19.4	19.4	7.7 7.7	7.7	0.02 0.02	0.02	97.0 97.0	97	7.7 7.7	7.7	2.1 2.1	2.1	<2.5 <2.5	<2.5

### Water Quality Monitoring Results at TCB\_I

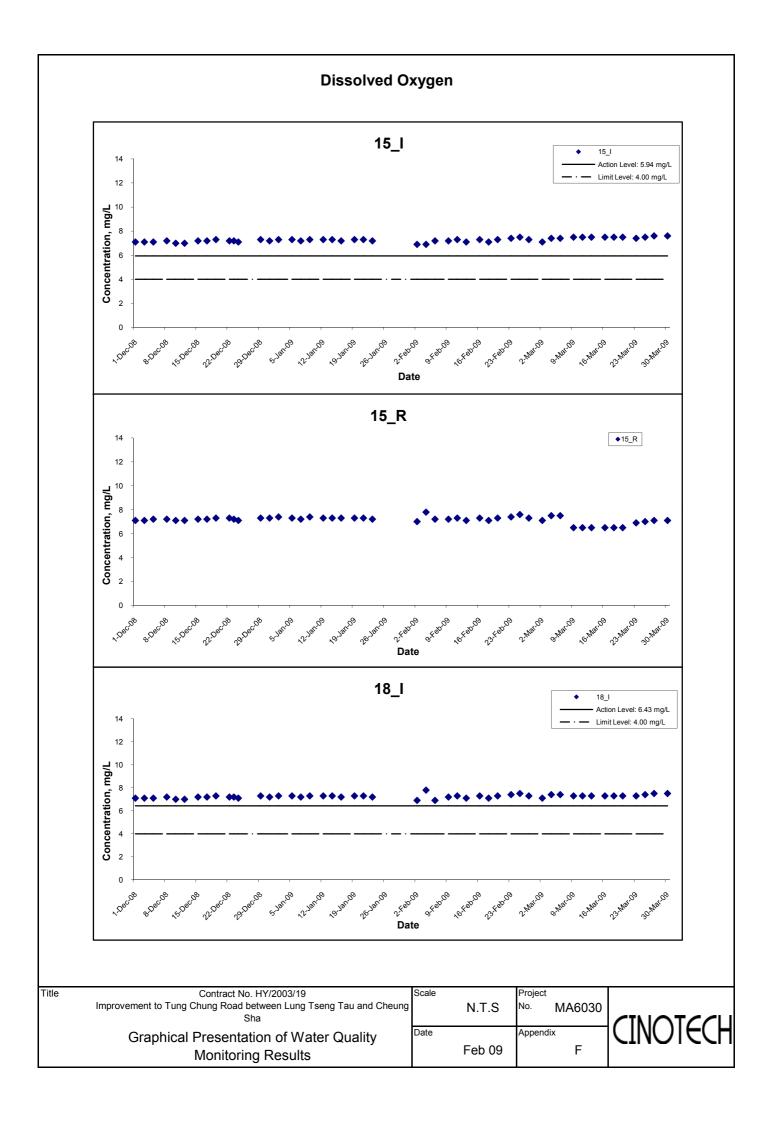
Date	Weather	Sea	Sampling	Dept	h (m)	Tempera	ature (°C)	ŗ	Н	Salin	ity ppt	DO Satu	ration (%)	Dissolved O	xygen (mg/L)	Turbidit	ty(NTU)	Suspended Solids (mg/L	
Date	Condition	Condition*	Time	БСРІ	()	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
2-Mar-09	Fine	Calm	14:20	Middle	0.35	20.8 20.8	20.8	7.3 7.4	7.4	12.73 12.72	12.73	96.9 96.7	96.8	7.2 7.2	7.2	3.8 3.7	3.8	<2.5 <2.5	<2.5
4-Mar-09	Fine	Calm	12:35	Middle	0.35	20.8 20.8	20.8	7.3 7.3	7.3	12.75 12.74	12.75	98.2 98.0	98.1	7.6 7.6	7.6	4.0 3.9	4	<2.5 <2.5	<2.5
6-Mar-09	Fine	Calm	12:35	Middle	0.35	20.4 20.4	20.4	7.4 7.4	7.4	12.73 12.72	12.73	97.9 97.7	97.8	7.6 7.6	7.6	4.0 3.9	4	<2.5 <2.5	<2.5
9-Mar-09	Fine	Calm	12:29	Middle	0.35	20.4 20.4	20.4	7.4 7.4	7.4	8.64 8.63	8.64	91.3 91.0	91.2	7.1 7.1	7.1	3.8 3.7	3.8	<2.5 <2.5	<2.5
11-Mar-09	Fine	Calm	12:41	Middle	0.35	20.5 20.5	20.5	7.4 7.4	7.4	8.68 8.67	8.68	91.6 91.3	91.5	7.1 7.1	7.1	3.5 3.4	3.5	<2.5 <2.5	<2.5
13-Mar-09	Fine	Calm	12:14	Middle	0.35	20.4 20.4	20.4	7.5 7.5	7.5	8.68 8.67	8.68	92.2 91.9	92.1	7.1 7.1	7.1	3.2 3.1	3.2	<2.5 <2.5	<2.5
16-Mar-09	Sunny	Calm	12:39	Middle	0.35	20.4 20.4	20.4	7.6 7.6	7.6	8.66 8.65	8.66	91.7 91.4	91.6	7.1 7.1	7.1	3.4 3.3	3.4	<2.5 <2.5	<2.5
18-Mar-09	Sunny	Calm	12:08	Middle	0.35	21.5 21.5	21.5	7.5 7.5	7.5	8.72 8.71	8.72	92.3 92.0	92.2	7.1 7.1	7.1	3.7 3.6	3.7	<2.5 <2.5	<2.5
20-Mar-09	Sunny	Calm	12:18	Middle	0.35	21.6 21.6	21.6	7.5 7.5	7.5	8.84 8.83	8.84	92.0 91.7	91.9	7.1 7.1	7.1	3.9 3.8	3.9	<2.5 <2.5	<2.5
23-Mar-09	Cloudy	Calm	12:36	Middle	0.35	21.6 21.6	21.6	7.5 7.5	7.5	8.88 8.87	8.88	90.4 90.2	90.3	7.2 7.2	7.2	3.5 3.4	3.5	<2.5 <2.5	<2.5
25-Mar-09	Cloudy	Calm	12:52	Middle	0.35	21.6 21.6	21.6	7.4 7.4	7.4	8.85 8.84	8.85	92.3 92.1	92.2	7.3 7.3	7.3	3.3 3.2	3.3	<2.5 <2.5	<2.5
27-Mar-09	Cloudy	Calm	12:30	Middle	0.35	21.6 21.6	21.6	7.5 7.5	7.5	8.82 8.81	8.82	95.9 95.7	95.8	7.4 7.4	7.4	3.6 3.5	3.6	<2.5 <2.5	<2.5
30-Mar-09	Sunny	Calm	13:01	Middle	0.35	21.6 21.6	21.6	7.4 7.4	7.4	8.78 8.77	8.78	95.1 94.9	95	7.4 7.4	7.4	3.4 3.3	3.4	<2.5 <2.5	<2.5

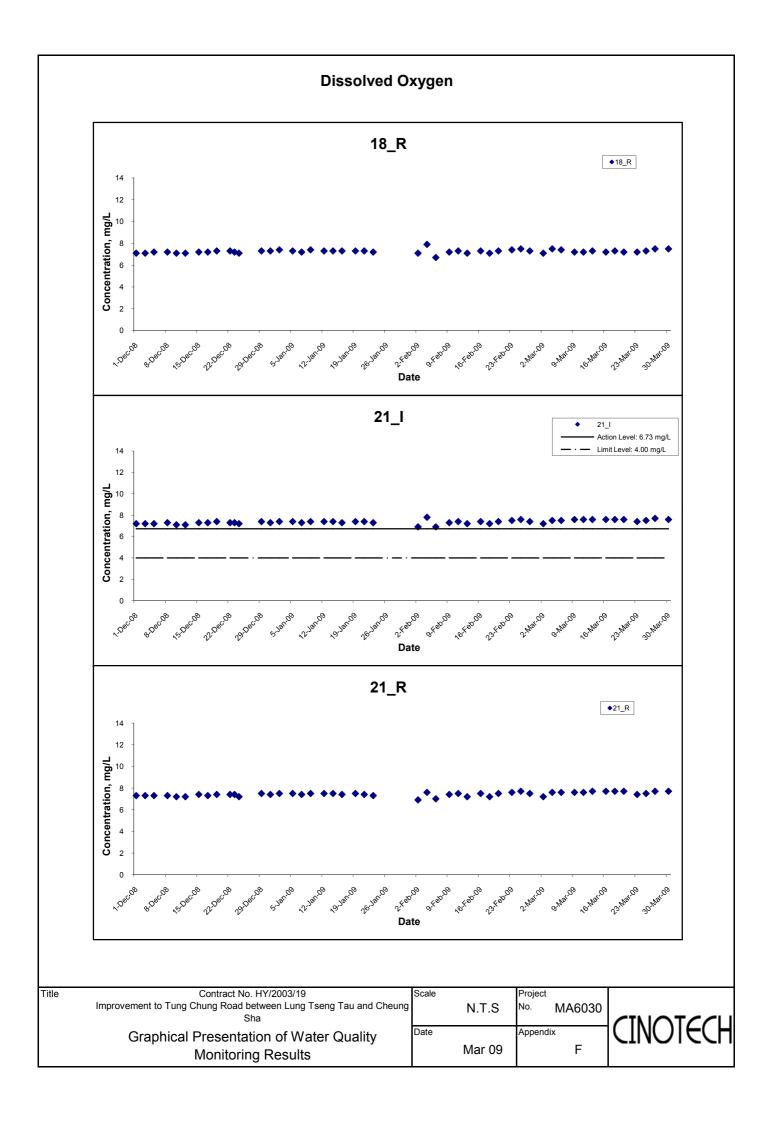
### Water Quality Monitoring Results at TCB\_R

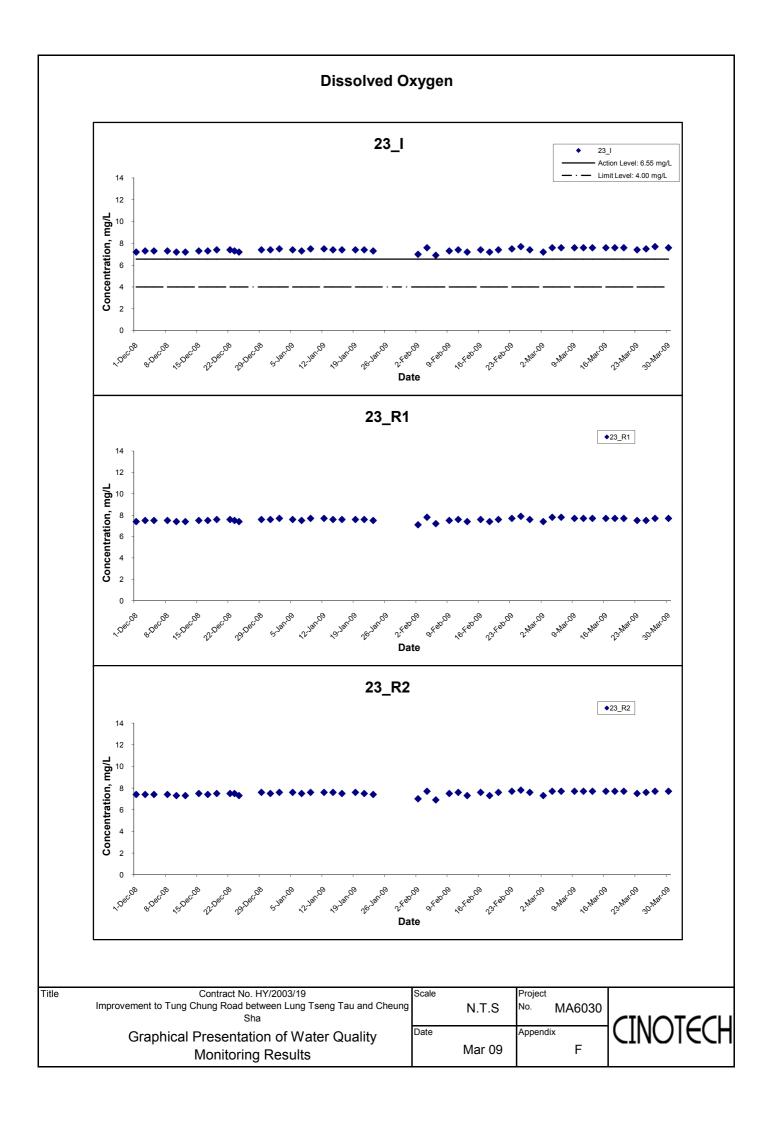
Date	Weather	Sea	Sea Sampling		h (m)	Tempera	ature (°C)	р	Н	Salin	ity ppt	DO Satu	ration (%)	Dissolved O	xygen (mg/L)	Turbidity(NTU)		Suspended Solids (mg/L	
Date	Condition	Condition*	Time	Dopar (III)		Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
2-Mar-09	Fine	Calm	14:15	Middle	0.2	20.9 20.9	20.9	7.4 7.4	7.4	19.05 19.06	19.06	95.9 95.7	95.8	7.1 7.1	7.1	4.3 4.2	4.3	<2.5 <2.5	<2.5
4-Mar-09	Fine	Calm	12:30	Middle	0.2	20.8 20.8	20.8	7.3 7.3	7.3	19.07 19.08	19.08	97.2 97.0	97.1	7.5 7.5	7.5	4.6 4.5	4.6	<2.5 <2.5	<2.5
6-Mar-09	Fine	Calm	12:30	Middle	0.2	20.5 20.5	20.5	7.4 7.4	7.4	19.05 19.06	19.06	96.9 96.7	96.8	7.5 7.4	7.5	4.6 4.5	4.6	<2.5 <2.5	<2.5
9-Mar-09	Fine	Calm	12:24	Middle	0.2	20.5 20.5	20.5	7.1 7.2	7.2	19.60 19.63	19.62	94.6 94.3	94.5	7.0 7.0	7	4.4 4.3	4.4	<2.5 <2.5	<2.5
11-Mar-09	Fine	Calm	12:36	Middle	0.2	20.5 20.5	20.5	7.2 7.2	7.2	19.64 19.67	19.66	94.9 94.6	94.8	7.0 7.0	7	4.2 4.1	4.2	<2.5 <2.5	<2.5
13-Mar-09	Fine	Calm	12:09	Middle	0.2	20.5 20.5	20.5	7.3 7.3	7.3	19.64 19.67	19.66	95.5 95.2	95.4	7.1 7.0	7.1	4.1 4.0	4.1	<2.5 <2.5	<2.5
16-Mar-09	Sunny	Calm	12:34	Middle	0.2	20.4 20.4	20.4	7.3 7.3	7.3	19.62 19.65	19.64	95.0 94.7	94.9	7.0 7.0	7	4.2 4.1	4.2	<2.5 <2.5	<2.5
18-Mar-09	Sunny	Calm	12:03	Middle	0.2	21.6 21.6	21.6	7.3 7.3	7.3	19.64 19.67	19.66	95.6 95.3	95.5	7.1 7.0	7.1	4.6 4.5	4.6	<2.5 <2.5	<2.5
20-Mar-09	Sunny	Calm	12:13	Middle	0.2	21.6 21.6	21.6	7.3 7.3	7.3	19.76 19.79	19.78	95.3 95.0	95.2	7.1 7.0	7.1	4.9 4.8	4.9	<2.5 <2.5	<2.5
23-Mar-09	Cloudy	Calm	12:31	Middle	0.2	21.7 21.7	21.7	7.2 7.3	7.3	19.80 19.83	19.82	92.0 91.9	92	7.1 7.1	7.1	4.6 4.5	4.6	<2.5 <2.5	<2.5
25-Mar-09	Cloudy	Calm	12:47	Middle	0.2	21.7 21.7	21.7	7.2 7.2	7.2	19.77 19.80	19.79	93.9 93.8	93.9	7.2 7.2	7.2	4.3 4.2	4.3	<2.5 <2.5	<2.5
27-Mar-09	Cloudy	Calm	12:25	Middle	0.2	21.7 21.7	21.7	7.2 7.2	7.2	19.74 19.77	19.76	97.5 97.4	97.5	7.4 7.4	7.4	4.6 4.5	4.6	<2.5 <2.5	<2.5
30-Mar-09	Sunny	Calm	12:56	Middle	0.2	21.6 21.6	21.6	7.2 7.2	7.2	19.70 19.73	19.72	96.7 96.6	96.7	7.4 7.4	7.4	4.3 4.2	4.3	<2.5 <2.5	<2.5

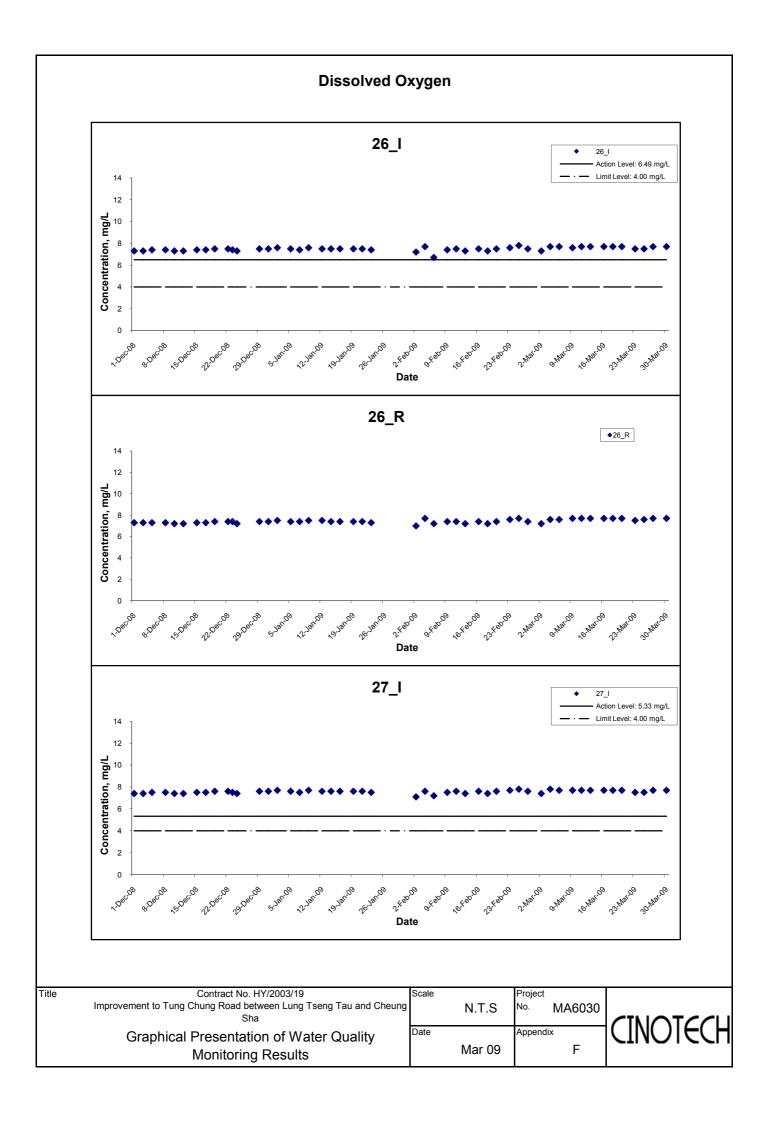
### Water Quality Monitoring Results at TCS\_I

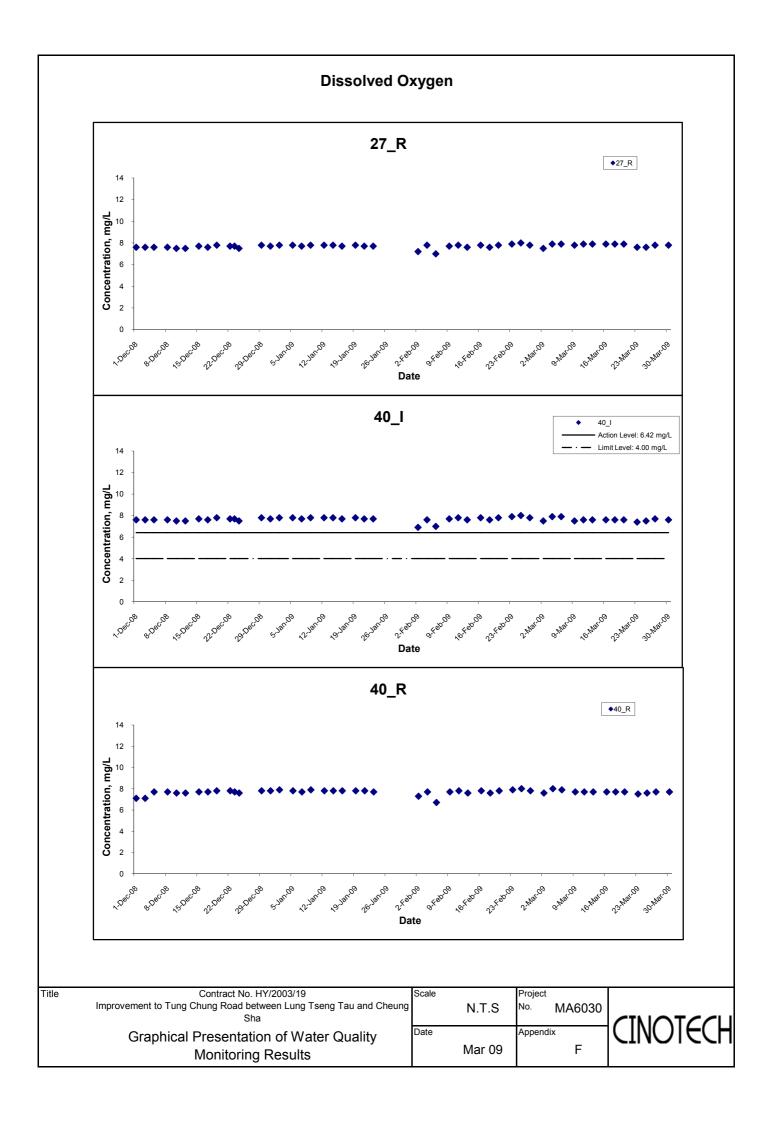
Date	Weather	Sea	Sampling	Dept	h (m)	Tempera	ature (°C)	ŗ	Н	Salin	ity ppt	DO Satu	ration (%)	Dissolved O	xygen (mg/L)	Turbidit	ty(NTU)	Suspended Solids (mg/L	
Date	Condition	Condition*	Time	БСРІ	(111)	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
2-Mar-09	Fine	Calm	13:57	Middle	0.2	19.1 19.2	19.2	7.4 7.5	7.5	0.02 0.02	0.02	92.1 91.7	91.9	7.0 7.0	7	1.5 1.5	1.5	<2.5 <2.5	<2.5
4-Mar-09	Fine	Calm	12:12	Middle	0.2	19.1 19.1	19.1	7.4 7.4	7.4	0.02 0.02	0.02	93.4 93.0	93.2	7.4 7.4	7.4	1.5 1.5	1.5	<2.5 <2.5	<2.5
6-Mar-09	Fine	Calm	12:12	Middle	0.2	18.8 18.8	18.8	7.4 7.5	7.5	0.02 0.02	0.02	93.1 92.7	92.9	7.4 7.4	7.4	1.7 1.6	1.7	<2.5 <2.5	<2.5
9-Mar-09	Fine	Calm	12:07	Middle	0.2	18.7 18.8	18.8	7.4 7.4	7.4	0.02 0.02	0.02	93.3 92.6	93	7.6 7.5	7.6	1.6 1.5	1.6	<2.5 <2.5	<2.5
11-Mar-09	Fine	Calm	12:18	Middle	0.2	18.8 18.8	18.8	7.5 7.5	7.5	0.02 0.02	0.02	93.6 92.9	93.3	7.6 7.5	7.6	1.5 1.4	1.5	<2.5 <2.5	<2.5
13-Mar-09	Fine	Calm	11:52	Middle	0.2	18.8 18.8	18.8	7.5 7.5	7.5	0.02 0.02	0.02	94.2 93.5	93.9	7.6 7.6	7.6	1.5 1.4	1.5	<2.5 <2.5	<2.5
16-Mar-09	Sunny	Calm	12:16	Middle	0.2	18.7 18.8	18.8	7.6 7.6	7.6	0.02 0.02	0.02	93.7 93.0	93.4	7.6 7.5	7.6	1.5 1.4	1.5	<2.5 <2.5	<2.5
18-Mar-09	Sunny	Calm	11:46	Middle	0.2	19.3 19.3	19.3	7.5 7.5	7.5	0.02 0.02	0.02	94.3 93.6	94	7.6 7.6	7.6	1.6 1.5	1.6	<2.5 <2.5	<2.5
20-Mar-09	Sunny	Calm	11:55	Middle	0.2	19.3 19.4	19.4	7.6 7.6	7.6	0.02 0.02	0.02	94.0 93.3	93.7	7.6 7.5	7.6	1.8 1.7	1.8	<2.5 <2.5	<2.5
23-Mar-09	Cloudy	Calm	12:14	Middle	0.2	19.4 19.4	19.4	7.5 7.5	7.5	0.02 0.02	0.02	91.4 91.0	91.2	7.4 7.4	7.4	1.6 1.5	1.6	<2.5 <2.5	<2.5
25-Mar-09	Cloudy	Calm	12:29	Middle	0.2	19.4 19.4	19.4	7.4 7.5	7.5	0.02 0.02	0.02	93.3 92.9	93.1	7.5 7.5	7.5	1.5 1.4	1.5	<2.5 <2.5	<2.5
27-Mar-09	Cloudy	Calm	12:07	Middle	0.2	19.4 19.4	19.4	7.5 7.5	7.5	0.02 0.02	0.02	96.9 96.5	96.7	7.7 7.7	7.7	1.7 1.6	1.7	<2.5 <2.5	<2.5
30-Mar-09	Sunny	Calm	12:38	Middle	0.2	19.3 19.4	19.4	7.4 7.4	7.4	0.02 0.02	0.02	96.1 95.7	95.9	7.6 7.6	7.6	1.6 1.5	1.6	<2.5 <2.5	<2.5

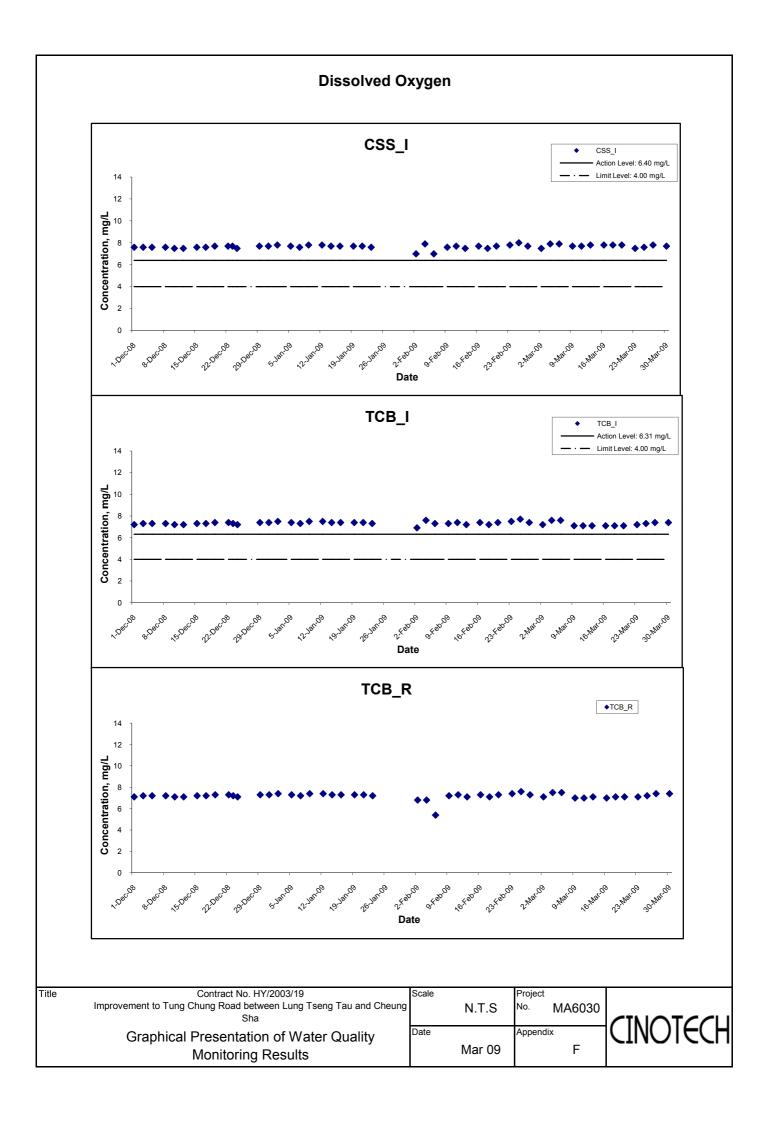




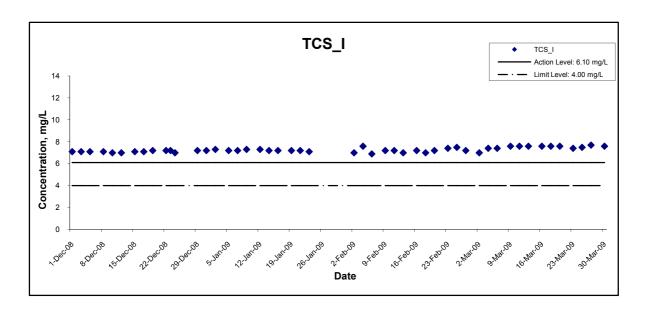








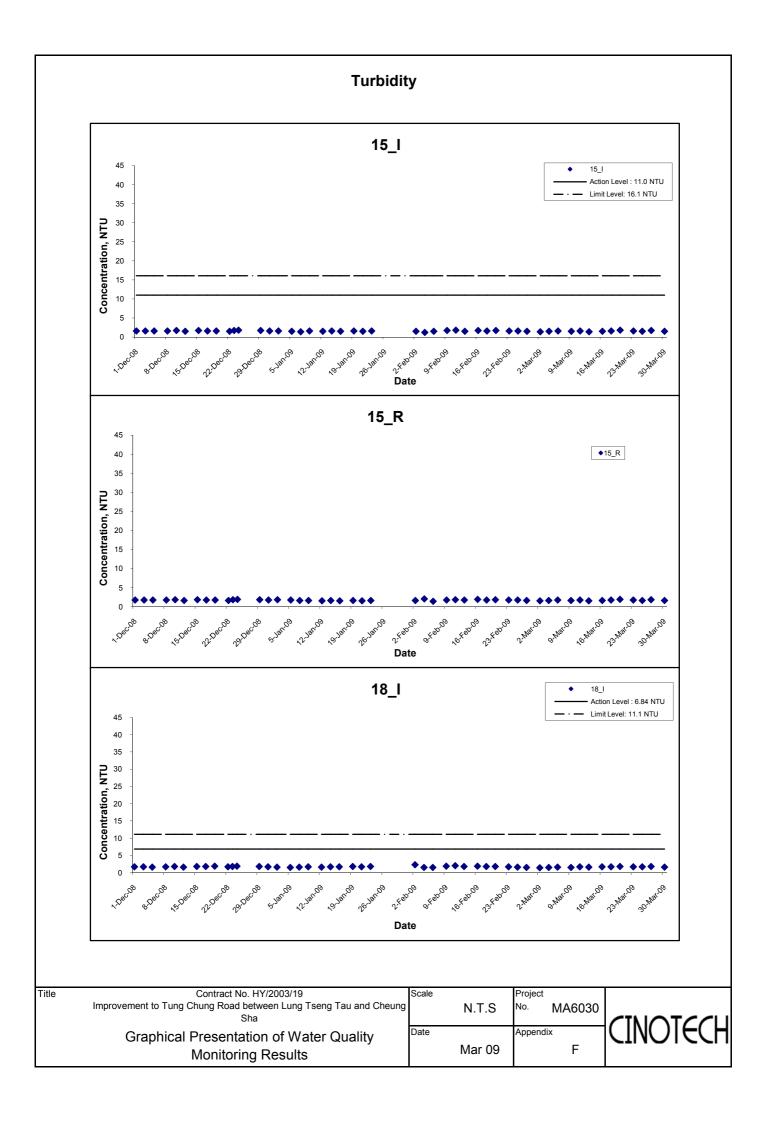
### **Dissolved Oxygen**

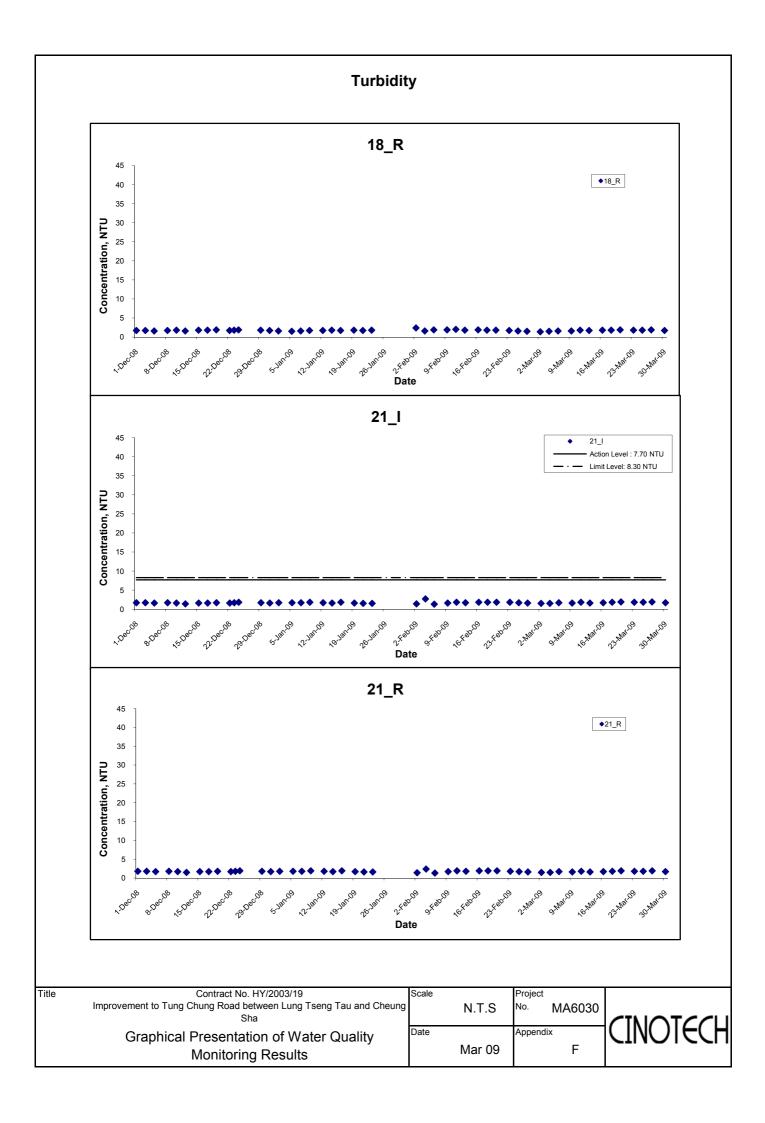


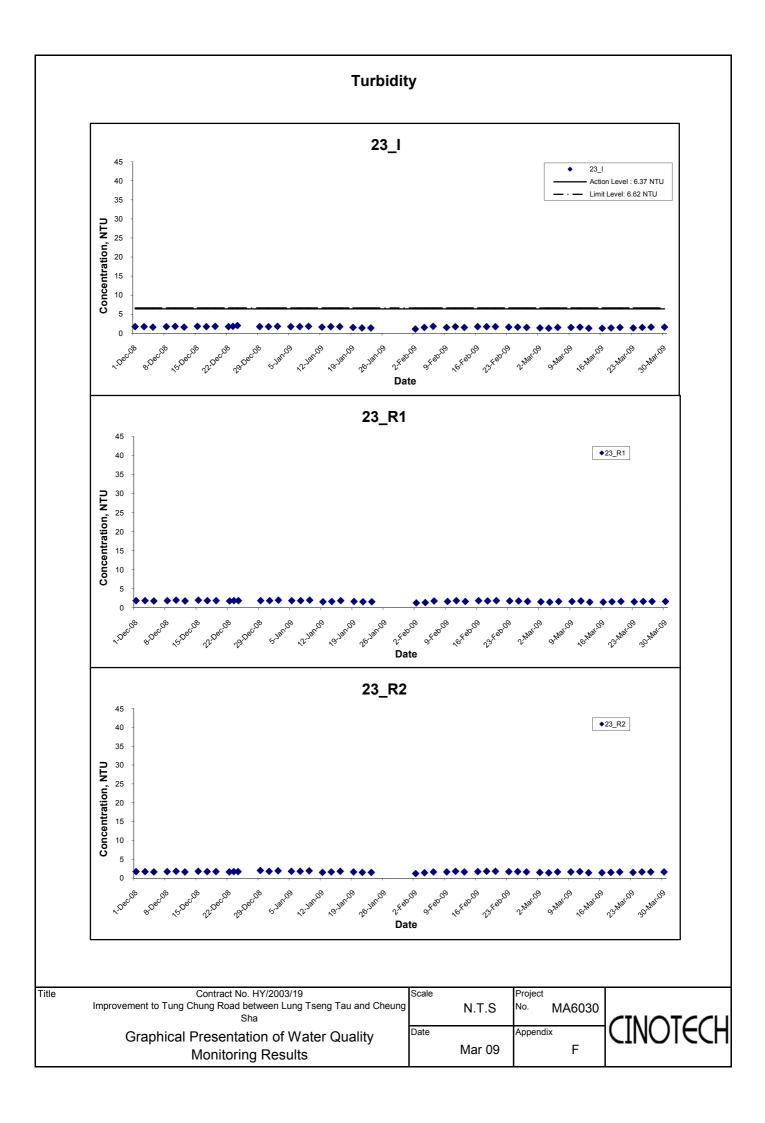
Contract No. HY/2003/19 Scale Title Project Improvement to Tung Chung Road between Lung Tseng Tau and Cheung  $\mathsf{N.T.S}$ Date **Graphical Presentation of Water Quality** Monitoring Results

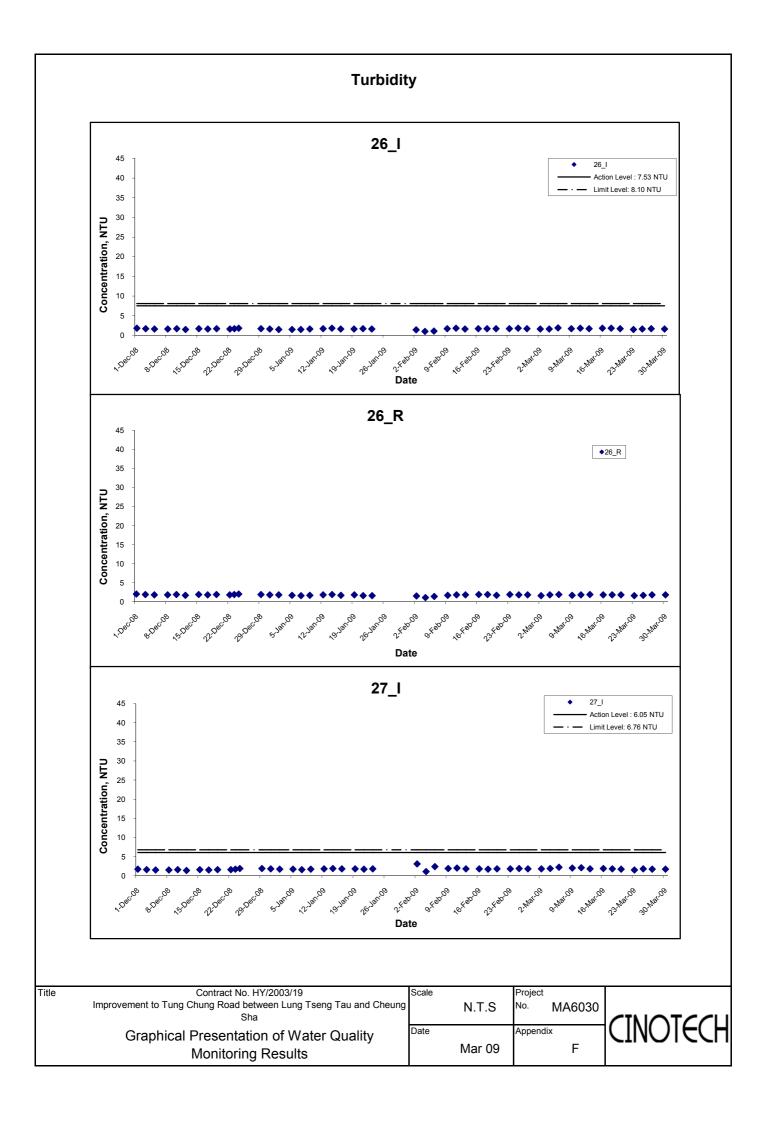
MA6030 Appendix F Mar 09

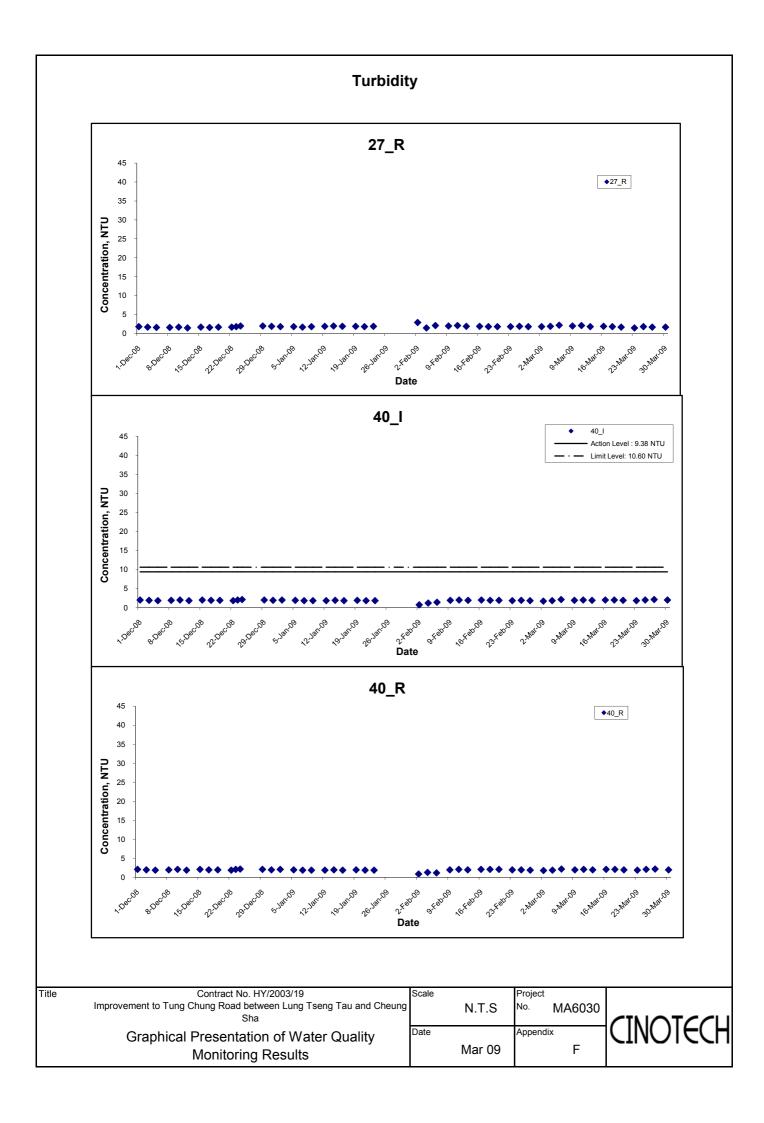


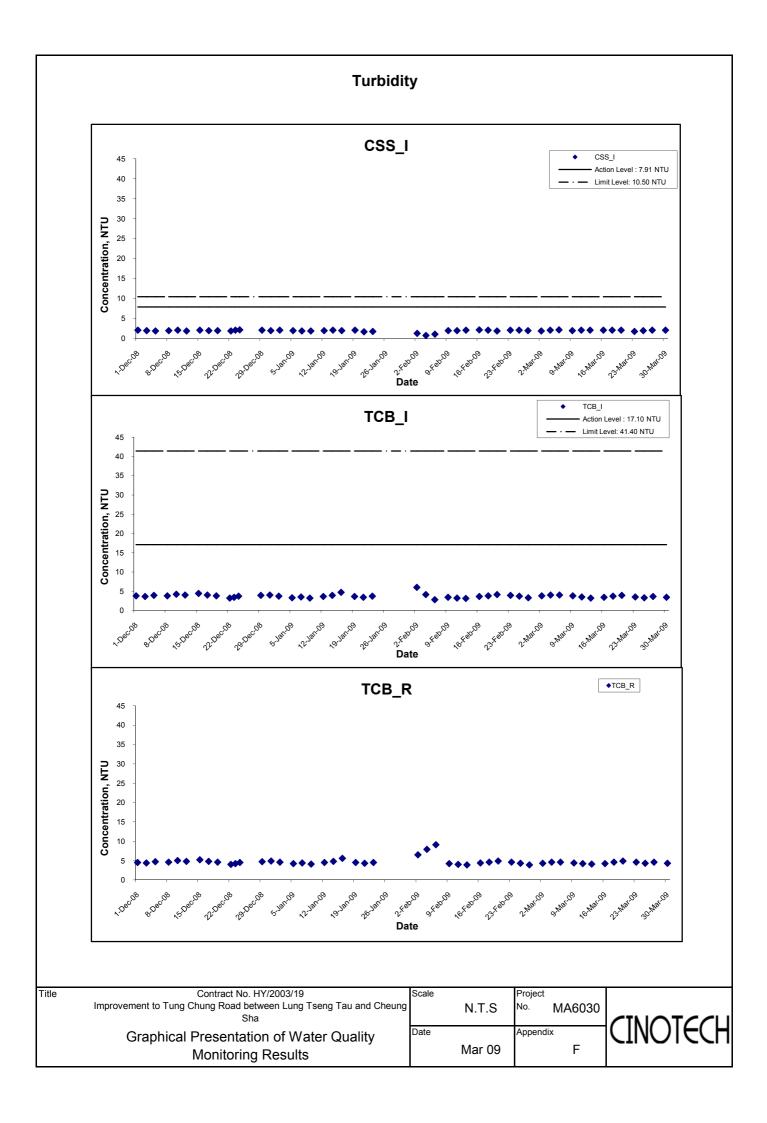




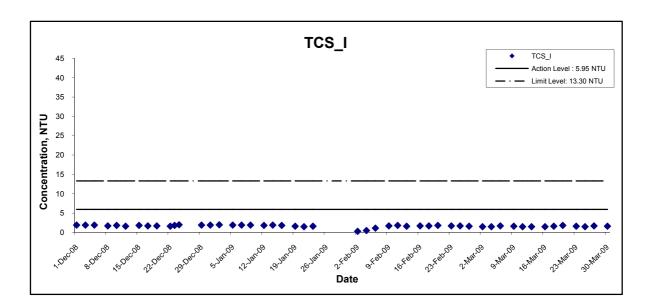






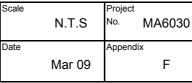


### **Turbidity**

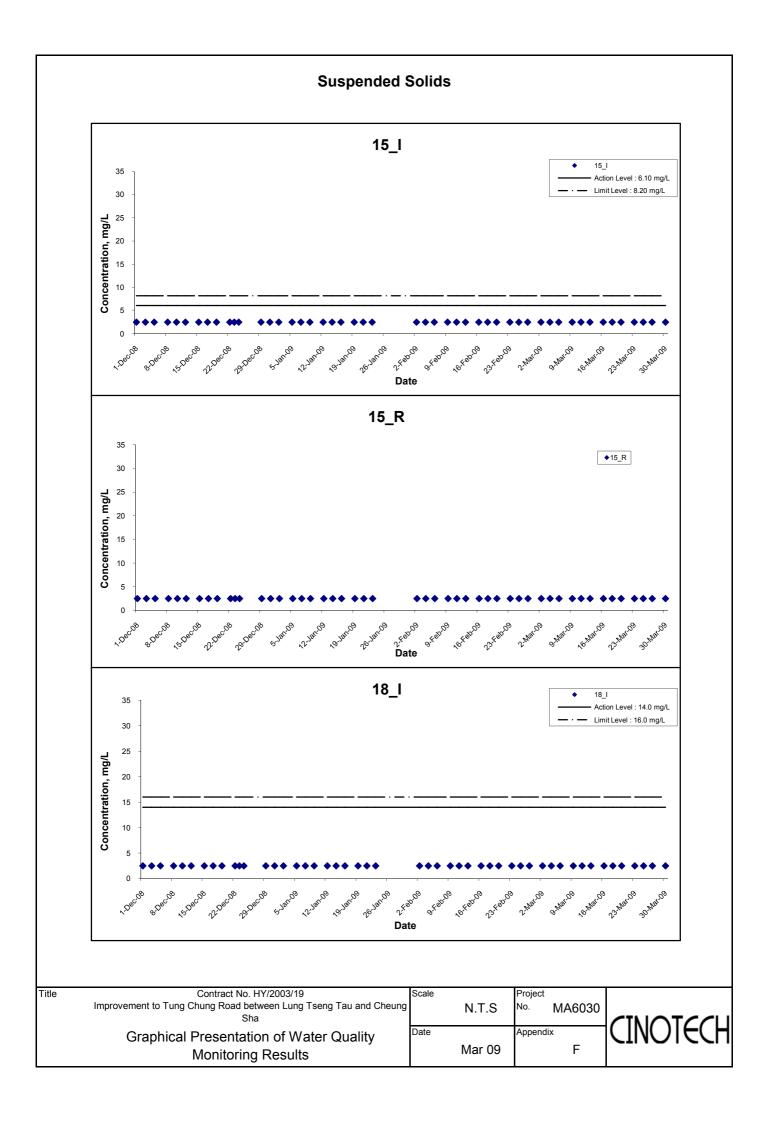


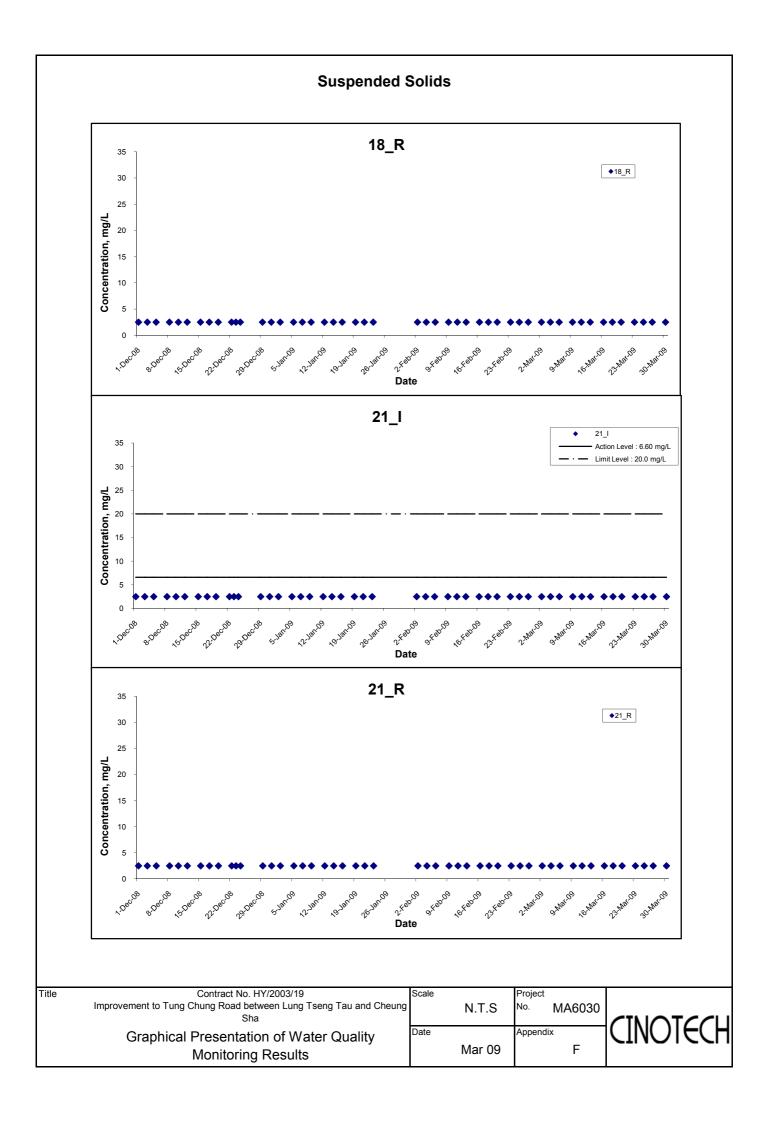
Title Contract No. HY/2003/19 Improvement to Tung Chung Road between Lung Tseng Tau and Cheung  $\mathsf{N.T.S}$ Date **Graphical Presentation of Water Quality** 

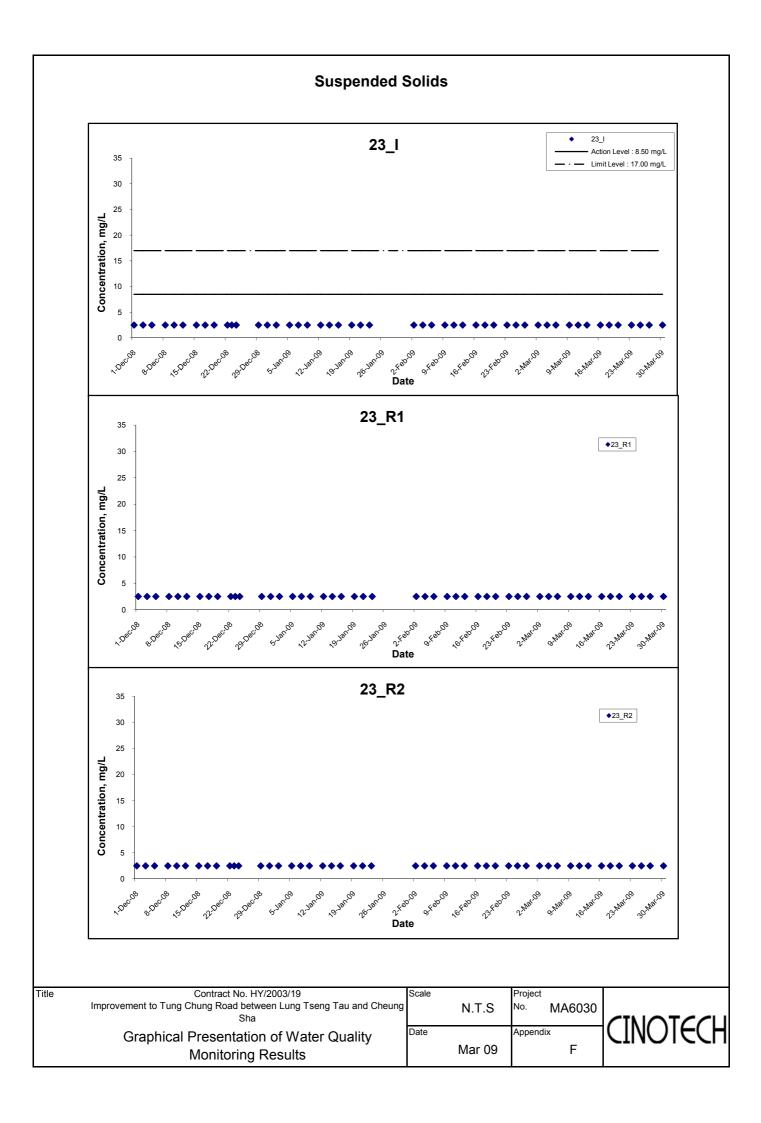
Monitoring Results

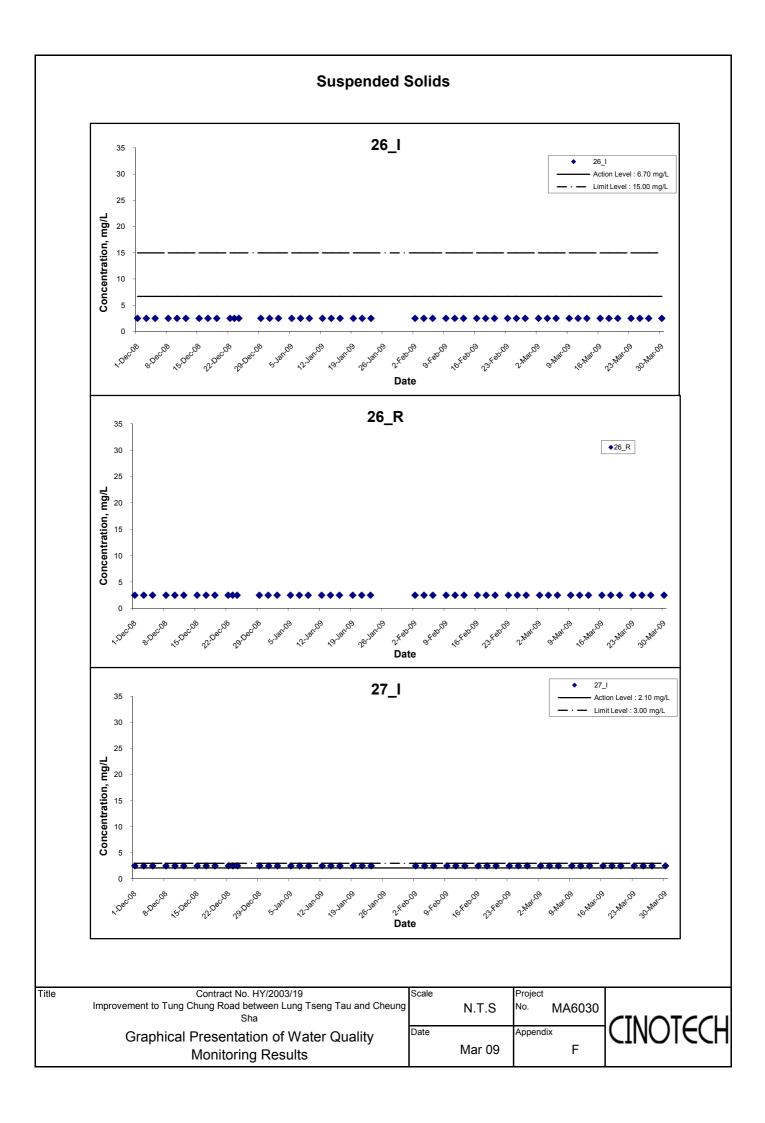


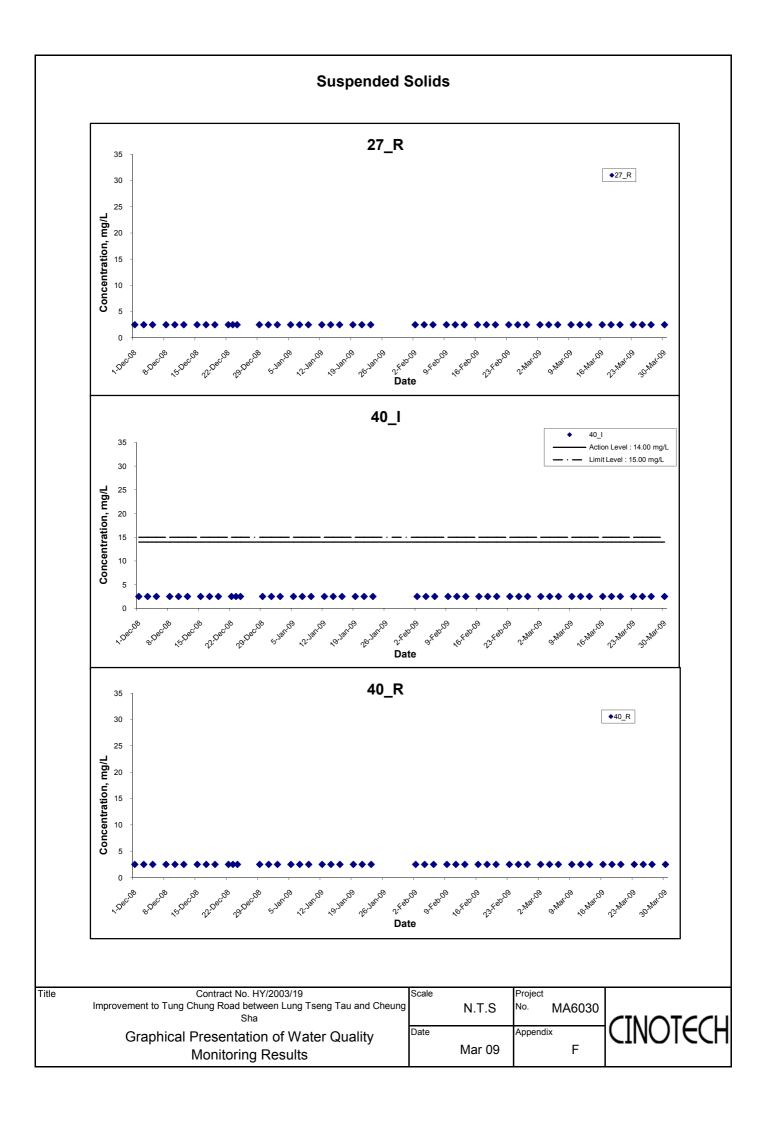


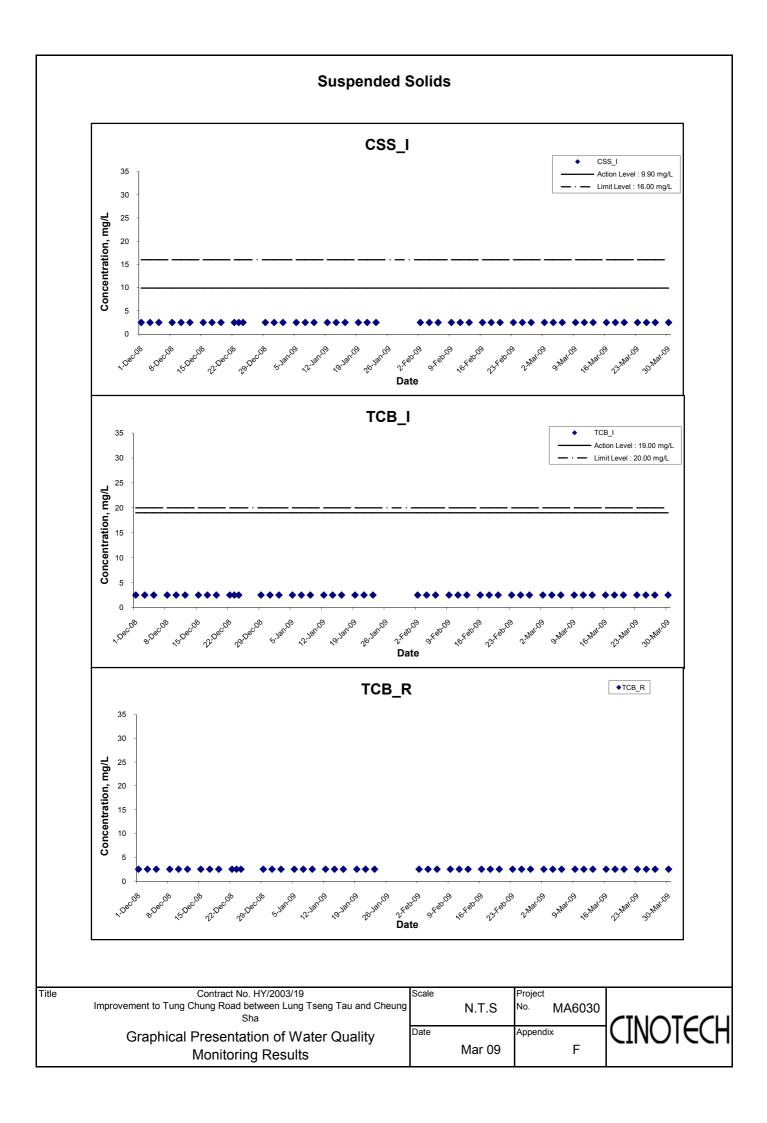




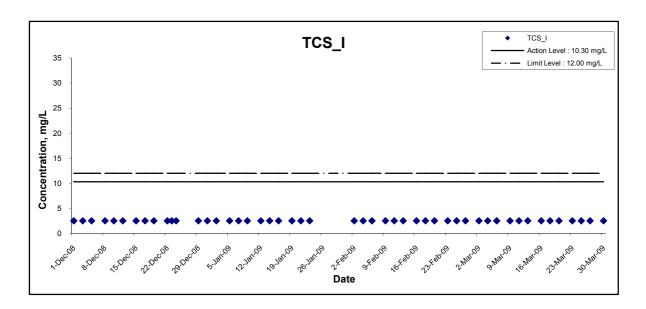








### **Suspended Solids**



Contract No. HY/2003/19
Improvement to Tung Chung Road between Lung Tseng Tau and Cheung Sha

Graphical Presentation of Water Quality

Monitoring Results

Title

N.T.S No. MA6030

Date Appendix

Mar 09 F

Project



APPENDIX G QUALITY CONTROL REPORTS FOR LABORATORY ANALYSIS





**APPLICANT: Cinotech Consultants Limited** 

RM 1710, Technology Park,

18 On Lai Street,

Shatin, N.T., Hong Kong

Laboratory No.: 08103
Date of Issue: 2009/03/03

Page:

Date Received: 2009/03/02 Date Tested: 2009/03/02

Date Completed: 2009/03/03

1 of 1

ATTN: Mr. Henry Leung

Sampling Site: Tung Chung Road

Project No.: MA6030 Sampling Date: 2009/03/02

Number of Sample: 38

Custody No.: MA6030/90302

\*

Total Suspended Solids	Du	plicate Analy	QC Recovery, %	
Sampling Point	Trial 1,	Trial 2,	Difference,	
	mg/L	mg/L	%	
TCS_I	<2.5	<2.5	N/A	88

PREPARED AND CHECKED BY:
For and On Behalf of WELLAB Ltd.

PATRICK TSE





**APPLICANT: Cinotech Consultants Limited** 

RM 1710, Technology Park,

18 On Lai Street,

Shatin, N.T., Hong Kong

Laboratory No.: 08116

Date of Issue: 2009/03/05 Date Received: 2009/03/04

Date Tested: 2009/03/04

2009/03/05

Page: 1 of 1

Date Completed:

ATTN: Mr. Henry Leung

Sampling Site:

Tung Chung Road

Project No.:

MA6030

Sampling Date:

2009/03/04

Number of Sample:

38

Custody No.:

MA6030/90304

Total Suspended Solids	Du	plicate Analy	QC Recovery, %	
Sampling Point	Trial 1,	Trial 2,	Difference,	
	mg/L	mg/L	%	
23_R2	< 2.5	< 2.5	N/A	99

PREPARED AND CHECKED BY:

For and On Behalf of WELLAB Ltd.

PATRICK TSE





**APPLICANT: Cinotech Consultants Limited** 

RM 1710, Technology Park,

18 On Lai Street,

Shatin, N.T., Hong Kong

Laboratory No.: 08133

Date of Issue: 2009/03/09 Date Received: 2009/03/06

Date Tested: 2009/03/06

2009/03/09

Page: 1 of 1

Date Completed:

ATTN: Mr. Henry Leung

Sampling Site: Tung Chung Road

Project No.: MA6030 Sampling Date: 2009/03/06

Number of Sample: 38

Custody No.: MA6030/90306

\*

Total Suspended Solids	Du	plicate Analy	QC Recovery, %	
Sampling Point	Trial 1,	Trial 2,	Difference,	
	mg/L	mg/L	%	
26_I	<2.5	<2.5	N/A	98

PREPARED AND CHECKED BY: For and On Behalf of WELLAB Ltd.

PATRICK TSE





**APPLICANT: Cinotech Consultants Limited** 

RM 1710, Technology Park,

18 On Lai Street,

Shatin, N.T., Hong Kong

Laboratory No.: 08147

Date of Issue: 2009/03/10

Date Received: 2009/03/09 Date Tested: 2009/03/09

Date Completed: 2009/03/10
Page: 1 of 1

ATTN: Mr. Henry Leung

Sampling Site:

Tung Chung Road

Project No.:

MA6030

Sampling Date:

2009/03/09

Number of Sample:

38

Custody No.:

MA6030/90309

\*

Total Suspended Solids	Du	plicate Analy	QC Recovery, %	
Sampling Point	Trial 1,	Trial 2,	Difference,	
	mg/L	mg/L	%	
26_I	<2.5	<2.5	N/A	96

PREPARED AND CHECKED BY:

For and On Behalf of WELLAB Ltd.

PATRICK TSE





**APPLICANT: Cinotech Consultants Limited** 

RM 1710, Technology Park,

18 On Lai Street,

Shatin, N.T., Hong Kong

Laboratory No.: 08162 Date of Issue: 2009/03/12

Date Received: 2009/03/11 Date Tested: 2009/03/11

Date Completed: 2009/03/12

1 of 1

Page:

ATTN: Mr. Henry Leung

Sampling Site:

Tung Chung Road

Project No.:

MA6030

Sampling Date:

2009/03/11

Number of Sample:

38

Custody No.: MA6030/90311

\*

Total Suspended Solids	Du	plicate Analy	QC Recovery, %	
Sampling Point	Trial 1,	Trial 2,	Difference,	
	mg/L	mg/L	%	
15_I	<2.5	<2.5	N/A	102

PREPARED AND CHECKED BY:

For and On Behalf of WELLAB Ltd.

PATRICK TSE

Laboratory Manager

Patrablee





**APPLICANT: Cinotech Consultants Limited** 

RM 1710, Technology Park,

18 On Lai Street,

Shatin, N.T., Hong Kong

Laboratory No.: 08179 Date of Issue: 2009/03

Page:

Date of Issue: 2009/03/16 Date Received: 2009/03/13

Date Tested: 2009/03/13 Date Completed: 2009/03/16

1 of 1

ATTN: Mr. Henry Leung

Sampling Site:

Tung Chung Road

Project No.:

MA6030

Sampling Date:

2009/03/13

Number of Sample:

38

Custody No.:

MA6030/90313

\*

Total Suspended Solids	Du	plicate Analy	QC Recovery, %	
Sampling Point	Trial 1,	Trial 2,	Difference,	
	mg/L	mg/L	%	
26_I	< 2.5	<2.5	N/A	95

PREPARED AND CHECKED BY:

For and On Behalf of WELLAB Ltd.

PATRICK TSE





**APPLICANT: Cinotech Consultants Limited** 

RM 1710, Technology Park,

18 On Lai Street,

Shatin, N.T., Hong Kong

 Laboratory No.:
 08189

 Date of Issue:
 2009/03/17

 Date Received:
 2009/03/16

 Date Tested:
 2009/03/16

Date Completed: 2009/03/17

1 of 1

Page:

ATTN: Mr. Henry Leung

Sampling Site:

Tung Chung Road

Project No.:

MA6030

Sampling Date:

2009/03/16

Number of Sample:

38

Custody No.:

MA6030/90316

Total Suspended Solids	Du	plicate Analy	QC Recovery, %	
Sampling Point	Trial 1,	Trial 2,	Difference,	
	mg/L	mg/L	%	
CSS_I	<2.5	<2.5	N/A	98

PREPARED AND CHECKED BY: For and On Behalf of WELLAB Ltd.

PATRICK TSE





**APPLICANT: Cinotech Consultants Limited** 

RM 1710, Technology Park,

18 On Lai Street,

Shatin, N.T., Hong Kong

Laboratory No.: 08204

Page:

Date of Issue: 2009/03/19

Date Received: 2009/03/18 Date Tested: 2009/03/18

Date Completed: 2009/03/19

1 of 1

ATTN: Mr. Henry Leung

Sampling Site:

Tung Chung Road

Project No.:

MA6030

Sampling Date:

2009/03/18

Number of Sample:

38

Custody No.: MA6030/90318

Total Suspended Solids	Du	plicate Analy	QC Recovery, %	
Sampling Point	Trial 1,	Trial 2,	Difference,	
	mg/L	mg/L	%	
26_I	< 2.5	< 2.5	N/A	97

PREPARED AND CHECKED BY:

For and On Behalf of WELLAB Ltd.

PATRICK TSE





**APPLICANT: Cinotech Consultants Limited** 

RM 1710, Technology Park,

18 On Lai Street,

Shatin, N.T., Hong Kong

Laboratory No.: 08221

Page:

Date of Issue: 2009/03/23

Date Received: 2009/03/20 Date Tested: 2009/03/20

Date Completed: 2009/03/23

1 of 1

ATTN: Mr. Henry Leung

Sampling Site:

Tung Chung Road

Project No.:

MA6030

Sampling Date:

2009/03/20

Number of Sample:

38

Custody No.:

MA6030/90320

Total Suspended Solids	Du	plicate Analy	QC Recovery, %	
Sampling Point	Trial 1,	Trial 2,	Difference,	
	mg/L	mg/L	%	
26_I	<2.5	<2.5	N/A	100

PREPARED AND CHECKED BY:

atrak le

For and On Behalf of WELLAB Ltd.

PATRICK TSE





**APPLICANT: Cinotech Consultants Limited** 

RM 1710, Technology Park,

18 On Lai Street,

Shatin, N.T., Hong Kong

Laboratory No.: 08230

Date of Issue: 2009/03/24 Date Received: 2009/03/23

Date Tested: 2009/03/23

2009/03/24

Page: 1 of 1

Date Completed:

ATTN: Mr. Henry Leung

Sampling Site: Tung Chung Road

MA6030

Project No.: Sampling Date: 2009/03/23

Number of Sample: 38

Custody No.: MA6030/90323

Total Suspended Solids	Du	plicate Analy	QC Recovery, %	
Sampling Point	Trial 1,	Trial 2,	Difference,	
	mg/L	mg/L	%	
26_I	<2.5	<2.5	N/A	94

PREPARED AND CHECKED BY: For and On Behalf of WELLAB Ltd.

PATRICK TSE





**APPLICANT: Cinotech Consultants Limited** 

RM 1710, Technology Park,

18 On Lai Street,

Shatin, N.T., Hong Kong

Laboratory No.: 08245

Page:

Date of Issue: 2009/03/26

Date Received: 2009/03/25 Date Tested: 2009/03/25

Date Completed: 2009/03/26

1 of 1

ATTN: Mr. Henry Leung

Sampling Site:

Tung Chung Road

Project No.:

MA6030

Sampling Date:

2009/03/25

Number of Sample:

38

Custody No.: MA6030/90325

\*

Total Suspended Solids	Du	plicate Analy	QC Recovery, %	
Sampling Point	Trial 1,	Trial 2,	Difference,	
	mg/L	mg/L	%	
26_I	< 2.5	<2.5	N/A	100

PREPARED AND CHECKED BY:

For and On Behalf of WELLAB Ltd.

PATRICK TSE





**APPLICANT: Cinotech Consultants Limited** 

RM 1710, Technology Park,

18 On Lai Street,

Shatin, N.T., Hong Kong

Laboratory No.: 08263 Date of Issue: 2009/0

Date of Issue: 2009/03/30 Date Received: 2009/03/27

Date Tested: 2009/03/27

Date Completed: 2009/03/30
Page: 1 of 1

ATTN: Mr. Henry Leung

Sampling Site: Tung Chung Road

Project No.: MA6030 Sampling Date: 2009/03/27

Number of Sample: 38

Custody No.: MA6030/90327

\*

Total Suspended Solids	Du	plicate Analy	QC Recovery, %	
Sampling Point	Trial 1,	Trial 2,	Difference,	
	mg/L	mg/L	%	
TCS_I	<2.5	<2.5	N/A	96

PREPARED AND CHECKED BY: For and On Behalf of WELLAB Ltd.

PATRICK TSE





**APPLICANT: Cinotech Consultants Limited** 

RM 1710, Technology Park,

18 On Lai Street,

Shatin, N.T., Hong Kong

Laboratory No.: 08274

Page:

Date of Issue: 2009/03/31

Date Received: 2009/03/30 Date Tested: 2009/03/30

Date Completed: 2009/03/31

1 of 1

ATTN: Mr. Henry Leung

Sampling Site:

Tung Chung Road

Project No.:

MA6030

Sampling Date:

2009/03/30

Number of Sample:

38

Custody No.:

MA6030/90330

\*

Total Suspended Solids	Du	plicate Analy	QC Recovery, %	
Sampling Point	Trial 1,	Trial 2,	Difference,	
	mg/L	mg/L	%	
26_I	<2.5	<2.5	N/A	102

PREPARED AND CHECKED BY:

atrik le

For and On Behalf of WELLAB Ltd.

PATRICK TSE

### APPENDIX H SUMMARY OF EXCEEDANCES

Improvement to Tung Chung Road between Lung Tseng Tau and Cheung Sha - Exceedance Report Report No.  $90310W\_90302\_S$ 

Table 1: Parameter – Suspended Solids (mg/L)

			Exceedan	ces Criteri	ia				Action
Stream Location	Measured Value	Action value	120% of Reference value <sup>*</sup>	Limit Value	130% of Reference Value <sup>*</sup>	Action / Limit Levels	Justification*	Validity (Y/N)	Taken (Y/N)
27_I	2.5	2.1	3.0	3.0	3.25	Action	(2) & (4)	N	N

<sup>\*</sup>Remarks (1) – No construction activity was observed.

- (2) No pollution discharge from construction activity was observed.
- (3) Natural humus or mosses was observed.
- (4) Reference point value already exceeded either the Action or Limit Levels.

Improvement to Tung Chung Road between Lung Tseng Tau and Cheung Sha - Exceedance Report Report No.  $90310W\_90304\_S$ 

Table 1: Parameter – Suspended Solids (mg/L)

			Exceedan	ces Criteri	ia				Action
Stream Location	Measured Value	Action value	120% of Reference value <sup>*</sup>	Limit Value	130% of Reference Value <sup>*</sup>	Action / Limit Levels	Justification*	Validity (Y/N)	Taken (Y/N)
27_I	2.5	2.1	3.0	3.0	3.25	Action	(2) & (4)	N	N

<sup>\*</sup>Remarks (1) – No construction activity was observed.

- (2) No pollution discharge from construction activity was observed.
- (3) Natural humus or mosses was observed.
- (4) Reference point value already exceeded either the Action or Limit Levels.

Improvement to Tung Chung Road between Lung Tseng Tau and Cheung Sha - Exceedance Report Report No.  $90310W\_90306\_S$ 

Table 1: Parameter – Suspended Solids (mg/L)

			Exceedan	ces Criteri	ia				Action
Stream Location	Measured Value	Action value	120% of Reference value <sup>*</sup>	Limit Value	130% of Reference Value <sup>*</sup>	Action / Limit Levels	Justification <sup>*</sup>	Validity (Y/N)	Taken (Y/N)
27_I	2.5	2.1	3.0	3.0	3.25	Action	(2) & (4)	N	N

<sup>\*</sup>Remarks (1) – No construction activity was observed.

- (2) No pollution discharge from construction activity was observed.
- (3) Natural humus or mosses was observed.
- (4) Reference point value already exceeded either the Action or Limit Levels.

Improvement to Tung Chung Road between Lung Tseng Tau and Cheung Sha - Exceedance Report Report No.  $90313W\_90309\_S$ 

Table 1: Parameter – Suspended Solids (mg/L)

			Exceedan	ces Criteri	ia				Action
Stream Location	Measured Value	Action value	120% of Reference value <sup>*</sup>	Limit Value	130% of Reference Value <sup>*</sup>	Action / Limit Levels	Justification*	Validity (Y/N)	Taken (Y/N)
27_I	2.5	2.1	3.0	3.0	3.25	Action	(2) & (4)	N	N

<sup>\*</sup>Remarks (1) – No construction activity was observed.

- (2) No pollution discharge from construction activity was observed.
- (3) Natural humus or mosses was observed.
- (4) Reference point value already exceeded either the Action or Limit Levels.

Improvement to Tung Chung Road between Lung Tseng Tau and Cheung Sha - Exceedance Report Report No.  $90316W\_90311\_S$ 

Table 1: Parameter – Suspended Solids (mg/L)

			Exceedan	ces Criteri	ia				Action
Stream Location	Measured Value	Action value	120% of Reference value <sup>*</sup>	Limit Value	130% of Reference Value <sup>*</sup>	Action / Limit Levels	Justification <sup>*</sup>	Validity (Y/N)	Taken (Y/N)
27_I	2.5	2.1	3.0	3.0	3.25	Action	(2) & (4)	N	N

<sup>\*</sup>Remarks (1) – No construction activity was observed.

- (2) No pollution discharge from construction activity was observed.
- (3) Natural humus or mosses was observed.
- (4) Reference point value already exceeded either the Action or Limit Levels.

Improvement to Tung Chung Road between Lung Tseng Tau and Cheung Sha - Exceedance Report Report No.  $90317W\_90313\_S$ 

Table 1: Parameter – Suspended Solids (mg/L)

			Exceedan	ces Criteri	ia				Action
Stream Location	Measured Value	Action value	120% of Reference value <sup>*</sup>	Limit Value	130% of Reference Value <sup>*</sup>	Action / Limit Levels	Justification <sup>*</sup>	Validity (Y/N)	Taken (Y/N)
27_I	2.5	2.1	3.0	3.0	3.25	Action	(2) & (4)	N	N

<sup>\*</sup>Remarks (1) – No construction activity was observed.

- (2) No pollution discharge from construction activity was observed.
- (3) Natural humus or mosses was observed.
- (4) Reference point value already exceeded either the Action or Limit Levels.

Improvement to Tung Chung Road between Lung Tseng Tau and Cheung Sha - Exceedance Report Report No.  $90320W\_90316\_S$ 

### **Part A – Exceedance Summary Tables**

Table 1: Parameter – Suspended Solids (mg/L)

			Exceedan	ces Criteri	ia				Action
Stream Location	Measured Value	Action value	120% of Reference value <sup>*</sup>	Limit Value	130% of Reference Value <sup>*</sup>	Action / Limit Levels	Justification <sup>*</sup>	Validity (Y/N)	Taken (Y/N)
27_I	2.5	2.1	3.0	3.0	3.25	Action	(2) & (4)	N	N

<sup>\*</sup>Remarks (1) – No construction activity was observed.

- (2) No pollution discharge from construction activity was observed.
- (3) Natural humus or mosses was observed.
- (4) Reference point value already exceeded either the Action or Limit Levels.

Improvement to Tung Chung Road between Lung Tseng Tau and Cheung Sha - Exceedance Report Report No.  $90324W\_90318\_S$ 

### **Part A – Exceedance Summary Tables**

Table 1: Parameter – Suspended Solids (mg/L)

			Exceedan	ces Criteri	ia				Action
Stream Location	Measured Value	Action value	120% of Reference value <sup>*</sup>	Limit Value	130% of Reference Value <sup>*</sup>	Action / Limit Levels	Justification*	Validity (Y/N)	Taken (Y/N)
27_I	2.5	2.1	3.0	3.0	3.25	Action	(2) & (4)	N	N

<sup>\*</sup>Remarks (1) – No construction activity was observed.

- (2) No pollution discharge from construction activity was observed.
- (3) Natural humus or mosses was observed.
- (4) Reference point value already exceeded either the Action or Limit Levels.

Improvement to Tung Chung Road between Lung Tseng Tau and Cheung Sha - Exceedance Report Report No.  $90324W\_90320\_S$ 

## Part A – Exceedance Summary Tables

Table 1: Parameter – Suspended Solids (mg/L)

			Exceedan	ces Criteri	ia				Action
Stream Location	Measured Value	Action value	120% of Reference value <sup>*</sup>	Limit Value	130% of Reference Value <sup>*</sup>	Action / Limit Levels	Justification*	Validity (Y/N)	Taken (Y/N)
27_I	2.5	2.1	3.0	3.0	3.25	Action	(2) & (4)	N	N

\*Remarks (1) – No construction activity was observed.

- (2) No pollution discharge from construction activity was observed.
- (3) Natural humus or mosses was observed.
- (4) Reference point value already exceeded either the Action or Limit Levels.

Improvement to Tung Chung Road between Lung Tseng Tau and Cheung Sha - Exceedance Report Report No.  $90326W\_90323\_S$ 

## **Part A – Exceedance Summary Tables**

Table 1: Parameter – Suspended Solids (mg/L)

			Exceedan	ces Criteri	ia				Action
Stream Location	Measured Value	Action value	120% of Reference value <sup>*</sup>	Limit Value	130% of Reference Value <sup>*</sup>	Action / Limit Levels	Justification*	Validity (Y/N)	Taken (Y/N)
27_I	2.5	2.1	3.0	3.0	3.25	Action	(2) & (4)	N	N

<sup>\*</sup>Remarks (1) – No construction activity was observed.

- (2) No pollution discharge from construction activity was observed.
- (3) Natural humus or mosses was observed.
- (4) Reference point value already exceeded either the Action or Limit Levels.

Improvement to Tung Chung Road between Lung Tseng Tau and Cheung Sha - Exceedance Report Report No.  $90331W\_90325\_S$ 

Table 1: Parameter – Suspended Solids (mg/L)

			Exceedan	ces Criteri	ia				Action
Stream Location	Measured Value	Action value	120% of Reference value <sup>*</sup>	Limit Value	130% of Reference Value <sup>*</sup>	Action / Limit Levels	Justification <sup>*</sup>	Validity (Y/N)	Taken (Y/N)
27_I	2.5	2.1	3.0	3.0	3.25	Action	(2) & (4)	N	N

<sup>\*</sup>Remarks (1) – No construction activity was observed.

- (2) No pollution discharge from construction activity was observed.
- (3) Natural humus or mosses was observed.
- (4) Reference point value already exceeded either the Action or Limit Levels.

Improvement to Tung Chung Road between Lung Tseng Tau and Cheung Sha - Exceedance Report Report No.  $90402W\_90327\_S$ 

Table 1: Parameter – Suspended Solids (mg/L)

			Exceedan	ces Criteri	ia				Action
Stream Location	Measured Value	Action value	120% of Reference value <sup>*</sup>	Limit Value	130% of Reference Value <sup>*</sup>	Action / Limit Levels	Justification <sup>*</sup>	Validity (Y/N)	Taken (Y/N)
27_I	2.5	2.1	3.0	3.0	3.25	Action	(2) & (4)	N	N

<sup>\*</sup>Remarks (1) – No construction activity was observed.

- (2) No pollution discharge from construction activity was observed.
- (3) Natural humus or mosses was observed.
- (4) Reference point value already exceeded either the Action or Limit Levels.

Improvement to Tung Chung Road between Lung Tseng Tau and Cheung Sha - Exceedance Report Report No. 90402W\_90330\_S

Table 1: Parameter – Suspended Solids (mg/L)

			Exceedan	ces Criteri	ia				Action	
Stream Location	Measured Value	Action value	120% of Reference value <sup>*</sup>	Limit Value	130% of Reference Value <sup>*</sup>	Action / Limit Levels	Justification <sup>*</sup>	Validity (Y/N)	Taken (Y/N)	
27_I	2.5	2.1	3.0	3.0	3.25	Action	(2) & (4)	N	N	

<sup>\*</sup>Remarks (1) – No construction activity was observed.

- (2) No pollution discharge from construction activity was observed.
- (3) Natural humus or mosses was observed.
- (4) Reference point value already exceeded either the Action or Limit Levels.

### APPENDIX I SITE AUDIT SUMMARY

Inspection Information

Checklist Reference Number	90305
Date .	5 March 2009 (Thursday)
Time	09:00 – 13:45

Ref. No.	Non Compliance	Related Item No.
Kel, No.	Non-Compliance None identified	Tem 110.
	None identified	Related
Ref. No.	Remarks/Observations	Item No.
	A. Water Quality	
90305-O03	• Heaps of silt were observed in culvert at Stream21, SD6-12, SD5-11 and in u-channels at near	B1
	San Shek Wan, SD7-13, SD4-7. The Contractor was reminded to clear it before rainy season for avoid discharge to the streams.	B18 B24
	B. Air Quality	
90305-001	• Stockpiles at San Shek Wan were observed dry. The contractor was reminded to provide dust suppressing measures (e.g. spray water throughout the site regularly) to prevent dust generation.	C7
	C. Noise	
	No environmental deficiency was identified during site inspection.	
	D. Waste / Chemical Management	
90305-O02	• Empty oil containers were observed at San Shek Wan, near Stream21, near Stream20, SD6-12 and SD5-11. The contractor was reminded to remove them and sorting is necessary.	E2i.
	E. Ecology	
	No environmental deficiency was identified during site inspection.	
	F. Others	
	• All environmental deficiencies identified in previous audit session were not improved/rectified by the Contractor except items. Follow-up action is needed for the outstanding items.	

	Reminders	Related Item No.
	The Contractor was reminded to implement the following preventive measures:	
	A. Water Quality	
90305-R04	• Properly cover/ hydroseed the exposed slopes at STR8, underneath STR12, STR14 and SD7-13.	B8
90305-R08	• Provide drip tray for oil containers at near Stream21 and Stream6.	B22
90305-R12	Provide temp. drain or stream diversion at Stream21.	B15
	B. Air Quality	
90305-R04	• Properly cover/ hydroseed the exposed slopes at STR8, underneath STR12, STR14 and SD7-13.	C13
90305-R09	Water spraying should be provided on dusty road, during loading/unloading activities.	C5 C6
	C. Waste / Chemical Management	
90305-R05	• Clear C&D waste and/or abandoned cement bags underneath STR7, underneath STR8, underneath STR11, underneath STR12, next to the catchment water (in progress), at Stream30, Stream34, Stream35, Stream37, Stream38, in culverts at STR17, SD7-13 SD4-7, in u-channels at near Stream21.	E4ii
90305-R06	• Clear the chopped timbers near the completed construction areas at south side of Tung Chung Road.	E4ii
90305-R07	Clear the general refuse at Stream22, in u-channel and culvert at near Stream20.	Eliii
90305-R08	• Provide drip tray for oil containers at near Stream21 and Stream6.	E7ii

	D. General	
	• Provide mitigation measures (sand bag bund/cover with tarpaulin) at between construction areas and paved roads for avoid trailing mud on public road, especially the construction areas at the entrance of Tung Chung Road near RW15, Stream19, STR6, Stream21, the site office, SD7-13, SD6-12, SD5-11, Pak Kung Au and San Shek Wan.	C3
90305-G11	Provide sand bag bund between drainage system and exposed slops/stockpiles and properly	B2
	cover then with tarpaulin before rainy season, such as RW38, RW15, Pak Kung Au, near	B8
,	Sream19, SD4-7, SD5-11, SD6-12, SD7-13 and down hill slope at SD6-12.	C7

Ref. No.	Proposed Completion Date	Completion Date	Remarks
90305-O01			
90305-O02			
90305-O03			
90305-R04			
90305-R05			
90305-R06	11 March 2009		
90305-R07	11 Waten 2009	;	
90305-R08			
90305-R09			
90305-G10			
90305-G11			
90305-R12	<u> </u>		

	Name	Signature	Date
Recorded by	Eden Yuen	Toologs	5 March 2009
Checked by	Dr. Priscilla Choy	Nila	5 March 2009
		\ ' <b>T</b>	

**Inspection Information** 

Checklist Reference Number	90311
Date	11 March 2009 (Wednesday)
Time	09:00 - 12:30

		Related
Ref. No.	Non-Compliance	Item No.
-	None identified	
Ref. No.	Remarks/Observations	Related Item No.
101.110	A. Water Quality	
90311-O03	• Heaps of silt and debris were observed in culvert at SD7-13, SD6-12, in u-channels/drains at near San Shek Wan, SD7-13, SD4-7. The Contractor was reminded to clear it before rainy season.	B18
90311-004	• Exposed slopes were observed at underneath STR7, STR8, underneath STR12, STR14, underneath STR16, underneath STR17 and SD7-13. The Contractor was reminded to properly cover those slopes with tarpaulin and provide hydroseed as soon as possible.	B8
	B. Air Quality	
90311-001	• Stockpiles at San Shek Wan were observed dry. The contractor was reminded to provide dust suppressing measures (e.g. spray water throughout the site regularly) to prevent dust generation.	C7
90311-O04	• Exposed slopes were observed at underneath STR7, STR8, underneath STR12, STR14, underneath STR16, underneath STR17 and SD7-13. The Contractor was reminded to properly cover those slopes with tarpaulin and provide hydroseed as soon as possible.	C13
	C. Noise	
	No environmental deficiency was identified during site inspection.	
	D. Waste / Chemical Management	
90311 <del>-</del> O02	Empty oil containers were observed at San Shek Wan and SD6-12. The contractor was reminded to remove them and sorting is necessary.	E2i.
,	E. Ecology	
	No environmental deficiency was identified during site inspection.	
	F. Others	
	<ul> <li>All environmental deficiencies identified in previous audit session (Ref.90305) were not improved/ rectified by the Contractor, except item 90305-R07. Follow-up action is needed for the outstanding items.</li> </ul>	

,	Reminders	Related Item No.
•	The Contractor was reminded to implement the following preventive measures:	
	A. Water Quality	
90311-R07	• Provide drip tray for oil containers at near Stream19, SD5-11 and near Stream6.	B22
90311-R10	Provide stream diversion at Stream11.	B15
90311-R11	• Provide concrete and sand bag bund at <b>Stream21</b> for filtering silting water discharge to Tung Chung Stream.	B24
	B. Air Quality	
90311-R08	Water spraying should be provided on dusty road, during loading/unloading activities.	C5 C6
90311-R09	• Properly cover the stockpiles with tarpaulin at underneath STR7, Pak Kung Au, near Stream19 and SD4-7.	C7
	C. Waste / Chemical Management	
90311-R05	• Clear C&D waste and/or abandoned cement bags next to the catchment water (in progress), at	E4ii

	Stream22, Stream26, Stream30, Stream37, Stream38, near Stream21, near Stream5, in culverts at STR17, Stream20, SD4-7, in u-channels at SD6-12.	
90311-R06	• Clear the chopped timbers near the completed construction areas at south side of Tung Chung Road.	E4ii
90311-R07	Provide drip tray for oil containers at near Stream19, SD5-11 and near Stream6.	E7ii
	D. General	
90311-G12	• Provide mitigation measures (sand bag bund/cover with tarpaulin) at between construction areas and paved roads for avoid trailing mud on public road, especially the construction areas at the entrance of Tung Chung Road near RW15, Stream19, STR6, Stream21, the site office, SD7-13, SD6-12, SD5-11, SD4-7, Pak Kung Au and San Shek Wan.	C3
90311-G13	Provide sand bag bund between drainage system and exposed slops/stockpiles and properly cover then with tarpaulin before rainy season, especially at the southern Tung Chung Road.	В2

Ref. No.	Proposed Completion Date	Completion Date	Remarks
90305-R07	11 March 2009	11 March 2009	
90311-001			
90311-002			
90311-003			
90311-004			
90311-R05			
90311-R06			
90311-R07	19 March 2009		
90311-R08			
90311-R09			
90311-R10			
90311-R11			
90311-G12			
90311-G13			

	Name	Signature	Date
Recorded by	Eden Yuen	Foles	11 March 2009
Checked by	Dr. Priscilla Choy	Win	11 March 2009
		(	

**Inspection Information** 

Checklist Reference Number	90319
Date _	19 March 2009 (Thursday)
Time	09:00 – 14:00

D.C.N.		Related
Ref. No.	Non-Compliance None identified	Item No.
<u>-</u>	None identified	Related
Ref. No.	Remarks/Observations	Item No.
	A. Water Quality	
90319-O03	• Standing water was observed at the water treatment unit at Shek Mun Kap. The Contractor was reminded to pump it out or spray mosquito larvicide to prevent mosquito breed.	B11
90319-004	• Oil leakage was observed from the generator at SD6-12. The Contractor was reminded well-maintained the plant equipment and clear the oil stains.	B22
90319-O05	• Silty water was observed pumping out from the construction area at Stream21. The Contractor was reminded to provide sedimentation tank for treating the wastewater before discharging out and provide mitigation measures to prevent the silty water further discharging to Tung Chung Stream.	B5i
90319-006	• A pile of sediment was observed to place at the drainage channel at <b>Stream 21</b> . The Contractor was reminded to remove them as soon as possible.	B1
	B. Air Quality	
90319-001	Stockpile and unpaved area at Shan Shek Wan were observed dry. The Contractor was reminded to provide dust suppression measures to prevent dust generation.	C5
	C. Noise	
	No environmental deficiency was identified during site inspection.	
	D. Waste / Chemical Management	
90319-002	• Empty oil containers were observed at San Shek Wan and SD6-12. The Contractor was reminded to clear them as chemical waste.	E2ii.
90319-004	Oil leakage was observed from the generator at SD6-12. The Contractor was reminded well-maintained the plant equipment and clear the oil stains.	E7i.
	E. Ecology	
	No environmental deficiency was identified during site inspection.	
	F. Others	
	All environmental deficiencies identified in previous audit session (Ref.90305) were not improved/ rectified by the Contractor, except item 90305-R07. Follow-up action is needed for the outstanding items.	

	Reminders	Related Item No.
	The Contractor was reminded to implement the following preventive measures:	
	A. Water Quality	
90319-R07	• Properly cover the exposed slopes along <b>Tung Chung Road (Southern &amp; Northern Section)</b> with tarpaulin which are not undertaken the works and provide hydroseed immediately when the works are completed.	В8
90319-R08	• Clear the silt, debris and construction waste in the culvert at STR9A, SD7-13, SD6-12, STR17, Stream 20, in the U-Channel at Shan Shek Wan, SD7-13, SD4-7, SD6-12.	B1
90319-R09	Clear the sediment accumulated at catchwater.	B1
90319-R15	• Provide stream diversion at Stream 11 and well-maintained the stream diversion at Stream 21.	B15
90319-R16	• Clear the silt at between the drainage channel and exposed slopes at Southern Section of Tung Chung Road. (especially STR9A and STR12-13)	В1

B. Air Quality	
• Provide water spray for the dust generation activities (rock breaking, excavation) at Shan Shek Wan.	C6
• Properly cover the stockpiles with tarpaulin at underneath STR7, Pak Kung Au, near Stream 19 and SD4-7.	C7
C. Waste / Chemical Management	
Clear the vegetation waste along Southern Section of Tung Chung Road.	E4ii.
• Provide drip tray for oil drums at near Stream 19, SD5-11 and near Stream 6, Stream 21.	E7ii.
D. Ecology	
<ul> <li>Clear the C&amp;D waste at Stream 22, Stream 26, Stream 30, Stream 37 and 38, Stream 21 and near Stream 5.</li> </ul>	F1
E. General	
Provide mitigation measures (sand bag bund/cover with tarpaulin) at between the construction	
areas and paved road to prevent any mud from carrying to the public road. (i.e.at the entrance of	
	B2
office,	
	<ul> <li>Provide water spray for the dust generation activities (rock breaking, excavation) at Shan Shek Wan.</li> <li>Properly cover the stockpiles with tarpaulin at underneath STR7, Pak Kung Au, near Stream 19 and SD4-7.</li> <li>C. Waste / Chemical Management</li> <li>Clear the vegetation waste along Southern Section of Tung Chung Road.</li> <li>Provide drip tray for oil drums at near Stream 19, SD5-11 and near Stream 6, Stream 21.</li> <li>D. Ecology</li> <li>Clear the C&amp;D waste at Stream 22, Stream 26, Stream 30, Stream 37 and 38, Stream 21 and near Stream 5.</li> <li>E. General</li> <li>Provide mitigation measures (sand bag bund/cover with tarpaulin) at between the construction areas and paved road to prevent any mud from carrying to the public road. (i.e. at the entrance of Tung Chung Road near RW15, Stream 19, STR6, Stream 21, SD7-13, SD6-12, SD5-11, SD4-7, Pak Kung Au and Shan Shek Wan). Wheel Washing should also be provided at site</li> </ul>

Ref. No.	Proposed Completion Date	Completion Date	Remarks
90319-001			
90319-002			
90319-003			
90319-004			
90319-005			
90319-006			
90319-R07			
90319-R08			:
90319-R09	26 March 2009		1
90319-R10			
90319-R11			
90319-R12			
90319-R16			
90319-R14			
90319-R15			
90319-R16			
90319-G17			

	Name	Signature	Date
Recorded by	Ivy Tam	Turk	19 March 2009
Checked by	Dr. Priscilla Choy	た は こうしゅ こうしゅ こうしゅ こうしゅ こうしゅ こうしゅ こうしゅ こうしゅ	19 March 2009

**Inspection Information** 

Checklist Reference Number	90326
Date	26 March 2009 (Thursday)
Time	09:00 – 12:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	
Ref. No.	Remarks/Observations	Related Item No.
	A. Water Quality	
90326-O02	• Standing water was observed at the water treatment unit at Shek Mun Kap. The Contractor was reminded to pump it out or spray mosquito larvicide to prevent mosquito breed.	B11
90326-O03	Silt and sediment was observed discharging to the catchwater from the exposed slope at STR16.  The Contractor was reminded to cover the exposed surface as soos as possible.	В8
	B. Air Quality	
	No environmental deficiency was identified during site inspection.	
	C. Noise	
	No environmental deficiency was identified during site inspection.	
	D. Waste / Chemical Management	
90326-O01	• Empty oil containers were observed at San Shek Wan, SD6-12 and SD10-19. The Contractor was reminded to clear them as chemical waste.	E2ii.
	E. Ecology	
	No environmental deficiency was identified during site inspection.	
	F. Others	
	<ul> <li>All environmental deficiencies identified in previous audit session were improved/rectified by the Contractor except items (90319-O02, O03, O04, R07 to R16 and G17). Follow-up action is needed for the outstanding items.</li> </ul>	

•	Reminders	Related Item No.
	The Contractor was reminded to implement the following preventive measures:	
	A. Water Quality	
90326-R06	<ul> <li>Properly cover the exposed slopes along Tung Chung Road (Southern &amp; Northern Section) with tarpaulin which are not undertaken the works and provide hydroseed immediately when the works are completed. (in-progress)</li> </ul>	В8
90326-R07	• Clear the silt, debris and construction waste in the culvert at STR17, Shan Shek Wan, near Stream 22, SD7-13, SD6-12 and SD5-11.	B1 & 18
90326-R08	Clear the sediment accumulated at the catchwater (in-progress).	B1
90326-R13	Properly cover the stockpiles with tarpaulin at Pak Kung Au and Site office.	B9
90326-R14	Provide stream diversion at Stream 11.	B15
90326-R15	<ul> <li>Clear the silt at between the drainage channel and exposed slopes at Southern Section of Tung Chung Road. (especially STR9A, STR12-13 and STR17)</li> </ul>	В1
	B. Air Quality	
90326-R06	<ul> <li>Properly cover the exposed slopes along Tung Chung Road (Southern &amp; Northern Section) with tarpaulin which are not undertaken the works and provide hydroseed immediately when the works are completed. (in-progress)</li> </ul>	C13
90326-R12	<ul> <li>Provide water-spray for the dust generation activities (rock breaking and excavation) at Shan Shek Wan.</li> </ul>	C6

90326-R13	Properly cover the stockpiles with tarpaulin at Pak Kung Au and Site office.	C7
	C. Waste / Chemical Management	
90326-R04	Clear C&D waste accumulated at RW16 and underneath STR7.	E4ii.
90326-R05	Clear general refuse accumulated at underneath STR7.	Eli.&liii.
90326-R10	Clear the vegetation waste along the Southern Section of Tung Chung Road.	E4ii.
90326-R11	Provide drip trayfor the oil drums at SD7-13 and SD5-11.	E7ii.
90326-R16	Properly maintain the drip tray for the air compressor at SD7-13.	E7ii.
	D. Ecology	
90326-R09	• Clear the C&D waste at Stream 22, Stream 30, Stream 34, Stream 36, Stream 37 and 38.	F1
90326-R17	<ul> <li>Provide sand bag bund at the downstream of Stream 21 to prevent silty water discharging to Tung Chung Stream.</li> </ul>	F1
	E. General	
90326-G18	• Provide mitigation measures (sand bag bund/cover with tarpaulin) at between the construction areas and paved road to prevent any mud from carrying to the public road. (i.e.at the entrance of Tung Chung Road near RW15, Stream 19, STR6, Stream 21, SD7-13, SD6-12, SD5-11, SD4-7, Pak Kung Au and Shan Shek Wan).	B2

Ref. No.	Proposed Completion Date	Completion Date	Remarks
90319-001		26 March 2009	
90319-005	26 March 2009	20 Maich 2009	
90319-006			
90326-O01			
90326-O02			
90326-O03			
90326-R04			
90326-R05			
90326-R06			
90326-R07			
90326-R08			:
90326-R09	m 4 11 0000		
90326-R10	5 April 2009		
90326-R11			
90326-R12			
90326-R16			
90326-R14			
90326-R15			
90326-R16			
90326-R17			
90326-G18			

	Name	Signature	Date
Recorded by	Ivy Tam	Iw	26 March 2009
Checked by	Dr. Priscilla Choy	KIV-	26 March 2009

APPENDIX J ENVIRONMENTAL MITIGATION IMPLEMENTATION SCHEDULE (EMIS)

Appendix J - Summary of Environmental Mitigation Implementation Schedule

Types of Impacts	Mitigation Measures	Status
	<ul> <li>A stockpile of dusty materials should not extend beyond the pedestrian barriers, fencing or traffic cones.</li> </ul>	*
	<ul> <li>Vehicle washing facilities should be provided at every exit point.</li> </ul>	*
	• The area where vehicle washing takes place and the section of the road between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcores.	*
	• Where a site boundary adjoins a road, street, service lane or other area accessible to the public, hoarding of not less than 2.4m high from ground level should be provided along the entire length of that portion of the site boundary except for a site entrance or exit.	N/A
	<ul> <li>Every main haul road should be sprayed with water or a dust suppression chemical so as to maintain the entire road surface wet.</li> </ul>	^
Constant of a	• The portion of any road leading only to a construction site that is within 30m of a discernible or designated vehicle entrance or exit should be kept clear of dusty materials.	*
Construction Dust	• Any stockpile of dusty materials should be either covered entirely be impervious sheeting, placed in an area sheltered on the top and the 3 sides or sprayed with water or a dust suppression chemical so as to maintain the entire surface wet.	*
	<ul> <li>During cement debagging or concrete batching operation in an area sheltered on top and 3 sides.</li> </ul>	^
	<ul> <li>All dusty materials should be sprayed with water or a dust suppression chemical immediately prior to any loading, unloading or transfer operation so as to maintain the dusty materials wet.</li> </ul>	*
	<ul> <li>Every vehicle should be washed to remove any dusty materials from its body and wheels immediately before leaving a construction site.</li> </ul>	*
	• The working area of any excavation should be sprayed with water or a dust suppression chemical immediately before, during and immediately after the operation so as to maintain the entire surface wet.	*
	<ul> <li>Proper enclosures and water spraying should be implemented for the main dust-generating activities, such as soil nailing or piling works.</li> </ul>	*
	Proper plant maintenance should be provided to avoid black smoke emission from plants/equipment.	^

Types of Impacts	Mitigation Measures	Status
	<ul> <li>Only well-maintained plant should be operated on –site and plant should be serviced regularly during the construction works.</li> <li>Machines and plant that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum.</li> </ul>	^
	<ul> <li>Plant know to emit noise strongly in one direction, should where possible, be orientated to direct noise away from the NSRS.</li> <li>Mobile plant should be sited as far away from NSRs as possible.</li> </ul>	^ ^
Construction Noise	<ul> <li>Material stockpiles and other structures should be effectively utilised, where practicable, to screen noise from on-site construction activities.</li> </ul>	^
	Use quite plant and Working Method	^
	<ul> <li>Reduce the number of plant operating in critical areas close NSRs.</li> <li>Construct temporary and movable noise barriers</li> </ul>	N/A
Water Quality	Construction Runoff and Drainage	
	• Discharges to natural water courses shall only take place when the effluent can be shown to comply with the standards specified in the Technical Memorandum, Standards for Effluents Discharged in to Drainage and Sewerage Systems, Inland and Coastal Waters. Discharges in the water gathering grounds should meet Group A standard for inland waters.	*
	Use of sediment traps and the adequate maintenance of drainage systems to prevent flooding and overflow.	*
	Boundaries of critical areas of earthworks should be marked and surrounded by dykes or embankments for flood protection.  Temporary ditches should be provided to facilities runoff discharge into the appropriate watercourses, via a silt retention pond. Permanent drainage channels should incorporate sediment basins or traps and baffles to enhance deposition rates.	^
	<ul> <li>All temporary and permanent drainage pipes and culverts provided to facilitate runoff discharge should be adequately designed for the controlled release of storm flows. All sediment traps should be regularly cleaned and maintained. The temporarily diverted drainage should be reinstated to its original condition when the construction works has finished or the temporary diversion is no longer required</li> </ul>	*
	• Sand silt in the wash water from the wheel washing facilities, which ensure no earth, mud and debris is deposited on roads, should be settled out the removed before discharging into storm drains. A section of the road between the wheel washing bay and the public road should be paved with backfill to prevent wash water or other site runoff form entering public road drains.	^
	<ul> <li>Oil interceptors should be provided in the drainage system and regularly emptied to prevent the release of oils and grease into the storm water drainage system after accidental spillage. The interceptor should have a bypass to prevent flushing during periods of heavy rain.</li> </ul>	N/A
	<ul> <li>Catchpits and perimeter channels shall be constructed in advance of site formation works and earthworks.</li> </ul>	^
	<ul> <li>Silt removal facilities, channels and manholes shall be suitably maintained with the deposited silt and grit being removed at least once a week, and at the onset of and after each rainstorm to ensure that these facilities are functioning properly at all times.</li> </ul>	*

Types of Impacts	Mitigation Measures	Status
-	• Earthworks final surfaces shall be well compacted and the subsequent permanent work or surface protection shall be carried out immediately after the final surfaces are formed to prevent erosion caused by rainstorms. Appropriate intercepting channels shall be provided along the site boundary or at the locations agreed with the ET Leader. Rainwater pumped out from trenches or foundation excavations shall be discharged into silt removal facilities before discharge into storm drains.	*
	<ul> <li>All generators, fuel and oil storage shall be within bunded areas. Drainage from the areas shall be connected to storm drains via a petrol interceptor.</li> </ul>	*
	Tunnelling Work	
	<ul> <li>Temporary open storage of excavated materials should be covered with tarpaulin or similar fabric during rainstorms. Any washout of construction or excavated materials form the drill and blast tunnelling work should be diverted to the drainage system via appropriate sediment traps.</li> </ul>	N/A
	<ul> <li>Ground water pumped out of tunnels should be discharged into the drainage channels which incorporated sediment traps to enhance deposition rates and to remove silt.</li> </ul>	N/A
	• Spend grouts used in diaphragm wall construction should be collected in a separate slurry collection system, reconditioned and reused wherever practicable. The disposal of used grouting materials will only be permitted if it is treated to the TM standards before discharge to the storm drains or disposal to landfill.	N/A
	General Construction Activities	
	<ul> <li>Debris and rubbish on site should be collected, handled and disposed of properly to avoid entering the water column and cause water quality impacts.</li> </ul>	*
	• All fuel tanks and storage areas will be provided with locks and be located on sealed areas (within bunds of a capacity equal to 110% of the storage capacity of the largest tank or 20% by volume of the fuel stored in that areas, whichever in the greatest).	٨
	Sewage Effluent	
	• Construction work force sewage discharges form fixed toilet facilities on-site should be connected to the nearby existing trunk sewer wherever feasible. However, for areas where existing trunk sewer is not available, it is recommended that appropriate and adequate on site portable chemical toilets should be provided by a licensed contractor who will be responsible for appropriate disposal and maintenance of these facilities.	۸
	• It is considered that sewage discharges could also be treated by on-site septic tanks and soakaway. Minimum clearance away form streams and catchments and other requirements for the proposed septic tank and soakaway should be referred to EPD's Practice Note for Professional Persons, Drainage Plans.	
		N/A

Types of Impacts	Mitigation Measures	Status			
Waste /	General				
Chemical	• Training and instruction shall be given at a site to construction staff to increase awareness and draw attention to waste management issues and the need to minimise waste generation. The training requirement shall be included in the site waste management plan.	٨			
	Storage, Collection and Transportation of Waste				
	<ul> <li>Wastes shall be handled and stored in a manner to ensure that they are held securely without loss or leakage.</li> </ul>	*			
	<ul> <li>Authorised or licensed waste hauliers shall be used and they shall only collect wastes prescribed by their permits.</li> </ul>	^			
	Waste shall be removed on a daily basis.	*			
	Waste storage area shall be maintained and cleaned on a daily basis.	*			
	<ul> <li>Windblown litter and dust during transportation shall be minimised by either covering trucks or transporting wastes in enclosed containers.</li> </ul>	^			
	Obtain necessary waste disposal permits from the appropriate authorities if they are required.	^			
	Wastes shall be disposed of at licensed waste disposal facilities.	^			
	• Develop procedure such as ticketing system to facilitate tracking of loads, particularly for chemical waste, and to ensure that illegal disposal of wastes does not occur.	^			
	<ul> <li>Maintain records of the quantities of wastes generated, recycled and disposed.</li> </ul>	٨			
	Surplus Excavated Materials				
	• Due to the high risk of loose material being washed into the existing nullah, stockpile materials should be properly compacted and covered from water erosion and located at least 10m away from the nullah wall.	^			
	Construction and Demolition (C&D) Waste				
	<ul> <li>Careful design, planning and good site management shall be adopted to minimise over-ordering and generation of waste materials such as concrete grouts.</li> </ul>	^			
	• The handling and disposal of bentonite slurries shall be undertaken in accordance with Practice Note for Professional Persons – Construction Site Drainage (ProPECC PN 1/94) on construction site drainage.	N/A			
	• Construction and demolition (C&D) material shall be segregated to inert and non-inert parts. The inert portion shall re-used at areas of reclamation or land formation, or to public filling area shall such allocation is deemed necessary. The non-inert portion shall be disposed of to landfill.	*			
	Chemical Waste				
	<ul> <li>Chemical waste that is produce during construction shall be handled in accordance with the Code of Practice on the Packaging, Handling and Storage of Chemical Wastes.</li> </ul>	^			

Types of Impacts	Mitigation Measures	Status
	<ul> <li>Containers used for the storage of chemical wastes should:</li> <li>a. Be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed;</li> <li>b. Have a capacity of less than 450 litres unless the specifications have been approved by the EPD;</li> <li>c. Display a label in English and Chinese in accordance with instructions prescribed in Schedule 2 of the Chemical Waste Regulations.</li> </ul>	^
	<ul> <li>The storage area for chemical wastes should:</li> <li>a. Be clearly labelled and used solely for the storage of chemical waste;</li> <li>b. Be enclosed on at least 3 sides;</li> <li>c. Have an impermeable floor and bunding of capacity to accommodate 110% of the volume of the largest container or 20% by volume of the chemical waste stored in the area, whichever is largest;</li> <li>d. Have adequate ventilation;</li> </ul>	۸
	<ul> <li>e. Be covered to prevent rainfall entering (water collected within the bund must be tested and disposed as chemical waste if necessary);</li> <li>f. Be arranged so that incompatible materials are adequately separated.</li> </ul>	
	<ul> <li>Disposal of chemical waste shall be via a licensed waste collector; and to a facility licensed to receive chemical waste; or a reuser of the waste (under approval from EPD).</li> </ul>	^
	General Refuse	
	• General refuse generated on-site shall be stored in enclosed bins or compaction unit separate from C&D and chemical wastes. A reputable waste collector shall be employed by the contractor to remove general refuse from the site, separately from C&D and chemical wastes, on a daily for every second day basis to minimise odour, pest and litter impacts. The burning of refuse on construction sites is prohibited by law.	۸
	<ul> <li>Reusable rather than disposable dishware shall be used if feasible.</li> </ul>	^
	Oil and Fuel	
	The storage area for chemical wastes should have an impermeable floor and bunding of capacity to accommodate 110% of the volume of the largest container;	^
	<ul> <li>No storage of oil or fuel should be stored within the Country Park or the water gathering ground.</li> </ul>	*
Landscape and Visual	<ul> <li>Refinement of the route alignment and design of associated structures to minimise loss of woodland and other landscape resources;</li> </ul>	^
Impact	<ul> <li>Minimising working areas as far as possible;</li> </ul>	^
	Protection and retention of existing vegetation where possible;.	^
	Transplanting of trees where appropriate	^
	Protection and retention of existing natural rocky outcrops, slope profiles, vegetation, landscape features;  Advance planting and visual agreening, where possible:	^
	Advance planting and visual screening, where possible;	

Types of Impacts	Mitigation Measures	Status
	Compensatory planting;	^
	• Sensitively designed site hoarding, where possible (ie the sensitive design of site hoarding will be disrupted by hoarding panels showing the Highways Department logo, at regular intervals as per the approved engineering design);and	^
	Grassing and woodland planting of soil slopes and disturbed areas	٨
Ecology	Construction activities in the stream and other disturbances to it should be avoided.	*

Remarks:	^ N/A * but imp	Compliance of mitigation measure; Not Applicable; Recommendation was made during site audit proved/rectified by the contractor.	X • #	Non-compliance of mitigation measure; Non-compliance but rectified by the contractor; Non-compliance but rectified/improved by the contractor and awaiting IEC's further comment;
	out mi	proved/rectified by the contractor.		contractor and awarting the sturmer comment,

### APPENDIX K EVENT ACTION PLANS

# **Appendix K – Event Action Plans**

Event /Action Plan for Air Quality

EVENT	A	CTION						
	<b>E</b> 7	Γ	ΙE	С	ER		Co	ntractor
Action Level								
Exceedance for one sample	1. 2. 3. 4.	investigation to the Contractor;	3.	submitted by the ET.  Confirm the ET assessment regarding the action and/or limit level exceedance during the impact monitoring;	2.	Confirm receipt of NOE in writing.  Notify EPD and other relevant Government departments within 24 hours of identification of exceedance.	<ol> <li>3.</li> <li>4.</li> </ol>	Inform IEC and ER within 24 hours of identification of exceedance; Submit proposals for remedial to ER within 3 working days of notification ET if exceedance is due to the Project construction works; Rectify any unacceptable practice; Amend working methods if appropriate and within reasonable time scale if exceedance is due to the Project construction works.

EVENT	ACTION			
	ET	IEC	ER	Contractor
Action Level				
2. Excee dance for two or more consecutive samples	<ol> <li>Inform the IEC and the Contractor about the exceedance within 24 hours of identification of exceedance;</li> <li>Identify the source.</li> <li>Supervise implementation of remedial measures;</li> <li>Report the results of the investigation to the Contractor;</li> <li>Advise the ER on the effectiveness of the proposed remedial measures;</li> <li>Repeat measurements to confirm findings;</li> <li>Increase monitoring frequency to daily;</li> <li>Discuss with the IEC and the Contractor on remedial actions required;</li> <li>If exceedance continues, arrange meeting with the IEC and the ER.</li> <li>If exceedance stops, cease additional monitoring.</li> </ol>	<ol> <li>Check monitoring data submitted by the ET;</li> <li>Check the Contractor's working method;</li> <li>Discuss with the ET and the Contractor on possible remedial measures;</li> <li>Advise the ER on the effectiveness of the proposed remedial measures;</li> <li>Supervisor implementation of remedial measures.</li> </ol>	<ol> <li>Confirm receipt of NOE in writing.</li> <li>Notify the EPD and other relevant Government departments within 24 hours of identification of exceedance;</li> <li>Ensure remedial measures properly implemented.</li> </ol>	<ol> <li>Inform IEC and ER within 24 hours of identification of exceedance;</li> <li>Submit proposals for remedial actions to IEC within 3 working days of notification;</li> <li>Implement the agreed proposals;</li> <li>Amend proposal if appropriate.</li> </ol>

EVENT	ACTION			
	ET	IEC	ER	Contractor
LimitLevel				
1. Exceedance for one sample	<ol> <li>Notify the IEC and the Contractor within 24 hours of identification of exceedance;</li> <li>Identify the source, investigate the causes of exceedance and propose remedial measures;</li> <li>Prepare Notification of Exceedance (NOE) to inform the Contractor, the IEC, the ER and the EPD within 24 hours of identification of exceedance.</li> <li>Repeat measurement to confirm finding.</li> <li>If exceedance is indicated due to the Project construction works, increase 24-hour TSP monitoring frequency to 1-hour monitoring with 3 times every six days until no exceedance is recorded;</li> <li>Assess effectiveness of Contractor's remedial actions and keep the IEC, the DEP and the ER informed of the results.</li> </ol>	measures.  5. Supervise implementation of remedial measures.	<ol> <li>Confirm receipt of notification of exceedance in writing;</li> <li>Notify EPD and other relevant Government departments within 24 hours of identification of exceedance;</li> <li>Ensure remedial measures are properly implemented.</li> </ol>	<ol> <li>Inform ER and IEC within 24 hours of identification of exceedance;</li> <li>Take immediate action to avoid further exceedance;</li> <li>Submit proposals for remedial actions to ER and IEC within 3 working days of notification by ET;</li> <li>Implement the agreed proposals;</li> <li>Report effectiveness of remedial actions to IEC and ER;</li> <li>Amend proposal if appropriate.</li> </ol>

EVENT	ACTION			
	ET	IEC	ER	Contractor
2. Exceedance for two or more consecutive samples	<ol> <li>Notify the IEC and the Contractor within 24 hours of identification of exceedance;</li> <li>Identify the source;</li> <li>Repeat measurements to confirm findings if the exceedance is due to the Project construction works;</li> <li>Increase monitoring frequency to daily;</li> <li>Carry out analysis of the Contractor's working procedures to determine possible mitigation to be implemented;</li> <li>Arrange meeting with the IEC and the ER to discuss the remedial actions to be taken;</li> <li>Assess effectiveness of the Contractor's remedial actions and keep the IEC, the DEP and the ER informed of the results;</li> <li>If exceedance stops, cease additional monitoring.</li> </ol>	<ol> <li>Discuss amongst the ER, ET and the Contractor on the potential remedial actions;</li> <li>Review the Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly;</li> <li>Supervise the implementation of remedial measures.</li> </ol>	<ol> <li>Confirm receipt of notification of failure in writing;</li> <li>Notify the EPD and other relevant Government departments within 24 hours of identification of excee dance;</li> <li>In consultation with the IEC, agree with the Contractor on the remedial measures to be implemented;</li> <li>Ensure remedial measures are properly implemented;</li> <li>If excee dance continues, consider what activity of the work is responsible and instruct the Contractor to stop that activity of work until the excee dance is abated.</li> </ol>	<ol> <li>Inform ER and IEC within 24 hours of identification of exceedance;</li> <li>Take immediate action to avoid further exceedance;</li> <li>Submit proposals for remedial actions to IEC within 3 working days of notification by ET;</li> <li>Arrange meeting with IEC and ER to discuss the remedial actions to be taken;</li> <li>Implement the agreed proposals;</li> <li>Resubmit proposals if problem still not under control;</li> <li>Report effectiveness of remedial actions to IEC and ER;</li> <li>Stop the relevant activity of works as determined by the ER until the exceedance is abated.</li> </ol>

Note: ET - Environmental Team, IEC - Independent Environmental Checker, ER - Engineer's Representative

## Event Action Plan for Construction Noise

EVENT	ACTION			
	ET	IEC	ER	Contractor
Action Level	<ol> <li>Notify the IEC and the Contractor within 24 hours of identification of exceedance.</li> <li>Carry out investigation.</li> <li>Report the results of investigation to the IEC and the Contractor.</li> <li>Prepare Notification of Exceedance (NOE) to inform the Contractor, the IEC, the ER and the EPD within 24 hours of identification of exceedance.</li> <li>Discuss with the Contractor and formulate remedial measures.</li> <li>Increase monitoring frequency to check mitigation effectiveness.</li> </ol>	1. Review the analysed results submitted by the ET.  2. Review the proposed remedial measures by the Contractor and advise the ER accordingly.  3. Supervise the implementation of remedial measures.	1. Confirm receipt of NOE in writing. 2. Notify the EPD and other relevant Government departments within 24 hours of identification of exceedance. 3. Require the Contractor to propose remedial measures for the analysed noise problem. 4. Ensure remedial measures are properly implemented.	Submit noise mitigation     proposals to IEC     Implement noise mitigation     proposals

EVENT	ACTION			
	ET	IEC	ER	Contractor
Limit Level	<ol> <li>Notify the IEC and the Contractor within 24 hours of identification of exceedance.</li> <li>Identify the source.</li> <li>Repeat measurement to confirm findings.</li> <li>Increase monitoring frequency.</li> <li>Prepare Notification of Exceedance (NOE) to inform the Contractor, the IEC, the ER and the EPD within 24 hours of identification of exceedance.</li> <li>Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented.</li> <li>Inform the IEC, the ER and the DEP the causes &amp; actions taken for the exceedances.</li> <li>Assess effectiveness of the Contractor's remedial actions and keep the IEC, the DEP and the ER informed of the results.</li> <li>If exceedance stops, cease additional monitoring.</li> </ol>	1. Discuss amongst the ER, the ET and the Contractor on the potential remedial actions.  2. Review the Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly.  3. Supervise the implementation of remedial measures.	1. Confirm receipt of NOE in writing.  2. Notify the EPD and other relevant Government departments within 24 hours of identification of exceedance.  3. Require the Contractor to propose remedial measures for the analysed noise problem.  4. Ensure remedial measures are properly implemented.  5. If exceedance continues, consider what activity of the work is responsible and instruct the Contractor to stop that activity of work until the exceedance is abated.	1. Take immediate action to avoid further exceedance 2. Submit proposals for remedial actions to IEC within 3 working days of notification 3. Implement the agreed proposals 4. Resubmit proposals if problem still not under control 5. Stop the relevant activity of works as determined by the ER until the exceedance is abated.

Note: ET - Environmental Team, IEC - Independent Environmental Checker, ER - Engineer's Representative

# **Event / Action Plan for Water Quality**

EVENT	ACTION			
	ET	IEC	ER	Contractor
Action Level being excee ded by one sampling day	<ol> <li>Repeat in-situ measurement to confirm findings;</li> <li>Identify source(s) of impact;</li> <li>Inform the IEC and the Contractor;</li> <li>Prepare Notification of Exceedance (NOE) to inform the Contractor, the IEC, the ER and the EPD with 24 hours of identification of exceedance.</li> <li>Check monitoring data, all plant, equipment and the Contractor's working methods;</li> <li>Discuss mitigation measures with the IEC and the Contractor;</li> <li>Repeat measurement on next day of exceedance.</li> </ol>	1. Discuss with the ET and the Contractor on the mitigation measures;  2. Review proposals on mitigation measures submitted by the Contractor and advise the ER accordingly;  3. Access the effectiveness of the implemented mitigation measures.	1. Discuss with the IEC on the proposed mitigation measures; 2. Make agreement on the mitigation measures to be implemented.	1. Inform the ER and confirm notification of the noncompliance in writing; 2. Rectify unacceptable practice; 3. Check all plant and equipment; 4. Consider changes of working methods; 5. Discuss with the ET and the IEC and propose mitigation measures to the IEC and the ER; 6. Implement the agreed mitigation measures.
Action Level being exceeded by more than one consecutive sampling days	<ol> <li>Repeat in-situ measurement to confirm findings;</li> <li>Identify source(s) of impact;</li> <li>Inform the IEC and the Contractor;</li> <li>Check monitoring data, all plant, equipment and Contractor's working methods;</li> <li>Discuss mitigation measures with the IEC and the Contractor;</li> <li>Ensure mitigation measures are implemented;</li> <li>Prepare to increase the monitoring frequency to daily;</li> </ol>	1. Discuss with the ET and the Contractor on the mitigation measures; 2. Review proposals on mitigation measures submitted by the Contractor and advise the ER accordingly; 3. Access the	Discuss with IEC on the proposed mitigation measures;  Make agreement on the mitigation measures to be implemented;  Access the effectiveness of the implemented mitigation measures.	<ol> <li>Inform the ER and confirm notification of the non-compliance in writing;</li> <li>Rectify unacceptable practice;</li> <li>Check all plant and equipment;</li> <li>Consider changes of working methods;</li> <li>Discuss with the ET and the IEC and propose mitigation measures to the IEC and ER within 3 working days;</li> <li>Implement the agreed mitigation measures.</li> </ol>

EVENT	ACTION			
	ET	IEC	ER	Contractor
	Repeat measurement on next day of exceedance.	effectiveness of the implemented mitigation measures.		
Limit Level being exceeded by one consecutive sampling day	<ol> <li>Repeat in-situ measurement to confirm findings;</li> <li>Identify source(s) of impact;</li> <li>Inform the IEC and the Contractor;</li> <li>Prepare Notification of Exceedance (NOE) to inform the Contractor, the IEC, the ER and the EPD with 24 hours of identification of exceedance.</li> <li>Check monitoring data, all plant, equipment and the Contractor's working methods;</li> <li>Discuss mitigation measures with the IEC, the ER and the Contractor;</li> <li>Ensure mitigation measures are implemented;</li> <li>Increase the monitoring frequency to daily until no exceedance of Limit Level.</li> </ol>	1. Discuss with the ET and the Contractor on the mitigation measures;  2. Review proposals on mitigation measures submitted by the Contractor and advise the ER accordingly;  3. Access the effectiveness of the implemented mitigation measures.	1. Discuss with the IEC, the ET and the Contractor on the proposed mitigation measures; 2. Request the Contractor to critically review the working methods; 3. Make agreement on the mitigation measures to be implemented; 4. Access the effectiveness of the implemented mitigation measures.	<ol> <li>Inform the Engineer and confirm notification of the noncompliance in writing;</li> <li>Rectify unacceptable practice;</li> <li>Check all plant and equipment;</li> <li>Consider changes of working methods;</li> <li>Discuss with the ET, the IEC and the ER and propose mitigation measures to the IEC and the ER within 3 working days;</li> <li>Implement the agreed mitigation measures.</li> </ol>

EVENT	ACTION			
	ET	IEC	ER	Contractor
Limit Level being exceeded by more than one consecutive sampling days	<ol> <li>Repeat in-situ measurement to confirm findings;</li> <li>Identify source(s) of impact;</li> <li>Inform the IEC, the Contractor and DEP;</li> <li>Check monitoring data, all plant, equipment and Contractor's working methods;</li> <li>Discuss mitigation measures with the IEC, the ER and the Contractor;</li> <li>Ensure mitigation measures are implemented;</li> <li>Increase the monitoring frequency to daily until no exceedance of Limit Level for two consecutive days.</li> </ol>	1. Discuss with ET and Contractor on the mitigation measures; 2. Review proposals on mitigation measures submitted by the Contractor and advise the ER accordingly; 3. Access the effectiveness of the implemented mitigation measures.	<ol> <li>Discuss with the IEC, the         ET and the Contractor on         the proposed mitigation         measures;</li> <li>Request Contractor to         critically review the         working methods;</li> <li>Make agreement on the         mitigation measures to be         implemented;</li> <li>Access the effectiveness of         the implemented         mitigation measures;</li> <li>Consider and instruct, if         necessary, the Contractor         to slow down or to stop         all or part of the works         until no exceedance of         Limit Level.</li> </ol>	<ol> <li>Inform the ER and confirm notification of the non-compliance in writing;</li> <li>Rectify unacceptable practice;</li> <li>Check all plant and equipment;</li> <li>Consider changes of working methods;</li> <li>Discuss with the ET, the IEC and the ER and propose mitigation measures to the IEC and the ER within 3 working days;</li> <li>Implement the agreed mitigation measures;</li> <li>As directed by the ER, slow down or stop all or part of the construction activities.</li> </ol>

### APPENDIX L COMPLAINT LOGS

Appendix L - Complaint Log

Log Ref.	Location	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
S63	Tung Chung Road and Cheung Sha Stream	14 Sep 06	The complaint, which was lodged by Green Lantau Association on 13th September 2006, accused the failure of the site drainage system to check the discharge of silt-laden surface water from the site on that day.	ETL is of the view that the complaint is justifiable but the accusation is not substantiated by scientific data in that the rainstorm event was 1 in 25 years. It is therefore beyond the Contractor's terms of contract to design, operate and maintain the carrier pipe and the sedimentation tank to cater for this rainstorm. The Contractor has a defendable case under this increment weather condition.	Closed
S65-S69	Tung Chung Road Southern Section; Cheung Sha Stream;	19 Sep 06	Five complaints, which were lodged by Green Lantau Association on 15th September 2006, accused the failure of the drainage system for the Project on 13th September 2006. The subject of complaints are listed as below:  (i) Failed Filtration System  (ii) Contaminated Stream  (iii) Polluted Cheung Sha Stream  (iv) Polluted Cheung Sha Stream  (v) Site Debris on Road	ETL is of the view that the complaints are justifiable but the accusation is not substantiated by scientific data in that the rainstorm event was 1 in 25 years. It is therefore beyond the Contractor's terms of contract to design, operate and maintain the carrier pipe and the sedimentation tank to cater for this rainstorm. The Contractor has a defendable case under this increment weather condition.	Closed

Log Ref.	Location	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
S71	Northern Section, Tung Chung Road	3 Nov 06	The complaint, which was referred by Resident Site Staff (RSS) to ET on 3 <sup>rd</sup> November 2006, was raised by a resident living Lantau Island on 17 <sup>th</sup> October 2006 concerning the Tung Chung Road condition on 16 <sup>th</sup> October 2006.	Based on the meteorological data extracted from HKO, the total rainfall between 0:45 and 6:45 hours in Lantau was 196 mm with an average intensity of 32.67 mm/hr on 16 <sup>th</sup> October.  Based on the results derived from Table 2 "the Intensity-Duration-Frequency (IDF) for various return periods" and Table 4 "Depth-Duration-Frequency (DDF) for durations of than 4 hours" of the "Stormwater Drainage Manual", the return period should be less than 1 in 10 years.  Therefore, the complaint was considered justifiable since the EIA report has recommended the provision of site drainage system shall be 1 in 10 years. The Contractor has implemented remedial measures and preventive measures.	Closed
S72	Lung Tseng Tau Village, Tung Chung	3 Nov 06	The public complaint, which was referred by RSS to ET on 3 <sup>rd</sup> November 2006, was received by the Integrated Complaint Centre (ICC) on 26 <sup>th</sup> October 2006 regarding dust nuisance generated from the Project.	Based on the information collected and the monitoring results, the complaint was considered not justifiable due to the following since no exceedance of the air quality monitoring results was recorded in October 2006.  During site inspections in the month, dust mitigation measures have been implemented by the Contractor; and no observation was recorded during the site inspections.  According to the information provided by the Contractor and the RSS, the Contractor has implemented additional mitigation measures, including increased water spraying on the public road to more than once a day and covered the stockpiling materials.	Closed

Log Ref.	Location	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
\$73	Southern Section of the Project	3 Nov 06	The complaint, which was referred by RSS to ET on 3 <sup>rd</sup> November 2006, was raised by a resident living at Cheung Sha on 24 <sup>th</sup> October 2006 concerning noise generated from rock breaking in Southern Section of the Project.	According to the EM&A records, no exceedance of noise level and no non-compliance were recorded in the month.  As advised by the Contractor and RSS, silent rock breaking equipment has been used and noise insulation materials have been used to minimize the noise impact generated from the rock breaking activity.  Based on the provided information and the monitoring results, the complaints are considered not justifiable. The Contractor has implemented the mitigation measures to minimize the noise generation from construction activities and was still reminded to continuously implement their practice to prevent noise nuisance generation from the construction works.	Closed
S74	Tung Chung Stream	24 Nov 06	Highways Department (HyD) of HKSAR received a complaint for Agriculture, Fisheries and Conservation (AFCD) regarding untreated site runoff discharged to Tung Chung Stream during the site visit on 21 <sup>st</sup> November 2006. The Resident Site Staff (RSS) subsequently referred the complaint to the Environmental Team (ET) Leader of the Project on 24 <sup>th</sup> November 2006.	The investigation revealed that, based on the meteorological data extracted from HKO, the highest rainfall recorded was between 13:45 and 15:45, with a total of 93mm in two hours. With the above rainfall intensities extracted from HKO, together with the Intensity-Duration-Frequency (IDF) for various return periods derived from Table 2 of the "Stormwater Drainage Manual", the return period should be less than 10 years. Therefore, the complaint was considered justifiable and the Contractor has implemented remedial measures and preventive measures.	Closed

Log Ref.	Location	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
S75	West of the new Tung Chung Road Southern Section Discharge Point	21 Nov 06	Both Environmental Protection Department (EPD) and China Civil Engineering Construction Corporation and China Railway Wuju Joint Venture (the Contractor) received the same public complaint, regarding muddy water discharged to Chueng Sha on 21 <sup>st</sup> November 2006. The Contractor subsequently referred the complaint to the Environmental Team (ET) Leader of the Project on the same day.	The complainant considered that this stream was muddy and discharging muddy water into the sea. As stated in the above paragraph, the investigation revealed that the return period for the rainfall between 13:45 and 15:45 was 41 years. As the complaint was lodged at 14:58 on 21 <sup>st</sup> November 2006, it is reasonable to consider the rainfall recorded in the hour between 13:45 to 14:45 which was 57mm. According to "Stormwater Drainage Manual", the return period should be less than 10 years. Therefore, the complaint was considered justifiable and the Contractor has implemented remedial measures and preventive measures.	Closed
S76	Pui O Wan	27 Nov 06	China Civil Engineering Construction Corporation and China Railway Wuju Joint Venture (the Contractor) received the same public complaint, regarding muddy water discharged into Pui O Wan on 23 <sup>rd</sup> November 2006.  According to the complainant, muddy water was discharged into Pui O Wan from the new Tung Chung Road Southern Section Discharge Point (near proposed round about on South Lantau Road) in the morning of 23 <sup>rd</sup> November 2006. The complainant suspected that the muddy water was being pumped off site through failed filtration systems into the sea as there had been no recent rainfall on that day.	The investigation revealed that the complaint was considered not justifiable since (1) no muddy water was generated due to the construction activities in the vicinity of the discharged point; and (2) no surface runoff as no rainfall was recorded on 23 <sup>rd</sup> November 2006.	Closed

Log Ref.	Location	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
\$77	Sheung Ling Pei, Ha Ling Pei, Wong Ka Wai & Lung Tseng Tau Villages	18 Dec 06	Highways Department (HyD) and the Resident Engineer received a complaint against Water Quality Supply (Muddy Water) at Sheung Ling Pei, Ha Ling Pei, Wong Ka Wai & Lung Tseng Tau Villages via District Office (Islands) on 29 <sup>th</sup> November 2006.  The complainants claimed that subject villages were suffering from muddy water supplied from the water main on the past few days before 29 <sup>th</sup> November 2006.	Upon receipt of the complaint, the Contractor inspected all streams (above AFCD entrance) in the Northern Section. Muddy water was observed at Stream 13 which was believed the source of muddy water. However, no water flow was found at the stream. The muddy water was considered probably due to the seepage of underground water mixed with excavated soil to Stream 13. Furthermore, an ad-hoc meeting between DO/WSD/AFCD/MOTT/CCJV/IEC/ET was held on 14 December 2006 to discuss this issue.  The complaint was considered due to the construction activities of the Project. Emergency remedial works had been taken by the Contractor to rectify the situation and preventive measures had also been implemented.	Closed
\$80	Tung Chung Road near Lung Tseng Tau Village	3 Jan 07	The complaint was lodged by a resident at Lung Tseng Tau Village regarding dust nuisance at Tung Chung Road near Lung Tseng Tau Village. According to the complainant, the dust was generated by vehicle movements (about 5 to 7 per day). The complainant noticed that there was only once per day for water spraying on the road. She suggested that the frequency of water spraying should be increased to 1 to 2 per hour. In addition, she requested to provide more water-spraying practice for the concerned area.	According to the Contractor and the RSS, the main dust emission in the vicinity of Lung Tseng Tau Village was due to the vehicle movements on Tung Chung Road.  Base on the information collected and the monitoring results, the complaint was considered not justifiable since (1) no exceedance of the air quality monitoring results was recorded in December 2006; (2) dust mitigation measures have been implemented by the Contractor; and (3) no observation was recorded during the site inspections.  In response to the complaint, the Contractor had stepped up the dust suppression control immediately. A water truck was mobilized to spray water at Tung Chung Road within particular in the vicinity of the complainant's house from once per day to at least 3 times per day.	Closed

Log Ref.	Location	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
S81	Lung Tseng Tau	20 Dec 06	The Contractor, CCECC and CRWJ Joint Venture (CCJV) and Highways Department (HyD) of HKSAR received a complaint regarding dust control at Lung Tseng Tau from the Office of Islands District Councilor, Wong Fukkan on 6 <sup>th</sup> December 2006.  According to the complainant, he had received a number of complaints from residents in South Lantau regarding the dust nuisance when their vehicles passing through Tung Chung Road near Lung Tseng Tau. The residents said their vehicles were full of dust whenever they had passed through Tung Chung Road.	Base on the site inspection records and information collected from the RSS and the Contractor, the complaint was considered due to due to the vehicle movements on Tung Chung Road. In response to the complaint, the RSS has conducted site inspection in the afternoon on 18 <sup>th</sup> December 2006. The Contractor had immediately mobilized labors to clear the mud trail on Tung Chung Road between ch.3700-4000 using sweepers. In order to maintain the condition of Tung Chung Road, the Contractor has mobilized more staff to clear the mud deposits on the whole Northern Section of Tung Chung Road on 23 <sup>rd</sup> December 2006.  The Contractor has provision wheel washing facilities at each site exit/entrance. In order to maintain Tung Chung Road condition, the Contractor has mobilized a water truck solely for wheel washing purpose at the site entrance near RW37 between ch.3700-4000 since 23 <sup>rd</sup> December 2006. The location is the most busy site exit/entrance for soil removal as wheel washing facilities. Wheels of each vehicle shall be washed before leaving the site. The wastewater after wheel washing at each site exit/entrance shall be collected and treated before discharge at designated location. also mobilized water trucks	Closed

Log Ref.	Location	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
S82	The nullah near the Yat Tung Estate	15 Jan 07	The complaint was lodged by the Legislative Councillor Hon. Albert W.Y. Chan regarding frequent discharge of muddy water from the Tung Chung Road improvement project on 15 <sup>th</sup> December 2006. According to Mr. Chan's letter, the complainant was a resident living in Tung Chung. The DSD letter pointed out that muddy water was being frequently discharged to the nullah near the Yat Tung Estate, and confirmed that the site of Tung Chung Road improvement project was the source of such discharge.	After investigation, the discharge of muddy water was largely due to the deposited silts caused by previous heavy rainstorms in November.  The contractor has responded promptly in deploying a number of actions to remedy the matter. These include de-silting operation at Wong Lung Hang nullah on 23 <sup>rd</sup> December 2006 to remove the accumulated soil and silt materials washed down by the discharges, of which photographs are provided.  In addition, several intermediate sedimentation ponds along the temporary drainage system south of Shek Mun Kap to improve de-silting capacity have been installed, and that the site condition will be closely monitored so that advice on any practical measures in improving the quality of water discharge to Wong Lung Hang nullah can be given.  In addition, the Contractor is also undergoing continual inspections and monitoring on the conditions of the concerned discharge of the construction site, and is in close liaison with the ET to cap exceeding levels of future discharge.	Closed

Log Ref.	Location	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
S86	Slope opposite to the AFCD's Office at Tung Chung Road near mileage M2.5	8 Feb 07	The complaint was lodged by a resident in Lantau Island regarding the construction noise generated from the road works at the slope opposite to the AFCD's Office at Tung Chung Road near mileage M2.5.	The site of concern is most likely at the RW6 of the Project. According to the Contractor, soil nailing works was conducted at RW6 and the first stage of soil nailing works at RW6 has been completed before 8th February 2007.  According to the noise monitoring results at monitoring station NM5, Tung Chung Au Country Parks Management Centre, which is located near the AFCD's Office, there was no exceedance recorded from 2nd January to 14th February 2007.  As advised by the Contractor, the following mitigation measures will be implemented as far as possible to reduce the noise nuisance to the nearby residents when soil nailing works carry out in the future:  To cover the soil nailing works area with tarpaulin;  To reduce the number of machines for soil nailing;  To orientate the machines for soil nailing works so that the major noise generating part will not directly face the Noise Sensitive Receiver; and  To scatter the plants so that the noise being generated will not be centralized in certain direction.	Closed

Log Ref.	Location	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
S90	Northern and Southern Section of Tung Chung Road	20 May 07	The complaint was lodged by the Green Lantau Association at on 20 May 2007 regarding failed drainage for the Project on that day.	According to the Contractor, the main concern in the Northern Section is that a large amount of seepage from the permanent slope near the Stream 18 and Stream 21 was observed. The permanent hinterland u-channel was not able to collect most of the hinterland water which ultimately collected by the carrier pipe and increased the loading of the treatment facilities at Shek Mun Kap.  As advised by the Contractor, the main problem in Southern Section was due to the fact that the silt is too fine to be settled within a short time, i.e. 3 minutes, as stated in the EIA Report. Due to the large catchments of the site, muddy water could not be completely settled or treated before discharged or overflowed. No bigger sedimentation tank can be constructed due to the site constraint to retain all surface water in heavy rainy days.  The complaint was considered justifiable. However, it is beyond the Contractor's capability to completely avoid muddy water discharging or overflowing to sea due to the site conditions and constraints under increment weather conditions.	The complaint investigation report was commented

Log Ref.	Location	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
S91	Zone 4 (STR 14)	1 June 07	The complaint was lodged by a resident in Butterfly Crest, Lantau Island regarding the construction noise generated from the Project on Sunday, which is likely to be 27 <sup>th</sup> May 2007.	1 27 Iviav 2007 and the 1 dweled ivicellanical i	Closed

Log Ref.	Location	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
\$93	Western Section of Pui O Bay	22 May 07	The complaint was lodged by the Green Lantau Association at on 22 May 2007 regarding muddy water was observed at 50m west of the Tung Chung Road southern section around 11am on 22 May 2007.	As advised by the Contractor, the main problem in Southern Section was due to the fact that the silt is too fine to be settled within a short time, i.e. 3 minutes, as stated in the EIA Report. Due to the large catchments of the site, muddy water could not be completely settled or treated before discharged or overflowed. No bigger sedimentation tank can be constructed due to the site constraint to retain all surface water in heavy rainy days.  In the site near Pui O Wan, the Contractor has exhausted their efforts including to pump the water from sedimentation tanks back to the stockpile area. Unfortunately, one of the pumps was out of order in the early days of that rainy period. However, the pump has been rectified on 22 May 2007.  The complaint was considered justifiable. However, it is beyond the Contractor's capability to completely avoid muddy water discharging or overflowing to sea due to the site conditions and constraints under increment weather conditions.	The complaint investigation report was commented

Log Ref.	Location	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
S100	Stream water behind WSD's weir	27 July 07	The complaint was lodged by a resident living at Lung Tseng Tau area during the meeting between RSS and the representatives from the villages at Lung Tseng Tau area on 17 <sup>th</sup> July 2007 regarding turbid water supply from DO main to the village houses at Lung Tseng Tau area.	The RSS and the Contractor had a site investigation with the complainant at his household water supply, the WSD weir and a work area immediately upstream of the weir (STR02 near the Stream 12) on the same day.  It was observed that the water directly from the household supply was found with low degree of turbidity when comparing it with portable water supply.  According to the visual inspection of the RSS and the Contractor, the stream water behind the WSD's weir, which is the source of water supply to the villagers via a DO main, was found clear and there was no sign of contamination.  Inspection of the work site at STR02 upstream of the weir indicated no activities affecting the upstream water quality.  By reviewing the water quality monitoring data at Tung Chung Stream during early of July 2007, the turbidity and SS values are considered to be low and the data revealed that the Tung Chung Stream and the WSD weir were not contaminated during the above mentioned period.  Nevertheless, In order to minimize the water quality impacts, the Contractor has implemented following mitigation measures:  • To erect sand bag bund in the vicinity of STR02;  • To shotcrete the soil surface near Stream 12.	Closed

Log Ref.	Location	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
S104	Tung Chung Road and Tung Chung Au near AFCD's Office	Road and Tung Chung Au near AFCD's Office  Ho on 6 <sup>th</sup> August 2007 regarding a suspected case of silty runoff and muddy water generated from construction site flowing on public road. Turbid water was observed behind the weir near the AFCD's office at Tung Chung Au.	No non-compliance or environmental deficiency related to or in the vicinity of the concerned area was identified during these site audits.  According to Hong Kong Observatory, Hong Kong was under the effect of the tropical storm over the central part of the South China Sea which brought heavy showers with 100.4 millimeters of total rainfall recorded on 6 August. The amber rainstorm warning was hoisted between 15:55pm to 17:30pm.  The Contractor has confirmed there was no		
				construction activity in the concerned area on 6 <sup>th</sup> August 2007 due to heavy rainfall. According to the Contractor, muddy water was the silty runoff from nearby work sites due to the heavy rainfall on the day.	Closed
			<ul> <li>The Contractor has implemented following mitigation measures:</li> <li>To desilt temporary drainage channels and sedimentation tank.</li> <li>To clear the silt and mud in the surface of haul road at RW06 ad RW07.</li> <li>To cover exposed slope with tarpaulin at RW06 and RW07.</li> </ul>		
				According to the RSS and the Contractor, no further report of silt and muddy water runoff from concerned area was received after implementation of the aforesaid mitigation measures.	

Log Ref.	Location	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
S113	Upper and Lower Cheung Sha Village	12 December 2007	The complaint was lodged by Mr. Liu on 12 December 2007 regarding dust nuisance at Upper and Lower Cheung Sha Village.	According to the Contractor, the main dust emission in the vicinity of Cheung Sha Village was due to the road works and associated vehicle movements on Tung Chung Road.	
				The Contractor has implemented following mitigation measures:	
				<ul> <li>Cleared the silts on the haul road;</li> <li>Applied watering on the road by water hose at San Shek Wan;</li> <li>Increased the number of water browsers; and</li> <li>Covered the exposed slope and stockpiles with tarpaulin sheets.</li> </ul>	Closed
				By reviewing the air quality monitoring data, there was no exceedance of air quality monitoring results on 8 <sup>th</sup> and 14 <sup>th</sup> December 2007 and dust mitigation measures have been implemented by the Contractor.	
				According to the RSS and the Contractor, no further complaint regarding dust nuisance from concerned area was received after implementation of the aforesaid mitigation measures.	

Log Ref.	Location	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
S147	Zone 1 Tung Chung Road	14 November 2008	The complaint was referred to ETL from EPD by Mr. Peter Tang on 14 November 2008, regarding a suspected case about land-filling of non-inert construction waste in early 2008 and potential further land-filling of non- inert construction waste stockpiled at Zone 1 Tung Chung Road.	According to the Contractor, there are two major stockpile areas within the construction premise which are located at San Shek Wan and Tung Chung Road. The location specified in the complaint was the stockpile area at San Shek Wan. This location was used for stockpiling reusable materials.  Base on the information collected, the complaint was considered not justifiable as San Shek Wan is one of the designated C&D materials sorting areas of the Project and no direct evidence shows there was land-filling activity by this project at the specified location.  However, as a follow up of the complaint, the Contractor has implemented mitigation measures as follows:  Preliminary segregation of waste was enhanced; and  Water was sprayed on the stockpiles more frequently to further suppress dust generation.  The Contractor was recommended to continue the following mitigation measures:  To provide dust suppression measures to the stockpiles at San Shek Wan, especially during dry season, to minimize dust generation;  To carry out continuous segregation of materials on site;  To avoid accumulation of stockpiles; and  To dispose of non-reusable material to designated outlets as soon as possible.	Closed

APPENDIX M SUMMARY OF WARNING / DIRECTION ISSUED BY THE EPD AND PROSECUTION

# **Appendix M - Summary of Warnings / Direction Issued by the EPD and Prosecution**

## Summary of Warnings / Direction Issued by the EPD

Date of Letter	Warnings/Direction
3 February 2005	The Contractor was requested to construct catch pits and perimeter channels in advance of site formation and earth works
17 May 2005	The Contractor was requested to immediately re-provide the on-site wastewater management systems to adequately cater the rainwater runoff and to submit the detail proposal for runoff management and treatment systems.
4 October 2005	The Contractor was requested to rectify the situation in order to comply with EP Conditions 2.4 & 2.5 regarding the provision of drainage systems, EP Condition 3.16 regarding site runoff mitigation measures and EP Condition 3.6 regarding no works of the Project shall be carried out outside the "limit of works area".
15 December 2005	The Contractor was requested to rectify the situation of Zone D where fuel oil was found spilled onto ground of the works area in contravention to Section 7.5.2.1 of the Waste Management Plan (WMP). The Section stipulates provisions against spillage of fuels to prevent contamination of the construction site.
24 March 2006	The Contractor was requested to rectify the situation in order to comply with EP Condition 3.9 regarding the stipulated span of temporary bridges used during construction to cross the stream.
13 April 2006	The Contractor was requested to rectify the situation of Zone E where fuel oil was stored within the Country Park in contravention to condition 3.14 of the EP.
29 June 2006	The Contractor was requested to rectify the situation that site runoff will not be discharged into Tung Chung Stream in order to comply with EP Condition 2.4.
26 September 2006	The Contractor was requested to rectify the situation that excessive dust emission occurred. Watering programme shall maintain to ensure that all exposed road surfaces and dust sources are wet in order to comply with EP Condition 1.7.
4 October 2006	-The Contractor was requested to rectify the situation that site runoff will not be discharged into Tung Chung Stream in order to comply with EP Condition 2.4.  -The Contractor was requested to rectify the situation in order to comply with EP Condition 3.9 regarding the stipulated span of temporary bridges used during construction to cross the stream 28 The Contractor was requested to rectify the situation in order to comply with EP Condition 3.9 regarding the stipulated span of temporary bridges used during construction to cross the stream 32.  - The Contractor was requested to rectify the situation in order to comply with EP Condition 3.9 regarding the stipulated span of temporary bridges used during construction to cross the stream 33.
13 February 2007	The Contractor was requested to rectify the situation that site runoff will not be discharged into Tung Chung Stream in order to comply with EP Condition 2.4.
19 February 2008	The Contractor was requested to take all necessary actions to rectify the situation that surface run-off from the construction site discharged into storm drain without treatment in order to comply with EP Condition 3.16.
14 April 2008	The Contractor was required to take all necessary actions to rectify the situation

Date of Letter	Warnings/Direction
	that a section of the site near Pak Kung Au was not provided with vehicle
	washing facilities including high pressure water jet at vehicular exit points so as
	not to contravene the statutory requirement.
8 December 2008	The Contractor was required to take all necessary actions to rectify the situation
	that a suspected chemical waste (mineral oil) was found improperly packed and
	stored at Zone 1 Tung Chung Road on 4 December 2008, so as not to
	contravene the statutory requirement of the Waste Disposal (Chemical Waste)
	(General) Regulation (Cap. 354).

## **Summary of Notification of Summons**

Date of Summons	Details of the Summons	Status
25 January 2007	Construction works at a slope next to Stream no. 28	Withdrawn by
	along Tung Chung Road, Cheung Sha, Lantau Island	EPD
	which contrary to EP Condition 3.9 concerning works at	
	Stream 28 on 26 July 2006	
16 February 2007	Construction works near Stream no. 8 along Tung Chung	The Contractor
	Road, Cheung Sha, Lantau Island which contrary to EP	was fined \$7500
	Condition 2.4 by discharging runoff during construction	on 4 June 2007.
	into Tung Chung Stream on 16 August 2006	
17 May 2007	Construction works near Stream no. 8 along Tung Chung	The Contractor
	Road, Cheung Sha, Lantau Island which contrary to EP	was fined \$7500
	Condition 2.4 by discharging runoff during construction	on 4 June 2007.
	into Tung Chung Stream on 21 November 2006	

## **Summary of Notification of Successful Prosecution**

Date of Successful	Details of the Successful Prosecution	Status
Prosecution		
4 June 2007	Construction works near Stream no. 8 along Tung Chung	The Contractor
	Road, Cheung Sha, Lantau Island which contrary to EP	was fined \$7500
	Condition 2.4 by discharging runoff during construction	on 4 June 2007
	into Tung Chung Stream on 16 August 2006	
4 June 2007	Construction works near Stream no. 8 along Tung Chung	The Contractor
	Road, Cheung Sha, Lantau Island which contrary to EP	was fined \$7500
	Condition 2.4 by discharging runoff during construction	on 4 June 2007
	into Tung Chung Stream on 21 November 2006	

#### APPENDIX N CONSTRUCTION PROGRAMME

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	. Act	Description	Orig	%	Early Start	Early Finish			ov		2003	03	DEC 13	22	129	05	2007 JAN 112		26
	ID	4	Dur	Сошр	Start	Finish	63	10	17	24	μ.			12.4			<u> </u>	μ.,	1:0
	nencement & l rised Key Date																		
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	ZAKD0000	Commencement of Contract	: 0	100	28JUN04 A	<u> </u>													
	ZAKD001	Complete Works in Section 1	0	0		30APR09					-						<b>.</b>		
	ZAKD002	Complete Works in section 2	. 0	0		31DEC08	]								01	Comple	te Works	in sec	ition 1
	ZAKD003	Complete Works in Section 1A	0	0		31AUG11													
	ZAKD0035	Extended Completion Date of Section 1A(Claim 62)	0	0		08MAR09							•					_	
	ZAKD004	Complete Works in Section 2A	0	0		31AUG11	1											-	
-	ZAKD005	Complete Works in Section 3	. 0	0		01AUG11	1								4		٠,		
. [ ]	ZAKD006	Complete Works in Section 3A	0	0		30AUG12	1		¥										
	ZAKD007	Complete Works in Undefined Section	. 0	0		21AUG09	1		**										
	ZAKD008	Complete Establish'nt Works in Undefined Section	. 0	0		31AUG11	1		į										
:  <u> </u>			:	l Na ska de de		l Addition	<u> </u>		l.	1   (3   (3					<del></del> -		•		
	oletion Dates					S. Strand			,	, ,									
	71 - P   LISTO   P											•				,		•	
		In the state of th	, 0	100		09MAR07 A	1												
	ZAKD0020	Extended Completion Date of Section 1 (Claim 62)	- 0	100		06JAN07 A	-												
	ZAKD0050	Extended Completion Date of Section 2 (Claim 62)		0.	<u> </u>	05JAN09	-									φEx	tended C	omple!	tion E
	ZAKD0065	Extended Completion Date of Section 2A(Claim 62)	0		<u> </u>	09JUN07 A	-										,	•	
	ZAKD0080	Extended Completion Date of Section 3 (Claim 62)	0	100			-				4-1	شا سوادردان ب	والمراجعة			والروابط بشيعوات			-1.56.5
1	ZAKD0100	Extended Completion Date of Section 3A(Claim 62)	0	0		08.00000°	<u> </u>		;:-				· · · · · · · · · · · · · · · · · · ·			· · · · · ·	<u>.</u>		
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Mo	nthly Monitorin	g Submission					1												
IJг							]							4.40					
	0470	Waste Management Plan	2323	53	04NOV04 A	<u> </u>													
	0480	Environment Monitoring and Audit	2323	53	04NOV04 A	25APR11													
11.	!	11504	·					-				ate			vision		Checke	Apr	rove
Start o Finish	date 30	JUN04 Early bar AUG12 Progress bar	(	Contra	ct No. HY/2	003/19				0	1AUG0	3	38	A update			,	1	
Oata o Numb		APRO8  Wildon 15  Critical bar	Imnro	vemen	it to Tung C	hung Roa	d										,	1	
Page .	number 1A	Summary bar	•		ramme 01.			na						.,			!		
	t name R1 rimavera System	Stad willenters only	u komuč	y Frogi	ianine UI.	.UZ.UƏ IU 3	,U.U <del>4</del>	.00					] 				<u> </u>	<del></del>	

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Act	Description	Orig		Early	Early	NOV	2008	DEC		oue An
ID		Dur	Comp	Start	Finish	03 10 17	724   01   0x	15 22	29 05 12	19 26
Section 1 Zone A (CH. 1			······································							
Drainage Wo						1				
						-				
S1-1500	Footpath and verge (Additional Work)	64	0	16JUN08 A	01SEP08					
Roadworks					· · · · · · · · · · · · · · · · · · ·					
\$1-1530	Street Furniture (Additional Works)	50	52	01JUL08 A	30SEP08	ks)				·
Landscaping					- <del> -   -   -   -   -   -   -   -   -   </del>		· · · · · · · · · · · · · · · · · · ·		******	
		,				]				
S1-1545	Landscape Earth Bund Ch.920-1020	. 22	0	01APR09	30APR09		•			
	565 - 2130)				•					
Slope Works					<del> </del>					
S1-2080	Recompact fill slope remedial works ch1755-1945	50	Ta	01AUG08 *	30SEP08	orks ch1755-1945				
		<u> </u>		<u> </u>	ļ	4	ı			
S1-2084	Outlet of Culvert @ Ch2021 remedial works	38	0	16AUG08 *	30SEP08	ediai works	<u> </u>			
Roadworks			·			-			•	•
S1-2337	Additional drainage Pipe Desitting Works	115	0	14AUG08	31DEC08 *		1,		□ Additional draina	ara Pina Daciti
S1-2338	_1	ļ				S	tooms (Domodical) is to			age ripe Desim
4.1	Footpath and Verge (Remedial Works)	6	0 -	· 01NOV08 *	07NOV08	Footpath and \	Verge (Remediai Wo	•		
S1-2370	Additional street furnitures	20	0	08NOV08 *	01DEC08	<u> </u>	Additional	street furnitures		
*	30 - 2725  %   67 - 62   14 - 62   15 - 62   15   15   15   15   15   15   15   1	· · · .		F. K	7,7 12.0				-	
Slope Works	•					•			•	
51,3194	Recompacted fill slope (VO50 & 83) remedial work	. 89_	T 0	16JUN08 *	30SEP08	83) remedial work				
Retaining Wa	The state of the s		<u> </u>			The Roman Control of the Control of				
11 /							-	• • • •		
\$1-2350	Utilities (Remedial Works)	119	0	01AUG08 *	22DEC08			Utilities	(Remedial Works)	)
\$1-3890	RC structure Bay 8	25	0	160CT08 *	13NOV08	RC struc	ture 8ay 8			
\$1-3900	Backfilling	13	0	14NOV08	28NOV08		Backfilling			
\$1-3910	Slope drainage	25	0	29NOV08	30DEC08				Slope drainage	
			<u> </u>							
	28JUN04 Early bar 30AUG12 STITUTE Programs has	<u>~</u> .		1- 10//000			Date 01AUG08	Revisio 3M update	n Checke	nd Approved
Data date (	01APR08 Citical bas	Col	ntract i	No. HY/2003	s/1 <del>9</del>			, on spanie		
	Revision 15 Summary bar	prove	ment to	o Tung Chu	ng Road					• [
Project name 8	Summary point 3M Ro	llina P	rogram	nme 01.02	.09 to 30.0	04.09				
c Primavera Syst	ems. Inc. Start hitestone point								1	
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	Act		Orig	%	Early	Early	NO		2993	Ø	EC		2049 Jan	
	ID ID	Description	Dur	Comp	Start	Finish	0.3 [10	17 24	10	03 1	5 22	29 05	12	19 26
TT	Roadworks													
			6	0	23DEC08 *	31DEC08							vorks remed	fial works
		Waterworks remedial works		ļ	02JAN09*	15JAN09								O remedial
	S1-3632	HyD remedial works (kerb) .	12	0			•						_	
	S1-3633	Additional U channel	9	0	02JAN09 *	12JAN09						<u> </u>	Acqui	onal U char
	S1-3634	Street furniture remedial works	16	0	24JAN09*	14FEB09								
	S1-3635	Footpath and Verge remedial works	7	0	16JAN09 •	23JAN09		· ·						Footp
	one D (CHL 2725	-3100)												
	Slope Works	•							•	•				
			; T ===	T	L ou office à	24.00700	Utility remedial v	inthe CU	2760 <u>-</u> 3060 4	lownhill				
	S1-4069	Utility remedial works CH2760-3060 downhill	.50	0	01SEP08*		Othry remedial v	WOIKS CIT.			CI 2040 C	2050)	'. Entropelan	
F	S1-4080	Top channel (CH. 2940 - 3060) remedial works	26	0	01NOV08	01DEC08				-	CH. 2940 - 3	-	iai works	
	\$1-4081	Concrete verge	12	0	02DEC08*	15DEC08		•			Concrete ve	erge		
	Retaining Wall R							i.						
	·			1		21FEB09	· .	<u>/;</u>					•	
	S1-4241	Utility remedial works	166	0	01AUG08 *			ή,				- Paak#II	ing (Remair	lna)
2	\$1-4260	Backfilling (Remaining)	226	0	01APR08	31DEC08		<u> </u>					_ ,	mig)
	S1-4270	Slope Drainage	163	0	_17JUN08*	31DEC08				- <del>-</del>		Slope (	rainage	
	Roadworks	:												
	Road work		T 1	1 -	04.11000.1									
	S1-4416	Utility remedial works	166	0	01AUG08*	21FEB09								
	S1-4417	Waterworks remedial works	13	0	23FEB09 *	09MAR09					٠			
11.	S1-4418	HyD remedial works (kerb)	13	0	. 10MAR09.*	2/IMAR09			سمورد رافادر جامِدرید آن رایجام دامد.		رام. العالم والوام الماليا	Antonia de la comoción de la comoció		id s
	S1-4419	Additional U channel	11	0	10MAR09	21MAR09			سامسا بالموازران		• • • •	asta a co		
	<u> </u>													
	S1-4421	Footpath remedial works	6	0	25MAR09 *	31MAR09								
	S1-4430	Street Furniture remedial works	9	0	01APR09*	15APR09								
Z	one E (CH. 3100	- 4010)		·										
	Slope Works											·		
Star	t date 28J	UN04 Early bar							Date			ision	Checked	Approved
Fini	ih date 30A	Progress bar	Cor	itract N	lo. HY/2003	3/19		}-	01AUG08		3M update			
			prove	ment to	Tung Chu	ing Road		F					1	1
	e number 3A ect name R15		•		me 01.02	_	N4 N9 :						i	
	Primavera System		mny r	oyiaii		_,00 10 30.	U-T.U3	<u> </u>					1	<u> </u>

																					`,
Discription   Dur   Comp   Start   Finish   Rs   pr   pt   st   st   ts   ts   pr   pt   st   pr   pt   st   pr   pt   st   pr   pt   st   pr   pr   pt   st   pr   pr   pr   pr   pr   pr   pr   p		2909 JAN		=			DEC		200\$					Early	Early	%	Orig			1	
SI-5151   SSE-DIF9 (Closure of existing TCR)   33   0   16SEP08   31OCT08   SSE-DIF9 (Closure of existing TCR)   SI-5152   TCR/UFIC/t0 (Closure of existing TCR)   25   0   01AUG08   30AUG08   SSE-DIF9 (Closure of existing TCR)   SI-5350   Backfilling   176   0   01APR08   31OCT08   Backfilling   Retaining Wall RW11   SI-5450   Backfilling   49   0   01DEC08   31JAN09   SI-5450   Backfilling   31   0   02PE809   28FE809   28FE809   SI-5450   Backfilling   31   0   01AUG08   18SEP08   SI-5450   Backfilling & Reinstatement of Carriageway   37   0   01AUG08   18SEP08   SI-5450   Backfilling & Reinstatement of Carriageway   37   0   01AUG08   18SEP08   SI-5500   Backfilling & Reinstatement of Carriageway   37   0   01AUG08   31JAN09   SI-5500   Backfilling & Reinstatement of Carriageway   37   0   01AUG08   31JAN09   SI-5504   HyD remedial works   23   0   02JAN09   24JAN09   SI-5504   Additional drahrage works   223   0   02JUN08   28FE809   SI-5648   Additional drahrage works   223   0   02JUN08   31JAR09   31JAR09   SI-5504   SI-5504   Additional drahrage works   223   0   02JAN09   31JAR09   31JAR0	12		0.5	29		22		a z	01	24			23 10				Dur	1	Description		
S1-5152   TCR/UF/C/10 (Closure of existing TCR)   25   0   01AUG08   30AUG08														· · · · · · · · · · · · · · · · · · ·	<u></u>	<u> </u>				<u> </u>	ш
S1-5152   TCR/UF/C/10 (Closure of edsting TCR)   25   0   G1AUGG8   30AUGG8								)	g TCR	xisting	e of ex	Closure	9SE-D/F9 (	31OCT08	16SEP08 *	0	38	2:	9SE-D/F9 (Closure of existing TCR)	\$1-5151 9SE	
Retaining Wall RW10														30411008	01411008						
S1-5390   Backfilling   176   0   01APR08   31OCT08   Backfilling														JUAUGUS	GIAGGOS		25	CR)	TCR/UF/C/10 (Closure of existing T	\$1-5152  TCF	
Retaining Wall RW11														· · · · · · · · · · · · · · · · · · ·					W10	etaining Wall RW10	R
Retaining Wall RW11   S1.5450   Backfilling   45   0   01DEC08*   31JAN09   S1.5463   U channel   24   0   02FEB09*   28FEB09   Retaining Wall RW112   S1.5500   Backfilling & Reinstatement of Carriageway   37   0   01AUG08*   16SEP08   Read-works   Read-works   Read-works   S1.5843   HyO remedial works (kerb)   23   0   02JAN09*   24JAN09   S1.5844   Waterworks remedial works   20   0   02JAN09*   24JAN09   S1.5844   Waterworks remedial works   223   0   02JAN09*   24JAN09   S1.5844   Additional drainage works   223   0   02JAN09*   31MAR09   S1.5847   Footpath and verge additional works   26   0   02MAR09*   31MAR09   S1.5836   Utilities remedial works   113   0   16AUG08*   31DEC08   Utilities remedial works   220   0   01APR09*   30APR09   3															· · · · · · · · · · · · · · · · · · ·	<del></del>	<del></del>	·			$\Pi$
S1-5450   Backfilling   S1-5463   U channel   24   0   02FB09   28FB09													Backfilling	31OCT08	01APR08	0	176	·	Backfilling	S1-5390 Back	
S1-5450   Backfilling   S1-5463   U channel   24   0   02FB09   28FB09																	L	·····	W11	taining Wall RW11	l L
S1-5463   U channel   24   0   02FEB09 * 28FEB09	•	·												• ,					1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1		
S1-5463   U channel   24   0   02FEB09   28FEB09     Retaining Wall RW12					_									31JAN09	01DEC08 *	0	48	:	Backfilling ·	S1-5450 Back	
Retaining Wall RW12  S1-5500 Backrilling & Reinstatement of Carriageway 37 0 01AUG08 * 16SEP08  Roadworks  Road work  S1-5843 HyD remedial works (kerb) 23 0 02JAN09 * 31JAN09  S1-5844 Waterworks remedial works 20 0 02JAN09 * 24JAN09  S1-5846 Additional drainage works 223 0 02JUN08 * 28FEB09  S1-5847 Footpath and verge additional works 25 0 02MAR09 * 31MAR09  S1-5836 Utilities remedial works 113 0 16AUG08 * 31DEC08  S1-5836 Additional street furniture 22 0 01APR09 * 30APR09  Zone F (CH. 4010 - 4655)  Slope Works  S1-6111 9SE-D/C20 (Closure of existing TCR) 126 0 01APR08 * 30AUG08								•		-				28FEB09	02FEB09 *	0	74		I channel		
S1-5500   Backfilling & Reinstatement of Carriageway   37   0   01AUG08 * 16SEP08		·····															<u> </u>				111
S1-5500   Backfilling & Reinstatement of Carriageway   37   0   01AUG08 * 16SEP08		٠,																	W12	taining Wall RW12	R
Roadworks   Roadworks   Roadworks   Roadworks   Roadworks   S1-5843   HyD remedial works (Kerb)   23   0   02JAN09   24JAN09   S1-5844   Waterworks remedial works   20   0   02JAN09   24JAN09   S1-5846   Additional drainage works   223   0   02JAN09   31MAR09   S1-5847   Footpath and verge additional works   26   0   02MAR09   31MAR09   S1-5836   Utilities remedial works   113   0   16AUG08   31DEC08   S1-5838   Additional street furniture   22   0   01APR09   30APR09   Zone F (CH. 4010 - 4686)   S1-6111   9SE-D/C20 (Closure of existing TCR)   126   0   01APR08   30AUG08   S1-6111   9SE-D/C20 (Closure of existing TCR)   126   0   01APR08   30AUG08   S1-6111   S1-611											• \			1695008	01411000	1 4	7				111,
Road work   S1-5843   HyO remedial works (kerb)   23	·													1032700	VIAUGUS	<u> </u>	3/	igeway	Backfilling & Reinstatement of Carria	S1-5500   Baci	
Road work   S1-5843   HyD remedial works (kerb)   23											1									adworks .	R
S1-5844   Waterworks remedial works   20   0   02JAN09 * 24JAN09											laj Ja			T		γ	<del></del>	!			
S1-5846   Additional drainage works   223   .0   02JUN08 * 28FEB09     S1-5847   Footpath and verge additional works   26   0   02MAR09 * 31MAR09     S1-5836   Utilities remedial works   113   0   16AUG08 * 31DEC08     S1-5838   Additional street furniture   22   0   01APR09 * 30APR09     Zone F (CH. 4010 - 4535)   S1-5111   9SE-D/C20 (Closure of existing TCR)   126   0   01APR08 * 30AUG08				_			•				117			31JAN09	02JAN09 *	0	23.		HyD remedial works (kerb)	S1-5843 HyD	
S1-5846   Additional drainage works   223   .0   02JUN08 * 28FEB09     S1-5847   Footpath and verge additional works   26   0   02MAR09 * 31MAR09     S1-5836   Utilities remedial works   113   0   16AUG08 * 31DEC08     S1-5838   Additional street furniture   22   0   01APR09 * 30APR09     Zone F (CH. 4010 - 4535)   S1-6111   9SE-D/C20 (Closure of existing TCR)   126   0   01APR08 * 30AUG08											1.			24JAN09	02JAN09 *	0	20	ţ:	Waterworks remedial works	S1-5844 Wat	
S1-5847   Footpath and verge additional works   26   0   02MAR09 *   31MAR09								<u> </u>						28FEB09	02JUN08 *	0	223		Additional drainage works		111
S1-5836   Utilities remedial works   113   0   16AUG08 *   31DEC08   Utilities remedial works   51-5838   Additional street furniture   22   0   01APR09 *   30APR09		•					•				•			24144800						**	
S1-5036   Outlies Ferredular Works   10			<del></del>											SIMANOS	OZMAKUS	<u> </u>	20		Footpath and verge additional works	S1-5847   Foot	
S1-5036   Outlies Ferredular Works   10														r		<b></b>	<del>,</del>				
Zone F (CH. 4010 - 4585).  Slope Works  S1-6111 9SE-D/C20 (Closure of existing TCR) 126 0 01APR08 * 30AUG08	WORKS	ediai wo	les rem	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \			······································							31DEC08	16AUG08*	0	113	<b>!  </b>	Utilities remedial works	\$1-5836 Utilit	
Slope Works													•	30APR09	01APR09 *	0	22		Additional street furniture	S1-5838 Add	
Slope Works																<del>1</del>	<u> </u>		4585)	A E (CH 4010 - 459	
S1-6111   9SE-D/C20 (Closure of existing TCR)   126   0   01APR08 *   30AUG08	* دره					٠,		<del></del>	a sold a												
	-	-		`-			~~···								<del></del>	·		*		opa trans	٦١٢
														30AUG08	01APR08 *	0	126	(5	9SE-D/C20 (Closure of existing TCR	S1-6111 9SE	
														30411608	01411008+	0	25		· · · · · · · · · · · · · · · · · · ·		
																		(K) ,	1CR/UF/C/12 (Closure of existing 1)	S1-5113 1Ch	
S1-6114   9SE-D/C35 (Closure of existing TCR)   40   0   02JAN09   20FEB09														20FEB09	02JAN09	0	40	₹)	9SE-D/C35 (Closure of existing TCF	S1-6114 9SE	
Retaining Wall RW14																			W14	taining Wall RW14	R
Start date 28JUN04 Farly has Date Revision Check	d Approv	hecked	TC	on	evisl	Re	T	,	Date			<u></u>						T	IND4	29.II.INO.4	Start d
Finish date 30AUG12 Contract No. HY/2003/19		``				update	3M t		JG08	01AU	ļ			2003/19	ct No. HY/	Contra	+		UG12 Progress bar	date 30AUG12	
Data date 01APR08 Citidad has	<del>,   </del>	- 1				<u>-</u>	+	· · · · · · · · · · · · · · · · · · ·			}		4						PR08 RCard Critical bar		
Number/Version Revision 15 Summary bar Improvement to Tung Chung Road											Ĺ				_		•		——— Summary par		
Project name R1549 Summary point 3M Rolling Programme 01.02.09 to 30.04.09							+-				-	)	30.04.09	1.02.09 to	ramme 0	g Prog	Rolling	3M	49 Start milestone point	name R1549	Projec
c Primavera Systems, Inc.	1						+				i					_ •			3, II IQ.	rimavera Systems, Inc	c P

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		Act	Donation	Or	ig	%	Early .	Early			ov		2003		DEC				2005		
		Œ	Description	Du	ır	Comp	Start	Finish	03	10	17	24	41	08	15	22	29	05	JAN  12		26
		S1-6231	Additional drainage works	35	5	0	21JUL08 *	30AUG08													
		\$1-6232	Backfilling	25	5	0	01SEP08*	30SEP08	7												
	של	etaining Wall F	RW15				· · · · · · · · · · · · · · · · · · ·			-			****								
		S1-6285	Additional base slab & wail (V.O.115)	· 22	2	0	02JAN09	BONALOE	7								C				
	R	etaining Wall F	W16						<del> </del>	<u> </u>								<del></del> -	······································		$\dashv$
									7.												1
		S1-6365	Proposed utilities installation	: 60		0	02JAN09	16MAR09	]								C				_
	Ř	etaining Wall R	w39																<del></del>		$\neg$
	١.		In a superior in the second se	т				T	<u> </u>					•							
	Ш		Backfilling remedial works	50		0	01SEP08 *	31OCT08	Backfillir	ng remo	w Isibe	orks							٠.		
	Ö	ulvert at CH. 49	531	<del></del>					<b>↓</b> `		v										
	1	S1-6615	1050mm dla, pipeline under existing TCR	30	$\top$	a	02JAN09	09FEB09	1								_		-		
	Ш	ater Works						1	ļ	<del> </del>	1 13			<del> </del>							二
	Ë		t to the second			<del></del>		• ;	1		4), J.										
		S1-6618 ·	Watermain water seepage around STR007	34		0	07JUL08 *	15AUG08			13										'
	D:	rainage Works							<del>                                     </del>		•	31		-	<del></del>					<u> </u>	$\dashv$
	Γ.	٠.,					•		1			- مو 'ب		•							-
		S1-6750	Additional drainage works	64		0	07JUL08 *	20SEP08										-			
	Ř	oadworks																	***************************************		$\exists$
		04 67700	1 Aurilla	<del>;</del>	<del></del>	<del></del>															
	П		Utilities remediał works	58		0	23JUN08 *	30AUG08													
	! [		Buttress wall near STR007	134		0	07APR08 •	16SEP08	_r-					¥1	<u>4.</u>			مهديوه مه			
╛┪╛	+	51-5724	Additional footpath & verge.	33		0	22SEP08	.31 OC TO8_	Additioca	Lootpa	th & v	erge									·
		S1-6725	Additional street furnitures	: 25		0	01NOV08 *	29NOV08		<del></del>			) Additio	onai stre	et furni	tures					1
	Pu	mp House for	Fire Hydrant @ CH. 4398												,						$\dashv$
	_	····		· ·																	
		S1-6891	E&M works	126		0	01APR08 •	30AUG08													
		S1-6922	Testing & commisioning	25		0	01SEP08 *	30SEP08													
		00.0																·········			
Star		late 30Al	JG12 Progress has		Con	tract	No. HY/200	13/40				OTAL	Date UG08	·	2M u	Revi	sion		Checked	Approve	₫
Dat			Critical bar												ĺ			<u> </u>			
		umber 5A	Summary bar				o Tung Ch	•		٠		-			-			1	••		$\dashv$
		name R15- imavera Systems	Character and a Character and a contract and a cont	Rolling	g Pr	ogran	nme 01.0	2.09 to 30	0.04.09	9											
			♦ Finish milestone point						- ·-	-			·······		1		<del></del>	1			_

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В	Act ID	Description	Orig Dur	% Comp	Early Start	Early Finish	
П	S1-6923	Fencing & ground level works	75	0	01SEP08*	29NOV08	
	ransformer Ro	om at CH. 4660					
	S1-6903	Fencing & ground level works	151	0	02JUN08 •	29NOV08	Fencing & ground level works
	lon 1A	I crowd a gradia fere Horas	101	<u> </u>		23/10/00	and the state of t
	intenance Acc	ess Track					
ſ.							
	S1-1570	Landscape softworks Ch.0-260	422	0	01APR08 *	31AUG09	
口	ne A (CHL 1000	•		<u> </u>			
<u> </u>							1
	S1-1550	Landscape softworks	422	0	01APR08*	31AUG09	•
Ū	L		+22		UIAFROS		:
<u> </u>	ne B (CH. 130	7-2100)	-				
	.,		422				÷ \(\frac{1}{2}\)
Ц	S1-2660	Landscape Soltworks	72.2	0	01APR08 *	31AUG09	
_	ne C (CH. 213) andsčaping	<b>)-2725)</b>	ि चर्चा अंग्रेड	ያንፈን እስ. ትግ			<b>}</b>
	4, .			:			
Ш	S1-3850	Landscape softworks	123	0	01APR09*	31AUG09	
Zo	ne D (CH. 2725		1.4 % + 5°11	* a % * .		33. Et 2	
١			:				
	S1-4600	Landscape Softworks	114	0	16APR09*	31AUG09	
Zo.	ne E /CH 3100	1-4010)					
l۲	····				7		
	S1-5915	Landscape Softworks	123	٥	01APR09 *	31AUG09	
Zo	ne F (CH, 4010	~ 4686)					
L	andscaping						
	S1-6910	Landscape Softworks	123	0	01APR09 *	31AUG09	
	iate 28.	UN04 Fark bar	<u> </u>			<u> </u>	Date Revision Checked Approve
		AUG12 Progress bar APR08 Critical bar		Contr	ract No. HY	//2003/19	01AUG08 3M update
		rision 15 Summary bar	Imp	roveme	ent to Tung	Chung Ro	oad
ajec	t name R1: rimavera System	Ct====Dt==	3M Rolli	ng Pro	gramme	01.02.09 to	to 30.04.09

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	Act ID	Description	O <sub>1</sub>			Early Finish			NOV.		2908		DEC				2009 JAN	· · · · · · · · · · · · · · · · · · ·	
$\vdash$	Establishment	works ·	., 2.	1 1 000	ap Start	Finist	93	10	17	54	101	03	15	22	29	05 1		19	٤
	S1-6920	Establishment Works for Section 1A(claim no.084)	71	0 0	01SEP09	31AUG11	7												
	ection 2								<del></del>	<del></del>		<del></del>			<del></del>			<del></del> -	
	Zone 1 (CH. 701:	3 - Outfall)	<u> </u>				]												
	Roadworks		· · · · · · · · · · · · · · · · · · ·				_				+								
	S2-1265	Additional toe wall & F/P near YWCA(Claim no141)	16	4 16	01MAR08 /	16SEP08	141)												
	S2-1266	Additional works on footpath and verge	. 50	0	01AUG08 *	30SEP08	verge												
•	S2-1280	CCTV and related slope	. 50	0	01AUG08 -	30SEP08	†					•							
	S2-1290	Street Furnitures & road marking (additional)	50	0	02OCT08 *	29NOV08	<b></b>				) Street	Furnite	ures & re	oad ma	rking (ad	ditional)			
	Zone 2 (CH. 6595	5-7013)	:			1											·.		
	Roadworks	•				,	]		`										
<u>(</u>	Road work		;						\$										.
弘	S2-2395	Additional works on footpath & Verge	64	0	16JUL08 A	30SEP08	erge		٠ <u>.</u> پا										
			4 :	-					1/1				*****		<del></del>				$\dashv$
	S2-2400	Street Furnitures & Road Marking (Additional)	1, 50	0	02OCT08 *	29NOV08			```	==	Street	Furnitu	ıres & R	oad Ma	irking (Ad	dditional)			
		) - 6595) T. (1995), 12 (2) - 1995 (1995) (1995)			<b>运货的增加的</b>	<b>指数指数人的</b>			,	\ 	* .	•			·				
	Road work		<u> </u>			····			,										
	S2-3736	Additional works on footpath & verge	50	Ιο	01AUG08 *	30SEP08													
					0120000	3032700	erge						····						
	\$2-3740	Street furnitures & Road Marking (Additional)	50	0	020CT08 *	29NOV08					Street	furnitur	es & Ro	ad Mar	king (Add	ditional)			
2	one 4 (CH. 5625	- 6240)																	4
打了	Roadworks		w									k . Kabupatèn Jawa	- 	1 -/ torssonia	ليام الداري درونه معيوست رزيي	dan managan		-	
	Road work						· •	•	•			<b></b> *.	•		•			<del></del> -	1
	S2-4904	Reinstatement around bridge structures	89	0	16JUL08 A	31OCT08	Reinstate	ement	around b	ridge s	structur	es							
	S2-4905	Additional works on footpath & verge	25	٥	01NOV08	29NOV08					Additlo	nal wor	ks on fo	otpath a	& verge				
									·····										4
	S2-4910	Street Furnitures & Road Marking (Additional)	24	0	02DEC08 *	31DEC08					<u></u>				Stree	t Furnitur	es & F	Road Mar	kļ
Ш	Rockfall Protection	on System at CH.6100 (RPS7)										·			·····	· · · · · · · · · · · · · · · · · · ·		·	1
Star	t date 28J	UN0-4		- ··					· · · · · · · · · · · · · · · · · · ·		0-1-								1
·		Progress bar		Cont	tract No. HY	//2003/19				01AU	Date G08	·····	3M up	Revis date	sion	Chec	ked	Approved	-
· · · · · · · · · · · · · · · · · · ·		ision 15	Im	nrovan	nent to Tung	t Chung Ro	her												1
	enumber 7A ect name R1S	Summary bar  Summary point		•				M 00	ر ا								<u></u>		1
	Primavera System	73 A C	3M Ro	lling Pr	ogramme	01.02.09 t	O 3U.L	)4.US	<b>)</b> [							1			]
		, and point ;				<del></del>										1	1		1

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· [	Act	Description	Orig		Early	Early	NOV DEC	7009
	<u>  10</u>		Dur	Comp	Start	. Finish	3 10 j17 24 02 j08 j15	22 29 05 12 · 19 26
	S2-4930	Delivery of material	183	0	01APR08 *	30SEP08	·	
	S2-4940 ·	Erect fence	39	0	02OCT08			
	I			<u> </u>		17NOV08	Erect fence	
	S2-4945	Maintenance stairway (Remediai Work)	36	0	18NOV08	31DEC08		Maintenance stalrway (Remedi
_	one 5 (CH. 492) Bridge STR09A						·	
	Bridge 3 1 Rosh		···					
	S2-5261	Remove dangerous boulder (SI-36) remaining works	37	0	03NOV08*	15DEC08	Ra	move dangerous boulder (SI-36) remaining w
$\left\{ \cdot \right\}$	Water Works		J			1.00000	1/6	move dangerous boulder (SI-36) remaining w
-			·	•			•	
	S2-5705	Construct Break Pressure Tank (E&M/finsih)	112	O	16AUG08 *	30DEC08		Construct Break Pressure Tank
	Roadworks		1 :	!	<u> </u>	<u> </u>		
	Road work						• '	
	S2-5854	Reinstate't around bridge structures	89	0	16JUL08 A	31OCT08	state't around bridge structures	
	S2-5855 '	Additional works on footpath & verge	25	0 .	01NOV08	29NOV08	Additional works on	footpath & yerge
	•		1		·	<u>L., </u>		
	S2-5860	Street Furnitures and Road Marking (Additional)	24	0	02DEC08	31DEC08		Street Furnitures and Road Ma
Z.	ine 6 (CH: 4686	-4922) (2.11) (3.11) (3.11) (3.11) (3.11) (3.11) (3.11)	· = * * * * * * * * * * * * * * * * * *	148 (	4. 分别等等的	V. 33. 17. 17. 17. 17. 17. 17. 17. 17. 17. 17	and the second s	
	Roadworks		-		·: • : ·			
	Road work	Reinstaement around structures	1 400	<u> </u>	40 11 11 100 1	122222		1
			100	0	16JUN08 A		structures	
<b>k</b> : -	S2-6710	Additional works on footpath & verge	39	0 .	16OCT08 *	29NOV08	Additional works on f	ootpath & verge
	\$2-6720	Charles Timeles and Carlotte an	+ . <del></del> -	· · · · · · · · · · · · · · · · · · ·			• .	
	ين ما ما أن ال	Street Furnitures & Raod Marking (Additional)	25,	- 0	01DEC08 :	31DEC08.	The state of the s	Street Furnitures & Raod-Mark
Sec	ion 2A.≟.≨ ne 1-6 ∴				A LONG BETT			
	andscaping		; ' ' '	***			•	
			•		<del></del>			
	S2-6730	Landscape Softworks	196	0	01APR08 A	31AUG09		
$\left  \cdot \right  \left  \cdot \right $	S2-6735	Haul road reinstatement	73	0	01APR08 A	31MAR09		
	stablishment wo	aks .				0.11011.00		
Start			:			<u> </u>		
Finish	date 30Al	UG12 Progress has	C	ontract	No. HY/20	03/19	Date 01AUG08 3M up	Revision   Checked Approved
Numb	<del></del>	PROS Critical bar						
-	number 8A st name R15	Summary point			to Tung Cl	-		
	rimavera Systems	s. Inc. Start milestone point 3M I	Rolling	Progra	mme 01.0	02.09 to 3	4.09	
		♦ Finish milestone point			·	· · · · · · · · · · · · · · · · · · ·		

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1	Act ID	Description	- · ·	Orig	%	Early	Early	<b></b>		NOV		2003	***	DEC				2007	
+	T		1	Dur	Comp	Start	Finish	93	10	17	24	οI	03	15	22	<u></u>	u.t  2:	JAN I	26
	S2-6740	Establishment Works for Section 2A(claim no.084)		710	0	01SEP09 *	31AUG11	1											
Se	ction 3							<del> </del>							·		<del></del>		
$\ \cdot\ $	Feature No. TCI	DATE (CHS						]											
	reactive No. 10	NOTIO 13																	
	S3-3000	Cut and Trim Slope Surface		7	0	02JAN09 *	12JAN09	-										int and	Trim Slo
	S3-3010	300mm u channel at crest		10	0	14JAN09	31JAN09	ĺ											71411 010
	S3-3020	Slope Surface Protection	1	14	0	31JAN09	17FEB09										`		
	Feature No. 13N	E-B/C65	<u>:</u>			<u> </u>	<u> </u>		<del></del>				<del></del>			<del></del>			
			j																
	S3-3030	Install soil nail (199 nos.)		28	0	31JAN09	05MAR09								•			٠.	
	S3-3040	Slope surface protection	:	14	0	05MAR09	21MAR09			,									
	Feature No. 13N	E-8/C64					·					******				<u></u>			
	\$3-3050	In the second se	<del></del>	<del></del>							Ų.								
		Install soil nail (127 nos.)	\\$ - \$	20	0	05MAR09	28MAR09									:	•		
	L . •	Pull out tests (4 nos.)	1; 1	8	0	28MAROS	08APR09			1	$\langle i \rangle$								
Market Market State Commencer		300mm u-channel at crest & toe		20	0	08APR09	07MAY09				<u> </u>		•			•			•
		•	•	14	0	07MAY09	23MAY09								-	-	-		
	Feature No. 13Ni	E-B/C63	•									***							
11.5	\$3-3080	install soll nail (111 nos.)	<u>i</u>	19															
		Pull out test (5 nos.)			0 .	_07MAY09	20YAMOE										•		
		· · · · · · · · · · · · · · · · · · ·	1 1 0 0 0 0 0 0	8	0	BOYAMOE	CONTINUS		م جددي					130					
		300mm stepped & u-channel Slope surface protection	<del></del>	20	0	eonuteo_	03111109			·	*		. <u> </u>						
	eature No. 13NE			14	0	03JUL09	2010109												
116		-0.002	?	<del></del>				_							•				
	\$3-3120	Install soil nail (144 nos.)		22	0	03JUL09	29JUL09												}
	ļ.	Pull out tests (5 nos.)	<u> </u>	8	0	29JUL09	07AUG09												
111	<u> </u>		<u> </u>				CIVO GOS			<u>.</u>									
Start c												0-1-		<del></del>					
Finish Data d		Progress bar		Cont	tract N	lo. HY/2003	3/19				01AU	Date IG08	······································	3M upd	Revision 216	on	Check	ed Ap	proved
Numb	er∕Version Revis	ion 15 Summary bar	1														<u> </u>		
	number 9A tiname R154	Summary point				Tung Chu	-										_	•   •	
	rimavera Systems.	7   1	3M Rolli	ng Pr	ogram	me 01.02	2.09 to 30.	04.09	)										
		1 - Anna point	·				· · · · · · · · · · · · · · · · · · ·				<u> </u>							1	

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Section 18

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. [		Act ID	Description	ion and the second	Orig	%	Early	Early		· -	NOV.		200#		DEC			200: J.A.		
$\vdash$	S3-31		nm stepped & u channel		Dur 20	Comp	Start 07AUG09	Finish 31AUG09	0.3	it e	17	24	01	08	11.5	22 2	9 05	12	17	26
	S3-31		e surface protection	•	14	0	31AUG09	<u> </u>	-											
	l L.L	No. 13NE-B/F	-		14	<u> </u>	3140009	16SEP09	<u> </u>							·				
	reature	110. 101112-011							-											
	S3-31	160 Reco	empact slope		14	0	31AUG09	16SEP09	1											
	\$3-31	70 Reco	onstruct 750mm stepped chann	nel & stalrway	20	0	16SEP09	100CT09	1											
	S3-31	80 300m	nm u channel		14	O	100CT09	28OCT09	1											
	Feature I	No. 13NE-8/C	80	•	I			<u></u>	<u> </u>				· · ·	<del></del>		····				
		<u> </u>		•					]											
. []]	S3-319		l soil nail (42 nos.)		12	0	10OCT09	240CT09	ļ									•		-
	\$3-320	00 Pull o	out test (1 nos.)	·	8	0	24OCT09	04NOV09										٠,		
	S3-321	•	m u channel		14	0	04NOV09	20NOV09			٠,									
	S3-322	20 Slope	surface protection		14	. 0	20NOV09	07DEC09			. •				~					
	Feature N	No: 13NE-B/C	233								i: N	***************************************				·····	***	·····		
1	\$3-323	30 Install	l soll nail (44 nos.)	<u>'.</u> ;	12	0	20NOV09	04DEC09	·		, V	j 14 111	•		_					
11. 15.51.7	53-324		ut,tests (2 nos.)	<u> </u>	8	0	04DEC89	14DEC09	1		/	7,								
	\$3-325		nstruct 300mm u channel	·	14	0	14DEC09	02JAN10		-						,				
MIN'S	53-326		surface protection	•	20	0	02JAN10	26JAN10						•						
	Feature N	   No. 13NE-B/CF	·	<u> </u>			02371110	200/1110												
						•												•		İ
	S3-327	70 Install	soil nail (113 nos.)		20	a	02JAN10	26JAN10									•	•		
	S3-328	30 Pull o	ut tests (3 nos.)		8	. ο	.26JAN10	04FEB10					والرسوا وموافي	personal reservation		6 amin'i Pays	- 100			
H	\$3-329	300m	m u channel		14	0	04FEB10	23FEB10	<del></del> -							-14-				
	S3-330		surface protection		20	0	23FEB10	18MAR10												
	Feature N	10. 13NE-B/FR	68											•	,,,,,,,,					
	S3-3310	0 0			····	·	· · · · · · · · · · · · · · · · · · ·													
Ш	33-331	d Remov	ve existing rubble wall	,	10	0	23FEB10	06MAR10				******								
Star	t date	28JUN04		t								<del></del>								
Fini	sh date	30AUG12	Early bar Progress bar		Cont	ract No	. HY/2003/	/10				01AU	Date G08		ЗМ ирс	Revision late		Checked	Approv	/ed
	a date nber/Version	01APR08 n Revision 15	Critical bar	1																$\Box$
Pag	e number	10A	Summary bar Summary point				Tung Chun					<b> </b>							<u> </u>	
	ect name Primavera	R1549 Systems, Inc.	Start milestone point	3M Roll	ing Pro	gramm	ne 01.02.	09 to 30.0	4.09											
			♦ Finish milestone point					• •						<u> </u>					······································	

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		Act ID	Description	on .	Orig Dur	% Comp	Early Start	Early Finish	103	NOV 10 17		2903		DEC			200 JAI		
П	s	3-3320	Recompact slope		14	0	06MAR10	23MAR10		10 17	<u>124</u>	20	0.5	1.5	22 29	Q.5	12	19	26
	S	3-3330	300mm u channel at toe	1	14	0	23MAR10	12APR10	1										
	Feat	ture No. 13N	E-B/C115		<u> </u>	<u></u>	<u> </u>	1	<u> </u>	···						····			
	[5-	3-3340	Install soil nail (136 nos.)		T _:	1			]										
		3-3350		<del> </del>	20	0	02JAN09	24JAN09	]							<u> </u>		ir	stall
- [ ]			Pull out tests (5 nos.)		8	0	29JAN09	06FEB09											$\subset$
		3-3360	300mm u channel at toe	:	14	0	07FEB09	23FEB09						-					
	١Ц	3-3370	Slope surface protection		14	0	24FEB09	11MAR09											
	Featu	ure No. 13N	E-B/C116										•	····	······································			·	$\dashv$
	S3	3-3380	install soil nail (75 nos.)		14	o	02APR09	22APR09											
	<u> </u>		Pull out tests (4 nos.)		8	0	23APR09	04MAY09		:							• •		
	S3		300mm u channel at toe	:	14	0	05MAY09	20MAY09											
	S3		Slope surface protection		20	0	21MAY09				i,								
		re No. TCR			20		ZIMATUS	13JUN09	<u></u>	•						····			
				· i		<u> </u>		· · · · · · · · · · · · · · · · · · ·		\	<i>\\</i>								$\exists$
	S3-		Recompact slope	: :	20	0	21MAY09	13JUN09			<u> </u>		-					•	
	11		300mm stepped & u channel at cres	t & toe	20	0	15JUN09	08JUL09					•						
	Featu	re No. 13NE	-B/FR90											<del></del>					$\dashv$
	S3-	-3440	Recompact slope			•	· ;												
			300mm stepped & u channel at crest	,	20	0	cannroa	31JUL09											
	LL		-B/C117	a toe	20	0	01AUG09	24AUG09								•	•		
		The state of the s		The second secon						1977, ar der 1962, 1979,		ار سنجر دستان پیشر بیشتر س	مستوره محرسه نيام جويم الا						7
	S3-	3460	nstall soil nail (33 nos.)		10	0	25AÚG09	04SEP09								•			-
	S3-3	3470 F	out tests (2 nos.)		8	a	05SEP09	14SEP09											
	53-3	3480 3	300mm u channel		14	0	15SEP09	30SEP09											
	S3-3	3490 5	Slope surface protection		20	0	02OCT09	24OCT09											
Ш	Feature	e No. 13NE	-B/C244	<u> </u>							···								_
	t date sh date	28JUI 30AU	Table Carrier								1	Date	<del></del>		Revision	1 6	hecked	Approved	=
Oats	date	01AP	Progress bar				. HY/2003/			V-resident	01AL			3M updat		1	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		1
	a unumpe apart/bet	er 11A	on 15 Summary bar	Imp	rovem	ent to	Tung Chun	ig Road									·		4
	ect name Primave	era Systems.		3M Roll	ing Pro	gramn	ne 01,02.	.09 to 30.0	4.09	**************************************						1			] 
			♦ Finish milestone point													1	1		1
													· · · · · · · · ·						4

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	Act	Description	Orig	%	Early	Early	ļ		NOV.		2008		DEC				200		
ļ.,	ID	2001/100	Dur	Comp	Start	Finish	93	10	17	51	10	<b>0</b> \$	15	22	2.5	05	12 12	127	26
	S3-3500	Install soil nail (89 nos.)	1 47	1 0	Laccation	1 6466766	-												
	<u>                                   </u>		17	0	02OCT09	21OCT09			٠										
	S3-3510	Pull out tests (3 nos.)	8	0	22OCT09	31OCT09	-												
	S3-3520	300mm stepped & u channel at crest	20	0	02NOV09	24NOV09	]											•	
	\$3-3530	Slope surface protection	20	0	25NOV09	17DEC09	1												
	Feature No. 131	, IE-B/FR8S			<u> </u>		<del>                                     </del>												
							]_				٠.								
	53-3540	Remove existing concrete wall	7	0	25NOV09	02DEC09											·		
	\$3-3550	Recompact slope	20	0	03DEC09	28DEC09_				•		•					-		1
	S3-3560	300mm stepped & u channel at toe	20	0	29DEC09	21JAN10											•		
	Feature No. 13	NE-B/C114			•												<del>-</del>	,	
			•						• `										
	S3-3570	Install soil nail (136 nos.)	20	0	22JAN10	13FEB10													
	S3-3580 ' ·	Pull out tests (4 nos.)	. 8	0	17FEB10	25FEB10			i,										ļ
	S3-3590	Slope surface protection	20	0	26FEB10	20MAR10	* •		1	i.									
13.	Feature No. 13N	E-8/C113				•			• / •		•			•				•	$\dashv$
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	\$3-3600	Install soil nail (29 nos.)	: 11	0	26FEB10	10MAR10					•								
	S3-3610	Pull out tests (2 nos.)	; 8	0	11MAR10	19MAR10													
	S3-3620	Reconstruct 300mm u channel	14	-0	20MAR10	08APR10												-	
	\$3-3630	Slope surface protection	20	0	09APR10	03MAY10													
	eature No. TCF	VUF/C/27													·				
	facilities on							-		-		های د محمد میشوری در محمد میشوری در			er, gegre er samme, et Generalen ere besten				
$\left  \cdot \right  \left  \cdot \right $	\$3-3640	Install soll nail (55 nos.)	12	0	09APR10	22APR10		,	-		•	•			++	* ** ·			
$ \cdot $	\$3-3650	Pull out tests (2 nos.)	8	0	23APR10	03MAY10													
$\ \cdot\ _{L^{2}}$	S3-3660	Slope surface protection	. 20	0	04MAY10	27MAY10													
]   E	eature No. 13N	E-8/C243																	
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Ш	S3-3670	Instali soli naii (16 nos.)	10	O	24FEB09	06MAR09													
Start		JN04 Early bar			· · · · · · · · · · · · · · · · · · ·				<u> </u>		Date			Revi	sion		Checked	Appro	ved
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		sion 15	Improv	ement t	o Tung Ch	ung Road							<u> </u>					<u> </u>	
	number 12A st name R15				-	2.09 to 30	 1 04 09	9											
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		\$3-3680	Pull out test (1 nos.)		8	0	07MAR09	16MAR09			F:	<del></del>				<u> </u>	0.5	12	25 et	$\dashv$
		S3-3690	300mm u channel at toe		14	0	17MAR09	01APR09	1											
		S3-3700	Slope surface protection		20	0	02APR09	29APR09	†											
		Utilities					L	<u> </u>	1			······································	<del></del>							4
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1	Ш	\$3-3800	Utilities Installation		540	0	22JAN10	31JUL11	1										•	
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		S3-3805	Landscape softworks		124	0	01APR10 *	31AUG10										•		
-	ן ו	Establishment w	orks			<u> </u>			·									٠,		
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Ė.		S3-3810 '	Estabilishment Works for Section 3/	A(claim no 084)	719	0	01SEP10 *	30411040												
	·	1	1					30AUG12			· · · · · · · · · · · · · · · · · · ·				_					
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	جُ اِ:	····	ction Structure SD 2-5	<u> </u>	: ·						15	j	•							
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X	.:  ·	S1-2402	Claim 91	<u> </u>	183	0	01APR08 A	3QSEP08	•		***									
4.04	$\left  \cdot \right $	S1-2420	Superstructure	: ;	75	0	02OCT08	31DEC08									Superstructi	ле		
	:   5	training & Defle	ction Structure SD 3-6	• :		······································	<u></u>										· · · · · · · · · · · · · · · · · · ·			-
				4			•													
		S1-2450	Claim 91	-	183	0	01APR08 A	30SEP08										•		
Ž.		L	Superstructure		25	0	02OCT08	31OCT08	Superstr	ucture										
	<u>s</u>	training & Defle	ellen Structure SD-4/7			Salan Salan										11-11-11-11-11-11-11-11-11-11-11-11-11-	en en en en en en en en en en en en en e	· · · · · · · · · · · · · · · · · · ·		1-
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		S1-2492	Claim 91		183	0 (	DIAPROS A	30SEP08							•					
		S1-2500	Superstructure		75	0	02OCT08	31DEC08								s	uperstructu	ra		
	F	exible Debris Ba	arrier at CH. 1700 (OFB1)	<u> </u>		<u> </u>	<u> </u>										-1			
		S1-2580	Boulder mitigation stream 5-6		25	0 (	02FEB09 •	00144700												
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	art d nish												Date			Revision	Che	relad	Approved	i
_	ata d		DOG COMMY Progress par		Contra	act No.	HY/2003/1	9				01AUG			3M update		Cite	- CABG	Approved	
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		umber 13A	Summary bar Summary point	impro	veme.	nt to I	ung Chung	j Road			] [		<u>-</u>							
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	Flexible Debris I	Barrier at CH. 1800 (OFB2)						_											
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	S1-2631	Remaining Post (affected by SD4-7) .	:	8	0	02JAN09	10JAN09	1									===== Re	maining f	<sup>2</sup> ost (a
	\$1-2641	Remaining Barrier		8	0	12JAN09	20JAN09	7	٠										emalni
	S1-2651	Maintenance Stairway (Remaining)	:	10	0	21JAN09	04FEB09	1											
;	Zone C (CH. 2130	) - 2725)			!	<u> </u>	<u>.</u>	1				· .		<del></del>				<del></del>	
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	\$1-3785	Remaining Soil nails at RW006		60	0	01SEP08	12NOV08		F	emalnl	ng Soil r	nalls at	RWoo	6					
	Straining & Defle	ection Structure SD 5-11			<u> </u>		·		***************************************		·······		-:-		·	<del>" "</del>		· · · · · · · · · · · · · · · · · · ·	
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	S1-3708	Claim 91	-	183	0	01APR08 A	30SEP08	]									•	•	
	S1-3710	Superstructure		50	0	02OCT08	29NOV08	<b> </b>		<u> </u>		) Supe	rstructu	re					
	Flexible Debris 8	arrier at CHL 2700 (OFB3)	•		<u> </u>	<del></del>		ļ	<del></del>	<del></del>									
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	S1-3770	Barrier Installation	*	51	0	02JUN08 A	31JUL08			*	Į.								•
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Ż	one D (CH: 2725	-3100) (100)	Taraga Amerika		, in Jan 12	1					· · · · · · · · · · · · · · · · · · ·							· · · · ·	
	Straining & Defle	ction Structure SD 6-12	<i>,</i> ,					1		-	,-								
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	S1-4470	Superstructure	;	50	0	02OCT08	29NOV08					Super	structu	re					
	Straining & Defle	ction Structure SD 7-13												<del></del>				** *.*	-
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4	\$1-4502	Ctain 91		-183	0	01APR08-A-	_309EP06								المستدر الم				erations.
	S1-4510	Superstructure (Outstanding Works)		50	0	02OCT08	29NOV08								tañding V	Vorks)			j
$\  \cdot \ $	S1-4520	Boulder mitigation		96	0	01DEC08	28MAR09												
	Flexible Debris Ba	arrier at CH. 2800 (OFB4)	<del></del>	ļ	L				•				·			<del></del>			
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	S1-4560	Delivery of material (lost during heavy rain)		101	0	01JUL08 A	31JUL08												J
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$\parallel \parallel$	S1~	4580	Barrier Installation (outstanding p	art)	25	1 0	01AUG08		[63 ] <sub>3</sub>	17	24	01 02			29 05	JAN 12 19	
$\Pi$	S1-	4590	Maintenance Stairway (Remedial	Works)	25	<u> </u>	<del></del>								· · · · · · · · · · · · · · · · · · ·		
Z	ane E (	(CH, 3100	<u></u>		25	"	01SEP08	30SEP08	l Works)								
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	S1-66	625 I	Soll Nail at RW038						†								
		1		*	93	0	04MAY09	21AUG09	1					•	•		
	-lexible	Debris Ba	rrier at CH. 4600 (OFB5)			<u>-</u>		<u> </u>									
П	[24.00															•	
$\prod$	S1-68	870 J	Erect fence (outstanding part)		51	0	02JUL08 A	01SEP08		*							
П	S1-68	380 1	Maintenance access path (Remedia	al Works)	23	0			<b>.</b>	٠.							
R	≀ockfail		System at CH. 4400 (RPS2)				02SEP08		edlai Works)	į,	:					•	
Γ	::· .		· · · · · · · · · · · · · · · · · · ·					•			<u> </u>				·	<del>,                                     </del>	
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	S1-68	187 - N	Azimtenance Staliana (D	· İ	24	0	01SEP08	30SEP08		;	<u> </u>	•					
	ļ.	1	faintenance Stairway (Remediai W	orks)	24	0 .	02OCT08	310CT08	Valntenance	Stalrway (	Remedial 1	Works)					
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1 г	S2-587	70 [0	ialm 91														
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Ro	ckfall F	Protection	System at CH. 5320 (RPS3)				01NOV08 -  -	31DEC08							uperstructur		
			7 (10-32)	······································					······································			**	·	·	-		
[	S2-590	10 D	elivery of material (lost after heavy r	ala)													•
1	\$2-5910		ect fence	ani)	183	0 1	A BOJULA	30SEP08 av	y rain)								
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ect n	ame	R1549	Summary point	h	. 046111	ent to	Tung Chui	ng Road		}-	······································				<u> </u>	``	
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11	S2-8000	Landscape Softworks in Undefined Section	145	n	01APR09*	31AUG09	Ì												
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Start date	28JUN04		Early bar
Finish data	30AUG12	annie.	Progress bar
Data date	01APR08	ſ	Critical bar
Number/Version	Ravision 15		- Summary bar
Page number	16A	1	•
Project name	R1549	*	Summary point
c Primavera S	ystems, Inc.	•	Start milestone point
		❖	Finish milestone point

Contract No. HY/2003/19
Improvement to Tung Chung Road
3M Rolling Programme 01.02.09 to 30.04.09

Date	Revision	Checked	Approved
01AUG08	3M update	3	
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#### APPENDIX O WASTE GENERATED QUANTITY

## Contract No. HY/2003/19 - Improvement to Tung Chung Road between Lung Tseng Tau and Cheung Sha

Name of Department: Highways Department Project Commencement Date: June 2004

**Construction Completion Date: December 2009** 

**Approved Project Cost: \$688.5 Million** 

#### **Monthly Summary Waste Flow Table for Year 2007**

Year	Ac	tual Quantities	s of inert C&D	Materials (in 10	<sup>3</sup> m <sup>3</sup> )	Actual Quantities of C&D Wastes (in 10 <sup>3</sup> Kg)									
	Total Quantity Generated	Broken Concrete <sup>(1</sup>	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Metals		Paper/cardboard packaging		Plastic <sup>(2)</sup>		Chemical Waste	Site clearance waste <sup>(3)</sup>	Others, e.g. general refuse (in 10 <sup>3</sup> m <sup>3</sup> )	
	(a)	(b)	(c)	(d)	(e)	Disposal Recycle		Disposal	Recycle	Disposal	Recycle	Disposal	Disposal	Disposal	Timber Waste
Jan	4.937	0	14.520	0.540	1.397	N/A*	N/A*	N/A*	N/A*	N/A*	N/A*	0	73.61	1.5	0
Feb	4.135	0	8.746	3.540	1.496	N/A*	N/A*	N/A*	N/A*	N/A*	N/A*	0	34.21	1.5	0
Mar	4.954	0	9.978	3.560	2.975	N/A*	N/A*	N/A*	N/A*	N/A*	N/A*	0	173.27	2.0	0
Apr	2.976	0	9.010	0	0.911	N/A*	N/A*	N/A*	N/A*	N/A*	N/A*	0	84.83	2.2	0
May	3.513	0	10.156	0	1.555	N/A*	N/A*	N/A*	N/A*	N/A*	N/A*	0	101.24	1.3	0
Jun	5.882	0	11.020	0	8.588	N/A*	N/A*	N/A*	N/A*	N/A*	N/A*	0	52.51	1.7	0
Sub-Total	26.397	0	63.430	7.640	16.922	N/A*	N/A*	N/A*	N/A*	N/A*	N/A*	0	519.67	10.2	0
July	3.458	0	10.240	0	1.287	N/A*	N/A*	N/A*	N/A*	N/A*	N/A*	0	85.11	1.140	0.060
Aug	3.627	0	11.144	0	0.946	N/A*	N/A*	N/A*	N/A*	N/A*	N/A*	0	91.00	1.710	0.090
Sept	4.350	0	13.336	0	1.165	N/A*	N/A*	N/A*	N/A*	N/A*	N/A*	0	54.58	1.615	0.085
Oct	4.122	0	12.242	0	1.497	N/A*	N/A*	N/A*	N/A*	N/A*	N/A*	0	72.81	1.710	0.090
Nov	3.116	0	8.747	0	1.640	N/A*	N/A*	N/A*	N/A*	N/A*	N/A*	0	180.53	1.995	0.105
Dec	3.392	0	10.234	0	1.072	N/A*	N/A*	N/A*	N/A*	N/A*	N/A*	0	63.99	2.090	0.110
Total	48.462	0	129.373	7.640	24.529	N/A*	N/A*	N/A*	N/A*	N/A*	N/A*	0	1003.70	16.260	0.540

Note:

- (1) Broken concrete for recycling into aggregates
- (2) Plastics refer to plastic bottles/containers, plastic sheets/foam from package material.
- (3) Site clearance waste refers to vegetation and construction debris.
- (4) Please note that the total quality generated is not equivalent to the summation of the items in column (b) to (e) as part of the quality of the reused material (column c) had been counted already.

<sup>\*</sup> Very small quantity of aluminum can, cardboard package and plastic bottle generated from site office were collected by the local resident.

## Contract No. HY/2003/19 - Improvement to Tung Chung Road between Lung Tseng Tau and Cheung Sha

Name of Department: Highways Department Project Commencement Date: June 2004

**Construction Completion Date: December 2009** 

**Approved Project Cost: \$688.5 Million** 

#### **Monthly Summary Waste Flow Table for Year 2008**

Year	Ac	ctual Quantities	s of inert C&D	Materials (in 10	<sup>3</sup> m <sup>3</sup> )	Actual Quantities of C&D Wastes (in 10 <sup>3</sup> Kg)										
	Total Quantity Generated	Broken Concrete <sup>(1</sup>	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Metals		Paper/cardboard packaging		Plastic <sup>(2)</sup>		Chemical Waste	Site clearance waste <sup>(3)</sup>	Others, e.g. g (in 10	others, e.g. general refuse (in 10 <sup>3</sup> m <sup>3</sup> )	
	(a)	(b)	(c)	(d)	(e)	Disposal	Recycle	Disposal	Recycle	Disposal	Recycle	Disposal	Disposal	Disposal	Timber Waste	
Jan	1.230	0	1.128	0	0.102	N/A*	N/A*	N/A*	N/A*	N/A*	N/A*	0	73.61	1.235	0.065	
Feb	1.875	0	0.762	0	1.113	N/A*	N/A*	N/A*	N/A*	N/A*	N/A*	0	34.21	1.425	0.075	
Mar	1.064	0	0.858	0	0.206	N/A*	N/A*	N/A*	N/A*	N/A*	N/A*	0	56.82	1.520	0.080	
Apr	0.994	0	0.765	0	0.229	N/A*	N/A*	N/A*	N/A*	N/A*	N/A*	0	84.54	1.900	0.100	
May	1.335	0	1.020	0	0.315	N/A*	N/A*	N/A*	N/A*	N/A*	N/A*	0	78.21	1.752	0.095	
Jun	0.755	0	0.467	0	0.288	N/A*	N/A*	N/A*	N/A*	N/A*	N/A*	0	86.76	1.895	0.124	
Sub-Total	7.253	0	4.997	0	2.253	N/A*	N/A*	N/A*	N/A*	N/A*	N/A*	0	414.15	9.727	0.539	
July	0.953	0	0.685	0	0.268	N/A*	N/A*	N/A*	N/A*	N/A*	N/A*	0	96.88	2.036	0.098	
Aug	2.875	0	5.978	0	0.758	N/A*	N/A*	N/A*	N/A*	N/A*	N/A*	0	89.33	2.189	0.127	
Sept	1.954	0	1.628	0	0.985	N/A*	N/A*	N/A*	N/A*	N/A*	N/A*	0	85.66	2.078	0.213	
Oct	2.543	0	1.829	0	1.075	N/A*	N/A*	N/A*	N/A*	N/A*	N/A*	0	95.67	2.457	0.478	
Nov	3.158	0	1.954	0	1.652	N/A*	N/A*	N/A*	N/A*	N/A*	N/A*	0	128.21	2.738	0.389	
Dec	2.878	0	1.862	0	1.877	N/A*	N/A*	N/A*	N/A*	N/A*	N/A*	0	120.54	2.548	0.326	
Total	21.609	0	18.925	0	8.854	N/A*	N/A*	N/A*	N/A*	N/A*	N/A*	0	1030.44	23.773	2.163	

Note:

- (1) Broken concrete for recycling into aggregates
- (2) Plastics refer to plastic bottles/containers, plastic sheets/foam from package material.
- (3) Site clearance waste refers to vegetation and construction debris.
- (4) Please note that the total quality generated is not equivalent to the summation of the items in column (b) to (e) as part of the quality of the reused material (column c) had been counted already.

<sup>\*</sup> Very small quantity of aluminum can, cardboard package and plastic bottle generated from site office were collected by the local resident.

## Contract No. HY/2003/19 - Improvement to Tung Chung Road between Lung Tseng Tau and Cheung Sha

Name of Department: Highways Department Project Commencement Date: June 2004

**Construction Completion Date: December 2009** 

**Approved Project Cost: \$688.5 Million** 

**Monthly Summary Waste Flow Table for Year 2009** 

	ij Summurj (Huste 110) Huste 101 1001															
Year	Actual Quantities of inert C&D Materials (in 10 <sup>3</sup> m <sup>3</sup> )						Actual Quantities of C&D Wastes (in 10 <sup>3</sup> Kg)									
	Total Quantity Generated	Broken Concrete <sup>(1</sup>	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Metals		Paper/cardboard packaging		Plastic <sup>(2)</sup>		Chemical Waste Site clearance waste waste		Others, e.g. general refuse (in 10 <sup>3</sup> m <sup>3</sup> )		
	(a)	(b)	(c)	(d)	(e)	Disposal	Recycle	Disposal	Recycle	Disposal	Recycle	Disposal	Disposal	Disposal	Timber Waste	
Jan	2.130	0	2.130	0	0	N/A*	N/A*	N/A*	N/A*	N/A*	N/A*	0	0	0	0	
Feb	3.158	0	1.954	0	1.652	N/A*	N/A*	N/A*	N/A*	N/A*	N/A*	0	128.21	2.738	0.389	
Mar	3.408	0	1.267	0	2.564	N/A*	N/A*	N/A*	N/A*	N/A*	N/A*	0	96.57	2.546	0.234	
Apr																
May																
Jun																
Sub-Total	8.696	0	5.351	0	4.216	N/A*	N/A*	N/A*	N/A*	N/A*	N/A*	0	224.78	5.284	0.623	
July																
Aug																
Sept																
Oct																
Nov																
Dec																
Total	8.696	0	5.351	0	4.216	N/A*	N/A*	N/A*	N/A*	N/A*	N/A*	0	224.78	5.284	0.623	

Note:

- \* Very small quantity of aluminum can, cardboard package and plastic bottle generated from site office were collected by the local resident.
- (1) Broken concrete for recycling into aggregates
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